



58th ASMS Conference on Mass Spectrometry and Allied Topics

May 23 – 27, 2010
Salt Lake City, Utah





58th ASMS CONFERENCE ON MASS SPECTROMETRY AND ALLIED TOPICS
MAY 23 - 27, 2010
SALT LAKE CITY, UTAH

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Zef Scientific, Inc.		

GENERAL INFORMATION

Welcome to the 58th ASMS Conference on Mass Spectrometry and Allied Topics. Conference program activities, exhibit booths and Corporate Member hospitality suites are located in the Salt Palace Convention Center.

REGISTRATION is open 10:00 am – 8:00 pm on Sunday, 7:30 am – 5:00 pm on Monday through Thursday.

SUNDAY TUTORIAL LECTURES. The Tutorial session is 5:00 – 6:30 pm, Sunday in Hall 4.



5:00 pm, **Collision-Induced Dissociation: How Does It Really Work and What It Can (or Can't) Tell You**

Peter B. Armentrout
University of Utah



5:45 pm, **The Role of Mass Spectrometry in Drug Discovery and Development**

Walter A. Korfmacher
Merck Research Laboratories

PLENARY SESSIONS. Plenary Sessions are in Hall 4.



Sunday, 6:45 – 7:00 pm, Conference Opening
7:00 – 7:45 pm

Systems Medicine and Emerging Technologies: Catalyzing the Transformation from Reactive to Proactive (P4) Medicine

Leroy Hood
Institute for Systems Biology

Monday, 4:45 – 5:30 pm, Marvin L. Vestal, Award Lecture

Tuesday, 4:45 – 5:30 pm, David C. Muddiman, Award Lecture



Thursday, 4:45 – 5:30 pm
Molecular Approaches to Understanding Human Uniqueness

Svante Pääbo
Max Planck Institute for Evolutionary Anthropology

ORAL SESSION LOCATIONS

- "A" Sessions (MOA, TOA, WOA, ThOA), Ballroom HJ
- "B" Sessions (MOB, TOB, WOB, ThOB), Ballroom ACE
- "C" Sessions (MOC, TOC, WOC, ThOC), Ballroom BDF
- "D" Sessions (MOD, TOD, WOD, ThOD), Room 155
- "E" Sessions (MOE, TOE, WOE, ThOE), Exhibit Hall 2
- "F" Sessions (MOF, TOF, WOF, ThOF), Exhibit Hall 3
- "G" Sessions (MOG, TOG, WOG, ThOG), Exhibit Hall 4

ORAL PRESENTATIONS. Only LCD computer projectors are used for oral sessions. The ASMS PC computers are running Office 2007. Speakers are required to present from the ASMS computers.

SPEAKER PREPARATION. Speakers must go to the speaker room at least one day prior to their talks to load presentations on the ASMS computers. The speaker room is Ballroom G. The room is open with a technician present:

Sunday: 10:00 am - 8:00 pm
Monday through Wednesday: 7:30 am - 5:00 pm

POSTERS AND EXHIBIT BOOTHS are in Exhibit Halls ABCDE. The Hall is open:

Sunday Reception: 7:45 - 9:30 pm
Monday through Wednesday: 7:30 am – 8:00 pm
Thursday: 7:30 am - 3:30 pm

POSTER SET-UP. Posters are located in Exhibit Hall ABCDE. Posters must be set up 8:00 - 8:30 am on the day scheduled and removed 7:30 to 8:00 pm. Thursday posters must be removed by 3:30 pm. **Refer to the poster numbers in this final program for board assignments.** Authors are expected to supply pushpins to mount their posters. Poster titles begin on page 43.

POSTER SCHEDULE. The poster sessions are 10:30 am – 2:30 pm, Monday through Thursday. Authors are encouraged to attend their posters between 10:30 am and 2:30 pm on their scheduled day. Authors should take a lunch break as follows:

11:45 am – 12:15 pm Lunch break for odd-numbered posters
12:15 – 12:45 pm Lunch break for even-numbered posters

Authors should wear a "presenter badge." Presenter badges are available at the poster supply counter located at the entrance to the poster hall. Presenters should also use the cards provided to indicate when they will return if they leave their posters.

WORKSHOPS. Workshops are 5:45 – 7:00 pm on Monday, Tuesday, and Wednesday. See pages 19 to 21 for schedule. Complimentary snacks and beverages are offered for those attending workshops. Refreshments are near the workshop session rooms.

EXHIBIT BOOTHS. The poster-exhibit hall is open 7:30 am – 8:00 pm for poster viewing and the Internet Café. Companies may attend their booths 9:00 am – 5:00 pm; however attendance is required as follows:

Sunday Reception: 7:45 – 9:30 p
Monday through Thursday: 10:30 am – 2:30 pm

LUNCH. There are concessions in the poster-exhibit hall. In addition there are restaurants outside the convention center. For suggestions and reservations, visit the Salt Lake City Restaurant Counter near the entrance to the poster-exhibit hall.

DINNER, 7:00 - 8:00 PM. Take this hour for a breath of fresh mountain air before the opening of hospitality suites at 8:00 pm. For suggestions and reservations, visit the Salt Lake City Restaurant Counter near the entrance to the poster-exhibit hall.

INTERNET ACCESS. Free wireless access is provided in the Poster-Exhibit Hall.

CONFERENCE PROCEEDINGS. The conference proceedings will be published online after the conference. Visit www.asms.org after June 30 to view and download the Proceedings.

WEB BROADCASTING OF SESSIONS. Tutorial lectures, plenary sessions, and oral sessions will be web cast. Your last name and the User ID on the back of your name badge must be entered to view presentations. All presentations will be available until July 30. Web casting of presentations does not constitute publication and in no way jeopardizes the rights of authors to publish material that has been presented. To access the presentations, go to www.asms.org.

CORPORATE HOSPITALITY SUITES. See pages 9 and 11 for maps. Hospitality suites may be open 8:00 – 11:30 pm, Monday through Wednesday. Suites are located in the convention center. **Suite opening hours may vary.** Please check at company exhibit booth.

GENERAL INFORMATION

SOCIAL ACTIVITIES

- **WELCOME MIXER, SUNDAY, 7:45 - 9:30 PM, Poster-Exhibit Hall ABCDE.** Conference name badge is required.
- **GUEST REGISTRATION.** Guest registration includes Sunday evening mixer and name badge. There will be a staffed hospitality counter in the entrance to the poster-exhibit hall where guests may meet one another and plan excursions. Cost for guest registration: \$10.
- **FAREWELL TOAST, 5:30 - 6:00 PM, THURSDAY, Hall 4.** The conference concludes on Thursday with a farewell toast in Hall 4 immediately following the closing plenary session.

CONFERENCE REGULATIONS

- **Name badges** are required for all conference sessions, including the poster-exhibit hall.
- **No smoking** is permitted in the convention center.
- **Cell phones** must be **turned off** in oral sessions.
- **No photography or recording** in any session, including posters.
- **The placement of advertising** in the meeting area is strictly prohibited unless approved by ASMS. No signs on easels are permitted.
- **No hardware, terminals, accessories, or any items** for sale may be displayed in any area of the conference, except in corporate exhibit booths and hospitality suites.
- There may be **no organized activities** (even off-site) other than those approved by ASMS during the conference week (5:00 pm on Sunday through 6:00 pm on Thursday).
- **Corporate or institutional logos** may appear only once in the title of posters or talks in technical sessions.

EMPLOYMENT CENTER. The Employment Center is located in Poster-Exhibit Hall and is open to all conference registrants. Candidates must supply at least 20 resumés. Employers and candidates may use the center to search the database of candidates and positions. There are poster boards to advertise positions and messages. There are booths available for conducting interviews. Interview spaces must be reserved one day in advance.

Sunday: 7:45 – 9:30 pm

Monday – Wednesday: 8:30 am - 5:00 pm

Thursday: 8:30 am – 2:30 pm

MEDIA EVENTS

Corporate media events are scheduled Monday and Tuesday in company hospitality suites at the Salt Palace Convention Center. Members of the press and financial institutions are welcome.

Company	Schedule	Salt Palace Room
AB SCIEX	Monday 11:00 am - 12: 00 pm	Room 150
Agilent Technologies	Monday 1:30 - 2:30 pm	Room 151
Bruker Daltonics	Monday 9:30 - 10:30 am	Room 254 BC
Shimadzu	Tuesday 9:00 - 10:00 am	Room 253 AB
Thermo Scientific	Monday 3:00 - 4:00 pm	Room 250 BCEF
Waters Corporation	Monday 4:30 - 5:30 pm	Room 251 DEF

ASMS

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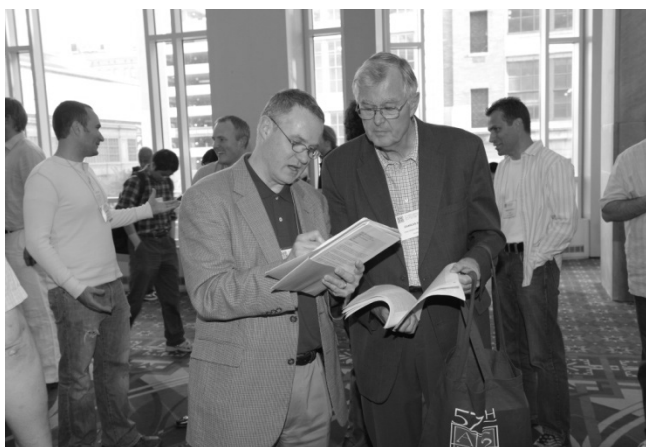
2019 Galisteo Street, Building I-1, Santa Fe, NM 87505

Phone: (505) 989-4517 Fax: (505) 989-1073

E-mail: office@asms.org

NEW THIS YEAR!

- As workshops become more popular, they have expanded to three nights – Monday, Tuesday and Wednesday. Refreshments are offered before the start of workshops - look for a theme each evening.
- There is a one-hour break between the end of workshops and the opening of corporate hospitality suites. Use the time to explore restaurants – both “fast” and “fine” in the area surrounding the convention center. Restaurant information is available at the Salt Lake City Restaurant counter located just inside the poster -exhibit hall
- Hospitality suites are in the convention center – so convenient!
- Some corporate members are hosting breakfast seminars in the convention center. Drop by an exhibit booth to reserve a seat.
- There is no “off-site” finale this year – we will have a farewell toast immediately following the closing plenary lecture.
- The Conference Proceedings will be online by June 30 – no more DVD that formerly was mailed in September.



HOTELS AND TRANSPORTATION

	HOTELS	ADDRESS
1	Courtyard	130 West 400 South 801-531-6000
2	Embassy Suites	110 West 600 South 801-359-7800
3	Grand America	555 South Main Street 801-258-6000
4	Little America	500 South Main Street 801-596-5700
5	Hilton	255 South West Temple 801-328-2000
6	Hotel Monaco	15 West 200 South 801-595-0000
7	Marriott City Center	220 South State Street 801-9761-8700
8	Marriot Downtown	75 South West Temple 801-531-0800
9	Hyatt Place	55 North 400 West 801-456-6300
10	Radisson	215 W. South Temple 801-531-7500
11	Red Lion	161 West 600 South 801-521-7373
12	Salt Lake Plaza	122 West South Temple 801-521-0130
13	Shilo	206 South West Temple 801-321-9500

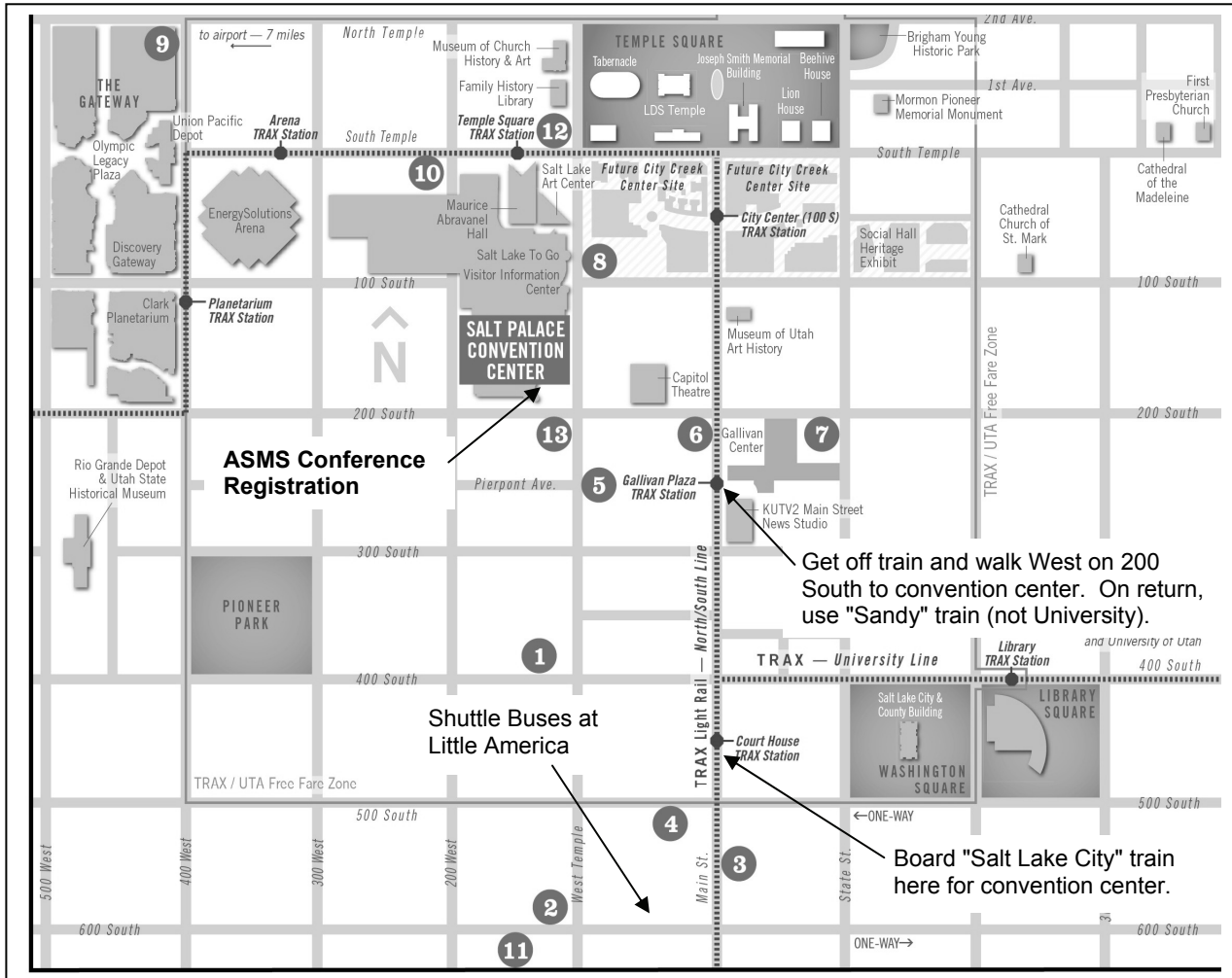
TRANSPORTATION. The Salt Lake City light rail system (TRAX) is free within the downtown area and runs every 10 - 20 minutes. If your room is at the Embassy Suites, Red Lion, Little America or Grand America, use the Court House Station on Main Street to board TRAX. Take the "Salt Lake City" train (not University). The closest stop to the convention center is Gallivan Plaza (first stop after Court House). Cross Main Street and walk West on 200 South to convention center. Traveling from the convention center back to the Court House Station, take the "Sandy" train.

SHUTTLE BUSES. ASMS is providing limited shuttle bus transportation at 30 minute intervals between the Little America Hotel and the convention center. Embassy Suites, Red Lion and Grand America guests should go to the South side of Little America to board the shuttle buses.

SHUTTLE BUS SCHEDULE.

- **Sunday**
3:00 – 9:30 pm (last bus departs convention center at 9:30 pm)
- **Monday, Tuesday, Wednesday**
7:00 am - 1:00 pm
5:00 pm - 12:00 midnight (last bus departs convention center at 12:00)
- **Thursday**
7:00 am - 1:00 pm
5:00 - 6:30 pm (last bus departs convention center at 6:30 pm)

At the convention center, board buses at the South Foyer entrance (near Conference registration).



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ASMS

announces the election of these members to the
Board of Directors

Vice President for Programs



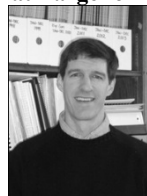
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<i>Clinical Chemistry</i>	Nigel J. Clarke Quest Diagnostics
<i>DNA/RNA</i>	Daniele Fabris Univ. of Maryland Baltimore County
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<i>Environmental Applications</i>	Enrico Davoli Mario Negri Institute
<i>Flavor, Fragrance and Foodstuff</i>	David N. Heller FDA/CVM
<i>Forensics & Homeland Security</i>	Plamen A. Demirev Johns Hopkins University
<i>FTMS</i>	Adam Hawkrige North Carolina State University
<i>Fundamentals</i>	Nick Polfer University of Florida Daniel Austin Brigham Young University
<i>H/D Exchange & Covalent Labeling</i>	Janna G. Kiselar Case Western Reserve University Michael Chalmers Scripps Florida
<i>Hydrocarbon and Chemical Process</i>	David Stranz Sierra Analytics, Inc. Wolfgang Schrader Max Planck Inst. Coal Res.
<i>Imaging MS</i>	Michelle Reyzer Vanderbilt University
<i>Ion-Mobility MS</i>	John A. McLean Vanderbilt University
<i>Ion Trap MS</i>	Heather Desaire University of Kansas
<i>LC/MS Related Topics</i>	J. Will Thompson Duke University
<i>Metabolomics</i>	Lloyd W. Sumner Samuel Roberts Noble Foundation William Wikoff Scripps Research Institute
<i>Metal Ion Coordination Chemistry</i>	Victor Ryzkov Northern Illinois University.
<i>Peptide Fragmentation</i>	Gavin E. Reid Michigan State University Bella Paizs DKFZ Heidelberg
<i>Pharmaceuticals</i>	Carmen T. Santasania Supelco/Sigma Aldrich
<i>Polymeric Materials</i>	Michael J. Polce Lubrizol Advanced Materials
<i>Protein Therapeutics</i>	Guodong Chen Bristol-Myers Squibb
<i>Regulated Bioanalysis</i>	Fabio Garofolo Algorithme Pharma Inc.
<i>Young Mass Spectrometrists</i>	Connell Cunningham Rohm and Haas Company

COMMITTEES

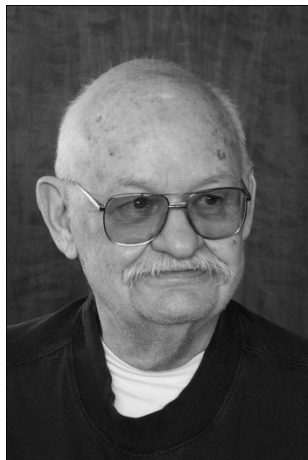
<i>Asilomar Conference</i>	Facundo Fernandez, Chair Robert B. Cody Rebecca A. Jockusch Barbara S. Larsen
<i>Audit</i>	Gary J. Van Berkel John R. Eyler Susan Richardson
<i>Corporate Liaison</i>	Robert B. Cody, Chair Barbara S. Larsen Selena Larkin (Biocius) Lance Nicolaysen (Waters) Michael Sabatino (LEAP) Heather Scollins (Advion) Jon Speak (AB Sciex) Wendy Weise (Thermo Scientific)
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<i>Publications</i>	John R. Engen, Chair David V. Dearden Neil Kelleher Lisa Marzilli Nadja Cech Michael L. Gross (Ex Officio)
<i>Sanibel Conference</i>	Touradj Solouki, Chair David J. Burinsky Stephen E. Stein Jianhua Ren
<i>Web Site Design</i>	John R. Engen, Chair Mary T. Rodgers John H. Callahan Susan T. Weintraub Richard A. Yost

ASMS AWARDS

AWARD FOR A DISTINGUISHED CONTRIBUTION IN MASS SPECTROMETRY

2010 Recipient: Marvin L. Vestal

Award Lecture: 4:45 – 5:30 pm, Monday, Hall 4



The different components of a mass spectrometer need to be carefully integrated for optimum design and performance. The focused efforts of **Marvin L. Vestal** on the development of practical MALDI-TOF and TOF-TOF mass spectrometers culminated in the first commercial MALDI-TOF instrumentation – the Voyager series. More than one half of MALDI-TOF instruments in use are based on Dr. Vestal's designs. A significant accomplishment of his work is the development of a comprehensive theoretical model for the various components of a TOF analyzer with a view toward optimizing performance of a complete system for particular applications. Dr. Vestal implemented this theoretical approach to design a family of MALDI-TOF instruments that employed delayed extraction, and through further refinements, the construction of a tandem time-of-flight instrument introduced commercially as the 4700 Proteome Analyzer and later the 4800 TOF-TOF by Applied Biosystems. Advances in related technology have been combined with Dr. Vestal's theoretical predictions to provide MALDI-TOF MS and MS-MS systems that out-perform earlier instruments by orders of magnitude. The MALDI-TOF MS and MS-MS systems designed by Dr. Vestal have had and are continuing to have an enormously positive impact on many important areas of research, including proteomics, glycomics, cell signaling, structural biology, tissue imaging, and polymer science.

Dr. Vestal is Founder, CEO, and CSO of Virgin Instruments.

THE BIEMANN MEDAL

2010 Recipient: David C. Muddiman

Award Lecture: 4:45 – 5:30 pm, Tuesday, Hall 4

Mass spectrometric analysis requires analytes to be introduced as gaseous ionized species into the mass analyzer of choice. However, signal abundance is not a direct function of analyte concentration but depends on numerous instrumental and chemical parameters. **David C. Muddiman** discovered that one strand of a PCR amplicon appears more intense than the complementary strand in an electrospray ionization (ESI) mass spectrum. He understood that the extent of hydrophobicity contributed to this effect and his research group was able to obtain a sensitivity gain of one order of magnitude by adding a hydrophobic alkyl chain. Dr. Muddiman has extended this "hydrophobic tagging" approach to also improve the ESI response of peptides. In another major research direction, Dr. Muddiman has developed alternative ion sources for FT-ICR mass spectrometry, including the dual ESI source, matrix-assisted laser desorption electrospray ionization (MALDESI), liquid MALDESI, and an "air amplifier" for more efficient ESI. The significance of these advances is that they allow generation of multiply charged species, which are uniquely suited for FT-ICR MS due to the inverse relationship between frequency and m/z . Dr. Muddiman has published over 150 papers in peer-reviewed journals and is recognized for his unusual combination of depth and breadth in the field of biological mass spectrometry.



Dr. Muddiman is Professor of Chemistry at North Carolina State University.

RON A. HITES AWARD FOR OUTSTANDING RESEARCH PUBLICATION IN JASMS

Award Presentation: ASMS Meeting, Wednesday 4:45 – 5:30 pm, Ballroom ACE

The Ron Hites Award recognizes a high quality presentation of outstanding original research. Selection is based on a paper's innovative aspects, technical quality, likely stimulation of future research, likely impact on future applications, and quality of presentation. The Award is named in honor of Professor Ronald A. Hites of Indiana University, who led the creation of *JASMS* in 1988 while president of ASMS.



The 2010 award is presented to **Prof. Facundo Fernandez** for the article "Direct Quantitation of Active Ingredients in Solid Artesunate Antimalarials by Noncovalent Complex Forming Reactive Desorption Electrospray Ionization Mass Spectrometry;" Leonard Nyadong, Sameer Late, Michael D. Grren, Ajay Banga, and Facundo Fernández; *JASMS* 2008, Vol. 19, 380-388. Prof. Fernández is in the School of Chemistry and Biochemistry, Georgia Institute of Technology.



ASMS RESEARCH AWARDS

2010 RECIPIENTS

Awards will be presented at 4:45 pm on Tuesday immediately preceding the Biemann Medal presentation.

Sponsored by

Thermo Scientific



Hao Chen
Ohio University

Sponsored by

Waters Corporation



Sarah Trimpin
Wayne State University

CALL FOR 2011 RESEARCH AWARD PROPOSALS

- OBJECTIVE** To promote academic research by young scientists in mass spectrometry.
- ELIGIBILITY** Open to academic scientists within four years of joining the tenure track faculty or equivalent position within a North American university. Applicants may not have previously received an award under this program.
- APPLICATION** Applicants should submit **SEVEN** collated sets of the following
1. One-page fiscal proposal and justification
 2. List of current research support
 3. Three-page proposal, including references, figures, etc.
 4. *Curriculum vitae*
 5. Two letters of recommendation (may be sent directly to ASMS)
- DEADLINE** Application materials, including letters of recommendation, must be received in the ASMS office by November 30. Send to:
ASMS, 2019 Galisteo Street, Building I-1, Santa Fe, NM 87505
- FISCAL** The awards of \$25,000 each will be made to a university in the name of the selected individual and for the researcher's exclusive use. In accepting this award, the institution will agree not to charge overhead on the funds.
- INFORMATION** Contact ASMS. Telephone: (505) 989-4517 • office@asms.org

GREATER BOSTON MASS SPECTROMETRY DISCUSSION GROUP (GBMSDG) STUDENT TRAVEL AWARDS

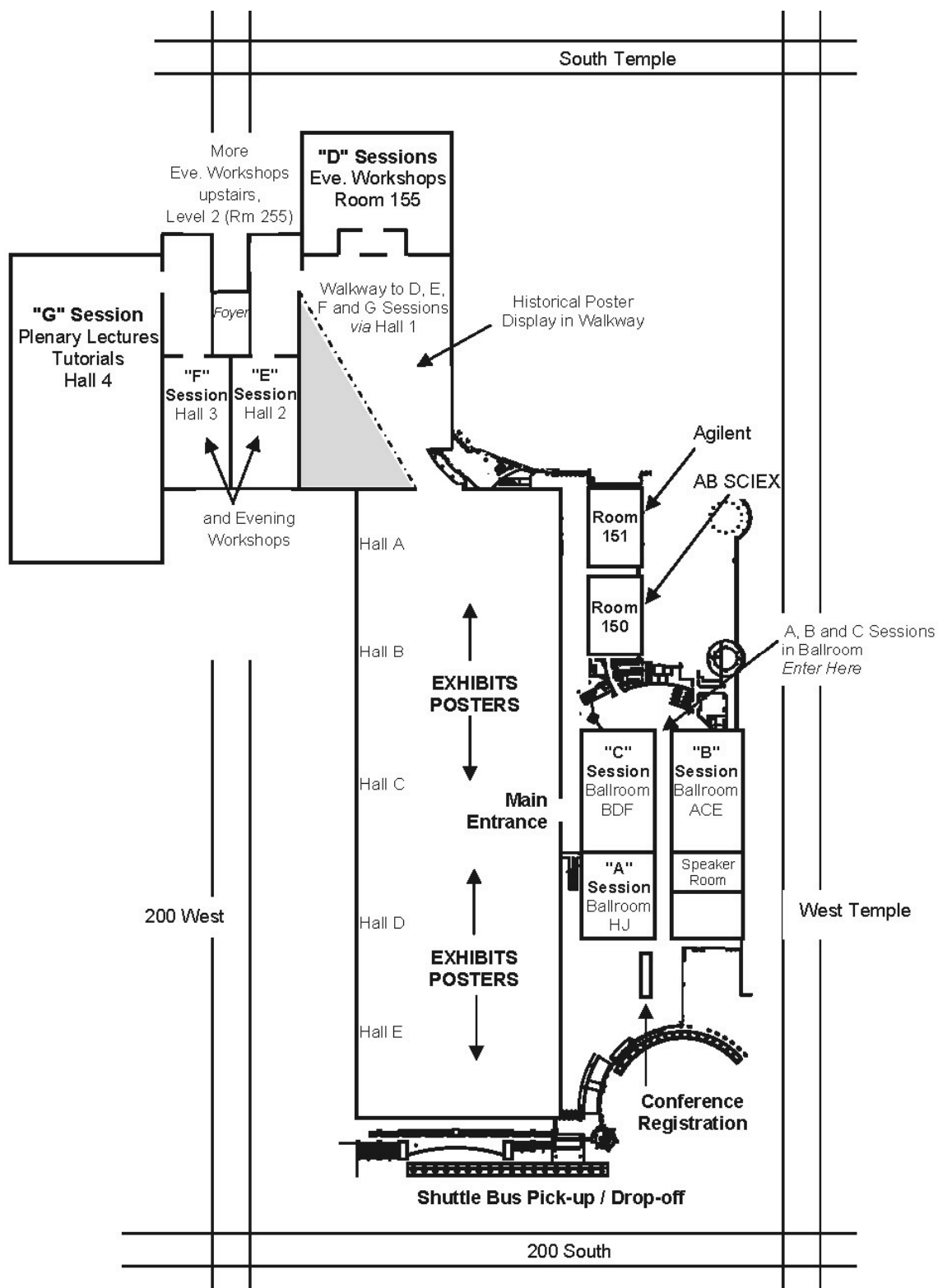
Awards are approximately \$1,000 each. Information and application details may be found at www.gbmsdg.org.

2010 Recipients

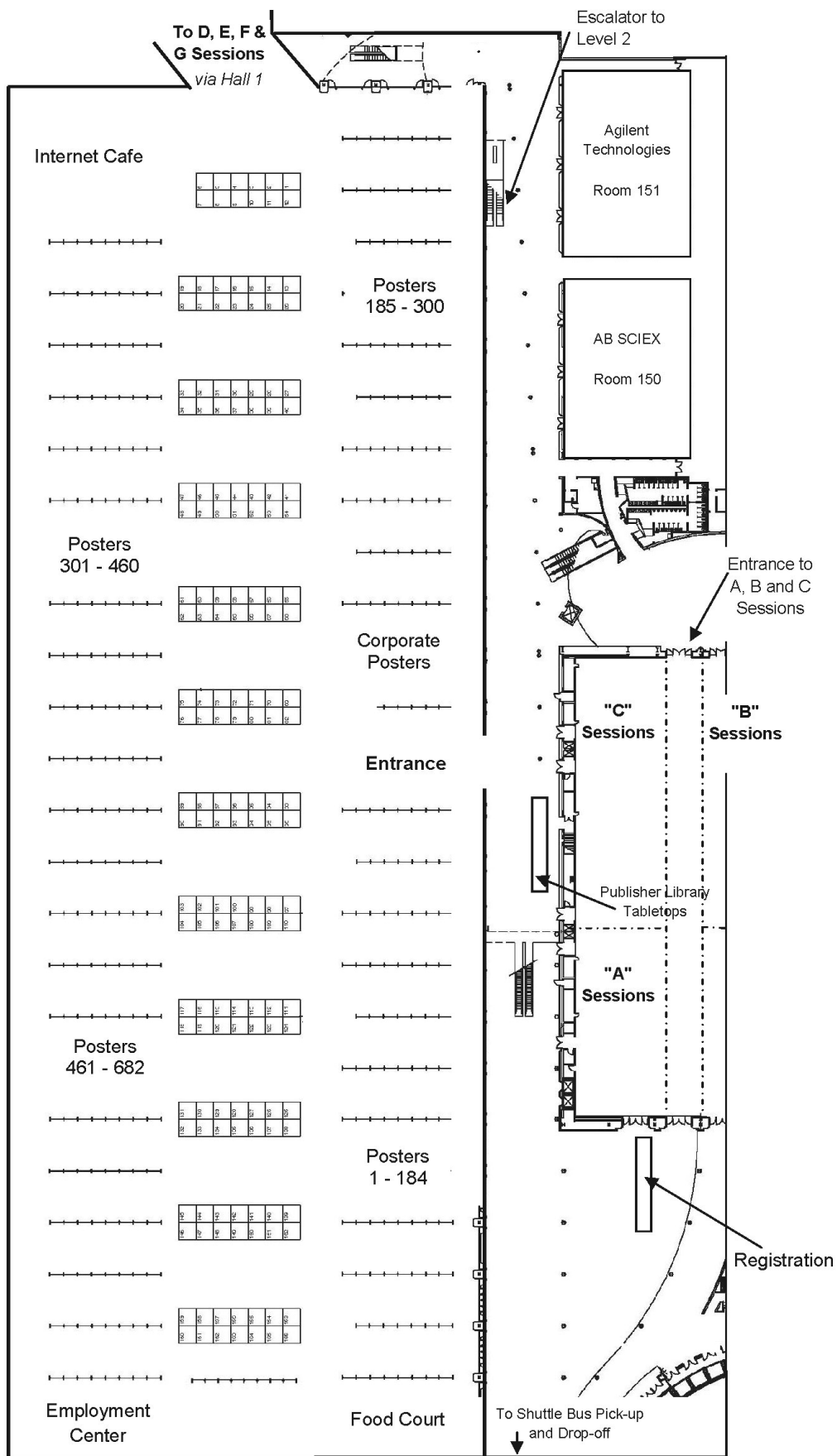
Kristin J. Boggio, *Brandeis University*
Christopher R. Morgan, *Northeastern University*

CONVENTION CENTER MAP, FIRST LEVEL

First Level (or street level) of the Salt Palace Convention Center is home to session rooms, posters - exhibits, conference registration counters, publisher's library tabletops, some evening workshops, and some corporate hospitality suites.



POSTER - EXHIBIT HALL, FIRST LEVEL



CONVENTION CENTER MAP, SECOND LEVEL

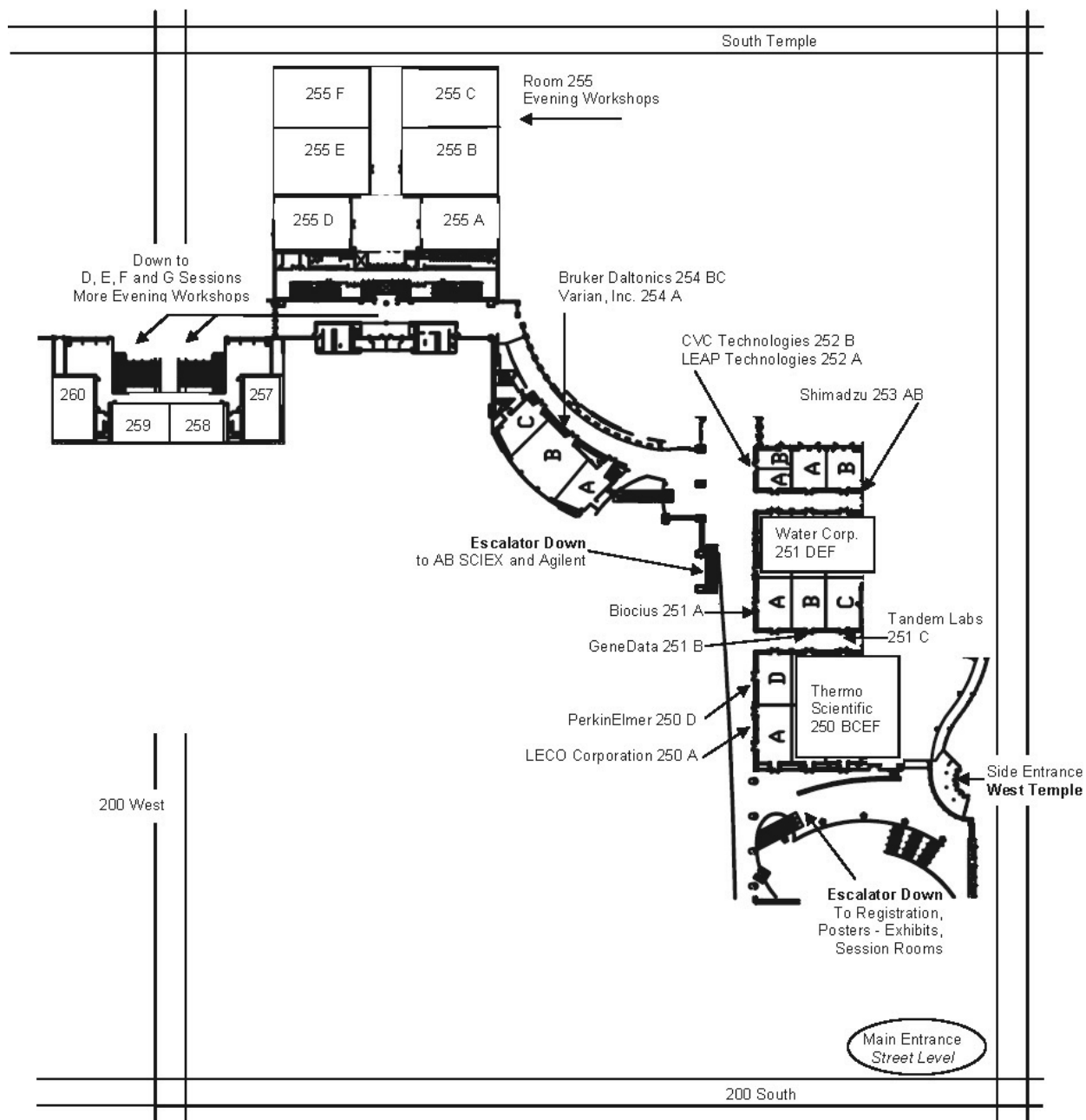
Second Level of the Salt Palace Convention Center is home to evening workshops and corporate hospitality suites.

HOSPITALITY SUITES

Hospitality suites may be open 8:00 – 11:30 pm, Monday through Wednesday. Suites are located in the convention center. Suite opening hours may vary. ASMS will provide limited shuttle bus transportation from the convention center to the Little America Hotel 5:00 pm - 12:00 midnight. Those with rooms at Grand America, Embassy Suites and Red Lion should also use these buses. The last bus will depart the convention center at 12:00 midnight.

WORKSHOPS

Workshops are 5:45 – 7:00 pm on Monday, Tuesday, and Wednesday. See pages 19 to 21 for schedule. Complimentary snacks and beverages are offered for those attending workshops. Refreshments are near the workshop session rooms.



ASMS CORPORATE MEMBERS

COMPANY	BOOTH/POSTER/LIBRARY	HOSPITALITY SUITE (IN CONVENTION CENTER)
1st Detect.....	119/Poster	
AB SCIEX.....	82.....	Room 150
ABC Laboratories.....	9	
ACS Publications.....	Library Tabletop	
Advanced Chemistry Development.....	52	
Advion.....	101/Poster	
Agilent Technologies.....	68/Poster.....	Room 151
AIM Research Company.....	32	
Alliance Pharma, Inc.....	24	
Alturas Analytics, Inc.....	136	
American Laboratory.....	Library Tabletop	
American Pharmaceutical Review.....	Library Tabletop	
Analytical Sales & Services.....	56/Poster	
Antec (USA).....	87/Poster	
Applied Kilovolts.....	38/Poster	
Ardara Technologies.....	30/Poster	
Avogadro.....	141	
Beckman Coulter, Inc.....	126	
BIOCIUS Life Sciences.....	67.....	Room 251 A
Biocrates Life Sciences AG.....	19/Poster	
Bioinformatics Solutions Inc.: PEAKS.....	80/Poster	
Bio-Rad Laboratories.....	145/Poster	
Bioreclamation.....	39	
Biotage.....	77	
Bruker Daltonics.....	111.....	Room 254 BC
C&EN.....	Library Tabletop	
Caliper Life Sciences.....	34	
CAMAG Scientific, Inc.....	130	
Cambridge Isotope Laboratories.....	20	
Canadian Life Science.....	85	
caprotec bioanalytics GmbH.....	37/Poster	
CDS Analytical.....	140	
Cell Biosciences Inc.....	35/Poster	
Cerilliant Corporation.....	104	
Cerno Bioscience.....	18	
CETAC Technologies.....	147	
Chemyx, Inc.....	3/Poster	
Chiral Technologies, Inc.....	62	
Chromsys LLC.....	98	
CMP Scientific, Inc.....	59	
CovalX.....	75	
Covaris, Inc.....	108	
CSS Analytical Co., Inc.....	42	
CTC Analytics.....	142	
CVC Technologies, Inc.....	93/Poster.....	Room 252 B
Denator AB.....	133/Poster	
Detector Technology, Inc.....	Poster	
Dionex Corporation.....	112/Poster	

ASMS CORPORATE MEMBERS

COMPANY	BOOTH/POSTER/LIBRARY	HOSPITALITY SUITE (IN CONVENTION CENTER)
Edwards.....	120	
Eksigent Technologies	Poster	
Elforlight Limited.....	166	
Elsevier	Library Tabletop	
EMD Chemicals	146/Poster	
Enthalpy Analytical, Inc.....	10	
Extrel CMS	31	
Full Spectrum Analytics, Inc.....	58	
Gelcompany	107	
Genedata, Inc.....	1/Poster	Room 251 B
Genetic Engineering & Biotechnology News.....	Library Tabletop	
Geneva Bioinformatics.....	131/Poster	
Genologies	139	
GenTech Scientific Inc.....	25	
Gerstel, Inc.	65/Poster	
GL Sciences	7	
Glygen Corp.....	40/Poster	
Hamamatsu Corporation	132	
Harvard Apparatus	22	
Honeywell Burdick & Jackson.....	17	
Horizon Technology, Inc.....	164	
Hudson Surface Technology	51/Poster	
HVM Technology	118	
iChrom Solutions	165	
ICX Technologies	79/Poster	
IDEX Health & Science	96/Poster	
Imtakt USA	152	
Indigo Biosystems, Inc.	88	
Institute for Systems Biology	151	
INTAVIS, Inc.....	89	
Integrated Analysis, Inc.....	2/Poster	
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International Labmate	Library Tabletop	
Ionicon Analytik GMBH.....	43/Poster	
Ionics Mass Spectrometry Group, Inc.	29	
IonSense, Inc.....	50/Poster	
Ionwerks, Inc.....	105	
ITT Power Solutions	115	
JEOL USA, Inc.	92	
KCAS, LLC	154	
Labcyte.....	155	
LabKey Corporation.....	156	
LEAP Technologies	110/Poster	Room 252 A
LECO Corporation	97/Poster	Room 250 A
Lhasa Limited	12/Poster	
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Nanoliter, LLC	124/Poster	
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New England Peptide, LLC	148	
New Objective, Inc.	70/Poster	
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Royal Society of Chemistry	Library Tabletop	
Sage-N Research, Inc.	81	
SAI LTD	123	
Scientific Instrument Services.....	84/Poster	
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PROGRAM ACKNOWLEDGEMENTS



Scott A. McLuckey
Vice President for Programs

STUDENT ASSISTANTS

Graduate students are assisting with all aspects of the conference, including registration, oral and poster sessions, and the employment center. The students each receive a stipend to assist with their conference expenses. Elsevier Science has generously underwritten the student stipends.

PROGRAM COMMITTEE

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David Burinsky	Hee-Yong Kim	JC Poutsma	Andre Venter
Heather Desaire	Lingjun Li	Ragu Ramanathan	Sue Weintraub
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			Joe Zaia

WORKSHOP AND INTEREST GROUP MEETING ORGANIZERS

Daniel Austin	Jennifer Grant	Bela Paizs	Wolfgang Schrader
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Guodong Chen	John Greaves	Michael Polce	David Stranz
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Heather Desaire	John McLean	Brandon Ruotolo	Julian Whitelegge
David Friedman	Katalin Medzihradzsky	Victor Ryzhov	William Wikoff
Fabio Garofolo	Ronald Orlando	Carmen T. Santasania	Jon Williams

CONFERENCE PROGRAM OVERVIEW

SAT	9:00 am - 4:30 pm	SHORT COURSES
	2:00 - 5:00 pm	REGISTRATION
SUNDAY	9:00 am - 4:30 pm	SHORT COURSES
	10:00 am - 8:00 pm	REGISTRATION
	5:00 - 6:30 pm	TUTORIAL LECTURES, Hall 4 <ul style="list-style-type: none"> • Collision Induced Dissociation: How Does It Really Work and What It Can (or Can't) Tell You; Peter B. Armentrout, <i>University of Utah</i> • The Role of Mass Spectrometry in Drug Discovery and Development; Walter A. Korfmacher, <i>Merck Research Laboratories</i>
	6:45 - 7:45 pm	OPENING and PLENARY LECTURE, Hall 4 Systems Medicine and Emerging Technologies; Leroy Hood, <i>Institute for Systems Biology</i>
	7:45 - 9:30 pm	RECEPTION IN THE EXHIBIT HALL, Exhibit Hall ABCDE
MONDAY	8:30 - 10:30 am	ORAL SESSIONS <ul style="list-style-type: none"> • MOA: Fundamentals: Ion Structures and Energetics, <i>Ballroom HJ</i> • MOB: New Developments in Ion Traps and Hybrid Instruments, <i>Ballroom ACE</i> • MOC: MS of Nucleic Acids <i>Ballroom BDF</i> • MOD: MS Derived Peptide/Protein Biosignatures and Biomarkers, <i>Room 155</i> • MOE: Increasing Throughput for ADME and PK Assays, <i>Hall 2</i> • MOF: Application of LC-MS for PK Characteristics of Biologics, <i>Hall 3</i> • MOG: Quantitative Intact Proteomics, <i>Hall 4</i>
	10:30 am - 2:30 pm	POSTER SESSION AND EXHIBITS, Exhibit Hall ABCDE. See page 43.
	2:30 - 4:30 pm	ORAL SESSIONS <ul style="list-style-type: none"> • MOA: Fundamentals: Supramolecular Chemistry: Non-Covalent Complexes, <i>Ballroom HJ</i> • MOB: Advances in Imaging, <i>Ballroom ACE</i> • MOC: MS of Synthetic Polymers, <i>Ballroom BDF</i> • MOD: Qualitative Analysis of Protein Therapeutics by MS, <i>Room 155</i> • MOE: LC-MS Challenges & Solutions for Monitoring Human Metabolites in Safety Testing (MIST), <i>Hall 2</i> • MOF: Quantitation of Biologics: Applications and Techniques, <i>Hall 3</i> • MOG: Phosphoproteomics Applications, <i>Hall 4</i>
	4:45 - 5:30 pm	AWARD LECTURE, Hall 4 Recipient of the Award for a Distinguished Contribution in Mass Spectrometry
	5:45 - 7:00 pm	WORKSHOPS. See page 19.
	8:00 - 11:30pm	CORPORATE HOSPITALITY SUITES, Salt Palace Convention Center
Tuesday	8:30 - 10:30 am	ORAL SESSIONS <ul style="list-style-type: none"> • TOA: Fundamentals: Biomolecular Ion Radical Chemistry, <i>Ballroom HJ</i> • TOB: MS of Lipids, <i>Ballroom ACE</i> • TOC: MS of Viruses, <i>Ballroom BDF</i> • TOD: MS of Protein-Ligand Complexes, <i>Room 155</i> • TOE: Incurred Sample Reanalysis and Analytical Solutions, <i>Hall 2</i> • TOF: Quantitation of Xenobiotic Metabolites without Reference Standard, <i>Hall 3</i> • TOG: Quantitation in Proteomics: Peptides, <i>Hall 4</i>
	10:30 am - 2:30 pm	POSTER SESSION AND EXHIBITS, Exhibit Hall ABCDE.. See page 73.
	2:30 - 4:30 pm	ORAL SESSIONS <ul style="list-style-type: none"> • TOA: Fundamentals: Ion Spectroscopy, <i>Ballroom HJ</i> • TOB: MS and Immunology, <i>Ballroom ACE</i> • TOC: MS of Carbohydrates, <i>Ballroom BDF</i> • TOD: New Developments in Ionization, <i>Room 155</i> • TOE: Identification of Unusual Xenobiotic Metabolites Using MS, <i>Hall 2</i> • TOF: Dealing with Phospholipids in Regulated Bioanalysis, <i>Hall 3</i> • TOG: Bioinformatics in Proteomics, <i>Hall 4</i>
	4:45 - 5:30 pm	AWARD LECTURE, Hall 4; Recipient of the Biemann Medal Research Award Presentations
	5:45 - 7:00 pm	WORKSHOPS. See page 20.
	8:00 - 11:30pm	CORPORATE HOSPITALITY SUITES, Salt Palace Convention Center

CONFERENCE PROGRAM OVERVIEW

WEDNESDAY	8:30 - 10:30 am	<p>ORAL SESSIONS</p> <ul style="list-style-type: none"> • WOA: Multiple Charging in MS, <i>Ballroom HJ</i> • WOB: MS and Clinical Diagnostics, <i>Ballroom ACE</i> • WOC: MS of Fuels, Biofuels and Heavy Oils, <i>Ballroom BDF</i> • WOD: Environmental MS Identification of Unknowns, <i>Room 155</i> • WOE: LC-MS Strategies for Metabolomics in Drug Discovery, <i>Hall 2</i> • WOF: Clinical Applications of Integrated Qualitative and Quantitative LC-MS, <i>Hall 3</i> • WOG: Characterizing PTMs, <i>Hall 4</i>
	10:30 am - 2:30 pm	POSTER SESSION AND EXHIBITS , <i>Exhibit Hall ABCDE</i> . See page 104.
	2:30 - 4:30 pm	<p>ORAL SESSIONS</p> <ul style="list-style-type: none"> • WOA: Fundamentals: Ion-Molecule and Ion-Ion, Ion-Electron Interactions, <i>Ballroom HJ</i> • WOB: FTMS Instrumentation and Applications, <i>Ballroom ACE</i> • WOC: MS in Environmental Toxicology, <i>Ballroom BDF</i> • WOD: MS of Glycoproteins, <i>Room 155</i> • WOE: LC-MS of Reactive Xenobiotic Metabolites, <i>Hall 2</i> • WOF: MS of Pharmaceuticals and Personal Care Products in Water, <i>Hall 3</i> • WOG: MS and Systems Biology, <i>Hall 4</i>
	4:45 - 5:30 pm	ASMS MEETING , <i>Ballroom ACE</i>
	5:45 - 7:00 pm	WORKSHOPS . See page 21.
	8:00 – 11:30 pm	CORPORATE HOSPITALITY SUITES , <i>Salt Palace Convention Center</i>

Thursday	8:30 - 10:30 am	<p>ORAL SESSIONS</p> <ul style="list-style-type: none"> • ThOA: Electron and Photon-Based Ion Activation/Dissociation (PD, ECD, ETD, EDD), <i>Ballroom HJ</i> • ThOB: H/D Exchange for Protein Structure and Folding, <i>Ballroom ACE</i> • ThOC: Recent Developments in Ion Mobility MS, <i>Ballroom BDF</i> • ThOD: Metabolomics: Bioinformatics and Metabolite Identification, <i>Room 155</i> • ThOE: Automated and Post-Acquisition Software Tools for Xenobiotic Metabolites, <i>Hall 2</i> • ThOF: Dried Blood Spot Analysis, <i>Hall 3</i> • ThOG: MS and Cellular Pathways, <i>Hall 4</i>
	10:30 am - 2:30 pm	POSTER SESSION AND EXHIBITS , <i>Exhibit Hall ABCDE</i> . See page 135.
	2:30 - 4:30 pm	<p>ORAL SESSIONS</p> <ul style="list-style-type: none"> • ThOA: Fundamentals: Ion-Surface Interactions and Preparative MS, <i>Ballroom HJ</i> • ThOB: Biomolecular Structure, <i>Ballroom ACE</i> • ThOC: Peptide Ion Fragmentation, <i>Ballroom BDF</i> • ThOD: Novel Developments in Instrumentation, <i>Room 155</i> • ThOE: Quantitation of Endogenous Analytes in Regulated Bioanalysis, <i>Hall 2</i> • ThOF: Laser/Surface Desorption Techniques for ADME, <i>Hall 3</i> • ThOG: MS of Membrane Proteins, <i>Hall 4</i>
	4:45 - 5:30 pm	PLENARY LECTURE , <i>Hall 4</i> Svante Pääbo , <i>Max Planck Institute for Evolutionary Anthropology</i>
	5:30 - 6:00 pm	CONFERENCE CLOSING TOAST , <i>Hall 4</i>

There is no additional charge for workshops. They are open to all conference registrants.
Light refreshments will be served near the session sooma.

MONDAY WORKSHOPS, 5:45 – 7:00 PM

NIH Update: Funding Opportunities and Recent Policy Changes

Douglas Sheeley, presiding. **Hall 2**

The National Institutes of Health has recently made changes to several aspects of the application and review process, including new formats and page limits for applications, a new scoring system, and a new format for summary statements. NIH staff will provide an overview of these changes, as well as more general information on NIH policies and the grant application process. In addition, current funding opportunities related to mass spectrometry will be discussed, including small business grants. There will be time for questions and discussion.

Identification of Unique Metabolites: New MS Techniques and Strategies

Organized by Drug Metabolism and
Pharmacokinetics Interest Group

Ragu Ramanathan, Gabriella Szekely-Klepser,
and Lucinda Cohen, presiding. **Hall 3**

The identification and quantification of xenobiotic metabolites in response to the MIST guidelines from the regulatory agency has sparked a lot of discussions recently amongst the practitioners of this field. A number of hot topics emerged from the quantification of metabolites without exact reference standards to utilization of various software tools. Subject matter experts will be invited to discuss these topics with the audience, focusing on a practical level of information sharing that will complement the oral and poster sessions in this area.

Hot Topics in LC-MS Instrumentation Troubleshooting

Organized by LC/MS & Related Topics Interest Group
J. Will Thompson, presiding. **Room 155**

The LC-MS & Related Topics Interest Group workshop for 2010 will focus on user-defined areas of instrumentation troubleshooting. A survey of the Interest Group will be used to decide which troubleshooting or training areas will be the most beneficial, including but not limited to LC column efficiency, column hardware problems, LC or MS software problems, and MS performance. Experts in instrument troubleshooting, maintenance and repair will be assembled to answer questions, but your expertise is highly valued and needed in order to have a valuable workshop! We are also excited to feature two to three original student research presentations at the beginning of this year's workshop.

Undergraduate Research in Mass Spectrometry Interest Group Meeting

Jennifer Grant and Mike VanStipdonk, presiding. **Room 255 A**

We have formed this interest group to consider the challenges and synergies in pursuing undergraduate research from the perspective of both the mentor and mentee. As a group of peers, we will consider issues such as funding, maximizing our activities at ASMS, instrumentation access, etc. Also, we will strategize as to the future activities of this interest group.

Quantitative Intact Proteomics (QIP)

David Friedman and Julian Whitelegge, presiding
Room 255 B

We propose an open forum format where Julian and David moderate the discussion while "roaming the room" with microphones to be handed to participants. David/Julian will open the workshop with a 5 minute introduction to QIP themes, and present a short list of possible discussion points generated from a pre-survey using our

existing email interest list. A small panel of 2 or 3 additional experts will be invited to give a 5-minute presentation on a topical area in the beginning, and then remain in front during the discussion. Kathryn Lilley (Cambridge) has already accepted our invitation to be on the expert panel; she is an expert on QIP-related issues, including experimental design and statistical power.

Fundamentals Interest Group

Nick Polfer and Daniel Austin, presiding. **Room 255 C**

In the tradition of the fundamentals workshop, we will encourage young mass spectrometrists to give short presentations on topics of interest to generate an informal discussion. While the exact topics are dependent on the choice of oral presentations at ASMS, it is expected that ion mobility and ion spectroscopy will feature prominently.

Screening for Unknowns in our Environment Experience, Ideas, and Suggestions

Organized by Environmental Applications Interest Group

Enrico Davoli and Susan Richardson, presiding. **Room 255 D**

During last year's workshop we asked major MS manufacturers about their ideas for the future, for our high-end instrumentation, for automated screening, and unknown identification. High resolution and LC/MS instrumentation are extremely powerful, but a lot of work still needs to be done by "the mass spectrometrists." We would like to have environmental scientists' opinions about this difficult and important task that we are more and more frequently asked to do. We will also discuss about new software and approaches available. Come and bring your own ideas and suggestions for a fruitful discussion!

The Reliability of PTM Assignments

Katalin F. Medzihradzsky, presiding. **Room 255 E**

Mass spectrometry has become the method of choice for analyzing post-translational modifications. Many PTM studies are carried out using targeted enrichment followed by LC/MS/MS in an automated, high throughput manner. Modified peptide identification as well as modification site assignments are performed by a variety of search engines. Though these search engines are able to deal with some aspects of PTM analysis they are challenged by the diverse nature of PTMs. We will focus on the reliability (or the lack of it) of automated site assignments, manual inspections, software tools and data presentation/publication. We will also discuss the often overlooked problem of non-biological PTMs.

The Role of Mass Spectrometry in Our Future Energy Supply

David Stranz and Wolfgang Schrader, presiding

Room 255 F

The world's energy supply environment is changing rapidly. The character of traditional petroleum-based fuels is becoming more complex as sweet crude oil sources become depleted and are replaced by sources that are heavier and more difficult to extract and process. At the same time, there is an explosion of new biologically-based fuels with their own characterization problems.

This workshop will feature short presentations and a panel discussion from practitioners analyzing petroleum- and biologically-based fuel sources, with focus on the analytical problems unique to each field and the requirements for improvement in technique, instrumentation, and analysis tools.

Challenge in LC-MS/MS Bioanalysis: Scientific Investigations following Incurred Sample Reanalysis (ISR) - Failure and Different Approaches and Techniques for Phospholipids Removal

Organized by Regulated Bioanalysis Interest Group
Fabio Garofolo, Stephen Lowes, & Patrick Vallano, presiding
Hall 2

This year workshop will focus on the following 2 “hot topics:”

1. Conducting **Incurred Sample Reanalysis (ISR)**. During this discussion we will explore practical ISR out-of-specification investigations (OOSI) conducted in support of pre-clinical/clinical studies. The debate will step through established and implemented approaches to the investigation process, the associated conclusions and investigation reporting for support of regulated bioanalytical studies.
2. **Phospholipids**. We will discuss the extraction conditions that remove phospholipids and the recent approaches used by the industry to handle the effects produced by phospholipids.”

Current Topics in FTMS

Organized by FTMS Interest Group
Adam Hawkrige, presiding. **Hall 3**

An anonymous web-based survey was conducted in January/February 2010 to assess the experience levels and interests of the FTMS Interest Group Members that could then be used to guide the organizational structure and content of the Workshop. The number of topics covered during the Workshop will be kept to a minimum (2-3) as will the length of any presentation (< 5 slides) so as to maximize time for discussion. An outline of the topics with potential discussion points will be made available before the start of ASMS via the FTMS Interest Group webpage. An email will be sent to all FTMS Interest Group Members notifying them when the outline is posted.

Rearrangement Reactions in Peptide Fragmentation: From Fundamentals to Applications

Organized by Peptide Fragmentation Interest Group
Gavin Reid & Bela Paizs, presiding. **Room 155**

Rearrangement reactions in peptide fragmentation have received significant attention in the last few years. Typical examples include head-to-tail cyclization and reopening (scrambling) reactions of *b*-type fragments formed by CID, migration of phosphate groups in phosphorylated peptides upon CID, and radical-driven rearrangements upon ECD/ETD of peptide ions. This workshop will provide a forum for researchers studying these rearrangement reactions using both fundamental and statistical methodologies to discuss the application of the related chemistries for peptide sequencing. To facilitate discussion presenters will be allowed to give only short (flash) introduction to their approaches.

Careers of Young Mass Spectrometrists

Organized by Young Mass Spectrometrists Interest Group
Connell Cunningham and Bich Vu, presiding
Room 255 A

The workshop will hold panel discussions which deal with issues related to the careers of young mass spectrometrists. Representatives from industry, academia, and government organizations will be invited to give advice on career prospects. The topics will be related to scientific publishing, grant writing, management, entrepreneurship, career pathways in academia and industry, as well as in government organizations.

Biologics Mass Spectrometry:

Best Practices and Recent Developments

Organized by Protein Therapeutics Interest Group
Guodong Chen & Jon Williams, presiding. **Room 255 B**

Protein Therapeutics Interest Group (PTIG) is concerned with characterization of protein therapeutics with mass spectrometry, one of rapidly growing fields in the biopharmaceutical industries. This inaugural workshop will bring together experienced scientists and newcomers in the field. Meeting will include a panel discussion on best practices in structural characterization of protein therapeutics and recent advances in quantitative analysis of protein therapeutics in plasma samples. There will be several short informal presentations, followed by discussions. Meeting will begin with brief discussions on PTIG impact on 2010 ASMS conference program and request for suggestions on 2011 sessions as well as workshop topics.

Problem Solving Session

Organized by Polymeric Materials Interest Group
Michael Polce, presiding. **Room 255 C**

The workshop will consist of several short informal presentations (3-5 power point slides) in which speakers briefly describe a specific unresolved measurement challenge they have encountered (sample prep, ionization issues, data interpretation, etc.) and the audience provides useful comments and suggestions in an open discussion. A brief meeting will follow to discuss any technical topics of current interest to the group (ion mobility MS of polymers, MS/MS, polymer pyrolysis, new instrumentation, etc.).

LC/MS/MS Analysis of Biomarkers and their Impact on Drug Development

Organized by Pharmaceuticals Interest Group
Carmen T. Santasania and Chris Petucci, presiding
Room 255 D

The purpose of this workshop will be to explore the role that mass spectrometry plays in the analysis of biomarkers. A panel led discussion will center around the challenges that biomarkers pose to the analyst and their impact on drug development.

Metabolomics Current Challenges and Future Directions

Organized by Metabolomics Interest Group
Lloyd W. Sumner & William R. Wikoff, presiding
Room 255 E

The objective of this workshop is to gather together active metabolomics researchers to discuss the current challenges and future directions of the field in the presence of those who wish to learn more about metabolomics. Key topics of discussion will include instrumental advances, data standards, data acquisition and processing, databases and repositories, and metabolite identification and annotation. A panel will guide the discussion, and substantial proportion of the allotted time will be allocated for audience feedback. Thus, bring your comments and we look forward to your participation

Accurate Mass Measurement (again) and Service Survey

Organized by Analytical Lab Managers Interest Group
John Greaves, presiding. **Room 255 F**

The latest JOC requirements for "HRMS" are unrealistic in that they request a mass resolution of 1 mmu (i.e. 1,000,000 at mass 1000). This subject seems to crop up on a multi-year rotation. It would be useful to have some input from mass spectrometrists that can be forwarded to JOC. Last year we started to come up with a survey of instrument manufacturer's service operations. Some ideas have now been compiled and that will be brought back for review with the intention of sending it out in the Fall.

Challenges in MS Data Analysis

Organized by Bioinformatics for MS Interest Group
Marc Kirchner, presiding. **Hall 2**

The workshop will feature two 6min40s "starter/provocation" talks (with automatically advancing slides, so no chance to lengthen the presentation time) on current challenges in two MS Bioinformatics fields: (i) practical application of computational methods and (ii) computational MS statistics and method development. Each talk will be followed by 25min of open discussion.

**Towards an Automated Mass Spec Analyzer for Clinical Labs -
What, When and How?**

Organized by Clinical Chemistry Interest Group
Nigel Clarke & Russell Grant, presiding. **Hall 3**

Mass Spectrometry has become the new area of interest in the clinical diagnostic world over the last few years. It is growing at an astounding rate with tests such as testosterone and vitamin D leading the way. While the high complexity Dx labs can afford to buy, upkeep and staff these complicated instruments even they will agree that we need to simplify their operation to reduce subjectivity and errors in results. Furthermore, at present large numbers of labs that want to use this technology are sitting on the side-lines waiting for it to become more "user-friendly." We propose to put together a mix of labs and vendors and generally interested parties to discuss the needs and solutions for this situation.

Troubleshooting the Imaging Process

Organized by Imaging MS Interest Group
Michelle Reyzer, presiding. **Room 155**

This workshop will provide a forum for attendees to get helpful hints for getting around common problems in the imaging process. Several speakers (3-4 slides each) will present tips for overcoming challenges at any point in the image generation process, from sample preparation, to image acquisition, to image processing. This will be followed by an informal discussion on specific issues brought up by the audience.

**Practical Aspects of New Techniques for
Volatile Compound Analysis**

Organized by Flavor, Fragrance and Foodstuff Interest Group
David Heller, presiding. **Room 255 A**

New techniques have been introduced in recent years with applicability to volatile compounds. These techniques include new mass analyzers coupled with gas chromatography, such as new GC-TOF and GC-MS/MS hybrids, and also new ionization techniques, such as ambient ionization and extractive electrospray ionization. This workshop aims to bring together developers or practitioners of such new techniques to discuss practical applications to volatile compounds important to the flavor, fragrance and foodstuff arena. Attendees are invited to share relevant challenges and problem-solving techniques in an open discussion format. We hope to use this Interest Group's Forum page at the ASMS web site for advance discussion of specific topics and techniques.

Ion Mobility-Mass Spectrometry for Structural Biology

Organized by Ion Mobility MS Interest Group
John A. McLean & Brandon T. Ruotolo, presiding
Room 255 B

The utility of structural separations on the basis of ion mobility-mass spectrometry (IM-MS) has recently shown considerable promise in structural biology research. This workshop will be a forum for discussing the level of structural insight that can be obtained through IM-MS measurements, what additional technology would be necessary to elevate the impact of these measurements in the field of structural biology, and finally the challenges and limitations of IM-MS based studies relative to other structural

probes. This workshop attempts to align the commonalities of IM-MS structural and allied studies to better enumerate both the present state-of-the-art as well as future directions for promoting the wider use of IM-MS in structural biology.

H/D Exchange and Covalent Labeling

Organized by H/D Exchange and Covalent Labeling Interest Group
Michael Chalmers & Janna Kiselar, presiding
Room 255 C

The workshop will provide a forum that is focused on the discussion of the methods/experimental parameters of HDX and covalent labeling experiments. The workshop will open with a short update on the state of the field. There will be a number of short talks to introduce new advances within the field to the attendees. The goal of the talks (5 min maximum) will be to stimulate discussion. The workshop will also contain a question and answer session with questions being submitted in advance.

**The Great Dissociation Debate. What's Your Favorite Way to
Dissociate Ions Inside an Ion Trap?**

Organized by Ion Trap Mass Spectrometry Interest Group
Heather Desaire, presiding. **Room 255 D**

This workshop will be an informal venue for speakers to discuss the relative merits of established and new methods of ion dissociation inside ion traps. New methods such as photodissociation, HCD, and various laser dissociation methods will be explored and compared to standard CID methods, for a variety of different compound types.

Glycomics and Glycoproteins

Ronald Orlando, presiding. **Room 255 E**

This workshop will focus on the analytical challenges associated with glycomics and glycoprotein characterization, particularly: the accurate identification of individual glycans present in isomeric mixtures; and the ability to quantitatively identify changes in glycan abundance. The workshop will open with an overview of these issues, and will be followed by several short talks (5 minutes). The workshop will conclude with an informal discussion on specific issues brought up by the audience.

**Metal Ions: Bridging the Gap between the
Gas Phase and Solution**

Organized by the Metal Ions Interest Group
Victor Ryzhov, presiding. **Room 255 F**

This workshop traditionally encompasses various topics involving gas-phase metal ions (bare and coordinated), including challenges in metal ion formation, their reactivity, structure and energetics. This year, the focus of the workshop will be on bridging the gap between the solution and gas-phase data. How can the gas-phase measurements be used best to address condensed phase questions? Sample topics may include hydrated metal ions/clusters and metal ion/biomolecule complexes (originated in the gas-phase or in solution). Approaches complementary to the experimental mass spectrometry techniques (such as theoretical calculations and ion spectroscopy) will be discussed.

5:00 – 6:30 PM, SUNDAY
TUTORIAL LECTURES
Scott McLuckey, presiding
Room: Hall 4

5:00 - 5:45 pm **Collision-Induced Dissociation: How Does It Really Work and What It Can (or Can't) Tell You**



Peter B. Armentrout, *University of Utah*

5:45 - 6:30 pm **The Role of Mass Spectrometry in Drug Discovery and Development**



Walter A. Korfmacher,
Merck Research Laboratories

6:45 – 7:45 PM, SUNDAY
CONFERENCE OPENING AND PLENARY LECTURE
Scott McLuckey, presiding
Room: Hall 4

6:45 pm Welcome to the 58th ASMS Conference on Mass Spectrometry; Gary L. Glish, President, ASMS

7:00 -7:45 pm **Systems Medicine and Emerging Technologies: Catalyzing the Transformation from Reactive to Proactive (P4) Medicine**



Leroy Hood, *Institute for Systems Biology*

7:45 – 9:30 PM, SUNDAY
WELCOME RECEPTION IN THE EXHIBIT HALL
Exhibit Halls ABCDE

8:30 – 10:30 AM, MONDAY MORNING
FUNDAMENTALS: ION STRUCTURES AND ENERGETICS
Veronica Bierbaum, presiding
Room: Ballroom HJ

MOA am 08:30 **Hydration Energies and Solvent Shell Arrangement of Transition Metal Dications Using Collision Induced Dissociation, IR Action Spectroscopy, and Theoretical Studies;** Theresa E. Cooper¹; Jeremy T. O'Brien²; Evan R. Williams²; Peter B. Armentrout¹; ¹University of Utah, Salt Lake City, UT; ²University of California, Berkeley, CA

MOA am 08:50 **Gas Phase Alpha-Effect in SN2 and E2 Mechanisms;** John Garver¹; Veronica M. Bierbaum²; ¹University of Colorado, Boulder, Boulder, CO; ²University of Colorado, Boulder, CO

MOA am 09:10 **The Intercalation Complexes of PhePhe with Metal Cations;** Robert C. Dunbar¹; Jeffrey Steill²; Jos Oomens²; ¹Case Western Reserve Univ, Cleveland, OH; ²FOM Rijnhuizen, Nieuwegein, Netherlands

MOA am 09:30 **Sensitivity of b₃ Ion Structure to Minor Changes in Amino Acid Sequence;** Alessandra Ferzoco¹; Jeffrey Steill²; Jos Oomens²; Benjamin Bythell³; Bela Paizs³; Gary L. Glish¹; ¹University of North Carolina, Chapel Hill, NC; ²FOM Rijnhuizen, Nieuwegein, Netherlands; ³DKFZ, Heidelberg, Heidelberg, Germany

MOA am 09:50 **Origin of “Magic-Number” Stability and Chiral Selectivity for Serine Clusters in the Gas Phase;** Anthony Costa; R. Graham Cooks; *Purdue University, West Lafayette, IN*

MOA am 10:10 **Does the Structure of Electrospayed Biopolymers Resemble that in Solution?** Thomas Wyttenbach; Christian Bleiholder; Chun Wu; Megan Grabenauer; Michael T. Bowers; *University of California, Santa Barbara, CA*

8:30 – 10:30 AM, MONDAY MORNING
NEW DEVELOPMENTS IN ION TRAPS AND HYBRID INSTRUMENTS
Hao Chen, presiding
Room: Ballroom ACE

MOB am 08:30 **Accelerating Spectral Acquisition Rate of Orbitrap Mass Spectrometry;** Oliver Lange; Alexander Makarov; Wilko Balschun; Eduard Denisov; *Thermo Fisher Scientific (Bremen) GmbH, Bremen, GERMANY*

MOB am 08:50 **Transient Analysis of The Ion Motion Inside an Ion Trap under Dipolar AC Excitation;** Wei Xu; William Chappell; R. Graham Cooks; Zheng Ouyang; *Purdue University, West Lafayette, IN*

MOB am 09:10 **A Real-Time Data Acquisition Method for Improved Protein Quantitation on Hybrid Mass Spectrometers;** Craig D. Wenger; Doug Phanstiel; Joshua J. Coon; *University of Wisconsin, Madison, WI*

MOB am 09:30 **DC Potentials Applied to Endcap Electrodes of 3-D Ion Traps for Increased Ion Injection Efficiency and Manipulation of Ion/Ion Reactions;** Boone Prentice; Wei Xu; Zheng Ouyang; Scott A. McLuckey; *Purdue University, Lafayette, IN*

MOB am 09:50 **Design and Performance of a Hybrid Mass Spectrometer Capable of Comprehensive Linked Scans with No Scanning Losses;** Sunnie Myung¹; Andrew Kruchinsky²; David Fenyo¹;

Herbert Cohen¹; Julio Cesar Padovan¹; Brian Chait¹; *The Rockefeller University, New York, NY*; ²Andrew Kruchinsky, *San Francisco, CA*
MOB am 10:10 **Design and Performance of Coaxial Ion Trap: Transferring Ions between Two Trapping Regions in One Mass Analyzer**; Ying Peng; Zhiping Zhang; Brett J. Hansen; Miao Wang; Milton L. Lee; Aaron R. Hawkins; Daniel E. Austin; *Brigham Young University, Provo, Utah*

**8:30 – 10:30 AM, MONDAY MORNING
MS OF NUCLEIC ACIDS
Kathrin Breuker, presiding
Room: Ballroom BDF**

MOC am 08:30 **A Role for the MS Analysis of Nucleic Acids in the Post-Genomics Age**; Daniele Fabris; *U. Maryland Baltimore County, Baltimore, MD*
MOC am 08:50 **ETD, PD and Hybrid Tandem MS Techniques to Characterize DNA, RNA and DNA Adducts**; Suncerae Smith; Jennifer Brodbelt; *The University of Texas, Austin, TX*
MOC am 09:10 **Systematic Study of the Epigenetic Pathways Perturbed by 6-Thioguanine in Human Cancer Cells**; Hongxia Wang; Yinsheng Wang; *Univeristy of California, Riverside, CA*
MOC am 09:30 **Detection of Peptide-Oligonucleotide Heteroconjugates and Protein:RNA Cross-Links via Capillary ICPMS**; Brittany Catron¹; Joseph Caruso¹; Jacqueline Giliberti²; Gary Janssen²; Patrick A. Limbach¹; ¹*University of Cincinnati, Cincinnati, OH*; ²*Miami University, Oxford, OH*
MOC am 09:50 **Gas-Phase Anion-Electron Reactions and Vibrational Activation of Nucleic Acids and Their Complexes**; Hangtian Song; Linjie Han; Kristina Hakansson; *University of Michigan, Ann Arbor, MI*
MOC am 10:10 **Insights into DNA Damage by Electrochemistry/Liquid Chromatography/Mass Spectrometry**; Herbert Oberacher¹; Robert Erb¹; Sabine Plattner¹; Florian Pitterl¹; Jean-Pierre Chervet²; ¹*Medical University Innsbruck, Innsbruck, Austria*; ²*Antec (Leyden) BV, Zoeterwoude, Netherlands*

**8:30 – 10:30 AM, MONDAY MORNING
MS DERIVED PEPTIDE / PROTEIN
BIOSIGNATURES / BIOMARKERS
Chris Turck, presiding
Room 155**

MOD am 08:30 **An Overview of the Roles of Mass Spectrometry in Expanding the Clinical Plasma Proteome**; Leigh Anderson¹; Matt Pope²; Morteza Razavi²; Angela Jackson³; Terry Pearson²; ¹*Plasma Proteome Institute, Washington, DC*; ²*University of Victoria, Victoria, BC Canada*; ³*UVic Genome BC Proteomic centre, Victoria, BC*
MOD am 08:50 **MALDI MS Imaging at Cellular Resolution Across Entire Tissue Sections of ALS Mice and Co-Registration Using YFP-Labeled Fluorescent Neurons**; Kristin J. Boggio¹; Joseph Salisbury¹; Nicole Zaia¹; Nathalie Y.R. Agar²; Jeffrey N. Agar¹; ¹*Brandeis University, Waltham, MA*; ²*Brigham & Women's Hospital, Harvard Medical School, Boston, MA*
MOD am 09:10 **Expanding the Biomarker Discovery Pipeline from Protein Expression to Turnover**; Yaoyang Zhang¹; Stefan Reckow¹; Michaela D. Filiou¹;

Christian Webhofer¹; Michael Boehme¹; Philipp Gormanns¹; Giuseppina Maccarrone¹; Wolfgang M. Egge-Jacobsen²; Christoph W. Turck¹; ¹*Max Planck Institute of Psychiatry, Munich, Germany*; ²*IMBV, University of Oslo, Oslo, Norway*
MOD am 09:30 **Label-Free Top-Down Quantitative Proteomics: Post-Translational Modifications as Potential Disease Biomarkers**; Ying Ge; Jiang Zhang; Moltu Guy; Lisa Xu; Xintong Dong; M. Shahriar Salamat; Ken Young; *University of Wisconsin-Madison, Madison, WI*

MOD am 09:50 **Digital Pathology: Discovering and Verifying Barretts' Disease Progression Markers in Tissue Samples Using LCM-Coupled SRM Assays**; Amol Prakash¹; Brian L Hood³; Michael Athanas²; Bryan Krastins¹; Taha Reza¹; David Sarracino¹; Melanie S Flint³; Jon M Davison⁴; Mary F Lopez¹; Thomas P. Conrads⁴; ¹*Thermo Fisher Scientific, Cambridge, MA*; ²*VAST Scientific, Cambridge, MA*; ³*The University of Pittsburgh Cancer Institute, Pittsburgh, PA*; ⁴*University of Pittsburgh, Pittsburgh, PA*
MOD am 10:10 **Development and Application of a Biomarker Discovery through Verification Pipeline to Cardiovascular Disease**; Hasmik Keshishian¹; Terri Addona¹; Xu Shi²; Michael Burgess¹; Michael Gillette¹; DR Mani¹; Gregory Lewis²; Laurie Farrell²; Michael Fifer²; Marc S. Sabatine³; Robert E. Gerszten²; Steven A. Carr¹; ¹*Broad Institute of MIT and Harvard, Cambridge, MA*; ²*Massachusetts General Hospital, Boston, MA*; ³*Brigham and Women's Hospital, Boston, MA*

**8:30 – 10:30 AM, MONDAY MORNING
INCREASING THROUGHPUT FOR
ADME AND PK ASSAYS
Christopher Holliman, presiding
Room: Hall 2**

MOE am 08:30 **Parallel Micro-Flow LC Coupled with a Multi-Inlet ESI Source for High-Throughput LC/MS/MS in Drug Discovery**; John Janiszewski¹; Richard Schneider²; Matthew Troutman¹; Sau Lan Tang Staats⁴; Wayne Lootsma⁵; William Schramm⁵; Felix Yiu⁶; Arthur Fogiel, Jr.³; ¹*Pfizer Inc., Groton, CT*; ²*Pfizer Global R&D, Groton, CT*; ³*Phoenix S&T, Inc., Chester, PA*; ⁴*Phoenix S & T, Inc, Chester, PA*; ⁵*Sound Analytics, LLC, Niantic, CT*; ⁶*Apricot Designs, Covina, CA*
MOE am 08:50 **Reducing Bottlenecks in ADME Sample Analysis Using Solid Phase Extraction with a Quadrupole Time-of-Flight Mass Spectrometer**; Panos Hatsis¹; Michelle Romm²; Vaughn Miller²; Jakal Amin¹; William A. Lamar²; Can "Jon" Ozbalt²; Shawn Harriman¹; ¹*Novartis Institutes for Biomedical Research, Cambridge, MA*; ²*BIOCIUS Lifesciences, Woburn, MA*
MOE am 09:10 **Evaluation of a New Prototype Accurate Mass System for Simultaneous Quantitative and Qualitative Bioanalysis and Metabolite Profiling**; Henrianna Pang¹; Hesham Ghobarah²; Tanya Gamble²; Yingbo Yang¹; Sophie Pan¹; Brad Gien¹; Douglas J. Turk¹; *NoAb BioDiscoveries, Inc., Mississauga, Canada*; ²*AB SCIEX, Concord, Canada*

MOE am 09:30 **High-Throughput LDTD384-MS/MS for Drug Metabolism and Pharmacokinetic Studies;** Sebastien Gagne¹; Patrice Tremblay²; Francis Foczeny¹; Robert Houle¹; Eric Langlois¹; Kevin Bateman¹; Pierre Picard²; ¹Merck Canada, Kirkland, Canada; ²Phytronix Technologies, Quebec, QC

MOE am 09:50 **Automated Solid-Phase Microextraction in 96-Well Plate Format: High-Throughput Analysis and Ligand-Receptor Binding Studies;** Janusz Pawliszyn¹; Dajana Vuckovic¹; Erasmus Cudjoe¹; Dietmar Hein²; Rosa Vatinno³; Carlo Zamboni³; ¹University of Waterloo, Waterloo, Canada; ²Professional Analytical Service Technology, Magdala, Germany; ³Universit`a degli Studi di Bari, Bari, Italy

MOE am 10:10 **Liquid Microjunction Surface Sampling Probe Analysis of Dried Blood Spots Using an Automated Chip-Based Nano-ESI Infusion Device;** Joseph J. Stankovich¹; Matthew J. Walworth¹; Vilmos Kertesz²; Richard King³; Gary J. Van Berkel¹; ¹Oak Ridge National Laboratory, Oak Ridge, TN; ²Oak Ridge National Lab, Oak Ridge, TN; ³PharmaCadence Analytical Services, LLC, Hatfield, PA

**8:30 – 10:30 AM, MONDAY MORNING
APPLICATION OF LC-MS FOR
PK CHARACTERISTICS OF BIOLOGICS
Yan-Hui Liu, presiding
Room: Hall 3**

MOF am 08:30 **Development of a Novel Sample Preparation Strategy for LC/MS/MS Quantitation of Serum Binding Domain Antibodies for PK Studies;** Mary B. Moyer; Greg Waitt; Wojciech Krol; Chris Herring; Chuck Poole; Jon Williams; *GlaxoSmithKline, Research Triangle Park, NC*

MOF am 08:50 **LC-ESI/MS and MALDI-MS for Monitoring of Glycoform-Related Clearance of a Complex Glycoprotein in Cynomolgus Monkeys;** Li Zang; Xiaoping L. Hronowski; Yelena Lyubarskaya; Alexander Buko; Helena Madden; Weiner Meier; Rohin Mhatre; *BiogenIdec Inc., Cambridge, MA*

MOF am 09:10 **Biosynthetic Concatenated Labeled Peptides: Equivalence to Whole Labeled Proteins as Internal Standards for Isotope Dilution Mass Spectrometry?** Jacquelyn Cole²; Dhaval Nanavati¹; Cai Chen²; Brian Martin²; Anthony J. Makusky; Sanford P. Markey²; ¹Northwestern University, Evanston, IL; ²NIMH/NIH, Bethesda, MD

MOF am 09:30 **Identification and Quantification of *in vitro* Protein Metabolites Using a Novel Mass Spectrometry-Based Workflow;** Scott Peterman²; Amol Prakash²; Julian Saba¹; Taha Rezaei³; Bryan Krastins¹; David Sarracino¹; ¹Thermo Fisher Scientific, San Jose, CA; ²ThermoFisher Scientific, Cambridge, MA; ³Thermo Scientific BRIMS, Cambridge, MA

MOF am 09:50 **A Bioanalytical Strategy for 20 kDa PEGylated CGRP Peptide by UPLC-MS/MS;** Hongyan Li; Mark Rose; Jerry Holder; Marie Wright; Les Miranda; Christopher James; *Amgen Inc, Thousand Oaks, CA*

MOF am 10:10 **Quantitative LC-MS/MS Method Development for Quantitation of Therapeutic Proteins in Plasma;** Steven T. Wu¹; Zheng Ouyang²;

Timothy Olah²; Mohammed Jemal¹; ¹Bristol-Myers Squibb, Princeton, NJ; ²Bristol-Myers Squibb Company, Princeton, NJ

**8:30 – 10:30 AM, MONDAY MORNING
QUANTITATIVE INTACT PROTEOMICS
Julian Whitelegge, presiding
Room: Hall 4**

MOG am 08:30 **Quantitative Intact Proteomics (QIP): Visualizing Variation on a Global Scale;** David B. Friedman; Sebahat Ocak; Pierre Massion; Sarah Stuart; Salisha Hill; W. Hayes McDonald; *Vanderbilt University School of Medicine, Nashville, TN*

MOG am 08:50 **Confident Identification and Relative Quantification of Intact Proteins from Human Embryonic Stem Cells Using SILAC;** Timothy S Collier; Prasenjit Sarkar; Balaji Rao; David C. Muddiman; *North Carolina State University, Raleigh, NC*

MOG am 09:10 **Absolute Intact Protein Quantification by Real-Time Measurement of Tryptophan Intrinsic Fluorescence at the ESI Interface Prior to Top-Down Mass Spectrometry;** Jason D. Russell; Ryan T. Hilger; Daniel T. Lador; Mark Tervo; Michael R. Shortreed; Mark A Scalf; Lloyd M. Smith; Joshua J. Coon; *University of Wisconsin, Madison, WI*

MOG am 09:30 **Fluorescent Z dye Platform for Differential Covalent Labeling of Proteins for Quantitative Intact Proteomic Analysis on 2D Gels;** Edward Dratz¹; Paul Grieco¹; Scott Laffoon¹; Ben Reeves¹; Jennifer Vance¹; Matt Shipman¹; Rand Swanson²; ¹Montana State University, Bozeman, MT; ²Resonon, Inc., Bozeman, Montana

MOG am 09:50 **The “PHASST-MS” Approach: Peptidomic Profiling Reflects Cellular and Disease State in Human Pancreatic Islet Cell Culture;** Svetlana Nikoulina; Nancy Andon; Carolyn Lowe; Steven Taylor; *Amylin Pharmaceuticals Inc., San Diego, CA*

MOG am 10:10 **The Identification of Protein Biomarkers Distinguishing Virus Transmission Competent and Refractive Insect Populations by Coupling Genetics with Quantitative Intact Proteomics;** Michelle Cilia¹; Tara Fish¹; Kevin Howe¹; Dawn Smith²; Theodore Thannhauser¹; Stewart Gray^{1,2}; ¹USDA-ARS, Ithaca, NY; ²Cornell University, Ithaca, NY

**10:30 AM – 2:30 PM, MONDAY
POSTER SESSION. See page 43.
Exhibit Hall ABCDE**

**2:30 – 4:30 PM, MONDAY AFTERNOON
FUNDAMENTALS: SUPRAMOLECULAR CHEMISTRY
AND NON-COVALENT COMPLEXES**

**Evan Williams, presiding
Room: Ballroom HJ**

- MOA pm 2:30 **Native Mass Spectrometry Provides a First Structural Model for the 405 kDa CRISPR-RNA Antiviral Defense System;** Esther Van Duijn¹; Arjan Barendregt¹; Jelle Bultema³; Matthijs M. Jore²; Magnus Lundgren²; Stan J. Brouns²; Blake Wiedenheft⁴; Jennifer A. Doudna⁴; Egbert J. Boekema³; John van der Oost²; Albert J.R. Heck¹; ¹*Utrecht University, Utrecht, Netherlands*; ²*Wageningen University, Wageningen, Netherlands*; ³*University of Groningen, Groningen, Netherlands*; ⁴*UC Berkeley, Berkeley, CA*
- MOA pm 2:50 **Ion Mobility Spectrometry/Mass Spectrometry Reveals Conformational Conversion from Random Assembly to β -Sheet-Rich Oligomers in Amyloid Fibril Forming Peptides;** Christian Bleiholder¹; Nicholas Dupuis²; Thomas Wyttenbach³; Michael T. Bowers³; ¹*University of California, SB, Santa Barbara, CA*; ²*UC Santa Barbara, Goleta, CA*; ³*University of California San, Santa Barbara, CA*
- MOA pm 3:10 **Surface-Induced Dissociation Lends Insight on Subunit Arrangement in Non-Covalent Protein Complexes;** Anne E. Blackwell; Eric D. Dodds; Christopher M. Jones; Vicki H. Wysocki; *University of Arizona, Tucson, AZ*
- MOA pm 3:30 **Analysis of Big Macromolecular Soluble and Membrane Protein Complexes for ESI-MS;** Nina Morgner; Helena Hernandez; Min Zhou; Laura A Lane; Carol Robinson; *University of Oxford, Oxford, UK*
- MOA pm 3:50 **Supercharged HD Exchange-MS for Top-down Structural Characterization of Proteins and Complexes;** Harry J. Sterling; Evan R. Williams; *University of California, Berkeley, CA*
- MOA pm 4:10 **Noncovalent Molecular Recognition of Protonated Peptidomimetic Bases by 18-Crown-6: Structure Versus Energetics;** Mary T. Rodgers; Yu Chen; *Wayne State University, Detroit, MI*

**2:30 – 4:30 PM, MONDAY AFTERNOON
ADVANCES IN ION IMAGING**

**Michelle Reyzer, presiding
Room: Ballroom ACE**

- MOB pm 2:30 **Imaging Mass Spectrometry: Current Performance and Upcoming Challenges;** Pierre Chaurand; *University of Montreal, Montreal, Canada*
- MOB pm 2:50 **Correlation of MS, MRI, and Optical Images for 3D Assessment of the Tumor Microenvironment;** Erin H. Seeley¹; Julie A. Sterling¹; Amelie R. Gillman¹; Tuhin K. Sinha²; Rachelle W. Johnson¹; Thomas E. Yankeelov¹; John C. Gore¹; Gregory R. Mundy¹; Lynn M. Matrisian¹; Richard M. Caprioli¹; ¹*Vanderbilt University, Nashville, TN*; ²*University of California San Francisco, San Francisco, CA*
- MOB pm 3:10 **Revealing Bacterial Post-Translationally Modified Cannibalistic Metabolic Exchange Factors with Imaging Mass Spectrometry;** Pieter Dorrestein; *University of California, San Diego, Skaggs School, La Jolla, CA*

MOB pm 3:30 **More Information in Less Time: Strategies for High Spatial & High Mass Spectral Resolution Imaging Utilizing a Hybrid LIT-Orbitrap MS;** David C. Perdian; Edward S. Yeung; Young Jin Lee; *Iowa State University, Ames Laboratory US DOE, Ames, IA*

MOB pm 3:50 **Going Beyond Images: Exploration of Hormone Processing Pathways in Diabetic Mouse Models via Mass Spectral Imaging and Data-Mining;** Raf Van de Plas^{1,4}; Dirk Vander Mierde²; Katleen Lemaire²; Bart De Moor^{1,4}; Peter In't Veld⁵; Frans Schuit²; Etienne Waelkens^{3,4}; ¹*K.U.Leuven - SCD-SISTA Bioinformatics, Leuven, Belgium*; ²*K.U.Leuven - Gene Expression Unit, Leuven, Belgium*; ³*K.U.Leuven - Lab of Protein Phosph. and Proteomics, Leuven, Belgium*; ⁴*K.U.Leuven - ProMeta Core Facility, Leuven, Belgium*; ⁵*Brussels Free University-Diabetes Research Center, Brussels, Belgium*

MOB pm 4:10 **Intraoperative Identification of Malignant Gastrointestinal Tumors and Proximal Metastases by Rapid Evaporative Ionization Mass Spectrometry;** Julia Balog²; Tamas Szaniszló²; Daniel Szalay²; Lajos Godorhazy²; Laszlo Sasi Szabo⁴; Karl C Schaefer¹; Miklos Toth³; Zoltan Takats¹; ¹*Justus-Liebig-University, Giessen, Germany*; ²*Medimass Inc., Budapest, Hungary*; ³*Semmelweis University, Budapest, Hungary*; ⁴*University of Debrecen, Debrecen, Hungary*

**2:30 – 4:30 PM, MONDAY AFTERNOON
MS OF SYNTHETIC POLYMERS**

**Barbara Larsen, presiding
Room: Ballroom BDF**

- MOC pm 2:30 **Characterization of Enzymatically-Catalyzed Polycaprolactones;** William E. Wallace¹; Atul Bhangale²; Santanu Kundu¹; Charles M. Guttman¹; Kathleen M. Flynn¹; Richard A. Gross²; Kathryn L. Beers¹; ¹*National Institute of Standards & Technology, Gaithersburg, MD*; ²*Polytechnic Institute of New York University, New York, NY*
- MOC pm 2:50 **Library of Polymer Architectures Examined by Ion Mobility Spectrometry-Mass Spectrometry;** Sarah Trimpin¹; Hoskins Jesika²; Kanchana Wijerathne¹; Ellen D. Inutan¹; Scott M. Grayson²; ¹*Wayne State University, Detroit, MI*; ²*Tulane University, New Orleans, LA*
- MOC pm 3:10 **Ion Mobility Mass Spectrometry of Supramolecular Polymers;** Chrys Wesdemiotis; Xiaopeng Li; Wen-Bin Zhang; Stephen Z. D. Cheng; *The University of Akron, Akron, OH*
- MOC pm 3:30 **Methylation of Pendant Groups to Enable end-Group Characterization in MAA-based Copolymers;** Rémi Giordanengo¹; Stéphane Viel¹; Manuel Hidalgo²; Béatrice Allard-Breton²; André Thévand¹; Laurence Charles¹; ¹*Universités Aix-Marseille, Marseille, France*; ²*Arkema, Pierre-Bénite, France*
- MOC pm 3:50 **Electron Induced Dissociation: A New Method of Characterising Polymers;** Michael Smith; Jackie Mosely; *Durham University, Durham, UK*
- MOC pm 4:10 **Characterization of Hydrogenation Reactions and Products of 1,4-bis(phenethyl)benzene (DEB) with High-Resolution Mass Spectrometry;** Steven Thornberg; James

Hochrein; *Sandia National Laboratories, Albuquerque, NM*

**2:30 – 4:30 PM, MONDAY AFTERNOON
QUALITATIVE ANALYSIS OF
PROTEIN THERAPEUTICS BY MS
Guodong Chen, presiding
Room 155**

- MOD pm 2:30 **Application of Mass Spectrometry in the Development of Protein Therapeutics;** Reb Russell; *Bristol-Myers Squibb Co., Princeton, New Jersey*
- MOD pm 2:50 **Disulfide Linkages of an Albumin Fusion Protein;** Andrea Meeler; Mark Hesselberg; Angie Deng; Michael Byrne; Zhuchun Wu; *Human Genome Sciences, Inc., Rockville, MD*
- MOD pm 3:10 **A Tris (2-Carboxyethyl) Phosphine (TCEP) Related Cleavage on Cysteine-Containing Proteins;** Li Tao; Peiran Liu; Bethanne Warrack; Wei Wu; Yunping Huang; Guodong Chen; Reb Russell; *Bristol-Myers Squibb Co., Pennington, NJ*
- MOD pm 3:30 **Mass Spectrometry Methods to Analyze Higher Order Structure of Protein Therapeutics;** Lisa Jones¹; Justin Sperry²; James Carroll²; Michael L. Gross¹; ¹*Washington University, St. Louis, MO*; ²*Pfizer, Chesterfield, MO*
- MOD pm 3:50 **Aglycosylation Alters Protein Conformation in Antibodies Engineered with Specific Effect or Functions;** Damian Houde^{1,3}; Christopher Reyes¹; Tiffany Chen²; Steven Berkowitz¹; Dane Wittrup²; John R. Engen³; ¹*Biogen Idec, Cambridge, MA*; ²*MIT, Cambridge, MA*; ³*Northeastern University, Boston, MA*
- MOD pm 4:10 **Characterizing Biotherapeutic Protein 3D Structures by Electrospray Ion-Mobility Mass Spectrometry: Biological Significances and Comparison with X-ray Crystallography and NMR Measurements;** Weibin Chen; Asish Chakraborty; St John Skilton; Scott Berger; Jeff Mazzeo; *Waters Corporation, Milford, MA*

**2:30 – 4:30 PM, MONDAY AFTERNOON
LC-MS CHALLENGES / SOLUTIONS FOR MONITORING
HUMAN METABOLITES IN SAFETY TESTING (MIST)
Chandra Prakash, presiding
Room: Hall 2**

- MOE pm 2:30 **How to Deal with Human Metabolites in Safety Testing (MIST): An Overview;** Natalia Penner; Lewis Klunk; Chandra Prakash; *Biogen Idec, Cambridge, MA*
- MOE pm 2:50 **Mass Spectrometry Solutions for an Overall Metabolite Monitoring Strategy;** Ragu Ramanathan; Nirmala Raghavan; Donglu Zhang; Lifei Wang; Hong Cai; S. Nilgun Comezoglu; Jonathan L. Josephs; William Humphreys; *Bristol-Myers Squibb, Princeton, NJ*
- MOE pm 3:10 **Method Development for Biological Sample Processing and Metabolite Profiling by LC-MS in Drug Development;** Joanna Pols; Swapan K. Chowdhury; Kevin Alton; *Merck Research Laboratories, Kenilworth, NJ*
- MOE pm 3:30 **To the Detection and Quantification of Drug Metabolites Using the Simultaneous Collection of MRM and MS/MS Data: A Case Study;** Warren Potts¹; Ian Wilson³; Rob Plumb²; ¹*Waters Corporation, Milford, MA*; ²*Imperial College,*

London, UK; ³*Astra Zeneca DMPK, Alderly Park Macclesfield, Manchester UK*

- MOE pm 3:50 **Semi-Quantitation of Metabolites across Species for Direct and Quantitative Evaluation of MIST Coverage;** Hongying Gao; Shibing Deng; R. Scott Obach; *Pfizer, Inc, Groton, CT*
- MOE pm 4:10 **Effect of Mobile Phase pH and Aqueous-Organic Ratio on MS/MS Fragmentation Pattern: Implications in LC-MS/MS Bioanalysis;** Jian Wang; Anne Aubry; Mark S. Bolgar; Timothy Olah; Mohammed Jamal; *Bristol-Myers Squibb, Princeton, NJ*

**2:30 – 4:30 PM, MONDAY AFTERNOON
QUANTITATION OF BIOLOGICS:
APPLICATIONS AND TECHNIQUES
Jon Williams, presiding
Room: Hall 3**

- MOF pm 2:30 **Quantitative Measurement of Biologics Using Mass Spectrometry: An Overview;** Patrick J. Rudewicz; *Elan Pharmaceuticals, South San Francisco, CA*
- MOF pm 2:50 **Integrated Label-Free Quantitative Analysis of the Lung Proteome, Secretome, and Phosphoproteome in a Model of Acute Lung Injury;** Matthew W. Foster; Erik J. Soderblom; J. Will Thompson; Harvey E. Marshall; Arthur M. Moseley; *Duke University School of Medicine, Durham, NC*
- MOF pm 3:10 **A Novel Quantitative Approach for Sulfated Cholecystokinin CCK-8 in Plasma Using Immunoprecipitation LC-MS/MS;** Scott Young¹; Samir Julka¹; Glenn Bartley²; Jeffrey Gilbert³; Brian Wendelburg³; Shao-Ching Hung¹; Kerr Anderson¹; Wallace Yokoyama²; ¹*Dow Chemical Company, Midland, MI*; ²*Western Regional Research Center, USDA, Albany, CA*; ³*Dow AgroSciences, Indianapolis, IN*
- MOF pm 3:30 **Supporting Therapeutic Antibody Programs with Total Target Biomarker Quantitation by Sensitive Immunoaffinity LC-MS/MS – Validation and Implementation in Clinical Trials;** Hendrik Neubert; *Pfizer Corporation, Sandwich, Kent, UK*
- MOF pm 3:50 **Comparison of Different Mass Spectrometry Techniques for Quantitative Analysis of Peptide Drugs at Low pg/ml Levels in Biological Samples;** Anders Sonesson; Anna-Karin Wendel; Lasse Skov Jensen; Magnus Knutsson; Alf Carlshaf; *Ferring Pharmaceuticals A/S, Copenhagen S, Denmark*
- MOF pm 4:10 **Quantitation of Therapeutic Peptides and Oligonucleotides Using High-Resolution Mass Spectrometry: Benefits and Considerations;** J.C. Yves Leblanc; J. Larry Campbell; *AB SCIEX, Concord, On, Canada*

**2:30 – 4:30 PM, MONDAY AFTERNOON
PHOSPHOPROTEOMICS APPLICATIONS**

Jesper Olsen, presiding

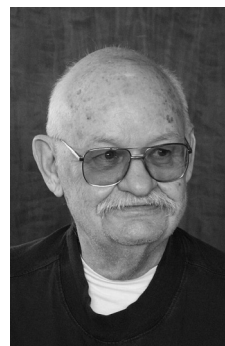
Room: Hall 4

- MOG pm 2:30 **System-Wide Temporal Characterization of the Proteome and Phosphoproteome of Differentiating Human Embryonic Stem Cells;** Kristoffer T. G. Rigbolt¹; Tatyana A. Prokhorova¹; Vyacheslav Akimov¹; Jeanette Henningsen¹; Irina Kratchmarova¹; Moustapha Kassem²; Matthias Mann³; Jesper V. Olsen⁴; Blagoy Blagoev¹; ¹University of Southern Denmark, Odense, Denmark; ²Odense University Hospital & Medical Biotech Center, Odense, Denmark; ³Max Planck Institute for Biochemistry, D Martinsried, Germany; ⁴University of Copenhagen, Denmark
- MOG pm 2:50 **Activity Dependent Changes in Synaptic Composition;** Jonathan C. Trinidad¹; Agnes Thalhammer²; Aenoch Lynn¹; Peter Baker¹; Ralf Schoepfer²; A.L. Burlingame¹; ¹University of California, San Francisco, San Francisco, CA; ²University College London, London, UK
- MOG pm 3:10 **Phosphotyrosine Proteome Analysis of E. coli Strains Using High Resolution Fourier Transform Mass Spectrometry;** Raghothama Chaerkady^{1,2}; Jyoti Sharma²; Santosh Renuse²; Harrys Kishore J^{1,2}; Nandini Patankar²; Sneha Pinto²; Harsha HC^{1,2}; Min-Sik Kim¹; Anne-Marie Hanssen³; James B. Kaper³; Akhilesh Pandey¹; ¹Institute of Genetic Med, Johns Hopkins University, Baltimore, MD; ²Institute of Bioinformatics, Bangalore, India; ³University of Maryland School of Medicine, Baltimore, MD
- MOG pm 3:30 **Phosphoproteomic Survey of in vitro Kinase Substrates and the Phosphorylation Motif;** Naoyuki Sugiyama¹; Haruna Imamura¹; Koichi Yokota²; Sumiko Ohnuma¹; Mai Tsukahara¹; Masaru Tomita¹; Yasushi Ishihama¹; ¹LAB, Keio Univ., Tsuruoka, Japan; ²Carna Biosciences Inc., Kobe, Japan
- MOG pm 3:50 **A Tissue-Specific Atlas of Protein Phosphorylation and Expression in the Mouse;** Edward Huttlin¹; Mark Jedrychowski¹; Josh Elias²; Tapasree Goswami¹; Ramin Rad¹; Judit Villen¹; Wilhelm Haas¹; Mathew Sowa¹; Steven Gygi¹; ¹Harvard Medical School, Boston, MA; ²Stanford University, Stanford, CA
- MOG pm 4:10 **Multiplexed Quantitative Analysis of the Differentiating Human ES Cell Phosphoproteome via High Mass Accuracy Tandem MS;** Nicole A Beauchene¹; Danielle L Swaney¹; Pengzhi Yu^{1,2}; Steven A Jackson^{1,2}; James A Thomson^{1,2}; Joshua J Coon¹; ¹University of Wisconsin, Madison, WI; ²Morgridge Institute for Research, Madison, WI

4:45 – 5:30 PM, MONDAY

AWARD LECTURE

Hall 4



Marvin L. Vestal, Recipient of the Award for a Distinguished Contribution in Mass Spectrometry

5:45 - 7:00 PM, MONDAY WORKSHOPS. See page 19.

**8:30 – 10:30 AM, TUESDAY MORNING
FUNDAMENTALS: BIOMOLECULAR
ION-RADICAL CHEMISTRY**

Frank Turecek, presiding

Room: Ballroom HJ

- TOA am 08:30 **Evidence for Internal Energy Dependent Mechanisms in the Formation of Radical Product Ions in Electron Capture Dissociation;** Natalie Thompson; Daniel A. Thomas; Takashi Baba; Gary L. Glish; University of North Carolina, Chapel Hill, NC
- TOA am 08:50 **Tunable Fixed-Charge Tags for Electron Transfer Dissociation of Peptides;** Thomas W. Chung; Frantisek Turecek; University of Washington, Seattle, WA
- TOA am 09:10 **Gas-Phase Structures of the Three-Helix Bundle Protein KIX Probed by Electron Capture Dissociation;** Martin Tollinger²; Kathrin Breuker¹; ¹University of Innsbruck, Innsbruck, Austria; ²Max F. Perutz Laboratories, Vienna, Austria
- TOA am 09:30 **Gas Phase Covalent Modification of Peptides via Ion/Ion Reactions: Schiff Base Formation on the Conversion of Ion Polarity;** Kerry Hassell; Scott A. McLuckey; Purdue University, West Lafayette, IN
- TOA am 09:50 **Elucidating Tertiary Structure in Gaseous Proteins Using Distant Dependent Hydrogen Atom Transfer between Radical Donor-Acceptor Pairs;** Tony Ly; Ryan R. Julian; University of California, Riverside, Riverside, CA
- TOA am 10:10 **The dGdC Radical Cation Base Pair as a Model for Oxidative Damage in DNA;** Linda Feketeova¹; Chan Bun²; George N. Khairallah¹; Leo Radom²; Richard A. J. O'Hair¹; ¹Bio21 Inst & School of Chemistry, Uni of Melbourne, Melbourne, Australia; ²School of Chemistry, University of Sydney, Sydney, Australia

8:30 – 10:30 AM, TUESDAY MORNING**MS OF LIPIDS****Amina Woods, presiding****Room: Ballroom ACE**

TOB am 08:30 **Novel Fragmentation Pathways Including Regioselective Attachment and Decompositions of Anionic Adducts of Steroids Formed by Electrospray Anion Attachment;** Nalaka Rannulu; Richard B. Cole; *University of New Orleans, New Orleans, LA*

TOB am 08:50 **Mitochondrial Lipid Profiling and Identification Using High Resolution LC-MS and MS/MS;** Susan Schiavo¹; Vasant Marur⁴; Chunang (Christine) Gu²; Jules Phillips³; Bruce Kristal⁵; ¹*Brigham and Women's Hospital, Boston, MA*; ²*ThermoFisher Scientific, San Jose, CA*; ³*Thermo Fisher Scientific, San Jose, CA*; ⁴*Brigham and Women's Hosp., Boston, MA*; ⁵*Brigham + Women's Hospital, Boston, MA*

TOB am 09:10 **Localization, Imaging and Structural Analysis of Sialylated Glycosphingolipids in Brain Tissue Sections by Mass Spectrometry;** Benoit Colsch¹; Shelley N. Jackson¹; Sucharita M. Dutta²; Amina S. Woods¹; ¹*NIDA-IRP, NIH, Baltimore, MD*; ²*ThermoFisherScientific, San Jose, CA*

TOB am 09:30 **All Gunked Up and Nowhere to Flow: Profiles of Murine Atherosclerotic Plaques by High Spatial Resolution MALDI Imaging Mass Spectrometry;** Peggy Angel; Kevin Tompkins; Kel Vin Woo; Scott Baldwin; Richard M. Caprioli; *Vanderbilt Univ Sch of Med, Nashville, TN*

TOB am 09:50 **Lipid Imaging by Matrix Implanted Laser Desorption/Ionization (MILDI) Ion Mobility-TOF MS Using Sub-Monolayer Nanoparticulate matrices;** J. Albert Schultz¹; Ernest K. Lewis¹; Thomas Egan¹; Kelley Waters¹; Valerie Vaughn¹; Michael McCulley¹; Jerry F. Moore²; Jeremy Post³; Alice Delvolve³; Amina S. Woods³; ¹*Ionwerks, Inc., Houston, TX*; ²*MassThink LLC, Naperville, IL*; ³*NIDA IRP, NIH, Baltimore, MD*

TOB am 10:10 **Identification of 1-Deoxy-Sphingoid Bases and N-Acyl-1-Deoxy-Sphingoid Bases by LC-ESI-MS/MS;** Hyejung Park¹; Elaine Wang²; Mark Cameron Sullards²; Alfred H. Merrill²; Catherine E. Costello¹; ¹*Boston University School of Medicine, Boston, MA*; ²*Georgia Institute of Technology, Atlanta, GA*

8:30 – 10:30 AM, TUESDAY MORNING**MS OF VIRUSES****Esther Van Duijn, presiding****Room: Ballroom BDF**

TOC am 08:30 **Unravelling the Topology of Macromolecular Protein Complexes;** Alison E. Ashcroft; Tom W. Knapman; Victoria L. Morton; Peter G. Stockley; *University of Leeds, Leeds, UK*

TOC am 08:50 **Automated Limited Proteolysis and Intact Protein Hydrogen Exchange Reveals Mechanism of Action for a Novel Class of Anti-Hepatitis B Drugs;** Jonathan Hilmer¹; Navid Movahed¹; Adam Zlotnick²; Brian Bothner¹; ¹*Montana State University, Bozeman, MT*; ²*Indiana University, Bloomington, IN*

TOC am 09:10 **Virus Assembly and Stability Monitored by Native Electrospray and Ion Mobility Mass**

Spectrometry; Glen Shoemaker¹; Esther Van Duijn¹; Sue Crawford²; Charlotte Uetrecht¹; Marian Baclayon³; Wouter Roos³; Gijs Wuite³; Mary Estes²; Venkataram Prasad²; Albert J.R. Heck¹; ¹*Utrecht University, Utrecht, Netherlands*; ²*Baylor College of Medicine, Houston, Texas*; ³*Vrije Universiteit, Amsterdam, Netherlands*

TOC am 09:30 **High Throughput ESI-MS of PCR Products for the Identification of 2009 Pandemic Influenza A H1N1 Viruses;** Steven Hofstadler; Jared Drader; Jose Gutierrez; Ranga Sampath; Larry Blyn; David Ecker; *Ibis Biosciences, Inc., Carlsbad, CA*

TOC am 09:50 **Dynamic Evolution of the Macaque Pulmonary Proteome Response to Highly Pathogenic Avian Influenza and Spanish Flu Influenza Infections;** Joseph Brown¹; Robert Palermo²; Jon Jacobs¹; Marina Gritsenko¹; Michael Katze²; Richard D. Smith¹; ¹*Pacific Northwest National Laboratories, Richland, WA*; ²*University of Washington - Dept. of Microbiology, Seattle, WA*

TOC am 10:10 **Identification of Host Cell Specific Markers in HIV Particles By Mass Spectrometry;** Lennard J.M. Dekker; Patrick H.M. Boers; Jeroen J.A. Van Kampen; Theo Marten Luider; Rob A. Gruters; *Erasmus Medical Center, Rotterdam, Netherlands*

8:30 – 10:30 AM, TUESDAY MORNING**MASS SPECTROMETRY OF PROTEIN-LIGAND COMPLEXES****Joseph Loo, presiding****Room 155**

TOD am 08:30 **Quantifying Protein-Ligand Interactions with Electrospray Ionization Mass Spectrometry;** Elena Kitova¹; Lan Liu¹; Lu Deng¹; Nian Sun¹; Amr El-Hawiet¹; Dhanashri Bagal²; Paul Schnier²; John Klassen¹; ¹*University of Alberta, Edmonton, Canada*; ²*Amgen, Thousand Oaks, CA*

TOD am 08:50 **High-Throughput Fragment Screening by Non-Covalent Mass Spectrometry;** Hannah Maple^{1,3}; Rachel Garlish^{1,2}; Matthew Crump^{1,3}; John Crosby^{1,3}; Richard Taylor^{1,2}; ¹*Bristol, UK*; ²*UCB, Slough, Berkshire, UK*; ³*School of Chemistry, University of Bristol, Bristol, UK*

TOD am 09:10 **Probing the Sites of Molecular Tweezer Noncovalent Binding to Amyloid β -Protein Using Top-Down ECD-FT-ICR MS;** Eric Pang^{1,2}; Sheng Yin¹; Gal Bitan²; Thomas Schrader³; Joseph A. Loo¹; David Teplow²; ¹*Department of Chemistry and Biochemistry, UCLA, Los Angeles, CA*; ²*Department of Neurology, UCLA, Los Angeles, CA*; ³*University of Duisburg-Essen, Essen, Germany*

TOD am 09:30 **Characterization of Metal Coordinated Protein-Carbohydrate Complex Conformations via Ion Mobility-Mass Spectrometry;** Youjin Seo; Julie A. Leary; *UC Davis, Davis, CA*

TOD am 09:50 **Investigating Protein-Peptide Binding by 'Top-Down' FT-ICR MS, Ion-Mobility MS and Hydrogen/Deuterium Exchange;** David J Clarke¹; Euan Murray²; Peter A Faull²; Ted Hupp²; Perdita Barran²; Pat Langridge-Smith¹; C. Logan Mackay¹; ¹*SIRCAMs, University of Edinburgh, Edinburgh, UK*; ²*The University of Edinburgh, Edinburgh, UK*

TOD am 10:10 **Characterizing Cooperative Ligand Binding to Large Protein Complexes;** Liat Shimon; Amnon

Horovitz; Michal Sharon; *Weizmann Institute of Science, Rehovot, Israel*

**8:30 – 10:30 AM, TUESDAY MORNING
INCURRED SAMPLE REANALYSIS AND
ANALYTICAL SOLUTIONS
Chengwei Fang, presiding
Room: Hall 2**

- TOE am 08:30 **Beyond Successful ISR: Case by Case Investigations for Unmatched Reassay Results When ISR Passed;** Robert Massé; Aimin Tan; Sylvain Lachance; Sofi Gagnon-Carignan; Ann Levesque; *Anapharm Inc., Quebec, QC*
- TOE am 08:50 **Identifying Trends and Improving Outcomes from Incurred Sample Analysis Failure Investigations in a Bioanalytical CRO;** Patrick Bennett; Min Meng; Scott Reuschel; *Tandem Labs, Salt Lake City, UT*
- TOE am 09:10 **Incurred Sample Reanalysis by a Bioanalytical Data Management System;** Joel I Usansky; Mike Small; Marc Krug; *Thermo Fisher, Philadelphia, PA*
- TOE am 09:30 **Unexpected Event Investigation and Resolution for an ISR Test Failure for a SN-38 Assay Supporting a Clinical Study;** Qin C. Ji; Lisa Iacono; Dennis Garner; Mark E. Arnold; *Bristol-Myers Squibb Co., Princeton, NJ*
- TOE am 09:50 **Application of Dried Blood Spots for the Analysis of a Novel Compound in the Presence of Liable Phase II Metabolites;** Hermes Licea Perez; Sharon Boram; Christopher Evans; *Bioanalysis, King of Prussia, PA*
- TOE am 10:10 **The Evolution and Optimization of a High-Throughput LC/MS/MS Bioanalytical Method: HPLC-MS/MS vs. UFLC-MS/MS vs. UPLC-MS/MS;** Lisa Ford; Mike Allen; Kelli Goodman; *Enthalpy Analytical, Inc., Durham, NC*

**8:30 – 10:30 AM, TUESDAY MORNING
QUANTITATION OF XENOBIOTIC METABOLITES
WITHOUT REFERENCE STANDARD
Anne Aubry, presiding
Room: Hall 3**

- TOF am 08:30 **Estimation of Metabolite Concentrations in the Absence of an Authentic Standard Based on Relative $^{12}\text{C}/^{14}\text{C}$ Ratios Analyzed by High-Resolution ESI-MS;** Filip Cuyckens; Nadine Pauwels; Valerie Koppen; Laurent Leclercq; *Johnson & Johnson Pharma R&D, Beerse, Belgium*
- TOF am 08:50 **A Novel Detection Technology Charged Aerosol Detection Coupled with HPLC, UV and LTQ Orbitrap MS for Drug Metabolism Study;** Hong Cai¹; Jonathan L. Josephs¹; Ragu Ramanathan¹; Christopher Crafts²; Bruce A. Bailey²; William G. Humphreys¹; ¹*Bristol-Myers Squibb, Pennington, NJ*; ²*Dionex, Sunnyvale, CA*
- TOF am 09:10 **Identification and Quantification of Reactive Metabolites and Their Adducts Using Electrochemistry Coupled to LC-MS;** Uwe Karst¹; Wiebke Lohmann¹; Anne Baumann¹; Sandra Jahn¹; Björn Meermann¹; ¹*University of Münster, Münster, Germany*
- TOF am 09:30 **LC-CaptiveSpray Ionization-Mass Spectrometry for Detection, Characterization and Quantification of Circulating Human Metabolites;** Nirmala Raghavan; Ragu Ramanathan; S. Nilgun Comezoglu; William Humphreys; *Bristol-Myers Squibb, Princeton, NJ*

TOF am 09:50 **The Performance of Accelerator Mass Spectrometry (AMS) for the Determination of $^{14}\text{C}/^{12}\text{C}$ Isotope Ratios Using a Newly Installed BioMICADAS AMS;** Brad D. Keck; Pete Lohstroh; Jason Giacomo; John Vogel; *Vitalea Science, Inc., Davis, CA*

TOF am 10:10 **UPLC – ESI MSMS/ICPMS: A Tandem Tool for Quantitative Fingerprinting of Seleno-Metabolic Compounds;** Johann Far; Kasia Bierla; Brice Bouyssiere; Hugues Preud'homme; Ryszard Lobinski; *LCABIE - UMR5254 - IPREM, University of Pau, PAU, France*

**8:30 – 10:30 AM, TUESDAY MORNING
QUANTITATION IN PROTEOMICS - PEPTIDES
Michael Washburn, presiding
Room: Hall 4**

- TOG am 08:30 **Experimental and Computational Strategies in Quantitative Proteomics;** Alexey Nesvizhskii; *University of Michigan, Ann Arbor, MI*
- TOG am 08:50 **Minimally Permuted Peptide Analogs (MIPA) as Internal Standards for Relative and Absolute Quantification of Peptides and Proteins;** Joerg Seidler¹; Dominic Winter¹; Dominik Kugelstadt²; Bianca Derrerr²; Barbara Kappes²; Wolf D. Lehmann¹; ¹*German Cancer Research Center, Heidelberg, Germany*; ²*University of Heidelberg, Heidelberg, Germany*
- TOG am 09:10 **Spectral Counting Error Statistics from Nine Replicate MudPIT Samples;** Bret Cooper; *USDA-ARS, Beltsville, MD*
- TOG am 09:30 **EtEP - A Novel Method to Produce an Equimolar Mixture of Standard Peptides for Absolute Quantification and Stoichiometry Determination;** Johann Holzmann¹; Johannes Fuchs¹; Otto Hudecz²; Peter Pichler³; Mathias Madalinski¹; Robert Kurzbaue¹; Karl Mechtler^{1,2}; ¹*Research Institute of Molecular Pathology, Vienna, Austria*; ²*Institute of Molecular Biotechnology, Vienna, Austria*; ³*Christian Doppler Laboratory for Proteome Analysis, Vienna, Austria*
- TOG am 09:50 **Detection and Correction of Interference in MRM Analysis;** David Fenyo¹; Sofia Waldemarson²; Guoan Zhang²; Asa Wahlander²; Beatrix Ueberheide¹; Sunnie Myung¹; Brian Reed¹; Kelly Molloy¹; Julio Cesar Padovan¹; Jan Eriksson³; Thomas Neubert²; Brian Chait¹; ¹*The Rockefeller University, New York, NY*; ²*New York University Medical Center, New York, NY*; ³*Swedish University of Agricultural Sciences, Uppsala, Sweden*
- TOG am 10:10 **Development and Application of a System Suitability Standard and Protocol to Assess Data Quality in LC-MRM-MS across Multiple MS Platforms;** Susan E. Abbatiello¹; Birgit Schilling²; D. R. Mani⁴; Xingdong Feng⁸; Lisa Zimmerman⁶; Brendan Maclean⁵; Michael P. Cusack²; Terri Addona¹; Nell Sedransk⁸; Michael J. Maccoss⁵; Steven C. Hall³; Steven A. Carr¹; CPTAC Network⁷; ¹*Broad Institute, Cambridge, MA*; ²*Buck Institute for Age Research, Novato, CA*; ³*UCSF Sandler-Moore Mass Spectrometry Core Facility, San Francisco, CA*; ⁴*The Broad Institute of MIT and Harvard, Cambridge, MA*; ⁵*University of Washington, Seattle, WA*; ⁶*Vanderbilt University, Nashville, TN*; ⁷*National*

**10:30 AM – 2:30 PM, TUESDAY
POSTER SESSION. See page 73.
Exhibit Hall ABCDE**

**2:30 – 4:30 PM, TUESDAY AFTERNOON
FUNDAMENTALS: ION SPECTROSCOPY
Mary Rodgers, presiding
Room: Ballroom HJ**

- TOA pm 2:30 **Alkali Metal Cationized Aliphatic Amino Acids: Charge-Solvation Becomes More Favorable with Increasing Ion Size;** Jos Oomens^{1,2}; Miriam Drayss³; Peter B. Armentrout⁴; Mathias Schaefer³; ¹FOM Rijnhuizen, Nieuwegein, Netherlands; ²University of Amsterdam, Amsterdam, Netherlands; ³Inst. Organic Chemistry University of Cologne, Koeln, Germany; ⁴University of Utah, Salt Lake City, UT
- TOA pm 2:50 **Gas Phase Structure of Micro-Hydrated Manganese Perchlorate Salts Probed by Infrared Spectroscopy;** Philippe Maitre¹; Edith Nicol^{1,2}; Vincent Steinmetz¹; Rajeev Sinha¹; ¹Laboratoire de Chimie Physique, Orsay, France; ²DCMR, Department of Chemistry, Ecole Polytechnique, Palaiseau, France
- TOA pm 3:10 **Infrared Spectroscopic Evidence for Ring Opening of Cyclic Monosaccharides;** Sarah Stefan¹; John R. Eyler¹; Brad K. Bendiak³; Darin Brown³; Jos Oomens²; Jeffrey Steill²; ¹Department of Chemistry, University of Florida, Gainesville, FL; ²FOM Rijnhuizen, Nieuwegein, Netherlands; ³University of Colorado Health Sciences Center, Denver, CO
- TOA pm 3:30 **Building and Breaking the Water Network: Thermodynamics of Hydration and Long-Range Ion Effects from Infrared Photodissociation Spectroscopy and Kinetics;** James Prell¹; Jeremy O'Brien²; Terrence Chang¹; Evan R. Williams¹; ¹University of California, Berkeley, CA; ²UC Berkeley, Berkeley, CA
- TOA pm 3:50 **Structures of Bare and Hydrated Pb[AA-H]⁺ Complexes (AA=Ala, Val, Leu, Ile, Phe, Met) by IRMPD Spectroscopy and Computational Chemistry;** Michael Burt; Sarah Decker; Chad Atkins; Mark Rowsell; Travis Fridgen; Memorial University of NL, St. John's, Canada
- TOA pm 4:10 **Vibrational Signatures of Zwitterionic and Charge Solvated Structures for Metal-Complexed Amino Acid Dimers;** Warren K. Mino¹; John R. Eyler¹; Robert C. Dunbar²; Nicolas Polfer¹; ¹University of Florida, Gainesville, FL; ²Case Western Reserve Univ, Cleveland, OH

**2:30 – 4:30 PM, TUESDAY AFTERNOON
MS AND IMMUNOLOGY
Markus Kalkum, presiding
Room: Ballroom ACE**

- TOB pm 2:30 **Mass Spectrometry Analysis of Natural HLA-DR Associated Peptides in Rheumatoid Arthritis or Antibiotic-Refractory Lyme Arthritis;** Chunxiang Yao¹; Elise E. Drouin²; Robert Seward^{1,2}; Allen C. Steere²; Catherine E. Costello¹; ¹Boston University School of Medicine, Boston, MA; ²MGH, Harvard Medical School, Boston, MA

- TOB pm 2:50 **Sequencing and Quantification of IgG Fragments and Antigen Binding Regions by Mass Spectrometry;** Dominique de Costa¹; Ingrid Broodman²; Martijn van Duijn³; Christoph Stingl³; Lennard Dekker³; Peter Burgers³; Henk Hoogsteden¹; Peter Sillevius Smitt³; Rob van Klaveren¹; Theo Luider³; ¹Erasmus Medical Center, Dept. of Pulmonology, Rotterdam, Netherlands; ²Erasmus Medical Center, Dept. of Clinical Chemistry, Rotterdam, Netherlands; ³Erasmus Medical Center, Dept. of Neurology, Rotterdam, Netherlands
- TOB pm 3:10 **Proteomic Elucidation of Intrinsic Defense Mechanisms Mediated by the Interferon Inducible Protein X;** Tuo Li; Zixuan Wang; Fang Yu; Ileana M. Cristea; Princeton University, Princeton, NJ
- TOB pm 3:30 **A Mass Spectrometric Strategy to Develop Multi-Epitope Protein Vaccines against Invasive Fungal Infections;** Diana Diaz Arevalo; Teresa Hong; James Ito; Markus Kalkum; City of Hope, Duarte, CA
- TOB pm 3:50 **Identification of Novel Class I MHC-Restricted Phosphopeptides for Use as Cancer Immunotherapeutics;** Jennifer Cottine; Kara Cummings; Michelle English; Jeffrey Shabanowitz; Victor H. Engelhard; Donald F. Hunt; UVA, Charlottesville, VA
- TOB pm 4:10 **Next Generation Autoimmune Disease Diagnostics: Mass Spectrometric and Peptide Chip Epitope Analysis of Autoantigens;** Michael O. Glocker¹; Jörn Kekow⁵; Reinhard Guthke²; Dirk Koczan³; Hans-Jürgen Thiesen⁴; ¹Proteome Center Rostock, Rostock, Germany; ²Hans-Knoell Institute, Jena, Germany; ³Steinbeis Transfer Center for Proteomics, Rostock, Germany; ⁴IndyMED GmbH, Rostock, Germany; ⁵Otto von Guericke University, Magdeburg, Germany

**2:30 – 4:30 PM, TUESDAY AFTERNOON
MS OF CARBOHYDRATES
Joe Zaia, presiding
Room: Ballroom BDF**

- TOC pm 2:30 **21st Century Developments in the Mass Spectrometry of Glycans and Glycoconjugates;** Catherine E. Costello; Boston University School of Medicine, Boston, MA
- TOC pm 2:50 **A Systematic Method for Comprehensive Glycome Elucidation;** Shuai Wu¹; Nannan Tao¹; Ning Tang²; Keith Waddell²; Rudi Grimm²; J. Bruce German¹; Carlito Lebrilla¹; ¹UC Davis, Davis, CA; ²Agilent Technologies, Palo Alto, CA
- TOC pm 3:10 **High Performance Glycoproteome Analysis of Human and Murine Plasma Using Ion Trap Mass Spectrometry;** Katherine A. Stumpo¹; Laura Shelton²; Thomas Seyfried²; Vernon N. Reinhold¹; ¹University of New Hampshire, Durham, NH; ²Department of Biology, Boston College, Chestnut Hill, MA
- TOC pm 3:30 **Method Development for the Comprehensive Compositional Analysis of Heparin/Heparan Sulfate Disaccharides from Human Serum;** Wei Wei; Milady Ninonuevo; Lieza Marie Danan; Julie A. Leary; University of California Davis, Davis, CA

TOC pm 3:50 **Toward More Structurally Informative Tandem MS of Heparan Sulfate: Chemical Modifications to Reduce Sulfate Density;** Xiaofeng Shi; Yu Huang; Joseph Zaia; *Boston University School of Medicine, Boston, MA*

TOC pm 4:10 **Electron Detachment Of Highly Sulfated Glycosaminoglycan Carbohydrates;** Franklin E. Leach III¹; Jeremy Wolff³; Tatiana Laremore²; Zhongping Xiao²; Sailaja Arungundram¹; Kanar Al-Mafraji¹; Andre Venot¹; Geert-Jan Boons¹; Robert J. Linhardt²; Jon Amster¹; ¹*University of Georgia, Athens, GA;* ²*Rensselaer Polytechnic Institute, Troy, NY;* ³*Bruker Daltonics, Billerica, MA*

**2:30 – 4:30 PM, TUESDAY AFTERNOON
NEW DEVELOPMENTS IN IONIZATION**
Sarah Trimpin, presiding
Room 155

TOD pm 2:30 **ESI-like MALDI Ions; Laserspray Ionization, a Powerful New Technique for API Mass Spectrometers;** Charles N. McEwen¹; Sarah Trimpin²; ¹*Univ. of the Sciences in PA, Philadelphia, PA;* ²*Wayne State University, Detroit, MI*

TOD pm 2:50 **Qualitative and Quantitative Behavior of AC Electrospray Ionization in Mass Spectrometry of Biomolecules;** Nishant Chetwani; Catherine Cassou; David Go; Hsueh-Chia Chang; *University of Notre Dame, Mishawaka, IN*

TOD pm 3:10 **Low-Temperature Plasma (LTP) Probe Ambient Ionization Source: Temporally and Spatially-Resolved Investigations of Plasma-Sample Interactions;** Joshua Wiley¹; Carsten Engelhardt²; Ayanna Jackson¹; Jacob Shelley²; Robert Noll¹; R. Graham Cooks¹; Gary Hieftje²; ¹*Purdue University, West Lafayette, IN;* ²*Indiana University, Bloomington, IN*

TOD pm 3:30 **Electrode-Assisted Spray Ionization Mass Spectrometry;** Abdil Ozdemir²; Chung-Hsuan Chen¹; ¹*Genomic Research Center, Taipei, Taiwan;* ²*Department of Chemistry, Sakarya University, Esentepe, Turkey*

TOD pm 3:50 **Exploration and Developments in Nano-Electrospray Ionization Sources Operating at Atmospheric and Sub-Atmospheric Pressure;** R. Brent Dixon; Jason Page; Ioan Marginean; Nitin Agrawal; Ryan Kelly; Keqi Tang; Richard D. Smith; *Pacific Northwest National Laboratory, Richland, WA*

TOD pm 04:10 **Nanospray Desorption Electrospray Ionization Mass Spectrometry;** Patrick Roach¹; Julia Laskin¹; Alexander Laskin²; ¹*Pacific Northwest National Laboratory, Richland, WA;* ²*EMSL/PNNL, Richland, WA*

**2:30 – 4:30 PM, TUESDAY AFTERNOON
IDENTIFICATION OF UNUSUAL XENOBIOTIC METABOLITES USING MASS SPECTROMETRY**
Benjamin Johnson, presiding
Room: Hall 2

TOE pm 2:30 **Challenges and Solutions for Detection and Identification of Metabolites of Unpredictable Structures;** Donglu Zhang¹; Benjamin M. Johnson²; ¹*Bristol-Myers Squibb, Princeton, NJ;* ²*Bristol-Myers Squibb Company, Wallingford, CT*

TOE pm 2:50 **Metabolomics Data Processing Techniques Applied to Metabolite Identification of Xenobiotics;** Jeffrey L. Whitney; Kenneth L.

Ray; Mark E. Hail; *Novatia, LLC, Monmouth Junction, NJ*

TOE pm 3:10 **Metabolite Profiling in a Discovery Environment: A Comparison of Metabolite Profiles Following Targeted and Non-Targeted Analysis of Well Characterized Drugs;** Richard Schneider; Veronica Zelesky; Hui Zhang; *Pfizer Global R&D, Groton, CT*

TOE pm 3:30 **Evaluation of Combined Quantitative and Qualitative Approaches for Pharmaceutical Research Using a Hybrid Quadrupole Linear Ion Trap Mass Analyzer;** Loren Olson; Richard Lauman; Renee Huang; *AB SCIEX, Foster City, CA*

TOE pm 3:50 **Metabolism of a Vitamin C-Acrolein Adduct in Cultured Human Monocytic THP-1 Cells Studied by LC-MS/MS;** Nicholas G. Kesinger; Brandi L. Langsdorf; Cristobal L. Miranda; Jan F. Stevens; *Oregon State University, Corvallis, OR*

TOE pm 4:10 **Hybrid Linear Ion-Trap - Orbitrap Mass Spectrometry at 100k Resolution for the Determination of the Polyether Toxins, Azaspiracids, in Shellfish;** Kevin James^{1,2}; Zuzana Skrabakova^{1,2}; John O'Halloran²; Frank van Pelt²; ¹*PROTEOBIO, Cork Institute of Technology, Cork, Ireland;* ²*Environmental Research Institute, UCC, Cork, Ireland*

**2:30 – 4:30 PM, TUESDAY AFTERNOON
DEALING WITH PHOSPHOLIPIDS IN REGULATED BIOANALYSIS**
Patrick Vallano, presiding
Room: Hall 3

TOF pm 2:30 **Dealing with Phospholipids in Regulated Bioanalytical Methods: An Overview;** Patrick Vallano; Tina Bland; *Mylan Pharmaceuticals, Inc., Morgantown, WV*

TOF pm 2:50 **Effect of Phospholipids on Efficiency, Reproducibility, Accuracy and Linearity of Bioanalytical Assays and Importance of Removing them during Sample Clean-Up;** Mathieu Lahaie; Jean-Nicholas Mess; Milton Furtado; Fabio Garofolo; *Algorithme Pharma Inc., Laval (Montreal), Quebec, Canada*

TOF pm 3:10 **Depletion of Phospholipid Matrix Interference when Dealing with Small Volume Plasma Samples;** Craig Auran¹; David S. Bell²; Hillel K. Brandes²; Daniel Vitkuske²; ¹*Sigma Aldrich, Bellefonte, PA;* ²*Supelco/Sigma Aldrich, Bellefonte, PA*

TOF pm 3:30 **Evaluation of Phospholipids Effect on Ionization in LDTD-MS/MS Analysis of Human Plasma Extracts from Protein Precipitation, SPE and Liquid-Liquid Extraction;** Pierre Picard; Serge Auger; Patrice Tremblay; *Phytronix Technologies, Inc., Quebec, Canada*

TOF pm 3:50 **Supported Liquid Extraction vs. Liquid-Liquid Extraction: Comparing Phospholipid and Analyte Recoveries under Various Extraction Conditions;** Brian T. Hoffman; Erika Moore; Daniel Mulvana; *Advion Biosciences, Ithaca, NY*

TOF pm 4:10 **On-Line Removal of Phospholipids from Protein Precipitated Samples Using Silica Hydride-Based Trapping Column;** Katty X. Wan; Maria P. Metchkarova; Matthew J. Rieser; *Abbott Laboratories, Abbott Park, IL*

**2:30 – 4:30 PM, TUESDAY AFTERNOON
BIOINFORMATICS IN PROTEOMICS**

Michael MacCoss, presiding

Room: Hall 4

- TOG pm 2:30 **A New Kinetic Model of Peptide Fragmentation for Improved Discrimination in Peptide Identification**; Shaojun Sun¹; Chia-Yu Yen¹; Stephane Houel²; Natalie Ahn^{1,2}; Meredith Betterton¹; William Old¹; ¹University of Colorado, Boulder, CO; ²Howard Hughes Medical Institute, Boulder, CO
- TOG pm 2:50 **Thousandfold Faster Database Searching For Peptide Identification from Tandem Mass Spectra**; Benjamin Diament¹; William Noble²; ¹Univ of Washington, Seattle, WA; ²University of Washington, Seattle, WA
- TOG pm 3:10 **Template Proteogenomics: Sequencing Proteins Using an Imperfect Database**; Natalie E Castellana¹; Victoria Pham²; David Arnott³; Jennie Lill⁴; Vineet Bafna⁵; ¹UCSD, La Jolla, CA; ²Genentech, South San Francisco, CA; ³Genentech, Inc., S. San Francisco, CA; ⁴Genentech Inc, South San Francisco, CA; ⁵Univ. Cal. San Diego, San Diego, CA
- TOG pm 3:30 **Skyline Targeted Proteomics Environment: Sharing SRM/MRM Method Creation and Results Analysis across Laboratories and Instrument Platforms**; Brendan Maclean¹; Daniela Tomazela¹; Susan E. Abbatiello²; Birgit Schilling³; Nicholas Shulman¹; Matthew Chambers⁴; David Tabb⁴; Bradford W. Gibson³; Steven A. Carr²; Daniel C. Liebler⁴; Michael J. Maccoss¹; ¹University of Washington, Seattle, WA; ²Broad Institute, Cambridge, MA; ³Buck Institute for Age Research, Novato, CA; ⁴Vanderbilt University, Nashville, TN; ⁵National Cancer Institute, Bethesda, MD
- TOG pm 3:50 **DirectTag-TagRecon: Sequence Tagging Reveals Ubiquity of Peptide Modifications in Clinical Cancer Samples**; Surendra Dasari; Matthew Chambers; David Tabb; *Vanderbilt University, Nashville, TN*
- TOG pm 4:10 **Database Independent Proteomics; Ab initio Analysis of the Ostrich Proteome by a Combination of Lys-N and Electron Transfer Dissociation**; A.F. Maarten Altelaar; Danny Navarro; Bas van Breukelen; Jos Boekhorst; Berend Snel; Shabaz Mohammed; Albert J.R. Heck; *Utrecht University, Utrecht, Netherlands*

**4:45 – 5:30 PM, TUESDAY
AWARD LECTURE**

Hall 4

- 4:45 pm **Presentation of the Thermo Scientific Research Award**
Presentation of the Waters Corporation Research Award



- 4:55 pm **David C. Muddiman, Recipient of the Biemann Medal**

5:45 - 7:00 PM, TUESDAY WORKSHOPS. See page 20.

**8:30 – 10:30 AM, WEDNESDAY MORNING
MULTIPLE CHARGING IN MASS SPECTROMETRY**
Rachel Loo, presiding
Room: Ballroom HJ

- WOA am 08:30 **BIRD-Experiments on Multiply Charged Anions in a New Temperature-Controllable ICR Cell**; Tatjana Karpuschkin²; Maria Massaouti¹; Eugene Nikolaev³; Oliver Hampe²; Manfred M. Kappes²; ¹Foundation for Research & Technology-Hellas Forth, Heraklion, Greece; ²Karlsruhe Institute for Technology, Karlsruhe, Germany; ³The Institute for Energy Problems of Chemical Phys, Moscow, Russian Federation
- WOA am 08:50 **Laserspray Using a Commercial AP-MALDI Source for Rapid Switching between Singly and Multiply Charged Ions**; Barbara S. Larsen¹; Sarah Trimpin; Charles N. Mcewen³; ¹The DuPont Company, Wilmington, DE; ²Wayne State University, Detroit, MI; ³Univ. of the Sciences in PA, Philadelphia, PA
- WOA am 09:10 **Unusual Electrospray Solvent for Protein Desorption**; Nicolas Auzeil¹; Anna Warnet²; Jean-Claude Tabet²; ¹Université Paris Descartes, Paris, France; ²University Paris VI (UPMC), Paris, France
- WOA am 09:30 **Factors that Promote ESI Multiple Charging for Proteins**; Joseph A. Loo; Shirley H. Lomeli; Rachel R. Ogorzalek Loo; *UCLA, Los Angeles, CA*
- WOA am 09:50 **Vapor Treatment of Electrospray Droplets for Altering Protein Charge State Distributions**; Anastasia Kharlamova; Boone Prentice; Teng-Yi Huang; Scott A. McLuckey; *Purdue University, West Lafayette, IN*
- WOA am 10:10 **A Critical Evaluation of Charge Manipulation Strategies Coupled to Nano-Electrospray Ion Mobility-Mass Spectrometry**; Russell Bornschein; Brandon Ruotolo; *The University of Michigan, Ann Arbor, MI*

**8:30 – 10:30 AM, WEDNESDAY MORNING
MS AND CLINICAL DIAGNOSTICS
Alan Rockwood, presiding
Room: Ballroom ACE**

- WOB am 08:30 **A Physician's Perspective on Clinical Mass Spectrometry**; William Roberts; *University of Utah, Salt Lake City, UT*
- WOB am 08:50 **Quantitative Underivatized Amino Acid Analysis - Development, Dimensionality, Data Reduction and Diagnostic Utility**; Brian Rappold; Russell Grant; Patricia Holland; *Labcorp, Burlington, NC*
- WOB am 09:10 **Derivative Design for Clinical Analysis: Free Amino Acid Quantification with MPBS and DMABS**; David W. Johnson; *SA Pathology/Women's and Children's Hospital, N Adelaide SA, Australia*
- WOB am 09:30 **Top-Down Sequencing of Hemoglobin Variants with Multiple Activation Techniques**; Roger Theberge¹; Mark E. McComb²; Cheng Lin³; Catherine E. Costello⁴; *¹Boston University School, Boston, MA; ²Boston University Med. School, Boston, MA; ³Boston University, Boston, MA; ⁴Boston University School of Medicine, Boston, MA*
- WOB am 09:50 **Clinical Diagnosis of Doss Porphyria and Erythropoietic Porphyria Using Tandem Mass Spectrometry**; John R. Choiniere; Frantisek Turecek; Michael H. Gelb; C. Ronald Scott; *University of Washington, Seattle, WA*
- WOB am 10:10 **Diagnosis and Quantification of Toxemia of Anthrax Using Mass Spectrometry**; John R. Barr¹; Anne E. Boyer¹; Conrad P. Quinn¹; Maribel Gallegos²; Renato Lins²; Zsuzsanna Kuklenyik¹; James L. Pirkle¹; *¹CDC, Atlanta, GA; ²Battelle Memorial Institute, Atlanta, GA*

**8:30 – 10:30 AM, WEDNESDAY MORNING
MS OF FUELS, BIOFUELS AND HEAVY OILS
Kuangan Qian, presiding
Room: Ballroom BDF**

- WOC am 08:30 **Ambient Analysis of Saturated Hydrocarbons Using Discharge-Induced Oxidation in Desorption Electrospray Ionization**; Chunping Wu; Marcela Nefliu; R. Graham Cooks; *Purdue University, West Lafayette, IN*
- WOC am 08:50 **NonCovalent Aggregation: The Overriding Principle that Defines Mass Spectral Characterization of Asphaltenes**; Amy M. McKenna¹; Lynda J. Donald²; Ryan P. Rodgers¹; Kenneth G. Standing³; Alan G. Marshall¹; *¹Natl High Magnetic Field Laboratory, Tallahassee, FL; ²Department of Chemistry, University of Manitoba, Winnipeg, MB; ³Department of Physics, University of Manitoba, Winnipeg, MB; ⁴Department of Chemistry and Biochemistry, FSU, Tallahassee, FL*
- WOC am 09:10 **Thermal Analysis - Modulated Fast Gas Chromatography- Single Photon Ionisation TOF-MS for Comprehensive Characterization of Crude Oil-Fractions and Polymers**; Ralf Zimmermann¹; Mohammad Saraji-Bozorgzad²; Markus Eschner²; *¹University of Rostock, Rostock, GERMANY; ²Helmholtz Zentrum München, Oberschleißheim, Germany*
- WOC am 09:30 **Investigation of Deposition and Fouling in Crude Oils By Liquid Chromatography and FT-ICR Mass Spectrometry**; Wolfgang

Schrader¹; Sami Lababidi¹; Julia Hesse¹; Katharina Lührig¹; Fabiane Nachtigall¹; Jan T. Andersson²; *¹Max-Planck Inst Coal Res., Mülheim / Ruhr, Germany; ²Univ. Münster, Münster, Germany*

- WOC am 09:50 **Assessment of Asphaltene Structure Using Ion Mobility-Mass Spectrometry**; Sharon Munisamy¹; Kyle Fort²; Christopher Becker¹; David H. Russell²; *¹Baylor University, Waco, TX; ²Texas A&M University, College Station, TX*
- WOC am 10:10 **Biodiesel Analysis - Complexity and Time**; G. John Langley¹; Christianne Wicking¹; Tom Lynch²; *¹University of Southampton, Southampton, UK; ²BP Global Lubricants, Pangbourne, UK*

**8:30 – 10:30 AM, WEDNESDAY MORNING
ENVIRONMENTAL MS IDENTIFICATION OF UNKNOWNNS
Enrico Davoli, presiding
Room 155**

- WOD am 08:30 **Data Mining Strategies for Identification of Unknowns in Environmental Water Samples**; Imma Ferrer; Michael Thurman; *University of Colorado, Boulder, CO*
- WOD am 08:50 **Non Targeted Screening of Marine Biotoxins in Shellfish by Ultra High Resolution Mass Spectrometry**; Joseph Hui¹; Pearl Blay¹; James Chang²; Jeremy Melanson¹; *¹NRC Institute for Marine Biosciences, Halifax, Canada; ²Thermo Scientific, San Jose, CA*
- WOD am 09:10 **Liquid Chromatography Tandem Mass Spectrometry Discovery of Haloquinones as Water Disinfection Byproducts**; Xing-Fang Li; Yuli Zhao; Feng Qin; Jessica Boyd; Wagner Megan; *University of Alberta, Edmonton, Canada*
- WOD am 09:30 **Metaproteomics: Phylogenomic-Based Identification of Microbes from MS/MS Environmental Samples and Unprecedented Assignment Of Peptides and Proteins Using Spectral Libraries**; William Cannon^{1,2}; Mitchell Rawlins¹; Gaurav Kulkarni¹; Douglas Baxter¹; Ananth Kalyanaraman²; Mary Lipton¹; Stephen Callister¹; *¹Pacific NW National Lab, Richland, WA; ²Washington State University, Pullman, WA*
- WOD am 09:50 **Determination of Natural Pyrethrins by LC-EI-MS**; Achille Cappiello; Giorgio Famigliani; Pierangela Palma; Veronica Termopoli; Bruno Tirillini; Helga Truffelli; *Universita di Urbino, Urbino, Italy*
- WOD am 10:10 **Characterization of Oligomers in Biogenic Secondary Organic Aerosol by High-Resolution Mass Spectrometry and Infrared Multi-Photon Dissociation**; Wiley A. Hall; Murray Johnston; *University of Delaware, Newark, DE*

**8:30 – 10:30 AM, WEDNESDAY MORNING
LC-MS STRATEGIES FOR METABOLOMICS IN
DRUG DISCOVERY**

**Gabriella Szekely-Klepser, presiding
Room: Hall 2**

- WOE am 08:30 **Putting Metabolomics to Practice in Drug Discovery**; Michael Reily; *Bristol-Myers Squibb, Princeton, NJ*
- WOE am 08:50 **Solid-phase Microextraction for Untargeted LC-MS Metabolomics Studies Using Benchtop Orbitrap Instrument**; Dajana Vuckovic¹; Janusz Pawliszyn¹; Inés de Lannoy²; Brad Gien²; Robert Shirey³; Leonard Sidisky³; Sucharita Dutta⁴; ¹*University of Waterloo, Waterloo, Canada*; ²*NoAb BioDiscoveries, Mississauga, Canada*; ³*Supelco Inc., Bellefonte, PA*; ⁴*ThermoFisher Scientific, San Jose, CA*
- WOE am 09:10 **High Resolution Liquid Chromatography and High Resolution Mass Spectrometry for Simultaneous Qualitative and Quantitative Analysis**; Gérard Hopfgartner¹; J.C. Yves Le Blanc²; Emmanuel Varesio¹; ¹*School of Pharmaceutical Sciences, EPGL, LSMS, Geneva, Switzerland*; ²*AB-SCIEX, Toronto, Canada*
- WOE am 09:30 **HILIC-UPLC-MS for the Metabolic Profiling of Biofluids: Application to Toxicological Studies**; Elizabeth J Want¹; Konstantina Spagou²; Perrine Masson³; ¹*Imperial College, London, UK*; ²*Aristotle University, Thessaloniki, Greece*; ³*Imperial College London, London, UK*
- WOE am 09:50 **Practical Ways to Identify Metabolite Markers in Drug Discovery Using High Resolution LC/MS-Based Metabolomics Approach**; Haiying Zhang; Thomas Harrity; Petia Shipkova; George Psaltis; Randolph Ponticciello; David Gordon; Laura Patrone; John Kozlosky; Lindsay Tomlinson; Greg Cosma; Joseph Horvath; Jonathan Josephs; William Humphreys; *Bristol-Myers Squibb R&D, Princeton, NJ*
- WOE am 10:10 **Non-Targeted Biochemical Profiling Platform Reveals Biomarkers of Sepsis, Including Those at Highest Risk for Septic Death, at Time of Presentation**; Anne M. Evans¹; Robert P. Mohney¹; Jacob Wulff¹; Raymond J. Langley²; Stephen Kingsmore²; ¹*Metabolon, Inc., Durham, NC*; ²*The National Center for Genome Research, Santa Fe, NM*

**8:30 – 10:30 AM, WEDNESDAY MORNING
CLINICAL APPLICATIONS OF INTEGRATED
QUALITATIVE AND QUANTITATIVE LC-MS
Mustafa Varoglu, presiding
Room: Hall 3**

- WOE am 08:30 **Overcoming the Conundrums of Multi-Disciplinary Translational Proteomics – Lessons Learned from Multiple Clinical Proteomics Studies**; J. Will Thompson; Laura Dubois; Erik J Soderblom; Meredith Turner; Matt Foster; Jeanette McCarthy; Virginia Kraus; Jonathan Catterall; Victoria Christian; Arthur Moseley; *Duke University School of Medicine, Durham, NC*
- WOE am 08:50 **'Eye-Tracking' of Proteins from Human Intraocular Fluids – Qualitative and Quantitative Approaches Toward Understanding the Progression of Eye Disease**; Keiryn L. Bennett¹; Marion Funk²; Andreas

Pollreis²; Marion Tschernutter¹; Melanie Planyavsky¹; Katja Parapatics¹; Florian P. Breitwieser¹; Ceereena Ubaida Mohien³; Andre Mueller¹; Zlatko Trajanoski³; Jacques Colinge¹; Giulio Superti-Furga^{1,1}; Ursula Schmidt-Erfurth² ¹*CeMM - Center for Molecular Medicine, Vienna, Austria*; ²*Medical University of Vienna, Vienna, Austria*; ³*Technical University of Graz, Graz, Austria*

- WOF am 09:10 **Proteome Analysis of Cerebrospinal Fluid: Monitoring Changes in Protein Abundance over the Course of Antiretroviral Therapy in HIV Infected Individuals**; Thomas Angel¹; Jon Jacobs¹; Richard Price²; Serena Spudich²; Marina Gritsenko¹; Dietmar Fuchs³; Lars Rosengren⁴; Henrik Zetterberg⁴; Dave Camp¹; Richard D. Smith¹; ¹*PNNL, Richland, WA*; ²*Department of Neurology, University of California, San Francisco, CA*; ³*Biocentre, Innsbruck Medical University, Innsbruck, Austria*; ⁴*Sahlgrenska Academy at University of Gothenburg, Gothenb*
- WOF am 09:30 **Quantitation by High Resolution Full Scan Accurate Mass-The Future of Discovery DMPK?** Jonathan L. Josephs; Yanou Yang; Chiuwa Emily Luk; Petia Shipkova; William Humphreys; *Bristol-Myers Squibb, Pennington, NJ*
- WOF am 09:50 **Evaluating the Intestinal Health of Premature Infants by NanoLC-MS Analysis of Excreted Oligosaccharides**; Maria Lorna A. de Leoz¹; Shuai Wu¹; Mark Underwood¹; Peggy Cheng¹; John S. Strum¹; Rudolf Grimm²; Bruce German¹; David Mills¹; Carlito B. Lebrilla¹; ¹*University of California, Davis, CA*; ²*Agilent Technologies, Santa Clara, CA*
- WOF am 10:10 **Mass Spectrometric Characterization of Arylpropionamide-Derived Selective Androgen Receptor Modulators and their *in-vitro* and *in-vivo* Generated Metabolites**; Mario Thevis¹; Enrico Gerace²; Hans Geyer¹; Wilhelm Schänzer¹; ¹*German Sport University, Cologne, Germany*; ²*University of Turin, Turin, Italy*

**8:30 – 10:30 AM, WEDNESDAY MORNING
CHARACTERIZING PTMS
Andy Tao, presiding
Room: Hall 4**

- WOG am 08:30 **Quantitative Mass Spectrometry Reveals Complexity and Function of Protein Ubiquitination**; Junmin Peng; *Emory University, Atlanta, GA*
- WOG am 08:50 **Improved Methodologies for the Identification of Ubiquitin and Ubiquitin-Like Protein (Ubl) Conjugation Sites Identifies Novel Ubl Chain Linkages**; Tharan Srikumar^{1,2}; Stanley Jeram^{1,2}; Xiang-Dong Zhang³; H. Anne Eisenhauer¹; Richard Rogers⁴; Patrick G.A. Pedrioli⁵; Michael Matunis⁶; Henry Lam⁷; Brian Raught^{1,2}; ¹*Ontario Cancer Institute, Toronto, Canada*; ²*Medical Biophysics, University of Toronto, Toronto, Canada*; ³*Dept. Biological Sciences, Wayne State University, Detroit, MI*; ⁴*Institute for Systems Biology, Seattle, WA*; ⁵*Institute of Biochemistry ETH, Zurich, Switzerland*; ⁶*Biochem. and Mol. Biol. The Johns Hopkins Univ., Baltimore, MD*; ⁷*Dept Chem Biomol Engineer. Hong Kong Univ Sci Tech, Clear Water Bay, Hong Kong*

- WOG am 09:10 **Multi-Glycomics Platform Approach for Cancer**; Carlito Lebrilla; Hyun Joo An; Scott Kronewitter; Maria Lorna A. De Leoz; Kyle Peacock; Jaehan Kim; Sureyya Ozcan; Grace Ro; *University of California, Davis, CA*
- WOG am 09:30 **Characterizing the Range of Naturally-Occurring Post-Translational Modifications in the Proteomes of Microbial Isolates and Consortia**; Robert Hettich¹; Alison Russell²; Andrew Dykstra²; Jill Banfield³; ¹*Oak Ridge National Laboratory, Oak Ridge, TN*; ²*UTK-Oak Ridge National Lab, Knoxville, TN*; ³*University of California - Berkeley, Berkeley, CA*
- WOG am 09:50 **In-Depth Phosphoproteome Analysis Using PolyMAC**; Anton Iliuk; Victoria Martin; Bethany Alicie; Robert Geahlen; Weiguo Andy Tao; *Purdue University, West Lafayette, IN*
- WOG am 10:10 **Estimating False Discovery Rates of Post-Translational Modification Site Assignments**; Banu Dost¹; Vineet Bafna²; Nuno Bandeira³; ¹*University of California, San Diego, La Jolla, CA*; ²*Univ. Cal. San Diego, San Diego, CA*; ³*CCMS, UCSD, La Jolla, CA*

**10:30 AM – 2:30 PM, WEDNESDAY
POSTER SESSION. See page 104.
Exhibit Hall ABCDE**

**2:30 – 4:30 PM, WEDNESDAY AFTERNOON
FUNDAMENTALS: ION/MOLECULE, ION/ION,
ION/ELECTRON INTERACTIONS
Hilkka Kenttämää, presiding
Room: Ballroom HJ**

- WOA pm 2:30 **Gas-Phase Substitution and Elimination Reactions of Vinylic and Aryl Halides**; Allison Eanes; Diogo de Oliveira; Michele Khurana; Renan Joviliano; Scott Gronert; *Virginia Commonwealth Uni, Richmond, VA*
- WOA pm 2:50 **Original Formation and Reactivity on Double Bonds of Dichlorocarbene at Atmospheric Pressure Studied by Photoionization Mass Spectrometry**; David Touboul¹; Julie Allegrand¹; Alexandre Giuliani²; Olivier Laprèvote¹; ¹*CNRS-ICSN, Gif-Sur-Yvette, France*; ²*Synchrotron Soleil, Gif-Sur-Yvette, France*
- WOA pm 3:10 **Does the 2,6-Didehydropyridinium Ion Exist?** Bartłomiej J. Jankiewicz^{1,2}; Nelson R. Vinueza¹; Lindsey M. Kirkpatrick¹; John J. Nash¹; Hilkka I. Kenttämää¹; ¹*Department of Chemistry, Purdue University, West Lafayette, Indiana*; ²*Military University of Technology, Warsaw, Poland*
- WOA pm 3:30 **Gas Phase Reactions of Carbanions with H Atoms**; Zhibo Yang¹; Oscar Martinez Jr.¹; Brian Eichelberger²; Marshall Carpenter¹; Theodore P. Snow¹; Veronica M. Bierbaum¹; ¹*University of Colorado, Boulder, CO*; ²*John Brown University, Siloam Spring, MD*
- WOA pm 3:50 **Investigating the Role of Cation Recombination Energy as a Key Factor in ETD/ECD**; Marija Mentinova¹; David Crizer²; Takashi Baba²; Gary L. Glish³; Scott A. McLuckey¹; ¹*Purdue University, West Lafayette, IN*; ²*UNC-Chapel Hill, Chapel Hill, NC*; ³*University of North Carolina, Chapel Hill, NC*
- WOA pm 4:10 **High-Throughput, Combinatorial Analysis of Cationic and Anionic Ion/Ion Reagents Using an ETD-Enabled QLT-Orbitrap Coupled to a**

Gas Chromatograph; Amelia C. Peterson; Graeme McAlister; Joshua J. Coon; *University of Wisconsin, Madison, WI*

**2:30 – 4:30 PM, WEDNESDAY AFTERNOON
FTMS: INSTRUMENTATION AND APPLICATIONS
Julia Laskin, presiding
Room: Ballroom ACE**

- WOB pm 2:30 **Overview: Recent Advances in Fourier Transform Ion Cyclotron Resonance Mass Spectrometry**; Alan G. Marshall; *Ion Cyclotron Resonance Prog, Tallahassee, FL*
- WOB pm 2:50 **Harmonization of Electric Field in FT ICR Cell. The New Approaches**; Ivan Boldin; Eugene Nikolaev; *The Institute for Energy Problems of Chemical Phys, Moscow, Russian Federation*
- WOB pm 3:10 **Examining Time-Dependent Space-Charge Effects in FTICR Mass Spectrometry With Multiparticle Simulations of Ion Motion**; Jon Amster¹; Franklin E. Leach III¹; Andriy Kharchenko; Ron M.A. Heeren⁵; Eugene Nikolaev⁴; Konstantin Aizikov; Peter B. O'connor⁶; ¹*University of Georgia, Athens, GA*; ²*FOM Institute for Atomic and Molecular Physics, Amsterdam, Netherlands*; ³*BUSM, Boston, MA*; ⁴*The Institute for Energy Problems of Chemical Phys, Moscow, Russian Federation*; ⁵*FOM Inst. Atomic/Molecular Phy, Amsterdam, Netherlands*; ⁶*University of Warwick, Coventry, UK*
- WOB pm 3:30 **A Gas-Phase Reactivity Study of a $\sigma,\sigma,\sigma,\sigma$ -Tetraradical Ion – the 2,4,6-Tridehydropyridine Radical Cation**; Vanessa Gallardo¹; Bartłomiej Jankiewicz²; Nelson Vinueza¹; John Nash¹; Hilkka Kenttämää¹; ¹*Purdue University, West Lafayette, IN*; ²*Military University of Technology, Warsaw, Poland*
- WOB pm 3:50 **Tailored Ion Spatial Distribution in FT-ICR MS for Improved Analysis of Complex Mixtures**; Nathan K. Kaiser¹; Joshua J. Savory¹; Amy M. McKenna¹; Christopher L. Hendrickson¹; Alan G. Marshall^{1,2}; ¹*National High Magnetic Field Laboratory, Tallahassee, FL*; ²*Ion Cyclotron Resonance Prog, Tallahassee, FL*
- WOB pm 4:10 **Top-Down Proteomic Identification of Heavy Isotope Depleted Yeast Proteins Using LC-FT-ICR MS with Funnel-Skimmer Dissociation Fragmentation**; Jennifer S. Cobb¹; Aimee M. Morris¹; Michael L. Easterling²; Jeffrey N. Agar¹; ¹*Brandeis University, Waltham, MA*; ²*Bruker Daltonics, Inc., Billerica, MA*

**2:30 – 4:30 PM, WEDNESDAY AFTERNOON
MS IN ENVIRONMENTAL TOXICOLOGY
Xingfang Li, presiding
Room: Ballroom BDF**

- WOC pm 2:30 **Linking Mass Spectrometry with Toxicology for Emerging Water Contaminants**; Susan Richardson; *US EPA, NERL, Athens, GA*
- WOC pm 2:50 **Arsenic Interaction with Proteins and Detecting Arsenic-Binding Proteins in Human Cells Using Mass Spectrometry and Affinity Chromatography**; Huiming Yan¹; Michael Weinfeld¹; William Cullen²; Xiufen Lu¹; Baowei Chen¹; Meiling Lu¹; Zhongwen Wang¹; Anthony McKnight-Whitford¹; X. Chris Le¹; ¹*University of Alberta, Edmonton, Canada*; ²*University of British Columbia, Vancouver, Canada*

WOC pm 3:10 **Quantitative Analysis of 6-Thioguanine-Induced Changes in the Proteome of Jurkat-T Cells**; Fan Zhang; Yinsheng Wang; *University of California, Riverside, CA*

WOC pm 3:30 **Quantification of the HSP 70 and HSP 90 Response to Environmental Stress in Pacific Oysters Using Orthologue-Based Multiple Reaction Monitoring**; David Cassis; Shujun Lin; Cordula Klockenbusch; Juergen Kast; *University of British Columbia, Vancouver, Canada*

WOC pm 3:50 **Inhibition of 4-Aminobiphenyl-Induced DNA Damage by Sulforaphane and 5,6-Dihydrocyclopenta[c]-Dithiole-3(4H)-Thione in Bladder Cells and Tissues**; Kristen L. Randall¹; Dayana Argoti²; Yi Ding³; Joseph D. Paonessa³; Rex Munday⁴; Yuesheng Zhang³; Paul Vouros¹; ¹*Northeastern University, Boston, MA*; ²*Protein Forest, Lexington, MA*; ³*Roswell Park Cancer Institute, Buffalo, NY*; ⁴*Ruakura Research Center, Hamilton, New Zealand*

WOC pm 4:10 **Determination of Chlorpyrifos and Chlorpyrifos-Oxon in Rat Blood Using Isotope Dilution Technique by GC Quadrupole and Magnetic Sector MS**; Vyacheslav N. Fishman¹; Alaine Sledz²; Kathy A. Brzak¹; Michael J. Bartels¹; ¹*The Dow Chemical Company, Midland, MI*; ²*Kelly Services Inc., Midland, MI*

**2:30 – 4:30 PM, WEDNESDAY AFTERNOON
MS OF GLYCOPROTEINS
Yehia Mechref, presiding
Room 155**

WOD pm 2:30 **Influence of Peptide Length on the Gas-Phase Fragmentation of Pronase-Derived Glycopeptides**; Wen Zhou; Kristina Hakansson; *University of Michigan, Ann Arbor, MI*

WOD pm 2:50 **Development of a Hyphenated Ion Mobility - Mass Spectrometry Technique for the Characterization of Glycosylated Peptides**; Craig Dorsche^{1,2}; Jim Langridge^{1,2}; Scott Geromanos^{1,2}; ¹*Waters Corporation, Milford, MA*; ²*Waters Corporation, Manchester, UK*

WOD pm 3:10 **Monitoring Quantitative Changes in Protein Specific Glycosylation during Lactation Using MALDI-FTICR MS and Its Effect on Interactions with Pathogenic Bacteria**; Mariana Barboza; John W. Froehlich; Janneth Pinzon; Isabelle Moeller; J. Bruce German; Bart Weimer; Carlito Lebrilla; *University of California Davis, Davis, CA*

WOD pm 3:30 **A Novel Tandem Mass Spectrometry Approach for the Detection and Identification of O-GlcNAc-Modified Peptides**; Hannes Hahne; Simone Lemeer; Bernhard Kuster; *Technical University Munich, Freising, Germany*

WOD pm 3:50 **Complementary N-Linked Glycoproteomics of Myocardial Ischemia / Reperfusion Injury Reveals Complex Changes in Extracellular Environments**; Benjamin Parker¹; Giuseppe Palmisano²; Alistair Edwards¹; Melanie White^{3,4}; Kasper Engholm-Keller²; Brett Hambly¹; Albert Lee⁵; Daniel Kolarich⁵; Nicki Packer⁵; Martin Larsen²; Stuart Cordwell^{1,3}; ¹*The University of Sydney, NSW, Australia*; ²*The University of Southern Denmark, Odense, Denmark*; ³*The University of Sydney, NSW, Australia*; ⁴*Johns Hopkins University*; ⁵*Macquarie Univ., NSW, Australia*

WOD pm 4:10 **Online Release of N-Glycans from Glycoproteins/Glycopeptides Prior to LC-MS/MS Analysis for Facilitating Glycomic Profiling and Determination of Glycosylation Sites**; Yazen Jmeian; Loubna Hammad; Zaneer Segu; Yuening Zhang; Yehia Mechref; *Indiana University, Bloomington, IN*

**2:30 – 4:30 PM, WEDNESDAY AFTERNOON
LC-MS OF REACTIVE XENOBIOTIC METABOLITES
JinPing Gan, presiding
Room: Hall 2**

WOE pm 2:30 **Overview of LC-MS Techniques to Characterize Reactive Xenobiotic Metabolites**; Raju Subramanian; *Pharmacokinetics and Drug Metabolism, Thousand Oaks, CA*

WOE pm 2:50 **High-Throughput Screening of Drug Reactive Metabolites Using Accurate Mass Based Background Subtraction and Noise Reduction Algorithm**; Shuguang Ma; Yuan Yuan; Xiaowen Lu; Anima Ghosal; Keun-Joong Lee; Peijuan Zhu; Wei Tong; Kevin Alton; Swapan Chowdhury; *Merck Research Laboratory, Kenilworth, NJ*

WOE pm 3:10 **Characterization of Stereo Conformation of the Reactive Metabolites of the Chlorogenic Acid by UPLC/ Ion Mobility/TOF MS**; Cen Xie¹; Kate Yu²; Xiaoyan Chen¹; Tao Yuan¹; Dafang Zhong¹; Hayley Crowe²; John P. Shockcor²; Alan L. Millar²; ¹*Shanghai Inst Materia Medica, Shanghai, China*; ²*Waters Corporation, Milford, MA*

WOE pm 3:30 **Screening of Glutathione and Cyanide Adducts Using Precursor Ion and Neutral Loss Scans-Dependent Acquisition of Enhanced MS and MS/MS Spectra**; Hua-Fen Liu¹; Weiping Zhao²; Wenying Jian³; Elliott Jones¹; Mingshe Zhu²; ¹*AB SCIEX, Foster City, CA*; ²*Bristol-Myers Squibb, Princeton, NJ*; ³*Johnson & Johnson PRD, Raritan, NJ*

WOE pm 3:50 **Human Serum Albumin Cys34 Adducts as a Biomarker for Exposure to Unknown Reactive Chemicals**; Jian Cai; Frederick W. Benz; Donald E. Nerland; Harrell E. Hurst; William M. Pierce, Jr.; *University of Louisville, Louisville, KY*

WOE pm 4:10 **Reactive Intermediates in the Oxidative Pathway of Haloperidol to its Neurotoxic Pyridinium Metabolite Identified by On-Line Electrochemistry/ Mass Spectrometry**; Tove Johansson Mali'n^{1,2}; Lars Weidolf¹; Neal Castagnoli, Jr.³; Ulrik Jurva¹; ¹*AstraZeneca R&D Mölndal, Mölndal, Sweden*; ²*University of Gothenburg, Gothenburg, Sweden*; ³*Virginia Tech and The Edward Via Virginia College, Blacksburg, VA*

**2:30 – 4:30 PM, WEDNESDAY AFTERNOON
MS OF PHARMACEUTICALS AND
PERSONAL CARE PRODUCTS IN WATER**
Dil Ramanathan, presiding
Room: Hall 3

- WOF pm 2:30 **Pharmaceuticals and their Metabolites in Drinking-Water: Breaking the Part-Per-Trillion Concentration Barrier with LC/MS/MS;** Michael Thurman; Imma Ferrer; *University of Colorado, Boulder, CO*
- WOF pm 2:50 **Multi-Target Quantitation and General Unknown Screening for Pharmaceuticals and Personal Care Products in Water Samples Using LC/MS/MS;** Andre Schreiber; Nadia Pace; *AB SCIEX, Concord, Ontario, Canada*
- WOF pm 3:10 **Analysis of Steroids in Manufacturing Plant Waste Effluent by On-Line SPE/UPLC/MS/MS;** Claude Mallet¹; Alain Carrier²; Audrey Tousignant²; *Waters Corporation, Milford, MA*; ²*Sandoz Canada Inc, Boucherville, Quebec, Canada*
- WOF pm 3:30 **Utilizing On-Line Pre-Concentration with LC/MS/MS for the Quantification of Pharmaceuticals and Personal Care Products in Water at the ng/L Level;** Kevin J. Mchale¹; Mark Sanders²; ¹*Thermo Fisher, Somerset, NJ*; ²*Thermo Fisher Scientific, Somerset, NJ*
- WOF pm 3:50 **Improved Sensitivity of Direct Aqueous Sample Analysis with Thermally Assisted Desorption Electrospray Ionization Mass Spectrometry;** Ian Campbell; Alain Ton; Christopher Mulligan; *Illinois State University, Normal, IL*
- WOF pm 4:10 **Direct Detection of Pharmaceuticals and Personal Care Products Contaminants in Water with Desorption Electrospray Ionization;** Christopher Mulligan; Ian Campbell; *Illinois State University, Normal, IL*

**2:30 – 4:30 PM, WEDNESDAY AFTERNOON
MS AND SYSTEMS BIOLOGY**
Salvatore Sechi, presiding
Room: Hall 4

- WOG pm 2:30 **Quantification of Protein Copy Number and Robustness in the Store-Operated Calcium Signaling Network Using Selective Reaction Monitoring (SRM) Mass Spectrometry;** Ellen Abell¹; Paola Picotti²; Tobias Meyer¹; Ruedi Aebersold²; Mary Teruel¹; ¹*Chemical & Systems Biology, Stanford University, Stanford, CA*; ²*Institute for Molecular Systems Biology, ETH Zurich, Zurich, Switzerland*
- WOG pm 2:50 **Rapid Quantitation of mRNA, Proteins, and PTMs Applied to a Systems-Level Analysis of Human ES, iPS, and Fibroblast Cells;** Doug Phanstiel¹; Justin Brumbaugh¹; Craig Wenger¹; Danielle L Swaney¹; Gloria Kreitinger¹; Mark Tervo¹; Ron Stewart²; James A Thomson^{1,2}; Joshua J. Coon²; ¹*University of Wisconsin, Madison, WI*; ²*Morgridge Institute, Madison, WI*
- WOG pm 3:10 **A Global Protein Kinase and Phosphatase Interaction Network in Yeast;** Ashton Breitkreutz¹; Hyungwon Choi³; Jeff Sharom¹; Lorrie Boucher¹; Victor Neduva²; Brett Larsen¹; Zhen-Yuan Lin¹; Bobby-Joe Breitkreutz¹; Chris Stark¹; Guomin Liu¹; Alexey Nesvizhskii³; Michael Tyers^{1,2}; Anne-Claude Gingras¹; ¹*Samuel Lunenfeld Research Institute, Mount Sinai H,*

Toronto, Canada; ²*University of Edinburgh, Edinburgh, UK*; ³*University of Michigan, Ann Arbor, MI*

- WOG pm 3:30 **Soybean Root Hairs: Proteomics and Beyond;** Ljiljana Pasa-Tolic¹; Laurent Brechenmacher²; Tran Hong Nha Nguyen²; Marc Libault²; Kim K. Hixson¹; Marina Gritsenko¹; Therese Claus¹; Feng Yang¹; Gary Stacey²; ¹*Pacific NW Nat'l Lab, Richland, WA*; ²*National Center for Soybean Biotechnology, U of MO, Columbia, MO*; ³*Division of Biochemistry, University of Missouri, Columbia, MO*
- WOG pm 3:50 **Insight into Mammalian Protein Dynamics and Homeostasis by Characterization of Global Tissue Proteomes *in vivo* Using Stable Isotope Metabolic Labeling;** Shenheng Guan; John C. Price; Sina Ghaemmaghami; Stanley B. Prusiner; Alma L. Burlingame; *University of California, San Francisco, CA*
- WOG pm 4:10 **Systems Biology of Skin Disease – Effect of UV Irradiation and Contact Sensitizers on Keratinocytes;** Giridharan Gokulrangan¹; Pratima Karnik²; Yu Liu¹; Gaurav S.J.B.Rana¹; Kevin Cooper²; Mark Chance¹; ¹*Case Western Reserve University, Cleveland, OH*; ²*Department of Dermatology, University Hospitals, Cleveland, OH*

**4:45 – 5:30 PM, WEDNESDAY
ASMS MEETING
Wine and Beer, Awards and More!!
Ballroom ACE**

5:45 - 7:00 PM, WEDNESDAY WORKSHOPS. See page 21.

**8:30 – 10:30 AM, THURSDAY MORNING
ELECTRON AND PHOTON-BASED ION
ACTIVATION/DISSOCIATION-PD, ECD, ETD, EDD**
Jennifer Brodbelt, presiding
Room: Ballroom HJ

- ThOA am 08:30 **Top-Down Structural Analysis of 60-150 kDa Proteins with ETD-Based Tandem Mass Spectrometry;** Yury Tsybin¹; Hisham Ben Hamidane¹; Michael Groessl¹; Paul Dyson¹; Jovan Simicevic¹; Bart Deplancke¹; Sophie Nallet¹; Florian Wurm¹; Carsten Stoermer²; Ralf Hartmer²; ¹*Ecole Polytechnique Federale, Lausanne, Switzerland*; ²*Bruker Daltonics GmbH, Bremen, Germany*
- ThOA am 08:50 **Photodissociation and Activated-Electron Photodetachment Dissociation (Activated-EPD) for Structural Characterization of Sugar and Protein Polyanions;** Rodolphe Antoine¹; Vincent Larraillet¹; Aleksey Vorobyev²; Amandine Racaud¹; Claire Brunet¹; Yury O. Tsybin²; Jérôme Lemoine³; Philippe Dugourd¹; ¹*LASIM CNRS Univ Lyon 1, Villeurbanne, France*; ²*Ecole Polytechnique Federale, Lausanne, Switzerland*; ³*LSA CNRS Univ Lyon 1, Villeurbanne, France*
- ThOA am 09:10 **Travelling Wave Ion Mobility Mass Spectrometry of Electron Transfer Dissociation Products of Phosphopeptides: Evidence of Conformational Memory?** Helena Cooper¹; Jeff Brown²; Iain D G Campuzano²; Nick Tomczyk²; Andrew Creese¹; Jonathan P.

Williams²; ¹University of Birmingham, Birmingham, UK; ²Waters Micromass MS Technologies, Manchester, UK

ThOA am 09:30 **Elucidating the Mechanism of ECD by Direct Experimental Examination of Aminoketyl Intermediates**; Ryan R. Julian¹; Benjamin Moore²; Tony Ly; ¹University of California, Riverside, Riverside, CA; ²UC Riverside, Riverside, CA; ³University of California, Riverside, CA

ThOA am 09:50 **Negative Electron Transfer Dissociation Identifies Thousands of Acidic Peptides from Complex Mixtures**; Graeme Mcalister¹; Jason Russell¹; Neil Rumachik¹; Aaron Ledvina¹; John E. P. Syka²; Joshua J. Coon¹; ¹University of Wisconsin, Madison, WI; ²Thermo Fisher Scientific, Charlottesville, VA

ThOA am 10:10 **Use of High-Energy Fragment Ions Derived from Photodissociation to Improve Peptide Identification and Sequencing**; Youyou Yang; Xiaohui Liu; Liangyi Zhang; James P. Reilly; Indiana University, Bloomington, IN

**8:30 – 10:30 AM, THURSDAY MORNING
H/D EXCHANGE FOR
PROTEIN STRUCTURE AND FOLDING**
Thomas Jorgensen, presiding
Room: Ballroom ACE

ThOB am 08:30 **An Overview of Hydrogen/Deuterium Exchange Mass Spectrometry**; John R. Engen; Northeastern University, Boston, MA

ThOB am 08:50 **Structural Consequences of Loss of Metal from ALS-Associated SOD1 Variant Characterized Using Top-Down Mass Spectrometric Hydrogen/Deuterium Exchange**; Qi Wang; Qian Liu; Jennifer S. Cobb; Jared R. Auclair; Jeffrey Agar; Brandeis University, Waltham, MA

ThOB am 09:10 **Hydrogen Deuterium Exchange Mass Spectrometry Applied to the Characterization of Proteins of Therapeutic Interest**; Michael J. Chalmers¹; Scott Novick¹; Xi Zhang¹; Scooter Willis¹; Bruce D. Pascal¹; Ellen Y.T. Chien²; Raymond C. Stevens²; John E. Toth³; Jeffrey A. Dodge³; Patrick R. Griffin¹; ¹Scripps Florida, Jupiter, FL; ²The Scripps Research Institute, La Jolla, CA; ³Lilly Research Laboratories, Indianapolis, IN

ThOB am 09:30 **Conformational Basis for the Drug Inhibition and Resistance Mechanism of KIT Tyrosine Kinase, Determined by H/D Exchange FT-ICR MS**; Hui-Min Zhang¹; Xiu Yu²; Michael Greig²; Ketan S. Gajiwala²; Joe C. Wu³; Elizabeth A. Lunney²; Wade Diehl²; Mark R. Emmett^{1,4}; Alan G. Marshall^{1,4}; ¹Nat'l High Magnetic Field Lab, Tallahassee, FL; ²Pfizer Global R&D- La Jolla, San Diego, CA; ³Pfizer-Cambridge, Cambridge, MA; ⁴Florida State University, Tallahassee, FL

ThOB am 09:50 **Structural Characterization of Short-Lived Protein Folding Intermediates by Hydrogen Exchange Mass Spectrometry with Top-Down Electron Capture Dissociation**; Jingxi Pan²; Jun Han³; Christoph Borchers⁴; Lars Konermann¹; ¹Univ. of Western Ontario, London, CANADA; ²University of Western Ontario, London, ON; ³University of Victoria-Genome BC Proteomics Centre, Victoria, BC; ⁴UVic-GBC Proteomics Centre, Victoria, BC

ThOB am 10:10 **Conformational Dynamics of the Full Membrane Bovine Mitochondrial ADP/ATP Carrier Revealed by HDX MS Measurements**; Martial Rey³; Petr Man^{1,2}; Gerard Brandolin³; Ludovic Pelosi³; Eric Forest¹; ¹Inst. for Structural Biology, Grenoble, France; ²Institute of Microbiology, Prague, Czech Republic; ³LBBSI, iRTSV, CEA, Grenoble, France

**8:30 – 10:30 AM, THURSDAY MORNING
RECENT DEVELOPMENTS IN ION MOBILITY MS**
Julie Leary, presiding
Room: Ballroom BDF

ThOC am 08:30 **Mobility Measurement Non-Denatured Protein and Protein Cluster Ions by DMA-MS**; Chris Hogan¹; Juan Fernandez De La Mora²; ¹University of Minnesota, Minneapolis, MN; ²Yale University, New Haven, CT

ThOC am 08:50 **Chemical Effects in Differential Mobility Spectrometry/Mass Spectrometry**; Bradley B. Schneider¹; Thomas Covey¹; Stephen L. Coy²; Evgeny V. Krylov²; Erkinjon Nazarov³; ¹AB SCIEX, Concord, Canada; ²Sionex Corp., Bedford, MA; ³Sionex, Bedford, MA

ThOC am 09:10 **A Novel, Modular Ion Mobility Drift Cell**; Ryan Blase; Chaminda M. Gamage; Joshua Silveira; David H. Russell; Texas A&M University, College Station, TX

ThOC am 09:30 **Gas-Phase Structural Biology: Measuring and Interpreting Collision Cross Sections**; Matthew F. Bush¹; Zoe Hall¹; Kevin Giles²; John Hoyes²; Andrew J. Baldwin³; Justin L.P. Benesch¹; Brandon T. Ruotolo⁴; Carol V. Robinson¹; ¹Dept of Chemistry, University of Oxford, Oxford, UK; ²Waters Corporation, Manchester, UK; ³Dept of Chemistry, University of Toronto, Toronto, Canada; ⁴Dept of Chemistry, University of Michigan, Ann Arbor, MI

ThOC am 09:50 **Alternatives in IMS-MS - Total Solvent-Free Analysis and Structures of Highly Charged Laserspray Ions**; Sarah Trimpin; Wayne State University, Detroit, MI

ThOC am 10:10 **Assembly and Conformational Properties of DNA- and RNA-Protein Complexes Studied by Native T-Wave Ion Mobility Mass Spectrometry**; Frank Sobott; CeProMa, University of Antwerp, Antwerp, Belgium

**8:30 – 10:30 AM, THURSDAY MORNING
METABOLOMICS: BIOINFORMATICS AND
METABOLITE IDENTIFICATION**
Gary Siuzdak, presiding
Room 155

ThOD am 08:30 **metaXCMS - Software for Second-Order Analysis of Untargeted Metabolomics Data**; Ralf Tautenhahn; Gary J Patti; Gary Siuzdak; The Scripps Research Institute, La Jolla, CA

ThOD am 08:50 **Identification of Unknown Metabolites by Accurate Mass GC-TOF MS – Based Metabolomics**; Sangeeta Kumari²; Doug Stevens¹; Tobias Kind³; Oliver Fiehn⁴; ¹WATERS The Science of What's Possible.™, Milford, MA; ²Metabolomics Fiehn Lab, Genome centre, UC Davis, Davis, CA; ³UC Davis - Metabolomics, Davis, CA; ⁴UC Davis, Davis, CA

ThOD am 09:10 **A Rigorous Probabilistic Approach to the Modeling of LC-MS Metabolomic Data**; Andreas Ipsen; Elizabeth J Want; Timothy Ebbels; Imperial College London, London, UK

- ThOD am 09:30 **New Automated Software for Biomarker Discovery with High Resolution LC-MS Data;** Serhiy Hnatyshyn²; Michael Reily²; Petia Shipkova; Thomas McClure¹; Jules Phillips¹; Mark Sanders¹; ¹*Thermo Fisher Scientific, San Jose, CA*; ²*Bristol Myers Squibb, Princeton, NJ*
- ThOD am 09:50 **Robotized Video-Mass Scope for Direct and Live Single-cell Molecular Exploration;** Tsutomu Masujima¹; Naohiro Tsuyama¹; Hajime Mizuno¹; Takanori Harada¹; Iwao Sakane²; ¹*Hiroshima Univ. BioMed., Hiroshima, Japan*; ²*ITO EN Co. Ltd., Makinohara, Japan*
- ThOD am 10:10 **Impact of Storage and Handling Conditions on Metabolites in a Human Plasma Standard Reference Material;** Gauthier Eppe¹; Nathan G. Dodder²; Katrice A. Lipka²; Karen W. Phinney²; Michele M. Schantz²; ¹*Liege University, Liège, Belgium*; ²*NIST, Gaithersburg, MD*

**8:30 – 10:30 AM, THURSDAY MORNING
AUTOMATED AND POST-ACQUISITION SOFTWARE
TOOLS FOR XENOBIOTIC METABOLITES
Jimmy Flarakos, presiding
Room: Hall 2**

- ThOE am 08:30 **Identification of Metabolites from Maropitant Using a Dual-Cell Linear Ion Trap and Mass Frontier Software;** Rose Herbold¹; Yingying Huang¹; David Nakamura²; ¹*Thermo Fisher Scientific, San Jose, CA*; ²*Elan Pharmaceuticals, South San Francisco, CA*
- ThOE am 08:50 **Fast Oxidative Metabolite Identification Using Polarity Switching of Intensity-Dependent MS/MS Spectral Acquisition and Post-Acquisition Data-Mining on an Improved Q-TRAP Instrument;** Ming Yao; Mingshe Zhu; *Bristol-Myers Squibb, Princeton, NJ*
- ThOE am 09:10 **MeTABOOlite Identification from Trap to ToF; Automated Software Tools to Get All the Answers You Need;** Gary Impey²; Tanya Gamble¹; Hesham Ghobarah²; Mark M. Garner²; J.C. Yves Leblanc¹; ¹*AB SCIEX, Concord, ON, Canada*; ²*AB/ SCIEX, Concord, ON*
- ThOE am 09:30 **Metabolite Detection and Identification Using Fragment Ion Search in Conjunction with Automated Fragment Prediction;** Juraj Lutisan¹; Yingying Huang²; Alexej Nikiforov³; Milos Suchy¹; Robert Mistrik¹; ¹*HighChem, Ltd., Bratislava, Slovakia*; ²*Thermo Fisher Scientific, San Jose, CA*; ³*University of Vienna, Vienna, Austria*
- ThOE am 09:50 **Positive Negative Switching on a QTOF: Application to Drug Metabolite Identification and Metabolomics;** William Fitch¹; Lester Taylor²; Kenneth Imatani²; ¹*Stanford University, Palo Alto, CA*; ²*Agilent Technologies, Santa Clara, CA*
- ThOE am 10:10 **Screening Foods for Unknown Chemical Contaminants by Non-Targeted LC/MSⁿ Analysis;** Timothy R. Croley¹; Kevin D. White¹; Jon Wong¹; John H. Callahan¹; Steve Musser¹; Margaret Antler²; Vitaly Lashin²; Graham A. McGibbon²; ¹*US FDA, College Park, MD*; ²*ACD/Labs, Toronto, ON*

**8:30 – 10:30 AM, THURSDAY MORNING
DRIED BLOOD SPOT ANALYSIS
Fabio Garofolo, presiding
Room: Hall 3**

- ThOF am 08:30 **Implementation of a Microfluidic LC Device for Dried Blood Spot Analysis – Driving Down the Limit of Detection;** Christopher A. Evans¹; Chester L. Bowen¹; Jonathan Kehler¹; Rob Plumb²; Paul Rainville²; ¹*GlaxoSmithKline, King of Prussia, PA*; ²*Waters, Milford, MA*
- ThOF am 08:50 **Application of Automated Serial Blood Sampling in Mice and Dried Blood Spot Technique Using LC-MS/MS for Pharmacokinetic Studies;** Roger Pham; *Amgen, Inc., Thousand Oaks, CA*
- ThOF am 09:10 **A uHPLC-MS/MS Assay for the Analysis of Omeprazole in Rat Blood Using Dried Blood Spots;** Heidi Snapp; Guowen Liu; Qin Ji; Mark E. Arnold; *Bristol-Myers Squibb Co., Princeton, NJ*
- ThOF am 09:30 **Liquid Extraction Surface Analysis (LESA) of Dried Blood Spot Cards via Chip-Based Nanoelectrospray for Drug and Drug Metabolite Monitoring Studies;** Christopher Alpha¹; Daniel Eikel¹; Jason Vega¹; Jack D. Henion²; Simon J. Prosser¹; ¹*Advion BioSystems, Inc., Ithaca, NY*; ²*Advion BioSciences, Inc, Ithaca, NY*
- ThOF am 09:50 **Direct Quantitative Bioanalysis of Drugs in Dried Blood Spot Samples;** Paul Abu-Rabie¹; Neil Spooner¹; Matthias Loppacher²; ¹*GlaxoSmithKline R&D Ltd, Ware, UK*; ²*Camag, Muttenz, Switzerland*
- ThOF am 10:10 **Quantitative Analysis of Dried Blood Spots by DART (Direct Analysis in Real Time) /MS/MS without Sample Preparation;** Justin Gordon¹; Elizabeth Crawford²; Jing-Tao Wu¹; Brian D. Musselman²; Ming-xiang Liao¹; Bei-Ching Chuang¹; Cindy Xia¹; David Ho³; Lily Li³; Shaoxia Yu¹; ¹*Millennium Pharmaceuticals, Inc., Cambridge, MA*; ²*IonSense, Inc., Saugus, MA*; ³*TandemLabs, Woburn, MA*

**8:30 – 10:30 AM, THURSDAY MORNING
MS AND CELLULAR PATHWAYS
Ileana Cristea, presiding
Room: Hall 4**

- ThOG am 08:30 **Pathway Analysis and Characterization of Novel Downstream Effectors of the mTORC1/S6K Signaling Axis by Quantitative Phosphoproteomics;** Yonghao Yu; Sang-Oh Yoon; Qian Yang; Xiaojun Max Ma; Judit Villen; John Blenis; Steven P. Gygi; *Harvard Medical School/Department of Cell Biology, Boston, MA*
- ThOG am 08:50 **Pathway Analysis Reveals Apoptosis as a Regulator of Breast Cancer Induced Myeloid-Derived Suppressor Cells;** Olesya Chornoguz¹; Lydia Grmai¹; Pratima Sinha¹; Konstantin Artemenko³; Roman Zubarev²; Suzanne Ostrand-Rosenberg¹; ¹*University of Maryland Baltimore County, Baltimore, MD*; ²*Karolinska Institutet, Stockholm, Sweden*; ³*Uppsala University, Uppsala, Sweden*
- ThOG am 09:10 **Functional and Mass Spectrometric Analysis of Histone Deacetylase 5 (HDAC5) Phosphorylation and Protein-Protein Interactions;** Fang Yu; Todd M. Greco; Amanda J. Guise; Ileana M. Cristea; *Princeton University, Princeton, NJ*

- ThOG am 09:30 **A Targeted Protein-Protein “Interact-ome” of Components in the Insulin Signaling Pathway in *Drosophila* and Compared to Human Cancer Cells**; John M. Asara^{1,2}; Meghana Kulkarni²; Xuemei Yang¹; Adam Friedman²; Norbert Perrimon²; Jeffrey Engelman³; ¹*Beth Israel Deaconess Medical Center, Boston, MA*; ²*Harvard Medical School, Boston, MA*; ³*Massachusetts General Hospital, Charlestown, MA*
- ThOG am 09:50 **Time-Resolved Proteomic and Genomic Studies Reveal that Replication Fork Progression is Remarkably Uniform Throughout the Yeast Genome**; Matthew Sekedat¹; David Fenyo¹; Richard Rogers²; Alan Tackett³; John Aitchison²; Brian Chait¹; ¹*The Rockefeller University, New York, NY*; ²*Institute for Systems Biology, Seattle, WA*; ³*UAMS Biochemistry & Molecular Biology, Little Rock, AR*
- ThOG am 10:10 **Quantitative Phosphoproteomics Identifies Transient Signaling in the FAK-ERK Axis as a Novel Molecular Determinant of Embryonic Stem Cell Differentiation**; Yu Lu^{1,2}; Dita Mayerova³; Scott B. Ficarro¹; Yi Zhang¹; Manor Askenazi¹; Jignesh R. Parikh¹; C. John Luckey³; Jarrod A. Marto^{1,2}; ¹*Dana-Farber Cancer Institute, Boston, MA*; ²*Harvard Medical School, Boston, MA*; ³*Brigham and Women's Hospital, Boston, MA*

**10:30 AM – 2:30 PM, THURSDAY
POSTER SESSION. See page 135.
Exhibit Hall ABCDE**

**2:30 – 4:30 PM, THURSDAY AFTERNOON
FUNDAMENTALS: ION-SURFACE INTERACTIONS
AND PREPARATIVE MS
Guido Verbeck, presiding
Room: Ballroom HJ**

- ThOA pm 2:30 **Soft Landing of Gas-Phase Ions: An Overview**; Frantisek Turecek; *University of Washington, Seattle, WA*
- ThOA pm 2:50 **Preparation of Monolayer Catalytic Materials on Surfaces in Vacuum Using Ion Soft Landing Method**; Wen-Ping Peng¹; Grant Johnson²; Peng Wang²; Omar Hadjar²; Julia Laskin²; R. Graham Cooks³; ¹*National Dong Hwa University, Shoufeng, Hualien, Taiwan*; ²*Pacific Northwest National Laboratory, Richland, WA*; ³*Purdue University, West Lafayette, IN*
- ThOA pm 3:10 **Surface Ion Modification and Characterization of Muscovite by Laser Ablated Carbon and Transition Metal Clusters Using Soft Landing Ion Mobility**; Stephen Davila; William Hoffmann; David Birdwell; Guido F. Verbeck; *University of North Texas, Denton, TX*
- ThOA pm 3:30 **Fundamental Studies of Molecular Depth Profiling and 3-D Imaging with ToF-SIMS and Cluster Ions**; Caiyan Lu; Nick Winograd; *Penn State University, University Park, PA*
- ThOA pm 3:50 **Computer Simulation of Depth Profiling in Secondary Ion Mass Spectrometry (SIMS)**; Barbara J. Garrison; *Penn State University, University Park, PA*
- ThOA pm 4:10 **Determinants of Surface-Induced Dissociation and Collision-Induced Dissociation Behavior in**

Noncovalent Protein Ensembles; Eric D. Dodds; Anne E. Blackwell; Christopher M. Jones; Vicki H. Wysocki; *University of Arizona, Tucson, AZ*

**2:30 – 4:30 PM, THURSDAY AFTERNOON
BIOMOLECULAR STRUCTURE
Mark Chance, presiding
Room: Ballroom ACE**

- ThOB pm 2:30 **Structural Analysis of Macro-Molecular Protein Complexes Using Chemical Cross-Linking and Mass Spectrometry**; Franz Herzog¹; Alexander Leitner¹; Thomas Walzthöni¹; Friedrich Förster²; Roman Jakob³; Timm Maier³; Martin Beck⁴; Ruedi Aebersold¹; ¹*Swiss Institute of Technology, IMSB, Zurich, Switzerland*; ²*Max Planck Institut, Munich, Germany*; ³*Swiss Institute of Technology, IMB, Zurich, Switzerland*; ⁴*European Molecular Biology Laboratory, Heidelberg, Germany*
- ThOB pm 2:50 **The Gating Mechanism of a Potassium Channel Probed by Structural Mass Spectrometry**; Sayan Gupta¹; Rhijuta D'Mello¹; Vassily N. Bavro²; Stephen J. Tucker²; Catherine Vénien-Bryan²; Mark R. Chance¹; ¹*Case Western Reserve University, Upton, NY*; ²*University of Oxford, Oxford, UK*
- ThOB pm 3:10 **Exploring the Mechanisms of Protein Folding and Subunit Assembly by Pulsed Oxidative Labeling and ESI-MS**; Bradley B. Stocks; Lars Konermann; *Univ of Western Ontario, London, Canada*
- ThOB pm 3:30 **Structural Similarities and Differences of Human Apolipoprotein E2, E3, and E4, Determined by Chemical Footprinting and Mass Spectrometry**; Brian C. Gau¹; Richard Yu-Cheng Huang¹; Kanchan Garai²; Carl Frieden²; Michael L. Gross¹; ¹*Washington University, St. Louis, MO*; ²*Washington University School of Medicine, St. Louis, MO*
- ThOB pm 3:50 **Analysis of a 670 kDa Multiprotein Complex by Cross-Linking and Mass Spectrometry**; Zhuo Chen¹; Lutz Fischer¹; Anass Jawhari²; Claudia Buchen²; Salman Tahir¹; Tomislav Kamenski²; Morten Rasmussen¹; Laurent Larivière²; Jimi-Carlo Bukowski-Wills^{1,3}; Michael Nilges⁴; Patrick Cramer²; Juri Rappsilber¹; ¹*Wellcome Trust Centre for Cell Biology, Edinburgh, UK*; ²*Ludwig-Maximilians-Universität, Munich, Germany*; ³*Centre for Systems Biology, Edinburgh, UK*; ⁴*Institut Pasteur, Paris, France*
- ThOB pm 4:10 **A Stable Isotope Labeling Strategy for Protein-Ligand Binding Analysis in Multi-Component Protein Mixtures**; Patrick D. Dearmond; Graham M. West; Michael C. Fitzgerald; *Duke University, Durham, NC*

**2:30 – 4:30 PM, THURSDAY AFTERNOON
PEPTIDE ION FRAGMENTATION**

**Michael Van Stipdonk, presiding
Room: Ballroom BDF**

- ThOC pm 2:30 **Threshold Collision Induced Dissociation Measurements of Protonated Peptides;** Peter B. Armentrout²; Abhigya Mookherjee²; Stephanie Curtice¹; Drew Heide¹; Michael J. Van Stipdonk¹; ¹Wichita State University, Wichita, KS; ²University of Utah, Salt Lake City, UT
- ThOC pm 2:50 **Dependence of Head-to-Tail Cyclization on Primary Structure of Peptides in Collision-Induced Dissociation: The Case of QWFGML b₆;** Xian Chen¹; Jeffrey Steill²; Jos Oomens^{2,3}; Nicolas Polfer¹; ¹University of Florida, Gainesville, FL; ²FOM Rijnhuizen, Nieuwegein, Netherlands; ³University of Amsterdam, Amsterdam, Netherlands
- ThOC pm 3:10 **Exploration and Enhancement of Enzymatic and Chemical Peptide Modification Strategies for Optimizing Fragmentation by Electron Transfer Dissociation;** A. Michelle English; Jeremy Balsbaugh; Jeffrey Shabanowitz; Donald F. Hunt; *University of Virginia, Charlottesville, VA*
- ThOC pm 3:30 **Fragmentation Chemistry of Phosphorylated and De-Phosphorylated, Protonated Peptides;** Benjamin J. Bythell²; Sam Molesworth¹; Sarah Young¹; Christopher L. Hendrickson³; Alan G. Marshall³; Michael J. Van Stipdonk¹; Bela Paizs²; ¹Wichita State University, Wichita, KS; ²DKFZ, Heidelberg, Heidelberg, Germany; ³National High Magnetic Field Laboratory, Tallahassee, FL
- ThOC pm 3:50 **Insights into Histidine-Containing Peptide b₂+Ion Formation and Structure Using IRMPD Spectroscopy and Fragment Ion Hydrogen-Deuterium Exchange;** Ashley Gucinski¹; Julia Chamot-Rooke²; Arpad Somogyi¹; Brittany R. Perkins¹; Sung Hwan Yoon¹; Vicki H. Wysocki¹; ¹The University of Arizona, Tucson, AZ; ²CNRS, Palaiseau, France
- ThOC pm 4:10 **Cyclization and Rearrangement Reactions of a_n Ions of Protonated Peptides;** Bela Paizs¹; Benjamin Bythell³; Philippe Maitre²; ¹DKFZ, Heidelberg, Heidelberg, Germany; ²Laboratoire de Chimie Physiq, Orsay, France; ³NHMFL/FSU, Tallahassee, FL

**2:30 – 4:30 PM, THURSDAY AFTERNOON
NOVEL DEVELOPMENTS IN INSTRUMENTATION**

**Zheng Ouyang, presiding
Room 155**

- ThOD pm 2:30 **Elemental Analysis by Distance-of-Flight MS and Array Detection;** Christie G. Enke¹; Steven Ray²; Alexander W. Graham²; Gary M. Hieftje²; David W. Koppenaal³; Charles J. Barinaga³; ¹University of New Mexico, Albuquerque, NM; ²Indiana University, Bloomington, IN; ³Pacific Northwest Nat'l Laboratory, Richland, WA
- ThOD pm 2:50 **Discontinuous Atmospheric Pressure Interface for Mass Spectrometry Instrumentation: Theory, Development and Application;** Wei Xu; Matthew Kirleis; Nickolas Charipar; Yu Xia; William Chappell; Zheng Ouyang; *Purdue University, West Lafayette, IN*
- ThOD pm 3:10 **Time-Resolved Liquid Jet Desorption Electrospray Ionization-Mass Spectrometry**

(DESI-MS); Zhixin Miao; Hao Chen; *Ohio University, Athens, OH*

- ThOD pm 3:30 **Development of a Portable Mass Spectrometer for Operation at 1 Torr;** Glen Jackson; *Ohio University, Athens, OH*
- ThOD pm 3:50 **Transmission Geometry Profiling / Imaging Mass Spectrometry with Sub-Cellular Resolution;** Andrey I Zavalin; Richard M. Caprioli; *Vanderbilt Univ Sch of Med, Nashville, TN*
- ThOD pm 4:10 **Sub-Attomole Detection Limits Using Enhanced Ion-Funnel Technology on a Triple Quadrupole Mass Spectrometer;** George Stafford^{1,2}; Tim Schlachach¹; Anabel Fandino¹; ¹Agilent Technologies, Santa Clara, CA

**2:30 – 4:30 PM, THURSDAY AFTERNOON
QUANTITATION OF ENDOGENOUS ANALYTES IN REGULATED BIOANALYSIS**

**Rick Steenwyk, presiding
Room: Hall 2**

- ThOE pm 2:30 **Challenges and Key Considerations for Mass Spectrometry-Based Quantitation of Biomarkers in the Clinical Setting;** Joe Lin; Eddie Takahashi; Rick Steenwyk; *Pfizer, Groton, CT*
- ThOE pm 2:50 **Parallelism and Response Factor Considerations for LC/MS Biomarker Assay Validation Using Surrogate Matrix and Surrogate Analyte Approaches;** Barry R. Jones²; Gary Schultz¹; Steve Lowes³; James A Eckstein⁴; Barry Lutzke⁵; Bradley L. Ackermann⁵; ¹Advion BioServices, Inc., Ithaca, NY; ²Advion Biosciences, Ithaca, NY; ³Advion BioSciences, Inc., Ithaca, NY; ⁴Eli Lilly, Greenfield, IN; ⁵Eli Lilly & Company, Indianapolis, IN
- ThOE pm 3:10 **Ultra-Low Detection Limits of Quinolinic Acid and Kynurenine via Gas Chromatography-Tandem Mass Spectrometry;** Francesca Notarangelo²; David Graham³; Robert Schwarcz²; Anthony Macherone¹; ¹Agilent Technologies, Wilmington, DE; ²Maryland Psychiatric Research Center, Baltimore, Maryland; ³Johns Hopkins School of Medicine, Baltimore, Maryland
- ThOE pm 3:30 **Application of a Conjugate Matrix and UHPLC-MS/MS Detection for the Determination of Eicosapentaenoic and Docosahexaenoic Acid in Human Plasma;** Chester L Bowen; Christopher A. Evans; Jonathan Kehler; *GlaxoSmithKline, King of Prussia, PA*
- ThOE pm 3:50 **Chemometric Optimization of LC-MS/MS Method for Quantification of the Biomarker Leukotrine B₄ for Support of Gene-to-Clinic Drug Discovery Approach;** Margrét Thorsteinsdóttir¹; Baldur Bragi Sigurdsson²; Gisli Bragason²; Ólafur Magnússon³; ¹University of Iceland, Reykjavik, Iceland; ²ArcticMass, Reykjavik, Iceland; ³deCODE genetics, Reykjavik, Iceland
- ThOE pm 4:10 **Application of 2-D Nanospray Techniques for Improved Sensitivity in the Analysis of Adrenal Steroids in Plasma;** Kenneth Lewis¹; Thurman Allsup¹; Gary Valaskovic²; ¹OpAns, LLC, Durham, NC; ²New Objective, Inc., Woburn, MA

**2:30 – 4:30 PM, THURSDAY AFTERNOON
LASER/SURFACE DESORPTION
TECHNIQUES FOR ADME
Shuguang Ma, presiding
Room: Hall 3**

- ThOF pm 2:30 **Mass Spectrometry of Organic Molecules and Laser-Induced Acoustic Desorption: Applications, Mechanisms and Perspectives;** Alexander Zinovev; Igor Veryovkin; Michael Pellin; *Argonne National Laboratory, Argonne, IL*
- ThOF pm 2:50 **Liquid Extraction Surface Analysis (LESA) Combined with nESI-MS as a Novel Tool in Early ADME Studies of Drug Candidates;** Daniel Eikel; Christopher Alpha; Geoffrey S. Rule; Simon J. Prosser; Jack D. Henion; *Advion BioSystems, Inc., Ithaca, NY*
- ThOF pm 3:10 **LDTD384-MS/MS for *in vitro* Assays : Different Buffer Environment;** Patrice Tremblay¹; Pierre Picard¹; Serge Auger¹; Grégory Blachon²; ¹*Phytronix Technologies, Quebec, Canada*; ²*Université Laval, Québec, QC*
- ThOF pm 3:30 **High-Sensitivity MALDI-MRM-MS Imaging Applied to Determine the Penetration of Multiple Fluoroquinolone Drugs into Tuberculosis Lung Granulomas;** Brendan Prideaux¹; Dieter Staab¹; Anne Goh²; Veronique Dartois²; Peiting Zheng²; Hui Qing Ang²; Maxime Herve²; Clifton E Barry³; Laura Via³; Danielle Weiner³; Daniel Schimel³; Emmanuel K Dayao³; Markus Stoeckli¹; ¹*Novartis Institutes for BioMedical Research, Basel, Switzerland*; ²*Novartis Institute for Tropical Diseases, Singapore, Singapore*; ³*National Institutes of Health, Bethesda, MD*
- ThOF pm 3:50 **MALDI Imaging of Distribution of Xanthohumol and Its Metabolites in Rat Tissues;** Henry Y. Shion³; Dejan Nikolic¹; Birgit Dietz²; Guido Pauli²; Brian Wright¹; Ghenet Hagos²; Daniel Lantvit²; Alan L Millar³; John P. Shockcor³; Richard B. van Breemen¹ ¹*University of Illinois College of Pharmacy, Chicago, IL*; ²*University of Illinois, UIC/NIH Botanical Center, Chicago, IL*; ³*Waters Corp., Milford, MA*
- ThOF pm 4:10 **Chemosensitive Screening for Homocysteine and Related Endogenous Sulfhydryl Biomarkers in Blood and Urine Using Surface-Enhanced Transmission Mode Desorption Electrospray Ionization;** Joe Chipuk; Jennifer Brodbelt; *The University of Texas, Austin, TX*

**2:30 – 4:30 PM, THURSDAY AFTERNOON
MS OF MEMBRANE PROTEINS
Christine Wu, presiding
Room: Hall 4**

- ThOG pm 2:30 **Quantitatively Probing Cellular Membrane Proteome Dynamics Using Membrane-Impermeable Chemical Probes and Proteomics Analysis;** Haizhen Zhang; Wei-Jun Qian; Tao Liu; Roslyn N. Brown; Matthew E. Monroe; Samuel O. Purvine; Ronald J. Moore; Liang Shi; Margaret F. Romine; James K. Fredrickson; William B. Chrisler; Steven H. Wiley; Ljiljana Paša-Tolić; Richard D. Smith; Mary S. Lipton; *PNNL, Richland, WA*
- ThOG pm 2:50 **Glycan Determination on Human Embryonic Stem Cell Membrane Proteins;** Hyun Joo An¹; Phung Gip²; Jaehan Kim¹; Shuai Wu¹; David Schaffer²; Carolyn Bertozzi²; Carlito Lebrilla¹;

¹*University of California, Davis, Davis, CA*;
²*University of California, Berkeley, Berkeley, CA*
A Multiplexed SRM Method to Monitor Membrane Protein Knockdown Using Viral Delivery of shRNA in Neuro 2A Cells; Santiago E. Farias²; Amy Lasek¹; Paula L. Hoffman²; Christine C. Wu²; ¹*Ernest Gallo Clinic and Research Center, UCSF, San Francisco, CA*;
²*University of Colorado School of Medicine, Aurora, CO*

- ThOG pm 3:10
- ThOG pm 3:30 **Using MALDI-TOF-MS to Probe Protein-Ligand Interactions of G-Protein Coupled Receptors Incorporated into Stable Polymerized Planar Supported Lipid Bilayers;** Erin Johnson; James R. Joubert; S. Scott Saavedra; Vicki H. Wysocki; *University of Arizona, Tucson, AZ*
- ThOG pm 3:50 **Phospholipid Bilayer Nanodiscs as a Platform for Integral Membrane Protein Analysis by Hydrogen Exchange Mass Spectrometry;** Chris Morgan¹; Christine Hebling²; Kasper Rand¹; James Jorgenson²; Darrel Stafford²; John R. Engen¹; ¹*Northeastern University, Boston, MA*;
²*University of North Carolina, Chapel Hill, NC*
- ThOG pm 4:10 **V-Type ATPases: What Can We Learn from Mass Spectrometry?** Min Zhou¹; Nelson Barrera²; Nina Morgner¹; Carol Robinson¹;
¹*University of Oxford, Oxford, UK*; ²*University of Santiago de Chile, Santiago, Chile*

**4:45 – 5:30 PM, THURSDAY
PLENARY LECTURE
Hall 4**

- 4:45 pm **Molecular Approaches to Understanding Human Uniqueness**



Svante Pääbo, *Max Planck Institute for Evolutionary Anthropology*

**5:30 - 6:00 PM, THURSDAY
FAREWELL TOAST
Hall 4**

MONDAY POSTERS

7:30 – 8:00 am..... All Monday posters should be set
 10:30 am – 2:30 pm..... All poster authors should be present
 11:45 am – 12:15 pm.....Lunch break for odd-numbered posters
 12:15 – 12:45 pm Lunch break for even-numbered posters
 7:30 – 8:00 pmRemove all Monday posters

Special Posters 1 – 5

Bioinformatics, 001 – 031
 Proteins: General, 032 – 063
 Proteomics: Protein Sequencing, 064 – 076
 Proteomics: Covalent Labeling, 077 – 092
 Proteomics: New Approaches I, 093 – 117
 MS of Glycoprotein I, 118 – 141
 Quantitative Proteomics I, 142 – 176
 Peptide Quantitation: Applications, 177 – 202
 Biomarker Discovery I, 203 – 232
 Peptides PTM, 233 – 254
 Microbial Analysis, 255 – 276
 Lipids I, 277 – 299
 Clinical Chemistry, 300 – 321
 Metabolomics I, 322 – 348
 Small Molecule Quantitation I, 349 – 378
 LC/MS, 379 – 407
 Drug Biotransformation I, 408 – 428
 Dried Blood Spot Analysis, 429 – 439
 Drug Metabolism: Quantitation, 440 – 463
 Environmental Analysis: General, 464 – 480
 Atmospheric/Aerosol Chemistry, 481 – 486
 Hydrocarbon & Petrochemical: General, 487 – 510
 Elemental Analysis, 511 - 518
 Isotope Ration MS, 519 – 531
 Imaging MS: Method Development I, 532 – 556
 Direct Ionization: Applications, 557 – 574
 Ionization Mechanisms, 575 – 600
 Ion Sources: ESI, 601 – 619
 Ion Activation/Dissociation: ECD/ETD, 620 – 633
 Ion Activation/Dissociation, 634 – 650
 Instrumentation: FTMS, 651 – 664

Special posters will be displayed Monday through Thursday, except as noted.

Special 1 **Mass Spectrometry for the Masses: Creative Educational Approaches for Mass Spectrometry;** Donald H. Chace¹; O. David Sparkman²; ¹*Pediatrics Analytical, Pittsburgh, PA*; ²*University of the Pacific, Antioch, CA*

Special 2 **Using the NCBI Peptidome Repository;** Douglas Slotka; *NLM/NCBI, Bethesda, MD*

Special 3 **ABRF sPRG2010 Study: Multi-Laboratory Evaluation of a Phosphopeptide Standard for Proteomics;** James Farmar¹; Christopher Colangelo²; Alexander R. Ivanov³; Chris Kinsinger⁴; Jeffrey A. Kowalak⁵; Karl Mechtler⁶; Brett Phinney⁷; Manfred R. Raida⁸; Susan T. Weintraub⁹; ¹*U. of Virginia, Charlottesville, VA*; ²*Yale University, New Haven, CT*; ³*Harvard University HSPH, Boston, MA*; ⁴*NIST, Gaithersburg, MD*; ⁵*NIH, Bethesda, MD*; ⁶*IMP Research Institute of Mo, Vienna, Austria*; ⁷*University of CA, Davis, Davis, CA*; ⁸*Experimental Therapeutics Ce, Singapore, Singapore*; ⁹*University of Texas HSC, San Antonio, TX*

Special 4 **ABRF iPRG2010 Study: Informatic Evaluation of Phosphopeptide Identification and Phosphosite Localization Results from Multiple Proteomics Laboratories;** Paul Rudnick¹; Manor Askenazi²; Karl R. Clauser³; William S. Lane⁴; Lennart Martens⁵; W.

Hayes McDonald⁶; Philipp Mertins³; Karen Meyer-Arendt⁷; Brian C. Searle⁸; Jeffrey A. Kowalak⁹; ¹*NIST, Gaithersburg, MD*; ²*Dana-Farber Cancer Institute and Hebrew University, Boston, MA*; ³*Broad Institute of MIT and Harvard, Cambridge, MA*; ⁴*Harvard University, Cambridge, MA*; ⁵*Universiteit Gent, Gent, Belgium*; ⁶*Vanderbilt University, Nashville, TN*; ⁷*University of Colorado, Boulder, CO*; ⁸*Proteome Software Inc, Portland, OR*; ⁹*NIH, Bethesda, MD*

Special 5 **The Evolution of Mass Spectrometry: 1910 to 1940;** Michael A. Grayson; *Retired, St Charles, MO*

BIOINFORMATICS, 001 - 031

MP 001 **Peptide Identification from Mixture Tandem Mass Spectra;** Jian Wang¹; Philip Bourne²; Nuno Bandeira³; ¹*Bioinformatics Program, UCSD, La Jolla, CA*; ²*SSPPS, SDSC, UCSD, La Jolla, CA*; ³*CCMS, UCSD, La Jolla, CA*

MP 002 **pFind2.1 Greatly Improves Peptide Identification for Proteomic Analysis After Comprehensive Characterization of ETD Spectra;** Rui-Xiang Sun²; Meng-Qiu Dong¹; Chun-Qing Song¹; Hao Chi²; Bing Yang¹; Li-Yun Xiu²; Chao Liu²; Le-Heng Wang²; Yan Fu²; Si-Min He²; ¹*NIBS, Beijing, China*; ²*Institute of Computing Technology, CAS, Beijing, China*

MP 003 **Finding Statistically Significant Multiple-Peptide Identifications in DIA-MSMS through Top N Greedy Search;** Sean J. McIlwain; Jesse D. Canterbury; Michael J. MacCoss; William Noble; *University of Washington, Seattle, WA*

MP 004 **Fine Control of Modification Searches in Peptide Identification by MS/MS;** Marshall W. Bern; Yong Kil; *Palo Alto Research Center, Palo Alto, CA*

MP 005 **Robust Method for Calculating the Local FDR for Database Search Results;** Wilfred Tang; *Agilent Technologies, Santa Clara, CA*

MP 006 **Development of Bioinformatic Tools for Peptide Identification in Mass Spectrometry: Comparative Analysis of Methods to Calculate False Positive Identification Rates;** Shane L. Hubler¹; David Good²; Gheorghe Craciun¹; ¹*UW - Madison, Madison, WI*; ²*Karolinska Institutet, Stockholm, Sweden*

MP 007 **The Generating Function of CID, ETD and CID/ETD Pairs of Tandem Mass Spectra: Applications to Database Search;** Sangtae Kim¹; Nikolai Mischerikow²; Nuno Bandeira³; Shabaz Mohammed²; Albert J.R. Heck²; Pavel Pevzner¹; ¹*UCSD, San Diego, CA*; ²*Utrecht University, Utrecht, Netherlands*; ³*CCMS, UCSD, La Jolla, CA*

MP 008 **RAIdGUI: A User-Friendly Graphical Interface to Run RAId Package;** Aleksey Y Ogurtsov; Gelio Alves; Yi-Kuo Yu; *National Center for Biotechnology Information, NLM, Bethesda, MD*

MP 009 **Automated Peptide Sequence Assembly (APSA): A Novel Strategy for Peptide Sequencing by Combining Partial Sequence with Motif;** Weifeng Cao; Lingjun Li; *University of Wisconsin, Madison, WI*

MP 010 **IP2 - Integrated Proteomics Pipeline for Proteomics Data Analyses and Management;** Sung Kyu Park^{1,2}; Tao Xu^{1,2}; John Yates²; ¹*Integrated Proteomics Applications, San Diego, CA*; ²*The Scripps Research Institute, La Jolla, CA*

MP 011 **Comparative Proteogenomics;** Eli Venter; Samuel H Payne; *J Craig Venter Institute, Rockville, MD*

MP 012 **ABOid: A Bioinformatics Tools Pipeline for Automated Organism Identification Using Tandem Mass Spectrometry Data and Proteome Database;**

MONDAY POSTERS

- Samir Deshpande¹; Rabih Jabbour²; Michael Stanford³; Charles Wick³; Alan Zulich³; ¹*Science & Technology Corporation, Edgewood, MD*; ²*SAIC INC., Apg, MD*; ³*U.S. Army Edgewood Chemical Biological Center, Aberdeen Proving Ground, MD*
- MP 013 **Comparison of Techniques for False Discovery Rate Analysis Using Multiple Instrument Platforms and Database Search Engines with a Proteomics Standard**; D. Brent Weatherly¹; Archer Smith²; James Mobley²; James A Atwood III¹; ¹*Bioinquire, Athens, GA*; ²*University of Alabama at Birmingham, Birmingham, Alabama*
- MP 014 **Improving Phosphorylation Site Assignment by Statistical Analysis on CID Fragmentation**; Sheng-Chieh Lu¹; Chia-Feng Tsai²; Chih-Chiang Tsou¹; Han-Yin Yang¹; Lien-Chin Chen¹; Yu-Ju Chen²; Ting-Yi Sung¹; Wen-Lian Hsu¹; ¹*Institute of Information Science, Academia Sinica, Taipei, Taiwan*; ²*Institute of Chemistry, Academia Sinica, Taipei, Taiwan*
- MP 015 **de novo Peptide Sequencing and Identification Using HCD Spectra**; Hao Chi^{1,2}; Rui-Xiang Sun¹; Bing Yang²; Chun-Qing Song²; Le-Heng Wang¹; Chao Liu^{1,2}; Yan Fu¹; Zuo-Fei Yuan¹; Hai-Peng Wang¹; Si-Min He¹; Meng-Qiu Dong²; ¹*Institute of Computing Technology, CAS, Beijing, China*; ²*NIBS, Beijing, Beijing, China*
- MP 016 **A Flexible Informatic Approach to Automated Proteomic Discovery**; John Damask; Justin Klekota; Stephen Marshall; Urs Wirth; Markus Schirle; Ioannis K. Moutsatsos; *Novartis Institutes for BioMedical Research, Cambridge, MA*
- MP 017 **Gapped Peptide Search: A Bridge between de novo Peptide Sequencing and MS/MS Database Search**; Julio Ng; Pavel Pevzner; *UCSD, La Jolla, CA*
- MP 018 **No News is Good News -- de novo Determination of Amino Acids When Peaks are Missing**; Lin He; Bin Ma; *University of Waterloo, Waterloo, Canada*
- MP 019 **Critical Evaluation of Bioinformatic Tools for Automated Annotation of Large Protein Datasets**; Tomas Rejtar; Sangwon Cha; Barry L. Karger; *Northeastern University, Boston, MA*
- MP 020 **A Method to Achieve Accurate Protein Confidences**; Ignat Shilov; Sean L. Seymour; Alpesh Patel; *AB SCIEX, Foster City, CA*
- MP 021 **A Comparative Proteomics Technique for Automatic Annotation of Post Translational Modifications on Multiple Genomes with Reduced Error Rate**; Viswanadham Sridhara; Aron Marchler-Bauer; Stephen H Bryant; Lewis Y Geer; *NCBI/NLM/NIH, Bethesda, MD*
- MP 022 **Improved Use of Peptide pI Filtering Within IDSeive Algorithm Increases the Number of Identifications While Lowering the False Positive Rate**; Nikhil Garge; Benjamin Cargile; Xinxin Zhang; Jonathan Bundy; James Stephenson; Maureen Bunger; *Research Triangle Institute, Durham, NC*
- MP 023 **Determining the Spectrum to Peptide Assignment Ratio of MS Analysis of Microbial Communities for Increased Proteomic Coverage**; Brian Erickson^{1,2}; Alison Russell^{1,2}; Nathan C. Verberkmoes²; Brian Dill²; Manesh Shah²; Robert Hettich²; ¹*University of Tennessee, Knoxville, TN*; ²*Oak Ridge National Laboratory, Oak Ridge, TN*
- MP 024 **Finding Patterns in Unassigned Peak Lists of Protein and Peptide Fragment Mass Spectra Using Frequent Itemset Mining Techniques**; Trung Nghia Vu¹; Dirk Valkenburg³; Dominique Eeckhout²; Geert De Jaeger²; Bart Goethals¹; Erwin Witters³; Filip Lemièrè⁴; Kris Laukens¹; ¹*Univ. of Antwerp - Mathematics & Computer Science, Antwerp, Belgium*; ²*VIB - Plant Systems Biology / University of Ghent, Gent, Belgium*; ³*Flemish Institute for Technological Research, Antwerp, Belgium*; ⁴*University of Antwerp, Antwerp, Belgium*
- MP 025 **Determining the False Discovery Rate for Peptide Identification without a Decoy Database**; Lei Xin¹; Baozhen Shan²; Bin Ma³; ¹*CS Dept. of The University of Western Ontario, London, ON*; ²*Bioinformatics Solutions Inc., Waterloo, ON*; ³*University of Waterloo, Waterloo, ON*
- MP 026 **Evaluation of Statistical Tools for Verifying Single-Hit Protein Identifications**; Mingguo Xu; Liang Li; *Department of Chemistry University of Alberta, Edmonton, Canada*
- MP 027 **A Pipeline for Identifying Unexpected Post-Translational Modifications on Proteins from MS/MS Data**; Florent Gluck¹; Paola Antinori¹; Carla Pasquarello²; Alexander Scherl²; Denis Hochstrasser^{1,3}; Laurent Geiser¹; ¹*Swiss Centre for Applied Human Toxicology (SCAHT), Geneva, Switzerland*; ²*Proteomics Core Facility, Geneva University, Geneva, Switzerland*; ³*University Hospital of Geneva (HUG), Geneva, Switzerland*
- MP 028 **Tools for Maintenance and Preparation of Fasta Protein Databases**; Phillip Wilmarth; Larry David; *OHSU, Portland, OR*
- MP 029 **A Mathematical Approach for Reference Dataset Selection in High Throughput Proteomics**; Brian Lamarche; Stephen Callister; Anuj Shah; Aaron Wright; Michael Wilkins; Matthew Monroe; Kevin Crowell; Gordon Anderson; Richard Smith; *Pacific Northwest National Laboratory, Richland, WA*
- MP 030 **Identification of Modification Sites in Peptides Using MS Software**; Harriet Mörtstedt; Marina C Jeppsson; Bo A. G. Jönsson; Monica H. Kåredal; Christian Lindh; *Lund University, Lund, Sweden*
- MP 031 **Enabling Fast Genome-Scale Database Searches**; Kyowon Jeong¹; Sangtae Kim¹; Nuno Bandeira²; Pavel Pevzner¹; ¹*UCSD, La Jolla, CA*; ²*CCMS, UCSD, La Jolla, CA*

PROTEINS: GENERAL, 032 - 063

- MP 032 **Proteomic Profiling of MCF-7 Breast Cancer Cells at Different Stages of the Cell Cycle**; Milagros Perez^{1,2}; Iuliana Lazar^{1,2}; ¹*Virginia Bioinformatics Institute, Blacksburg, VA*; ²*Department of Biological Sciences, Blacksburg, VA*
- MP 033 **Analysis of Virion Components of a Mixed Bacteriophage Infection of Pseudomonas Aeruginosa by Mass Spectrometry**; Susan T. Weintraub¹; Natia Karumidze²; Julie A. Thomas³; Kevin W. Hakala¹; Nino Kvataadze²; Zemphira Alavidze²; Philip Serwer¹; Stephen C. Hardies¹; ¹*University of Texas HSC, San Antonio, TX*; ²*George Eliava Inst. Bacteriophage, Micro. & Virol., Tbilisi, Republic of Georgia*; ³*University of Maryland School of Medicine, Baltimore, MD*
- MP 034 **Preparation of Magnaporthe oryzae Mycelia and Spores for Proteomic Analysis: Protein Extraction, Fractionation and Identification**; Anna R. Courie; Emine Gokce; Timothy S. Collier; William L. Franck; Yeon Yee Oh; Ralph A. Dean; David C. Muddiman; *North Carolina State University, Raleigh, NC*
- MP 035 **Identification of Proteins by Quantitative Mass Spectrometry to Serve as Normalizing Controls for**

MONDAY POSTERS

- MP 036 **High-Throughput, High-Content Cell Signaling Assays;** Konstantinos Petritis; Tony Tegeler; Matthew Rosenow; Jian Liu; Ashoka D. Polpitiya ; Linda Nagore; Wendy McDonough; Michael Berens; *Translational Genomics Research Institute, Phoenix, AZ*
- MP 037 **Proteomic Analysis of Pseudorabies Virus Extracellular Virions;** Tal Kramer; Anna Arnaudo; Lynn W. Enquist; Ileana M. Cristea; *Princeton University, Princeton, NJ*
- MP 038 **Identification of Proteins in Works of Art: Combined Use of Maldi Mass Fingerprinting and ELISA;** Daniel P. Kirby¹; Julie Arslanoglu²; Adriana Rizzo²; ¹*Straus Center, Harvard, Cambridge, MA*; ²*Metropolitan Museum of Art, New York, New York*
- MP 039 **Tandem Mass Spectrometry Analysis of Ex Vivo Amyloid Fibril and Tissue Samples;** Zhenning Hong; Giuseppe Infusini ; Lawreen H. Connors; Martha Skinner; Catherine E. Costello; *Boston University School of Medicine, Boston, MA*
- MP 040 **Large-Scale Identification of Human Microtubule-Associated Proteins Using Multidimensional Chromatography and Tandem Mass Spectrometry;** Chao Gong; Carthene R. Bazemore-Walker; *Brown University, Providence, RI*
- MP 041 **Interactions of the Human Iron Sulfur Cluster Assembly Protein Complex Investigated Using Hydrogen/Deuterium Exchange Mass Spectrometry;** Michaella Levy; Pei-Jing Pai; William K. Russell; David H. Russell; David P. Barondeau; *Texas A&M University, College Station, TX*
- MP 042 **Top Down Proteomics to Characterize *in vivo* Polyubiquitin Chains;** Lucy Roach; Joanna Strachan; Kleitos Sokratous; Robert Layfield; Neil Oldham; *University of Nottingham, Nottingham, UK*
- MP 043 **Electron Detachment Dissociation (EDD) and Collisionally Activated Dissociation (CAD) for Top-Down Mass Spectrometry of Acidic Proteins;** Barbara Ganisl; Monika Taucher; Kathrin Breuker; *University of Innsbruck, Innsbruck, Austria*
- MP 044 **Interaction Studies between Abeta-autoantibodies and Abeta Peptides by Immunoaffinity –Mass Spectrometry;** Claudia Cozma¹; Mihaela Dragusanu¹; Michael Przybylski²; ¹*University of Konstanz, Konstanz, Germany*; ²*Universitat Konstanz, Konstanz, Germany*
- MP 045 **Translation Fidelity Rate Determination in a Cell-Free Protein Synthesis System Using LC-MS;** Tyler H Heibeck; Gang Yin; Juan Zhang; Evan Green; Alexander Steiner; Christine Roos; Chris Murray; Sushmita Mimi Roy; *Sutro Biopharma, South San Francisco, CA*
- MP 046 **Mass Spectrometry-Ion Mobility Spectrometry to Investigate the Interaction of Alzheimer’s Amyloid Beta Protein and Aggregation Inhibitors;** Megan M. Murray^{1,2}; Huiyuan User^{1,2}; Gal Bitan^{1,2}; Michael T. Bowers^{1,2}; ¹*University of California, Santa Barbara, CA*; ²*University of California, Los Angeles, CA*
- MP 047 **Proteomic Characterization of Histone Deacetylase 10;** Yang Luo; Laura-Mae Britton; Fang Yu; Ileana M. Cristea; *Princeton University, Princeton, NJ*
- MP 048 **Ion Mobility Mass Spectrometry Characterization of Therapeutic Antibody Bioconjugates;** Ryan Preston; Robert Murphy; *Pfizer / CovX, San Diego, CA*
- MP 049 **Evaluation of Protamine Zinc Insulin (PZI) Stability from Chromatographic Fingerprints and MALDI Mass Spectrometry;** Stephanie Eastwood; Mary Elizabeth Gimon-Kinsel; Gary R. Kinsel; *Southern Illinois University Carbondale, Carbondale, IL*
- MP 050 **Quantification of Collagen in Tissues Using Stable Isotope Labeling and LC-MS;** Sin-Yi Chang; Yen-Peng Ho; *National Dong Hwa University, Hualien, Taiwan*
- MP 051 **N- and C-Terminal Sequencing of Truncated Proteins Using Top-Down Mass Spectrometry with High Resolution, Accurate Mass and Multiple Dissociation Methods;** Zhiqi Hao¹; Meng-Qiu Dong²; David Horn¹; Andreas F Huhmer¹; ¹*Thermo Fisher Scientific, San Jose, CA*; ²*NIBS, Beijing, Beijing, China*
- MP 052 **High Confidence Analysis of WDR5 Interactome;** Chia-Fang Lee; *Nevada Cancer Institute, Las Vegas, NV*
- MP 053 **Broad Mass Range Ion Transmission and Improved Peptide Detection and Identification Using QTOF MS Equipped with New Atmospheric Pressure Interface;** Michael Ugarov¹; Patrick D. Perkins¹; Alex Mordehai¹; Bill Barry¹; Gangqiang Li²; Stuart Hansen²; George Stafford¹; ¹*Agilent Technologies, Santa Clara, CA*; ²*Agilent Labs, Santa Clara, CA*
- MP 054 **New Reagents for Enhanced Charging of Intact Protein Ions for Liquid Chromatography Tandem Mass Spectrometry;** Santosh G. Valeja^{1,2}; Jeremiah D. Tipton¹; Mark R. Emmett^{1,2}; Alan G. Marshall^{1,2}; ¹*ICR Program, Nat’l High Magnetic Field Lab, Tallahassee, FL*; ²*Dept. of Chem and biochem. Florida State University, Tallahassee, FL*
- MP 055 **Evaluation of a Sheathless Nanospray CE-MS Interface for the Analysis of Proteins;** Sean Mccarthy¹; Martin Gilar¹; Jeff Mazzeo²; ¹*Waters, Milford, MA*; ²*Waters Corporation, Milford, MA*
- MP 056 **Comparative Study on Proteins Identification by Combining Chromatofoc Using and Capillary/Nano-HPLC with MALDI-TOF/TOF Mass Spectrometry Analysis;** Alberto Nunez; Laurie Fortis; Nereus Gunther; *USDA-ARS-ERRC, Wyndmoor, PA*
- MP 057 **Top-Down Hydrogen/Deuterium Exchange Using Electron Transfer Dissociation for Resolving Backbone Amide Hydrogen Exchange at the Single Residue Level;** Seema Sharma¹; Jie Qian¹; Iman Mohtashemi¹; Mark Sanders¹; Leland Mayne²; ¹*Thermo Fisher Scientific, San Jose, CA*; ²*University of Pennsylvania, Philadelphia, PA*
- MP 058 **Time Resolved Electrospray Ionization Mass Spectrometry: A New Approach for Measuring Kinetic Isotope Effects in the Enzymatic Pre-Steady State;** Peter Liuni; Derek Wilson; *York University, Toronto, Canada*
- MP 059 **New Strategies for High Pressure Assisted Digestion in Proteomics;** Daniel Lopez Ferrer¹; Kim K. Hixson²; Karl Weitz¹; Ron Moore¹; Mikhail Belov¹; Ljiljana Pasa-Tolic¹; Richard D. Smith¹; ¹*PNNL, Richland, WA*; ²*Washington State University, Pullman, WA*
- MP 060 **Dissection of Rapamycin-Proteasome Interactions Using Mass Spectrometry Tools;** Monika Tokmina-Lukaszevska; Srividya Madabhushi; Maria E. Gaczynska; Pawel A. Osmulski; *University of Texas HSC, San Antonio, TX*

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- MP 061 **Combination of Ultrasound and Pressure-Assisted Tryptic Digestion of Proteins;** Seongjae Shin; Jinhee Kim; Hyo-Jik Yang; Jeongkwon Kim; *Chungnam National University, Daejeon, South Korea*
- MP 062 **Protein Interactions and Post-Translational Modification of the Schizosaccharomyces Pombe Pif1 Family DNA Helicase, Pfh1;** Karin R. McDonald; Virginia A. Zakian; Ileana M. Cristea; *Princeton University, Princeton, NJ*
- MP 063 **Optimization of Novel Lectins Affinity Chromatography for Use in iTRAQ Studies: Integrating Training and Research in the Undergraduate Proteomics Laboratory;** Krystle Rogers¹; Kalyan Adhikari¹; Kellen Doerr¹; Gerrick Meyer¹; Jennifer Minton¹; Jen Grant²; ¹*Applied Science, University of Wisconsin-Stout, Menomonie, WI*; ²*Biology Department, University of Wisconsin-Stout, Menomonie, WI*
- PROTEOMICS: PROTEIN SEQUENCING, 064 - 076**
- MP 064 **Top-Down Mass Spectrometry of Supercharged Proteins;** Rajeswari Lakshmanan; Ivory X. Peng; Carly N. Ferguson; Rachel R. Ogorzalek Loo; Joseph A. Loo; *UCLA, Los Angeles, CA*
- MP 065 **Mass Spectrometric Top-Down Protein Sequencing de novo: The Full Determination of a 13.7 kDa Camelid Nanobody Sequence;** Anja Resemann¹; Gonyi Shi²; Dirk Wunderlich¹; Jens Fuchser¹; Detlev Suckau¹; ¹*Bruker Daltonics, Bremen, Germany*; ²*Bruker Daltonics Inc., Fremont, CA*
- MP 066 **Top-Down Sequencing of Proteins Extracted from Polyacrylamide Gels Using MALDI in Source Decay (ISD);** G. Reid Asbury¹; Anja Resemann²; Waltraud Evers²; Jessica Irrgang³; Detlev Suckau²; Trust T Razunguzwa¹; Matthew J. Powell¹; Harald Dibowski³; ¹*Protea Biosciences, Morgantown, WV*; ²*Bruker Daltonik GmbH, Bremen, Germany*; ³*Dichrom GmbH, Marl, Germany*
- MP 067 **Optimizing MALDI- ISD and T3 Methods for N- and C- Terminal Protein Sequencing;** Suresh Annangudi; Jeffrey Gilbert; David Mccaskill; Jesse Balcer; Nicholas Harpham; Debbie Schwedler; Steve Evans; *Dow Agrosciences, Indianapolis, IN*
- MP 068 **Electron Capture Dissociation for the Analysis of Recombinant Proteins;** Atim Enyenihi¹; Jon D. Williams²; Wendy White²; Mary B. Moyer²; Takashi Baba¹; Gary L. Glush¹; ¹*University of North Carolina, Chapel Hill, NC*; ²*GlaxoSmithKline, RTP, NC*
- MP 069 **Top Down Sequence Coverage Comparison between CID, HCD, and ETD on an Orbitrap XL Mass Spectrometer;** Robert O'Meally; Robert Cole; *Johns Hopkins School of Medicine, Baltimore, MD*
- MP 070 **Detailed Structural Characterization of Recombinant H3 and its Methylated Analogs by Top-Down FTMS Combined CAD and ECD;** Jun Han; Christoph H. Borchers; *University of Victoria-Genome BC Proteomics Centre, Victoria, Canada*
- MP 071 **Atmospheric Pressure Thermal Dissociation of Multiply Charged Proteins;** Suhl A Choi; Catherine Vinci; Mark E. Bier; *Carnegie Mellon University, Pittsburgh, PA*
- MP 072 **Protein pI Based Separation for Top-Down Proteomics;** Nathanael F. Zinnel; Stephanie M. Cologna; Gyula Vigh; David H. Russell; *Texas A&M University, College Station, Texas*
- MP 073 **NIPAAAM-MAA Brush Polymer Modified MALDI Targets for Improved Sequence Coverage in MS- Based Protein Identification;** Venney Wong; Gary R. Kinsel; Daniel J. Dyer; Bojan Mitrovic; *Southern Illinois University, Carbondale, IL*
- MP 074 **Quantitative Proteomic Analysis of the Membrane Proteome of the Pancreatic Cancer Metastasis;** Min-Sik Kim¹; Arivusudar Marimuthu²; Manoj K. Kashyap²; Shinichi Yachida¹; Chris Iacobuzio-Donahue¹; Akhilesh Pandey¹; ¹*Johns Hopkins University, Baltimore, MD*; ²*Institute of Bioinformatics, Bangalore, India*
- MP 075 **Protein Composition of a Vesicular Vaccine Carrier Derived from the Outer Membrane of Neisseria Meningitidis;** Eberhard Durr; Lori C Stansberry; Lan Zhang; Mark A Miller; Joseph G Joyce; Loren D. Schultz; Craig Przysiecki; *Merck & Co, West Point, PA*
- MP 076 **Identification of Helicobacter Pylori Proteins Involved in the Cag Type-IV Secretion System Apparatus via Discovery and Targeted Mass Spectrometry Approaches;** Carrie Shaffer¹; W. Hayes McDonald¹; Salisha Hill¹; Mark McClain¹; Ewa Hennig²; Timothy Cover¹; ¹*Vanderbilt University, Nashville, TN*; ²*Medical Center for Postgraduate Education, Warsaw, Poland*
- PROTEOMICS: COVALENT LABELING, 077 - 092**
- MP 077 **Investigation of the CCL5-Chondroitin Sulfate Complex Using Hydroxyl Radical Footprinting Reveals Information Involving Ligand-Binding, Ligand-Induced Conformational Change and pH-Dependent Aggregation;** Caroline Watson; Vitor H. Pomin; Xu Wang; James H. Prestegard; Joshua S. Sharp; *Complex Carbohydrate Research Center/UGA, Athens, GA*
- MP 078 **Carbene-Labeling Strategy for Interface Mapping of Protein Complexes;** Chanelle C. Jumper; David Schriemer; *University of Calgary, Calgary, Canada*
- MP 079 **Selective Enrichment of Cross-Linked Peptides by a Reductive Amination and Click Chemistry Based Cross-linking Strategy;** Michael Trnka; A.L. Burlingame; *University of California, San Francisco, CA*
- MP 080 **'Clicking on' Fluorous Tags: A Strategy for Enrichment of Cysteine-Containing Peptides in Proteomics Applications;** Klaus Rumpel; Carla Fernandes; Mireia Fernández Ocaña; *Pfizer PharmaTherapeutics Global R&D, Sandwich, UK*
- MP 081 **Rapid Covalent Pre-Gel Modification of Proteins for their Instant Visualization and Subsequent Mass Spectrometric Characterization;** Robert Winkler; Marco Arnulfo Mata Gómez; Matthew Thomas Yasui; *Tecnológico de Monterrey (ITESM), Monterrey, Mexico*
- MP 082 **Carboxyl Group Protein Footprinting for Mapping the Dimerization Interface and Phosphorylation-Induced Conformational Changes of a Membrane-Associated Protein Kinase;** Hao Zhang¹; Wei Shen²; Ilan Vidavsky¹; Michael L. Gross¹; Ron Bose²; ¹*Washington University, St.Louis, MO*; ²*Washington University School of Medicine, St.Louis, MO*
- MP 083 **'Fixed Charge' Chemical Derivatization and Data Dependant Multistage Tandem Mass Spectrometry for Mapping Protein Surface Residue Accessibility and Protein Interactions;** Xiao Zhou; Yali Lu; Wenjing Wang; Babak Borhan; Gavin Reid; *Michigan State University, East Lansing, MI*
- MP 084 **Probing Topology Changes of Sindbis Virus Structural Proteins Using Novel CID-Cleavable Chemical Crosslinking Reagents and Mass**

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- MP 085 **Spectrometry Analysis; Fan Liu;** Dennis Brown; Michael Goshe; *NC State University, Raleigh, NC*
In vivo Study of E. Coli Protein-Protein Interactions Using Photocleavable Protein Interaction Reporter (pcPIR) Cross-Linking Strategy; Li Yang¹; Chunxiang Zheng¹; Chad Weisbrod²; Michael R. Hoopmann²; Xiaoting Tang³; Jimmy Eng²; James Bruce²;
¹Washington State University, Pullman, WA; ²University of Washington, Seattle, WA; ³Novo Nordisk Inflammation Research Center, Seattle, WA
- MP 086 **Mapping of Contact Sites in Munc13/Calmodulin Complexes by Photoaffinity Labeling and Mass Spectrometry; Kalina Dimova¹;** Fernando Rodríguez-Castañeda²; Mitchell Maestre-Martínez²; Stefan Kalkhof³; Christian H. Ihling³; Andrea Sinz³; Christian Griesinger²; Teresa Carlomagno²; Nils Brose¹, **Olaf Jahn¹;** ¹MPI Experimental Medicine, Goettingen, Germany; ²MPI Biophysical Chemistry, Goettingen, Germany; ³Martin Luther University Halle, Halle, Germany
- MP 087 **A Covalent Labeling Protocol Using S-Methyl Thioacetimidate for the Thermodynamic Analysis of Protein Folding and Ligand Binding; Ying Xu;** Michael C. Fitzgerald; *Duke University, Durham, NC*
- MP 088 **DEST: A Novel Protein Cross-Linking Reagent; Matthew A. Lauber;** James P. Reilly; *Indiana University, Bloomington, IN*
- MP 089 **Top-Down Sequencing Can Increase Information Content during Protein Structural Analysis by Covalent Labeling with Mass Spectrometric Detection; Yuping Zhou¹;** Desmond Kaplan²; Christopher Thompson²; Richard Vachet¹; ¹University of Massachusetts, Amherst, MA; ²Bruker Daltonics, Billerica, MA
- MP 090 **Dynamical Effects of Incorporating Site-Specific Crosslinks in Peptides Examined by Hydrogen-Deuterium Exchange Mass Spectrometry; Eizadora Yu;** Aaron Highley; Richard Jacobsen; Sidney Elmer; Darryl Sasaki; Kenneth Sale; Joseph Schoeniger; *Sandia National Laboratories, Livermore, CA*
- MP 091 **The Interaction of hApe1 and its Redox-Activity Inhibitor E3330 by HDX, NEM Labeling, and Mass Spectrometry; Dian Su¹;** Sarah Delaplane²; Richard Yu-Cheng Huang¹; Hao Zhang¹; Meihua Luo²; Mark Kelley²; Millie Georgiadis²; Michael L. Gross¹;
¹Washington University, St Louis, MO; ²Indiana University, Indianapolis, IN
- MP 092 **Metal-Induced Hydrogen/Deuterium Exchange (MIX) and MS for Metal-Protein Binding Sites Determination; Jia Dong¹;** Adam M Graichen²; Richard Vachet²; ¹university of massachusetts amherst, Amherst, MA; ²University of Massachusetts Amherst, MA
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- MP 093 **A Novel Approach to the Identification of Protein-Protein Interaction Using On-Beads Cross-Linking, Co-Immunoprecipitation and Mass Spectrometry; Bill Huang;** Hee-Yong Kim; *NIAAA/NIH, Rockville, MD*
- MP 094 **Identification of Protein Targets in vitro and in vivo by Using Dendrimer-Based Nanomedicine; Lianghai Hu;** Jacob A. Galan; Anton Iliuk; Weiguo Andy Tao; *Purdue University, West Lafayette, IN*
- MP 095 **Identification of Proteins Induced by PUGNac Treatment in 3T3-L1 Adipocytes Using ATP-Affinity Chromatography: Relationship between Ubiquitination and O-glycosylation; Jeong-Eun Lee;** Ja-Hye Park; Moon-Chang Baek; *Kyungpook Nat'l Univ., Daegu, South Korea*
- MP 096 **Mass Spectrometric Screening of Proteomic Changes in Human Breast Adenocarcinoma MCF-7 and T-Lymphoblastoid Cells after Treatment with Antibody; Erika Lattova¹;** Boguslav Tomanek²; Dorota Bartusik³; Helene Perreault¹; ¹University of Manitoba, Winnipeg, Canada; ²NRC, Institute for Biagnostics, Calgary, Canada; ³Cross Cancer Institute, Medical physics Department, Edmonton, Canada
- MP 097 **Integrated Mass Spectrometry Based Quantitative Analysis of Plasma Glycoproteins and their Glycan Modifications; Hong Wang¹;** Chee-Hong Wong¹; Alice Chin¹; Allen Taylor¹; Ayumu Taguchi¹; Samir Hanash¹; Sadanori Sekiya²; Hidenori Takahashi²; Masaki Murase²; Shigeki Kajihara³; Shinichi Iwamoto²; Koichi Tanaka²; ¹PHS, Fred Hutchinson Cancer, Seattle, WA; ²Koichi Tanaka Research Lab, Shimadzu Corporation, Kyoto, Japan; ³Technology Research Lab, Shimadzu Corporation, Kyoto, Japan
- MP 098 **Streamlining Chemoproteomics Technology for Rapid Target Identification in Drug Discovery; Hua Tang;** Jeff Olson; Paul Richardson; Scott Warder; Violeta Marin; Shaun McLoughlin; *Abbott Laboratories, Abbott Park, IL*
- MP 099 **Differential Proteomic Analysis of the Hippocampus in Homer2 knockout and Wildtype Mice: Molecular Implications for Alcohol Aversion; Scott Goulding¹;** Rob Helton¹; Karen Szumlinski²; Christine Wu¹;
¹University of Colorado School of Medicine, Aurora, CO; ²University of California Santa Barbara, Santa Barbara, CA
- MP 100 **Differential Proteomic Analysis in 3 Different types of Human Lymphomas Following Nutlin-3A-Induced p53 Stabilization and Activation; Konstantina Psatha¹;** Michalis Aivaliotis²; Elias Drakos³; George Rassidakis¹;
¹National and Kapodistrian University of Athens, Athens, Greece; ²Max-Planck-Institute of Biochemistry, Martinsried, Germany; ³M.D. Anderson Cancer Center, Houston, TX
- MP 101 **Use of Accurate Mass Measurement Shotgun Proteomic Analysis Method to Investigate the Proteome of Acinetobacter baylyi ADP1; Melissa Stoudemayer;** William Whitman; Jon Amster; Yuchen Liu; Wes Bryson; *University of Georgia, Athens, GA*
- MP 102 **Investigation of ATP- and GTP-Binding Proteins in Human Cells upon 6-Thioguanine Treatment; Yongsheng Xiao¹;** Yinsheng Wang²; ¹University of California, Riverside, Riverside, CA; ²University of California, Riverside, CA
- MP 103 **Cell Specific On-Chip Protein Marker Discovery in Prostate Cancer Using MALDI-FTICR MS; Hans-Rudolf Aerni;** Kristina Schwamborn; Joey C. Latham; Andrey I Zavalin ; Richard M. Caprioli; *Vanderbilt University, Nashville, TN*
- MP 104 **Proteomics-Based Target Deconvolution of Clinical Multi-Kinase Inhibitors Inducing Apoptosis in Primary Chronic Lymphocytic Leukemia Cells (CLL); Marcus Bantscheff¹;** Ulrich Kruse¹; Christian Pallasch²; Dirk Eberhard¹; Stefan Maier¹; Thilo Werner¹; Clemens Wendtner²; Gerard Drewes¹; ¹Cellzome AG, Heidelberg, Germany; ²University of Cologne, Cologne, Germany
- MP 105 **Knock-In AP-MS: A Sensitive Platform for Mapping Protein Interaction Networks in the Wnt Signaling Pathway; Jing Song;** Yujun Hao; Zhenghe Wang; Rob

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- Ewing; *Case Western Reserve University, Cleveland, OH*
- MP 106 **A High-Density Interactome for the Ubiquitin-Like Protein Systems;** Sarah Wheaton¹; Tharan Srikumar¹; Connie Danielsen²; Brian Raught^{1,2}; *Medical Biophysics, University of Toronto, Toronto, Canada; ²Ontario Cancer Institute, Toronto, Canada*
- MP 107 **Establishing Universal Units for Changes in the Expression Proteome as Well as in Signaling Activation;** David Good¹; Consuelo Marin-Vicente¹; Jinzhi Chen²; Roman Zubarev¹; *Karolinska Institutet, Stockholm, Sweden; ²Roche, Palo Alto, CA*
- MP 108 **Analysis of Cross-Linked Glycoproteins Through Mass Spectroscopy and Bioinformatics – Retaining Both Protein and Glycan Structural Information;** Morten Rasmussen¹; Ana Neves-Ferreira¹; Peter Hojrup²; *¹BMB, Odense, Denmark; ²University of Southern Denmark, Odense M, Denmark*
- MP 109 **Label-Free Quantitation to Dissect Site-Specific Phosphorylation Stoichiometry and Dynamics of Signaling Proteins Involved in Inflammation and Pathogenesis;** Harsha P. Gunawardena; Yi Huang; Li Wang; Penggao Dai; Xian Chen; *University of North Carolina at Chapel Hill, Chapel Hill, NC*
- MP 110 **Scheduled MRM Method for H/D Measurements in Support of Drug Screening;** Andrew J Percy; David Schriemer; *University of Calgary, Calgary, Canada*
- MP 111 **Extended Data-Independent Acquisition (XDIA): Improving on the Label-Free Data-Independent Analysis;** Xuemei Han¹; Paulo C Carvalho^{1,2}; Tao Xu¹; Daniel Cociorva¹; Valmir C Barbosa²; John Yates¹; *¹The Scripps Research Institute, La Jolla, CA; ²Federal University of Rio de Janeiro, Rio de Janeiro, Brazil*
- MP 112 **Global and Targeted Complexome Analysis of the Cytosolic Proteome of Enteropathogenic Escherichia Coli Using Native-PAGE Combined with nLC-LTQ Orbitrap MS;** Vassilia Balabanidou; Michalis Aivaliotis; Malvina Papanastasiou; Spyridoula Karamanou; Anastassios Economou; *IMBB-FORTH, Heraklion, Greece*
- MP 113 **Highly Multiplexed Targeted Proteomics with Increased Selectivity;** Michael Heymann; Sébastien Gallien; Elodie Duriez; Bruno Domon; *Luxembourg Clinical Proteomics, CRP-Sante, Strassen, Luxembourg*
- MP 114 **Universal Tool for On-Line Processing and Iterative Analysis;** Bruce Pascal; Kristie Rose; Valerie Cavett; Jennifer Busby; *The Scripps Research Institute, Jupiter, FL*
- MP 115 **Advanced Automated Data Processing for ETD in Top-Down Proteomics;** Ralf Hartmer; Carsten Stoermer; *Bruker Daltonik, Bremen, Germany*
- MP 116 **Improving Protein Identification Efficiency for Membrane Proteome Analysis of Escherichia coli by LC-ESI MS/MS Combined with Microwave-Assisted Sequential Protein Solubilization;** Xiaoxia Ye; Liang Li; *Chemistry Department, University of Alberta, Edmonton, Canada*
- MP 117 **What Happens to Bacterial Cells and their Proteins after Microwave Heating? Towards a Single Step Sample Preparation Protocol for Proteomics;** Sujit Kandar; Franco Basile; *University of Wyoming, Laramie, WY*
- MP 118 **Candyland, the Novel and Distinct Outer Surface of the Archaeon Methanosarcina mazei;** Deborah R. Francoleon; Renate Lux; Unmi Kim; Joseph A. Loo; Robert P. Gunsalus; Rachel R. Ogorzalek Loo; *University of California, Los Angeles, Los Angeles, CA*
- MP 119 **Site-Specific N-linked Glycan Characterization of the Keyhole Limpet Hemocyanin;** Justin B. Sperry; Halyna E. Narepekha; Serdar Aykent; James A. Carroll; *Pfizer, Chesterfield, MO*
- MP 120 **Determination of N-Glycosylation Sites and Site Heterogeneity in the Extracellular Region of CD44s;** Huanhuan Han¹; Martha Stapels²; Yingqing Yu²; Yangjun Zhang¹; Weibin Chen²; Li Tang¹; Tim Riley²; Xiaohong Qian¹; *¹Beijing Proteome Research Center, Beijing, China; ²Waters Corporation, Milford, MA*
- MP 121 **Integrated Analysis of N-Glycans and Digest Peptides from Therapeutic Monoclonal Antibodies and Human Serum IgGs Using HPLC Chips with QTOF-MS;** Shiaw-Lin Wu¹; Yi Wang¹; Dayin Lin²; William Hancock¹; Barry L. Karger¹; *¹Northeastern University, Boston, MA; ²Agilent Technologies, Inc., Waldbronn, Germany*
- MP 122 **Glycoproteomic Analysis of Developing Zebrafish Eggs by a Tandem MS³ Approach on a Dual Collision Stage Enabled Q/TOF MS Instrument;** Chia-Wei Lin^{1,2}; Sz-Wei Wu³; Lan-Yi Chang¹; Yann Guérardel⁴; Chang-Jen Huang^{1,2}; Kay-Hooi Khoo^{1,3}; *¹IBC, Academia Sinica, Taipei, Taiwan; ²IBS, National Taiwan University, Taipei, Taiwan; ³NRPGM Mass Spectrometry Core Facilities, Taipei, Taiwan; ⁴Université des Sciences et Technologies, Lille, France*
- MP 123 **Structural Analysis of an Unliganded and Highly Glycosylated gp120-Based Antigen Using Mass Spectrometry;** Liwen Wang^{1,3}; Yali Qin²; Seigui Ilchenko^{1,3}; Jennifer Bohon^{1,3}; Wuxian Shi^{1,3}; Michael Cho²; Mark Chance^{1,3}; *¹Case Western Reserve University, Cleveland, OH; ²Iowa State University, Ames, IA; ³Case Western Reserve University, Upton, NY*
- MP 124 **Glycosecretome Analysis of Conditioned Medium of Breast Cancer Cell Lines;** Yan Zhang; Xiaorong Tang; Ling Yao; Lisa Xu; Xiaofang Hu; *Shanghai Jiao Tong University, Shanghai, China*
- MP 125 **Identification and Investigation of Glycosylation Sites and Site Occupation within Campylobacter Jejuni Using Glycoproteomic Strategies;** Nichollas Scott¹; Nicole Packer²; Martin R. Larsen³; Stuart Cordwell⁴; *¹University of Sydney, Sydney, Australia; ²Macquarie University, Sydney, Australia; ³Univ. Southern Denmark, Odense, Denmark; ⁴The University of Sydney, The University Of Sydney, Australia*
- MP 126 **Large-Scale Precision Mapping of N-Glycosylation Sites in the Proteomes of Mouse Organs and Plasma;** Dorota F. Zielinska¹; Florian Gnad²; Pawel Ostasiewicz¹; Matthias Mann¹; Jacek R. Wisniewski¹; *¹Max Planck Institute for Biochemistry, Martinsried, Germany; ²Harvard Medical School, Boston, MA*
- MP 127 **Glycosylation Profiling of Recombinant CD24 by Chromatographic Methods and MALDI-QIT-TOF MS;** Zhenxin Lin¹; Yashu Liu¹; Fan Xiang²; Yang Liu¹; David M. Lubman¹; *¹University of Michigan, Ann Arbor, MI; ²Shimadzu Biotech, Pleasanton, CA*
- MP 128 **Identification of the Human-Like Immunoglobulin IgG in the Plasma of the Endangered White-Winged-Wood Duck;** Audrey Andzelik; Claire McCarthy; Michael Majetich; Joji Vyas; Abigail Hexamer; Tria Charnas; *Hiram College, Hiram, OH*
- MP 129 **Demonstrating Biomanufacturing Comparability of Therapeutic Glycosylated Monoclonal Antibodies through Identification of N-Linked Glycans by**

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- MP 130 **Directed Multi-Stage Mass Spectrometry Oligosaccharide Profiling;** Ian Edwards¹; Shuuichi Nakaya²; Daniel Spencer³; Norihiro Kikuchi⁴; Akihiko Kameyama⁵; Hisashi Narimatsu⁵; ¹*Shimadzu Biotech, Manchester, UK*; ²*Shimadzu Corporation, Kyoto, Japan*; ³*Ludger Ltd, Abingdon, UK*; ⁴*Mitsui Knowledge Industry Co Ltd, Tokyo, Japan*; ⁵*AIST, Tsukuba, Japan*
- MP 131 **Autoantibody Against Different Glycoforms of N-Cadherin in Melanoma Patient Sera;** Yashu Liu¹; Jintang He¹; Xiaolei Xie¹; Michael S. Sabel¹; Fan Xiang²; David M. Lubman¹; ¹*University of Michigan, Ann Arbor, MI*; ²*Shimadzu Biotech, Pleasanton, CA*
- MP 132 **Analysis of N-Glycosylation of ABCA4 by Mass Spectrometry;** Benlian Wang¹; Yaroslav Tsybovsky²; Krzysztof Palczewski²; Mark R. Chance¹; ¹*Center for Proteomics and Bioinformatics, Case Western Reserve University, Cleveland, OH*; ²*Department of Pharmacology, Case Western Reserve University, Cleveland, OH*
- MP 133 **Process Proteomics Related to Plasma Derived Blood Coagulation Glycoproteins Using MALDI Mass Spectrometry and a Software Assisted Database;** Omar Belgacem¹; Matthew Openshaw¹; Guenter Allmaier³; Katharina Pock²; ¹*Shimadzu Biotech, Manchester, UK*; ²*Octapharma Pharmazeutika, Vienna, Austria*; ³*Institute of Chemical Technologies and Analysis, Vienna, Austria*
- MP 134 **N-glycoproteome Analysis of Normal Human Liver by Complementary Glycoproteomic Approaches and Bioinformatics;** Yaohan Chen; Xinwen Zhou; Mingqi Liu; Guoquan Yan; Jing Cao; Pengyuan Yang; *Fudan University, Shanghai, China*
- MP 135 **Site-Specific Glycoprofiling of Pharmaceutical Compounds Employing Quantitative Glycopeptide Enrichment Followed by Complementary HILIC- and RP-LC-MS Analysis;** Jessica Wohlgemuth¹; Wen Jiang²; Thomas Eichhorn¹; Sven Andrecht¹; ¹*Merck KGaA, Darmstadt, Germany*; ²*Merck SeQuant AB, Umea, Sweden*
- MP 136 **Characterization of N-linked Glycosylation of a Recombinant Human Protein by Precursor Ion Scanning Quadrupole/Linear Ion Trap MS;** Sheng Zhang; Hashimoto Yoshifumi; Gary Blissard; *Cornell University, Ithaca, NY*
- MP 137 **Therapeutic Trifunctional Triomab® Antibodies: Site-Specific Characterization of the Glycosylation Pattern by Mass Spectrometry;** Matthias Plösch²; Patrick Gruber¹; Michael Wasiliu¹; Horst Lindhofer¹; Dirk Chelius¹; ¹*TRION Pharma, Munchen, Germany*; ²*TRION Research, Martinsried, Germany*
- MP 138 **Semi High-Throughput Peptide Based Quantitative Glycoprofiling of Therapeutic Antibodies Using MALDI-TOF;** Jette Wagtberg Sen; Yvonne B. Larsen; *Symphogen A/S, Lyngby, Denmark*
- MP 139 **Characterization of Isobaric O-glycopeptides From Human IgA1 by Activated Ion-electron Capture Dissociation;** Kazuo Takahashi¹; Stacy Hall¹; Archer D. Smith IV¹; Knud Poulsen²; Mogens Kilian²; Jan Novak¹; Matthew B. Renfrow¹; ¹*University of Alabama at Birmingham, Birmingham, AL*; ²*Aarhus University, Aarhus, Denmark*
- MP 140 **Separation of Protein Glycoforms by Preparative Native Electrophoresis on the ProteomeSep MF10;** James A Atwood III¹; Jeannette Tran²; John Andrews²; ¹*Bioinquire, Athens, GA*; ²*NuSep, Lane Cove, NSW*
- MP 141 **Investigation of Sulfo-Glycopeptide Enrichment Strategies for Glycoproteomic Work-Flows;** Sergei Snovida; Sz-Wei Wu; Kay-Hooi Khoo; *Institute of Biological Chemistry, Academia Sinica, Taipei, Taiwan*
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- MP 142 **Withdrawn**
- MP 143 **Optimizing Competition-Based Kinase Inhibitor Profiling Using Serial Affinity Enrichment and Targeted Quantitative Mass Spectrometry;** Scott Brittain; Edmund Harrington; Ivan Cornella-Taracido; John Tallarico; Markus Schirle; *NIBR, Cambridge, MA*
- MP 144 **Chemical Kinomics: Approach Towards Quantitative Profiling of Cellular Small Molecule Targets and Kinase Proximal Signaling;** Kirti Sharma¹; Christoph Weber¹; Michaela Bairlein¹; György Kéri²; Chanchal Kumar¹; Jesper Velgaard Olsen³; Jürgen Cox¹; Henrik Daub¹; ¹*Max Planck Institute for Biochemistry, Martinsried (Near Munich), Germany*; ²*Vichem Chemie Ltd, Budapest, Hungary*; ³*Department of Proteomics, University of Copenhagen, Copenhagen, Denmark*
- MP 145 **Label-Free Quantification of Protein Co-Immunoprecipitation Experiments;** Marc Gentzel; Zoltan Maliga; Andrej Vasilj; Anthony Hyman; Andrej Shevchenko; *MPI-CBG, Dresden, Germany*
- MP 146 **High-Performance Label-Free LC-MS Quantification for Bioprocess Analytics;** Daniel C. Chamrad¹; Klaus Marquardt¹; Gerhard Koerting¹; Barbara Sitek²; Sebastin Link²; Helmut E. Meyer²; Kai Stühler²; Martin Blueggel¹; ¹*Protagen AG, Dortmund, Germany*; ²*Medizinisches Proteom-Center, Bochum, Germany*
- MP 147 **High-Speed Proteomic Signature by Informatics-Assisted Label-Free Quantitation;** Pei-Yi Lin¹; Chia-Feng Tsai¹; Chih-Chiang Tsou²; Chia-Li Han¹; Yi-Ting Wang¹; Ting-Yi Sung²; Wen-Lian Hsu²; Yu-Ju Chen¹; ¹*Institute of chemistry, Academia Sinica, Taipei, Taiwan*; ²*Inst. Info Sci, Acad. Sinica, Taipei, Taiwan*
- MP 148 **Synthetic Peptide Libraries as Internal Standards for Label-Free Quantitative Proteomics;** Randy J. Arnold; Katharine Witkin; Brian Bohrer; Yong Li; David E. Clemmer; Predrag Radivojac; Haixu Tang; *Indiana University, Bloomington, IN*
- MP 149 **A Strategy for the Quantification of Protein Polyethylene Glycol Derivatized Sites Using iTRAQ;** Rebecca Monk¹; Majid Ghassemian³; Elizabeth Komives²; ¹*University of California San Diego, La Jolla, CA*; ²*University of California, La Jolla, CA*; ³*UCSD, La Jolla, CA*
- MP 150 **Probing the Oligomeric State of Chloroplast Proteome in Arabidopsis Thaliana by Mass Spectrometry: Megadalton-Sized Complexes and the Clp Protease Machinery;** Paul Dominic B. Olinares; Lalit Ponnala; Klaas J. Van Wijk; *Cornell University, Ithaca, NY*
- MP 151 **Detecting Differentially Expressed Proteins in Drosophila Testes Using LTQ Orbitrap and Tandem Mass Tag;** Yan Wang; Zi-Feng Jiang; Carlos A. Machado; *University of Maryland, College Park, MD*
- MP 152 **Comparison of High pH RP and OGE Fractionation Approaches in 2D-LC Shotgun Analysis of iTRAQ Labeled Potato Extracts;** Yong Yang¹; Li Li¹; Qiang Xu²; Theodore Thannhauser¹; ¹*USDA-ARS at Cornell University, Ithaca, NY*; ²*Cornell University, Ithaca, NY*

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- MP 153 **High-Resolution Isoelectric Focusing: A Leap Forward for Intact Protein Separations and Top-Down Mass Spectrometry;** Daniel Smith; Jaekuk Kim; Steven Patrie; *UT Southwestern Medical Center, Dallas, TX*
- MP 154 **Quantitative Local False Discovery Rates, Deep Sampling and Protein Abundance Change Using a Model Microbial Proteome;** Tiansong Wang¹; Qiangwei Xia²; David A. C. Beck¹; Murray Hackett¹; ¹*University of Washington, Seattle, WA*; ²*Univ of Wisconsin, Madison, Madison, WI*
- MP 155 **Using ANOVA on Spectra Counts Improves Multidimensional Label-Free Quantitative Proteomic Analysis;** Rachel Adams^{1,2}; Paul Abraham^{1,2}; Robert Hettich^{1,2}; Chongle Pan¹; ¹*Oak Ridge National Lab, Oak Ridge, TN*; ²*GST, University of Tennessee, Knoxville, TN*
- MP 156 **Efficiency-Optimized Bioinformatics for Label-Free Quantification;** Andrej Vasil¹; Marc Gentzel²; Andrej Shevchenko³; ¹*MPI-Cell Biology and Genetic, Dresden, Germany*; ²*MPI-CBG, Dresden, Germany*; ³*MPI of Mol Cell Biology, Dresden, Germany*
- MP 157 **Improved Accuracy in Absolute Quantitation of Ricin Extracted from Food Matrices Using a Protein Calibration Curve;** Sara C. Mcgrath¹; David M. Schieltz¹; Lisa G. McWilliams²; John R. Barr¹; ¹*Centers for Disease Control and Prevention, Atlanta, GA*; ²*Battelle Memorial Institute, Atlanta, GA*
- MP 158 **Rapid Processing of Peptide MRM Data Using Relative Noise to Identify Errors and Provide a Mechanism for Combination of Results;** Stephen A Tate¹; Gordana Ivosev¹; Nick Bisson²; Andrew James²; Tony Pawson²; Lorne E B Taylor²; ¹*AB Sciex, Concord, Canada*; ²*SLRI, Mt. Sinai, Toronto, Toronto, ON*
- MP 159 **PeptideAtlas as a Resource for Measuring Human Proteins Using SRM;** David S Campbell¹; Terry Farrah¹; Eric Deutsch¹; Zhi Sun¹; Luis Mendoza¹; Ulrike Kusebauch¹; Mi-Youn Brusniak¹; Jeffrey Stevens¹; Doug Spicer¹; Paola Picotti²; Ruedi Aebersold²; Robert Moritz¹; ¹*Institute for Systems Biology, Seattle, WA*; ²*Institute for Molecular Systems Biology (ETH), Zurich, Switzerland*
- MP 160 **Comparison of Label-Free Proteome Quantification Methods on Standards and Retinoic Acid Treated Cells;** John D Chapman; Yihsuan Tsai; Soyoung Ryu; Ariel Topletz; Alexandre Panchaud; Scott A. Shaffer; Nina Isoherranen; David R. Goodlett; *University of Washington, Seattle, WA*
- MP 161 **Improved Label-Free Quantitative LC-MS for Biomarker Discovery Efforts;** Tom Taverner¹; Alan Dabney²; Huiyan Sang²; Samuel Purvine¹; Gordon Anderson¹; Mary Lipton¹; Richard Smith¹; ¹*Pacific Northwest National Laboratory, Richland, Wa, WA*; ²*Texas A&M University, College Station, TX*
- MP 162 **Which Proteins are Really Differentially Displayed? - -- iTRAQ Data Evaluation;** Xiaomin Song¹; Sean L. Seymour²; Mark Molloy¹; ¹*APAF, Sydney, Australia*; ²*AB SCIEX, Foster City, CA*
- MP 163 **A SILAC Study of Biological Variability in the Mouse: the Murine Cardiac Proteome;** Francesca Zappacosta; John A. Krawiec; Gilbert F. Scott; Mark E. Burgert; John R. Toomey; Roland S. Annan; *GlaxoSmithKline, Collegeville, PA*
- MP 164 **IsoQuan: A New SILAC-Based Mass Spectrometry Quantitation Method;** Yunhu Wan; Zhongping Liao; Stefani Thomas; Austin Yang; *Univ of Maryland Baltimore, Baltimore, MD*
- MP 165 **Relative Quantification of Proteins by Use of Multiplexed Tandem Mass Tags, Nano-LC and an Ultra-High Resolution Time-of-Flight Mass Spectrometer;** Roslyn Dillon; Carol Nilsson; Jingjing Ye; Stone D.-H. Shi; Michael Greig; *Pfizer Global R&D - La Jolla, San Diego, CA*
- MP 166 **Improving Mass Spectrometer Utilization Time for Low Abundance Protein Identification in Complex Proteome Samples;** Christopher Loran¹; Kerry Nugent²; Peter Kent³; Sandy Yates⁴; Christian Klein⁴; Joseph P. Fox⁴; ¹*Michrom Bioresources Inc, Hayward, CA*; ²*Michrom Bioresources, Inc., Auburn, CA*; ³*Michrom Bioresources, Auburn, CA*; ⁴*Bruker Daltonics, Fremont, CA*
- MP 167 **Optimization of Sensitivity, Resolution, Throughput and Robustness in LC-MRM/MS for Protein Quantitation;** Kerry Nugent¹; Lori Ann Upton¹; Yixin Zhu¹; Christopher Loran¹; Sahana Mollah²; Christie L Hunter²; Lydia Nuwaysir²; ¹*Michrom Bioresources, Auburn, CA*; ²*Applied Biosystems, Foster City, CA*
- MP 168 **Quantification of Protein Complexes in Time Course Experiments with High Spectral and Temporal Resolution;** Lorne E B Taylor²; Stephen A. Tate¹; Yong Zheng²; Cunjie Zhang²; Chris Lock¹; Tony Pawson²; ¹*AB SCIEX, Concord, ON, Canada*; ²*Samuel Lunenfeld Research Institute, Toronto, ON, Canada*
- MP 169 **Improving Selectivity Using MRM3 Quantitation for the Definitive Detection of Human Protein Kinases;** Ulrike Kusebauch¹; Christie L Hunter²; Ruedi Aebersold^{1,3}; Robert L Moritz¹; ¹*Institute for Systems Biology, Seattle, WA*; ²*AB SCIEX, Foster City, CA*; ³*ETH Zurich, Zurich, Switzerland*
- MP 170 **Enhanced Sensitivity and Accuracy in Protein Quantification with iTRAQ Using a Dual-Cell Linear Ion Trap - Orbitrap Mass Spectrometer;** Guanghui Wang; Marjan Gucek; *Proteomics Core, NHLBI, NIH, Bethesda, MD*
- MP 171 **Absolute Quantification of the Proteome of Chlamydia trachomatis Using Two-Dimensional Reverse Phase Liquid Chromatography and MS^E;** Thérèse McKenna²; Chris Hughes²; Ian Clarke¹; James Langridge²; C. David O'Connor¹; Paul J Skipp¹; ¹*University of Southampton, Southampton, UK*; ²*Waters Corporation, Manchester, UK*
- MP 172 **Quantitative Proteomics Analysis Using MS-E Data Acquisition of Chlamydomonas Reinhardtii Under Copper-Deficiency Conditions;** Scott Hsieh; Madeli Castruita; Sabeeha S. Merchant; Joseph A. Loo; *UCLA, Los Angeles, CA*
- MP 173 **Quantifying the Effects of Ionizing Radiation and Radioprotectors on Lymphoblastoid Cells Using OFFGeLC-MS-E;** Jonathan Erde¹; A. Jimmy Ytterberg¹; Shareef A. Nahas²; Richard A. Gatti²; Joseph A. Loo¹; ¹*UCLA Department of Chemistry and Biochemistry, Los Angeles, CA*; ²*UCLA School of Medicine, Los Angeles, CA*
- MP 174 **Application of ETD Fragmentation for Quantitative Analysis of the Relative Composition of Amyloid-Beta Binary Mixtures;** Igor Popov²; Maria I. Indeykina²; Sergey Kozin³; Alexey Kononikhin¹; Eugene Nikolaev¹; ¹*The Institute for Energy Problems of Chemical Phys, Moscow, Russian Federation*; ²*Institute of Biochemical Physics RAS, Moscow, Russia*; ³*Institute of Biomedical Chemistry RAMS, Moscow, Russia*
- MP 175 **A Rapid, Reproducible, On-the-Fly Orthogonal Array Optimization Method for Targeted Protein**

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- MP 176 **Quantification by LC/MS and its Application in Clinical Analysis;** Jun Qu¹; Xiaotao Duan¹; Jun Li¹; Hao Wang²; Frank Engler³; ¹University at Buffalo, Amherst, NY; ²UB Pharmaceutical Science, Buffalo, NY; ³Methodist Hosp. Res. Inst., Houston, TX
- MP 177 **Approach of Using Hybrid Ion Trap TOF Mass Spectrometer in Conjunction with Stable Isotope Coding for Protein Quantification and Identification;** Liang Zhao²; Haiqiang Yu³; Will Bankert⁴; Fan Xiang¹; ¹Shimadzu Biotech, Pleasanton, CA; ²University of the Pacific, Stockton, CA; ³The Rockefeller University, New York, NY; ⁴Shimadzu, Pleasanton, CA
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- MP 177 **Quantitative Analysis of Selected Saliva Proteins;** Nawei Zhang²; Nagarajan Chandramouli¹; Daniel Malamud³; Haiteng Deng¹; ¹The Rockefeller University, New York, NY; ²Beijing Chaoyang Hospital affiliated CMSU, Beijing, China; ³NYU College of Dentistry, New York, New York
- MP 178 **A Highly Selective and Sensitive LC-MS/MS Method for Analysis of Glucagon in Human Plasma;** Veniamin Lapko; Paul Brown; Ridha Nachi; Chris Kafonek; Alan Dzerk; John Rollag; Corey Ohnmacht; Chad Briscoe; *MDS Pharma Services, Lincoln, NE*
- MP 179 **Comparison of Peptide Fractionation by Basic pH Reversed Phase, SCX/KCI and SCX/AmFor for Verification of Protein Biomarker Candidates in Plasma;** Michael Burgess; Hasmik Keshishian; Terri Addona; Steven A. Carr; *Broad Institute, Cambridge, MA*
- MP 180 **Development of a Sensitive SPE-Immunoaffinity LC-MS/MS Assay for the Quantification of a Biomarker Peptide (CGRP) in Rat and Human Plasma;** Guodong Zhang¹; Yi (Eve) Su¹; Jie Guo¹; Yizhong Zhang¹; King Lindsay¹; Douglas Fast²; Rick Steenwyk¹; ¹Pfizer Inc., Groton, CT; ²Covance, Madison, WI
- MP 181 **Unbiased Proteomics to Identify Novel Biomarkers for HIV Dementia;** Adriana Bora^{1,3}; Dawn Chen^{2,3}; Ned Sacktor^{2,3}; Justin McArthur^{2,3}; Avindra Nath^{2,3}; Robert Cotter^{1,3}; ¹Department of Pharmacology and Molecular Sciences, Baltimore, MD; ²Department of Neurology, Baltimore, MD; ³Johns Hopkins School of Medicine, Baltimore, MD
- MP 182 **Multiple Reaction Monitoring Verification and Quantitative Analysis of Cathelicidin Biomarker in Human Serum After Automated Sample Cleanup and Deproteinization;** Feliciano Priego-Capote; Mónica Calderón-Santiago; José María Mata-Granados; José Manuel Quesada-Gómez; María Dolores Luque de Castro; *University of Córdoba, Córdoba, Spain*
- MP 183 **Investigation of Lot-to-Lot Matrix Variation and Carry-Over for a Small Peptide in Human Serum;** Yifei Liu; Jessica Schofield; *Tandem Labs, a division of Labcorp, West Trenton, NJ*
- MP 184 **Comparing Multiple Strategies for Targeted Protein Quantitation in Human Serum;** Uta Ceglarek¹; Natalie Wielsch¹; Joerg Dojahn²; Matthias Glueckmann²; Alexander Leichtle¹; Linda Kortz¹; Joachim Thiery¹; Georg Martin Fiedler¹; ¹Institute of Laboratory Medicine, University Hospital and Medical Faculty Leipzig, Germany; ²AB SCIEX, Darmstadt, Germany
- MP 185 **A Validated LC/MS/MS Assay for the Determination of the Tissue Protective Peptide ARA 290 in Human Plasma;** Adlai E Niggebrugge¹; Michael Callahan¹; Michael Yamin²; ¹Charles River Laboratories, Shrewsbury, MA; ²Araim Pharmaceuticals, Ossining, New York
- MP 186 **N, N-Dimethyl Amino Acids as iTRAQ Alternative Reagents for Neuropeptide towards Quantitation at Multiple Feeding Time Points;** Feng Xiang¹; Hui Ye¹; Ruibing Chen¹; Qiang Fu²; Lingjun Li¹; ¹UW-Madison, Madison, WI; ²Schering Plough, North Plainfield, NJ
- MP 187 **Protease Evaluation for Production of Methionine-Deficient Peptides for MRM Quantitation of the Infectious Prion Protein;** Robert Sturm; Clarissa Booth; Christen Smith; Joel Pedersen; Lingjun Li; *University of Wisconsin, Madison, WI*
- MP 188 **Identification, Characterization and Quantification of Neuropeptides by LC-ESI/MS/MS in Rat Models of Osteoarthritis;** Catherine E. Ferland; Pascal Vachon; Francis Beaudry; *University of Montreal, St-Hyacinthe, Canada*
- MP 189 **Quantitation of Neuropeptides on Different Mass Spectrometry Platforms;** Xiaowen Hou¹; Fang Xie²; Jonathan Sweedler¹; ¹University of Illinois Urbana-Champaign, Urbana, IL; ²Pacific Northwest National Laboratory, Richland, WA
- MP 190 **Secretion Vesicle Proteomics: Glioblastoma Exosome and Modulation by Wild-Type p53 Genetherapy;** Jeremiah Tipton¹; Carol Nilsson²; Mark R. Emmett¹; Xiaoyang Sheng³; Charles A. Conrad³; Alan G. Marshall¹; ¹Nat'l High Magnetic Field Lab, Tallahassee, FL; ²Pfizer Inc., San Diego, CA; ³M.D. Anderson Cancer Center, Houston, Texas
- MP 191 **Analysis of Human CSF Alzheimer's Disease Samples Using Surface-coupled Antibody Arrays and MALDI-TOF Mass Spectrometry;** Amanda Bulman¹; Enrique Dalmasso¹; Steve Roth¹; Mariana Rusa¹; Matthew Hammond¹; Fiona Plows¹; Martin Schuereberg²; ¹Bio-Rad Laboratories, Inc., Hercules, CA; ²Bruker Daltonics, Bremen, Germany
- MP 192 **Truncation of CXCL12, Stromal Cell Derived Factor-1, by Proteolytic Enzymes in Bone Marrow from Patients with Polycythemia Vera;** Sool Yeon Cho¹; Mingjiang Xu^{1,2}; John Roboz¹; Ronald Hoffman^{1,2}; ¹Mount Sinai School of Medicine, New York, NY; ²Myeloproliferative Disorder Research Consortium, New York, NY
- MP 193 **Stable Isotope Labeling with Amino Acids in Cell Culture (SILAC)-Based Proteomic Analysis to Investigate Ethanol-Induced Protein Expression Profiles in Microglia;** Amanda Edson¹; David Barber²; Bin Liu²; Ping Zhang²; Stanley M. Stevens, Jr.¹; ¹University of South Florida, Tampa, FL; ²University of Florida, Gainesville, FL
- MP 194 **Quantitative Proteomic Dissection of Epigenetic Changes Associated with LPS-induced Inflammation;** Heather Kuiper; Harsha Gunawardena; Cui Liu; Xian Chen; *University of North Carolina, Chapel Hill, NC*
- MP 195 **Absolute Quantification of Human Embryonic Stem Cell Transcription Factors via Stable Isotope Dilution and Selected Reaction Monitoring Mass Spectrometry;** Gloria Kreitinger¹; Justin Brumbaugh¹; Doug Phanstiel¹; Amol Prakash²; Scott Peterman³; Joshua J. Coon¹; ¹University of Wisconsin, Madison, WI; ²ThermoFisher Scientific, Cambridge, MA; ³Thermo Electron, Grimes, IA
- MP 196 **Quantifying Changes in Protein Expression Level in CEM Cells After Anti-Cancer Treatment;** Tomas Ozdian^{1,3}; Dusan Holub³; Petr Pompach^{1,2}; Petr Man^{1,2}; Martin Strohalm¹; Vladimir Havlicek^{1,4}; Petr Dzubak³;

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- MP 197 **Effect of Toll-Like Receptor Agonists on Thymosin Beta 4 (Tβ4) Production by Chicken Macrophages;** Lakshmi Kannan³; Rohana Liyanage¹; Narayan C Rath²; Jackson O Lay, Jr¹; ¹Department of Chemistry, University of Arkansas, Fayetteville, Arkansas; ²PPPSRU/Agricultural Research Service/USDA, Fayetteville, Arkansas; ³Dept. of Poultry Science, University of Arkansas, Fayetteville, Arkansas
- MP 198 **Quantitative Proteome Analysis of Breast Cancer Tissue Samples for Identification of Putative Cancer Biomarkers;** Lu Chen¹; Andy Lo¹; Sambasivarao Damaraju²; John Mackey²; Liang Li¹; ¹University of Alberta, Edmonton, Canada; ²Cross Cancer Institute, Edmonton, Canada
- MP 199 **Using Mass Spectrometry to Assist the Mechanistic Investigation of DIMM as a Master Regulator in Drosophila Peptidergic Cells;** Ping Yin¹; Dongkook Park²; Paul Taghert²; Jonathan Sweedler¹; ¹University of Illinois at Urbana-Champaign, Urbana, IL; ²Washington University in St. Louis, St. Louis, MO
- MP 200 **Fast and Accurate Quantitative Detection of Microcystins and Nodularins in Serum Matrix with LC-ESI-Q-TOF-MS Instrumentation;** Milla-Riina Neffling; Lisa Spooft; Jussi Meriluoto; *Department of Biochemistry, Åbo Akademi University, Turku, Finland*
- MP 201 **Multiple Reaction Monitoring Assay for Preeclampsia Related Placental Peptides of Calcyclin;** Coskun Güzel; Lennard Dekker; Nicolette Ursem; Eric Steegers; Theo Luider; *Erasmus Medical Center, Rotterdam, The Netherlands*
- MP 202 **Rapid, Large-Scale Multiplexed Protein Quantification on a Timescale and Depth Similar to Cutting-Edge Transcriptomic Technologies;** M. Violet Lee; Scott E. Topper; Audrey P. Gasch; Joshua J. Coon; *University of Wisconsin, Madison, WI*
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- MP 204 **Labeled Label Free Analysis of Estrogen Receptor (ER) Negative Tumors Sensitized to Tamoxifen by Epigenetic Therapy;** Patrick Shaw²; Madhavi Billam³; Brian L Hood^{1,2}; Yi Huang^{1,2}; Thomas P. Conrads^{1,2}; Nancy Davidson^{1,2}; ¹Department of Pharmacology and Chemical Biology, Pittsburgh, PA; ²The University of Pittsburgh Cancer Institute, Pittsburgh, PA; ³Rutgers University, Newark, NJ
- MP 205 **Developing a Mass Spectrometry-Based Workflow Targeting the Plasma Phosphoproteome for Cancer Biomarker Discovery;** Anna M. Zawadzka¹; Bensheng Li¹; Penelope M. Drake²; Miles Braten²; Birgit Schilling¹; Lynda Dieckman³; Lee Makowski³; Susan J. Fisher²; Bradford W. Gibson¹; ¹Buck Institute for Age Research, Novato, CA; ²UCSF Mass Spectrometry Core, San Francisco, CA; ³Argonne National Laboratory, Argonne, IL
- MP 206 **LCM-Proteomics for Breast Cancer Biomarker Discovery: Qualification of Proteins;** Sangwon Cha¹; Marcin B. Imielinski²; Elizabeth A. Richardson²; Tomas Rejtar¹; Dennis C. Sgroi²; Barry L. Karger¹; ¹Northeastern University, Boston, MA; ²Massachusetts General Hospital, Charlestown, MA
- MP 207 **Quantification of Prostate Cancer Proteins from Expressed Prostatic Secretion Using a Stable Isotope Labeled Proteome and Selected Reaction Monitoring;** Ting Zhao¹; Brian L Hood²; Nicholas Bateman¹; Mai Sun²; Thomas P. Conrads¹; ¹University of Pittsburgh, Pittsburgh, PA; ²University of Pittsburgh Cancer Institute, Pittsburgh, PA
- MP 208 **Identification of Protein Markers Predicting Chemotherapy Resistance in Breast Cancer;** Malgorzata Jaremko¹; Rene BH Braakman²; Rui Zhao³; Michael Tian³; Samuel Purvine³; Ljiljana Pasa-Tolic³; John WM Martens²; Theo Marten Luider⁴; John A Foekens²; Arzu Umar²; ¹Mount Sinai School of Medicine, New York, NY; ²Erasmus MC Rotterdam, Dept of Medical Oncology, Rotterdam, The Netherlands; ³Pacific NW Nat'l Lab, Richland, WA; ⁴Erasmus MC Rotterdam, Dept. Neurology, Rotterdam, The Netherlands
- MP 209 **Tissue Protein Biomarker Discovery for Risk of Progression in Barrett's Esophagus;** Brian L Hood¹; Jon M Davison¹; Melanie S Flint¹; Mai Sun¹; Jacqueline M Jones-Laughner¹; Amol Prakash²; Mary F Lopez²; Blair A Jobe¹; Thomas P Conrads^{1,2,3,4}; ¹University of Pittsburgh Cancer Institute, Pittsburgh, PA; ²ThermoFisher Scientific, Cambridge, MA
- MP 210 **Proteomic Biomarker Discovery from Renal Cell Carcinoma Tissue Interstitial Fluid;** Pang-Ning Teng^{1,2}; Brian L Hood¹; Mai Sun¹; Rajiv Dhir³; Thomas P. Conrads^{1,2}; ¹The University of Pittsburgh Cancer Institute, Pittsburgh, PA; ²Department of Pharmacology and Chemical Biology, Pittsburgh, PA; ³Department of Pathology, University of Pittsburgh, Pittsburgh, PA
- MP 211 **Towards a Systematic Understanding of Mechanism-Based Markers for Cancer Prevention: The Functional Convergence of ex vivo and in vivo Proteomes;** Theodoros I. Roumeliotis¹; Nicolaie Eugen Damoc²; Michaela Scigelova²; Thomas Moehring²; Martin Hornshaw²; Pantelis Rigas³; Spiros D. Garbis¹; ¹Biomedical Research Foundation-Academy of Athens, Athens, Greece; ²Thermo Fisher Scientific, Bremen, Germany; ³Technological Educational Institute-Thessaloniki, Thessaloniki, Greece
- MP 212 **Verification of Ovarian Cancer Biomarker Candidates by Nanoparticle Capture MRM-MS;** Paul Russo¹; Francesco Meani¹; Alessandra Luchini¹; Claudia Fredolini¹; Davide Tamburro¹; Temple Douglas¹; Guido Gambaro¹; Weidong Zhou¹; Mark Ross¹; Antonella Ravaggi²; Franco Odicino²; Sergio Pecorelli²; Virginia Espina¹; Lance Liotta¹; Emanuel F. Petricoin III¹; ¹George Mason University, Manassas, VA; ²Universita' Degli Studia Di Brescia, Brescia, Italy
- MP 213 **Utilizing ex vivo Ovarian Cancer Tumor Tissue Secretome for Biomarker Discovery;** Huan Wang¹; Tony Chang-Wong¹; Daniel A Powell Jr²; George Coukos²; David W. Speicher¹; ¹The Wistar Institute, Philadelphia, PA; ²University of Pennsylvania, Philadelphia, PA
- MP 214 **The Identification of Auto-Antibodies in Pancreatic Cancer Patient Sera Using a Naturally Fractionated Panc-1 Cell Line;** Chen Li; Hye-Yeung Kim; Huy

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- MP 215 **Quantitative Global Proteome Profiling of Pancreatic Cancer Stem Cells;** Lan Dai; Chen Li; Diane M Simeone; David M Lubman; *Univ of Michigan, Ann Arbor, MI*
- MP 216 **Secretory Proteome of Pancreatic Cancer Reveals Elevation of Parkinson-Related Proteins;** Gagan Singh Thangjam¹; Vihās Vasu¹; Christopher Thompson²; Damian Fermin³; Juhi Ojha¹; Vadiraja Bhat⁴; Mohsen Shabahang²; Arundhati Rao²; Judith Giri¹; James McLoughlin¹; Preetha Rmalingam¹; Anil Cashikar¹; Alexey Nesvizhskii³; Aurn Sreekumar¹; ¹*Medical College of Georgia, Augusta, GA*; ²*Scott & White Hospital, Temple, TX*; ³*University of Michigan, Ann Arbor, MI*; ⁴*Agilent Technologies, Wilmington, DE*
- MP 217 **Identification of CRIP1 as 8.4 kDa Cytosolic Biomarker for the Classification of HER2 Receptor Status in Breast Cancer Tissues;** Sandra Rauser²; Claudio Marquardt²; Benjamin Balluff²; Christian Albers¹; Eckhard Belau¹; Ralf Hartmer¹; Detlev Suckau¹; Katja Specht³; Matthias P. Ebert³; Manfred Schmitt⁴; Michaela Aubel²; Heinz Hofler²; Axel Walch²; ¹*Bruker Daltonics, Bremen, Germany*; ²*Institute of Pathology, Helmholtz Zentrum München, Neuherberg, Germany*; ³*Institute of Pathology, TUM, München, Germany*; ⁴*Department of Obstetrics and Gynecology, TUM, Munich, Germany*; ⁵*Department of Medicine II, TUM, München, Germany*
- MP 218 **Discovery and Targeted Proteomics of Ovarian Cancer Ascites: Systematic Assay Development for Biomarker Quantification;** Sarah Elschenbroich; Vladimir Ignatchenko; Igor Jurisica; Thomas Kislinger; *Department of Medical Biophysics, OCI, Toronto, Canada*
- MP 219 **Identification of Proteins in Plasma of Lung Cancer Patients and Control Groups Using the Combined LC-ESI-MS/MS and LC-MALDI-MS/MS Approach;** Valeriy Shevchenko; Natalia Arnotskaya; Sergey Kovalev; Andrey Bordulyak; Irina Zborovskaya; Bakhrom Akhmedov; Boris Polotskii; *N. N. Blokhin Russian Cancer Research Center, Moscow, Russian Federation*
- MP 220 **Comparison Study on Proteomic Methods for Formalin-Fixed Paraffin-Embedded Tissue and Mass Spectrometry;** Fa-Yun Che; Linda Siconolfi-Baez ; Edward Nieves; Ruth Hogue Angeletti; Thomas E Rohan; *Albert Einstein College of Medicine, Bronx, NY*
- MP 221 **Biomarker Discovery in Hepatocellular Carcinoma Using Subcellular Fractionation;** Yong Yook Lee¹; Kimberly Q McKinney¹; Sapana U Phatak¹; David A Iannitti²; Mark W Russo²; John B Martinie²; Deborah H Lundgren³; David Han³; Herbert L Bonkovsk; Sun-Il Hwang^{1,2}; ¹*Proteomics Laboratory, Carolinas Healthcare System, Charlotte, NC*; ²*Liver-Biliary-Pancreatic Center, CHS, Charlotte, NC*; ³*University of Connecticut Health Center, Farmington, CT*
- MP 222 **Evaluating Protein Degradation Products as Serum Biomarkers to Determine the Invasiveness of Breast Carcinoma;** Ron Orlando¹; Craig Shriver²; Bernard Seth³; David Kirchner³; Richard Mural³; James Atwood⁴; Kyle Jones⁴; V.S. Kumar Kolli³; ¹*University of Georgia, Athens, GA*; ²*Walter Reed Army Medical Center, Washington, DC*; ³*Windber Research Institute, Windber, PA*; ⁴*BioInquire, Athens, GA*
- MP 224 **An *in vivo* Metabolic Labeling Approach for the Early Detection of Colorectal Cancer Protein Biomarkers in Mouse Serum;** Melanie M. Ivancic; Edward Huttlin; Kelli Kline; Xiaodi Chen; Gregory Barrett-Wilt; Michael R. Sussman; *University of Wisconsin, Madison, WI*
- MP 225 **Prostate Androgen Regulated (PAR) Protein and Tumor Differentiation Factor (TDF) as Serum Biomarkers in Sera of Patients with Cancer;** Supriya Mathur¹; Izabela Sokolowska¹; Melissa Butkiewicz¹; Rama Yakubu¹; Christopher Talbot¹; Jonathan Samson¹; Alisa Woods²; Costel Darie¹; ¹*Clarkson University, Potsdam, NY*; ²*Padure Biomedical, Potsdam, NY*
- MP 226 **Integrative Analysis of Secreted and Membrane Proteomes for Lung Cancer Marker Discovery;** Lichieh Julie Chu¹; Wuchi Ethan Hsu¹; Yuwei Vicky Chang¹; Timothy H. Wu¹; Hungwei Shu¹; Minghuie Gu¹; Rajkumar Ramalingam¹; Xuefeng Fung²; David R. Goodlett³; Wailap Victor Ng¹; ¹*National Yang Ming University, Taipei, Taiwan*; ²*Zhejiang University, Hangzhou, China*; ³*University of Washington, Seattle, WA*
- MP 227 **Determination and Evaluation of Accessibility to Variable Regions of Immunoglobulins by LC-MS;** Christoph Stingl¹; Frederike G.I. van Vilsteren²; Lona Zenejedpour¹; Martijn van Duijn¹; Lennard Dekker¹; Jacques J. Bergman²; Theo M. Luider¹; ¹*Erasmus Medical Center, Rotterdam, The Netherlands*; ²*Academic Medical Center, Amsterdam, The Netherlands*
- MP 228 **Shotgun Proteomics of Breast Cancer Sera to Identify the Markers for Early Cancer Detection;** David Kirchner¹; Richard Katzenhusen¹; Tapan Maiti³; Craig Shriver²; Richard Mural¹; V.S. Kumar Kolli¹; ¹*Windber Research Institute, Windber, PA*; ²*Walter Reed Army Medical Center, Washington, DC*; ³*Johns Hopkins University, Baltimore, MD*
- MP 229 **Quantitative Proteomic Analysis of HER2 Normal and Overexpressing MCF-7 Breast Cancer Cells;** Yanan Tang¹; John R. Mackey²; Liang Li¹; ¹*University of Alberta, Edmonton, Canada*; ²*Cross Cancer Institute, Edmonton, Canada*
- MP 230 **Differential Proteome Profiling of Metastases in Paired Primary and Metastatic Colorectal Cancer;** Un-Beom Kang¹; Hoguen Kim²; Byung-Hee Shin³; Sanghwa Kim³; Cheolju Lee¹; ¹*Life Sciences Division, KIST, Seoul, South Korea*; ²*Pathology, Yonsei University College of Medicine, Seoul, South Korea*; ³*AB SCIEX, Seoul, South Korea*
- MP 231 **Differential Secreted Proteome Approach in Murine Model for Candidate Biomarker Discovery in Colon Cancer;** Kannan Rangiah²; Montri Tippornwong²; Vineet Sangar²; David Austin²; Marie-Pier Tétreault¹; Anil K Rustgi¹; Ian A. Blair²; Kenneth H Yu²; ¹*UPENN, Philadelphia, PA*; ²*Univ. of Penn/SOM/Pharmacol, Philadelphia, PA*
- MP 232 **Matrix Assisted Laser Desorption Ionization Mass Spectrometry Analyses of Proteins Obtained from**

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Biopsy-Dissected Lung Cancer Cells by Peptide Affinity Columns; Kiyoshi Nokihara¹; Yasutoshi Taira¹; Tetsuya Sogon¹; Akiyoshi Hirata¹; Takafumi Ohyama¹; Hiroaki Aoyama²; Naeko Miyazato²; Yukiko Kodama²; Kaori Fujita³; Tsutomu Kawabata³; Kiyoshi Ishikawa³; Takeshi Kasama⁴; ¹*HiPep Laboratories, Kyoto, Japan*; ²*HiPep Okinawa Laboratory, Uruma, Japan*; ³*National Okinawa Hospital, Ginowan, Japan*; ⁴*Tokyo Medical Dental University, Tokyo, Japan*

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- MP 234 **Click Chemistry-Based Universal Enrichment Columns for Global Identification of Azide-Modified Proteins;** Xiao-Dong Qian; Tamara Nyberg; Courtenay Hart; Peter Slade; Wenxi Huang; Brian Agnew; *Molecular Probes, Life Technologies, Eugene, OR*
- MP 235 **Determine the Influence of the Sequence and 3D Structures on the Rate of Aspartyl-Isoaspartyl Formation by Electron Capture Dissociation;** Yiqun Huang¹; Chunxiang Yao¹; Peter O'Connor²; Cheng Lin¹; ¹*Boston University, Boston, MA*; ²*University of Warwick, Coventry, UK*
- MP 236 **Complete Trimethylation of Lysine Residues and Extension to Quantitation of Lysine Methylation in Proteins;** Anthony Berardinelli; Wendell P. Griffith; *University of Toledo, Toledo, OH*
- MP 237 **Retention Time Prediction for Chemically and Post-Translationally Modified Peptides: N-Terminal Cyclization;** Oleg V. Krokhin; Michael Harder; Andriy Yamchuk; Vic Spicer; Kenneth Standing; *University of Manitoba, Winnipeg, Canada*
- MP 238 **Distinguishing Endogenous D-Amino Acid-Containing Neuropeptides by Tandem Mass Spectrometry;** Lu Bai^{1,2}; Elena Romanova^{1,2}; Nobutoshi Ota¹; Jonathan Sweedler^{1,2}; ¹*University of Illinois at Urbana-Champaign, Urbana, IL*; ²*Beckman Institute, Urbana, IL*
- MP 239 **Evaluation of CID and ECD Fragmentation Behavior of Biotinylated Peptide-Oxylipid Adducts;** Shin-Cheng Tzeng; Claudia Maier; *Oregon state university, Corvallis, OR*
- MP 240 **The Role of SUMOylation in BLM (Bloom Syndrome) Regulation;** Omoruyi Osula^{1,2}; Jianmei Zhu^{3,4}; Michael Matunis^{3,4}; Robert J. Cotter^{1,2}; ¹*Johns Hopkins University School of Medicine, Baltimore, MD*; ²*Middle Atlantic Mass Spectrometry Laboratory, Baltimore, MD*; ³*Bloomberg School of Public Health, Baltimore, MD*; ⁴*Department of Biochemistry and Molecular Biology, Baltimore, MD*
- MP 241 **A Biotinylated Analog of the Spin-Trap DMPO Opens New Frontiers in Detection of Low Abundance Protein Radicals by Mass Spectrometry;** Olivier Lardinois; Ronald Mason; Kenneth B. Tomer; Leesa Deterding; *NIEHS, RTP, NC*
- MP 242 **Semiquantitative Analysis of an Isoaspartic Acid in Human α -Crystallin by Post Source Decay on Curved Field Reflectron;** Yuzo Yamazaki¹; Norihiko Fujii²; Noriko Fujii²; Andrew Wilson³; ¹*Shimadzu Corporation, Kyoto, JAPAN*; ²*Research Reactor, Institute, Kyoto University, Osaka, Japan*; ³*Shimadzu Biotech, Manchester, UK*
- MP 243 **Determining the Site of Spin Trapping and Protein Cross-Linking of the Bovine Lactoperoxidase Protein**

Radical by Mass Spectrometry; Olivier Lardinois; Ronald Mason; Kenneth B. Tomer; Leesa Deterding; *NIEHS, RTP, NC*

- MP 244 **Neutral Loss-Triggered Electron Transfer Dissociation Mass Spectrometry for the Identification of Citrullination of Arginine;** Andrew Creese; Melissa Grant; Iain Chapple; Helen Cooper; *University of Birmingham, Birmingham, UK*
- MP 245 **Deamidation and Transamidation of Peptides Revealed by Electron Capture Dissociation Mass Spectrometry;** Luca Fornelli; Adrien W. Schmid; Luigino Grasso; Horst Vogel; Yury O. Tsybin; *Ecole Polytechnique Federale de Lausanne, CH-1015, Lausanne, Switzerland*
- MP 246 **Mapping Oxidative Protein Thiol Modifications with Specific Enrichment and Mass Spectrometry: An Integrated Approach to Explore the Cysteine Oxidation;** Chih-Che Wu; *National ChiNan University, Puli, Taiwan*
- MP 247 **Oxidation of the Parkin Cysteine-Rich Regions Perturbs its E3 Ligase Activity;** Zecong Gu; Fanjun Meng; *University of Missouri-Columbia Path. & Anat. Sci., Columbia, MO*
- MP 248 **Oxidative Stress-Induced Protein Modification: Application of Clickable Linoleic Acid Analogs;** Robert Aggeler; Peter Slade; Tamara Nyberg; Chad Pickens; Upinder Singh; Brian Agnew; *Molecular Probes-Life Technologies, Eugene, OR*
- MP 249 **Improved Techniques for Identifying and Quantifying Protein-Hydroxyl Radical Oxidized Products in Peptides and Proteins;** Jessica M. Saladino; Joshua S. Sharp; *Complex Carbohydrate Research Center, Athens, GA*
- MP 250 **Mass Spectrometric Investigations on the Kinetics of Histone Modifications;** Barry Zee; Benjamin Garcia; *Princeton University, Princeton, NJ*
- MP 251 **A Novel msn MRM-Like Approach for Studying Post-Translational Modifications in Histone H3 Using and Ion Trap;** Andrew David Cronshaw¹; Jimi-Carlo Bukowski-Wills²; Thierry Le Bihan²; Juri Rappsilber³; ¹*University of Edinburgh, Edinburgh, UK*; ²*CSBE, Univ. Edinburgh, Edinburgh, UK*; ³*Wellcome Trust Centre for Cell Biology, Edinburgh, UK*
- MP 252 **"Middle-Down" Analysis of Histone Acid Digestion Products Using CID and ETD on a LTQ-Orbitrap;** Stephen Swatkoski; Robert J. Cotter; *Johns Hopkins University School of Medicine, Baltimore, MD*
- MP 253 **Unrestrictive Identification of Post-Translational Modifications in Yeast Core Histone by Mass Spectrometry;** Kai Zhang; *Nankai University, Tianjin, China*
- MP 254 **Toward Comprehensive Studies of Histone PTMs by Chemical Derivatization and OFFGEL Fractionation;** Minjia Tan; Yue Chen; Yingming Zhao; *Ben May Department for Cancer Research, the University of Chicago, Chicago, IL*

MICROBIAL ANALYSIS, 255 - 276

- MP 255 **Intact Cell / Intact Spore Mass Spectrometry (MALDI TOF Mass Spectrometry) of Microorganisms on Single-Use Polymer Targets;** Stefan Bugovskiy¹; Wolfgang Winkler¹; Werner Balika²; Manfred Koranda²; Marcel Erhard³; Stefan Sauermann³; Guenter Allmaier¹; ¹*Vienna University of Technology, Vienna, Austria*; ²*Sony DADC Austria AG, Anif, Austria*; ³*AnagnosTec, Potsdam, Germany*

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- MP 256 **Rapid Characterization of Bacterial Lipopeptides by LC/MS/MS;** Armelle Ballade; Corinne Buré; Maria Urdaci; Jean-Marie Schmitter; *University of Bordeaux, Bordeaux, France*
- MP 257 **Capture of Bacteria with Various Functionalized Magnetic Nanoparticles for Detection by MALDI-MS;** Zhen-Jun Liu; Cheng-Tung Chen; P. Muralidhara Reddy; Yen-Peng Ho; *National Dong Hwa University Dept. of Chemistry, Hualien, Taiwan*
- MP 258 **Characterization of Fungi Using SPME-GC/MS of MVOCs Emitted from *Aspergillus fumigatus*, *Aspergillus nidulans*, *Fusarium solani* and *Penicillium paneum*;** Takae Takeuchi^{1,2}; Tomoko Kimura¹; Haruna Tanaka¹; Masato Kiuchi²; Sachiyo Kaneko¹; Shin-ichi Iwaguchi¹; Takahito Suzuki¹; ¹*Nara Women's University, Nara, Japan*; ²*National Institute of Advanced Industrial Science, Ikeda, Osaka, Japan*
- MP 259 **Lipids and Peptides on *Pseudallescheria/Scedosporium* Fungal Spores;** Michael Volny¹; Petr Novak¹; Miroslav Sulc¹; Karel Lemr²; Marian Hajduch²; Eliana Barreto-Bergter³; Vladimir Havlicek¹; ¹*Institute of Microbiology, Prague 4, Czech Republic*; ²*Palacky University, Olomouc, Czech Republic*; ³*Universidade de Rio de Janeiro, Rio de Janeiro, Brasil*
- MP 260 **Study on Matrix Additives for Sensitive Analysis of Lipid A Using MALDI Mass Spectrometry;** Jianjun Li; Ping Zhou; Malcolm Perry; Eleonora Altman; *National Research Council, Ottawa, Canada*
- MP 261 **Laser Desorption/Ionization Mass Spectrometry of Bacterial Quorum Sensing Molecules;** Deepika Dhaware¹; Ajeet Singh¹; Nivedita Bhattacharya¹; Venu Gopal S²; Dipankar Ghosh²; Venkateswarlu Panchagnula¹; ¹*National Chemical Laboratory, Pune, India*; ²*Jawaharlal Nehru University, New Delhi, India*
- MP 262 **Optimization of Experimental Protocols for Cellular Lysis and Proteogenomic Characterizations of Soil Microbial Species;** Ritin Sharma¹; Karuna Chourey²; Manesh Shah²; Robert Hettich^{1,2}; ¹*UT/ORNL Graduate Program in Genome Science & Techn, Knoxville, TN*; ²*Oak Ridge National Laboratory, Oak Ridge, TN*
- MP 263 **Application of Top-Down Mass Spectrometry to the Validation of In-Silico Predicted Protein Mutations and Sequence Errors;** Melinda A. McFarland; John H. Callahan; Denis Andrzejewski; Rebecca Bell; Errol Strain; Steven M. Musser; *FDA-CFSAN, College Park, MD*
- MP 264 **Identification of Halobacterium sp. NRC-1 Heat-Shock Adaption Related Proteins;** Rueyhung Roc Weng¹; Yuchieh Kao¹; Seewen Chin¹; Jinzhi Chen²; David R. Goodlett²; Wailap Victor Ng¹; ¹*National Yang Ming University, Taipei, Taiwan*; ²*University of Washington, Seattle, WA*
- MP 265 **Proteome Studies of Clostridium Acetobutylicum from Butanol Fermentation by Mass Spectrometry Approach;** Kumaran Sivagnanam¹; Mark Lefsrud¹; Vijaya Raghavan¹; Manesh Shah²; Robert Hettich²; Nathan Verberkmoes²; ¹*McGill University, Ste-Anne-De-Bellevue, Canada*; ²*Oak Ridge National Laboratories, TN*
- MP 266 **Yeast Proteome Expression during Ethanol Fermentation;** Eric Huang¹; Mark Lefsrud¹; Valérie Orsat¹; Manesh Shah²; Robert Hettich²; Nathan C. Verberkmoes²; ¹*Bioresource Engineering, McGill University, Ste-Anne-De-Bellevue, Canada*; ²*Oak Ridge National Laboratory, Oak Ridge, TN*
- MP 267 **Comparative Proteomic Analysis of Holdfast-Positive and Holdfast-Negative Strains of Caulobacter Crescentus;** Yuan Cao; Helen M. Johnson; Seth N. Levin; Carthene R. Bazemore-Walker; *Brown University, Providence, RI*
- MP 268 **Defining and Quantifying Individual and Co-Cultured Cellular Proteomes of Two Thermophilic Microorganisms by GeLC-MS/MS and Spectral Counting;** Genna Andrews; Derrick Lewis; Jaspreet Notey; Robert Kelly; David C. Muddiman; *North Carolina State University, Raleigh, NC*
- MP 269 **Rapid Detection of Pathogenic Bacteria Using Secondary Electrospray Ionization-Mass Spectrometry (SESI-MS);** Jiangjiang Zhu; Heather Bean; Yin-Ming Kuo; Jane Hill; *University of Vermont, School of Engineering, Burlington, Vermont*
- MP 270 **Unveiling Unique Entamoeba Histolytica Proteophosphoglycans;** Andrea Carpentieri; G. Guy Bushkin; Catherine E. Costello; Phillips W. Robbins; John Samuelson; *Boston University SM, Boston, MA*
- MP 271 **Identification of Species Biomarkers of Listeria Bacteria by High Resolution TOF-MS;** David Cox¹; Stephen A Tate¹; Alina Dindyal-Popescu¹; Jacqueline Upham²; James MacNeil²; Takeo Sakuma¹; ¹*AB Sciex, Concord, Ontario, Canada*; ²*Canadian Food Inspection Agency, Dartmouth, Nova Scotia, Canada*
- MP 272 ***Pseudallescheria/Scedosporium* Fungal Spores Proteomic and Metabonomic Analysis;** Miroslav Sulc^{1,2}; Katerina Pavlaskova^{1,2}; Jan Sklenar¹; Alexandr Jegorov³; Vladimir Havlicek¹; ¹*Institute of Microbiology, Prague 4, Czech Republic*; ²*Department of Biochemistry, Charles University, Prague 2, Czech Republic*; ³*TEVA Pharmaceuticals, Ceske Budejovice, Czech Republic*
- MP 273 **A High Sensitivity Adenylate Cyclase LC-MS/MS Assay for Anthrax Edema Factor;** Renato Lins¹; Anne Boyer²; Zsuzsanna Kuklencyik²; Conrad Quinn²; Maribel Gallegos¹; Clinton Leysath³; Zhanchun Chen³; Kuang-Huan Chen³; Michelle Makiya³; Leppla Stephen³; James Irkle²; John R. Barr²; ¹*CDC - Battelle Institute, Atlanta, GA*; ²*Center For Disease Control and Prevention, Atlanta, GA*; ³*National Institutes of Health, Bethesda, MD*
- MP 274 **GC-MS/MS Measurement of Tuberculostearic Acid (TBSA) for Rapid Quantitation of Mycobacterium Tuberculosis in Experimental Infections;** Geping Cai; Guido Pauli; Scott Franzblau; *University of Illinois College of Pharmacy, Chicago, IL*
- MP 275 **Methodological Developments in Analysis of Primary Metabolites in Unicellular Eukaryotes by MALDI-MS;** Pawel L. Urban¹; Andrea Amantonico¹; Jonathan Ruchti¹; Stephan Fagerer¹; Josep Puigmarti¹; Peter M. Gehrig²; Renato Zenobi¹; ¹*ETH Zurich, Zurich, Switzerland*; ²*Functional Genomics Center, Zurich, Switzerland*
- MP 276 **Intact Protein Profiling of Pathogens Using LCMS, Protein Feature Extraction Software and Rigorous Differential Analysis;** Denis Andrzejewski¹; Melinda A. McFarland¹; Rebecca Bell¹; John H. Callahan¹; Steve Musser¹; Norton Kitagawa²; Jose Meza²; Greg Kilby²; Vadiraja Bhat²; ¹*FDA-CFSAN, College Park, MD*; ²*Agilent Technologies, Santa Clara, CA*

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LIPIDS I, 277 - 299

- MP 277 **Single Analyte Mediated Quantitative Determination of Endogenous 5-HETE and 5-OXO-EETE in Plasma Samples;** Ling Morgan; Kris King; Guangyu Zhao; Chris Tran; *Tandem Labs, Woburn, MA*
- MP 278 **Quantification of 4-Alpha- and 4-Beta-Hydroxycholesterol in Human Plasma Using Automated Sample Preparation and LC-ESI-MS/MS Analysis;** Angela K. Goodenough; Joelle Onorato; Zheng Ouyang; A. David Rodrigues; Sreeneeranj Kasichayanula; Shu Chang; Marc Bifano; Guodong Chen; Petia Shipkova; Mohammed Jemal; Frank LaCreta; Adrienne Tymiak; David Wang-Iverson; *Bristol-Myers Squibb, Princeton, NJ*
- MP 279 **Tandem Mass Tags for Quantification of Steroids;** William James Griffiths¹; Yuqin Wang¹; Michael Ogundare¹; Anna Meljon¹; Stefan Kienle²; Karsten Kuhn²; ¹*Swansea University, Swansea, UK*; ²*Proteome Sciences, Frankfurt am Main, Germany*
- MP 280 **Quantitative Analyses of Sphingolipids Using Amine-Reactive Tagging Reagents;** Takuji Nabetani¹; Nozomu Okino²; Yoko Ohashi³; Toshihide Kobayashi¹; Yoshio Hirabayashi³; ¹*Lipid Biology Laboratory, Riken, Wako, Japan*; ²*Marine Biological Chemistry, Kyushu University, Fukuoka, Japan*; ³*Brain Sci. Inst., Riken, Wako, Japan*
- MP 281 **Quantification of Steroids and 25-OH Vitamin D3 in Dried Blood Spots and Serum Using Liquid Chromatography Tandem Mass Spectrometry;** Theresa Lee¹; Hua-Fen Liu¹; Susan Leonard¹; Michael Nova²; Robert L. Fitzgerald^{3,4}; David A. Herold^{3,4}; ¹*AB SCIEX, Foster City, CA*; ²*Pathway Genomics, Inc., San Diego, CA*; ³*University of California-San Diego, La Jolla, CA*; ⁴*3VA Healthcare System, San Diego, CA*
- MP 282 **Lipidomic Analysis of Neurological Mitochondria Isolated from Various Lobes as a Function of Alzheimer's Disease Progression;** Michael D. Timmons; Melissa A. Bradley; Mark A. Lovell; Bert C. Lynn; *University of Kentucky, Lexington, KY*
- MP 283 **Identification of Lipid Metabolites in the Plasma of the Endangered White-Winged-Wood Duck Infected with Mycobacterium Avium;** Claire. McCarthy; Audrey Anzelik; Michael Majetich; Jooi Vyas; Brittany Palmer; Margaret Pokryfki; Jody M. Modarelli; *Hiram College, Hiram, OH*
- MP 284 **Lipid Fingerprint in Plant Leaves with Increased DGAT Expression: Optimization of Plant Biomass for Biofuels;** Anita Brinker¹; Nikolai Borisjuk²; Vyacheslav Andrianov²; Natalia Pogrebnyak²; Paulina Matyszczuk²; Hilary Koprowski²; Joseph Dixon¹; ¹*Dept. of Nutritional Sciences, Rutgers University, New Brunswick, NJ*; ²*Biotechnology Foundation Labs, Thomas Jefferson U., Philadelphia, PA*
- MP 285 **In-Depth Glycosphingolipidomics Profiling Using nanoHPLC Chip/MS;** Hyeyoung Lee¹; Caroline S. Chu¹; Rudolf Grimm²; Carlito Lebrilla¹; J. Bruce German¹; ¹*University of California, Davis, CA*; ²*Agilent Technologies, Santa Clara, CA*
- MP 286 **Lipid Analysis of Phagosomal Membranes;** Nicholas Proschogo¹; Astrid Magenau¹; Todd W Mitchell²; Leila Hejazi¹; Anthony Don¹; Wendy Jessup¹; Katharina Gaus¹; ¹*University of New South Wales, Sydney, Australia*; ²*University of Wollongong, Wollongong, Australia*
- MP 287 **MALDI-MS Determination of Apolipoprotein Molecular Stoichiometry in Native High Density**
- Lipoprotein Sub-fractions;** Stephen F. Macha¹; Kekulawalage Gauthamadasa²; Henry J. Pownall³; Corina Rosales³; Rong Huang²; Larry Sallans¹; R. A. Gangani D. Silva²; ¹*Department of Chemistry, University of Cincinnati, OH*; ²*Department of Pathology and Laboratory Medicine, University of Cincinnati, OH*; ³*Department of Medicine, Atherosclerosis and Vascular Medicine, Baylor College of Medicine, TX*
- MP 288 **Towards High-Throughput Targeted Lipid Analysis of Intact Yeast Using MALDI-QqQ for Application in Screening of Genetic Libraries;** Amaury Cazenave-Gassiot¹; Melvyn Tan¹; Sepp Kohlwein²; Markus Wenk¹; ¹*University of Singapore, Singapore*; ²*University of Graz, Graz, Austria*
- MP 289 **S-adenosylmethionine – Essential in Cadmium Stressed Saccharomyces Cerevisiae Cells;** S Mariccor Andresa Batov¹; Rohana Liyanage¹; Peter Kaiser²; Charles L. Wilkins¹; ¹*University of Arkansas, Fayetteville, AR*; ²*University of California, Irvine, CA*
- MP 290 **Direct Analysis of Phospholipids in Plasma Membrane of an RBL-2H3 Cell by the Live Single Cell Mass Spectrometry;** Toshiki Ueda¹; Hajime Mizuno²; Naohiro Tsuyama²; Takanori Harada²; Tsutomu Masujima²; ¹*Hiroshima Univ. BioMed, Hiroshima, Japan*; ²*Hiroshima Univ. BioMed., Hiroshima, Japan*
- MP 291 **'Targeted' Girard Derivatization to Enable Selective ESI-MS/MS Detection of the Keto Sterol Signature Associated with Cerebrotendinous Xanthomatosis;** Louise S Merkens; Robert D Steiner; Andrea E Debarber; *Oregon Health & Science University, Portland, OR*
- MP 292 **Simplified LC/MS/MS Analysis of N-Modified Phosphatidylethanolamines;** Lilu Guo; Venkataraman Amarnath; Sean Davies; *Vanderbilt University, Nashville, TN*
- MP 293 **An LC-ESI-Tandem Mass Spectrometry Method for Quantitative Analysis of Phospholipid Structure in Fermenting Yeast to Understand Mechanisms of Ethanol Tolerance;** Clark Henderson; Marjorie Longo; David Block; *Univeristy of California, Davis, CA*
- MP 294 **An Approach to the Microdetermination of Labile Estrogen o-Quinones by Liquid Chromatography-Electrospray Ionization Tandem Mass Spectrometry;** Kouwa Yamashita; Sachiko Komatsu; Akina Masuda; Yuka Hoshino; Mitsuteru Numazawa; *Tohoku Pharmaceutical University, Sendai, Japan*
- MP 295 **Microassay for Quantitation of Corticosteroids in Mouse Plasma Using a nanoLC Microfluidic Device and a Triple Quadrupole Mass Spectrometer;** Gabriel Gugiu; Teresa Hong; Diana Diaz-Arevalo; Markus Kalkum; *City of Hope Beckman Reseach, Duarte, CA*
- MP 296 **Analysis of Oxidized Cholesteryl Esters and Phospholipids in Zebrafish Fed a High-Cholesterol Diet;** Richard Harkewicz; Longhou Fang; Karsten Hartvigsen; Tiffany Sayaphupha; Joseph L. Witztum; Edward A. Dennis; Sotirios Tsimikas; Yuri I. Miller; *University of California, San Diego, La Jolla, CA*
- MP 297 **Novel Strategies for the Rapid Analysis of Cholesteryl Esters and Diglycerides Using Direct-Infusion Electrospray Mass Spectrometry and Tandem Mass Spectrometry;** John Bowden; Robert Brown; David Ford; *St Louis University School of Medicine, St Louis, MO*

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- MP 298 **Normal Phase LC/MS Analysis of Triglyceride Concentration and Composition in Liver Cells;** Diana R Johnson; Anita Brinker; Joshua Thackray; Joseph Dixon; *Rutgers University, New Brunswick, NJ*
- MP 299 **A Mass Spectrometric Method to Monitor Phosphatidylserine Remodeling in Living Cells Using Labeled Serine and Fatty Acids;** Karl R Kevala; Atsuko Kimura; Hee-Yong Kim; *National Institutes of Health, Bethesda, MD*
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| CLINICAL CHEMISTRY, 300 - 321 | |
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- MP 300 **Withdrawn**
- MP 301 **Potential Interferences in the MS/MS Analysis of Acylcarnitines in Dried Blood Spots Provides Important Clinical Information in Metabolic Screening;** Donald H. Chace²; Victor De Jesus¹; Timothy Lim¹; W Harry Hannon¹; Alan Spitzer²; ¹*Centers for Disease Control and Prevention, Atlanta, GA*; ²*Pediatric Medical Group, Pittsburgh, PA*
- MP 302 **Methylmalonic Acid Quantitation in Serum, Urine and Amniotic Fluid: A Method Modification with Benefits;** Jean M Lacey; Mark J Magera; Dietrich Matern; *Mayo Clinic, Rochester, MN*
- MP 303 **Determination of Underivatized Isomeric Short-Chain Acylcarnitines Using UPLC-MS/MS;** Willem Kulik; Henk van Lenthe; Marinus Duran; *Academic Medical Center, Amsterdam, Netherlands*
- MP 304 **Neonatal Screening Test for Inherited Metabolic Disorders by Tandem Mass Spectrometry in Korea;** Sung Eun Cho; Yoon Suk Baik; *Eone Reference Laboratory, Seoul, South Korea*
- MP 305 **Quantification of Plasma total Cysteine, Homocysteine and Methionine by LC/MS/MS with Ion-Pairing Chromatography;** David Hasman¹; Sheila Innis²; Roger Dyer²; ¹*Procyon Research Inc., Vancouver, Canada*; ²*University of British Columbia, Vancouver, Canada*
- MP 306 **Assay Validation of Endogenous Fatty Acid Ethanolamides in Human Whole Blood;** John Loughney; Xiaoyao Xiao; Richard Hajdu; Mark Rosenbach; Wesley Tanaka; Omar Laterza; *Merck, Rahway, NJ*
- MP 307 **MS/MS Simplified Diagnosis of MPS III types A,B,C and D in Dried Blood-Spots;** Brian J. Wolfe; Tanvir Khaliq; C. Ronald Scott; Michael H. Gelb; Frantisek Turecek; *University of Washington, Seattle, WA*
- MP 308 **Determination of Glutaric Acid, Ethylmalonic Acid and Methylsuccinic Acid in Blood Spots by Liquid Chromatography-Tandem Mass Spectrometry;** Coleman Turgeon; Mark Magera; Dimitar Gavrilov; Devin Oglesbee; Kimiyo Raymond; Silvia Tortorelli; Matern Dietrich; Piero Rinaldo; *Mayo Clinic, Rochester, MN*
- MP 309 **New insights into the Thyroid Endocrine System by HPLC-ESI-MS-MS;** Alessandro Saba¹; Maja Marchini²; Grazia Chiellini²; Sabina Frascarelli²; Sandra Ghelardoni²; Andrea Raffaelli³; Riccardo Zucchi²; ¹*University of Pisa - Chemistry Dept., Pisa, Italy*; ²*University of Pisa - Medical School, Pisa, Italy*; ³*CNR ICCOM - UOS Pisa, Pisa, Italy*
- MP 310 **Ultra-Sensitive Profiling of Androgenic Steroids in Laser Capture Microdissection Preparations from Prostate Cancer Patients, Using Micro-Scale Enrichment and Isotope-Dilution NanoLC-MS/MS;** Xiaotao Duan^{1,3}; Oka Daizo²; Mark A Titus²; James L Mohler²; Jun Qu^{1,3}; ¹*University at Buffalo, Amherst, NY*; ²*Roswell Park Cancer Institute, Buffalo, NY*; ³*CoE in Bioinformatics & Life Sciences, Buffalo, NY*
- MP 311 **Selectivity Evaluation for Underivatized Steroid Analysis by LC-MS/MS in Clinical Diagnostics;** Jim Bruton; Russell Grant; Patricia Holland; Brian Rappold; *Labcorp, Burlington, NC*
- MP 312 **Simultaneous Quantitation of Cortisol and Cortisone in Saliva Using Liquid Chromatography-Tandem Mass Spectrometry;** Valdemir Melechco Carvalho; Odete Hirata Nakamura; José Gilberto Vieira; *Fleury Group, São Paulo, Brazil*
- MP 313 **An Automated Procedure for Determining ITSP Sold Phase Extraction Analytical Parameters for the Analysis of Cortisol and Cortisone in Urine;** Rick Youngblood¹; Kimberly Gamble¹; Thurman Allsup²; Ken Lewis²; ¹*MicroLiter Analytical Supplies, Inc., Suwanee, GA*; ²*OpAns, LLC, Durham, NC*
- MP 314 **Enhancing Limits of Detection of Vitamin D3 and its Metabolites Using a Novel Derivatization Strategy;** Subhakar Dey; Brian Williamson; Sasi Pillai; Subhasish Purkayastha; *AB Sciex, Framingham, MA*
- MP 315 **A Novel Approach for Rapid Quantitative Analysis of 1 α ,25-Dihydroxyvitamin D3 in Human Plasma;** Patrick M. Jeanville¹; Steve Schachterle²; Mingda Wang³; Chris Kellogg¹; Lisa Wilson⁴; ¹*Varian Inc., West Palm Beach, FL*; ²*Varian, Inc., Walnut Creek, CA*; ³*Varian INC, Walnut Creek, CA*; ⁴*Varian Ltd., Yarnton, Oxford, UK*
- MP 316 **Comprehensive MRM Analysis of Fat-Soluble Vitamins including 25(OH)-Vitamin D3: Sensitivity and Selectivity by ESI LC/MS/MS;** Doug Heath¹; Bryan Grimmelt¹; Qingan Zheng¹; Wei Jin¹; Amir Kavianpour¹; Jordan Van De Vorst¹; Ellie Majdi²; Dragan Vuckovic²; ¹*Phenomenome Discoveries, Inc., Saskatoon, Canada*; ²*IONICS Mass Spectrometry Group, Inc., Bolton, ON*
- MP 317 **Assay of 25-OH Vitamin D: Comparing Extraction, Chromatography, and Ionization Methods;** Alan W. Taylor; Jeffrey Morre; Adrian Gombart; *Oregon State University, Corvallis, OR*
- MP 318 **Increasing Throughput by Multiplexing Different Clinical Research Analyses Using a Multiple Parallel LC-MS System;** Adrian Taylor; David Cox; Min J. Yang; John Gibbons; *AB SCIEX, Concord, Canada*
- MP 319 **Sensitivity Comparison between Triple Quadrupole, Linear Iontrap and Orbitrap Mass Spectrometers for Quantitative Analysis of 1,25-Dihydroxyvitamin D;** Barbora Chindarkarova; Marta Kozak; Julie Horner; Oksana Gvozdyak; *Thermo Fisher Scientific, San Jose, CA*
- MP 320 **Automated Detection of Mixed Cultures of Microorganisms from Positive Blood Cultures Using MALDI-TOF Mass Spectrometry;** Thomas Wenzel^{1,2}; Victor Fursey^{1,2}; Stefan Klepel^{1,2}; Beatrix Wegemann^{1,2}; Thomas Maier^{1,2}; Markus Kostrzewa^{1,2}; ¹*Bruker Daltonics, Bremen, Germany*; ²*Bruker Daltonics, Billerica, MA*
- MP 321 **LC-MS/MS Methods for Estrogens and Testosterone Analysis at Low Picogram Detection Limits;** Beth Fernandez¹; John McFarlane¹; Tania Sasaki²; Judy Stone³; Hua-Fen Liu¹; ¹*AB SCIEX, Foster City, CA*; ²*Avee Laboratories, Clearwater, FL*; ³*TPMG Kaiser Regional Laboratory, Richmond, CA*

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METABOLOMICS I, 322 - 348

- MP 322 **Analytical Method Development for the Measurement of Lipid-Related Exometabolome Species of *S. Cerevisiae* by Tandem Mass Spectrometry;** Tao Sun; Metchell Johnson; *Duquesne University, Pittsburgh, PA*
- MP 323 **Database Driven MS Fragment Prediction and Structure Elucidation for Identification of Endogenous Metabolites;** Taisuke Uehara^{1,2}; Yuji Miura¹; Ikumi Suzuki^{1,2}; Ken Aoshima¹; Yoshiya Oda^{1,2}; ¹Eisai Co., Ltd., Tsukuba, Japan; ²Crest, Saitama, Japan
- MP 324 **Finding the Discriminatory Variables with Low Abundance for Mass Spectrometry Based Metabolomics Using the Dataset Split Method;** Jianghao Sun; Ruiping Zhang; Yanhua Chen; Jiuming He; Zeper Abliz; *Institute of Materia Medica, CAMS & PUMC, Beijing, China*
- MP 325 **Finding More Reliable Potential Biomarkers for Dynamic Metabonomics Using XCMS Box-Plots;** Guoqing Shen; Jinfa Bai; Yanhua Chen; Jianghao Sun; Ruiping Zhang; Zeper Abliz; *Institute of Materia Medica, CAMS & PUMC, Beijing, China*
- MP 326 **Evaluation of Analytical, Experimental and Biological Variability in a UPLC-MS Liver Metabolic Profiling Study;** Perrine Masson¹; Konstantina Spagou^{1,2}; Elizabeth J Want¹; ¹Imperial College London, London, UK; ²Aristotle University, Thessaloniki, Greece
- MP 327 **Targeted Metabolomic Approach for Analyzing Carotenoids in Algae Samples Using LC-UV Coupled with ESI-MS;** Fong Lam Chu; Laura Pirastru; Radovan Popovic; Lekha Sleno; *UQAM, Montreal, Canada*
- MP 328 **Metabolomic Analysis of Urine from Rats Chronically Dosed with Acrylamide Using NMR and LC/MS;** Jinchun Sun; Laura K. Schnackenberg; Lisa Pence; Daniel R. Doerge; John Bowyer; Richard D. Beger; *NCTR / USFDA, Jefferson, AR*
- MP 329 **Metabolic Profiling of Benign Prostate Hyperplasia Urines by Ultra-High Performance Liquid Chromatography/Mass Spectrometry;** Wen-Yu Liao¹; Yi-Ting Chen¹; Chien-Lun Chen²; Chiun-Gung Juo¹; ¹MMRC, Chang Gung University, Taoyuan, Taiwan; ²Department of Urology, Chang Gung Memorial Hospita, Taoyuan, Taiwan
- MP 330 **Metabolomics and Transcriptomics Studies Confirms an Important Role of HIF-1 α in Regulating Energy Metabolism in HCC;** Yuxin Wang; Yan Zhang; Guodong Li; Edyta Tyminski; Xu Xu; Albert B Seymour; Ru Wei; *Pfizer RTC, Cambridge, MA*
- MP 331 **New Computer Assisted Metabolite Capturing Method Using Mass Shift Technique;** Mitsuhiro Kanazawa¹; Masashi Uchida²; Hisae Anyoji¹; Yohei Miyamoto²; ¹Reifys Inc., Tokyo, Japan; ²Toray Industries Inc., Kanagawa, Japan
- MP 332 **Metabolic Effects of TNF α HIV Protease Inhibitor, and TZD Treatment on Primary Adipocytes;** Yumei Lucy Sun; Guodong Li; Debra F Nathan; Albert B Seymour; Ru Wei; *Pfizer RTC, Cambridge, MA*
- MP 333 **Development of New Metabolomics Method Using GC-TOFMS with Automated Derivatization System;** Fumihiko Tsuchiya¹; Tomoko Hiraishi²; Ryoichi Sasano³; Kenichi Suzumura²; ¹LECO Japan Corporation, Tokyo, Japan; ²Astellas Pharma Inc., Tsukuba, Japan; ³AiSTI Science, Wakayama, Japan
- MP 334 **A Simple and Fast Method for the Analysis of Water and Fat Soluble Vitamins in Cell Culture Media Using HPLC-ESI-MS/MS;** Hai Pham Tuan; Stephanie Angeben; Therese Koal; *Biocrates AG, Innsbruck, Austria*
- MP 335 **Global and Targeted Metabolomics of Piglet Plasma and Red Blood Cells During the First Seven Days of Life;** Noelle M. Elliott; Peggy R. Borum; Jodie V. Johnson; Richard A. Yost; David H. Powell; *University of Florida, Gainesville, FL*
- MP 336 **Upgrading METLIN: Web Applications for Identification and Classification of Known and Unknown Metabolites;** Kevin Cho; Ralf Tautenhahn; Gary Siuzdak; *The Scripps Research Institute, La Jolla, CA*
- MP 337 **Streamlined LC-MS/MS Methodology involving a Pentofluorophenylpropyl Column and Global 13C Labeled Internal Standards Improves Performance for Quantitative Metabolomics in Bacteria;** Song Yang¹; Martin Sadilek²; Mary Lidstrom¹; ¹University of Washington, Chemical Engineering, Seattle, WA; ²University of Washington, Department of Chemistry, Seattle, WA
- MP 338 **Differential ¹⁵N-¹⁴N-Isotope Dansylhydrazine Labeling for Quantitation of Carbonyl Metabolites;** Margot R. Dawe; Kevin Guo; Liang Li; *University of Alberta, Edmonton, Canada*
- MP 339 **Metabolomic Exploration of Abiotic Stress Tolerance of Stress Tolerant Plants;** Charles Warren; *University of Sydney, Sydney, Australia*
- MP 340 **Uncovering Hidden Secondary Metabolites from Myxobacteria Using High-Resolution Chromatography and Mass Spectrometry;** Daniel Krug¹; Nina Cortina¹; Gabriela Zurek²; Aiko Barsch²; Sandy Yates³; Rolf Mueller¹; ¹University of Saarbruecken, Saarbruecken, Germany; ²Bruker Daltonik GmbH, Bremen, Germany; ³Bruker Daltonics, Fremont, CA
- MP 341 **Metabolomic Study of Adonifoline, a Pyrrolizidine Alkaloid, Induced Hepatotoxicity in Rats by UPLC/oaTOF MS^E;** Li Yang¹; Aizhen Xiong¹; Xiuli Wang²; Swee Lee Yap²; Kate Yu³; Zhengtao Wang¹; ¹Shanghai University of TCM, Shanghai, China; ²Waters China Ltd, Shanghai, China; ³Waters Corporation, Milford, MA
- MP 342 **Targeted Metabolomics: Qualitative and Quantitative Analysis Using GC-QQQ Mass Spectrometry;** Mine G. Palazoglu; Sevinci Shahbaz; Robert Brosnan; Oliver Fiehn; *UC Davis, Davis, CA*
- MP 343 **Monitoring of the Structural Changes of Low Density Lipoproteins upon Oxidative Stress: A MALDI Based Approach;** Gerald Stübiger¹; Grazyna Sobal¹; Andrew Wilson²; Kurt Widhalm¹; Omar Belgacem²; ¹Medical University of Vienna, Vienna, Austria; ²Shimadzu Biotech, Manchester, UK
- MP 344 **Metabolomics of Soybean Roots;** Zhentian Lei¹; Laurent Brechenmacher²; Gary Stacey²; Lloyd W. Sumner¹; ¹The Samuel Roberts Noble Foundation, Ardmore, OK; ²University of Missouri, Columbia, MO
- MP 345 **Efficiency Comparisons of Fused Core and Sub 2 μ m HPLC Columns for Increased Metabolomics Depth of Coverage;** David V. Huhman; Lloyd W. Sumner; *The Noble Foundation, Ardmore, OK*
- MP 346 **An Integrated Data Processing Approach for Isotope Labeling LC-MS Based Quantitative Metabolomics;** Jun Peng; Kevin Guo; Jeff Xia; Ben Zhou; David Wishart; Liang Li; *University of Alberta, Edmonton, Canada*

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- MP 347 **LC/MS/MS Analysis of Vitamin Levels in Plasma from Children in the Arkansas Delta Region;** Rick Beger¹; Lisa Pence¹; Anna Williams¹; Carolyn Wise¹; Beverly McCabe-Sellers²; ¹*FDA National Center for Toxicological Research, Jefferson, AR*; ²*USDA Agricultural Research Service, Little Rock, AR*
- MP 348 **A Stress Response Comparison: LC/MS Metabolomics Analysis of *Saccharomyces cerevisiae* Exposed to the Immunosuppressant Drugs FK506 and Cyclosporin A;** Stefan Jenkins^{1,2}; Theodore R. Sana¹; Lily Chen²; ¹*Agilent Technologies, Inc., Santa Clara, CA*; ²*San Francisco State University, San Francisco, CA*
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- MP 349 **Impact of Hemolysis on Matrix Effect, Recovery and Ionization in Bioanalytical LC-MS/MS Methods;** Marie-Pierre Taillon; Sylvain Latour; Melanie Bergeron; Jean-Nicholas Mess; Milton Furtado; Fabio Garofolo; *Algorithme Pharma Inc., Laval (Montreal), Quebec, Canada*
- MP 350 **Impact of Plasma Anticoagulant Counterion on Drug Recovery, Stability, Matrix Effect and Ionization Effect during Bioanalysis in LC-MS/MS;** Melanie Bergeron; Mathieu Lahaie; Milton Furtado; Fabio Garofolo; *Algorithme Pharma Inc., Laval (Montreal), Quebec, Canada*
- MP 351 **Combination of Non-Linear Response and Matrix Effect May Cause Assay Failure Even with a Stable Isotope-Labeled Internal Standard;** Guowen Liu; Heidi Snapp; Qin Ji; Mark E. Arnold; *Bristol-Myers Squibb Co., Princeton, NJ*
- MP 352 **Approaches to Compensate Matrix Effect in LC-MS/MS – Ochratoxin A in Grains;** Mervi Rokka; Marika Jestoi; *Finnish Food Safety Authority (Evira), Helsinki, Finland*
- MP 353 **How the Use of Incurred Samples is Important for the Validation of an Ultra Reproducible Assay for Exemestane;** Geneviève Émond; Nathalie Pelletier; Sylvain Lachance; Ann Lévesque; Robert Massé; *Anapharm, Québec, Canada*
- MP 354 **The Importance of Stopping Enzymatic Activity in Plasma for Accurate Analysis of Fluorouracil by LC/MS/MS;** Nadia Savard; Louis-Charles Boisvert; Marie-Josée Marcoux; Ann Lévesque; Robert Massé; *Anapharm, Québec, Canada*
- MP 355 **A Novel Approach to Eliminate Phospholipids for the Analysis of an Acidic Compound Blue Dye in Rat Plasma by LC-MS/MS;** Jiongwei Pan¹; Lynn Archambault¹; Eric W. Miele¹; Yu-Luan Chen²; ¹*Charles River, Shrewsbury, MA*; ²*Sepracor Inc, Marlborough, MA*
- MP 356 **Impact Analysis of the Transesterification of a Metabolite to the Parent Analyte Using Incurred Samples by LC-MS/MS;** Jean-Nicholas Mess¹; Catherine Dicaire¹; Virginie Leclaire¹; Milton Furtado¹; Nageshwar Thudi²; Tausif Monif³; Fabio Garofolo¹; ¹*Algorithme Pharma Inc., Laval Montreal, Quebec, Canada*; ²*Ranbaxy, Mississauga Toronto, Ontario, Canada*; ³*Ranbaxy, Gurgaon., Haryana, India*
- MP 357 **Quick and Cost Effective Approach to Reduce Interference Due to In Source/Interface Conversion of Glucuronides Metabolites in LC-MS/MS;** Eugénie-Raphaëlle Bérubé; Jean-Nicholas Mess; Milton Furtado; Fabio Garofolo; *Algorithme Pharma Inc., Laval Montreal, Quebec, Canada*
- MP 358 **Impact Oxcarbazepine N-Sulfate Metabolite on the Quantitation of Oxcarbazepine by LC-MS/MS;** Catherine Dicaire; Mireille Nora; Milton Furtado; Fabio Garofolo; *Algorithme Pharma Inc., Laval (Montreal), Quebec, Canada*
- MP 359 **Isotope-Labeled IS: Acceptable Unlabeled Impurity, Number of Isotopes, IS Concentration and ULOQ/LLOQ Ratio in Quantitative Analysis Using GC-MS and LC-MS;** Yuzhu Xue; *Pfizer, Pearl River, NY*
- MP 360 **Determination of Thiols in Urine by Liquid Chromatography and Tandem Mass Spectrometry;** Charmion Cruickshank; Kim Keil; Troy Wood; *University at Buffalo, Buffalo, NY*
- MP 361 **Use of Adducts for Quantitation of Compounds by Liquid Chromatography Coupled with Tandem Mass Spectrometry Detection;** Jérôme Bergeron; Sébastien Gagné; Isabelle M. Lévesque; Marie-Josée Marcoux; Ann Lévesque; Robert Massé; *Anapharm, Québec, Canada*
- MP 362 **Quantification of Bisphenol-A for Pharmacokinetic Evaluations Using Stable Labeled Dosing Material and LC-ES/MS/MS;** Nathan C. Twaddle¹; Michelle M. Vanlandingham¹; Lee D. Williams²; Daniel R. Doerge¹; ¹*NCTR/FDA, Jefferson, AR*; ²*Biotage GB Limited, Cardiff, UK*
- MP 363 **Overcoming Stability Challenges in the Quantification of Tissue Nucleotides: Determination of 2'-Methylguanosine Triphosphate Levels in Mouse Liver;** Hassan Rashidzadeh; Sanjeev Bhadresa; Steven Good; Kusum Gupta; Marita Larsson Cohen; *Idenix Pharmaceuticals, Cambridge, MA*
- MP 364 **Importance of Crosstalk Verification of the Collision Cell in Bioanalysis and its Impact over Assays with Deuterated Internal Standard;** Fabio Garofolo; Louis-Philippe Morin; Jean-Nicholas Mess; Valérie Vincent; *Algorithme Pharma Inc., Laval Montreal, Quebec, Canada*
- MP 365 **Extending LC-MS/MS Linear Dynamic Range for Quantitative Analysis of Drugs in Dried Blood Spot Samples;** Suma Ramagiri¹; Feng Zhong¹; Mauro Aiello¹; Hesham Ghobarah¹; Neil Spooner²; ¹*AB/SCIEX, Concord, Canada*; ²*GlaxoSmithKline Pharmaceutical, Welwyn, UK*
- MP 366 **Evaluation of Method Development Parameters in Whole Blood Using Dried Blood Spot (DBS) for the Determination of Naproxen by LC-MS/MS;** Nikolay Youhnovski¹; Josée Michon¹; Milton Furtado¹; Marianne Rufiange¹; Pascal Guibord¹; Jean-Nicholas Mess¹; Sylvain Latour¹; Marc Lefebvre¹; Robert B. MacArthur²; Fabio Garofolo¹; ¹*Algorithme Pharma Inc., Laval Montreal, Quebec, Canada*; ²*Clinical Horizons Research, Inc., Tenafly, NJ*
- MP 367 **Rapid Analysis of Dried Blood Spots for Polyfluoroalkyl by Online Solid-Phase Extraction LC/MS/MS;** Sylvie Beauudet¹; Suma Ramagiri¹; Martin Sibum²; ¹*AB/SCIEX, Concord, Canada*; ²*Spark Holland Inc, Emmen, Netherlands*
- MP 368 **The use of Hybrid Triple Quadrupole Linear Ion Trap Mass Spectrometer to Resolve High Chemical Noise in Tacrolimus Assay;** Louis-Philippe Morin¹; Marie-Pierre Taillon¹; Jean Nicholas Mess¹; Johnny Cardenas²; Xavier Misonne²; Mauro Aiello²; Valerie Vincent¹; Fabio Garofolo¹; ¹*Algorithme Pharma Inc., Laval (Montreal), Quebec, Canada*; ²*Applied Biosystem, Foster City, CA*

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- MP 369 **Enzyme Screening Assays Using a MALDI Hybrid Mass Spectrometer;** Maria C. Prieto Conaway¹; Rakesh Rathore²; Huy Bui¹; Kenneth D. Greis³; ¹Thermo Fisher Scientific, San Jose, CA; ²GRI, University of Cincinnati, Cincinnati, OH; ³University of Cincinnati, Cincinnati, OH
- MP 370 **Stable Isotope Labeling Using Essential nutrients in Cell Culture (SILEC): A Novel Methodology to Quantify Intracellular Coenzyme A-Activated Compounds;** Sankha S Basu; Stacy Gelhaus; Clementina Mesaros; Ian A. Blair; *University of Pennsylvania School of Medicine, Philadelphia, PA*
- MP 371 **LC-Q-TOF MS with Narrow Full-Mass Detection for Determination of the Urinary 6 β -Hydroxycortisol-to-Cortisol Ratio as an Indicator of Human CYP3A4 Activity;** Jun Han¹; Darryl Hardie¹; Shirin Kalyan²; Christoph H. Borchers¹; ¹University of Victoria-Genome BC Proteomics Centre, Victoria, Canada; ²Division of Endocrinology/Department of Medicine, University of British Columbia, Vancouver, BC, Canada
- MP 372 **Performance of a Novel Algorithm for Reliable LC Peak Integration of Triple Quadrupole MRM Data;** Patrick Quinn-Paquet¹; Sylvie Beaudet¹; Feng Zhong¹; Gordana Ivosev¹; James Denison²; ¹AB/ SCIEX, Concord, Canada; ²Abbott Laboratories, Columbus, Ohio
- MP 372 **Increased Ion Sampling Efficiency Allows Streamlining Sample Preparation for the Determination of Fluticasone Propionate in Human Plasma;** Anabel Fandino; Stephan Buckenmaier; Lester Taylor; *Agilent Technologies, Santa Clara, CA*
- MP 374 **DMS-MS and DMS-CID-MS: Alternatives to SRM/MRM in Analytical Methods for Small Molecule Biomarkers;** Stephen L Coy¹; Evgeny V Krylov¹; Erkinjon Nazarov¹; Brad Schneider²; Thomas Covey²; ¹Sionex Corp., Bedford, MA; ²MDS Sciex, Concord, ON
- MP 375 **Comparison between Bioanalytical Analyses from Orbitrap and Triple Quadrupole Mass Spectrometers;** Richard Wong¹; Petia Shipkova¹; Christian Caporuscio¹; Baomin Xin¹; Timothy Olah²; ¹Bristol-Myers Squibb, Hopewell, NJ; ²Bristol-Myers Squibb Company, Lawrenceville, NJ
- MP 376 **Using LC Flow Rate as a Method Development Variable for Quantitative LC-MS;** Richard King; *PharmaCadence Analytical Services, LLC, Hatfield, PA*
- MP 377 **Overall Evaluation of Different Basic Modifiers to Perform High pH Chromatography by LC-ESI(+)-MS/MS;** Jean-Nicholas Mess; Milton Furtado; Fabio Garofolo; *Algorithme Pharma Inc., Laval (Montreal), Quebec, Canada*
- MP 378 **Automated Liquid Liquid Extraction and Enhanced Mass Resolution Detection for Determination of BMS-764459 and BMS-795566 in Dog Plasma by LC-MS/MS;** Naiyu Zheng; Adela Buzescu; Mark E. Arnold; Jianing Zeng; *Bristol-Myers Squibb Research & Development, Princeton, NJ*
- MP 381 **An LC-MRM Method Using an Aminopropyl Column for the Quantification of Bound N-Linked Monosaccharides in Glycoproteins and Blood Serum;** Loubna Hammad; Dakota Derryberry; Yazen Jmeian; Yehia Mehref; *Indiana University, Bloomington, IN*
- MP 382 **A Selective, Sensitive Liquid Chromatography - Tandem Mass Spectrometry Method for the Determination of Artemether and DHA in Human Plasma;** Gary Gabriels; Katya Govender; Karen Barnes; Jennifer Norman; Peter Smith; Lubbe Wiesner; *University of Cape Town, Cape Town, South Africa*
- MP 383 **A Liquid Chromatography-Mass Spectrometric Method for the Determination of Eicosanoid Profiles in Human Colonic Biopsies;** Jianwei Ren¹; Mary Rapai¹; Maria Cornellier¹; Mack Ruffin¹; D. Kim Turgeon²; Dean E. Brenner²; Zora Djuric¹; ¹Dept of Family Medicine, University of Michigan, Ann Arbor, Michigan; ²Dept of Internal Medicine, University of Michigan, Ann Arbor, MI
- MP 384 **A New Method for the Quantitation of Febuxostat in Human Plasma by LC/MS/MS;** Dongmei Zhou; David Wilson; Sonny Gunawan; Zanzong Shen; Chun Yang; Jennifer Yang; Li-Tain Yeh; Virginia Borges; *Ardea Biosciences, San Diego, CA*
- MP 385 **Evaluation of Dried Blood Spots Technique for the Quantitative Analysis of Oxybutynin in Human Blood;** Sheng Wang; Jingguo Hou; Lianying Zhang; Luke Liu; Fei Liu; David Jones; Bibo Xu; *Primera, Metuchen, NJ*
- MP 386 **Enantioselective LC-MS/MS Assay for Quantification of (R)- and (S)-Mexiletine in Plasma;** Jingguo Hou; Sheng Wang; Luke Liu; David Jones; Lianying Zhang; Fei Liu; Bibo Xu; *Primera Analytical Solutions, Princeton, NJ*
- MP 387 **A Sensitive and Rugged Normal Phase LC/MS/MS Method for Quantitation of Ribavirin in Human Plasma;** James Creegan; Marlking Peay; Tianyi Zhang; Bruce Hidy; Rand Jenkins; *PPD, Richmond, VA*
- MP 388 **Assessment of Matrix Effects and Determination of Octreotide in Human Plasma Using Liquid Chromatography-Tandem Mass Spectrometry;** Omnia Ismaiel^{1,2}; Tianyi Zhang¹; Bruce Hidy¹; Rand Jenkins¹; ¹PPD, Richmond, VA; ²VCU, Richmond, VA
- MP 389 **SRM Analysis of Intact Biopolymers on Triple Quadrupole Mass Spectrometers;** Oksana Gvozdyak^{1,2}; Taha Rezaei²; Michael Athanas³; Mary Lopez²; ¹Clinical and Toxicology / Thermo Fisher Scientific, Franklin, MA; ²BRIMS / Thermo Fisher Scientific, Cambridge, MA; ³VAST Scientific, Cambridge, MA
- MP 390 **Detection and Quantitation of Polyphenolic Compounds in Strawberry Powder Using LC-MS/MS;** Katarzyna Banaszewski; Indika Edirisinghe; Britt Burton-Freeman; Jack Cappozzo; *National Center for Food Safety and Technology, Summit-Argo, IL*
- MP 391 **Quantitative Analysis of Prostaglandin (PG)H₂ and its Metabolic Derivatives Using LC-MS-MS;** Rui Yu¹; Lei Xiao²; John W. Christman²; Richard B. van Breenen¹; ¹College of Pharmacy, Chicago, IL; ²College of Medicine, Chicago, IL
- MP 392 **Simultaneous LC-MS Analysis of Acidic and Basic Analytes Using Reverse Phase Ion Pair Chromatography;** Liron Feldberg; Nitzan Tzanani; *Israel Institute for Biological Research (IIBR), Ness Ziona, Israel*

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- MP 379 **Automated On-Line Column-Switching HPLC-MS/MS Method for Measuring Triclocarban and Two Triclocarban Metabolites in Urine and Serum;** Sherry Ye; *Center for Disease Control and Prevention, Atlanta, GA*
- MP 380 **Effect of Ion Polarity on the Determination of Specific Isoflavone Compounds Using LC-MS;** Avinash Dalmia; Sharanya Reddy; David Negrotti;

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- MP 393 **High Throughput Separation of Hypertension Drug Standards by Reversed Phase Chromatography Using TSK-GEL ODS-140HTP 2.3 μ m Columns;** Atis Chakrabarti; Kevin J. O'donnell; *Tosoh Bioscienc LLC, Montgomeryville, PA*
- MP 394 **Using LC/MS to Monitor the Rate of Amyloid Fibril Formation by β -2 Microglobulin;** Bukola Fatunmbi; Richard Vachet; *University of Massachusetts, Amherst, MA*
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- MP 396 **Simultaneous Determination of Topiramate and Phentermine in Human Plasma Using Liquid Chromatography Tandem Mass Spectrometry;** Dunmin Mao; Winnie Lui; Grace van der Gugten; Xiufeng Ji; *Cantest, Burnaby, Canada*
- MP 397 **Advantages and Challenges of Using Ultra High Performance Kinetex Sorbents with MS Detection;** Monika Kansal¹; A. Carl Sanchez²; Shahana Huq²; ¹*Phenomenex Inc., Torrance, CA*; ²*Phenomenex, Torrance, CA*
- MP 398 **Simultaneous Determination of Nitroglycerin, 1,2-Dinitroglycerin and 1,3-Dinitroglycerin in Human Plasma Using Liquid Chromatography Tandem Mass Spectrometry;** Dunmin Mao; Hong Zhang; Rong Yi; Gina de Boer; *Cantest, Burnaby, BC*
- MP 399 **Quantification of Letrozole in Human Plasma by LC-MS/MS Using Core-Shell Technology Column;** Yafei Xu; Jing Ke; Harry Zhao; John Lin; *Frontage Laboratories, Inc, Malvern, PA*
- MP 400 **Histidine Phosphorylation in the Prostatic Human Epithelial Cancer (PHEC) Progression Model;** John Lapek; Alan Friedman; *University of Rochester Medical Center, Rochester, NY*
- MP 401 **Optimization of Ionization Efficiency and Signal-to-Noise Ratio in LC-MS Analysis of Biological Macromolecules;** Thomas E. Wheat; Dan Root; Patricia McConville; *Waters Corporation, Milford, MA*
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- MP 403 **Chromatographic Separation and Fragmentation Assignment for Collision Induced Dissociation Patterns of Various Primary Fatty Acid Amides;** Erin Divito; Mitchell Johnson; *Duquesne Univeristy, Pittsburgh, PA*
- MP 404 **Investigation of Carryover during Assay Development for Lamotrigine and Nilotinib;** Sandrine Merette; Hong Zhang; Grace Van Der Gugten; Winnie Lui; Xiufeng Ji; Gina de Boer; Rong Yi; *CanTest, Ltd., Vancouver, Canada*
- MP 405 **A Single Run LC/MS/MS Method for Phospholipidomics;** Sophie Ayciriex²; Corinne Bure¹; Eric Testet²; René Lessire²; Jean-Marie Schmitter¹; ¹*CNRS/CBMN, Bordeaux, France*; ²*CNRS/LBM, Bordeaux, France*
- MP 406 **LC-MS/MS Speciation of Serum Estrogens and Association of Breast Cancer Treatment with Estrogen Biotransformation;** Yuli Zhao¹; Feng Qin¹; Michael B. Sawyer²; Xingfang Li¹; ¹*University of Alberta, Edmonton, Canada*; ²*Cross Cancer Institute, Edmonton, Alberta*
- MP 407 **Elimination of Matrix Effect for Incurred Sample Analysis by Using an Improved LC-MS/MS Assay;** Joseph Caruso; Shefali Patel; Rick Edom; *J&J Pharmaceutical Research & Development, Raritan, NJ*
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- MP 408 **Accelerator Mass Spectrometry: Method Qualification as the Path to Valid Results;** Stephen Dueker; Peter Lohstroh; Jason Giacomo; *Vitalea Science, Inc., Davis, CA*
- MP 409 **Quantitative Protein Analysis of Cytochrome P450 Induction by LC-MS/MS;** Brian Williamson¹; Subhasish Purkayastha¹; James Hill²; LaHoma Eastwood²; ¹*AB Sciex, Framingham, MA*; ²*Invitrogen, Austin, TX*
- MP 410 **Identification of Phase II Metabolites of Antineoplastic Agents in Rat Urine Using HPLC/MS/MS;** Robert Jirásko¹; Michal Holčapek¹; Milan Nobilis²; ¹*University of Pardubice, Pardubice, Czech Republic*; ²*Faculty of Pharmacy, Charles University, Hradec Králové, Czech Republic*
- MP 411 **Identification of *in vitro* Metabolites of the GABAA Receptor Partial Agonist [14C]CP-409,092 by Using HPLC/RAM/ESI/MS/MS;** Amin M. Kamel¹; Scott Obach²; Kevin Colizza¹; Mithat Gunduz¹; ¹*Novartis Institutes for BioMedical Research, Cambridge, MA*; ²*Pfizer Inc, Groton, CT*
- MP 412 **Characterization of an Analytical Artifact Discovered During Metabolite Identification Using LC-MS/M;** Gary D. Byrd; Robert Pritchard; John James; Jessica Beaver; *Targacept, Winston-Salem, NC*
- MP 413 **Quantitative Metabolic Profiling of Twelve Tetrahydrocorticosteroid Glucuronides in Urine by Isotope Dilution LC-ESI-Linear Ion Trap MS/MS;** Kuniko Mitamura¹; Maki Hasegawa¹; Rika Okihara¹; Chikara Shimidzu²; Hitoshi Chiba³; Takashi Iida⁴; Shigeo Ikegawa¹; ¹*Kinki University, Higashi-osaka, Japan*; ²*Hokkaido University Hospital, Sapporo, Japan*; ³*Hokkaido University, Sapporo, Japan*; ⁴*Nihon University, Tokyo, Japan*
- MP 414 **Semi-Targeted Metabolite Identification Using MIM-style Precursor and Neutral Loss Survey Scans—Better Signal-to-Noise than a True Scanned Experiment;** James A. Ferguson; Keith Goodman; Xavier Misonne; John Hevko; *AB SCIEX, Framingham, MA*
- MP 415 **Identification of Novel Prostaglandin D2 Metabolites in Monkey Urine;** Setsuko Fujita; *Setsuko Fujita, Osaka, Japan*
- MP 416 **Sites of Metabolic Substitution: Definitive Metabolite Structures Deduced Using Ion Mobility and Molecular Modeling;** Jayne Kirk¹; Iain D G Campuzano¹; Jordi Munoz-Muriedas²; Gordon Dear²; ¹*Waters Corporation, Manchester, UK*; ²*GlaxoSmithKline, Ware, Hertfordshire, UK*
- MP 417 **Metabolite Profiling Using a Combination of High Resolution ESI-LC-MS, Data-Dependent Acquisition and Knowledge-Based Predictive Metabolic Software;** Stephen Christensen; *Ballerup, Denmark*
- MP 418 **Non Enzymatic Glucose Adduct in SOM230 Rat Plasma Sample Using Exact Mass LC-MS/MS;** Yancy Du; Tsu-han Lin; James Mangold; Jimmy Flarakos; *Novartis, East Hanover, NJ*
- MP 419 **Software Assisted Structure Assignment of Pharmaceutical Drug Metabolites Using UHPLC QTOF MSMS with Metabolite Prediction Software;** Horst Lehmann¹; Edgar Naegele¹; Sian Ives²; Kate Langton²; ¹*Agilent Technologies, 76337 Waldbronn, Germany*; ²*Lhasa Limited, Leeds, UK*

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- MP 422 **High Amplitude Short Time Excitation (HASTE) CID Provides More Diagnostic Power for Organic Compounds by Extending Coverage of Product Ions;** Xiaogang Han; John Davis; Matt Mclean; Dan Rock; *Amgen, Seattle, WA*
- MP 423 **Evaluation of Fragmentation Pathways in an LTQ Orbitrap Velos Mass Spectrometer: A Comparison of Ion Trap, HCD and PQD Spectra;** Silvi Chacko; Mary Grubb; Jonathan L. Josephs; *Bristol-Myers Squibb, Pennington, NJ*
- MP 424 **Quantitative Profiling of Arachidonic Acid Metabolites by Hybrid Triple Quadrupole/Linear Ion Trap Mass Spectrometry;** Linda Kortz; Mathias Bruegel; Alexander Leichtle; Georg Martin Fiedler; Joachim Thiery; Uta Ceglarek; *ILM, University Leipzig, Leipzig, Germany*
- MP 425 **High Throughput Simultaneous Metabolic Stability and Rapid Metabolite Identification Studies Using LTQ-Orbitrap in Drug Discovery;** Shihong Wang; Song Lin; Elaine Ginn; Linda Xiao; George Thomas; *Novartis Institute for Biomedical Research, Emeryville, CA*
- MP 426 **LC-MS/MS Analysis of Novel, Isoform Selective, Histone Deacetylase 8 (HDAC8)-Related Analogs and Their Glucuronide Conjugates in Rat Plasma;** Purvi Jejurkar; Danielle Tonev; Chitra Mani; Patti Thiemann; Erik Verner; David Loury; *Pharmacyclics Inc, Sunnyvale, CA*
- MP 427 **Use of Stable Isotope Labeling to Direct Metabolism within a Molecule;** Mingxiang Lin¹; Kuo-Chi Cheng¹; Donald McKenzie²; Kathleen Cox¹; Richard Morrison¹; ¹Merck Research Laboratories, Kenilworth, NJ; ²Covance Laboratories, Madison, WI
- MP 428 **DESI Application on Pharmacokinetic Analysis Using Dried Blood Spots;** Baiyi Xue¹; Sandra Alves¹; Patrick Soubayrol²; Jean-Claude Tabet¹; ¹Mass Spectrometry Group of IPCM, umr 7201, Paris, France; ²sanofi-aventis recherche & développement, Chilly-Mazarin, France
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- MP 429 **Evaluation of Bioanalytical Methods with Dried Blood Spot Technology Compared with General Sample Collection;** Dawei Zhou; Mei Huo; Qihang Zhang; Zheming Gu; *XenoBiotic Laboratories, Inc., Plainsboro, NJ*
- MP 430 **Direct Quantitative Analysis of Dried Blood Spot Samples Using Automatable Flow through Elution;** Philip Denniff¹; Neil Spooner¹; Emile Koster²; ¹GlaxoSmithKline, Ware, UK; ²Spark Holland, Emmen, Netherlands
- MP 431 **The Use of Human Dried Blood Spot (DBS) Samples for the Quantification of Clarithromycin Using Core-Shell HPLC Column LC-MS/MS;** Jing Ke¹; Li Zhang²; Qiaoling Yu²; Harry Zhao¹; Zhongping John Lin¹; ¹Frontage Laboratories, Inc., Malvern, PA; ²Frontage Laboratories, Inc., Zhangjiang High-Tech Park, Shanghai, China
- MP 432 **Toward Routine Dried Blood Spots (DBS) Bioanalysis to Support Drug Discovery and Development;** Fumin Li; Fengxia Li; Xiaorong Liang; Mary Pelzer; Carrie McMahon; Tom Addison; Kevin Jones; Douglas Fast; Steve Michael; *Covance Laboratories Inc., Madison, WI*
- MP 433 **Comprehensive and Quantitative Profiling of Acylcarnitines in Urine, Plasma and Dried Blood Spots by UPLC-MS/MS;** Azeret Zuniga; Liang Li; *University of Alberta, Edmonton, Canada*
- MP 434 **Direct LC-SPE-MSn Analysis Using TriVersa Nanomate and eTips for Quantitation of Xenobiotics from Dried Blood Spots;** Simon J. Prosser¹; Chester L Bowen²; Jonathan Kehler²; Daniel Eikel³; Christopher A. Evans²; Jack D. Henion⁴; ¹Advion BioSciences, Inc., Ithaca, NY; ²GlaxoSmithKline, King Of Prussia, PA; ³AdvionBioSystems, Ithaca, NY; ⁴Advion BioSciences, Inc, Ithaca, NY
- MP 435 **Dried Blood Spot Analysis of Diltiazem in Human Whole Blood by LC-MS/MS;** Neil Doleman¹; Vance Cooper²; Amanda Plumb¹; ¹BASi-UK, Kenilworth, UK; ²BASi, McMinnville, OR
- MP 436 **Improve the Stability of Unstable Compounds in Blood Using Dry Blood Spotting (DBS) Technique followed by LC-MS/MS Analysis;** Udeni Yapa; Ileana Ionita; Rick C. Steenywyk; *Pfizer Global Research and Development, Groton, CT*
- MP 437 **Dried Blood Spot (DBS) Sampling for the Analysis of Selective Serotonin Reuptake Inhibitors and Tricyclic Antidepressants by LC/MS/MS;** Sarah Fair; Adlai Niggebrugge; *Charles River Laboratories, Shrewsbury, MA*
- MP 438 **Evaluation of LC/MS/MS for the Determination of Amiodarone and its Metabolite Extracted from Dried Blood Spot Samples;** Yoshifumi Kogure; Hiroshi Sezaki; *Agilent Technologies, Hachioji, Japan*
- MP 439 **On-line Microfluidic Extraction Enables Highly Efficient and Sensitive Direct Elution from Dried Blood Spots;** Gary Valaskovic¹; Christopher A. Evans²; Chester L Bowen²; ¹New Objective, Inc., Woburn, MA; ²GlaxoSmithKline, King Of Prussia, PA
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- MP 440 **Ultra-Performance Liquid Chromatography-Q-Trap Mass Spectrometry for the Quantitation of Dofetilide and Identification of Metabolites in Guinea Pig;** Amy Qiu Wang; James Jean; Walter Korfmacher; *Drug Metabolism, Merck Research Laboratories, Kenilworth, NJ*
- MP 441 **Optimized Small Molecule Quantification on a Linear Ion Trap Using a Combination of Resonance Excitation CID and Pulsed Q Dissociation;** August Specht; Julie Horner; Philip M Remes ; Jae C. Schwartz; *Thermo Fisher Scientific, San Jose, CA*
- MP 442 **A Selective and Sensitive LC-MS/MS Method for the Determination of Beclomethasone Dipropionate and Beclomethasone-17-Propionate in Human Plasma;** Xinping Fang; Dawei Zhou; Wenzhong Liang; Zheming Gu; *XenoBiotic Laboratories, Inc., Plainsboro, NJ*
- MP 443 **Evaluation of a New High Resolution Time of Flight Mass Spectrometer (HR-TOFMS) for Accurate Mass Quantitation in Bioanalytical Discovery;** Marc Browning¹; Michael Donegan¹; Yulia Benitex¹; Timothy Olah²; Daniel G. Morgan¹; ¹Bristol-Myers Squibb Co.,

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- Wallingford, CT; ²Bristol-Myers Squibb Company, Lawrenceville, NJ
- MP 444 **Simultaneous Determination of LBH589 (Panobinostat) and One of its Metabolites (M37.8) in Human Plasma Using LC-MS/MS;** Wenkui Li; John Doherty; Shannon Williams; Harold T Smith; Francis LS Tse; *Novartis Institutes for Biomedical Research, East Hanover, NJ*
- MP 445 **A Novel Liquid Chromatography Tandem Mass Spectrometry (LC-MS/MS) Method for the Determination of Riluzole in Human Serum;** Weimin Wang¹; Hsiaoju Lin¹; Jing Ke¹; Harry Zhao¹; Zhongping John Lin¹; Paul Grant²; Susan Swedo²; ¹*Frontage Laboratories, Inc., Malvern, PA*; ²*National Institute of Mental Health, NIH, Bethesda, Maryland*
- MP 446 **Simultaneous Determination of Triamcinolone Hexacetonide and Triamcinolone Acetonide in Rabbit Plasma by UPLC-MS/MS;** Wei Sun; Stacy Ho; Rick Fang; Thomas O'shea; Hanlan Liu; *Genzyme, Waltham, MA*
- MP 447 **Determination of Metformin in Mouse, Rat, Dog and Human Plasma Samples by LDTD-APCI-MSMS;** John G. Swales; Richard T. Gallagher; Raimund Peter; *Astrazeneca, Macclesfield, UK*
- MP 448 **Quantification of Fimasartan in Human Plasma by Liquid Chromatography-Tandem Mass Spectrometry (LC-MS/MS);** Seul Oh; Seo Hyun Yoon; Joo-Youn Cho; Kyung-Sang Yu; In-Jin Jang; *Seoul National University, Seoul, South Korea*
- MP 449 **Resveratrol and its Metabolites in Rat Plasma, Fetuses, and Pups by UPLC-MS/MS;** Melanie Silinski¹; Brenda Fletcher¹; Franz Thomas¹; Reshan Fernando¹; Timothy Fennell¹; Brian Thomas¹; Bradley Collins²; ¹*RTI International, Research Triangle Park, NC*; ²*NIEHS/National Toxicology Program, Research Triangle Park, NC*
- MP 450 **Quantification of Imatinib in Patient Plasma and Characterization of its Metabolism in Human Urine and Liver Microsomes Using LC-ESI-MS/MS;** Alain Deroussent¹; Angelo PACI²; Catherine Delbaldo³; Axel Le Cesne⁴; Birgit Geoerger¹; Gilles Vassal²; ¹*Institut Gustave Roussy, Villejuif, France*; ²*UPRES, Institut Gustave Roussy, Villejuif, France*; ³*AP-HP, Hospital Louis Mourier, Colombes, France*; ⁴*Departement of Medecine Institut Gustave Roussy, Villejuif, France*
- MP 451 **The Extraction and Analysis of siRNA from Rat Plasma Using Mixed Mode SPE and HPLC-MS/MS;** Robert Wheller; *Glaxosmithkline, Ware, UK*
- MP 452 **Development and Validation of an LC-MS/MS Method for the Determination of Goserelin in Rat and Rabbit Plasma;** Min Kyung Kim; Tae Ho Lee; Joon Hyuk Suh; Han Young Eom; Jeong-Rok Youm; Sang Beom Han; *College of Pharmacy, Chung-Ang University, Seoul, South Korea*
- MP 453 **Analysis and Stabilization of MTIC, the Biologically Active Hydrolysis Product of the Antitumor Pro-Drug Temozolomide, in Plasma and Whole Blood;** Dale Schoener¹; Qin C. Ji²; Dennis Garner²; Bruce Stouffer²; Shannon Bryant¹; Lisa Iacono²; Mark E. Arnold²; Michael Buonarati¹; ¹*Alta Analytical Laboratory, El Dorado Hills, CA*; ²*Bristol-Myers Squibb Co., Princeton, NJ*
- MP 454 **A Fast LC/MS/MS Method to Determine Caffeine and Isomeric Metabolites, Theophylline and Paraxanthine in Human Plasma;** Wei Wu; Jiang Luo; Wenqing Yang; Li Li; Xiaohang Shen; Jinsong Xing; *WuXi AppTec, Shanghai, China*
- MP 455 **Comparison of Accurate Mass and Nominal Mass MSMS for the Simultaneous Acquisition of Qualitative and Quantitative Data in DMPK Studies;** Joanne Mather¹; Marian Twohig¹; Paul Rainville²; Ronan O'malley³; Rob Plumb²; ¹*Waters corporation, Milford, MA*; ²*Waters, Milford, MA*; ³*Waters Corp., Manchester, UK*
- MP 456 **Determination of 2,2-Dimethylbutyrate (HQB-1001) in Human Plasma and Urine by LC-MS/MS;** Weimin Wang¹; Ping Guo¹; Futian Han¹; Jing Ke¹; Harry Zhao¹; Zhongping John Lin¹; Patrick Bobbitt²; ¹*Frontage Laboratories, Inc., Malvern, PA*; ²*HemaQuest Pharmaceuticals Inc., Seattle, WA, Seattle, WA*
- MP 457 **Quantitative Measurement of Nano/Micro Particle Endocytosis with Cell Mass Spectrometry;** Cai-Yu Kao²; Huan-Chang Lin^{1,3}; Hsin-Hung Lin^{1,4}; Alice L. Yu¹; Wen-Ping Peng^{1,2}; Chung-Hsuan Chen¹; ¹*Genomics Research Center, Academia Sinica, Taipei, Taiwan, R.O.C.*; ²*National Dong Hwa University, Shoufeng, Hualien, Taiwan, R.O.C.*; ³*National Taiwan University, Taipei, Taiwan, R.O.C.*; ⁴*TIGP, Academia Sinica, Taipei, Taiwan R.O.C.*
- MP 458 **Pharmacodynamic and Stability Characterization of the Acedylcholinesterase Inhibitor JWS-USC-75IX Using High-Performance Liquid Chromatography/Synapt HDMS;** Feng Liang¹; Michael G. Bartlett¹; Alvin Terry²; ¹*University of Georgia, Atlanta, GA*; ²*Medical College of Georgia, Augusta, GA*
- MP 459 **Daptomycin Determination in Rabbit Plasma by a UPLC-ESI QTOF MS/MS Method;** Fotini Bazoti; Evangelos Gikas; Anthony Tsaropoulos; *GAlA Research Center, Kifissia, Greece*
- MP 460 **A Novel Approach to Internal Standardization in LC/MS/MS Analysis; Sensitive LC/MS/MS Analysis of Gentamicin;** Bruce Babson; *MicroConstants, San Diego, CA*
- MP 461 **Method Development for Reversed-Phase Chiral LC-MS/MS Analysis of Stereoisomeric Pharmaceutical Compounds with Polysaccharide-Based Stationary Phases;** Liming Peng^{1,3}; Swapna Jayapalan^{1,3}; Tivadar Farkas²; ¹*Phenomenex Inc., Torrance, CA*; ²*Phenomenex Inc, Torrance, CA*; ³*Phenomenex Inc., Torrance, CA*
- MP 462 **Anidulafungin and its Primary Biotransformation Product - Challenges in an LC-MS/MS Bioanalytical Assay;** Tanja Alebic-Kolbah¹; Michael Modesitt²; ¹*Pfizer Inc., PCBU, Clinical Pharmacology, New London, CT*; ²*PPDi, Richmond, VA*
- MP 463 **Application of Dried Blood Spot Coupled with Microbore LC-MS/MS Analysis for Pharmacokinetic Studies in Mice Using Serial Blood Micro-sampling;** Sylvia Vekich; Zhongzhou Shen; Robert Hunter; David Paterson; S.V. Rahavendran; *Pfizer Global R&D, San Diego, CA*

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- MP 466 **Developing an Instrument for Trace Metal Measurement**; Bihter Padak¹; Jennifer Wilcox¹; Kevin Kuchta²; ¹*Stanford University, Stanford, CA*; ²*Extrel CMS, LLC*
- MP 467 **Determination of Perfluorochemicals in Food Packaging by LC-MS/MS**; Yichuan Xu; Gregory Noonan; Timothy Begley; Gregory Diachenko; *FDA, College Park, MD*
- MP 468 **Rapid Screening of Forced Degradation Breakdown Products from Triclosan in water by LC-MS/MS**; Rolf Kern¹; Stacy Tremintin¹; Loren Olson¹; Beck Trenholm²; Shane Snyder²; Brett Vanderford²; ¹*AB Sciex, Foster City, CA*; ²*Southern Nevada Water Authority, Henderson, Nevada*
- MP 469 **Supercritical Fluid Extraction in situ Headspace SPME Coupled to GC-MS for Simultaneous Determination of Perfluorocarboxylic Acids in Sediment**; Wen-Lin Liu; Chia-Ying Lin; Maw-Rong Lee; *National Chung-Hsing University, Taichung, Taiwan*
- MP 470 **Analysis of EU Banned Azo Dyes in Textiles Using LCMS**; Syed Salman Lateef; Siji Joseph; *Agilent Technologies, Bangalore*
- MP 471 **Quantitative IC-MS/MS Analysis of Nitrogen Mustard Hydrolysis Products as Ethanolamines in Water Samples**; Jinyuan Wang¹; Charles T. Yang²; William C. Schnute¹; ¹*Dionex Corporation, Sunnyvale, CA*; ²*Thermo Fisher Scientific, San Jose, CA*
- MP 472 **PCDD and PCDF in Internal Organs of Piglet According to Diseases**; Jeounghwa Shin^{1,4,5}; Kyukeon Lee²; Chanhee Chae³; Jungju Seo^{1,4,5}; Eunjung Bang^{1,4,5}; ¹*KBSI, Seoul, South Korea*; ²*Seojeong College University, Yang-Ju, South Korea*; ³*Seoul National University, Seoul, South Korea*; ⁴*KBSI, Seoul, South Korea*; ⁵*KBSI, Seoul, South Korea*
- MP 473 **Rapid Determination of Perfluorinated Compounds in Serum by Monolithic Column HPLC – MS/MS MRM Mode**; Won-Woong Lee; Sun Young Lee; Jongki Hong; *College of Pharmacy, Kyung Hee University, Seoul, South Korea*
- MP 474 **Analysis of 12 PFCs (Perfluorinated Compounds) in Serum Samples Using Online SPE-HPLC-TIS-MS/MS**; Miaomiao Wang; June-Soo Park; Myrto Petreas; *Dept. of Toxic Substance Control, Cal EPA, Berkeley, CA*
- MP 475 **SPE-HPLC/MS/MS Method Development for Detection of N-Nitroso-3-Methylindole: A Putative New Nitrosamine Disinfection By-Product**; Jessica M. Boyd; Feng Qin; Yuli Zhao; Xing-Fang Li; *University of Alberta, Edmonton, Canada*
- MP 476 **Identification of Microbial Degradation Products of 6-2 Fluorotelomer Alcohol by Ion Trap – Time of Flight (IT-TOF) Mass Spectrometry**; Jinxia Liu¹; Yuhui Wang²; Faith A. Hays²; William A. Hedgepeth²; ¹*Univ. of Maryland Center for Environmental Science, Solomons, MD*; ²*Shimadzu Scientific Instruments, Inc., Columbia, MD*
- MP 477 **An HPLC-MS/MS Study of the Sorption Capacity of Hexabromocyclododecanes on a Well Characterized Soil**; Heather Gamble¹; Lisa Cousins¹; Mehran Alaei²; Donald Gamble³; ¹*IONICS Mass Spectrometry Group, Inc., Bolton, Canada*; ²*National Water Research Institute, Environment Can, Burlington, Canada*;
- ³*Department of Chemistry, Saint Mary's University, Halifax, Canada*
- MP 478 **Chlorinated PAH in the Tissues of Gray Whales**; Olga Polyakova; Albert T. Lebedev; *Moscow State University, Moscow, Russian Federation*
- MP 479 **Synthetic Organic Chemicals in Earthworms from Agriculture Soil Amended with Municipal Biosolids**; Pamela Hamlett; *Texas Parks and Wildlife, San Marcos, TX*
- MP 480 **Identification and Quantification of Thioarsenic and Arsenic Species in Construction and Demolition Debris Landfill Leachate**; Jianye Zhang¹; Ligang Hu²; Yong Cai²; Timothy Townsend¹; ¹*University of Florida, Gainesville, FL*; ²*Florida International University, Miami, FL*

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- MP 482 **Molecular Composition of Secondary Organic Aerosol from Alpha-Pinene Ozonation Produced Under Near Ambient Conditions**; Yuqian Gao; Murray V. Johnston; *University of Delaware, Newark, DE*
- MP 483 **New Single Particle Aerosol Mass Spectrometer Using Thermal-Desorption With Laser-Post Ionization for On-Line Analysis of Organic Molecules from Individual Particles**; Markus Oster¹; Matthias Bente²; Martin Sklorz¹; Ralf Zimmermann¹; ¹*University of Rostock, Rostock, Germany*; ²*Helmholtz Zentrum Muenchen, Oberschleissheim, Germany*
- MP 484 **Water Clusters with Various Different Negative Core Ions Using Atmospheric Pressure Corona Discharge Mass Spectrometry**; Kanako Sekimoto; Mitsuo Takayama; *Yokohama City University, Yokohama, Japan*
- MP 485 **Development of Negative Ion Proton Transfer Reaction Time-of-Flight Mass Spectrometry for the Measurement of Gas Phase Acids in the Troposphere**; Anthony Cochran; Marc Fiddler; Solomon Billigin; *North Carolina A&T State University, Greensboro, North Carolina*
- MP 486 **A New Lightweight PTR-MS for Aircraft Platforms**; Joel Brito; Andreas Zahn; *Karlsruher Institut fuer Technologie, Karlsruhe, Germany*

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- MP 488 **Petroleomic via FAB-MS versus ESI FT-ICR MS: Characterization of Naphthenic Acids from Brazilian Crude Oil Samples**; Clécio F Klitzke¹; Yuri E Corilo¹; Heliara Lopes Nascimento¹; Boniek G Vaz¹; Rosineide Costa Simas¹; Rosana CL Pereira²; Wagner L Bastos²; Marcos N Eberlin¹; ¹*Thomson Mass Spectrometry Laboratory - UNICAMP, Campinas, SP, Brazil*; ²*PETROBRAS, Rio de Janeiro, RJ, Brazil*
- MP 489 **Naphthenic Acids Profiles via ESI-FT ICR MS as Markers of Crude Oil Sources**; Heliara Lopes Nascimento¹; Boniek G Vaz¹; Yuri E Corilo¹; Rosineide

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- MP 490 **Petroleomics by EASI(±) FT-ICR MS; Boniek G Vaz¹;** Yuri E Corilo¹; Rosineide C Simas¹; Heliara Lopes Nascimento¹; Clécio Klitzke¹; Rosana C. L. Pereira²; Wagner L Bastos²; Ryan P. Rodgers³; Marcos N Eberlin¹; ¹*ThoMSon Mass Spectrometry Laboratory - UNICAMP, Campinas, Brazil*; ²*Petrobras, Rio de Janeiro, Brazil*; ³*National High Magnet Field Laboratory, Tallahassee, FL*
- MP 491 **Compositional Analysis of a Unique Blue Crude Oil and its Associated Production Deposit by GC×GC-TOF MS and ESI/APPI FT-ICR MS; Ryan P. Rodgers^{1,5};** Amy Mckenna¹; Esha Atolia²; Andrew T Yen³; Priyanka Juyal³; Christopher M. Reddy⁴; Robert K. Nelson⁴; Alan G. Marshall^{1,5}; ¹*Natl High Magnetic Field Laboratory, Tallahassee, FL*; ²*Rickards High School, Tallahassee, FL*; ³*Nalco Energy Service, Sugar Land, TX*; ⁴*Department of Marine Chemistry & Geochemistry, Woods Hole Oceanographic Institution, MA*; ⁵*Department of Chemistry and Biochemistry, FSU, Tallahassee, FL*
- MP 492 **MALDI-FTICR as a Complimentary Tool to API Based Methodologies for the Analysis of Petroleum Derived Samples; Christopher Thompson¹;** Michael Easterling¹; Matthias Witt²; ¹*Bruker Daltonics, Inc., Billerica, MA*; ²*Bruker Daltonik GmbH, Bremen, Germany*
- MP 493 **Comparison of Electron Ionization, Penning Ionization, ESI and APCI for Diesel Fuel Characterization by FT-ICR-MS; Clotilde Le Vot¹;** Guillaume Gasnier¹; Françoise Fournier¹; Carlos Afonso¹; Claude G. Beaugrand²; Jean-Claude Tabet¹; ¹*Université Paris, Paris, France*; ²*Alpha MOS, Toulouse, France*
- MP 494 **Laserspray Ionization-Ion Mobility Spectrometry-Mass Spectrometry of Crude Oil; Samantha Leach;** Ellen D. Inutan ; Sarah Trimpin; *Wayne State University, Detroit, MI*
- MP 495 **Comparison of the Fragmentation of Ionized Asphaltene Model Compounds and Asphaltenes; David Borton¹;** Hilikka Kenttamaa²; Murray Gray³; ¹*Purdue University, West Lafayette, IN*; ²*Chemistry Department, West Lafayette, IN*; ³*Department of Chemical and Materials Engineering, Edmonton, Canada*
- MP 496 **Finding Structural Similarity Among Petroleum Compounds by ASAP Couple to Ion Mobility Mass Spectrometry; Myoung-Han No²;** Eunkyong Kim²; Jaesuk Koh²; Yun Ju Cho¹; Sunghwan Kim¹; ¹*Kyungpook National University, Daegu, South Korea*; ²*SK energy Institute of Tech., Daejeon, South Korea*
- MP 497 **Asphaltene Co-Precipitate Molecular Evolution as a Function of Soxhlet Extraction Period, Illuminated by (+/-) ESI FT-ICR MS; Brandie M. Ehrmann¹;** Winston K. Robbins²; Ryan P. Rodgers³; Alan G. Marshall^{1,3}; ¹*Florida State University, Tallahassee, FL*; ²*Carmagen Engineering Co., Brunswick, ME*; ³*National High Magnetic Field Lab, Tallahassee, FL*
- MP 498 **Chromatographic Separation and Characterization of Nonpolar and Polar Species from Deasphalted Crude Oils by Electrospray Ionization FT-ICR Mass Spectrometry; Mmilili Myles Mapolelo¹;** Ryan P. Rodgers²; Winston Robbins³; Alan G. Marshall⁴; ¹*Florida State Univ, Dept of Chemistry, Tallahassee, FL*; ²*Nat'l High Magnetic Field Lab, Tallahassee, FL*; ³*Consultant, Brunswick, Maine*; ⁴*Ion Cyclotron Resonance Prog, Tallahassee, FL*
- MP 499 **Application of Negative Ion ESI, APCI and APPI FT-ICR MS for Crude Oil Analysis; Vladislav Lobodin²;** Amy Mckenna²; Ryan P. Rodgers^{1,2}; Alan G. Marshall^{1,2}; ¹*Department of Chemistry and Biochemistry, FSU, Tallahassee, FL*; ²*National High Magnetic Field Laboratory, Tallahassee, FL*
- MP 500 **Proton Affinity-Based Kendrick Plots for Classification of Oil Samples: Potential in Source Characterization; Mahsan Miladi;** Behrooz Zekavat; Touradj Solouki; *University of Maine, Orono, ME*
- MP 501 **Development of Database and Database Search Software for Accurate Interpretation of Organic Mixture's Spectra Obtained by High Resolution Mass Spectrometry; Hur Manhoi¹;** Joseph Kwon²; Kim Sunghwan³; ¹*Korea University, Seoul, Department of Bioinformatics, Republic of Korea*; ²*Korea Basic Science Institute, Kwangju, Republic of Korea*; ³*Kyungpook National University, Daegu, Department of Chemistry, Republic of Korea*
- MP 502 **Optimal Strategy of the Data Acquisition for Complex Mixture Analysis Using Hybrid FTICR Instruments; Alexey Kononikhin^{1,3};** Oleg Kharybin^{1,4}; Gleb Vladimirov¹; Anton Grigoryev¹; Igor Popov^{3,4}; Irina Perminova²; Eugene Nikolaev^{3,4}; ¹*Institute for Energy Problems of Chemical Physics, Moscow, Russia*; ²*Lomonosov Moscow State University, Moscow, Russia*; ³*Emanuel Institute of Biochemical Physics, Moscow, Russia*; ⁴*Institute of Biomedical Chemistry, Moscow, Russia*
- MP 503 **Influences of Molecular Structure on the GCMS Signal Response of Derivatized Methyl-Cyclohexanecarboxylic Acids; Henry Allred;** C. Dustin Clark; Nicole Glines; Charley Langley; *Utah State University - Uintah Basin, Vernal, Utah*
- MP 504 **Quantitative Analysis of Petroleum Macromolecules Using MALDI-TOF-MS Mass Spectrometry; Sourabh Kulkarni;** Mark Thies; *Clemson University, Clemson, SC*
- MP 505 **Comparison of FT-MS and Comprehensive Gas Chromatography for the Analysis of Petroleum Refining Streams: How to get Quantitative FT-MS Data?; Hendrik Muller;** Frederick Adam; Adnan Al-Hajji; Omer Koseoglu; *Saudi Aramco Research & Development Center, Dhahran, Saudi Arabia*
- MP 506 **Factorial Design and Optimization of the Petroleomic MS Analysis: Accessing Data for Precision Evaluation; Rosineide C Simas¹;** Heliara L Nascimento¹; Boniek G Vaz¹; Clécio F Klitzke¹; Yuri E Corilo¹; Rosana C L Pereira²; Wagner L Bastos²; Marcos N Eberlin¹; ¹*ThoMSon Mass Spectrometry Laboratory - UNICAMP, Campinas, Brazil*; ²*Petrobras, Rio de Janeiro, Brazil*
- MP 507 **Testing the Critical Hypothesis of Petroleomics: Does Correlation Exist between FT-ICR MS Spectra and the Properties of Crude Oils?; Sunghwan Kim¹;** Injoon Yeo¹; Man Hoi Hur²; Myoung-Han No³; Eunkyong Kim³; Jaesuk Koh³; ¹*Kyungpook National University, Daegu, South Korea*; ²*Department of Bioinformatics, Korea University, Seoul, south korea*; ³*SK energy Institute of Tech., Daejeon, South Korea*

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- MP 510 **Electrospray Ionization - Mass Spectrometry (ESI-MS) Investigation of Phosphine-Promoted Palladium Telomerization catalysts**; John Briggs; Samir Julka; Jasson Patton; *Dow Chemical Company, Midland, MI*
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- MP 513 **New Attempt of Simulated Isotope Dilution Mass Spectrometry in Analysis of Manganese in Red Wine**; Tao Zhou; Hai Lu; Jun Wang; *National Institute of Metrology, China, Beijing, China*
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- MP 515 **SI Traceable Certification of Nucleic Acids by Combined Use of ICP-OES and LC-ICPMS**; Yong-Hyeon Yim¹; Hyun-Seok Lee²; In-chul Yang¹; Myung Sub Han¹; Yong-Moon Lee²; Sang-Royul Park¹; Euijin Hwang¹; ¹*Kriss, Daejeon, South Korea*; ²*College of Pharmacy, Chungbuk National University, Cheongju, South Korea*
- MP 516 **Deconvolution of Isobaric Interference in ICP-MS by Peak Shape Calibration Technology**; Xing Zhi¹; Ming Gu²; Yongdong Wang²; ¹*Department of Chemistry, Tsinghua University, Beijing, China*; ²*Cerno Bioscience, Yardley, PA*
- MP 517 **Quantitation and Validation of Ferrous Fumarate Method by Using ICP-MS**; Xia Zhang; Wai Tsui; Xiaotang Huang; *Teva Pharmaceuticals, Northvale, NJ*
- MP 518 **A New Aerosol Generation Technique for Elemental Mass Spectrometry**; Jan Preisler; Pavla Jungová; Viktor Kanický; Pavel Krásenský; Tomáš Vaculovič; *Masaryk University, Brno, Czech Republic*
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- MP 520 **Analysis of ¹³C Carbohydrates in Life Science at Natural and Enriched Level by Liquid Chromatography/Isotope Ratio Mass Spectrometry**; Henk Schierbeek¹; Tanja Moerdijk-Poortvliet²; Henricus Boschker²; Lucas Stal²; Johannes van Goudoever¹; ¹*Erasmus University, Rotterdam, The Netherlands*; ²*Netherlands Institute of Ecology, Yerseke, The Netherlands*
- MP 521 **Comprehensive Two Dimensional Gas Chromatography Combustion Isotope Ratio Mass Spectrometry (GC×GCC-IRMS) Determination of ¹³C/¹²C Ratios of Native Endogenous Urinary Steroids**; Ying Zhang¹; Herbert J. Tobias¹; Bruce Pan¹; Imelda Ryona¹; Jonathan P. Danaceau²; Gavin L. Sacks¹; J. Thomas Brenna¹; ¹*Cornell University, Ithaca, NY*; ²*Sports Medicine Research & Testing Laboratory, Salt Lake City, UT*
- MP 522 **High-Precision Measurement of ¹³C/¹²C in Short Chain Hydrocarbons Using a Novel Micro-Fabricated Micro-Reactor Interface For Gas Chromatography-Combustion-Cavity Ring-Down Spectroscopy**; Nabil Saad¹; Herbert Tobias²; J. Thomas Brenna²; ¹*Picarro, Inc, Sunnyvale, CA*; ²*Cornell University, Ithaca, NY*
- MP 523 **Determination of Isotopic Content and Concentration of Dissolved Organic Carbon (DOC) Using Persulfate Oxidation Followed by Headspace Gas Analysis**; Dominic M. Colosi; Gerard A. Olack; *Yale University, New Haven, CT*
- MP 524 **Development of a Scheduled-MRM Assay for Regulatory Analysis of the Allergenic Milk Protein α -S1-Casein Utilizing an Intact ¹⁵N-Labeled Internal Standard**; Peter Scholl¹; Kevin Shefcheck²; John H. Callahan¹; Mark M. Ross¹; G. Asher Newsome¹; ¹*FDA/CFSSAN, College Park, MD*; ²*ECBC, Aberdeen Proving Ground, MD*
- MP 525 **A New Software Tool for Analyzing Mass Spectrometry Data in Protein Turnover Experiments**; Nicholas Shulman; Gennifer Merrihew; Lea Starita; Stan Fields; Evelyn S. Vincow; Leo Pallanck; Dao-Fu Dai; Peter Rabinovitch; Michael J. Maccoss; *University of Washington, Seattle, WA*
- MP 526 **The Use of Third Generation Accurately Measured Product Ion m/z's to Determine the Elemental Composition of High Molecular Weight Molecules**; Richard Gedamke¹; Serhiy Hnatyshyn²; ¹*Bristol-Myers Squibb, New Brunswick, NJ*; ²*BMS Co., Princeton, NJ*
- MP 527 **Measuring the Relative Abundance of Low-Level Isotopes with Laser Desorption Time-of-Flight Mass Spectrometry**; P. Jane Gale; Kevin Hayden; Marvin Vestal; *VIC Instruments Corp, Sudbury, MA*
- MP 528 **Comparison of Two Mass Discrimination Correction Methods Using Selenium Isotope Ratios Measured with MC-ICP-MS**; Ren Tongxiang; Wang jun; Lu Hai; Zhou Tao; *National Institute of Metrology, Beijing, China*
- MP 529 **Isotope Ratio Measurements of Zn by Total Evaporation-Thermal Ionization Mass Spectrometry (TE-TIMS)**; Lu Hai^{1,2}; Wang Jun¹; Zhou Tao¹; Ren Tongxiang¹; Li Jinying²; ¹*National Institute of Metrology, Beijing, P.R.China*; ²*Chinese Institute of Atomic Energy, Beijing, P.R.China*
- MP 530 **Isotopic Measurements of Low Amount of Lanthanides by TIMS Using Channel Electron Multiplier in Nuclear Problematics**; Sébastien Mialle; Alexandre Quémet; Aurore Ponvienne; Michel Aubert; Hélène Isnard; Frédéric Chartier; Alkiviadis Gourgiotis; *CEA Saclay, Gif Sur Yvette, France*
- MP 531 **Probing Rapid Method of Isotope ⁸⁷Sr/⁸⁶Sr Analysis by ESI-QIT-MS**; Sheng Song¹; Rohana Liyanage²; Jackson O. Lay Jr.²; Richard Warby¹; Hideya Koizumi¹;

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¹Arkansas State University, State University, AR;

²University of Arkansas, Fayetteville, AR

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- MP 532 **Observation of Tissue Sections Stained with Dyes Using a Stigmatic Imaging Mass Spectrometer;** Hisanao Hazama^{1,6}; Hidetoshi Yoshimura^{1,6}; Jun Aoki^{2,6}; Hirofumi Nagao^{1,6}; Yasuhide Naito^{3,6}; Michisato Toyoda^{2,6}; Katsuyoshi Masuda^{4,6}; Kenichi Fujii^{5,6}; Toshio Tashima⁶; Kunio Awazu^{1,6}; ¹Graduate School of Engineering, Osaka University, Suita, Osaka, Japan; ²Graduate School of Science, Osaka University, Toyonaka, Osaka, Japan; ³GPI, Hamamatsu, Shizuoka, Japan; ⁴Suntory Institute for Bioorganic Research, Mishima-gun, Osaka, Japan; ⁵Osaka Institute of Technology, Hirakata, Osaka, Japan; ⁶JST, CREST, Chiyoda-ku, Tokyo, Japan
- MP 533 **Atmospheric Pressure Femtosecond Laser Imaging Mass Spectrometry;** Yves P Coello¹; A. Daniel Jones¹; Tissa Gunaratne²; Marcos Dantus¹; ¹Michigan State University, East Lansing, MI; ²Biophotonic Solutions, Inc., East Lansing, MI
- MP 534 **Dry Powder Matrix Addition for MALDI Tissue Imaging;** Juaneka Hayes; Damien A. Narcisse; Kermit K. Murray; Louisiana State University, Baton Rouge, LA
- MP 535 **Atmospheric pressure IR MALDI Imaging of Biological Tissue at High Spatial Resolution;** Bernhard Spengler; Andreas Roempp; Zoltan Takats; Karl C Schaefer; Sabine Günther; Oliver Schulz; Justus Liebig University, Giessen, Germany
- MP 536 **Spatial Resolution in Laserspray Ionization – Mass Spectrometry for Tissue Analysis at AP;** Alicia Richards¹; Ellen D. Inutan¹; Thushani N. Herath¹; James Wager-Miller²; Ken Mackie²; Sarah Trimpin¹; ¹Wayne State University, Detroit, MI; ²Indiana University, Bloomington, Indiana
- MP 537 **Engineered High Density Matrix Pre-coated Spotted Surface Arrays for MALDI IMS;** Junhai Yang²; Zhou Xu¹; Paul Laibinis¹; Richard M. Caprioli²; ¹Vanderbilt University, Nashville, TN; ²Vanderbilt Univ Sch of Med, Nashville, TN
- MP 538 **Mass Spectrometric Imaging of Neuronal Cell Cultures Using the Stretched Sample Method;** Tyler A Zimmerman¹; Stanislav Rubakhin²; Elena Romanova¹; Kevin Tucker¹; Jonathan Sweedler¹; ¹University of Illinois, Urbana , IL; ²Beckman Institute, UIUC, Urbana, IL
- MP 539 **Investigation into the Effects of Prolonged Formalin Fixation for the Imaging of Phospholipids by MALDI-MS;** Claire Carter; Josephine Bunch; University of Birmingham, Birmingham, UK
- MP 540 **Advantages of Improved MS Resolution and Ion-Mobility Resolution for Lipid Analysis in MALDI Imaging;** Emmanuelle Claude; Iain D G Campuzano; Thérèse Mckenna; Jim Langridge; Waters corporation, Manchester, UK
- MP 541 **Targeted Multiplex Mass Spectrometry Imaging in Transmission Geometry LDI for a Sub-Cellular Resolution;** Gwendoline Thiery; Andrey I Zavalin; Richard M. Caprioli; Vanderbilt University, Nashville, TN
- MP 542 **Detergent Enhancement of On-tissue Protein Signals for Imaging and Profiling Studies Using MALDI Mass Spectrometry;** Veronica Mainini; Peggi Angel; Richard M. Caprioli; Vanderbilt University, Nashville, TN
- MP 543 **Ambient Mass Spectrometry Imaging by Infrared Laser Ablation Metastable-Induced Chemical Ionization;** Asiri Galhena¹; Glenn A Harris¹; Leonard Nyadong²; Kermit K. Murray³; Facundo Fernandez¹; ¹Georgia Institute of Technology, Atlanta, GA; ²NHMFL-FSU, Tallahassee, FL; ³Louisiana State University, Baton Rouge, LA
- MP 544 **Development of a Fast Position- and Time- Sensitive Ion Detector for Stigmatic Mass Microscopy;** Hidetoshi Yoshimura^{1,4}; Hisanao Hazama^{1,4}; Jun Aoki^{2,4}; Michisato Toyoda^{2,4}; Yasuhide Naito^{3,4}; Kunio Awazu^{1,4}; ¹Graduate School of Engineering, Osaka University, Suita, JAPAN; ²Graduate School of Science, Osaka University, Toyonaka, JAPAN; ³Graduate School for the Creation of New Photonics, Hamamatsu, Japan; ⁴Japan Science and Technology Agency, Core Research, Tokyo, Japan
- MP 545 **A Hybrid Quadrupole Time of Flight Mass Spectrometer Modified to Incorporate a 20kHz Nd:YVO4 Laser for MALDI-MS Imaging;** Malcolm Clench¹; Keith Oakes⁵; Marie Claude Djidja⁴; Paul J Trim³; Sally Atkinson²; ¹Sheffield Hallam University, Sheffield, UK; ²Sheffield Hallam Uni, UK, Sheffield, UK; ³University of Adelaide, Adelaide, Australia; ⁴The Institute of Cancer Research, UK, London, UK; ⁵Elforlight Ltd, Daventry, UK
- MP 546 **5-Chloro-2mercaptobenzothiazole as a MALDI MSI Matrix;** Kenneth H.N. Chan; Shawn Whitehead; Sheng Hou; Jianjun Li; National Research Council Canada, Ottawa, Canada
- MP 547 **Novel Matrices for Matrix-Enhanced SIMS Imaging;** Andras Kiss¹; Fabian Svava¹; Thorsten Wolfgang Jaskolla²; Michael Karas²; Ron M.A. Heeren¹; ¹FOM Institute AMOLF, Amsterdam, Netherlands; ²Goethe-Univ. of Frankfurt, Frankfurt Am Main, Germany
- MP 548 **Optimization of Matrix Preparation for MALDI Imaging Mass Spectrometry of Phospholipids;** Young Seung Park¹; Selina Rahman Shanta²; Kwang Pyo Kim²; Young Hwan Kim¹; ¹Korea Basic Science Institute, Cheongwon-Gun, South Korea; ²Department of Molecular Biotechnology, Konkuk Univ, Seoul, Korea
- MP 549 **Active Learning for Efficient Labeling and Classification of Imaging Mass Spectrometry data;** Michael Hanselmann¹; Jens Röder^{1,2}; Ullrich Köthe¹; Bernhard Y Renard¹; Anna Kreshuk¹; Ron M.A. Heeren³; Fred Hamprecht¹; ¹University of Heidelberg, Heidelberg, Germany; ²Robert Bosch GmbH CR/AEM5, Hildesheim, Germany; ³FOM Inst. Atomic/Molecular Phy, Amsterdam, Netherlands
- MP 550 **New Tools and Workflows for Rationalized Chemical Analysis in Imaging Mass Spectrometry: Case of Lipids in Hypertensive Rat Artery Sections;** Luke MacAleese¹; Gert B. Eijkel¹; Léon J. A. Spijkers²; Astrid E. Alewijnse²; Stephan L.M. Peters²; Ron M.A. Heeren¹; ¹FOM Institute AMOLF, Amsterdam, Netherlands; ²Academic Medical Center - University of Amsterdam, Amsterdam, Netherlands
- MP 551 **Constructing a Practical Mass Microscope Enabling Sub-cellular Scale Image Measurements;** Masahiro Hayashi^{1,2}; Yasuhide Naito^{1,3}; ¹GPI, Hamamatsu, Japan; ²Hamamatsu Photonics K.K., Hamamatsu, Japan; ³Japan Science & Technology Agency, Crest, Japan
- MP 552 **On-Tissue Digestion Using Microwave for MALDI Imaging;** Miyoung Ha^{1,2}; OkPyo Zee³; Yangsun Kim^{1,2}; ¹Hudson Surface Technology, Inc., Newark; ²Applied

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- MP 553 *Surface Technology, Inc., Suwon, South Korea;*
³Sungkyunkwan University, Suwon, South Korea
Mid-Scale Profiling of Biomolecules Using Encoded Nanoparticle-Coupled Mass Spectrometry Imaging; Lin He; *North Carolina State University, Raleigh, NC*
- MP 554 **MALDI-LIT-MSⁿ Imaging Applied To Characterizing Cellulose Content in Different Regions of Wood Tissue;** Kyle A. Lunsford¹; Gary F. Peter²; Richard A. Yost¹; *¹Department of Chemistry, University of Florida, Gainesville, FL; ²School of Forest Resources and Conservation, Gainesville, FL*
- MP 555 **In-situ Tissue Tryptic Digestion to Facilitate Peptide Analysis Using MALDI-MS Techniques to Investigate Protein induction in Tumour Vascular Targeted Strategies;** Laura Cole¹; Marie-Claude Djidja¹; Jo Bluff²; Emmanuelle Claude²; Vikki Carolan¹; Martyn Paley⁴; Gillian Tozer³; Malcolm Clench¹; *¹Sheffield Hallam University, BMRC, Sheffield, UK; ²Waters Corporation UK, Manchester, UK; ³Tumour Microcirculation Grp, University of Sheff, Sheffield, UK; ⁴Academic Radiology, University of Sheffield, Sheffield, UK*
- MP 556 **A Novel Method to Display the Structural Features included in the Mass Spectrometry Imaging dataset;** Motohide Yasuno¹; Shigeki Kajihara¹; Hiroko Morinaga¹; Masahiro Ikegami¹; Kiyoshi Ogawa¹; Akiko Kubo²; Masatoshi Wakui³; Takahiro Hayasaka³; Mitsutoshi Setou³; *¹Shimadzu Corporation, Kyoto, Japan; ²Keio University, Shinjuku, Japan; ³Hamamatsu University School of Medicine, Hamamatsu, Japan*
- DIRECT IONIZATION: APPLICATIONS, 557 - 574**
- MP 557 **Rapid Recognition of Virgin Olive Oil Geographical Origin by Secondary Electrospray Ionization-Mass Spectrometry;** Pablo Martinez-Lozano Sinués¹; Rosa Maria Alonso-Salces²; Lorenzo Zingaro³; Alessandro Finiguerra³; Margaret V. Holland²; Claude Guillou²; Simone Cristoni³; *¹National Research Council, Segrate (MI), Italy; ²European Commission - Joint Research Centre, Ispra, Italy; ³ISB srl, Milan, Italy*
- MP 558 **Quantitative Analysis of Free and Bound Glycerin in Biodiesel by Easy Ambient Sonic-Spray Ionization Mass Spectrometry;** Rosana M. Alberici; Ildenize B. S. Cunha; Rosineide C. Simas; Marcos N. Eberlin; *Thomson Mass Spectrometry Laboratory, Unicamp, Campinas, Brazil*
- MP 559 **Fast Lipid Profiling of Human Breast Milk Samples through DART-FTMS Analysis of Dried Paper Spots;** Albert Koulman; Les Bluck; Michael Eiden; Mojgan Masoodi; Dietrich Volmer; *Medical Research Council, Cambridge, UK*
- MP 560 **Facile Determination of Double Bond Position in Unsaturated Fatty Acids and Ester Derivatives by Low Temperature Plasma (LTP);** Jingyao (Isabella) Zhang; Weiguang Andy Tao; R. Graham Cooks; *Purdue University, West Lafayette, IN*
- MP 561 **Laser Diode Thermal Desorption/Atmospheric Pressure Chemical Ionization Tandem Mass Spectrometry as a Tool to Analyze Triacylglycerols;** E. Real Paquin; Serge Kaliaguine; *Université Laval, Québec, Canada*
- MP 562 **In situ Tissue Analysis of Metabolites, Lipids, and Proteins in the Gill Glands of Bloodfin Tetra by LAESI Mass Spectrometry;** Bindesh Shrestha; Robert Javonillo; John Burns; Akos Vertes; *George Washington University, Washington, DC*
- MP 563 **Infrared Electrospray-Assisted Laser Desorption Ionization (IR-ELDI) with an OPO Laser for Protein Characterization;** Ivory Peng¹; Mark Little²; Rachel O. Loo¹; Eli Margalith²; Joseph A. Loo¹; *¹UCLA, Los Angeles, CA; ²Opotek, Inc., Carlsbad, CA*
- MP 564 **Rapid and Direct Analysis of Chlorophyll Catabolites in Senescent Plant Tissues by Desorption Electrospray Ionization Mass Spectrometry (DESI-MS);** Thomas Mueller¹; Sheran Oradu²; Bernhard Kraeutler¹; R. Graham Cooks²; *¹University of Innsbruck, Innsbruck, Austria; ²Purdue University, West Lafayette, IN*
- MP 565 **Reliable Detection and Localisation of Small Molecules in Skin Using Desorption Electrospray Ionization (DESI);** Tara La Roche Salter¹; Felicia Green¹; Ian Gilmore¹; Anna Hills²; *¹National Physical Laboratory, Teddington, UK; ²Lonza, Slough, UK*
- MP 566 **Synthetic Reaction Monitoring with Desorption Electrospray Ionization Mass Spectrometry;** Christopher Santee; Jonathan Person; Christopher Mulligan; *Illinois State University, Normal, IL*
- MP 567 **Adulteration Testing in the Pharmaceutical Industry by Complementary DESI-MS and NMR;** Nari Talaty¹; Michelle Long²; Wayne Wargo³; Ian Marsden¹; Daniel Crandall²; Thomas Paulus²; Damien Ready¹; Wanrong Lin²; Phyllis Sedar²; Stephen Sepa¹; *¹Abbott Laboratories, GPRD, Abbott Park, IL; ²Abbott Laboratories, GPO, Abbott Park, IL; ³Abbott Laboratories, Abbott Nutrition, Columbus, OH*
- MP 568 **Rapid Identification of Sibutramine and Other Adulterants in Herbal Slimming Products Using the Atmospheric Solids Analysis Probe and MS detection;** Marian Twohig; Gordon Fujimoto; Andy Aubin; Rob Plumb; *Waters Corporation, Milford, MA*
- MP 569 **Paper Spray for Ambient Analysis of Complex Mixtures Using Mass Spectrometry;** Nicholas Manicke; He Wang; Zheng Ouyang; R. Graham Cooks; *Purdue University, West Lafayette, IN*
- MP 570 **Inexpensive Screening for Smoked Drugs Using an Autosampler/DART/TOFMS;** Andrew Grange; *U.S. EPA, Las Vegas, NV*
- MP 571 **Characterization of Structural Changes in Hindered Amine Light Stabilizers within Coil Coatings by Desorption Electrospray Ionization-Mass Spectrometry;** Martin R. L. Paine¹; Philip Barker²; Stephen J Blanksby¹; *¹University of Wollongong, Wollongong, Australia; ²BlueScope Steel Research, Wollongong, Australia*
- MP 572 **Chelating Agents Detection on Surface by Reactive Desorption Electrospray Ionization Mass Spectrometry;** Diane Lebeau; Christine Lamouroux; *CEA / Nuclear Energy Division, Gif Sur Yvette, France*
- MP 573 **Fast Detection of Palladium and Copper in Combinatorial Compound Libraries by DART-MS;** Qingfen Zhang; Marcel Patek; *Sanofi-Aventis Tucson Research Center, Tucson, AZ*
- MP 574 **Direct Analysis In Real Time Mass Spectrometry Of High-Molecular Weight Organometallic Porphyrins;** Basri Gulbakan^{1,2}; Jonathan R. Sommer^{1,3}; Julia L. Rummel^{1,2}; Kirk S. Schanze^{1,3}; Weihong Tan^{1,2}; David H. Powell^{1,2}; *¹Department of Chemistry, University of Florida, Gainesville, Florida; ²Center for Research at Bio/Nano Interface, Gainesville, Florida; ³Center for Macromolecular Science and Engineering, Gainesville, Florida*

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- MP 575 **On the Ionization Mechanism of Extractive Electrospray Ionization (EESI);** Rui Wang¹; Wai Siang Law¹; Huanwen Chen²; Renato Zenobi¹; ¹Swiss Federal Institute of Technology Zurich, Zurich, Switzerland; ²East China Institute of Technology, Fuzhou, China
- MP 576 **Effectiveness of Platinum Particle Deposition on Silicon Surfaces for Surface-Assisted Laser Desorption/Ionization Mass Spectrometry of Peptides;** Ryuichi Arakawa; Teruyuki Yao; Takehiro Watanabe; Hideya Kawasaki; *Kansai University, Osaka, Japan*
- MP 577 **Dianionic Antimony(III)-Tartrate Traps Neutral Solvent Reaction Intermediates Produced during Negative Mode Electrospray Ionization;** Aruna B. Wijeratne; Samuel H. Yang; Daniel W. Armstrong; Kevin A. Schug; *University of Texas at Arlington, Arlington, TX*
- MP 578 **Ion Distributions Within Electrosprayed Nanodroplets: Insights from Molecular Dynamics Simulations;** Elias Ahadi; Lars Konermann; *Univ. of Western Ontario, London, ON*
- MP 579 **Reactions during Desorption Electrospray Ionization: Derivatization Reactions in a Microdroplet Environment;** Dahlia Campbell¹; Marion Girod¹; Encarnacion Moyano²; R. Graham Cooks¹; ¹Purdue University, West Lafayette, IN; ²University of Barcelona, Barcelona, Spain
- MP 580 **Investigation of the Impact of the Experimental Parameters on SFC API MS Signal Intensity;** Rui Chen; Jacquelyn Cole; Lakshmi Subbarao; *Waters Corporation, Newark, DE*
- MP 581 **Improving Ion Efficiency in Laserspray (LSI) and Sonic Spray Ionization (SSI) Mass Spectrometry;** Tongwen Wang; Frank Zydell; Andrew Harron; Charles N. McEwen; *University of the Sciences in Philadelphia, Philadelphia, PA*
- MP 582 **Laserspray Ionization, Matrix Materials, and Sample Preparation/Ionization Conditions;** Christopher Lietz; Ellen Inutan; Beixi Wang; Sarah Trimpin; *Wayne State University, Detroit, MI*
- MP 583 **Dependences of Ionization Efficiencies of Peptide on Solvent in Matrix-Assisted Laser Desorption/Ionization;** Satoshi Furukawa¹; Hisanao Hazama¹; Kunio Awazu^{1,2}; ¹Osaka University, Osaka, Japan; ²Research Institute of Nuclear Engineering, Univers, Fukui, Japan
- MP 584 **Factors Affecting Temperature Profiles in the Electrospray Plume;** Stephen C. Gibson¹; Charles S. Feigerle¹; Kelsey D. Cook^{1,2}; ¹University of Tennessee, Knoxville, TN; ²National Science Foundation, Arlington, VA
- MP 585 **Clustering Model in Nano Electrospray Ionization Focused on Molecular Dimerization;** Shuichi Matsuda; Hajime Mizuno; Naohiro Tsuyama; Takanori Harada; Tsutomu Masujima; *Hiroshima Univ. Biomed., Hiroshima, Japan*
- MP 586 **Multiple Charging Variation Method in Nano ESI for Peptide Analysis by the Live Single Cell MS;** Takashi Fujii; Hajime Mizuno; Naohiro Tsuyama; Takanori Harada; Tsutomu Masujima; *Hiroshima Univ. BioMed., Hiroshima, Japan*
- MP 587 **Liquid Chromatography/Dopant Assisted Atmospheric Pressure Chemical Ionization Mass Spectrometry (LC/DA-APCI-MS) for the Analysis of**
- MP 588 **Non-Polar Compounds;** Liguo Song¹; David S. Cho¹; Deepak Bhandari¹; Stephen C. Gibson¹; Mary Ellen McNally²; Ron Hoffman²; Kelsey D. Cook¹; ¹University of Tennessee, Knoxville, TN; ²Dupont, Newark, DE
- MP 589 **Why Chemical Bond Scission can be Controlled Well on the Self-Assembled Monolayer Surface?;** Kenichiro Tanaka; *Riken SPring-8 and Hiroshima University, Sayo-Cho, Japan*
- MP 590 **Measuring Particle Formation in MALDI from 10 nm to 10 µm;** Thabiso Musapelo; Kermit K. Murray; *Louisiana State University, Baton Rouge, LA*
- MP 591 **Modeling Matrix-Assisted Laser Desorption Electrospray Ionization;** Fan Huang; Xing Fan; Kermit K. Murray; *Louisiana State University, Baton Rouge, LA*
- MP 592 **Desorption Threshold and Fragmentation in Laser Desorption Ionization from Silicon Nanopost Arrays;** Jessica A. Stolee; Bennett N Walker; Akos Vertes; *George Washington University, Washington, DC*
- MP 593 **The Beer's Law of Mass Spectrometry, Again;** Drew Sauter¹; John Chakel²; R. C. Willoughby³; ¹Nanolier, LLC, Henderson, NV; ²LECO Corporation, San Mateo, CA; ³Chem-Space Associates, Pittsburgh, PA
- MP 594 **Investigation of Surface-Assisted Laser Desorption / Ionization of Small Molecules on Metal Oxide Nanowires: Size Effects on Ionization Efficiency;** Sang Yun Han¹; Won Jik Shin^{1,2}; Jeong Ho Shin^{1,3}; Jae Yong Song^{1,3}; ¹Korea Research Institute of Standards and Science, Daejeon, Republic of Korea; ²Chungbuk National University, Cheongju, Republic of Korea; ³University of Science and Technology, Daejeon, Republic of Korea
- MP 595 **Internal Energies of Ions in Laser Ablation Electrospray Ionization;** Hehua Huang¹; Peter Nemes^{1,2}; Akos Vertes¹; ¹George Washington University, Washington; ²University of Illinois at Urbana-Champaign, Urbana, IL
- MP 596 **Solvent Optimization Procedures in Desorption Electrospray Ionization;** Abraham K Badu Tawiah; R. Graham Cooks; *Purdue University, West Layette, IN*
- MP 597 **The Effect of Electrospray Solvent Composition on Desorption Electrospray Ionization (DESI) Efficiency and Spatial Resolution;** Felicia Green¹; Tara Salter¹; Ian Gilmore¹; Peter Stokes²; Gavin O'Connor²; ¹National Physical Laboratory, Teddington, UK; ²LGC Limited, Teddington, UK
- MP 598 **Independent Mechanistic Investigations into Desorption and Ionization Steps in Desorption Electrospray Ionization;** Andre Venter; Afrand Kamali Sarvestani; Shashank Jain; *Western Michigan University, Kalamazoo, MI*
- MP 599 **Indirect Electrospray Ionization Using Micro-funnel Sample Plate;** Hoi Sze Yeung; Tak-Wah Dominic Chan; *The Chinese Univ. of Hong Kong, Hong Kong Sar, China*
- MP 600 **Desorption/Ionization Capabilities of Ambient Low-Temperature Plasma (LTP) Mass Spectrometry for Small Molecule Applications;** Juan F Garcia-Reyes¹; Jason Harper²; Nicholas Charipar²; Ayanna Jackson²; Mario Benassi Neto³; Zheng Ouyang²; R. Graham Cooks²; ¹University of Jaen, Jaen, Spain; ²Purdue University, West Lafayette, IN; ³ThoMSon Lab - UNICAMP, Campinas, Brazil
- MP 600 **Reactions of Radical Species Formed in the Helium Metastable Beam of a Direct Analysis in Real Time Ion Source;** Matthew Curtis; O. David Sparkman; Patrick R. Jones; *University of the Pacific, Stockton, CA*

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- MP 601 **Pneumatically Assisted Electropray Needle Array For High Throughput High Flow Rate Liquid Chromatography - Mass Spectrometry;** Eloy R. Wouters; Mark Hardman; Paul Atherton; Jean-Jacques Dunyach; *Thermo Fisher Scientific, San Jose, CA*
- MP 602 **Precision Engineering, CFD and DOE Used for the Design, Fabrication and Evaluation of an Ion Focusing Device for ESI;** Guillaume Robichaud; R. Brent Dixon; Amarnatha Potturi; Daniel Cassidy; Jack R. Edwards; Alex Sohn; Thomas A. Dow; David C. Muddiman; *North Carolina State University, Raleigh, NC*
- MP 603 **Characterization of an Improved API Source Enclosure;** Mark Hardman; Christopher Mullen; Jean-Jacques Dunyach; Eloy R. Wouters; Paul Atherton; *Thermo Fisher Scientific, San Jose, CA*
- MP 604 **Real Time in situ Analysis of Biological Samples Using Probe Electropray Ionization (PEI) Mass Spectrometry;** Kentaro Yoshimura²; Lee Chuin Chen¹; Zhan Yu¹; Hiroaki Tagawa²; Kenzo Hiraoka¹; Sen Takeda²; ¹*University of Yamanashi, Kofu, Japan*; ²*Fac. Medicine, University of Yamanashi, Chuo, Yamanashi, Japan*
- MP 605 **A Multiplex MicroLC-MS Source for High Throughput, High Sensitivity DMPK Analyses;** Arthur Fogiel¹; Sau Lan Tang Staats¹; John Janiszewski²; ¹*Phoenix S & T, Inc, Chester, PA*; ²*Pfizer Inc., Groton, CT*
- MP 606 **Bridging the Gap Between Nanospray and ESI with Capillary Spray;** Amanda Berg; Carla Marshall-Waggett; Gary Valaskovic; *New Objective, Inc., Woburn, MA*
- MP 607 **Automated Dual Probe Assembly for High Throughput Sample Processing on an ESI-TOF Mass Spectrometer;** Jared Drader¹; Jose Gutierrez¹; Shida Shen²; Craig M. Whitehouse²; Steven Hofstadler¹; ¹*Ibis Biosciences, Inc., Carlsbad, CA*; ²*PerkinElmer, Inc., Branford, CT*
- MP 608 **Development of Microfluidic Paper Spray Devices for Ambient Chemical Analysis Using Mass Spectrometry;** Qian Yang; He Wang; Jeff Maas; Nicholas Manicke; R. Graham Cooks; Zheng Ouyang; *Purdue University, West Lafayette, IN*
- MP 609 **Improving and Coupling Electropray Ion Funnel Interface to Ion Mobility-Mass Spectrometry;** Junho Jeon; Chaminda M. Gamage; David H. Russell; *Texas A&M University, College Station, TX*
- MP 610 **Development of an Orthogonal Ion Injection Method Coupled to Dual Ion Funnel Source for High Sensitive and High-Throughput MS Analysis;** Ruwan T. Kurulugama; Richard D. Smith; Mikhail E. Below; *PNNL, Richland, WA*
- MP 611 **Increasing Electropray Throughput Using a Dual Probe Coaxial Flow Ion Source;** Sha Joshua Ye; Ellie Majdi; George Scott; *Ionics Mass Spectrometry Group, Bolton, Canada*
- MP 612 **Conversion of an Agilent Chip Cube System for the Analysis of Proteomics Samples Using a LTQ-FT Ultra Mass Spectrometer;** Alexander B. Schilling; Carrie Crot; Larry Helseth; Rod Davis; Hua Xu; *University of Illinois, PISF, Chicago, IL*
- MP 613 **An Alternative Electropray Source Based on Dielectric Polarisation – Dielectric Barrier Electropray (DBE);** Ann-Kathrin Stark; Michael Schilling; Dirk Janasek; Joachim Franzke; *Leibniz-*

Institut für Analytische Wissenschaften, Dortmund, Germany

- MP 614 **Achieving >50% Ion Utilization Efficiency in ESI-MS;** Ioan Marginean; Jason Page; Aleksey Tolmachev; Keqi Tang; Richard D. Smith; *Pacific Northwest National Laboratory, Richland, WA*
- MP 615 **Design of a Nano-ESI Interface to Minimize Contamination of the MS;** Ralf Schiewek; Rawi Ramautar; André M. Deelder; Oleg A. Mayboroda; *Leiden University Medical Centre (LUMC), Leiden, Netherlands*
- MP 616 **Characterization of Spray Formation in an Electropray Having a Co-Flowing Gas;** Farhan Sultan¹; Amirreza Amighi¹; Nasser Ashgriz¹; Lisa Cousins²; Gholamreza Javahery²; ¹*University of Toronto, Toronto, Canada*; ²*Ionics Mass Spectrometry Group, Inc., Bolton, ON*
- MP 617 **Surface Sampling of Dried Blood Spots for Haemoglobin Variant Analysis by Direct infusion Chip-Based Nano-Electropray MS and MS/MS;** Josephine Bunch; Helen Cooper; *University of Birmingham, Birmingham, UK*
- MP 618 **Identification of Isomeric Phase II Drug Metabolites From Mouse Thin Tissue Sections Using Liquid-Extraction Based Surface Sampling Mass Spectrometry;** Vilmos Kertesz; Gary J. Van Berkel; *Oak Ridge National Laboratory, Oak Ridge, TN*
- MP 619 **On-line Detection of Semi Volatile and Nonvolatile Compounds in Breath Aerosols;** Christian Berchtold; Lukas Meier; Renato Zenobi; *ETH Zürich, Zürich, Switzerland*

ION ACTIVATION/DISSOCIATION: ECD/ETD, 620 - 633

- MP 620 **Role of Conformation in H Transfer During ECD of Peptides;** Carlos Afonso¹; Severine Zirah²; Ledoux Lucie^{1,2}; Uwe Linne³; Mohamed Marahiel³; Thomas Knappe²; Sylvie Rebuffat²; Jean-Claude Tabet¹; ¹*Université Paris 6/UMR7201, Paris, France*; ²*National Museum of Natural History / CNRS, Paris, France*; ³*Philipps University, Marburg, Germany*
- MP 621 **Activated Ion Electron Capture Dissociation Pathways of Peptides and Phosphopeptides;** Aleksey Vorobyev¹; Fabien Chiro²; Florian Aldrieux²; Rodolphe Antoine²; Philippe Dugourd²; Jérôme Lemoine²; Yury Tsybin¹; ¹*Ecole Polytechnique Federale, Lausanne, Switzerland*; ²*CNRS, University Lyon 1, Villeurbanne, France*
- MP 622 **ECD in an Electromagnetostatic Cell on a Quadrupole/Time-of-Flight Mass Spectrometer;** Valery G. Voinov^{1,2}; Lei Chen¹; Joseph Beckman¹; Max L. Deinzer¹; Mel Park³; Thomas Knudsen³; Douglas F. Barofsky¹; ¹*Oregon State University, Corvallis, OR*; ²*The Pacific Institute for Bioorganic Chemistry, Vladivostok, Russia*; ³*Bruker Daltonics, Merrimack, NH*
- MP 623 **Peptide Conformation Control with Intramolecular Cross-Linking Probed by Electron Capture/Transfer Dissociation;** Hisham Ben Hamidane¹; Florian Albrieux²; Fabien Chiro²; Rodolphe Antoine²; Philippe Dugourd²; Jérôme Lemoine²; Yury Tsybin¹; ¹*Ecole Polytechnique Federale, Lausanne, Switzerland*; ²*CNRS & Univ Lyon 1, Villeurbanne, France*
- MP 624 **Activation of Positive Ion Oligonucleotides by SORI-CID and EID/hot-ECD;** Viet Hung Nguyen; Carlos Afonso; Jean-Claude Tabet; *Université Paris, Paris, France*
- MP 625 **Direct Comparison of Ion/Electron and Ion/Ion Dissociation Methods for Biomolecule Analysis in a**

MONDAY POSTERS

- RF Linear Ion Trap**; David Crizer; Mark Ridgeway; Takashi Baba; Gary L. Glish; *UNC-Chapel Hill, Chapel Hill, NC*
- MP 626 **Collision Induced Dissociation Yield ECD-like Backbone Fragmentation via an Aminoketyl Radical Intermediate**; Benjamin Moore; Tony Ly; Ryan R. Julian; *University of California, Riverside, Riverside, CA*
- MP 627 **Electron Capture by Peptide Anions**; Hyun Ju Yoo¹; Shuyi Zhuang²; Ning Wang¹; Kristina Hakansson¹; ¹*University of Michigan, Ann Arbor, MI*; ²*Tsinghua University, Beijing, China*
- MP 628 **Enhanced Electron Transfer Dissociation of Peptides Modified at Carboxylate Functionalities with Fixed Charges**; Byoung Joon Ko²; Scott Robotham¹; Jennifer Brodbelt¹; ¹*The University of Texas, Austin, TX*; ²*UT-Austin, Austin, TX*
- MP 629 **ETD Product Distributions from Mixed Charge-Sites Model Peptides**; William Mcgee¹; Marija Mentinova¹; David Erickson²; Scott A. Mcluckey¹; ¹*Purdue University, West Lafayette, IN*; ²*Bowling Green State University, Bowling Green, OH*
- MP 630 **Structural Characterization of Sulfated Bio-Ions via Gas-Phase Ion/Ion Reactions**; Teng-Yi Huang; Anastasia Kharlamova; Scott A. Mcluckey; *Purdue University, West Lafayette, IN*
- MP 631 **Top-Down Proteomics Using Negative Electron Transfer Dissociation (NETD)**; Derek Bailey; Graeme Mcalister; Joshua J. Coon; *University of Wisconsin, Madison, WI*
- MP 632 **Metastable Atom-Activated Dissociation Mass Spectrometry (MAD-MS) of Peptidic and Non-Peptidic Species**; Shannon Cook; Glen Jackson; *Ohio University, Athens, OH*
- MP 633 **Dissociation Mechanism of Excited CH₃X (X= Cl, Br and I) Formed by High-Energy Electron Transfer Using Alkali Metal Targets**; Shigeo Hayakawa; Taiga Tsujinaka; Kenichi Iwamoto; Hiroshi Matsubara; *Osaka Prefecture Univ., Sakai, Osaka, Japan*
- ION ACTIVATION/DISSOCIATION, 634 - 650**
- MP 634 **Infrared Spectroscopy of Peptide CID Products Using an OPO Laser**; Da Wang; Kerim Gulyuz; Nicolas Polfer; *University of Florida, Gainesville, FL*
- MP 635 **Excitation and Ionization of Trichlorobenzenes with REMPI and MATI Methods**; Frank Witte¹; Frank Gunzer²; Mikko Riese³; Jurgen Grotemeyer¹; ¹*Christian-Albrechts-Univ, Kiel, Germany*; ²*Physics Department, German University in Cairo, Cairo, Egypt*; ³*Photon Science Institute, University of Manchester, Manchester, UK*
- MP 636 **Photodissociation of Protonated Polycyclic Aromatic Hydrocarbon (PAH) Cations**; Yi Fu¹; John R. Eyler²; Nicolas Polfer²; ¹*Department of Chemistry, University of Florida, Gainesville, FL*; ²*University of Florida, Gainesville, FL*
- MP 637 **Ultraviolet Photodissociation of Chromophore-Labeled Oligosaccharides Via Reductive Amination and Hydrazone Conjugation**; Byoung Joon Ko¹; Jennifer Brodbelt²; ¹*UT-Austin, Austin, TX*; ²*The University of Texas, Austin, TX*
- MP 638 **Ultrafast Ultraviolet Photodissociation at 193 nm for Proteomic Workflows**; James Madsen; Jennifer Brodbelt; *University of Texas Austin, Austin, TX*
- MP 639 **Improved Efficiency of Ultraviolet Photodissociation at 193 nm via N-Terminal Aromatic Derivatization of Peptides**; Lisa A Vasicek¹; Jennifer Brodbelt²; ¹*University of Texas, Austin, TX*; ²*The University of Texas, Austin, TX*
- MP 640 **VUV Activation and Spectroscopy of Peptides in the Gas Phase Probed by Synchrotron Radiation**; Alexandre Giuliani^{1,2}; Aleksandar Milosavljevic^{1,4}; Christophe Nicolas¹; Joel Lemaire³; Matthieu Réfrégiers¹; Laurent Nahon¹; ¹*Synchrotron Soleil, Gif-Sur-Yvette, France*; ²*Cepia, INRA, Nantes, France*; ³*LCP CNRS - Université Paris Sud 11, Orsay, France*; ⁴*Institute of Physics, Belgrade, Serbia*
- MP 641 **Monte Carlo / RRKM / Classical Trajectories Modeling of Collisional Excitation and Dissociation of Ions in Multipole Collision Cells**; Vadim Knyazev^{1,2}; Stephen Stein¹; ¹*National Institute of Standards and Technology, Gaithersburg, MD*; ²*The Catholic University of America, Washington, DC*
- MP 642 **Protonated N-Methylthioacetamide as a Model Amino Acid Linker in Studying the Mechanism of Peptide Fragmentation**; Joshua A Gregersen; Magdalena Zimmnicka; Frantisek Turecek; *University of Washington, Seattle, WA*
- MP 643 **Alternate Dissociation Pathways Identified in Charge-Reduced Protein Complex Ions**; Kevin Pagel¹; Suk-Joon Hyung²; Brandon Ruotolo²; Carol Robinson¹; ¹*University of Oxford, Oxford, UK*; ²*University of Michigan, Ann Arbor, Michigan*
- MP 644 **Fragmentation Order Determined by Linkage Site Isomer at Remote Moieity: Experimental and Theoretical Studies II**; Daryl Giblin^{1,3}; Dian Su^{1,3}; Samuel Qiu²; Weidong Cui^{1,3}; Michael L. Gross^{1,3}; ¹*Washington University, St Louis, MO*; ²*South China Botanical Garden, Guangzhou, China*; ³*Washington University, St. Louis, Missouri*
- MP 645 **The Cyclization of Deprotonated N-(2,4-Dinitrophenyl)Amino Acids Occurs in Both the Condensed and Gas Phases**; George Mathai²; Justin Paulose²; Ragampeta Srinivas³; Venna Ramesh²; Daryl Giblin¹; Michael L. Gross¹; ¹*Washington University, St Louis, MO*; ²*Sacred Heart College, Kochi, India*; ³*Indian Institute of Chemical Technology, Hyderabad, India*
- MP 646 **Degradation of Sugars via Ambient Ion Dissociation and Soft-Landing**; Zhixin Miao¹; Jennifer Colla¹; Zongqian Yuan¹; Graham Cooks²; Hao Chen¹; ¹*Ohio University, Athens, OH*; ²*Purdue University, West Lafayette, IN*
- MP 647 **Investigation of Fast Unimolecular Dissociation Reactions Using Surface-Induced Dissociation Implemented in a Modified Commercial MALDI-TOF**; Sung Hwan Yoon; Mowei Zhou; Arpad Somogyi; Chaminda M. Gamage; Vicki H. Wysocki; *University of Arizona, Tucson, AZ*
- MP 648 **Novel Switching Mechanism for the Fragmentation of Protonated, Nitrile-Terminated PPI Dendrimer Elucidated with DFT**; William D. Price; Josh Hendrix; Jacob Kilgore; *Marshall University, Huntington, WV*
- MP 649 **Dissociation Kinetics of Activated Hydrated Metal Ion Clusters Investigated with Master Equation Modeling**; Maria Demireva; Evan R. Williams; *University of California, Berkeley, CA*
- MP 650 **Comparative Internal Energy Distributions Reached into a LTQ Orbitrap under CID, PQD and HCD Activation Modes**; Denis Lesage; Sandra Alves; Adélaïde De Viguierie; Ljubica Svilar; Jean-Claude Tabet; *University Paris VI, Paris, France*

MONDAY POSTERS

INSTRUMENTATION: FTMS, 651 - 664

- MP 651 **Design Considerations for External Ion Injection FT-ICR MS at 21 Tesla**; Steven C. Beu¹; Christopher L. Hendrickson²; Alan G. Marshall³; ¹*S C Beu Consulting, Austin, TX*; ²*National High Magnetic Field Laboratory, Tallahassee, FL*; ³*Ion Cyclotron Resonance Prog, Tallahassee, FL*
- MP 652 **High-Field FT-ICR MS Applied to Laserspray Ionization**; Leonard Nyadong^{1,2}; Ellen D. Inutan³; Thushani N. Herath³; Sarah Trimpin³; Alan G. Marshall^{1,2}; ¹*Florida State University, Tallahassee, FL*; ²*National High Magnetic Field Laboratory, Tallahassee, FL*; ³*Wayne State University, Detroit, MI*
- MP 653 **Characterization of Axial Motion Frequency Analyses in Harmonized Cylindrical Penning Traps as Potential Mass Spectrometry Method**; Eugene Nikolaev¹; Ivan Boldin¹; Pavel Ryumin¹; Igor Popov²; ¹*Institute for Energy Problems of Chemical Physics, Moscow, Russian Federation*; ²*Russian Academy of Sci, Moscow, Russian Federation*
- MP 654 **Calibration of FTMS Mass Spectrometer to Sub-Ppm Level of Mass Measurement Accuracy: Orbitrap and ICR Comparison**; Mikhail V. Gorshkov¹; Yaroslav Lyutvinskiy²; David M. Good²; Hongqian Yang²; Roman Zubarev²; ¹*Institute for Energy Problems of Chemical Physics, Moscow, Russian Federation*; ²*Karolinska Institute, Stockholm, Sweden*
- MP 655 **Injection of Externally-Generated Low Mass Ions into High Magnetic Field in Q/FT-ICR Instruments: SIMION Simulations and Experimental Observations**; Behrooz Zekavat; Touradj Solouki; *University of Maine, Orono, ME*
- MP 656 **Coulombic Shielding during Ion Cyclotron Excitation in FT-ICR Mass Spectrometry**; Brian M. Ruddy¹; Steven C. Beu²; Nathan K. Kaiser³; Christopher L. Hendrickson³; Alan G. Marshall⁴; *Florida State University, Tallahassee, FL*; ²*S C Beu Consulting, Austin, TX*; ³*National High Magnetic Field Laboratory, Tallahassee, FL*; ⁴*Ion Cyclotron Resonance Prog, Tallahassee, FL*
- MP 657 **Effects of Ion Introduction in the FT ICR Cell on Frequency Shifts, Mass Accuracy, and Resolution**; Andriy Kharchenko; Ron M.A. Heeren; *FOM Institute for Atomic and Molecular Physics, Amsterdam, Netherlands*
- MP 658 **Investigation of Collision Cross Section Effects on ion Motion in ICR Cell Under Influence of Bath Gas and Quadrupolar Excitation**; Alexander Misharin¹; Alexander Popov²; Vladimir Doroshenko¹; *MassTech, Inc., Columbia, MD*; ²*MSU, Moscow, Russia*
- MP 659 **Automated Broadband Phase Correction for Improved FT-ICR Mass Spectra of Complex Mixtures**; Feng Xian¹; Chris Hendrickson²; Greg T. Blakney³; Steve Beu⁴; Alan G. Marshall⁵; *NHMFL, Tallahassee, FL*; ²*National High Magnetic Field Laboratory, Tallahassee, FL*; ³*National ICR Program at NHMFL, Tallahassee, FL*; ⁴*S C Beu Consulting, Austin, TX*; ⁵*Ion Cyclotron Resonance Prog, Tallahassee, FL*
- MP 660 **A Walking Mass Calibration Equation for Complex Mixture Analysis by FT-ICR Mass Spectrometry**; Joshua J. Savory; Nathan K. Kaiser; Amy M. McKenna; Greg T. Blakney; Christopher L. Hendrickson; Ryan P. Rodgers; Feng Xian; Alan G. Marshall; *National High Magnetic Field Laboratory, Tallahassee, FL*
- MP 661 **Influence of Different Components of Magnetic Field Inhomogeneity on Cyclotron Motion Coherence at very High Magnetic Field**; Gleb Vladimirov¹; Yury Kostyukevich¹; Alan G. Marshall⁴; Chris Hendrickson²; Greg T. Blakney³; Eugene Nikolaev^{1,5}; ¹*The Institute for Energy Problems of Chemical Phys, Moscow, Russian Federation*; ²*National High Magnetic Field Laboratory, Tallahassee, FL*; ³*National ICR Program at NHMFL, Tallahassee, FL*; ⁴*Ion Cyclotron Resonance Prog, Tallahassee, FL*; ⁵*Institute of Biochemical Physics RAS, Moscow, Russia*
- MP 662 **Use of LTQ-Orbitrap Mass Spectrometer to Differentiate between 3H and 35Cl/37Cl Isotope Pattern for Metabolite Identification**; Violet Stoycheva; Parnali Chatterjee; *MPI Research, Portage, MI*
- MP 663 **Broadband Gas Analysis at High Resolution with a Small FTICR**; Joel Lemaire¹; Clotilde Le Vot¹; Essyllt Louarn¹; Christophe Dehon¹; Hélène Mestdagh¹; Julien Leprovost²; Moussa Bouaziz²; Michel Heninger²; ¹*LCP CNRS - Université Paris Sud 11, Orsay, France*; ²*AlyXan, Orsay, France*
- MP 664 **Transformative Effects of Higher Magnetic Field in Fourier Transform Ion Cyclotron Resonance Mass Spectrometry**; N. Murat Karabacak¹; Michael L. Easterling²; Jeffrey N. Agar¹; ¹*Brandeis University, Waltham, MA*; ²*Bruker Daltonics, Inc., Billerica, MA*

TUESDAY POSTERS

7:30 – 8:00 am..... All Tuesday posters should be set
 10:30 am – 2:30 pm..... All poster authors should be present
 11:45 am – 12:15 pm..... Lunch break for odd-numbered posters
 12:15 – 12:45 pm Lunch break for even-numbered posters
 7:30 – 8:00 pm Remove all Tuesday posters

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 Proteins: Non-Covalent Interactions, 061 – 093
 Proteins: Phosphoproteins, 094 – 115
 Proteomics: New Approaches II, 116 – 142
 MS of Glycoprotein II, 143 – 166
 Quantitative Proteomics II, 167 – 192
 Proteomics: Peptide Sequencing, 193 – 214
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 Proteomics: PTM Determination, 247 – 268
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 Nano LCMS, 428 – 453
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 Drug Metabolism: High Throughput, 491 – 508
 Environmental Analysis: Pharmaceuticals & Pesticides, 509 – 532
 Imaging MS: Method Development II, 533 – 554
 Direct Ionization: New Developments, 555 – 575
 MALDI Sample Preparation: Matrices, NP'S and LD 2, 576 – 593
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 Ion Mobility I, 637 – 665
 Instrumentation: TOF, 666 - 682

BIOINFORMATICS II, 001 - 035

TP 001 **Development of an Integrated Matlab-Based Computer Program to Visualize and Analyze Protein Interaction Networks;** Sergio Mejia; Cristina Osorio; Oscar Alzate; *University of North Carolina, Chapel Hill, NC*

TP 002 **Comprehensive Bioinformatical Analysis of Yeast Proteome;** Martin Damsbo¹; Christian Ravnsborg Ingrell¹; Jacob Kristensen¹; Michael Barrett Andersen; Alexandre Podtelejnikov¹; ¹*Proxeon A/S, Odense, Denmark*; ²*Proxeon Biosystems, Odense, Denmark*

TP 003 **Fast Detection of Abundant Protein Modifications and Other Events from LC-MS/MS Data Using the DeltAMT Algorithm;** Yan Fu¹; Liyun Xiu¹; Wei Jia²; Haipeng Wang¹; Ruixiang Sun¹; Xiaohong Qian²; Si-Min He¹; ¹*Institute of Computing Technology, CAS, Beijing, China*; ²*Beijing Proteome Research Center, Beijing, China*

TP 004 **Assessing Discovery Proteomics Quality Control by Using a Multivariate Statistical Process Control Framework;** Lorenzo Vega-Montoto; Amy-Joan L. Ham; David Tabb; Misti Martinez; Daniel C. Liebler; *Vanderbilt University, Nashville, TN*

TP 005 **Comparison of Two Orthogonal Informatic Pipelines for Detection of Tandem Mass Spectra of Cross-Link Peptides;** Lucas Monkkonen; Pragma Singh; Alexandre Panchaud; Elizabeth Medina; Eri Nakatani; Carlos Catalano; Dave Goodlett; *University of Washington, Seattle, Seattle, WA*

TP 006 **On the Replicability and Predictability of Peptide Fragmentation Spectra in MS/MS;** Sujun Li; Randy J. Arnold; Haixu Tang; Predrag Radivojac; *Indiana University, Bloomington, IN*

TP 007 **MS/MS Autocorrelation Spectral Processing;** Edward J. Hsieh; Michael J. Maccoss; *University of Washington, Seattle, WA*

TP 008 **A Universal Search Algorithm for Identification of Selective/Nonselective Cross-Links in Proteins Using Tandem Mass Spectrometry;** Hua Xu¹; Pang-Hung Hsu²; Roderick Davis¹; Ming-Daw Tsai²; Michael A. Freitas³; ¹*Univ Illinois at Chicago, Chicago, IL*; ²*The Genomics Research Center, Taipei, Taiwan*; ³*Ohio State University, Columbus, OH*

TP 009 **Assigning Statistical Significance to Proteotypic Peptides in Database Searches;** Gelio Alves; Aleksey Y Ogurtsov; Yi-Kuo Yu; *National Center for Biotechnology Information, NLM, Bethesda, MD*

TP 010 **Comparison of Tandem MS Search Algorithms on Identification of Alternative Splice Variants;** Kung-Yen Chang; David C. Muddiman; *North Carolina State University, Raleigh, NC*

TP 011 **Developing Software for the Integration of Data Bank and Prediction Algorithms with Mascot MS/MS Data;** Juni T Samos¹; Rachel O. Loo²; Deborah R. Francoleon¹; Joseph A. Loo¹; ¹*University Of California, Los Angeles, Los Angeles, CA*; ²*UCLA, Los Angeles, CA*

TP 012 **Spectral Archives: A Novel Approach to Analyzing Tandem Mass Spectra;** Ari Frank¹; Matthew Monroe; Anuj Shah²; Ron Moore²; Gordon Anderson²; Richard D. Smith²; Pavel Pevzner¹; ¹*UCSD, La Jolla, CA*; ²*PNNL, Richland, WA*

TP 013 **Nonlinear Classification for On-The-Fly Fractional Mass Filtering and Targeted Precursor Fragmentation in Mass Spectrometry Experiments;** Marc Kirchner¹; Wiebke A Timm¹; Peking Fong²; Philine Wangemann²; Hanno Steen¹; ¹*Children's Hospital Boston/Harvard Medical School, Boston, MA*; ²*Kansas State University, Manhattan, KS*

TP 014 **Quality Assessment in Building NIST Peptide Mass Spectral Libraries;** Qian Dong; Xinjian Yan; Yuri Mirokhin; Xiaoyu Yang; Niksa Blonder; Jeri Roth; Pedatsur Neta; Dmitrii V. Tchekhovskoi; Yamil Simon; Stephen Stein; *NIST, Gaithersburg, MD*

TP 015 **A Strategy to Predict Retention Time for Targeted Proteomics;** Luminita Moruz¹; Daniela Tomazela²; Lukas Käll¹; ¹*Stockholm University, Stockholm, Sweden*; ²*University of Washington, Seattle, WA*

TP 016 **Accurate Prediction of Repeatability of Peptide Identification from a Single Shotgun Proteomics Experiment;** Yong Fuga Li¹; Randy J. Arnold²; Haixu Tang²; Predrag Radivojac²; ¹*Indiana University School, Bloomington, IN*; ²*Indiana University, Bloomington, IN*

TP 017 **CPTAC Study 1: Integrating LC-MS/MS Data Among Diverse Instrument Platforms for a Common Sample;** David Tabb¹; Lorenzo Vega-Montoto¹; Xia Wang²; Paul Rudnick³; Daniel C. Liebler¹; Chris Kinsinger⁴; Henry Rodriguez⁴; Nell Sedransk²; Stephen Stein³; ¹*Vanderbilt University, Nashville, TN*; ²*National Institute of Statistical Sciences, Research Triangle Park, NC*; ³*NIST, Gaithersburg, MD*; ⁴*National Cancer Institute, Bethesda, MD*

TP 018 **DtaRefinery, a Software Tool for Elimination of Systematic Errors from Parent Ion Mass Measurements in Tandem Mass Spectra Data Sets;**

TUESDAY POSTERS

- TP 019 **Vladislav A. Petyuk**; Anoop M. Mayampurath; Matthew E. Monroe; Ashoka D. Polpitiya; Samuel O. Purvine; Gordon A. Anderson; David G. Camp II; Richard D. Smith; *Pacific Northwest National Lab, Richland, WA*
BLinks: A Software Tool for Analysis of PIR-Linked Proteins to Identify Structure and Interactions Using Statistical Evaluation of Chromatographic Profiles; Michael R. Hoopmann; Chad Weisbrod; James Bruce; *University of Washington, Seattle, WA*
- TP 020 **Using Isotopic Peak Distribution Information to Improve Annotation in MS Proteomics Experiments**; Nikolaos Berntenis; *Roche, Basel, Switzerland*
- TP 021 **STRAP PTM: Open-Source Software for Differential Characterization of Post-Translational Modifications**; Vivek N. Bhatia; David H. Perlman; Catherine E. Costello; Mark E. Mccomb; *Boston University School of Medicine, Boston, MA*
- TP 022 **In Depth Analysis on the Utility of Combined CID and HCD Fragmentation Spectra Pre-Proteomic Processing**; Ahmed Elbaggari¹; Ali Pervez²; Allis S. Chien³; Chris Adams³; ¹*Sage-N Research, Milpitas, CA*; ²*Sage-N Research, Inc, San Jose, CA*; ³*Stanford University, Stanford, CA*
- TP 023 **Mass Mapper: Aid to High Resolution Peptide Data Interrogation**; Nadezhda Galeva; David Tai; Jianwen Fang; Todd Williams; *University of Kansas, Lawrence, KS*
- TP 024 **The Effects of Mass Accuracy on the Validation of MS/MS Proteomic Database Search Results**; Art Nuccio; George Zohrabyan; Brent Weatherly; Ron Orlando; *University of Georgia, Athens, GA*
- TP 025 **Development of Similarity Metrics for Analysis of Replicate Temporal Protein Expression Profiles**; Nambirajan Rangarajan; M. Violet Lee; Scott E. Topper; Audrey Gasch; Joshua Coon; *University of Wisconsin, Madison, WI*
- TP 026 **Quantifying Incidence of Peptide Sequence Scrambling Induced by Tandem Mass Spectrometry**; Yanglan Tan¹; Xian Chen¹; Yihuan Tsai²; David R. Goodlett²; Nicolas Polfer¹; ¹*University of Florida, Gainesville, FL*; ²*University of Washington, Seattle, WA*
- TP 027 **Resolution as a Function of M/Z for TOF, FT-ICR, and Orbitrap: Predicted and Confirmed**; Bernhard X. Kausler¹; Marc Kirchner²; Anna Kreshuk¹; Bernhard Y. Renard³; Hannes Hahne³; Bernhard Küster³; Judith A. J. Steen⁴; Hanno Steen⁴; Fred A. Hamprech⁵; ¹*University of Heidelberg, Heidelberg, Germany*; ²*Children's Hospital Boston / Harvard Medical, Boston, MA*; ³*Technical University of Munich, Munich, Germany*; ⁴*Harvard Medical School/Children's Hospital Boston, Boston, MA*; ⁵*Univ. of Heidelberg, Heidelberg, Germany*
- TP 028 **Measures of Similarity of Di- and Tri-Peptide MS/MS Spectra**; Xiaoyu Yang; Pedatsur Neta; Songfeng Wu; Yamil Simon; Stephen Stein; *NIST, Gaithersburg, MD*
- TP 029 **Synchronising MS/MS Analysis with the Chromatographic Peak Apex Enables More Precise and Accurate Isobaric Tag Quantification**; Gavain M. Sweetman; Mikhail Savitski; Manja Lang; Marcus Bantscheff; *Cellzome AG, Heidelberg, Germany*
- TP 030 **RockerBox: Extracting the Gold from Your Mascot Result Files**; Henk W.P. Van Den Toorn^{1,2}; Danny Navarro^{1,2}; Reinout Rajmakers^{1,3}; Javier Muñoz^{1,3}; Shabaz Mohammed^{1,3}; Albert J.R. Heck^{1,3}; Bas van Breukelen^{1,2}; ¹*Utrecht University, Utrecht, Netherlands*; ²*Netherlands Bioinformatics Centre, Utrecht, Netherlands*; ³*Netherlands Proteomics Centre, Utrecht, Netherlands*
- TP 031 **Improved Specificities in Selected Reaction Monitoring (SRM) Experiments with Peptide Retention Time Information for Proteomic Studies**; Jian Liu; Ashoka Polpitiya; Waibhav Tembe; Tony Tegeler; Matthew Rosenow; Linda Nagore; Konstantinos Petritis; *Translational Genomics Research Institute, Phoenix, AZ*
- TP 032 **Next Generation Data Exchange Format for Mass Spectrometry**; Anuj Shah; Matthew Monroe; Yan Shi; Brian Lamarche; Kevin Crowell; Gordon Slys; Gordon Anderson; Richard D. Smith; *Pacific Northwest National Laboratory, Richland, WA*
- TP 033 **The DeconTools Framework: An Application Programming Interface Enabling Flexibility in Accurate Mass and Time Tag Workflows for Proteomics and Metabolomics**; Gordon Slys; Erin Baker; Anuj Shah; Yan Shi; Navdeep Jaitly; Gordon Anderson; Richard Smith; *Pacific Northwest National Laboratory, Richland, WA*
- TP 034 **Effects of MS/MS Fragment Ion Filters for Proteomic-Scale Orbitrap Data on Mascot Database Search Results**; Michael J Sweredoski; Sonja Hess; *Caltech, Pasadena, CA*
- TP 035 **Use of Quality Control Parameters to Optimize Proteomics Experiments Using Orbitrap and LTQFT Mass Spectrometers**; Michael J Sweredoski; Geoffrey Smith; Anastasia Kalli; Robert Lj Graham; Sonja Hess; *Caltech, Pasadena, CA*

PROTEINS: MEMBRANCES, 036 - 060

- TP 036 **An Integrated Strategy for Quantitative Membrane Proteomic and Sialylated N-Glycoproteomic Analysis during Human Embryonic Stem Cell Differentiation**; Wei-Wei Chang¹; Yi-Ting Wang²; Chia-Li Han²; Yi-Chuan Tsai²; Yu-Ju Chen²; John Yu¹; ¹*ICOB, Academia Sinica, Taipei, Taiwan*; ²*IC, Academia Sinica, Taipei, Taiwan*
- TP 037 **Sequential Gel-Assisted Digestion for Concomitant Analysis of Phosphorylated and N- and O-Glycosylated Membrane Proteome**; Chih-Wei Chien¹; Chia-Li Han²; Chia-Feng Tsai²; Yi-Ting Wang²; Yu-Ju Chen²; ¹*National TsingHua University, Taipei, Taiwan*; ²*Institute of Chemistry, Academia Sinica, Taipei, Taiwan*
- TP 038 **High Resolution Analysis of Lipid Raft Proteomes**; Chia-Fang Lee; Xiahui Xiong; *Nevada Cancer Institute, Las Vegas, NV*
- TP 039 **Performance of Different Fractionation Methods for Quantitative Proteomics Analyses of Membrane Proteins from Control and TNF- α Activated Mouse Macrophages**; Christina Bell^{1,2}; Matthias Trost^{1,2}; Michel Desjardins²; Pierre Thibault^{1,2}; ¹*IRIC, Montreal, Canada*; ²*Universite de Montreal, Montreal, Canada*
- TP 040 **Quantitative Proteomics to Elucidate the Cellular Response of Antimicrobial Peptides**; Benjamin Fränzel; Dirk Wolters; *Bochum, Germany*
- TP 041 **An Approach to Personalized Membrane Tissues Proteomics: Case Study on Colorectal Cancer**; Chia-Li Han¹; Jinn-Shiun Chen²; Err-Cheng Chan³; Chien-Peng Wu¹; Kun-Hsing Yu⁴; Chia-Feng Tasi¹; Kuei-Tien Chen³; Chih-Wei Chien⁵; Yung-Bin Kuo⁶; Pei-Yi Lin¹; Jao-Song Yu³; Yu-Ju Chen¹; *Academia Sinica, Taipei, Taiwan*; ²*Chang Gung Memorial Hospital, Taoyuan, Taiwan*; ³*Chang Gung University, Taoyuan, Taiwan*; ⁴*National Taiwan University School of Medicine, Taipei, Taiwan*; ⁵*National Tsing Hua University, Hsinchu, Taiwan*

TUESDAY POSTERS

- Taiwan; ⁶National Chiao Tung University, Hsinchu, Taiwan
- TP 042 **Mapping the Brain Microvessel Membrane Proteome**; Mike Scott¹; Hyun Bae Chun²; Sherry Niessen¹; Heather Hoover¹; John Yates¹; Brian Eliceiri²; Bruce Torbett¹; ¹The Scripps Research Institute, La Jolla, CA; ²Department of Surgery, University of California, San Diego, California
- TP 043 **Revealing the Intricate Membrane Protein Interaction Network of Yeast Peroxisomes via Quantitative Mass Spectrometry and Statistics**; Silke Oeljeklaus¹; Benedikt S. Reinartz¹; Inga Michels¹; Sebastian Wiese²; Katharina Podwojski¹; Christian Stephan¹; Sophie Merich³; Wolfgang Schliebs¹; Helmut E. Meyer¹; Ralf Erdmann¹; Cecile Brocard³; Bettina Warscheid²; ¹Ruhr University of Bochum, Bochum, Germany; ²University of Duisburg-Essen, Essen, Germany; ³University of Vienna, Vienna, Austria
- TP 044 **Comparative Proteome Analyses of Outer Membrane Proteins and their Effect on Strain-Level Discrimination Using Mass Spectrometry-Based Proteomics Approach**; Rabih Jabbour¹; Mary Wade²; Samir Deshpande³; Michael F. Stanford²; Charles Wick²; Alan Zulich²; ¹SAIC INC., Apg, MD; ²Edgewood Chemical and Biological Center, APG, MD; ³Science Technology Corporation, Edgewood, MD
- TP 045 **Quantitative Proteomic Analysis of trichomonas vaginalis Membrane Proteins**; Fu-An Li¹; Hong-Ming Hsu¹; Yet-Ran Chen²; Jung-Hsiang Tai¹; ¹Institute of Biomedical Sciences, Academia Sinica, Taipei, Taiwan; ²Agricultural Biotechnology Research Center, Academia Sinica, Taipei, Taiwan
- TP 046 **A Proteomic Platform for the Analysis of Inner and Outer Membranes Proteomes in escherichia coli**; Gianluca Maddalo¹; Filippa Stenberg¹; Hanna Eriksson¹; Annalisa Ambrosi¹; Janne Lehtio²; Daniel Daley¹; Leopold L. Ilag¹; ¹Stockholm University, Stockholm, Sweden; ²Karolinska Universitetssjukhuset, Stockholm, Sweden
- TP 047 **Deep Coverage of a Tightly-Disulfided Membrane Protein Complex**; Wayne Chou; Gustavo Zardeneta; Luis DeLa Maza; Paul Gershon; UC-Irvine, Irvine, CA
- TP 048 **Comprehensive Characterization of the Inner Membrane Proteome of Escherichia coli Using a nanoLC-LTQ Orbitrap MS**; Malvina Papanastasiou; Marios Frantzeskos-Sardis; Michalis Aivaliotis; Spyridoula Karamanou; Anastassios Economou; *IMBB-FoRTH, Iraklio-Crete, Greece*
- TP 049 **A Liver Mitochondrial Outer Membrane (MOM) Fatty Acid Transfer Complex**; Kwangwon Lee; Janos Kerner; Charles L. Hoppel; *Case Western Reserve University, Cleveland, Ohio*
- TP 050 **Characterization of Photosystem I Super Complexes Induced by State Transitions Using Stable Isotope Labeling and Phosphopeptide Isolation**; Hendrik O. Petersen¹; Marta Powikrowska²; Poul E. Jensen²; Ole N. Jensen¹; A. Jimmy Ytterberg¹; ¹Univ. of Southern Denmark, Odense, Denmark; ²Univ. of Copenhagen, Copenhagen, Denmark
- TP 051 **Characterization of Subunits of Photosystem II, a Large Integral Membrane Protein Complex, Using Top-Down Fourier-Transform Mass Spectrometry**; Balakumar Thangaraj¹; Christopher Ryan²; Puneet Souda²; Kym Faull²; Petra Fromme¹; Julian Whitelegge²; ¹Arizona State University, Tempe, AZ; ²University of California, Los Angeles, CA
- TP 052 **The Analysis of the Structural Features of the Cannabinoid Receptor Using Top Down Proteomics**; Dennis Szymanski¹; Malvina Papanastasiou²; Alexander Makriyannis¹; ¹Center for Drug Discovery, Boston, MA; ²Inst of Molecular Biology, Heraklion, Greece
- TP 053 **Chromatographic Separation of Transmembrane Domain Peptides with Hyper-Crosslinked Stationary Phases at High Temperature Improves Their Mass Spectrometric Identification**; Rongxiao Sa; Yu Zhang; Zheng Jin Tu; Matt Stone; Pete W. Carr; Edgar A. Arriaga; *University of Minnesota, Minneapolis, MN*
- TP 054 **TMT Labelled Elastase Digests – Informational Gain by Identification of Hydrophobic, Very Acidic and Small Peptides**; Dominic Baeumlisberger; Tabiwang Arrey; Marion Rohmer; Benjamin Rietschel; Tobias Beckhaus; Bjoern Meyer; Michael Karas; *Goethe University, Frankfurt Am Main, Germany*
- TP 055 **Topology Studies of Membrane Proteins with Known Structure Using Mass Spectrometry Based Techniques**; Maria Bendz¹; Lukas Käll¹; Susana Cristobal¹; Peter James²; Arne Elofsson¹; ¹CBR, Stockholm University, Stockholm, Sweden; ²Protein Technology, Lund University, Lund, Sweden
- TP 056 **Mass Spectrometry Reveals that the Two Forms of Lpp Represent Distinct Membrane Topologies in Escherichia coli**; Charles E. Cowles; Martin F. Semmelhack; Thomas J. Silhavy; Ileana M. Cristea; *Princeton University, Princeton, New Jersey*
- TP 057 **Distinct Ligand-Induced β 2 Adrenoceptor Conformations Revealed by Quantitative Structural Proteomics**; Alem W. Kahsai; Kunhong Xiao; Sudarshan Rajagopal; SeungKirl Ahn; Christopher M. Lam; Arun Shukla; Jinpeng Sun; Terrence G. Oas; Robert J. Lefkowitz; *Duke University Medical Center, Durham, NC*
- TP 058 **Novel Post-Translational Modifications of the Human Sigma-1 Receptor Identified by Mass Spectrometry**; Hongbo Gu; Carthene R. Bazemore-Walker; *Brown University, Providence, RI*
- TP 059 **Enrichment of Intact Presenilin 1 by Sequential Membrane Solubilization and GELFREE Electrophoresis for LC-MRM MS**; Reed Peavy¹; Landon Wilson^{1,2}; Stephen Barnes^{1,2}; Helen Kim^{1,2}; ¹University of Alabama at Birmingham, Birmingham, AL; ²Targeted Metabolics/Proteomics Laboratory, Birmingham, AL
- TP 060 **MRM Assay Development for Quantification of Cytochrome P450 11A1 and Adrenodoxin Reductase in the Bovine Adrenal Cortex and Retina**; Wei-Li Liao¹; Gun Young Heo²; Nathan G. Dodder³; Irina A. Pikuleva²; Illarion Turko¹; ¹UMBI/CARB, Rockville, MD; ²Case Western Reserve University, Cleveland, OH; ³NIST, Gaithersburg, MD

PROTEINS: NON-COVALENT INTERACTIONS, 061 - 093

- TP 061 **Structural Studies on Bacterial Replisome Protein Complexes Using Electrospray Ionization Mass Spectrometry**; José Afonso¹; Kiran Chintakayala²; Iain Campuzano³; Panos Soultanas²; Adam McKay⁴; Neil Oldham¹; ¹School of Chemistry, University of Nottingham, Nottingham, UK; ²CBS, University of Nottingham, Nottingham, UK; ³Waters Corporation, Manchester, UK; ⁴Dept of Chemistry, University College London, London, UK
- TP 062 **Detecting Large Noncovalent Protein Complexes by ESI-QTOF MS and ESI-IMS**; Shirley H. Lomeli;

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- Carly N. Ferguson; Joseph A. Loo; *UCLA, Los Angeles, CA*
- TP 063 **Study of Non-Covalent Protein Complexes Using a Top-Down Approach on a Hybrid LTQ-Orbitrap Mass Spectrometer;** Michalis Aivaliotis; Malvina Papanastasiou; Anastassios Economou; *IMBB-FoRTH, Heraklion, Greece*
- TP 064 **Nanospray and FTICR MS of Protein Complexes;** Weidong Cui; Hao Zhang; Jianzhong Wen; Robert E. Blankenship; Michael L. Gross; *Washington University, St. Louis, MO*
- TP 065 **Two Smoking Barrels: Revealing the Role of the Membrane Usher Protein in Pilus Biogenesis by Electrospray Ionisation Mass Spectrometry;** Bethny Morrissey¹; Aneika C. Leney¹; Ana Toste Rego²; Denis Verger²; Gabriel Waksman²; Sheena E. Radford¹; Alison E. Ashcroft¹; ¹*University of Leeds, Leeds, UK*; ²*Birkbeck and University College London, London, UK*
- TP 066 **Characterization of Highly Heterogeneous Protein Systems with ESI MS: Hemoglobin-Haptoglobin Interaction;** Rinat Abzalimov; Igor A. Kaltashov; *University of Massachusetts, Amherst, MA*
- TP 067 **Characterization of Antithrombin Binding to Heparin Oligomers Using Size Exclusion Chromatography and ESI-MS;** Burcu Baykal; Rinat Abzalimov; Paul L. Dubin; Igor A. Kaltashov; *University of Massachusetts, Amherst, MA*
- TP 068 **Spectacular Conformational Change from Desolvated and Cationized sBBI/Trypsin Non Covalent Complex during CID Process;** Ekaterina Darii^{1,2}; Carlos Afonso¹; Sandra Alves¹; Guanalini Saravanamuthu²; Ivo G. Gut²; Jean-Claude Tabet¹; ¹*Université Paris 6/UMR7201, Paris, France*; ²*CEA/DSV/IG - CNG, Evry, France*
- TP 069 **Characterizing Protein-Fatty Acid Interactions;** Lan Liu²; Klaus Michelsen¹; Elena Kitova²; Paul Schnier¹; John Klassen²; ¹*Amgen, Thousand Oak, CA*; ²*University of Alberta, Edmonton, AB*
- TP 070 **Mass Spectrometry of a Novel DNA-Protein Complex;** Lynda J. Donald; Misty D. Balcewich; Harry W. Duckworth; Peter C. Loewen; Brian L. Mark; Kenneth G. Standing; *University of Manitoba, Winnipeg, Canada*
- TP 071 **Studying Actin Binding Proteins and the Interaction of Drugs with the Actin Hydrophobic Cleft by ESI-MS;** Sabrina A. Benchaar; Shirley H. Lomeli; Alexander Shvetsov; Emil Reisler; Joseph A. Loo; *University of California Los-Angeles, Department of Chemistry and Biochemistry, CA*
- TP 072 **Overcoming Challenges in Native Mass Spectrometric Analysis of Labile Non-Covalent Complexes Containing Natively Unfolded Protein Domains;** Zachary T. Quinkert; Jacyn Tetenbaum-Novatt; Loren Hough; Michael P. Rout; Brian Chait; *The Rockefeller University, New York, NY*
- TP 073 **Metal-Induced Calmodulin-Peptide Interactions Studied by ESI-MS: Detection of Unsaturated Intermediates;** Jingxi Pan; Lars Konermann; *University of Western Ontario, London, Canada*
- TP 074 **Comparing Apparent ESI-MS Binding Affinities of Noncovalent Protein Complexes with Solution-Phase Measurements;** Jenna-Jiangjiang Liu; Lars Konermann; *Univ. of Western Ontario, London, Canada*
- TP 075 **Probing the Stoichiometry of Supramolecular Complexes Stabilized by Hydrophobic Interactions with Soft Ionization Mass Spectrometry;** Konstantin Barylyuk¹; Dan Grünstein²; Renato Zenobi¹; ¹*ETH Zurich, Zurich, Switzerland*; ²*Max Planck Institute of Colloids and Interfaces, Berlin, Germany*
- TP 076 **Quantifying Labile Protein-Ligand Interactions Using Electrospray Ionization Mass Spectrometry;** Amr El-Hawiet; Elena Kitova; Lan Liu; John Klassen; *University of Alberta, Edmonton, Canada*
- TP 077 **Characterization and Investigation of the Interaction between Erythrocyte Band 3 and Hemoglobin: A Combined ESI-MS and X-Ray Crystallography Approach;** Jingshu Guo; Timothy Mueser; Wendell P. Griffith; *university of toledo, Toledo, OH*
- TP 078 **Molecular Insights into Oligomeric Intermediates in Amyloid Assembly Revealed Using ESI-TWIMS-MS;** Lucy A. Woods; Sheena E. Radford; Alison E. Ashcroft; *University of Leeds, Leeds, UK*
- TP 079 **A Conformational Study of the Hepatitis B Virus Capsid Protein and its Higher Order Oligomers;** Dale A. Shepherd; Kris K. Holmes; Victoria L. Morton; Nicola J. Stonehouse; Alison E. Ashcroft; *University of Leeds, Leeds, UK*
- TP 080 **Thermodynamic and Kinetic Study of the Mutant Human ABO(H) Blood Group Glycosyltransferases Using ES-MS;** Naoto Soya²; Monica Palcic¹; John Klassen²; ¹*Carlsberg Laboratory, Copenhagen, Denmark*; ²*The University of Alberta, Edmonton, Canada*
- TP 081 **Direct Quantification of Protein-Metal Ion Affinities by Electrospray Ionization Mass Spectrometry;** Lu Deng; Nian Sun; Elena Kitova; John Klassen; *University of Alberta, Edmonton, Canada*
- TP 082 **Direct Detection of Gramicidin A Assembly;** Jacquelyn R. Jhingree; Christopher M. Sadek; Christopher W. Cairo; John S. Klassen; *University of Alberta, Edmonton, Canada*
- TP 083 **Comparison of Self-Assembly of Calix[6]arenes Analogues in Solution/Gas Phase by ESI-MS and in Solid Phase by X-ray Crystallography;** Michael Blanda; Mehdi Moini; Taylor Barker; *Texas State University, San Marcos, TX*
- TP 084 **Electrospray Mass Spectrometry to Measure Relative Binding Affinities of Procyanidin Diastereomers with Salivary Mimetic Peptides;** Nalaka Rannulu; Richard B. Cole; *University of New Orleans, New Orleans, LA*
- TP 085 **Beyond Thymine Quintet: Ammonium Ion Induced Thymine Pentamer;** Bo Qiu; Hai Luo; *Peking University, Beijing, China*
- TP 086 **Composition and Stability of the Non-Covalent Complexes between Polyethyleneimine and Nucleic Acid Components;** Danijela Smiljanic; Chrys Wesdemiotis; *The University of Akron, Akron, OH*
- TP 087 **Inhibition of Protein-Protein Interaction: Direct Analysis of Inhibitors of the MDM2/p53 Interactions by High-Mass MALDI Mass Spectrometry;** Alexis Nazabal; Julien Weber; Ryan Wenzel; *CovalX, Schlieren, Switzerland*
- TP 088 **Investigations on the Application Range of Chemical Cross-Linking with NHS Esters for the Analysis of Noncovalent Complexes with MALDI-MS;** Stefanie Mädler¹; Markus Seitz²; John Robinson²; Renato Zenobi¹; ¹*ETH Zurich, Zurich, Switzerland*; ²*University of Zurich, Zurich, Switzerland*
- TP 089 **Unbiased Detection of *in vivo* Protein Interactions and Topologies;** James Bruce¹; Michael R. Hoopmann¹; Chad Weisbrod¹; Li Yang²; Chunxiang Zheng²;

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- ¹University of Washington, Seattle, WA; ²Washington State University, Seattle, WA
- TP 090 **ESI MS Study of Ir4-Based Calixarene Clusters;** Rita Nichiporuk; Namal de Silva; Ulla Norklit Andersen; Alexander Katz; *University of California, Berkeley, CA*
- TP 091 **Characterization of the Metal-Binding Sites of Metallothioneins and Structural Changes between Metal-Free and Metal-Bound Forms by Mass Spectrometry;** Shu-Hua Chen; Zhaoxiang Wu; David H. Russell; *Texas A&M University, College Station, TX*
- TP 092 **Metals in Medicine: Drug Isomer Separation and Sequence-Specific Metallation of Peptides Using CID, ETD and Ion Mobility-MS;** Jonathan P. Williams⁴; Jeff Brown²; Iain D G Campuzano³; Peter Sadler¹; ¹University of Warwick, Chemistry Dept, Coventry, UK; ²Waters Micromass MS Technologies, Manchester, UK; ³Waters Corporation, Manchester, UK; ⁴University of Warwick Chemistry Dept., Coventry, UK
- TP 093 **The Effect of Chromium on the Proteome of *Geobacter metallireducens*;** Partha Basu¹; Peter Chovanec¹; Courtney Sparacino-Watkins¹; John Stolz¹; Vadiraja Bhat²; ¹Duquesne University, Pittsburgh, PA; ²Agilent Technologies, Wilmington, DE
- PROTEINS: PHOSPHOPROTEINS, 094 - 115**
- TP 094 **Complementary Metal-directed Immobilized Metal Ion Affinity Chromatography for Phosphoproteomic Profiling;** Yu-Ni Sun; Chia-Feng Tsai; Chuan-Chih Hsu; Yi-Ting Wang; Yu-Ju Chen; *Institute of Chemistry, Academia Sinica, Taipei, Taiwan*
- TP 095 **Optimization and Validation of Phosphotyrosine Protein Enrichment for the Identification and Validation of Drug Response in Acute Myeloid Leukemia;** Jia You; Shujun Liu; Guido Marcucci; Michael A. Freitas; *Ohio State University, Columbus, OH*
- TP 096 **Efficient Enrichment of Multiply Phosphorylated Peptides Using a Combination of Two Metal Oxide Resins;** Tonny Johnson¹; Becky Godat¹; Dipankar Bhattacharya²; Rod Flemming¹; Dan Simpson¹; Marjeta Urh¹; ¹Proteomics R&D, Promega Corporation, Madison, WI; ²University of Wisconsin at Madison, Madison, WI
- TP 097 **Enrichment of Phosphopeptides from p65 Immunoprecipitates Using a TiO₂-Modified Nylon Membrane;** Yujing Tan; Weihan Wang; Merlin Bruening; *Michigan State University, East Lansing, MI*
- TP 098 **An Informatics-Assisted Label-Free Quantitation Strategy that Depicts Phosphoproteomic Profiles in Lung Cancer Cell Invasion;** Yi-Ting Wang^{1,2}; Chia-Feng Tsai²; Tzu-Chan Hong³; Chih-Chiang Tsou⁴; Pei-Yi Lin²; Sih-Hua Pan³; Tse-Ming Hong³; Pan-Chyr Yang³; Ting-Yi Sung⁴; Wen-Lian Hsu⁴; Yu-Ju Chen²; ¹CBMB Program, TIG Program, Academia Sinica, Taipei, Taiwan; ²Institute of chemistry, Academia Sinica, Taipei, Taiwan; ³Ins. of Biomedical Science, Academia Sinica, Taipei, Taiwan; ⁴Inst. Info Sci, Acad. Sinica, Taipei, Taiwan
- TP 099 **Mass Spectrometry Analysis of *Francisella tularensis* Bacterial Phosphoproteome Using Different Enrichment Techniques;** Pavel Rehulka¹; Petra Spidlova¹; Benjamin Mann²; Ales Tichy¹; Helena Rehulkova¹; Jiri Stulik¹; Milos Novotny²; Lenka Hernychova¹; ¹Faculty of Military Health Sci., Uni. of Defence, Hradec Kralove, Czech Republic; ²Dept. of Chemistry, Indiana University, Bloomington, IN
- TP 100 **A New Matrix Suitable for MALDI-MS of Phosphorylated Peptides;** Motoshi Sakakura; Mitsuo Takayama; *Yokohama City University, Yokohama, Japan*
- TP 101 **Double Pseudo-Neutral Loss Extraction Coupled with Specific Derivatization for Analysis of Phosphoproteins;** Narivasu Mano^{1,2}; Takuma Yamazaki²; Sayaka Aoki²; Masaru Mori²; Takaaki Goto²; Miki Shimada^{1,2}; ¹Tohoku University Hospital, Sendai, Japan; ²Tohoku University, Sendai, Japan
- TP 102 **Detection of a Critical Phospho-Histidine Residue in Cancer Metabolism Required Offline Fractionation, Rapid Processing, and the Orbitrap-XL's HCD Cell;** John M Asara^{1,2}; Matthew G Vander Heiden^{2,3}; ¹Beth Israel Deaconess Medical Center, Boston, MA; ²Harvard Medical School, Boston, MA; ³Massachusetts Institute of Technology, Cambridge, MA
- TP 103 **Optimized Enrichment and LC-MS/MS Setup for Comprehensive Characterization of the Phosphotyrosine Proteome in the K562 Leukemia Cell Line;** Konstantin Artemenko¹; Sara Bergström Lind¹; Lioudmila Elfineh¹; Corina Mayrhofer³; Jonas Bergquist¹; Roman Zubarev²; Ulf Pettersson¹; ¹Uppsala University, Uppsala, Sweden; ²Karolinska Institute, Stockholm, Sweden; ³University of Veterinary Medicine, Vienna, Austria
- TP 104 **Quantitative Stoichiometry of Phosphorylation of the Regulatory C-Terminus in Mutant *Arabidopsis* Plasma Membrane Proton Pumps;** Kelli G. Kline¹; Sheher Mohsin²; Miyoshi Haruta¹; Rachel Nelson¹; Gregory Barrett-Wilt¹; Michael R. Sussman¹; ¹University of Wisconsin, Madison, WI; ²Agilent Technologies, Schaumburg, IL
- TP 105 **Analysis of HLA-A2 MHC Phosphopeptides with Titanium Dioxide IMAC, Peptide Charge Derivatization and Electron Transfer Dissociation;** Patrick James¹; A. Michelle English¹; Kara Cummings²; Jeffrey Shabanowitz¹; Victor Engelhard²; Donald F. Hunt^{1,3}; ¹Dept. of Chemistry, UVA, Charlottesville, VA; ²Dept. of Microbiology, School of Medicine, UVA, Charlottesville, VA; ³Dept. of Pathology, UVA, Charlottesville, VA
- TP 106 **Hyper Auto-Phosphorylation in the GTPase Domain of the Parkinson's Disease Associated Protein LRRK2;** Archer Smith IV; Philip Webber; Matthew B. Renfrow; James Mobley; Andrew B. West; *University of Alabama at Birmingham, Birmingham, AL*
- TP 107 **Investigating the Role of Phosphorylation in Regulating the Functions of Mammalian Sirtuin 6;** Yana V. Miteva; Fang Yu; Ileana M. Cristea; *Princeton University, Princeton, NJ*
- TP 108 **Characterization of Auto-Phosphorylation Sites in IRAK-4 and Their Role in IRAK-4 Activation;** Yan-Hui Liu; Jia Zhao; Xiaoda Niu; Hong Bian; Birendra Pramanik; *Merck, Kenilworth, New Jersey*
- TP 109 **Top-Down Mass Spectrometry of Cardiac Troponin T Revealed a Conserved Phosphorylation Pattern between Human and Mouse;** Jiang Zhang; Serife Ayaz-Guner; Xintong Dong; Lisa Xu; Huseyin Guner; Ying Ge; *University of Wisconsin-Madison, Madison, WI*
- TP 110 **Label-Free LC/MS^E Quantification of *in vivo* Phosphorylation Sites in Arabidopsis Receptor Kinase BRI1 in Response to Brassinolide Treatment;** Uma Kota; Steven Clouse; Michael Goshe; *NC State University, Raleigh, NC*

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- TP 111 **Matrine Blocks the Autophagic Degradation via Trafficking Process of Lysosomal Components;** Zhaohui Wang¹; Jun Zhang¹; Rui Xing¹; Yuan Wang¹; Siqi Liu¹; Youyong Lu²; ¹Beijing Institute of Genomics, CAS, Beijing, China; ²Peking University, School of Oncology, Beijing, China
- TP 112 **Quantitative *in vivo* Measurements of ABA-Induced Changes in the Phosphoproteome of *Arabidopsis thaliana*;** Kelli G. Kline; Gregory Barrett-Wilt; Michael R. Sussman; University of Wisconsin, Madison, WI
- TP 113 **Mass Spectrometry Characterization of Functional Phosphorylations of the Membrane Protein PfCRT from the Digestive Vacuole of the Malaria Parasite;** Daniel Ayoub¹; Christine Carapito¹; Cecilia Sanchez²; Michael Lanzer²; Alain Van Dorsselaer¹; ¹IPHC-DISA, LSMBO, ULP-CNRS (UMR7178), Strasbourg, France; ²Hygiene Institut, Universitätsklinikum Heidelberg, Heidelberg, Germany
- TP 114 **Phosphoproteomics Characterization of Cell Cycle Dependent Changes in HeLa Cells Using iTRAQ® Reagents and LC/MS/MS System;** Takeshi Shibata¹; Akira Nakanishi²; Brigitte Simons³; Ryo Yokoyama¹; Masato Aoshima¹; Takuichi Tsubata¹; Sumie Ando¹; Yoshio Miki²; ¹K.K. AB Sciex, Tokyo, Japan; ²Tokyo Medical and Dental University, Tokyo, Japan; ³AB Sciex, Tronto, Canada
- TP 115 **Mass Spectrometry Study of mTOR Phosphorylation in TORC1 and TORC2 Complexes;** Stone D.-H. Shi; Zhihua Tao; Shaoxian Sun; Michael Greig; Pfizer Global R&D- La Jolla, San Diego, CA
- PROTEOMICS: NEW APPROACHES II, 116 - 142**
- TP 116 **Optimizing Gelfree Technology and External Ion Accumulation to Increase Proteome for Top Down Mass Spectrometry;** John F. Kellie¹; Philip D. Compton²; Adam D. Catherman¹; Jeremy L. Norris³; Chuck Witkowski³; John Paul Quinn⁴; Jeremiah D. Tipton⁴; Chris L. Hendrickson⁴; Alan G. Marshall^{4,5}; Neil L. Kelleher^{1,2}; ¹University of Illinois, Urbana, IL; ²Northwestern University, Chicago, IL; ³Protein Discovery, Inc., Knoxville, TN; ⁴NHMFL, Tallahassee, FL; ⁵Florida State University, Tallahassee, FL
- TP 117 **Top-Down Characterization of a Native Highly Intra-Linked Protein: Concurrent Cleavages of Disulfide and Backbone Bonds;** Jianzhong Chen^{1,2}; Pavel Shiyanov¹; Liwen Zhang²; John Schlager¹; Kari Green-Church²; ¹AFRL, Dayton, OH; ²The Ohio State University, Columbus, OH
- TP 118 **Top Down Proteomics at High Magnetic Field: Posttranslational Modifications and High Molecular Weight Proteins from M-Phase Arrested HeLa Cells;** Jeremiah D. Tipton¹; Ji Eun Lee²; Adam D. Catherman²; Ken R. Durbin²; Christopher L. Hendrickson¹; Mark R. Emmett¹; Alan G. Marshall¹; Neil L. Kelleher²; ¹National High Magnetic Field Laboratory, Tallahassee, FL; ²University of Illinois, Urbana, IL
- TP 119 **Ultra-High-Resolution Top-Down Proteomics Analysis;** Carsten Baessmann¹; Markus Lubeck¹; Ralf Hartmer¹; Evert-Jan Sneekes²; Remco Swart²; ¹Bruker Daltonik GmbH, 28359 Bremen, Germany; ²Dionex Corporation, Amsterdam, Netherlands
- TP 120 **A Top-Down Mass Spectrometry Approach for the Identification of Metallothionein Isoforms;** Sandra Mounicou; Laurent Ouerdane; Ryszard Lobinski; CNRS UMR 5254 LCABIE IPREM, Pau, France
- TP 121 **Novel Efficient Alternatives for Essential Sample Preparation Techniques in Functional Proteomics;** Emily Freeman; Alexander R. Ivanov; Harvard University HSPH, Boston, MA
- TP 122 **Preparation and Application of Open Tubular Capillary Columns Coated with Zirconium Phosphonate for Enrichment and Analysis of Phosphopeptides by MS;** Wei Jie Qin; Yan Feng Xue; Yang Jun Zhang; Xiao Hong Qian; State Key Laboratory of Proteomics, Beijing Proteome Research Center, Beijing, China
- TP 123 **Efficient Enrichment of Intact Phosphoproteins Prior to Mass Spectrometric Analysis;** He-Hsuan Hsiao; Henning Urlaub; Bioanalytical Mass Spectrometry Group, MPIbc, Goettingen, Germany
- TP 124 **Identification and Quantification of Proteins Adsorbed to Microdialysis Membranes Using Mass Spectrometry;** Magnus Wetterhall²; Klas Hjort¹; Konstantin Artemenko²; Marcus Sjödin²; Jonas Bergquist²; Lars Hillered³; Andreas Dahlin¹; ¹Dept. Engineering Science, The Ångström Laboratory, Uppsala University, Sweden; ²Dept. of Physical and Analytical Chemistry, Uppsala University, Sweden; ³Dept. of Neuroscience, Neurosurgery, Uppsala University, Sweden
- TP 125 **Optimization of Cell Lysis and Protein Digestion Protocols for the Analysis of HELA S3 Cells by LC-MS/MS;** Dominic Winter; Judith Steen; Hanno Steen; Harvard Medical School/Children's Hospital Boston, Boston, MA
- TP 126 **Novel Approaches for Primary Sample Preparation Prior to LC-MS/MS Analysis;** Anna Krowczynska²; Hamid Khoja¹; Jim Laugharn³; ¹Covaris, Inc., Woburn, MA; ²Covaris, Inc, Woburn, MA; ³Covaris, Woburn, MA
- TP 127 **Application of High Pressure and Highly Stable Trypsin-Aggregate Coating on Superparamagnetic Magnetite/Silica Nanoparticles for High Performance Proteomics;** Daniel Lopez-Ferrer¹; Byoungsoo Lee²; Karl K. Weitz¹; Jungbae Kim²; Richard D. Smith¹; ¹PNNL, Richland, WA; ²Korea University, Seoul, Korea
- TP 128 **Less Specific In-Gel Proteolysis: A New Perspective in Peptide Mass Fingerprinting;** Demitrios Papatotiriou; Thorsten Wolfgang Jaskolla; Stavroula Markoutsia; Dominic Baeumlisberger; Björn Meyer; Michael Karas; Goethe University, Frankfurt/Main, Germany
- TP 129 **Protein Identification with High Sequence Coverage Achieved by a Simple Limited Digestion Method Inducing Miss Cleavages;** Gabriel D Mazzucchelli¹; Nicolas Smargiasso¹; Marie-Alice Meuwis¹; Edwin De Pauw²; ¹MS Lab, GIGA, Liege, Liege, Belgium; ²Liege University, Liege, Belgium
- TP 130 **High Throughput Analysis of Protein Tryptic Digests by TM-DESI Coupled with UVPD in a Linear Ion Trap Mass Spectrometer;** Jared Shaw; Jennifer Brodbelt; The University of Texas at Austin, Austin, TX
- TP 131 **Quantitative Analysis of Protein Adsorption on Materials Developed for Soft Tissue Engineering;** Madalis Casiano; Xiaopeng Li; Goy Teck Lim; Judit Puskas; Chrys Wesdemiotis; The University of Akron, Akron, OH
- TP 132 **Proteome Wide Determination of True Turnover Rates in Mice;** Aaron Ruhs; Anne Konzer; Silvia Jeratsch; Marcus Krüger; Thomas Braun; Max-Planck-Institute for Heart and Lung Research, Bad Nauheim, Germany
- TP 133 **Proteomic Analysis of Oxidative Damage to Epithelium by Ultraviolet Light;** Richard A.

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- Eigenheer; Jennifer T. Smilowitz; Brett S. Phinney; *UC Davis, Davis, CA*
- TP 134 **Proteolytic O18-Labeling For Quantitative Protein Biomarkers Discovery Using PALeO Strategy**; Min Du; Charles P Emerson; Markus Hardt; *Boston Biomedical Research Institute, Watertown, MA*
- TP 135 **Development and Refinement of an iTRAQ-Based “Tagless” Strategy for High-Throughput Purification and Identification of Soluble Protein Complexes**; Haichuan Liu¹; Ming Dong²; Lee L Yang²; Evelin D Szakal¹; Simon Allen¹; Steven C Hall¹; Susan J Fisher¹; Terry C Hazen²; Jil T Geller²; Marry E Singer²; Jian Jin²; Mark D Biggin²; H. Ewa Witkowska¹; ¹*UCSF Sandler-Moore Mass Spectrometry Core Facility, San Francisco, CA*; ²*Lawrence Berkeley National Lab, Berkeley, CA*
- TP 136 **Improved Methodology for Stable Isotope Labeling and LC-MS/MS Analysis for Proteomic Scale Measurement of Protein Turnover in Plants**; Wen-Ping Chen¹; Xiaoyuan Yang^{1,3}; Peng Yu³; Adrian D. Hegeman^{1,3}; Aaron K. Rendahl⁵; Thomas F. McGowan²; Shahar Journo^{1,4}; William M. Gray³; Jerry D. Cohen¹; ¹*Dept. Horti Sci and Microbial/Plant Genomics Inst., St. Paul, MN*; ²*Center for Mass Spectrometry and Proteomics -UofMN, St. Paul, MN*; ³*Dept. Plant Biology - U of MN, St. Paul, MN*; ⁴*Dept. Computer Science and Engineering, Minneapolis, MN*; ⁵*School of Statistics-UMN, St. Paul, MN*
- TP 137 **Non-Protein Based Enrichment of Cross-Linked Peptides for Mass Spectrometric Analysis of Protein Complexes**; Funing Yan; *Albert Einstein College Med, Bronx, NY*
- TP 138 **Affinity Purification of Covalently-Linked Peptides Following CNBr Cleavage of Proteins**; Tujin Shi; *University of Toronto, Toronto, Canada*
- TP 139 **Development of a Novel Cross-Linking Strategy for Mapping Protein-Protein Interactions of Protein Complexes**; Athit Kao¹; Chi-li Chiu¹; Danielle Vellucci²; Yingying Yang¹; Shenheng Guan³; Scott Rychnovsky²; Lan Huang¹; ¹*Depts. P&B/D&C, University of California, Irvine, Irvine, CA*; ²*Dept. Chem., University of California, Irvine, Irvine, CA*; ³*Dept. Pharm. Chem., University of California, S.F., San Francisco, CA*
- TP 140 **PALeO-Based Characterization of the Enzymatic Mechanism of ECE-I**; Dan Andersson; Markus Hardt; *Boston Biomedical Research Institute, Watertown, MA*
- TP 141 **15N Immonium Ion Precursor Scanning: A Novel Strategy for the Targeted Analysis of Proteins and Peptides Present in Complex Matrices**; Nicholas A. Williamson¹; Charles Reilly¹; Sri-Harsha Ramarathinam¹; Chor-Teck Tan¹; Alun Jones²; Christie L. Hunter³; Frank Rooney³; Anthony W. Purcell¹; ¹*University of Melbourne, Melbourne, Australia*; ²*University of Queensland, Brisbane, Australia*; ³*Applied Biosystems, Foster City, CA*
- TP 142 **Stable Isotope Shifted Matrices Enables the Use of Low Mass Ion Precursor Scanning for Targeted Metabolite Identification**; Charles Reilly¹; Nicholas Williamson²; Anthony W. Purcell¹; ¹*University of Melbourne, Melbourne, Australia*; ²*Bio21 Institute, University of Melbourne, Parkville, Australia*
- TP 143 **MS OF GLYCOPROTEIN II, 143 - 166**
- TP 143 **MS/MS Combined with Rapid Chip-Based PNGase-F Digestion for the Elucidation of Structural Isomers of Glycans from Glycoproteins**; Maggie Bynum; Javier Satulovsky; Hongfeng Yin; Kevin Killeen; *Agilent Laboratories, Santa Clara, CA*
- TP 144 **Glycomic Approach for Biomarker Quest in Bodily Fluids**; Ute Distler; Jamal Souady; Sebastien Gallien; Laura Bindila; Bruno Domon; *Luxembourg Clinical Proteomics, CRP-Sante, Strassen, Luxembourg*
- TP 145 **Fast and Efficient Release of Glycoprotein O-Glycans Prior to Mass Spectrometric Analysis through Microwave-Assisted Enzymatic Digestion (MAED)**; Dakota Derryberry; Yazen Jmeian; Zaneer Segu; Yuening Zhang; Yehia Mechref; *METACyt Biochemical Analysis Center, Indiana Unive, Bloomington, IN*
- TP 146 **Fast and Efficient Release of Glycoprotein N-Glycans Prior to Mass Spectrometric Analysis through Microwave-Assisted Enzymatic Digestion (MAED)**; Yuening Zhang; Yazen Jmeian; Dakota Derryberry; Yehia Mechref; *Indiana University, Bloomington, IN*
- TP 147 **Analysis of N-linked Glycans from Rat Plasma**; Beth Gillece-Castro; Erin E. Chambers; Kenneth J Fountain; *Waters Corporation, Milford, MA*
- TP 148 **Integrated MALDI MS Approach for Structural Characterization of Intact N-Linked Glycopeptides Using de novo Sequencing and Protein Database Search**; Masaki Murase¹; Sadanori Sekiya¹; Masaki Yamada¹; Shigeki Kajihara¹; Koichi Tanaka¹; Chee-Hong Wong²; Hong Wang²; Samir Hanash²; ¹*Shimadzu Corporation, Kyoto, Japan*; ²*PHS, Fred Hutchinson Cancer, Seattle, WA*
- TP 149 **Relative Quantification of N-Linked Glycosylation Site Profiles**; Daniel Clark; Eden Go; Heather Desaire; *University of Kansas, Lawrence, KS*
- TP 150 **Online Effective Identification of Glycopeptides Using LC/MS**; Ling Xin; Hui Liu; Zhili Li; *Chinese Academy of Medical Sciences, Beijing, China*
- TP 151 **N-Linked Glycan Profile and Identification by HPLC-FL/ESI-QTOF MS Using Procainamide Tag**; Song Klapoetke; Jian Zhang; Steven Becht; Xuelin Gu; *cGMP lab, PPD, Middleton, WI*
- TP 152 **Microwave-Assisted Enzymatic Digestion for Rapid and Efficient Glycoprotein Identification**; Zaneer Segu; Loubna Hammad; Yehia Mechref; *Department of Chemistry, Indiana university, Bloomington, IN*
- TP 153 **Investigation of Complex Oligosaccharides from Glycopeptides and Glycoproteins Using A Hybrid Ion Trap/TOF Mass Spectrometer Coupling with MALDI**; Fan Xiang¹; Liang Zhao²; Andreas Franz³; ¹*Shimadzu Biotech, Pleasanton, CA*; ²*University of the Pacific, Stockton, CA*; ³*Department of Chemistry, University of the Pacific, Stockton, CA*
- TP 154 **Improvements in the Glyco-Capture Protocol Using Hydrazide-Modified Magnetic Beads**; Ten-Yang Yen; Leslie Timpe; Chris Alleyne-Chin; Bruce Macher; *San Francisco State University, San Francisco, CA*
- TP 155 **Glycoprotein Profiling Simplified Using an Ion Trap Mass Spectrometer**; Mark E. Jennings II; Jolanta Krudysz-Amblo; Saulius Butenas; Kenneth G. Mann; Dwight E. Matthews; *University of Vermont, Burlington, VT*
- TP 156 **Rapid Glycoprotein Analysis by Hybrid Lectin-phenylboronic Acid Functionalized Magnetic Nanoprobe-based Affinity Mass Spectrometry**; Ying-Wei Lu¹; Chang-Yang Chen²; Li-De Huang¹; Chih-Wei Chien¹; Chia-Li Han³; Chun-Cheng Lin¹; Yu-Ju Chen³; ¹*National Tsing Hua University, Hsinchu, Taiwan*; ²*National Taiwan Normal University, Taipei, Taiwan*; ³*Academia Sinica, Taipei, Taiwan*

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- TP 157 **Chemoenzymatic Synthesis and Mass Spectrometry-Based Analysis of a Homogeneous Glycoprotein;** John Schiel; Mark Lowenthal; Karen Phinney; *National Institute of Standards and Technology, Gaithersburg, MD*
- TP 158 **Combining CID and HCD Fragmentation with Bioinformatics Facilitates the Automated Identification of N-Linked Glycoproteins in Complex Protein Mixtures;** Morten Rasmussen¹; Morten Thaysen-Andersen²; Simon Mysling²; Peter Hojrup³; ¹BMB, Odense, Denmark; ²BMB, University of Southern Denmark, Odense M, Denmark; ³University of Southern Denmark, Odense M, Denmark
- TP 159 **Development of Mass Spectrometric Methods for Glycoproteomic Analysis of Progranulin;** Kriangsak Songsrirote¹; Zhi Li²; David Ashford³; Andrew Bateman²; Jane Thomas-Oates¹; ¹Department of Chemistry, University of York, York, UK; ²Department of Medicine, McGill University, Montreal, Quebec, Canada; ³Department of Biology, University of York, York, UK
- TP 160 **Development of Glycopeptide Selected Reaction Monitoring for Quantitative Characterization of Site-Specific Protein Glycosylation;** Dongdong Wang; Marina Hincapie; Tomas Rejtar; Fateme Tousi; Barry L. Karger; *Barnett Institute, Northeastern University, Boston, MA*
- TP 161 **Determination of Structural Isomers in Site-Specific Glycosylation Using NanoLC/MS;** Serenus Hua¹; Charles C. Nwosu¹; John S. Strum¹; Hyun Joo An¹; Ning Tang²; Keith Waddell²; Carlito B. Lebrilla¹; ¹University of California, Davis, CA; ²Agilent Technologies, Santa Clara, CA
- TP 162 **Targeted Glycoproteomic Analysis Of Human Serum Proteins Using Lectin Affinity Chromatography;** Grace Ro¹; Hyun Joo An¹; Rudolf Grimm²; Carlito Lebrilla¹; ¹Department of Chemistry, University of California, Davis, CA; ²Agilent Technologies, Santa Clara, CA
- TP 163 **Characterization of Neutral and Acidic Glycopeptides by ZIC-HILIC Enrichment and Mass Spectrometry;** Sven Andrecht¹; Jessica Wohlgemuth¹; Ralf Schäfer²; Arndt Asperger²; Anja Resemann²; Andrea Schneider²; ¹Merck KGaA, Darmstadt, Germany; ²Bruker Daltonics, Bremen, Germany
- TP 164 **Enrichment and Analysis of Bacterial Glycopeptides from Total Proteome Extracts of *Francisella tularensis*;** Kelly Fulton¹; Luc Tessier¹; Wen Ding¹; Sara Kilmury¹; Joann Prior²; Rebecca Thomas²; Susan Twine¹; ¹National Research Council, Ottawa, Canada; ²Defence Science and Technology Laboratory, Porton Down, UK
- TP 165 **A Capillary Monolithic Boronate Affinity Column for Enrichment of cis-diol Type Glycans and Glycopeptides;** Fang-Chi Liu; Chun-Chi Tsai; Chung-Lin Liao; *Academia Sinica, Taipei, Taiwan*
- TP 166 **Enrichment and Identification of Sulfated Glycoproteins for Biomarker Discovery;** Masaaki Toyoda; Hiroyuki Kaji; Hiromichi Sawaki; Hisashi Narimatsu; Akihiko Kameyama; *AIST, Tsukuba, Japan*
- TP 167 **Quantitative Analysis of Protein Expression with Isobaric Tags Using LTQ Orbitrap;** Takashi Shinkawa; Kuniyasu Kato; Nami Yabuki; Kohji Nagano; Noriyuki Inomata; Masayuki Haramura; *Chugai Pharmaceutical, Kamakura, Japan*
- TP 168 **Design of a Low Energy Gas Phase Cleavable Linker as the Basis for Versatile Isobaric Tags for Protein Quantification;** Chang Ho Sohn; J. Eugene Lee; Michael J. Sweredoski; Robert L. Graham; Geoffrey T. Smith; Sonja Hess; Raymond J. Deshaies; J. L. Beauchamp; *Caltech, Pasadena, CA*
- TP 169 **A Novel Cysteine-Reactive Tandem Mass Tags for Subproteome Labeling, Enrichment and Quantitation;** Michael Rosenblatt²; Ryan Bomgardner²; Eric Hommema²; Karsten Kuhn¹; Stefan Kienle¹; Ian Pike¹; John C. Rogers²; ¹Proteome Sciences, Cobham, UK; ²ThermoFisher Scientific, Rockford, IL
- TP 170 **Enrichment and Six-Plex Profiling of the DNA Damage Response Pathway Using Amine- and Cysteine-Reactive Tandem Mass Tags;** Ryan D. Bomgardner; Michael M. Rosenblatt; John C. Rogers; *Thermo Fisher Scientific, Rockford, IL*
- TP 171 **An Attempt to Quantitative Analysis for Clinical Proteomics by Liquid Chromatography/ESI-Ion Trap MS Using Stable Isotope-Labeled Iodoacetanilide;** Sadamu Kurono^{1,2}; Yuka Kaneko^{1,2}; Satomi Niwayama³; ¹Osaka University Graduate School of Medicine, Suita-shi, Osaka, Japan; ²Wako Pure Chemical Industries, Ltd., Chuo-ku, Osaka, Japan; ³Texas Tech Univ., Lubbock, TX
- TP 172 **Novel Deuterium Coded Reagents for Protein Quantitation;** Junxiang Zhang; Shuwei Li; *Center for Advanced Research, Rockville, MD*
- TP 173 **The *B. subtilis* Proteome under Glycolytic or Gluconeogenic Conditions: Discovery and Verification of Quantitative Differences in Key Metabolic Pathways;** Andrea Hartmann²; Jan Muntel¹; Donna Potts³; Doerte Becher¹; Hunter Christie³; Michael Hecker¹; Matthias Glueckmann³; Christof Lenz³; ¹Inst. of Microbiology, University of Greifswald, Greifswald, Germany; ²Sandoz, Kundl, Austria; ³AB Sciex, Various locations, UK, U.S.A. and Germany
- TP 174 **Aliphatic H/D-Isotope Dipeptide Tags for Multi 2-plex Protein Quantification;** Seung Koo Shin; Min-Soo Suh; Jongcheol Seo; Hye-Joo Yoon; *POSTECH, Pohang, South Korea*
- TP 175 **Isotope-Coded Dimethyl Labeling for Differential Quantitation of Posttranslational Protein Modification by 4-Hydroxy-2-nonenal, An End Product of Lipid Peroxidation;** Navin Rauniyar; Laszlo Prokai; *University of North Texas Health Sc Center, Fort Worth, TX*
- TP 176 **Robust Integrated Approach for High-Throughput Quantitative Proteome Analysis by ¹⁸O Labeling;** Elena Bonzon-Kulichenko¹; Daniel Pérez-Hernández¹; Estefanía Núñez¹; Pablo Martínez-Acedo¹; Pedro Navarro¹; Marco Trevisan-Herraz¹; María del Carmen Ramos²; Saleta Sierra²; Sara Martínez-Martínez³; Marisol Ruiz-Meana⁴; Elizabeth Miró-Casas⁴; David García-Dorado⁴; Juan Miguel Redondo³; Javier S. Burgos²; Jesús Vázquez¹; ¹Lab of Protein Chemistry and Proteomics, CBM-SO, Madrid, Spain; ²Neuron Biopharma S.A., Granada, Spain; ³Centro Nacional Investigaciones Cardiovasculares, Madrid, Spain; ⁴Hospital Universitari Vall d'Hebron, Barcelona, Madrid
- TP 177 **Quantitative Performance of a Novel Trypsin-Catalyzed ¹⁸O-Single Labeling Method for Serum Proteomics;** Masaru Mori¹; Miki Shimada^{1,2}; Nariyasu Mano^{1,2}; ¹Tohoku University, Sendai, Japan; ²Tohoku University Hospital, Sendai, Japan

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- TP 178 **Targeted Quantitative Proteomics Using Selected Reaction Monitoring (SRM)-Mass Spectrometry Coupled with an 18O-Labeled Reference as Internal Standards;** Jong-Seo Kim; Errol Robinson; Boyd L. Champion; Brianne O. Petritis; Thomas L. Fillmore; Ronald J. Moore; Tao Liu; David G. Camp II; Richard D. Smith; Wei-Jun Qian; *Pacific Northwest National Laboratory, Richland, WA*
- TP 179 **Investigation of H2[18]O as a Tracer for Measuring Apolipoprotein Turnover in Mice;** James Conway¹; Stephen Previs²; Nykia Walker¹; Thomas McAvooy¹; Haihong Zhou¹; Thomas Roddy²; Douglas Johns²; Nathan Yates¹; Ronald Hendrickson¹; ¹*Merck Research Laboratories - Proteomics, Rahway, NJ*; ²*Merck Research Laboratories - Atherosclerosis, Rahway, NJ*
- TP 180 **Integrating Lys-N Proteolysis and N-Terminal Guanidination for Improved Fragmentation and Relative Quantification of Singly-Charged Ions;** Valerie J. Carabetta; Tuo Li; Anisha Shakya; Todd M. Greco; Ileana M. Cristea; *Princeton University, Princeton, NJ*
- TP 181 **Withdrawn**
- TP 182 **Phosphoproteomics Based on PolyMAC and Label-Free Quantitation;** Liang Xue¹; Lianshui Wang²; Lianghai Hu¹; Anton Iliuk¹; Predrag Radivojac²; Randy Arnold²; Haixu Tang²; W. Andy Tao¹; ¹*Purdue University, West Lafayette, IN*; ²*Indiana University, Bloomington, IN*
- TP 183 **Label-Free Quantification of Protein Phosphorylation Using a Combination of ERLIC, IMAC, and LC/MS/MS: Application to Marek's Disease Virus Infection;** Ko-Yi Chien; Kevin Blackburn; Hsiao-Ching Liu; Michael Goshe; *NC State University, Raleigh, NC*
- TP 184 **Phosphatase-Based Phosphopeptide Quantitation (PPQ) for Accurate Determination of Phosphorylation Stoichiometry;** Dominik Domanski; Christoph H. Borchers; *UVic-GBC Proteomics Centre, Victoria, BC*
- TP 185 **Mass Spectrometry-Based Quantitative Approaches Toward Lysine Acetylation in Huntingtin;** Xin Cong¹; Jason Held²; Bradford W. Gibson³; Lisa Ellerby²; ¹*Buck Institute, Novato, CA*; ²*Buck Institute for Age Research, Novato, CA*; ³*Buck Inst. for Age Research, Novato, CA*
- TP 186 **Application of SILAC and LC-MS/MS to Determine Histone Modifications Cross-Talk in Yeast;** Xiaoyan Guan; Neha Rastogi; Mark R. Parthun; Michael A. Freitas; *Ohio State University, Columbus, OH*
- TP 187 **Highly Sensitive, Accurate and High Through-Put Simultaneously Quantify Multiple Histone Modification Sites by LC/MS/MS-MRM;** Agus Darwanto; Matthew Curtis; Matthew Schrag; Wolff Kirsch; Jonathan Neidigh; Kangling Zhang; *Loma Linda University, Loma Linda, CA*
- TP 188 **Quantitation of Proteomic Markers of Glyco-Oxidation Using Multiple Reaction Monitoring;** Michael J. Kimzey¹; Hussein N. Yassine²; Michael A. Galligan¹; Craig S. Stump^{2,3}; George Tsaprailis¹; Serrine S. Lau¹; ¹*Southwest Environmental Health Sciences Center, University of Arizona, Tucson, AZ*; ²*College of Medicine, University of Arizona, Tucson, AZ*; ³*Southern Arizona VA Healthcare System, University of Arizona, Tucson, AZ*
- TP 189 **Targeted Absolute Quantification of Intact Proteins by Reverse Phase Liquid Chromatography-Mass Spectrometry, Charge Reduced Electrospray, and**
- Condensation Particle Counting;** Kouame Adou; Murray V. Johnston; *University of Delaware, Newark, DE*
- TP 190 **Quantitation of Intact Biotherapeutic Proteins without Fragmentation – Targeted Ion Parking;** J. Larry Campbell; J.C. Yves Leblanc; *AB SCIEX, Concord, Canada*
- TP 191 **Quantitative Analysis for Comparative Top-Down Proteomics;** Adaikkalam Vellaichamy; Leonid Zamdborg; Kenneth R. Durbin; Mingxi Li; Adam D. Catherman; John F. Kellie; John C. Tran; Neil L. Kelleher; *University of Illinois at Urbana-Champaign, Urbana, IL*
- TP 192 **High Sensitivity LC-ESI-SRM MS Analysis Using Multi-Capillary Inlet/Tandem Electrodynamic Ion Funnel Interface;** Errol Robinson; Keqi Tang; Mahmud Hossain; Richard D. Smith; *Pacific Northwest National Laboratory, Richland, WA*

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- TP 193 **Target-Based Approaches Using Data Dependent and Independent Schemes on LTQ/Orbitrap and Comparison with QTrap 5500 Results;** Wells Wu¹; Craig Dufresne²; Rong-Fong Shen¹; ¹*NIH (NIA), Baltimore, MD*; ²*Thermo Fisher Scientific, West Palm Beach, FL*
- TP 194 **A Novel Method for Analyzing Protein Terminals;** Taro Kishimoto^{1,2}; Jun Kondo^{1,2}; Takako Takai-Igarashi³; Hiroshi Tanaka³; ¹*Molecuence Corporation, Kanagawa, Japan*; ²*Mitsubishi Tanabe Pharma Corporation, Kanagawa, Japan*; ³*Tokyo Medical and Dental University, Tokyo, Japan*
- TP 195 **Improvements in Protein Identifications in Data-dependent Acquisition Experiments by Use of Novel Precursor Selection and Fragmentation Strategies;** Christine Miller; Jose Meza; Norton Kitagawa; Wilfred Tang; Joseph Roark; Javier Satulovsky; Patrick D. Perkins; *Agilent Technologies, Inc., Santa Clara, CA*
- TP 196 **Differentially Expressed Proteins Detected on Chromatographic Retentive Surface Capture by Mass Spectrometry;** Enrique Dalmasso²; Amanda Bulman²; Fiona Plows²; Mariana Rusa¹; Detlev Suckau³; Martin Schuereberg³; ¹*Bio-Rad Laboratories, Inc, Hercules, CA*; ²*Bio-Rad Laboratories, Inc., Hercules, CA*; ³*Bruker Daltonics, Bremen, Germany*
- TP 197 **Integrating Gel Electrophoresis and Microwave-Accelerated Acid Cleavage for Analysis of Plasma Membrane Proteins;** Joe Cannon; Waowalee Choksawangkam; Catherine Fenselau; *University of Maryland, College Park, MD*
- TP 198 **Optimization of OFFGEL Fractionation-Based Shotgun Proteomic on QTOF and LTQ-Orbitrap;** Cexiong Fu; Cristian I. Ruse; Darryl J Pappin; *Cold Spring Harbor Lab, Cold Spring Harbor, NY*
- TP 199 **Orbitrap LC-MS/MS Data Acquisition Method to Increase the Depth of Analysis for Low Amounts of Proteins in Complex Protein Mixtures;** Wenzhu Zhang; Elizabeth Heller; Nathaniel Heintz; Brian Chait; *The Rockefeller University, New York, NY*
- TP 200 **Functional Polymer Membranes for Protein Digestion and Peptide Separation Prior to Analysis by Mass Spectrometry;** Weihan Wang; Fei Xu; Merlin Bruening; *Michigan State University, East Lansing, MI*
- TP 201 **Withdrawn**
- TP 202 **Energetic Manipulation of Peptide Secondary Structure Boosts ETD Fragmentation Efficiency;**

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- TP 203 Aaron Ledvina; Graeme McAlister; Joshua J. Coon; *University of Wisconsin, Madison, Wisconsin*
Comprehensive Investigation into Ion Types Produced in Higher Energy Collisional Dissociation (HCD); Annette Michalski; Nadin Neuhauser; Juergen Cox; Matthias Mann; *MPI for Biochemistry, Martinsried, Germany*
- TP 204 **Peptide Identification Using Electron Capture Dissociation Combined with Subsequent Radical-Ion/Molecule Reactions on a Chromatographic Time Scale;** Masaki Watanabe^{1,2}; Takashi Baba¹; Gary L. Glish¹; ¹*University of North Carolina, Chapel Hill, NC;* ²*Hitachi High-Technologies, Hitachinaka, Ibaraki-ken, Japan*
- TP 205 **Implementation of a Charge-State and Sequence-Dependent Scoring System Dramatically Improves Matching of Peptide ETD Spectra;** Robert Chalkley¹; Peter R Baker¹; Katalin F. Medzihradszky¹; A.L. Burlingame²; ¹*UCSF, San Francisco, CA;* ²*University of California, San Francisco, CA*
- TP 206 **Middle-Down Proteomics with High Mass Accuracy Tandem Mass Spectrometry and Mass Accuracy Sensitive Database Search Engine;** Roderick Davis¹; Jia You²; Michael A. Freitas²; Hua Xu¹; ¹*Univ Illinois at Chicago, Chicago, IL;* ²*Ohio State University, Columbus, OH*
- TP 207 **SQID: An Intensity-Incorporated Peptide Identification Algorithm for Tandem Mass Spectrometry;** Wenzhou Li; Li Ji; Jonathan Goya; Vicki H. Wysocki; *University of Arizona, Tucson, AZ*
- TP 208 **Shotgun Protein Sequencing With "Mate-Pair" Assembly of Tandem Mass Spectra;** Adrian Guthals^{1,3}; Karl R. Clauser^{1,2}; Nuno Bandeira^{1,3,7}; ¹*Del Mar, CA;* ²*Broad Institute of MIT and Harvard, Cambridge, MA;* ³*CCMS, UCSD, La Jolla, CA*
- TP 209 **Analysis of the *Euplotes* Genome with Proteomics Approaches;** Fang Xie¹; Vladislav A Petyuk¹; Alexey V Lobanov²; Anton A Turanov²; Lawrence A Klobutcher³; Heather M Mottaz-Brewer¹; Marina A Gritsenko¹; Ronald J Moore¹; David G. Camp II¹; Vadim N Gladyshev²; Richard D. Smith¹; ¹*Pacific Northwest National Lab, Richland, WA;* ²*Brigham&Women's Hospital, Harvard Medical School, Boston, MA;* ³*University of Connecticut Health Center, Farmington, CT*
- TP 210 **Characterization of Proteins Contained in the Skin Secretions of *Bufo Melanostictus*, the Common Asiatic Toad;** Kimsiew Yap¹; Aishah A. Latiff¹; Shahrul Anuar Mohd Sah²; CheeYuen Gan¹; ¹*Doping Control Centre, USM, Midden, Malaysia;* ²*School of Biological Sciences, Minden, Penang*
- TP 211 **An Automated LC-free Platform for Comprehensive Coverage of Mammalian Proteomes;** Johannes Hewel; Charles Yoon; Jian Liu; Peter W Zandstra; Andrew Emili; *University of Toronto, Toronto, Canada*
- TP 212 **Isolation and Characterization of Novel Serum Lectins from the American Alligator (*Alligator mississippiensis*);** Lancia Darville¹; Venkata Ramana Machha²; Mark E Merchant²; Syed Azeem Hasan¹; Kermit K. Murray¹; ¹*Louisiana State University, Baton Rouge, LA;* ²*McNeese State University, Lake Charles, Louisiana*
- TP 213 **Proteomics of Human Lymph and Plasma Reveals a Unique Self Peptidome Associated with the Lymph;** Cristina Clement¹; Laura Santambrogio²; ¹*Albert Einstein CollegeMed, Bronx, NY;* ²*Albert Einstein College of Medicine, Pathology, Bronx, NY*
- TP 214 **Determination of the pH1N1 Vaccine Proteome;** Daryl G.S. Smith; Marybeth Creskey; Terry D. Cyr; *Health Canada, Ottawa, Canada*
- BIOMARKER DISCOVERY II, 215 - 246**
- TP 215 **Proteomic Analysis of Human Plasma in Search of Potential Biomarkers Associated with Protection from Asthma;** Mike Galligan^{1,2}; Linda A. Breci³; Timothy R. Radabaugh^{1,2}; George Tsapralis¹; Dean Billheimer^{4,8}; Maily Halonen^{5,6}; Donata Vercelli^{6,7}; Serrine S. Lau^{1,2}; ¹*Southwest Environmental Health Sciences Center, U. Arizona, Tucson, AZ;* ²*Dept. of Pharm/Tox, College of Pharmacy, U. Arizona, Tucson, AZ;* ³*Dept. of Chemistry, U. Arizona, Tucson, AZ;* ⁴*Statistics Consulting Laboratory, U. Arizona, Tucson, AZ;* ⁵*Dept. of Pharmacology, U. Arizona, Tucson, AZ;* ⁶*Arizona Respiratory Center, U. Arizona, Tucson, AZ;* ⁷*Arizona Center for the Biology of Complex Diseases, U. Arizona, Tucson, AZ;* ⁸*Dept. of Agricultural and Biosystems Engineering, U. Arizona, Tucson, AZ*
- TP 216 **Using MALDI-TOF Profile Spectra of Spinal Cord Tissue to Discover an ALS-Associated Molecular Profile;** Joshua L. Johnson¹; Daryl A. Bosco²; Robert H. Brown Jr.²; Jeffrey N. Agar¹; ¹*Brandeis University, Waltham, MA;* ²*University of Massachusetts Medical School, Worcester, MA*
- TP 217 **Biomarker Status of Proteins in Circulating Immune Complexes from Rheumatoid Arthritis, Dermatomyositis, Systemic Lupus Erythematosus and Juvenile Idiopathic Arthritis Samples;** Leticia Cano; *University of Nevada, Reno, NV*
- TP 218 **Pigment Epithelium-Derived Factor (PEDF): Discovery and Verification of a Preeclampsia Biomarker with a Role in the Pathogenesis of the Syndrome;** Katherine Williams; Yan Zhou; Michael McMaster; Susan Fisher; *University of California San Francisco, San Francisco, CA*
- TP 219 **Proteomic-Based Approach for Biomarker Discovery to Predict Silent Cerebral Infarct in Patients with Sickle Cell Disease;** Lisa M. Williams¹; Zongming Fu¹; Pratima Pratima¹; Timothy Yen¹; William J. Savage¹; Emily Barron-Casella¹; John J. Strouse¹; Michael R. DeBaun²; Jennifer Van Eyk¹; Allen Everett¹; Casella¹; ¹*Johns Hopkins University, Baltimore, MD;* ²*Washington University in St. Louis, St. Louis, MO*
- TP 220 **Proteome Mining of Ventricular Cerebrospinal Fluid from Patients with Traumatic Brain Injury Using Hexapeptide Ligand Libraries and Shotgun Mass Spectrometry;** Marcus Sjödin; Jonas Bergquist; Magnus Wetterhall; *Dept. of Physical and Analytical Chemistry, Uppsala University, Sweden*
- TP 221 **Rapid Identification of *Listeria* Bacteria by Proteomics Approaches Using MALDI Mass Spectrometry;** Patrick Pribil¹; Jacqueline Upham²; James MacNeil²; Takeo Sakuma¹; ¹*AB/ SCIEX, Concord, Canada;* ²*Canadian Food Inspection Agency, Dartmouth, Canada*
- TP 222 **DMPO Provides Resistance to Necrosis for Murine Macrophages Exposed to Anthrax LeTx and Serves as a Marker for Proteomic Studies;** Allison N Schorzman¹; Jeffrey F. Kuhn²; Kenneth B. Tomer¹; ¹*NIEHS, Research Triangle Park, NC;* ²*NIEHS/SRA, Garner, NC*
- TP 223 **Identification of Serum Biomarkers in Poultry with Leg Problems;** Komal Rasaputra^{1,2}; Narayan C Rath²;

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- Rohana Liyanage¹; Jack Lay¹; ¹University of Arkansas, Fayetteville, AR; ²Agricultural Research Service/ USDA, Fayetteville, AR
- TP 224 **Protein Biomarkers of Disease Resistance in *Apis mellifera***; M. Marta Guarna¹; Amy P.M. Tam¹; Andony P. Melathopoulos²; Robert Parker¹; Stephen F. Pernal²; Leonard J. Foster¹; ¹University of British Columbia, Vancouver, Canada; ²Agriculture and Agri-Food Canada, Beaverlodge, Canada
- TP 225 **Differential Gel Electrophoresis of Bovine Samples from Cattle Treated with Zeranol: Mechanism of Positive Muscle Growth in Cattle**; Jocelyn Hach¹; Young C Lin²; Wei-Ping Ye²; John Mark Reddish²; Kari Green-Church³; Macdonald Wick³; ¹OSU Mass Spec & Proteomics Fac, Columbus, OH; ²The Ohio State University, Columbus, OH; ³The Ohio State University, Columbus, OH
- TP 226 **Protein Profiling Using Tandem Mass Tags (TMT) to identify Skin Sensitizing Chemicals in Human Cell Culture Models**; Petra Budde¹; Stefanie Ohnesorge²; Christian Baumann¹; Lisa Dietz²; Stefan Selzer¹; Karsten Kuhn¹; Sasa Koncarevic¹; Marco Schaerfke¹; Hans-Dieter Zucht¹; Herrmann-Josef Thierse²; ¹Proteome Sciences R&D GmbH & Co. KG, Frankfurt, Germany; ²University Heidelberg, UMM, Mannheim, Germany
- TP 227 **Measuring Adducts of Human Serum Albumin as Biomarkers of Exposure to Toxic Substances**; He Li¹; William Funk²; Hasmik Grigoryan¹; Maria Demireva¹; Evan R. Williams¹; Anthony T. Iavarone¹; Jacques Riby¹; Samansa Lu¹; Sherri Rose¹; Mark van der Laan¹; Stephen M. Rappaport¹; ¹University of California, Berkeley, Berkeley, CA; ²University of North Carolina, Chapel Hill, Chapel Hill, North Carolina
- TP 228 **SILAC and Mass-Spectrometry for the Assessment of Effects of Imatinib on the Global Protein Expression in the Human K562 Cells**; Lei Xiong; Yinsheng Wang; University of California, Riverside, CA
- TP 229 **High-Throughput Proteomic Screening of Chemicals for Estrogenic and Androgenic Activity Using Mass Spectrometry**; Kimberly A. Salinas; Michael J. Hemmer; Peggy S. Harris; Sherry S. Vickery; U.S.EPA, ORD, NHEERL, Gulf Ecology Division, Gulf Breeze, FL
- TP 230 **UV-Induced Human Epidermal Protein Expression Changes are Explored with iTRAQ®; Technology and ProteinPilot Descriptive Statistical Template**; Elhabib Benlhabib; Leeann Higgins; Lorraine Anderson; Maria K. Hordinsky; Ana Carina A JunqueiraBertin; Ioanna G. Panoutsopoulou; Gwen Wendelschafer-Crabb; William R. Kennedy; George L. Wilcox; University of Minnesota, Minneapolis, MN
- TP 231 **Searching for a Diagnostic Marker of Ovarian Hyperstimulation Syndrome Using LC-ESI-FTICR and LC-MALDI-TOF Mass Spectrometry**; Petr Halada¹; Karla Jarkovska²; Daniel Kavan¹; Karel Rezac³; Jiri Moos⁴; Petr Novak¹; Hana Kovarova²; ¹Institute of Microbiology v.v.i., Prague 4, Czech Republic; ²Institute of Animal Physiology and Genetics v.v.i., Libechov, Czech Republic; ³Department of Obstetric and Gynecology, Prague, Czech Republic; ⁴Sigma Aldrich, spol.s r.o., Prague, Czech Republic
- TP 232 **Differential Intact Mass Analysis (DIMA): A Translational Pipeline For Label-Free Top-Down Discovery and High-Throughput Validation of Proteins and PTMs**; Daniel Smith¹; Jaekuk Kim¹; Alex Swaim²; Steven Patrie¹; ¹UT Southwestern Medical Center, Dallas, TX; ²UT Dallas, Kingwood, TX
- TP 233 **Heat Stabilization of Serum for Standardized Peptide Profiling**; Alexandra Van Remoortere²; Karl Sköld¹; André M. Deelder²; Yuri E.M. Van Der Burg²; ¹Denator AB, Uppsala, Sweden; ²Leiden University Medical Center, Leiden, The Netherlands
- TP 234 **New Proteomics Approaches for Biomarker Discovery**; Izabela Sokolowska¹; Supriya Mathur¹; Melissa Butkiewicz¹; Rama Yakubu¹; Christopher Talbot¹; Jonathan Samson¹; Mary Ann Gawinowicz²; Alisa Woods³; Costel Darie¹; ¹Clarkson University, Potsdam, NY; ²Protein Core Facility, New York, NY; ³Padure Biomed, Potsdam, NY
- TP 235 **A New Paradigm for Disease Diagnosis Based on the Analysis of the Serum Soluble Human Leukocyte Antigen Peptidome**; Michal Bassani-Sternberg¹; Eilon Barnea¹; Ilan Beer²; Tami Katz³; Irit Avivi³; Arie Admon¹; ¹Technion - Israel Institute of Tech, Haifa, Israel; ²IBM Haifa Research Lab, Haifa, Israel; ³Rambam Hospital, Haifa, Israel
- TP 236 **Investigation of the Origin of Orphan Peptides**; Sunhee Jung; Alexandre Panchaud; Priska Von Haller; John D. Aitchison; David R. Goodlett; University of Washington, Seattle, WA
- TP 237 **Differential Protein Expression Classifier for Biomarker Discovery for Early Detection of Human Disease Prognosis**; Parminder Kaur; Daniela Schlatzer; Mark Chance; Case Western Reserve Univ., Cleveland, OH
- TP 238 **Antigen-Specific Markers in Immunoglobulin Peptides from Rat Immune Sera**; Martijn Vanduijn; Lennard Dekker; Lona Zeneeyedpour; Peter Maat; Peter Sillevs-Smitt; Theo Marten Luider; Erasmus MC, Rotterdam, Netherlands
- TP 239 **Workflow Comparison for Label-Free, Quantitative Secretome Proteomics for Cancer Biomarker Discovery; Method Evaluation, Differential Analysis and Verification in Serum**; Sander R. Piersma¹; Ulrike Fiedler²; Connie R. Jimenez¹; ¹VU University medical center, Amsterdam, Netherlands; ²Proqinase GMBH, Freiburg, Germany
- TP 240 **Identification of the Covalent Binding Sites of the Cyclopentenone Prostaglandin 15-Deoxy- Δ 12,14-Prostaglandin J2 (15d-PGJ2) in Ubiquitin Carboxy-Terminal Hydrolase L1 (UCH-L1)**; Guy Uechi; Hao Liu; Steven Graham; Billy Day; Manimalha Balasubramani; University of Pittsburgh, Pittsburgh, PA
- TP 241 **Cysteinyl Peptide Enrichment Combined with iTRAQ as an Alternative to ICAT**; Vojtech Tambor^{1,2}; Juraj Lenco¹; Marek Link¹; Marian Kacerovsky²; Jiri Stulik¹; ¹Institute of Molecular Pathology, FMHS, UoD, Hradec Kralove, Czech Republic; ²University Hospital Hradec Kralove, Hradec Kralove, Czech Republic
- TP 242 **High-Throughput Serum Peptide Profiling with MALDI-TOF, MALDI-FTICR and Quality Control Based on Isotopic Distributions**; Simone Nicolardi; Magnus Palmblad; Hans Dalebout; Marco R. Bladergroen; Rob A.E.M. Tollenaar; André M. Deelder; Yuri E.M. Van Der Burg; Leiden University Medical Center, Leiden, Netherlands
- TP 243 **Differential Human Plasma Proteomics Based on AniBAL Quantification, Peptide-Level Off-Gel Isoelectric Focusing and Semantic Network Analysis**; Laure Marvin-Guy^{1,2}; Andreas Fuerholz^{1,2}; Sandrine Wagnière^{1,2}; Michael Affolter^{1,2}; Robert Mansourian^{1,2};

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- Marie-Camille Zwahlen^{1,2}; Martin Kussmann^{1,2}; ¹, Lausanne 26, Switzerland; ²Nestlé Research Center, Lausanne, Switzerland
- TP 244 **Characterization of Phosphopeptides by Data-Independent LCMS Using an LTQ-Orbitrap: All Ions All the Time;** Jeffrey Silva; Charles L. Farnsworth; Matthew P. Stokes; Jian-Min Ren; Joan MacNeill; John Rush; *Cell Signaling Technology, Danvers, MA*
- TP 245 **Evaluation of Core-Shell Hydrogel Nanoparticles as a Platform for MALDI-TOF MS Based Biomarker Discovery Platform;** Brian Feild¹; Benjamin Lepene³; Alessandra Luccini²; Scott Kuzdzal¹; Emanuel Petricoin²; Lance Liotta²; ¹Shimadzu, Columbia, MD; ²George Mason University, Manassas, VA; ³Ceres Nanosciences, LLLP, Manassas, VA
- TP 246 **A Peptidomic Strategy for Distinguishing Digestion-Resistant and Potentially Antigenic Peptides Using Data-Independent Liquid-Chromatography Mass-Spectrometry;** Siobhan Shay; A. Daniel Jones; *Michigan State University, East Lansing, MI*
- PROTEOMICS: PTM DETERMINATION, 247 - 268**
- TP 247 **Universal Click Chemistry-Based Enrichment of Multiple PTM Subclasses Coupled with Rapid Modification Site Identification;** Tamara Nyberg; Xiao-Dong Qian; Peter Slade; Wenxi Huang; Brian Agnew; *Life Technologies, Eugene, Oregon*
- TP 248 **Optimized Data Analysis for Trypanosoma cruzi Proteomics;** Xiang Zhu¹; Marshall W. Bern³; Brent Weatherly¹; James Attwood²; Ron Orlando¹; ¹University of Georgia, Athens, GA; ²BioInquire, Athens, GA; ³Palo Alto Research Center, Palo Alto, CA
- TP 249 **Selective Chemoprecipitation and Subsequent Release of Tagged Species for LC-MS/MS Analysis of Nitropeptides;** Jia Guo; Katalin Prokai-Tatrai; Laszlo Prokai; *University of North Texas Health Science Center, Fort Worth, TX*
- TP 250 **Detection and Quantitation of in vitro Tyrosine Nitration via Selective Reaction Monitoring Mass Spectrometry;** Kent Seeley^{1,2}; Stanley M. Stevens, Jr.¹; ¹University of South Florida, Tampa, FL; ²University of South Florida, Tampa, FL
- TP 251 **Proteomic Analysis of Protein Fatty Acylation;** Li Jing; Piotr Ruchala; Alan Waring; Julian Whitelegge; *University of California Los Angeles, Los Angeles, CA*
- TP 252 **Comprehensive Identification and Modified-Site Mapping of S-Nitrosylated Targets in Prostate Epithelial Cells;** Ying Wai Lam; Jared Isaac; Yong Yuan; C. V. Suresh Babu; Jarek Miller; Shuk-Mei Ho; *University of Cincinnati College of Medicine, Cincinnati, OH*
- TP 253 **Mass Spectrometric Identification of Nitrotyrosine-Containing Proteins in Postmortem Brain Tissue of Individuals Diagnosed with HIV and HIV-Encephalitis;** Lerna Uzasci; Avindra Nath; Robert J. Cotter; *Johns Hopkins University School of Medicine, Baltimore, MD*
- TP 254 **SIRT3 Inhibition by 4-Hydroxy-2-nonenal Characterized by MALDI-TOF/TOF and Molecular Modeling Studies;** Kristofer Fritz¹; James Roede²; Philip Reigan¹; Dennis Petersen¹; ¹University of Colorado Denver, Aurora, CO; ²Emory University, Atlanta, GA
- TP 255 **Profiling of N-Acetylated Protein Termini Provides in-Depth Insights into the N-Terminal Nature of the Proteome;** Andreas Helbig; Sharon Gauci; Reinout Raijmakers; Bas van Breukelen; Monique Slijper; Shabaz Mohammed; Albert J.R. Heck; *Utrecht University, Utrecht, Netherlands*
- TP 256 **Development of Chemical Methods for the Detection of Protein N-Homocysteinylation;** Tianzhu Zang; Bobby K Lee; Zhaohui Sunny Zhou; *Northeastern University, Boston, MA*
- TP 257 **Disulfide Bond Analysis Using Automatic A1 Ion Screening and its Application to Structural Characterization of Protein Pharmaceuticals;** Sheng Yu Huang¹; Chao Chi Chen¹; Yu Ting Hsieh²; Sung Fang Chen²; Fong Ku Shi¹; ¹Mass Solutions Technology, Taipei County, Taiwan; ²Dept. Chemistry, National Taiwan Normal University, Taipei, Taiwan
- TP 258 **Enabling Techniques for a High Sensitivity Targeted Proteomic Approach to Dissect the Dynamics of Reversible Cysteine Modifications;** Kuan-Ting Pan^{1,2}; Yen-Chun Lai³; Chi-Chi Chou²; Yi-Yun Chen^{1,2}; Tzu-Ching Meng^{1,4}; Kay-Hooi Khoo^{2,4}; ¹IBS, National Taiwan University, Taipei, Taiwan; ²NRPGM Core Facilities for Proteomics and Glycomics, Taipei, Taiwan; ³GILS, National Defense Medical Center, Taipei, Taiwan; ⁴IBC, Academia Sinica, Taipei, Taiwan
- TP 259 **Analysis of the Cross-Talk between NEDDylation and Ubiquitination;** Mark Larance; Dimitris Xirodimas; Angus I. Lamond; *Wellcome Trust Centre for GRE University of Dundee, Dundee, UK*
- TP 260 **Tandem Mass Spectrometry of Proteins to Identify and Determine the Location of Unknown Modifications by Small Organic Molecules;** Aruna S. Prakash; Matthew F. Burton; Lisa K. Bergman-Bailey; John M. Sanderson; Patrick G. Steel; R. Paul Yeo; Jackie A. Mosely; *Durham University, Durham, UK*
- TP 261 **Software for Determination of Peptides with labile PTMs from Non-Tandem Mass Spectral Data;** Jennifer Busby; Kristie Lindsey Rose; Valerie Cavett; Bruce Pascal; *The Scripps Research Institute, Scripps Florida, Jupiter, FL*
- TP 262 **A Rapid Sample Workup Method for the Analysis of Complete Sequence, PTMs and Structures of Targeted Proteins;** Nan Wang; Liang Li; *Department of Chemistry, University of Alberta, Edmonton, Canada*
- TP 263 **PTM Characterization on Highly Modified Proteins Using Sensitive Enrichment and Peptide Charge Modification Strategies for CAD and FETD Mass Spectrometry;** Jeremy Balsbaugh¹; Emily Hall¹; Ronald Copeland²; Yi Hao¹; A. Michelle English¹; Namrata Udeshi⁴; Daniel Lim³; Jeffrey Shabanowitz¹; David Brautigan¹; Gerald Har²; Ian Macara¹; Donald F. Hunt¹; ¹University of Virginia, Charlottesville, VA; ²Johns Hopkins University, Baltimore, MD; ³Yale University, New Haven, CT; ⁴Broad Institute of MIT and Harvard, Cambridge, MA
- TP 264 **Identification of FXR Acetylation Regulated by p300 and SIRT1 in Metabolic Diseases;** Jongsook Kim Kemper¹; Bkaskar Ponugoti¹; Sungsoon Fang¹; Deepthi Kanamaluru¹; Ji Miao¹; Stephanie Tsang¹; Shwu-Yuan Wu²; Cheng-Ming Chiang²; Timothy D. Veenstra³; Zhen Xiao³; ¹University of Illinois, Urbana, IL; ²University of Texas, Southwestern Medical Center, Dallas, TX; ³SAIC - Frederick, Inc., Frederick, MD
- TP 265 **A Novel Proteomics Approach for the Large-Scale Analysis of Protein SUMOylation in Mammalian Cells;** Louiza Mahrouche^{1,2}; Frederic Galisson³; Eric Bonneil¹; Mounira K. Chelbi-Alix³; Pierre Thibault^{1,2}; ¹Universite.de Montreal, IRIC, Montreal, Canada; ²Universite de Montreal, Biochemistry department,

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- TP 266 *Montreal, QC, Canada; ³Institut André Lwoff CNRS, Paris, France*
Electron-Capture and Electron-Transfer Dissociation for Top-Down Fourier-Transform Mass Spectrometry of Membrane Proteins; Balakumar Thangaraj²; Christopher Ryan¹; Li Jing¹; Puneet Souda¹; Kym Faull¹; Petra Fromme²; Julian Whitelegge¹; ¹University of California LA, Los Angeles, CA; ²Arizona State University, Tempe, Arizona
- TP 267 **Combinatorial Post-Translational Modifications: How Do Multiple Modifications Function in Concert?;** Nicolas L. Young; Peter A. Dimaggio; Gary Leroy; Barry Zee; Benjamin Garcia; *Princeton University, Princeton, NJ*
- TP 268 **Resin-Assisted Capture (RAC) Methods and Mass Spectrometry for Site Localization and Quantitation of Low Abundance Post-Translational Modifications;** J. Will Thompson; Michael T. Forrester; Erik J Soderblom; Matthew W. Foster; Laura G. Dubois; Meredith Turner; Wei Yang; Wulf Paschen; M. Arthur Moseley; *Duke University School of Medicine, Durham, NC*
- NEUROPEPTIDES, 269 - 280**
- TP 269 **Magnetic Beads to Enhance Microdialysis Recovery of Neuropeptides;** Claire M. Schmerberg; Lingjun Li; *University of Wisconsin-Madison, Madison, WI*
- TP 270 **A Novel CIEF-MALDI-FTMS Based Platform for Neuropeptide Analysis;** Zichuan Zhang; Junhua Wang; Lingjun Li; *School of Pharmacy, University of Wisconsin, Madison, WI*
- TP 271 **Mass Spectral Identification and Quantification of Neuropeptides in the Stomatogastric Ganglion of the Lobster *Homarus americanus* during Development;** Xiaoyue Jiang; Ruibing Chen; Junhua Wang; Lingjun Li; *School of Pharmacy, University of Wisconsin-Madison, Madison, WI*
- TP 272 **Evaluation of Different Neuropeptide Sample Preparation Strategies for Optimal Neuropeptidomics Research;** Henrik Wadensten¹; Anna Nilsson¹; Martijn Pinkse²; Inez Finoulst²; Patrik Källback¹; Peter D. Verhaert²; Per E. Andren¹; ¹Uppsala University, Uppsala, Sweden; ²Delft University of Technology, Delft, Netherlands
- TP 273 **Mapping of Crustacean Hyperglycemic Hormone (CHH) Family Neuropeptides and Their Roles in Response to Environmental Stimuli;** Chenxi Jia; Limei Hui; Ruibing Chen; Yuzhuo Zhang; Lingjun Li; *UW-Madison, Madison, WI*
- TP 274 **Mass Spectrometric Analysis of Axonal Proteins that Interact with SMN;** Bikem Akten; Mustafa Sahin; Judith Steen; *Children's Hospital Boston, Boston, MA*
- TP 275 **Investigation of Metabolites, Signaling Molecules, Peptides, and Proteins in Mammalian Cells Using Capillary Electrophoresis-Electrospray Ionization-Mass Spectrometry;** Ann Knolhoff; Peter Nemes; Jonathan Sweedler; *University of Illinois, Urbana, IL*
- TP 276 **Expression and Distribution of Neuropeptides in the Nervous System of the Crab *Carcinus maenas* and their Roles in Environmental Stress;** Yuzhuo Zhang¹; Lingjun Li²; ¹UW Madison, Madison, WI; ²University of Wisconsin, Madison, WI
- TP 277 **Neuropeptide Extraction from Tissues: Minimizing Analyte Alterations;** Elizabeth A. Stemmler; Elizabeth E. Barton; Onyi Esonu; Laura L. Onderko; Patsy S. Dickinson; *Bowdoin College, Brunswick, ME*
- TP 278 **Identification of a Novel, Endogenous Substrate of Prolylcarboxypeptidase in Cerebrospinal Fluid by High Resolution CID, HCD, and ETD;** Helene Cardasis; Yi Du; Katie Southwick; Xuemei Zhao; Shirley Pinto; Nathan Yates; Ronald Hendrickson; *Merck Research Laboratories, Rahway, NJ*
- TP 279 **Frog Skin Peptides – Sequence Analysis and Characterization of Particular Fragmentation Features;** Markus Langsdorf¹; Alireza Ghassempour²; Andreas Roempp¹; Bernhard Spengler¹; ¹Justus Liebig University, Giessen, Germany; ²Shahid Beheshti University, Tehran, Iran
- TP 280 **Amphibian Skin Peptidome: Efficiency of Mass Spectrometric Elucidation;** Albert T. Lebedev; Tatiana Samgina; *Moscow State University, Moscow, Russian Federation*
- PROTEOMICS SYSTEMS BIOLOGY: GEL BASED, 281 - 302**
- TP 281 **Mortalin Over Expression Regulates the Proteome of Cultured Astrocytes;** Mauricio Ramirez; Cristina Osorio; Mihaela Mocanu; Sun Yong Jeong; Eric Hamlett; Carol Parker; Preeti Kodavanti; Oscar Alzate; *University of North Carolina, Chapel Hill, NC*
- TP 282 **A High Through-Put Proteomics Analysis on Cardiomyocytes Treated by Genistein: Possible Association with Cardioprotective Effects;** Zeyu Sun; Karyn Hamilton; Kenneth Reardon; *Colorado State University, Fort Collins, CO*
- TP 283 **Differential Proteome Profiles in Human Oral Epithelial Cells of HIV-Positive on HAART Patients;** Elizabeth H Yohannes; Santosh K. K. Ghosh; Gaurav S.J.B. Rana; Thomas S. McCormick; Aaron Weinberg; Mark R. Chance; *Case Western Reserve Univers, Cleveland, OH*
- TP 284 **Proteomic Landscape of Sensory Hair Cells and Supporting Cells: Deciphering Hearing and Balance;** Chris Adams; Zhaohua Guo; Taha Jan; Stefan Heller; Meike Herget; *Stanford University, Stanford, CA*
- TP 285 **Evaluation of Data-Dependant Versus Data-Independent Proteomic Approaches for Identification of Huntingtin Protein Networks in BACHD mice;** Erin R. Greiner¹; Dyna I. Shirasaki¹; X. William Yang²; Joseph A. Loo¹; ¹UCLA, Department of Chemistry & Biochemistry, Los Angeles, CA; ²UCLA, Brain Research Institute, Los Angeles, CA
- TP 286 **Establishing Proteomic Fingerprints of Cells from the Hematopoietic Lineage Using Global Proteome Coverage, Gene Ontology and Ingenuity Pathway Analysis;** Arash Khosrovi-Eghbal; Geraldine M Walsh; Joseph Anthony; James Xu; Juergen Kast; *University of British Columbia, Vancouver, Canada*
- TP 287 **Proteomic Analysis of the Platelet Membrane and Platelet Release: Insights into the Interaction of Platelets with other Blood Cells;** Geraldine M Walsh; Daniel Ramb; Juergen Kast; *University of British Columbia, Vancouver, Canada*
- TP 288 **Systems Investigation of the MyD88 Dependent Phosphoproteome;** Harsha P. Gunawardena; Li Wang; Cui Liu; Ying Du; Xian Chen; *University of North Carolina at Chapel Hill, Chapel Hill, NC*
- TP 289 **ATP Binding Cassette Transporter A1 Regulates the Lipid Raft Proteome of the Resting and Lipopolysaccharide-Stimulated Macrophage;** Saiful M. Chowdhury¹; Xuewei Zhu²; Jason G. Williams¹; Leesa J. Deterding¹; B. Alex Merrick¹; John S. Parks²; Kenneth B. Tomer¹; Michael B. Fessler¹; ¹NIEHS, Rtp,

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- NC; ²Wake Forest University Health Sciences, Winston-Salem, NC
- TP 290 **Study of Protein Complexes Using Mass Spectrometry Coupled with Multidimensional Orthogonal Electrophoresis System;** Xiaodong Wang; Zhili Li; Chinese Academy of Medical Sciences, Beijing, China
- TP 291 **Analysis of the Interactome of Modified Chromatin Using Quantitative Mass Spectrometry;** Miroslav Nikolov; Alexandra Stuetzer; Szabolcs Soeroes; Wolfgang Fischle; Henning Urlaub; MPI for Biophysical Chemistry, Goettingen, Germany
- TP 292 **Studying Changes in the Global Proteome in Response to Altered Cdc42 Expression by Quantitative Mass Spectrometry;** Cordula Klockenbusch; Sebastian Dilly; Juergen Kast; University of British Columbia, Vancouver, Canada
- TP 293 **Differential Proteome Analysis Applied to the Human Neural Stem Cell;** Kun Cho; Gun Wook Park; Jin Young Kim; Kyung-Hoon Kwon; Jong Shin Yoo; KBSI, Chungbuk, South Korea
- TP 294 **High-Throughput IP/MS For Discovery Of The Endogenous Regulatory Protein Complex Networks;** Anna Malovannaya; Doug Chan; Sung Yun Jung; Nguyen Le; Chen Ding; Yaroslava Bulynko; Yi Shi; Bert O'Malley; Rainer Lanz; Jun Qin; Baylor College of Medicine, Houston, TX
- TP 295 **Systems Biology of Conus: Identification of ER Chaperones Involved in Toxin Biosynthesis;** Helena Safavi-Hemami¹; Grzegorz Bulaj²; Nicholas A. Williamson¹; Pradip Bandyopadhyay²; Baldomero M. Olivera²; Anthony W. Purcell¹; ¹University of Melbourne, Melbourne, Australia; ²University of Utah, Salt Lake City, Utah
- TP 296 **Proteogenomics of *Pristionchus pacificus* Reveals Distinct Proteome Structure of Nematode Models;** Nadine Borchert¹; Christoph Dieterich²; Karsten Krug³; Wolfgang Schütz³; Stephan Jung³; Alfred Nordheim⁴; Ralf J. Sommer¹; Boris Macek³; ¹Max-Planck-Institute for Developmental Biology, Tübingen, Germany; ²Max-Delbrueck-Center for Molecular Medicine, Berlin, Germany; ³Proteome Center Tübingen, University of Tübingen, Tübingen, Germany; ⁴Department of Molecular Biology, Univ. of Tübingen, Tübingen, Germany
- TP 297 **Interactome of the Nuclear Basket Proteins of the Yeast Nuclear Pore Complex;** Kelly Molloy¹; Mario Niepel⁴; Ileana M. Cristea²; Rosemary Williams¹; Jeremy Luban³; Brian Chait¹; Michael Rout¹; Caterina Strambio De Castillia³; ¹The Rockefeller University, New York, NY; ²Princeton University, Princeton, NJ; ³University of Geneva, Geneva, Switzerland; ⁴Harvard Medical School, Boston, MA
- TP 298 **The Yeast Interactome Under Oxidative Stress;** Qiang Gao; Xiuping Liu; Jiri Adamec; Mira Sedlak; Fred Regnier; Purdue University, West Lafayette, IN
- TP 299 **Proteomic Analysis of the Functional Significance of tRNA Wobble Base Thiolation;** Kshitiz Tyagi³; Alexander Schmidt²; Vanessa Rezgui³; Sebastian Leidel³; Ruedi Aebersold³; Matthias Peter³; Patrick Pedrioli¹; ¹The Scottish Institute for Cell Signalling, Dundee, UK; ²Biozentrum, University of Basel, Basel, Switzerland; ³Institute of Biochemistry, ETH Zurich, Zurich, Switzerland
- TP 300 **Proteomic Analysis of *Mycobacterium vanbaalenii* PYR-1 for the Elucidation of the Biodegradation Network of Polycyclic Aromatic Hydrocarbons;** Ricky D. Holland¹; Oh-Gew Kweon²; Seong-Jae Kim²; Yuan Gao¹; Carl E. Cerniglia²; Li-Rong Yu¹; ¹Center for Proteomics, NCTR/FDA, Jefferson, AR; ²Division of Microbiology, NCTR/FDA, Jefferson, AR
- TP 301 **Proteomic Investigation of Lipid Metabolism in Microalgae;** Tara Schumacher; Kenneth F. Reardon; Colorado State University, Fort Collins, CO
- TP 302 **Proteomic Profiling of Gametophytic Self Incompatibility in *Prunus avium*;** Douglas A Whitten; Michigan State University, East Lansing, MI
- NATURAL PRODUCTS, 303 - 329**
- TP 303 **Monitoring Counterfeit and Imitations of PDE-5 Inhibitors in Herbal Products by LC-MS/MS;** Lai-Chuan Chang¹; Chi-Yang Lee¹; Yu-Chuan Liu²; Kuo-Lung Wang²; Yu-Wen Chao¹; ¹Biotech Total Solutions Co., Ltd., Taipei, Taiwan; ²BioServices Co., Taipei, Taiwan
- TP 304 **Mass Defect Filtering: A New Tool to Expedite the Dereplication and Identification of Natural Products;** Li-Quan Wang; Zheming Gu; XenoBiotic Laboratories, Inc, Plainsboro, NJ
- TP 305 **Structural Determination of Glucosylceramides Isolated from Marine Sponge by Fast Atom Bombardment-Collision Induced Dissociation-Tandem Mass Spectrometry;** Young Min Ahn¹; Won-Woong Lee¹; Jee H. Jung²; Sang-gi Lee³; Jongki Hong¹; ¹College of Pharmacy, Kyung-Hee University, Seoul, South Korea; ²College of Pharmacy, Pusan National University, Pusan, South Korea; ³Department of Chemistry, Ewha Womans University, Seoul, South Korea
- TP 306 **Withdrawn**
- TP 307 **LC-FTICR-MS for Targeted Proteomics: Characterization of Tetrahydroquinoline Natural Product Biosynthetic Proteins of Symbiotic Bacteria from Macroorganismal Assemblies;** Christopher M Rath¹; Fengang Yu¹; Benjamin Janto³; Makato Inai²; Robert Williams²; Garth Ehrlich²; Kristina Hakansson¹; David Sherman¹; ¹University of Michigan, Ann Arbor, MI; ²Colorado State, Fort Collins, CO; ³Drexel University, Pittsburgh, PA
- TP 308 **Sum Formula Calculation and Identification of an Bacterial Metabolite with m/z > 1100;** Wiebke Lohmann; Petra Decker; Aiko Barsch; Bruker Daltonik GmbH, Bremen, Germany
- TP 309 **Identification and Quantification of Phenolic Compounds in Leaves of *Byrsonima crassifolia* by HPLC-HRMS;** Marie-France Hérent¹; Aubert Maquille¹; Jesus Souza²; Hervé Rogez²; Yvan Larondelle¹; Jean-Louis Habib Jiwan¹; ¹Université catholique de Louvain, Brussels, BELGIUM; ²Universidade Federal do Para, Belém, Brazil
- TP 310 **Identification of Medicinal Plants Bioactive Compounds through ESI-MS/MS by Direct Infusion;** Elaine Cristina Cabral¹; Marcos N Eberlin²; Jose M. Riveros³; ¹São Paulo University, São Paulo, Brazil; ²ThoMSon Lab UNICAMP, Campinas, Sp, BRAZIL; ³Instituto De Quimica-USP, Sao Paulo, BRAZIL
- TP 311 **Identification of Natural Compounds from an Antimalarial Plant Candidate Using Centrifugal Partition Chromatography and LCMS-IT-TOF;** Flaubert Mbeunkui¹; Rocky Graziose²; Mary Grace¹; Kelly Chibale³; Peter Smith³; Ilya Raskin²; Mary Ann Lila¹; ¹North Carolina State Univers, Kannapolis, NC;

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- TP 312 ²Rutgers University, New Brunswick, NJ; ³University of Cape Town, Cape Town, South Africa
Identification of Cyclooxygenase-2 inhibitors in Cocoa (Theobroma cacao) Using Ultrafiltration LC-MS; Shunyan Mo¹; Linlin Dong¹; Dejan Nikolic¹; W. Jeffrey Hurst²; Richard B. van Breemen¹; ¹University of Illinois College of Pharmacy, Chicago, IL; ²The Hershey Company, Mt. Gretna, PA
- TP 313 **Characterization of Phytoecdysteroids by Positive and Negative Ion LC-MS/MS after Derivatization with Hydroxylamine Reagents**; Ralph Reed; Jeffrey Morre; Fred Stevens; Oregon State University, Corvallis, OR
- TP 314 **Correlation between Hydrolyzable and Condensed Tannin Composition and the Ability of Tannin Extracts to Inhibit Starch Hydrolysis**; Carina Minardi¹; Lorenzo Reyes¹; Anuradha Prakash¹; Ann Barrett²; Christine Straut³; Amy Howell⁴; Christine A. Hughey¹; ¹Chapman University, Orange, CA; ²US Army Natick Soldier RD&E Center, Natick, MA; ³Battelle Natick, Natick, MA; ⁴Rutgers University, Chatsworth, NJ
- TP 315 **Nano-Electrospray LTQ Orbitrap MS, Using Very High Mass Resolution, for the Determination of the Polyether Marine Phycotoxins, Pectenotoxins**; Zuzana Skrabakova^{1,2}; Bebhine Carey^{1,2}; Frank vanPelt²; John O'Halloran²; Kevin James^{1,2}; ¹PROTEOBIO, Cork Institute of Technology, Cork, Ireland; ²Environmental Research Institute, UCC, Cork, Ireland
- TP 316 **Withdrawn**
- TP 317 **Identification of Cellular Targets of the Natural Product OSW-1 by Quantitative Chemoproteomics**; Jason Murphy¹; David Schwalb¹; Anthony Burgett²; D Ryan Anderson²; Matthew Shair²; Eugenio Petrella¹; John Tallarico¹; Markus Schirle¹; ¹Novartis Institutes for Biomedical Research, Inc., Cambridge, MA; ²Harvard University, Cambridge, MA
- TP 318 **Pharmacokinetics of Epicatechin in Humans After Ingestion of Cocoa Products**; Brian Wright¹; Shunyan Mo¹; Linlin Dong¹; W. Jeffrey Hurst²; Richard B. Van Breemen¹; ¹University of Illinois College of Pharmacy, Chicago, IL; ²The Hershey Company, Mt. Gretna, PA
- TP 319 **Screening for Natural Chemoprevention Agents that Reversibly Alkylate Human Keap1**; Chenqi Hu; Dejan Nikolic; Aimee Egler; Andrew Mesecar; Richard B. Van Breemen; University of Illinois, Chicago, IL
- TP 320 **Simultaneous Quantification of 10 Bioactive Polyphenolic Compounds in Menerba by a High Throughput LC-MS/MS Method**; Xiaochuan Li^{1,3}; Kim B. Plath³; Hong Zhou³; Richard Staub²; Uwe Christians^{1,3}; Isaac Cohen²; Yan Ling Zhang^{1,3}; ¹Univ. of Colorado Health Science, Aurora, CO 80262; ²bioNovo Inc., Emeryville, CA 94608; ³bioNovo, Aurora, CO 80045
- TP 321 **Mass Spectrometric Identification and Characterization of Cytochrome P450D6 Inhibitors from Black Cohosh (Actaea racemosa L.)**; Dejan Nikolic; Jinghu Li; Tanja Goedecke; Shao-Nong Chen; Pauli Guido; Richard B. van Breemen; University of Illinois College of Pharmacy, Chicago, IL
- TP 322 **Anti-Allergic Effects of Tea Catechins Detected in Mast Cell Model RBL-2H3 by LC-MS and Live Single-Cell MS**; Shoko Inoue¹; Iwao Sakane²; Hajime Mizuno¹; Takahiro Harada¹; Naohiro Tsuyama¹; Tsutomu Masujima¹; ¹Hiroshima Univ. BioMed., Hiroshima City, Japan; ²ITO EN, Ltd., Tokyo, Japan
- TP 323 **A Novel Target for Pulsed Ultrafiltration Mass Spectrometry: Vitamin D Receptor**; Sigrid Baumgarten; Jerry White; Richard B. Van Breemen; University of Illinois, Chicago, IL, Chicago, IL
- TP 324 **Molecular localization analysis of Chinese Herbal Drugs Ingredients by Live Single-Cell Mass Spectrometry**; Shushi Kiseki; Naohiro Tsuyama; Hajime Mizuno; Takanori Harada; Tsutomu Masujima; Hiroshima Univ. BioMed., Hiroshima, Japan
- TP 325 **Capturing Transient Biosynthetic Intermediates on the Post-Translationally Modified Polyketide Synthase Responsible for the Biosynthesis of Lovastatin by FT-ICR-MS**; Michael Meehan; Pieter Dorrestein; University of California, San Diego, La Jolla, CA
- TP 326 **Withdrawn**
- TP 327 **Characterisation of Bioactive Compounds from Plant Extracts by LCMS-Ion-Trap TOF Technology**; Sven Vedder¹; Marcus Mreyen¹; Klaus Bollig²; ¹Shimadzu Europe GmbH, Duisburg, Germany; ²Shimadzu Germany GmbH, Duisburg, Germany
- TP 328 **Identification and Characterization of Steroidal Saponins from Paris Polyphylla var. Yunnanensis by UPLC/oa-TOF MSE**; Liping Kang¹; Kate Yu²; Yixun Liu¹; Heshui Yu¹; Yang Zhao¹; Chenqi Xiong¹; Dawi Tan¹; Yue Gao¹; Feng Wang³; John P. Shockcor²; Alan L Millar²; Baiping Ma¹; ¹Beijing Institute of Radiation Medicine, Beijing, China; ²Waters Corporation, Milford, MA; ³Waters China Ltd, Shanghai, China
- TP 329 **Profiling the Chemical Differences of Green Tea leaves and Green Tea Dietary Supplements by LC/MS Fingerprint and Principle Component Analysis**; Jianghao Sun; Pei Chen; Longze Lin; James Harnly; FCMDL, BHNRC, USDA-ARS, Beltsville, MD

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- TP 330 **Proteomic Toxicity Profiling in Human Cells Using Micro-High Performance Liquid Chromatography and Linear Ion Trap - Orbitrap Mass Spectrometry**; Silke Ruzek¹; Paul Jennings²; Christian G. Huber¹; ¹University of Salzburg, Salzburg, Austria; ²Innsbruck Medical University, Innsbruck, Austria
- TP 331 **Evaluation of Hydrazine Toxicity in Hepatoma Cells, HepG2, by LC-MS and the Live Single-Cell MS**; Akinori Hosokawa¹; Naohiro Tsuyama¹; Kazuki Mikata²; Hajime Mizuno¹; Takanori Harada¹; Tsutomu Masujima¹; ¹Hiroshima Univ. BioMed., Hiroshima, Japan; ²Sumitomo Chemical Co.,Ltd., Oosaka, Japan
- TP 332 **A Proteomics Method to Detect Acrolein Adduction: Effects on Redox Proteins in vitro**; Page Spiess; Bin Deng; Robert Hondal; Dwight Matthews; Albert van der Vliet; University of Vermont, Burlington, VT
- TP 333 **The Effects of Silver Nanoparticles on Zebrafish Embryos: A Proteomics View**; Ksenia J. Groh; Rik I.L. Eggen; Renata Behra; Marc J.-F. Suter; Eawag, Duebendorf, Switzerland
- TP 334 **Proteomics Analysis of Herbicide Exposure Effects in Chlamydomonas reinhardtii**; Holger Nestler; René Schoenenberger; Marc J.-F. Suter; Eawag, Duebendorf, Switzerland
- TP 335 **Analysis of Drug Facilitated Sexual Assault (DFSA) Drugs in Case Samples by Gas Chromatography-Time of Flight Mass Spectrometry (GC-TOFMS)**; Joe Binkley; John R. Heim; LECO Corporation, St. Joseph, MI
- TP 336 **GC-MS/MS Support for Contact Hazard Studies of VX in New Zealand White Rabbits**; Jeffrey M.

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- Mcguire; Jeffrey S. Forster; Sharon A. Reutter-Christy; E. Michael Jakubowski, Jr.; *US Army ECBC, Aberdeen Proving Ground, MD*
- TP 337 **Inhibition of Arachidonic Acid (AA) Metabolism by Glucocorticoids in Equine Plasma; Dipti Mangal¹**; Cornelius Uboh^{1,2}; Lawrence R Soma¹; ¹*University of Pennsylvania, Kennett Square, PA*; ²*PA Equine Toxicology and Research Center, West Chester, PA*
- TP 338 **Mass Spectral Studies of Quinones from Flavonoids Reveals Their Structure-Related Stability, DNA Depurination Ability and Potential Toxicological and Health Effects; Tingting Tu**; Daryl Giblin; Jeff Lung-Fa Kao; Michael L. Gross; *Washington University, Saint Louis, MO*
- TP 339 **Identification of More Reactive Nitrated Products Generated from the *Pseudomonas aeruginosa* Cytotoxin Pyocyanin by Airway Peroxidases; Larry Sallans**; Krzysztof J. Reszka; Bradley E. Britigan; Stephen F. Macha; *University of Cincinnati, Cincinnati, OH*
- TP 340 **A Simple Method for Screening and Quantitating Mitragynine in Urine with a Linear Ion Trap-Orbitrap and Triple Quadrupole Mass Spectrometer; Eshwar Jagerdeo**; Madeline Montgomery; Marc LeBeau; *FBI, Springfield, VA*
- TP 341 **A Screening and Simultaneous Quantitation of Anti-doping Drugs Using Positive/Negative Switching Workflow on a Hybrid Quadrupole Linear Ion Trap System; Renee Huang¹, David Fu², Sarah Zhao², Hua-Fen Liu¹**; ¹*AB SCIEX, Foster City, CA*; ²*Cantest Ltd. Canada Way, Burnaby, BC*
- TP 342 **Associations between 8-oxo-7, 8-Dihydro-2'-Deoxyguanosine (8-oxo-dG) and Some Pesticide Metabolites in Urine Analyzed by LC/MS/MS; Christian Lindh¹**; Berna van Wendel de Joode²; Karin Broberg¹; Margareta Littorin¹; Bo Jönsson¹; ¹*Occupational and Environmental Medicine, Lund University, Sweden*; ²*Instituto Reg. de Estudios en Sustancias Tóxicas, Universidad Nacional, Heredia, Costa Rica*
- TP 343 **The use of F-SPE/ Fast LC-MSMS for Analyzing Low Levels of THC in Oral Swabs; Michael Telepchak¹**; Jeffery Hackett¹; Albert Elian²; ¹*UCT, LLC, Bristol, PA*; ²*Massachusetts State Police Crime Laboratory, Sudbury, MA*
- TP 344 **Structural Analysis of Trace Level Genotoxic Impurities in Drug Substances Using LC/MS/MS and High Resolution LC/MS Analysis; Li-Kang Zhang**; Birendra Pramanik; *Merck Research Laboratories, Kenilworth, NJ*
- CLINICAL CHEMISTRY II, 345 - 366**
- TP 345 **High Speed UHPLC-MS/MS Analyses of 13 Pain Management and 11 SAMSHA Drugs in Human Urine; A. Carl Sanchez**; Monika Kansal; Michael Campognone; *Phenomenex, Torrance, CA*
- TP 346 **Optimizing Speed and Quality in Acute Clinical Toxicology Unknown Screening Using a Push-Button LC-MSMS Approach; Christoph Gebhardt¹**; Birgit Schneider¹; Petra Decker¹; Sebastian Goetz¹; Jens Vagts¹; Carsten Baessmann¹; Pierre-Alain Binz^{2,4}; Nicolas Budin²; Yann Mauron⁴; Roman Mylonas⁴; Alexandre Masselot²; Veronique Viette^{3,5}; Marc Fathi⁵; Denis Hochstrasser^{5,6}; ¹*Bruker Daltonik GmbH, Bremen, Germany*; ²*Geneva Bioinformatics (GeneBio), Geneva, Switzerland*; ³*ADMed Fondation, La Chaux-de-Fonds, Switzerland*; ⁴*Swiss Institute of Bioinformatics, Geneva, Switzerland*; ⁵*Department of Genetics and Laboratory Medicine, Geneva, Switzerland*; ⁶*School of Pharmaceutical Sciences, University of G, Geneva, Switzerland*
- TP 347 **LC-MSMS Library Search Approach for Toxicological Screening: Comparison of the Use of Two Different MS Instruments for Routine Analyses; Pierre-Alain Binz^{1,2}**; Marc Fathi^{3,4}; Véronique Viette⁵; Severine Hughes³; Abderrahim Karmime³; Denis F Hochstrasser^{3,4}; Roman Mylonas^{1,2}; Yann Mauron^{1,2}; Alexandre Masselot¹; Nicolas Budin¹; ¹*Geneva Bioinformatics (GeneBio), Geneva, Switzerland*; ²*Swiss Institute of Bioinformatics, Geneva, Switzerland*; ³*Geneva University Hospital, Geneva, Switzerland*; ⁴*Swiss Center for Human Applied Toxicology, Geneva, Switzerland*; ⁵*ADMed Foundation, La Chaux-de-Fonds, Switzerland*
- TP 348 **Quantitative Determination of Clozapine and N-desmethylclozapine in Serum by a High Performance Liquid Chromatography 3D Ion Trap Mass; Rodolfo Bongiovanni¹, John Wright²**; George Jaskiw¹; ¹*Louis Stokes Dept. of Veterans Affairs Med. Center, Brecksville, OH*; ²*Varian Inc., Wood Dale, IL*
- TP 349 **Method Development for the Determination of Lamotrigine, Topiramate, Phenytoin, and Phenobarbital in Human Serum Using Isotope-Dilution Liquid Chromatography-Mass Spectrometry; Susan Tai¹**; Jocelyn Prendergast¹; Karen Phhinney¹; Chia-Yi Yeh²; ¹*NIST, Gaithersburg, MD*; ²*TRI, Hsinchu, Taiwan, R.O.C.*
- TP 350 **Direct Measurement of Tetrahydrobiopterin, Dihydrobiopterin and Biopterin in Human Plasma and Breast Milk by Liquid Chromatography-Tandem Mass Spectrometry (LC-MS/MS); Huiyu Zhou¹**; Oriane Scholler¹; Fumin Li²; Ying-He Li²; Erik Foehr¹; ¹*BioMarin Pharmaceutical Inc., Novato, CA*; ²*Covance Inc., Madison, WI*
- TP 351 **Detection of Smoking and Nutrient Factor in Human Saliva and Plasma by Directory Trapped Nano-Mass Spectrometry; Kanako Honda¹**; Hajime Mizuno¹; Iwao Sakane²; Takanori Harada¹; Naohiro Tsuyama¹; Tsutomu Masujima¹; ¹*Hiroshima Univ. BioMed., Hiroshima, Japan*; ²*ITO EN, Ltd., Tokyo, Japan*
- TP 352 **Pico-Drop Direct Mass Spectrometry of Sweat from a Single Sweat Gland on a Finger; Harue Hiramoto¹**; Kanako Honda¹; Naohiro Tsuyama¹; Hajime Mizuno¹; Iwao Sakane²; Takanori Harada¹; Tsutomu Masujima¹; ¹*Hiroshima Univ. BioMed., Hiroshima, Japan*; ²*ITO EN, Ltd., Tokyo, Japan*
- TP 353 **Species Analysis of Platinum Based Cytostatic Drugs and their Reaction Products; Christine Brauckmann**; Björn Meermann; Uwe Karst; *University of Münster, Münster, Germany*
- TP 354 **HILIC/ICP-MS and CE/ESI-TOF-MS for Analysis of Gd-Based MRI Contrast Agents and Potential Transmetalation Products; Lena Telgmann¹**; Jens Kuennemeyer¹; Faruk Tokmak²; Uwe Karst¹; ¹*University of Münster, Muenster, Germany*; ²*University of Bochum, Bochum, Germany*
- TP 355 **Development of "Mail-In" Low-Cost High-Throughput Diabetes Assay from Dried Blood Spots; Evgeniy V. Petrotchenko; Christoph H. Borchers**; *UVic-GBC Proteomics Centre, Victoria, Canada*
- TP 356 **Development of Low-Cost High-Throughput Screening Method for Hemoglobin Variants; Evgeniy V. Petrotchenko; Leanne B. Ohlund**; Christoph H.

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	METABOLOMICS II, 367 - 396
	Borchers; <i>UVic-GBC Proteomics Centre, Victoria, Canada</i>
TP 357	Development and Validation of a Urinary Leukotriene E4 Assay to Support Osteo-Arthritis (OA) Clinical Studies; <u>Joe Palandra</u> ; Kimberly Wade; <i>Pfizer, Chesterfield, MO</i>
TP 358	New Marker Exploration of Neoplastic Neoplasma by LC-MS; <u>Yukina Hirai</u> ¹ ; Naohiro Tsuyama ¹ ; Hajime Mizuno ¹ ; Eiso Hiyama ² ; Tsutomu Masujima ¹ ; ¹ <i>Hiroshima Univ. BioMed., Hiroshima, Japan</i> ; ² <i>Hiroshima Univ., N-BARD, Hiroshima, Japan</i>
TP 359	Validation of a Gas Chromatography-Isotope Dilution Mass Spectrometry Reference Measurement Procedure for Serum Cholesterol Measurement; <u>Selvin H. Edwards</u> ¹ ; Susan D. Pyatt ¹ ; Shelton L. Stribling ² ; Kara D. Dobbin ² ; Mary K. Kimberly ¹ ; Gary L. Myers ¹ ; ¹ <i>Centers for Disease Contr, Atlanta, GA</i> ; ² <i>Battelle Memorial Institute, Atlanta, GA</i>
TP 360	Detection of Impaired Lung Function/ Infection in Critical Care and Respiratory Medicine Using Gas Chromatography Time-Of-Flight Mass Spectrometry (GC-TOF); <u>Maria Basanta Sanchez</u> ¹ ; Baharudin Ibrahim ¹ ; Paul Dark ¹ ; Dave Singh ¹ ; Ashley Woodcock ¹ ; David S Douce ² ; Mike Morris ² ; Stephen Fowler ¹ ; ¹ <i>The University of Manchester, Manchester, UK</i> ; ² <i>Waters (MS Technologies), Manchester, UK</i>
TP 361	Metabolic Peptide Biomarkers: From Blood Collection to Assay Development; <u>Jizu Yi</u> ; Zhaoxia Liu; Priyanka Apte; David Warunek; David Craft; <i>BD Diagnostics, Franklin Lakes, NJ</i>
TP 362	Proteomic Profiling of Individual Sera for Discovery of Potential Biomarkers of Alcohol Abuse; <u>Xianyin Lai</u> ¹ ; Suthat Liangpunsakul ¹ ; David W. Crabb ¹ ; James W. Clack ² ; Frank A. Witzmann ¹ ; ¹ <i>Indiana University School of Medicine, Indianapolis, IN</i> ; ² <i>Indiana University - Purdue University at Indianap, Columbus, IN</i>
TP 363	Glycosylation Profiling of Total Plasma IgG and anti-Jo-1 Autoantibody in Patients with Myositis; <u>Irina Perdivara</u> ¹ ; Frederick Miller ² ; Shyamal Peddada ³ ; Kenneth B. Tomer ¹ ; Leesa Deterding ¹ ; ¹ <i>NIEHS, Rtp.</i> ; ² <i>NIEHS/NIH/DIR, Bethesda, MD</i> ; ³ <i>NIEHS/DIR/EDMP/BB, RTP, North Carolina</i>
TP 364	Validation and Clinical Application of High-throughput MALDI-TOF Assay for Hepcidin in Human Plasma; <u>Damon Anderson</u> ^{1,4} ; Mark Kellogg ^{2,4} ; Matthew Heeney ^{3,4} ; Dean Campagna ³ ; Mark Fleming ^{3,4} ; Hanno Steen ^{1,4} ; ¹ <i>Proteomics Center, Children's Hospital, Boston, MA</i> ; ² <i>Dept. of Laboratory Medicine, Children's Hospital, Boston, Ma</i> ; ³ <i>Dept. of Pathology, Children's Hospital, Boston, MA</i> ; ⁴ <i>Dept. of Pathology, Harvard Medical School, Boston, MA</i>
TP 365	Improved Identification of Multicellular Fungi Using Liquid Culturing and MALDI-TOF Mass Spectrometry Profiling; Thomas Maier ² ; Viktoria Boettcher ² ; <u>Sam Fu</u> ¹ ; Markus Kostrzewa ² ; ¹ <i>Bruker Daltonics, Billerica, MA</i> ; ² <i>Bruker Daltonik GmbH, Bremen, Germany</i>
TP 366	Two Years Experience with MALDI-TOF Mass Spectrometry in a Routine Microbiology Laboratory; Christiane Bogen ² ; <u>Jens Hoehndorf</u> ¹ ; Markus Kostrzewa ¹ ; Ulrich Weller ² ; ¹ <i>Bruker Daltonics, Bremen, Germany</i> ; ² <i>Labor Boogen, Cologne, Germany</i>
TP 367	Predictive Metabolism Based Model of Cardiomyopathy Using Human Embryonic Stem Cell Derived Cardiac Precursors; <u>Alan Smith</u> ¹ ; Paul R. West ¹ ; April Weir ¹ ; Gabriela Cezar ^{1,2} ; ¹ <i>Stemina Biomarker Discovery, Madison, WI</i> ; ² <i>University of Wisconsin, Madison, Wisconsin</i>
TP 368	Metabolic Heterogeneity in Populations of Microalgae; <u>Andrea Amantonico</u> ; Pawel Lukasz Urban; Stephan Fagerer; Roman M. Balabin; Renato Zenobi; <i>ETH Zurich, Zürich, Switzerland</i>
TP 369	A Metabolic Atlas of <i>Medicago truncatula</i> Root Tissues; <u>Mohamed Bedair</u> ; Bonnie Watson; Lloyd W. Sumner; <i>Samuel Roberts Noble Foundation, Ardmore, OK</i>
TP 370	Global Metabolome Profiling in Prostate Cancer; <u>Corey Broeckling</u> ¹ ; Matthew R. Lewis ¹ ; Fredrik Wiklund ² ; Jonathan Prince ² ; Robert Szulkin ² ; Jessica Prenni ¹ ; ¹ <i>Colorado State University, Fort Collins, CO</i> ; ² <i>Karolinska Institutet, Stockholm, Sweden</i>
TP 371	Dynamic Correlation of Metabolite Concentrations with Time Reveals Functionality in Cellular Processes; <u>Ewa Kalisiak</u> ¹ ; Ralf Tautenhahn ¹ ; Sunia Trauger ¹ ; Linh Hoang ¹ ; Steven Yannone ⁴ ; Michael Adams ² ; Nitin Baliga ³ ; Gary Siuzdak ¹ ; ¹ <i>The Scripps Research Institute, La Jolla, CA</i> ; ² <i>University of Georgia, Athens, GA</i> ; ³ <i>Institute for Systems Biology, Seattle, WA</i> ; ⁴ <i>Lawrence Berkeley National Laboratory, Berkeley, CA</i>
TP 372	Development and Evaluation of an Accurate Mass LC/MS/MS Spectral Library for Metabolomics; <u>Cindy Lai</u> ; Theodore Sana; Stefan Jenkins; Steven M. Fischer; <i>Agilent Technologies, Santa Clara, CA</i>
TP 373	An LC-ESI-MS/MS Targeted Metabolomics Approach to Determine the Effects of Xanthohumol in HepG2 Cells; <u>Jay Kirkwood</u> ^{1,2} ; Ralph Reed ^{1,2} ; Jeff Morre ^{1,2} ; Fred Stevens ^{1,2} ; ¹ <i>Corvallis, OR</i> ; ² <i>Oregon State University, Corvallis, Oregon</i>
TP 374	Finding Potential Biomarkers of Multiple Sclerosis by a Label-Free LC-MS Approach; <u>Vera Mendes</u> ¹ ; Ana Lourenço ² ; Bruno Manadas ¹ ; Inês Baldeiras ¹ ; Sónia Batista ³ ; Mário Grãos ² ; Livia Sousa ³ ; Maria do Carmo Macário ³ ; Catarina Oliveira ¹ ; Alverto Pais ⁴ ; Carlos Duarte ^{1,2} ; ¹ <i>Centre for Neuroscience and Cell Biology, Coimbra, Portugal</i> ; ² <i>Biocant, Biotechnology Innovation Centre, Cantanhede, Portugal</i> ; ³ <i>Neurology Service, Coimbra University Hospital, Coimbra, Portugal</i> ; ⁴ <i>Department of Chemistry, University of Coimbra, Coimbra, Portugal</i>
TP 375	A Paired LC-MS Metabolomics Investigation of Plasma from Patients on Warfarin Finds Changes in Endogenous Lipid Metabolites; <u>Sunia Trauger</u> ; Huimin Zhang; Hiroshi Deguchi; Ralf Tautenhahn; Darlene Elias; John Griffin; Gary Siuzdak; <i>The Scripps Research Institute, La Jolla, CA</i>
TP 376	Evaluating the Ethanol Tolerance of Cellulose-Digesting Microbes Using UPLC/MS; <u>Joshua Emory</u> ; Bruce Tomkins; Nancy Engle; Timothy J. Tschaplinski; Gary J. Van Berkel; <i>Oak Ridge National Laboratory, Oak Ridge, TN</i>
TP 377	MALDI-Analysis of Phospho-Sugars Using Ionic Liquid Matrices; <u>Masoud Zabet Moghaddam</u> ; Susan San-Francisco; <i>Texas Tech University, Box 43132 Lubbock, TX</i>
TP 378	Determination of Human Plasma Phospholipid Signatures of Metabolic Syndrome by Mass Spectrometry-Based Metabolomics; <u>Rachel</u>

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- TP 379 **Non-targeted GC/MS Metabolomics Using a Large Volume Inlet, Mid-Column Backflushing, and a Retention Time Locked Spectral Library;** Stephan Baumann¹; Harry Prest¹; Steven M. Fischer¹; Michael Muehlbauer²; James Bain²; ¹Agilent Technologies, Inc., Santa Clara, CA; ²Sarah W. Stedman Nutrition & Metabolism Center, Durham, NC
- TP 380 **Tracing Metabolic Processes in a Single Organelle of a Mast Cell Model by the Live Single-Cell Mass Spectrometry;** Hajime Mizuno; Naohiro Tsuyama; Takanori Harada; Tsutomu Masujima; *Hiroshima Univ. BioMed., Hiroshima, Japan*
- TP 381 **Study of the Metabolite Flux during the Plant Stress Using Temporal and Distal Metabolomics Approach;** Ying Lan Chen^{1,2}; Yit-Wai Mak¹; Yet-Ran Chen¹; ¹Agricultural Biotechnology Research Center, Academ, Taipei.; ²National Taiwan University, Taipei, Taiwan
- TP 382 **Optimization of Analysis Conditions to Perform a Valuable High-Throughput Metabolomic MS-Fingerprinting Using High Resolution Mass Spectrometer;** Estelle Rathahao-Paris¹; Nawel Boussaid¹; Ludovic Muller²; Christophe Junot³; Nicole Hagen-Picard⁴; Véronique Gayraud⁴; Pierre-Louis Toutain⁴; Jean-Claude Tabet²; Douglas Rutledge¹; Alain Paris⁵; ¹INRA, GENIAL, Paris, France; ²UPMC, CNRS-UMR, LCSOB, Paris, France; ³CEA/Saclay, LEMM, Gif-sur-Yvette, France; ⁴INRA - ENV Toulouse, Toulouse, France; ⁵INRA, Met@rist, Paris, France
- TP 383 **The Use of an Integrated MicroFluidic LC Device and OA-TOF MS for Metabolomics Studies;** Ian Wilson¹; Rob Plumb²; ¹Astra Zeneca DMPK, Maccelsfield, Manchester, UK; ²Imperial College, London, UK
- TP 384 **Rapid Metabolomic Profiling of Biological Fluids Using Atmospheric Sample Analysis Probe for Disease State Monitoring;** Rob Plumb¹; Ian Wilson²; Marian Twohig³; John P. Shockcor⁴; ¹Imperial College, London, UK; ²Astra Zeneca, Maccelsfield, UK; ³Waters Corporation, Milford, MA; ⁴Waters Corp, Milford, MA
- TP 385 **Quantification of Biomarkers in Discovery: Probing PK/PD Effect Using Multi-Component Analysis and High Resolution Mass Spectrometry;** Asoka Ranasinghe; Celia D'Arienzo; Hongwei Zhang; Qian Ruan; Li Ma; Mingshe Zhu; Timothy Olah; *Bristol-Myers Squibb Company, Princeton, NJ*
- TP 386 **Metabolomic Profiling of Teas Using HPLC-QTOFMS Coupled with Statistical Tools;** Ying Ms. Wang; *Agilent Technologies (China), Shanghai,*
- TP 387 **Feasibility of Ovarian Cancer Detection by Direct Analysis in Real Time Mass Spectrometry Coupled to Functional Support Vector Machine Classification;** Manshui Zhou¹; Wei Guan¹; L. DeEtte Walker¹; Roman Mezencev¹; Benedict B. Benigno²; Alexander Gray¹; John F. McDonald¹; Facundo M. Fernandez¹; ¹Georgia Institute of Technology, Atlanta, GA; ²Ovarian Cancer Institute, Atlanta, GA
- TP 388 **A Combined Approach of Imaging Mass Spectrometry (IMS) and Capillary Electrophoresis Mass Spectrometry (CE-MS) Accomplishes Region-Specific Metabolomics during Epileptic Seizure;** Yuki Sugiura¹; Mitsutoshi Setou²; ¹Tokyo Tech, Yokohama, Japan; ²Hamamatsu school of medicine, Hamamatsu, Shizuoka, Japan
- TP 389 **Withdrawn**
- TP 390 **Global Metabolic Profiling of E. coli Cell-Free Translation System;** Sunil Bajad; Evan Green; Christine Roos; James Zawada; Henry Heinsohn; Sushmita Mimi Roy; *Sutro Biopharma Inc, South San Francisco, CA*
- TP 391 **Metabolic Biomarkers Discovery Project for the Development of Improved Fanleaf Virus Resistant Chardonnay Rootstock;** Vladimir Tolstikov¹; Cecilia Agüero²; Chin-Feng Hwang²; Andrew Walker²; ¹UC Davis Genome Center, Davis, CA; ²UC Davis, Davis, CA
- TP 392 **Cellular Characterization of Protein Prenylation via Mass Spectrometric Tools;** Jiao Song¹; Andrew Placzek²; Marietta Harrison Harrison¹; Richard Gibbs¹; ¹MCMP Purdue University, W Lafayette, IN; ²Oregon Health and Science University, Portland, OR
- TP 393 **Characterizing Small Molecules Bound to Plasma Proteins from Patients with Huntington Disease (HD) Using Liquid Chromatography/Electrochemical Array (LCECA) and LCMSⁿ;** Erika N. Ebbel¹; Swati Sharma²; Wayne R. Matson²; Catherine E. Costello¹; ¹Boston University School of Medicine, Boston, MA; ²Bedford VA Medical Center, Bedford, MA
- TP 394 **Differentiation between Malign/Benign Conditions and Tumor Classification through LC- MS Based Metabolomics Analysis of Clinical Plasma Samples;** Anders Nordstrom¹; Hasanuzzaman Bhuiyan¹; Luigi de-Petris¹; Anna Lindahl¹; Hirsh Koyi²; Eva Branden²; Janne Lehtio¹; Rolf Lewensohn¹; ¹Karolinska Institutet, Stockholm, Sweden; ²Karolinska University Hospital, Stockholm, Sweden
- TP 395 **Hydrophilic Interaction Chromatography (HILIC) Coupled to ESI-MS for Metabolic Profiling of Drug Sensitive/Resistant Cancer Cell Lines;** Hasanuzzaman Bhuiyan; Anna Lindahl; Anders Nordstrom; *Karolinska Institute, Stockholm, Sweden*
- TP 396 **A Novel HILIC LC-MS Method for the Detection and Quantification of Polar Cellular Metabolites;** Henry Y. Shion²; John P. Shockcor²; Kenneth J Fountain²; Evan Bernier¹; Stephen McDonald¹; Alan L Millar²; ¹Waters Corporation, Beverly, MA; ²Waters Corp., Milford, MA

SMALL MOLECULE QUANTITATION II, 397 - 427

- TP 397 **The Use of LC-MS/MS to Support Percutaneous Absorption Studies;** Aleyamma Abraham; Yangzhen Ciringh; Martin Snyder; *Pfizer, Groton, CT*
- TP 398 **An Improved Quantitative Method for Analyses of Eicosanoids and Endocannabinoids in Mouse Colon Tissue by Electrospray Tandem Mass Spectrometry;** Mitsumasa Sakamoto; David G. Menter; Raymond N. DuBois; Peiyang Yang; *University of Texas MD Anderson Cancer Center, Houston, Texas*
- TP 399 **LC-MS-MS Determination of Zapotin from Casimiroa edulis in Rat Serum and Tissues;** Jinghu Li¹; Mark Cushman²; John M. Pezzuto³; Richard B. van Breemen¹; ¹University of Illinois College of Pharmacy, Chicago, IL; ²Purdue University, West Lafayette, IN; ³University of Hawaii at Hilo, Hilo, HI
- TP 400 **Quantitative Nano-ESI-QTOF-MS-MS for the Analysis of alpha-Galactosidase A Activity in Rat Brain Tissue;** Timothy Fahrenholz¹; Michael Passineau²; Hm Skip Kingston¹; ¹Duquesne University, Pittsburgh, PA; ²Allegheny General Hospital, Pittsburgh, PA

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- TP 401 **Prediction of *in vivo* Uptake of N-Methylseorotonin Using *in vitro* Cell Assays;** Soyoun Ahn; Richard B. Van Breemen; *University of Illinois, Chicago, IL*
- TP 402 **Validation of an LC/MS/MS Method for the Determination of Ibuprofen in Miniature Swine Synovial Fluid;** Lawrence Andrade; Adam Grenier; Amber Awad; Teresa Pekol; *Synomics Pharma, Wareham, MA*
- TP 403 **LC/MS/MS Method Development of Clonidine Quantitation in Pig Tissue Samples;** Rachel Sun; Jason Plassard; *BASi, West Lafayette, IN*
- TP 404 **Determination of Assymmetric Dimethylarginine in Human Plasma by HPLC-MS/MS: Application to a Hemodialysis Study;** Melissa D. Carter; M. Wade Calcutt; Annis Marney; Nancy J. Brown; David L. Hachey; *Vanderbilt University, Nashville, TN*
- TP 405 **Development of an LC-MS Method for the Quantitation of Cigarette Smoke Components in Cell Culture Medium;** Angela Y Wehr¹; Kenneth Yu²; Ian A. Blair³; ¹*Univ. of Pennsylvania, Philadelphia, PA*; ²*University of Pennsylvania, Philadelphia, PA*; ³*Univ. of Penn/SOM/Pharmacol, Philadelphia, PA*
- TP 406 **A New Liquid Chromatography/Mass Spectrometry Method for 4-(methylnitrosamino)-1-(3-pyridyl)-1-butanol (NNAL) in Urine;** Showket H. Bhat¹; Stacy Gelhaus¹; Clementina Mesaros¹; Anil Vachani²; Ian A. Blair¹; ¹*Univ. of Penn/SOM/Pharmacol, Philadelphia, PA*; ²*University of Pennsylvania, Penn Lung Center, Philadelphia, PA*
- TP 407 **Quantitative Analysis of a Structure-symmetric Molecule, Chlorhexidine in Rat Plasma by Using Doubly Charged Ions with LC-Tandem Mass Spectrometric Detection;** Jiongwei Pan¹; Susan C. Netsch¹; Sara Fair¹; Mark A. Nestch¹; Yu-Luan Chen²; ¹*Charles River, Shrewsbury, MA*; ²*Sepracor Inc., Marlborough, MA*
- TP 408 **Sensitive and Selective LC/MS/MS Method for Determination of Endogenous Cholestan-3 β ,5 α ,6 β -triol in Human Plasma after Derivatization with N,N-Dimethylglycine;** Xuntian Jiang; Hideji Fujiwara; Rohini Sidhu; Dave Scherrer; Jean Schaffer; Daniel Ory; *Washington University in St. Louis, St. Louis, MO*
- TP 409 **A Novel High Throughput LC/MS/MS Method for Analysis of Isobaric Adenosine-5'-Triphosphate (ATP) and Deoxyguanosine Triphosphate (dGTP) Using QTRAP5500;** Ling Xu; Matthew Jones; David Lok; David Matheka; Nina Molchanova; Chris Blackburn; *Millennium Pharmaceutical Inc., Cambridge, MA*
- TP 410 **Chromatographic Separation of Endogenous Level of Hypoxanthine for the Analysis of Allopurinol and Oxypurinol in Human Plasma in Gout Patients;** Valérie Montminy; Nadine Lafontaine; Nathalie Pelletier; Sylvain Lachance; Ann Lévesque; Robert Massé; *Anapharm Inc., Québec, Canada*
- TP 411 **Quantitative Determination of Dansylated Amino Acid in Food Beverage by Tandem Mass Spectrometry and Isotope Dilution Method;** Fabio Mazzotti; Hicham Benabdelkamel; Leonardo Di Donna; Anna Napoli; Giovanni Sindona; *Università della Calabria, Dipartimento di Chimica, Arcavacata Di Rende, Italy*
- TP 412 **Development and Application of UHPLC-MS/MS Method for the Determination of Phenolic Compounds in Chamomile Flowers and Chamomile Tea;** Lucie Nováková¹; Anna Vildová²; Joana Patricia Mateus³; Tiago Goncalves⁴; Petr Solich¹; ¹*Charles University, Faculty of Pharmacy, Hradec Králové, Czech Republic*; ²*Czech University of Life Science Prague, Prague, Czech Republic*; ³*Egas Moniz, Lisbon, Portugal*; ⁴*University of Porto, Faculty of Pharmacy, Porto, Portugal*
- TP 413 **Rapid Quantification of Plant Hormones in Various Plant Tissues by UPLC/MS/MS;** Xiumei Han; Vera Cekic; Monika Lafond; Stacey Owen; Steve Ambrose; L.Irina Zaharia; Suzanne Abrams; *NRC-Plant Biotechnology Institute, Saskatoon, Canada*
- TP 414 **Simultaneous Determination of Twelve Water-Soluble Vitamin Compounds in Fortified Infant Formula by UPLC-ESI-MS/MS;** Evelyn Goh¹; Eleanor Riches²; Mark Ritchie¹; ¹*Waters Pacific Pte Ltd, Singapore, SINGAPORE*; ²*Waters Corporation, Manchester, UK*
- TP 415 **Improving Quantitative Analysis of Water-Soluble Vitamins in Cell Culture Media by a LC-MS (MRM) Method;** Catalin Doneanu; Elizabeth L Gildea; Weibin Chen; Jeff Mazzeo; *Waters Corporation, Milford, MA*
- TP 416 **LC-MS/MS Method for the Determination of Endogenous Desmosine/Iso-desmosine in Human Plasma;** Anders Blomgren¹; Henrik Lindberg²; Claes Lindberg²; ¹*AstraZeneca R&D Lund, Discovery DMPK&BA, Lund, Sweden*; ²*AstraZeneca R&D Lund, Translational Science, Lund, Sweden*
- TP 417 **Quantification of Cellular Glycosphingolipids by Metabolic Labeling with Isotope-Labeled Serine Plus Serine Inhibitor;** Huan He¹; Mark R. Emmett¹; Yongjie Ji²; Waldemar Priebe²; Charles A. Conrad²; Timothy L. Madden²; Alan G. Marshall¹; ¹*Nat'l High Magnetic Field Lab, Tallahassee, FL*; ²*M.D. Anderson Cancer Center, Houston, TX*
- TP 418 **Quantitative Analysis of Lysophosphatidylcholine in Human Bronchoalveolar Lavage Fluid;** Yang Yuan¹; Hazel Lum^{2,2}; Mark A. Yoder²; Richard B. Van Breemen¹; ¹*University of Illinois, Chicago, IL*; ²*Rush University, Chicago, IL*
- TP 419 **Determination of Ethinyl Estradiol in Human Plasma by Dansyl Chloride Derivatization followed by Automated On-Line SPE combined with LC MS/MS;** David Lewiston; Bruce Babson; Gil Lam; David Beyerlein; *MicroConstants Inc., San Diego, CA*
- TP 420 **Simultaneous Determination of Progesterone, Allopregnanolone and Medroxyprogesterone Acetate in Rat Serum by Liquid Chromatography/Tandem Mass Spectrometry;** Xiaoqian Liu¹; Petr Frycak^{1,2}; Heather A. Bimonte-Nelson³; Laszlo Prokai¹; ¹*University of North Texas Health Science Center, Fort Worth, TX*; ²*Palacky University, Olomouc, Czech Republic*; ³*Arizona State University, Tempe, AZ*
- TP 421 **Modified SPME Sampling Method for Fatty Acid Analysis by Spray Desorption Collection and GC-MS;** Afrand Kamali Sarvestani; Jesse Thompson; John Miller; Andre Venter; *Western Michigan University, Kalamazoo, MI*
- TP 422 **Analysis of Acitretin in Plasma Using MS³-Based Quantification;** Leandro Santos¹; Loren Olson²; Hansen Wong¹; Rolf Kern²; Xue Ge¹; ¹*Stiefel, a GSK company, Palo Alto, CA*; ²*ABSCIEX, Foster City, CA*
- TP 423 **Ultra-Low Detection Limits of Estrogenic Compounds and their Metabolites via Gas Chromatography-Tandem Mass Spectrometry;** Anthony Macherone²; René Bérubé¹; Melissa Churley²; Chantal Guillemette¹; ¹*Bioanalytical Services CHUQ*

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- Research Center, Quebec, Canada; ²Agilent Technologies, Wilmington, DE
- TP 424 **Enhancing the Sensitivity of Microflow LC/MS Discovery PK Assays Using Thermal Gradient Focusing ESI with Active Nebulizer Cooling**; Craig Love; *Agilent Technologies, Inc, Santa Clara, CA*
- TP 425 **Using Scan-free MS3 for Quantitation of Ions with a Linear Ion Trap**; J. Larry Campbell; Bruce Collings; J.C. Yves Leblanc; James Hager; Chris Lock; *AB SCIEX, Concord, Canada*
- TP 426 **Simultaneous Determination of AU922 and its Glucuronide Metabolite in Human Blood by LC-MS/MS**; Wei Zhou; Shaoyong Li; Harold T Smith; Francis Tse; *Novartis Institutes for Biomedical Research, East Hanover, NJ*
- TP 427 **Application of Dried Spot Sampling Technique in Cerebrospinal Fluid Sample Analysis**; Brian Rago; Lisa Buchholz; Christopher Holliman; Beijing Tan; JianHua Liu; *Pfizer, Groton, CT*
- NANO LCMS, 428 - 453**
- TP 428 **Using Electrical Current to Monitor Nanospray During an LC Gradient for Robust and Reproducible High Throughput Nano-Liquid Chromatography**; Katherine Heaton¹; Lee Heineman¹; Arthur Fogiel¹; Arthur Fogiel, Jr¹; Sau Lan Tang Staats²; ¹Phoenix S&T, Chester, PA; ²Phoenix S & T, Inc, Chester, PA
- TP 429 **Design and Characterization of a Nanoelectrospray Ionization Source for Analysis of Mars Analog Extract Liquid Samples**; Peter A. Willis¹; Thomas N. Corso²; Maria F. Mora¹; Anita Fisher¹; Luther Beegle¹; Robert Hodyss¹; Xenia Amashukeli¹; James P. Kirby¹; Thomas Langel¹; ¹Jet Propulsion Lab, Caltech, Pasadena, CA; ²Cornell, Groton, NY
- TP 430 **Integrated Beveled Edge Nano ESI Interface and Polymeric Thin-Film Microchip for Mass Spectrometry**; Yan Zin Chang; *Chung Shan Medical University, Taichung City, Taiwan*
- TP 431 **Development of an Intergrated Microscale Ceramic Separation Device to Address Limited Sample Volumes in Bioanalysis**; Paul Rainville¹; Michael Tomany²; James Murphy²; Norman Smith¹; Joanne Mather²; Robert Plumb³; ¹King College, London, UK; ²Waters Corporation, Milford, MA; ³Imperial College, London, UK
- TP 432 **On-Line cHiPLC Based Digestion in nanoLC-MS for Increased Reproducibility**; Remco Van Soest; Don Arnold; J. Bryce Young; Nicole Hebert; David Neyer; *Eksigent Technologies, Dublin, CA*
- TP 433 **A Micro-fluidic Platform for High Sensitivity Hydrogen-Deuterium Exchange Mass Spectrometry**; Terry D. Lee¹; Yunan Miao¹; Kossi Lekpor¹; Reid A. Brennen²; Hongfeng Yin²; Kevin Killeen²; Sheng Li³; Virgil L. Woods, Jr.³; David Stranz⁴; ¹City of Hope, Duarte, CA; ²Agilent Labs, Palo Alto, CA; ³University of California, San Diego, La Jolla, CA; ⁴Sierra Analytics, Inc., Modesto, CA
- TP 434 **Improving Separation Performance of a Microfluidic HPLC/MS Chip**; Hongfeng Yin^{1,2}; Reid A. Brennen^{1,2}; Debbie Ritchey^{1,2}; Kevin Killeen^{1,2}; ¹Agilent Technologies, Santa Clara, CA; ²Agilent Laboratories, Santa Clara, CA
- TP 435 **Use of Mass Triggered Peak Parking to Increases MS Analysis Time for Targeted Ions**; Alice L Pilo²; Katie Southwick¹; Helene Cardasis¹; Weixun Wang¹; Nathan Yates¹; Ronald Hendrickson¹; ¹Merck Research Laboratories, Rahway, NJ; ²University of North Carolina, Chapel Hill, NC
- TP 436 **Up Two Speed: Rapid Sample Characterization by Combining RePlay and UPLC-MS for Duplicate Analysis in Half the Time**; Richard R. Sprenger; Ole N. Jensen; *University of Southern Denmark, Odense, Denmark*
- TP 437 **Influence of Temperature in nano-LC column Preparation and Performance: Application to LC-MS**; Pierangela Palma; Fabiana Capriotti; Irene Leonardis; Giorgio Famiglini; Achille Cappiello; *Universita di Urbino, Urbino, Italy*
- TP 438 **A Tunnel Frit: a Robust and Low Backpressure On-Column Frit for nanoUPLC-MS/MS Applications**; Chao-Jung Chen¹; Mei-Chun Tseng²; Yet-Ran Chen³; ¹China Medical University Hospital, Taichung, Taiwan; ²Institute of Chemistry, Academia Sinica, Taipei, Taiwan; ³Academia Sinica, Taipei, Taiwan
- TP 439 **Comprehensive Study of Significant nanoLC-MS/MS Parameters for Proteomic Analysis on Q-TOF Mass Spectrometers Thanks to Design of Experiments**; Nicolas Barthélemy¹; René Brennetot²; Christine Carapito¹; Christine Schaeffer¹; Alain Van Dorsselaer¹; ¹LSMBO, IPHC-DSA, Strasbourg, France; ²CEA Saclay DEN/DANS/SDPC/SECR/ LANIE, Gif sur Yvette, France
- TP 440 **High Pressure nano-LC/MS Platform for High Resolution Peptide Mapping in Human Plasma**; Vilem Guryca; Sabine Kux van Geitenbeek; Daniel Roeder; Paul Cutler; Hanno Langen; Axel Ducret; *F. Hoffmann-La Roche (TRS), Basel, Switzerland*
- TP 441 **Improving Protein Identification on a Microfluidic HPLC/MS Chip**; Tom Van De Goor; Lukas Trojer; Jose Mora; Daniel Thielsch; *Agilent Technologies, Waldbronn, Germany*
- TP 442 **Quantitative Analysis of Biological Peptides Using an Integrated Chip Based nanoLC Triple-Quadrupole Mass Spectrometry**; Zhongzhou (Andrea) Shen¹; Wenlin Li¹; Andy Gieschen²; Yanan Yang²; Nathan Miller²; Sadayappan V. Rahavendran¹; ¹Pfizer, Global R&D, San Diego, CA; ²Agilent Technology, Santa Clara, CA
- TP 443 **Optimization of Sample Loading Capacity for Absolute Peptide Quantification by Nanobore LC-MS/MS**; Chuck Witkowski¹; Gary Valaskovic²; Jeremy L. Norris¹; Mike S. Lee³; ¹Protein Discovery, Inc., Knoxville, TN; ²New Objective, Inc., Woburn, MA; ³Milestone Development Services, Newtown, PA
- TP 444 **Temperature Optimized nanoLC/MS/MS for Improved Quantification of Neuropeptides**; David P. Budac¹; Mark J. Hayward²; Gary Valaskovic³; ¹Lundbeck Research US, Paramus, NJ; ²Lundbeck Research USA, Stockton, NJ; ³New Objective, Inc., Woburn, MA
- TP 445 **Rapid LC-MS/MS Analysis of Neuropeptides with Monolithic Column and Improved Nanoelectrospray Emitter**; Junhua Wang; Feng Xiang; Zichuan Zhang; Lingjun Li; *UW-Madison, Madison, WI*
- TP 446 **Reduction of Sample Carry-Over in Proteomics LC-MS Experiments**; Evert-Jan Sneekes; Mark van Gils; Marco Karsten; Remco Swart; Bjorn de Haan; *Dionex Corporation, Amsterdam, Netherlands*
- TP 447 **Optimizing Mass Spectrometry for Ultra High Performance Nano LC in Proteomics**; EvertJan Sneekes; Guillaume Tremintin; Bjorn de Haan; Marco Karsten; Remco Swart; *Dionex, Sunnyvale, CA*

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- TP 448 **Validation of Longer Reverse Phase Columns for the Separation of Complex Tryptic Digests in a LC-MS Approach;** Linda IJsselstijn¹; Lennard J. Dekker¹; Christoph Stingl¹; Evert-Jan Sneekes²; Remco Swart²; Theo M. Luider¹; ¹Erasmus University Medical Center, Rotterdam, Netherlands; ²Dionex Benelux B.V., Amsterdam, Netherlands
- TP 449 **Enabling Data-Dependent Gas-Phase Fractionation in a Single Chromatographic Based Shotgun Proteomics Analyses;** Reinaldo Almeida; *Advion, Arnsberg, Germany*
- TP 450 **Improving Throughput for Phosphoproteomics Research;** Therese Clauss; Marina Gritsenko; Ron Moore; Rui Zhao; Anil K Shukla; Yuexi Wang; Feng Yang; Richard D. Smith; *Pacific Northwest National Laboratory, Richland, WA*
- TP 451 **Online Nanoflow RP-RP-MS Reveals Dynamics of Multi-component Ku Complex in Response to DNA Damage;** Feng Zhou; Job D. Cardoza; Guillaume O. Adelmant; Scott B. Ficarro; Jean-Bernard Lazaro; Jarrod A. Marto; *Dana Farber Cancer Institute, Boston, MA*
- TP 452 **Mass Spectrometric Analysis of Melamine, Ammeline and Uric Acid in Human Kidney Stones;** Catherine E Petersen²; James A. Campbell¹; Peter Markwell³; ¹Battelle-PNNL, Richland, WA; ²Battelle/PNNL, Richland, WA; ³MARS, Incorporated, McLean, Virginia
- TP 453 **Quantification of 8-isoprostaglandin F2 α in Human Urine Using Microfluidic Chip-Based Liquid Chromatography/Mass Spectrometry;** Hsin-Yu Bai¹; Yu-Ting Chung³; Shu-Ling Lin¹; Tsung-Yun Liu²; Shan-An Chan³; Ming-Ren Fuh¹; ¹Department of Chemistry, Soochow University, Taipei, Taiwan; ²National Yang-Ming University, Taipei, Taiwan; ³Agilent Technologies, Inc, Taipei, Taiwan
- DRUG BIOTRANSFORMATION II, 454 - 470**
- TP 454 **Analysis of Nelfinavir Metabolites in Rat Hepatic Microsomes Using LC-MS/MS, UV Photodissociation and Collision-Induced Dissociation;** Changtong Hao¹; J.C. Yves Leblanc²; Alexandre Loboda²; Udo Verkerk¹; K W Michael Siu¹; ¹Center for Research in Mass Spectrometry, Toronto, ON; ²AB Sciex, Concord, ON, Canada
- TP 455 **Human Glucuronidation Enzyme Activities Evaluate by a Single Liquid Chromatography Tandem Mass Spectrometry Method Using *in vitro* Cocktail Approach;** Anne-Laure Gagez; *INSERM UMR-S850, Limoges Cedex, France*
- TP 456 **Decreased Urinary Excretion of Hydroxylated Metabolites of Voriconazole in CYP2C19 Poor Metabolizers;** Joo-Youn Cho; Hyang Hee Yang; Seo Hyun Yoon; Kyung-Sang Yu; In-Jin Jang; *Dept of Clin Pharmacol, Seoul National University, Seoul, South Korea*
- TP 457 **Xenobiotic Metabolite Identification at Ultra-trace Levels Using Alternate Separation and Ionization Techniques Including Nanospray, NALDI-TOF-MS, and Chip-based Nanoseparations;** Jeffrey Gilbert; Jesse Balcer; Suresh Annangudi Palani; David Mccaskill; Michael Hastings; Yelena A. Adelfinskaya; Brian Wendelburg; *Dow AgroSciences, Indianapolis, IN*
- TP 458 **The Use of ¹⁸O-Exchange and Base-Catalyzed N-Dealkylation with LC/MS/MS to Identify Carbinolamide Metabolites;** Andrew Bessire; Alfin Vaz; Gregory Walker; WeiWei Wang; Raman Sharma; *Pfizer, Inc., Groton, CT*
- TP 459 **Accurate Mass Profiling and Isotope Tracing of Polar Metabolites by HILIC LC and High Resolution MS;** Rory Rohm; Thomas Roddy; Stephen Previs; Michael Lassman; *Merck & Co., Rahway, NJ*
- TP 460 **Comparative Evaluation of HCD MS/MS and Non-mass Selective HCD Fragmentation Experiments on Orbitrap-based Mass Analyzer for Metabolite Identification;** Chiuwa Emily Luk; Petia Shipkova; Jonathan L. Josephs; *Bristol-Myers Squibb Co, Pennington, NJ*
- TP 461 **Use of High-Resolution QTOF with Enhanced Ion Mobility Capabilities for Facile Identification of Metabolites Using UPLC-IMS-MSE;** Stephen McDonald¹; Joseph Marini²; Andrew Baker¹; ¹Waters Corporation, Beverly, MA; ²Covance Laboratories Inc., Madison, WI
- TP 462 **Tool for Structural Characterization of Metabolites from Accurate Mass Data;** Eva Duchoslav; Lyle Burton; Tanya Gamble; *AB Sciex, Concord, Canada*
- TP 463 **The Identification of Novel Phase II Diconjugate Metabolites of Acetaminophen in Urine;** Jordan Richardson¹; David S Douce²; Martin Palmer²; Catherine Duckett¹; ¹Keele University, Stoke-On-Trent, UK; ²Waters (MS Technologies), Manchester, UK
- TP 464 **Characterization of Brevetoxin Metabolites in Clam by LC-MS/MS;** Ann Abraham; Kathleen El Said; Yuesong Wang; Edward Jester; Jennifer Hooe-Rollman; Hudson Granade; Steven Plakas; *FDA, Dauphin Island, AL*
- TP 465 **Comparison of *in vitro* Intestinal and Hepatic Metabolism of Diltiazem by Ultra-Performance Liquid Chromatography Accurate Mass Spectrometry;** Joanna Barbara; Faraz Kazmi; Mark Horrigan; Paul C. Toren; Andrew Parkinson; *XenoTech, LLC, Lenexa, KS*
- TP 466 **6-2 Fluorotelomer Alcohol Metabolic Pathways in Rat, Mouse and Human Hepatocytes;** Timothy Snow¹; Shawn Gannon¹; Diane Nabb¹; Tessa Serex¹; Robert Buck²; ¹DuPont Haskell Laboratory, Newark, DE; ²DuPont Surface Protection Solutions, Wilmington, DE
- TP 467 **Simulating Oxidative Metabolism Using On-Line Electrochemistry/Mass Spectrometry;** Joann Purkerson¹; Agnieszka Kraj²; Hendrik-Jan Brouwer²; Martin Eysberg²; ¹Antec (USA), Palm Bay, FL; ²Antec Leyden BV, Zoeterwoude, The Netherlands
- TP 468 **Paradoxical Down-Regulation of benzo[a]pyrene-Mediated DNA-Adduct Formation by 2,3,7,8-tetrachlorodibenzo-p-dioxin in Human Lung Cells;** Stacy L. Gelhaus; Trevor M. Penning; Ian A. Blair; *UPENN, Philadelphia, PA*
- TP 469 **Investigation of Metabolism of TZP-101 in Healthy Volunteers after Multiple Intravenous Doses Applying Complementary LC/MS/MS Using API 4000-Qtrap and LTQ-Orbitrap;** Ming Qi¹; Mark Gohdes¹; Ryan Berko¹; Timothy Musick¹; Laura Egnash¹; Donald McKenzie¹; Patrick Bherer²; Lilian Clohs²; ¹Covance Laboratories, Madison, WI; ²Tranzyme Pharma Inc., Sherbrooke, Quebec, Canada
- TP 470 **Metabolism of Unique Vitamin D Analogs with 16-ene-23-yne Modifications by Cytochrome P450 2A1 Hydroxylase;** Rose Gathungu¹; Steve Rhieu²; Satyanarayana Reddy²; Paul Vouros¹; ¹Barnett Institute, Northeastern University, Boston, MA; ²Brown University, Providence, RI

TUESDAY POSTERS

METABOLITE PROFILING I, 471 - 490

- TP 471 **A Novel Triplex Stable-Isotope Labeling Method for Quantitative Analysis of Metabolites in Biological Samples by LC/MS;** Ruokun Zhou; Kevin Guo; Liang Li; *University of Alberta, Edmonton, AB*
- TP 472 **Potential CD36 Ligands Identified from Vitamin C Mediated Decomposition of 15(S)-Hydroperoxy-Eicosatetraenoic Acid;** Xiaojing Liu; Suhong Zhang; Clementina Mesaros; Ian A. Blair; *University of Pennsylvania, Philadelphia, PA*
- TP 473 **Teleost Scale Metabolite Profiling Reveals Differential Changes in Response to Gravitational Stress;** Masahiro Maeda¹; Akio Hayashi¹; Sadao Nakamura¹; Takeshi Serino⁴; kei-Ichiro Kitamura²; Nobuo Suzuki³; ¹*Agilent Technologies Japan, Tokyo, Japan*; ²*School of Medical Science, Kanazawa University, Kanazawa, Japan*; ³*Kanazawa University, Ishikawa, Japan*; ⁴*Agilent International, Tokyo, Japan*
- TP 474 **Analysis of Isotope Labeled Amino Acids by UPLC/ESI/TOFMS to Determine Nitrogen Fluxes;** Annika I. Johansson^{1,3}; Camila Aguetoni Cambui^{1,3}; Catherine Campbell^{2,3}; Vaughan Hurry^{2,3}; Torgny Näsholm^{1,3}; Thomas Moritz^{1,3}; ¹*Swedish University of Agricultural Sciences (SLU), Umeå, Sweden*; ²*Umeå University, Umeå, Sweden*; ³*Umeå Plant Science Centre, Umeå, Sweden*
- TP 475 **Metabolic Profiling of Pentabromodiphenyl Ether Exposed Rat;** Jungju Seo¹; Eun Jung Bang¹; Jeounghwa Shin¹; Seo Eun Lee²; ¹*Korea Basic Science Institute, Seoul, South Korea*; ²*Hanyang University, Seoul, Korea*
- TP 476 **Profiling Metabolites of Cranberry in Rats Using Liquid Chromatography Tandem Mass Spectrometry;** Rajani Rajbhandari¹; Ning Peng¹; Ray Moore²; Alireza Arabshahi²; Stephen Barnes¹; Jeevan Prasain¹; ¹*University of Alabama at Birmingham, Birmingham, AL*; ²*UAB, Birmingham, AL*
- TP 477 **Analysis of Small Cell Populations of Saccharomyces Cerevisiae on Silicon Nanopost Arrays (NAPA) by Laser Desorption Ionization Mass Spectrometry;** Cory Antonakos; Bennett N Walker; Akos Vertes; *George Washington University, Washington, DC*
- TP 478 **An Analysis of Anthocyanins and Resveratrol in Cold-Hardy Grapes Using UPLC-DAD-MS and LDI-MS;** Jesse G. Meyer; Mikel R. Roe; Adrian D. Hegeman; *University of Minnesota, Saint Paul, MN*
- TP 479 **Profiling Alcoholic Liver Lipid Profiles Using High Mass Accuracy MSn Analysis;** Simon Ashton¹; Neil Loftus¹; Alan Barnes¹; Georgios Theodoridis²; Ian Wilson²; Filippos Michopoulos²; Gika Eleni²; Neil Kaplowitz³; ¹*Shimadzu ISS, Manchester, UK*; ²*Astra Zeneca, Alderley Edge, UK*; ³*University of Southern California, Los Angeles, CA*
- TP 480 **Cell Cycle Specific Metabolite Profiling of NIH3T3 by Live Single Cell Mass Spectrometry;** Yuka Miho; Naohiro Tsuyama; Hajime Mizuno; Takanori Harada; Tsutomu Masujima; *Hiroshima Univ. BioMed., Hiroshima, Japan*
- TP 481 **Towards Quantitative Mass Spectral Profiling of Phenolic Compounds in Red Wine via Selective Solid-Phase Enrichment and Isotope Dilution Analysis;** Mikel R Roe; Jesse Meyer; Erica Rokke; Adrian D. Hegeman; *University of Minnesota, Saint Paul, MN*
- TP 482 **Quantitative Analysis of Small Molecules in a Fluorescence-Labeled Apoptotic Lymphocyte by the Live Single Cell MS;** Naohiro Tsuyama¹; Hajime Mizuno¹; Takanori Harada¹; Iwao Sakane²; Tsutomu Masujima¹; ¹*Hiroshima Univ. BioMed., Hiroshima, Japan*; ²*ITO EN Co. Ltd., Tokyo, Japan*
- TP 483 **Metabolic Profiling of Biological Samples by Gas Chromatography-Mass Spectrometry, Liquid Chromatography-Tandem Mass Spectrometry and Nuclear Magnetic Resonance Spectroscopy;** Sam Li; *National University of Singapore, Singapore, Singapore*
- TP 484 **Single-cell Metabolic Profiling of the Aplysia Californica Nervous System by Capillary Electrophoresis Electrospray Ionization Mass Spectrometry;** Peter Nemes; Ann M. Knolhoff; Stanislav S. Rubakhin; Jonathan V. Sweedler; *University of Illinois at Urbana-Champaign, Urbana, IL*
- TP 485 **Profiling System for Carotenoids and their Oxidized Products Using Supercritical Fluid Chromatography Coupled with Mass Spectrometry;** Atsuki Matsubara¹; Yusuke Wada¹; Hiroki Ishida²; Kazuo Harada²; Kazumasa Hirata²; Eiichiro Fukusaki¹; Takeshi Bamba¹; ¹*Dept. Biotech., Grad. Sch. Eng., Osaka Univ., Suita, Japan*; ²*Grad. Sch. Pharm. Sci., Osaka Univ., Suita, Japan*
- TP 486 **Integration of Screening Assays and Ion Trap-Time of Flight Mass Spectrometry; Chemical and Biological Characterization of N-Alkylated Neomycin Derivatives;** Jon S.B. de Vlieger; Martin Giera; Henk Lingeman; Wilfried M.A. Niessen; Hubertus Irth; *VU University, Biomolecular Analysis Group, Amsterdam, Netherlands*
- TP 487 **Mass Spectrometric Examination of Metabolic Changes following Emerald Ash Borer Invasion; Examination of Volatile Emissions, Leaf Extracts, and Phloem Samples;** Raymond E. March¹; Michael Doran¹; Naomi Stock¹; Shaogang Chu²; Taylor Scarr³; ¹*Trent University, Peterborough, Canada*; ²*Environment Canada, Ottawa, Canada*; ³*Ontario Ministry of Natural Resources, Sault Ste. Marie, Canada*
- TP 488 **Simultaneous Lipid Profiling and Lipid Marker Characterization in Fish Eggs by UPLC/TOF MS Coupled with Multi Variant Statistical Analysis;** Hayley Crowe¹; Kate Yu¹; Stephen O'Shea²; Nancy Breen²; John Shockcor¹; Henry Y. Shion¹; Harold Pomeroy²; Alan Millar¹; ¹*Waters Corporation, Milford, MA*; ²*Roger Williams University, Bristol, RI*
- TP 489 **Quantitative Analysis of Underivatized Glutamine, Glutamic Acid, Asparagine, and Aspartic Acid in Cell Media Using LC/MS/MS;** Na Pi¹; Yanan Yang¹; Lisa Zang¹; David Hawke²; Philip Lorenzi²; ¹*Agilent Technologies, Inc, Santa Clara, CA*; ²*UT-M.D Anderson Cancer Center, Houston, TX*
- TP 490 **Liquid Chromatography Atmospheric Pressure Ionization Mass Spectrometry Identifies Novel Hypochlorous Acid Reaction Products of Lycopene;** Jaeman Byun¹; Dhiman Maitra²; Inga Sliskovic²; Michael P. Diamond²; Husam M. Abu-Soud²; Subramaniam Pennathur¹; ¹*University of Michigan, Ann Arbor, MI*; ²*Wayne State University, Detroit, MI*

DRUG METABOLISM: HIGH THROUGHPUT, 491 - 508

- TP 491 **A High Throughput Sensitive LC/MS/MS Method Utilizing Polarity Switching for the CYP Inhibition Assay;** Alexandre Wang¹; Sophie Mukadam²; Jane Kenny²; Rolf Kern¹; Hua-fen Liu¹; ¹*AB SCIEX, Foster City, CA*; ²*Genentech, Inc, S. San Francisco, CA*
- TP 492 **Fast and Sensitive Metabolism Studies on SU-8 Capillary Electrophoresis-Electrospray Ionization Mass Spectrometry Microchips;** Nina Nordman¹; Tiina

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- M. Sikanen¹; Maria-Elisa Moilanen¹; Susanna Aura²; Tapio Kotiaho¹; Sami Franssila²; Risto Kostianen¹; ¹University of Helsinki, Helsinki, Finland; ²Aalto University, School of Science and Technology, Espoo, Finland
- TP 493 **A Low Solvent Consumption Microbore UPLC/MS/MS Method to Support Cocktail CYP P450 Drug - Drug Inhibition Sample Analysis;** Sascha Freiwald; Heather Skor; Sue Zhou; Sadayappan V. Rahavendran; *Pfizer Global R&D, San Diego, CA*
- TP 494 **Automated Screening of Phase I and II Metabolism Using On-Line Electrochemistry/LC/MS;** Jean-Pierre Chervet¹; Agnieszka Kraj¹; Hendrik-Jan Brouwer¹; Martin Eysberg¹; Joann Purkerson²; ¹Antec Leyden BV., Netherlands; ²Antec (USA), Palm Bay, FL
- TP 495 **The Application of Accurate Mass Towards an Automated Workflow for Metabolite Identification and Structural Elucidation in Biological Matrixes;** Mark Szewc^{2,3}; Rose Herbold^{2,3}; Tim J Stratton¹; Shichang Miao¹; Thomas McClure^{2,3}; Yingying Huang^{2,3}; ¹ChemoCentryx Inc., Mountain View, CA; ²Thermo Fisher Scientific, Somerset, NJ; ³Thermo Fisher Scientific, San Jose, CA
- TP 496 **Driving Efficiency in a High-throughput Metabolic Stability Assay through a Generic High Resolution/Accurate Mass Method and Automated Data Processing;** Wenqing Shui¹; Song Lin²; Allen Zhang¹; Yan Chen¹; Caroline Ding¹; Yingying Huang¹; Mark Sanders¹; ¹Thermo Fisher Scientific, San Jose, CA; ²Novartis, Emeryville, CA
- TP 497 **Improving the Throughput of *in vitro* ADME Screens Using Cassette Analysis and Polarity Switching;** Hui Zhang; Veronica Zelesky; Richard Schneider; *Pfizer Global R&D, Groton, CT*
- TP 498 **Evaluation of Accurate Mass TOF-MS for Use in High Throughput PAMPA Screening;** Michelle Romm; Nikunj Parikh; Vaughn Miller; William A. Lamarr; Can "Jon" Ozbal; *BIOCIUS Life Sciences, Inc., Woburn, MA*
- TP 499 **Evaluation of Drug Plasma Stability Using an Ultra-High Throughput Laser Diode Thermal Desorption (LDTD) Methodology;** Ming-Chih D. Ho¹; Ming-Xiang Liao²; Cindy Xia²; Lily Li¹; ¹Tandem Labs New England, Woburn, MA; ²Millennium Pharmaceuticals, Cambridge, MA
- TP 500 **Comparison of LC/MS/MS and a Fully Integrated Autosampler/Solid Phase Extraction System for the Analysis of Permeability Samples;** Adam C Amaral; Christopher Caldwell; Panos Hatsis; Jakal Amin; Shawn Harriman; *Novartis, Cambridge, MA*
- TP 501 **High Resolution LC-MS Analysis of Compounds for Early Drug Discovery: Quantitative and Qualitative Screening in One Pass;** Xiaojie C. Ding¹; James Shofstahl¹; Karen Salomon¹; Hans Pfaff²; Thomas McClure¹; ¹Thermo Fisher Scientific, San Jose, CA; ²Thermo Fisher Scientific (Bremen) GmbH, Bremen, Germany
- TP 502 **Comparison of Fused Core and Porous Particles for Fast LC-MS-MS Analysis Using Conventional LC Instrumentation;** Carmen T. Santasania; Wayne K. Way; *Supelco/Sigma-Aldrich, Bellefonte, PA*
- TP 503 **A Systematic Study of Phospholipids Removal by various resins in Multi-Impurity Adsorption Methods (MAS) and the Impacts on LC-MS Analysis;** Wan Wang; Yong Han; Wei Huang; Jianwang Li; Jerry Wang; *Bonna Agela Technologies Inc, Newark, DE*
- TP 504 **Quantifying Glipizide in Human Plasma by LC-MS, Using a Novel Sample Clean-Up Method, Multi-Function Impurity Adsorption SPE (MAS);** Qihui Ni; Yong Han; Wan Wang; *Agela Technologies, Inc., Newark, DE*
- TP 505 **Evaluation of High Throughput / High Sensitivity Tuning Algorithm for Quantitative LC/MS/MS Method Development;** Karina Wong¹; Bud Maynard¹; Loren Olson²; ¹Elan Pharmaceuticals, South San Francisco, CA; ²AB SCIEX, Foster City, CA
- TP 506 **Advantages of Multiple Time-Slice Injections in Sensitive, High-Throughput LC-MS Analyses;** David Neveer; Don Arnold; *Eksigent Technologies, Dublin, CA*
- TP 507 **Hyphenation of Mass Spectrometry and a p38 Kinase Binding Assay for Screening of Active Compounds in Mixtures;** David Falck¹; Jon S B de Vlieger¹; Martin Giera¹; Jeroen Kool¹; Henk Lingeman¹; Wilfried M A Niessen¹; Maarten Honing²; Hubertus Irth¹; ¹Division of Biomolecular Analysis VU University, Amsterdam, Netherlands; ²MSD Research Laboratories, Oss, Netherlands
- TP 508 **Comparison of Automated MS/MS Tuning Algorithms for HT- Methods Development in Drug Discovery;** Veronica Zelesky¹; John Janiszewski¹; Anthony Romanelli²; Thomas McDonald¹; Richard Schneider¹; Kevin Shirey³; Lisa Buchholz¹; Erik A. Soderstrom¹; ¹Pfizer Inc., Groton, CT; ²AB SCIEX, Framingham, MA; ³Sound Analytics, LLC, Niantic, CT

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- TP 509 **Moved to an oral**
- TP 510 **Metabolite Identification by LC/MS/MS to Understand the Role of Ammonia Oxidizing and Heterotrophic Bacteria during Treatment of 17 α -Ethinylestradiol in Wastewater;** Susan A. Mackintosh¹; Wendell O. Khunjar^{2,3}; Jola Skotnicka-Pitak^{1,4}; Diana S. Aga¹; Nancy G. Love³; Willie F. Harper Jr.⁵; ¹SUNY University at Buffalo, Buffalo, NY; ²Virginia Polytechnic Institute, Blacksburg, VA; ³University of Michigan, Ann Arbor, MI; ⁴Cracow University of Technology, Krakow, Poland; ⁵University of Pittsburgh, Pittsburgh, PA
- TP 511 **Characteristics and Analytical Methods for Acetyl Metabolites of Sulfonamide Antibiotics in Wastewater;** Young Yeul Kang; Seung-Ryul Hwang; Ki-Bong Song; Woo-Il Kim; Su-Yeong Lee; Sun-Kyoung Shin; Tae Seung Kim; So Hyun Koo; *National Institute of Environmental Research, Incheon, South Korea*
- TP 512 **Determination of Oseltamivir and its Metabolite under Pandemic Season in Surface Water by LC-MS/MS;** Sun Kyoung Shin; Seung Ryul Hwang; Young Yeul Kang; Jin-Soo Park; Woo-Il Lim; Young Hee Kim; So Hyun Koo; Hak Joo Kim; *National Institute of Environmental Research, Incheon, South Korea*
- TP 513 **Use of Accurate-Mass Databases of Molecules and Diagnostic Ions for LC/MS-Based Targeted and Untargeted Screening of Emerging Contaminants in Environment;** Juan F. García-Reyes¹; José Robles-Molina¹; Juan C. Domínguez-Romero¹; Bienvenida Gilbert-López¹; Antonio Molina-Díaz¹; Ana Agüera²; M. José Gomez-Ramos²; M. Mar Gómez-Ramos²; Milagros Mezcuá²; Amadeo R. Fernandez-Alba²; ¹University of Jaen. Dep. Physical and Anal. Chem., Jaén, Spain; ²University of Almeria. Dep. Analytical Chemistry, Almeria, Spain

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- TP 514 **Simultaneous Analysis of the Endocrine Disruptors from Water Samples by GC-PCI-Tandem Mass Spectrometry;** Yu-Kyung Jung¹; Ki-Jung Peang¹; Parinya Panuwet²; M. Angela Montesano²; Dana Boyd Barr²; ¹*Department of Chemistry, Yonsei University, Wonju, Korea;* ²*Centers for Disease Control and Prevention, Atlanta, GA*
- TP 515 **The Simultaneous Analysis of Macrolides Pharmaceuticals in Aqueous Environmental Sample by LC/ESI-MS/MS;** Mi Sun Park^{1,1}; Seung-Woon Myung^{1,2}; ¹*Suwon, South Korea;* ²*Kyonggi University, Suwon-Si, South Korea*
- TP 516 **Determination of Pharmaceuticals in Surface Water and Drinking Water Resources by LC/ESI-MS/MS;** Kim Byung Ju; Seung-Woon Myung; *Kyonggi University, Suwon, South Korea*
- TP 517 **The Analysis of Streptomycin Residues in Environmental Aqueous Sample by LC-MS/MS;** Lee Jong Hyuk¹; Seung-Woon Myung²; ¹*Kyeonggi Univ., Suwon, South Korea;* ²*Kyonggi University, Suwon-Si, South Korea*
- TP 518 **Monitoring of Metabolite Production by Indoor Microbial Isolates Using Liquid and Gas Chromatography Coupled to Mass Spectrometry;** Vinay Vishwanath¹; Michael Sulyok¹; Georg Weingart¹; Bernhard Kluger¹; Beata Gutarowska²; Rudolf Kraska¹; ¹*Universität für Bodenkultur, IFA-Tulln, Center for Analytical Chemistry, Austria;* ²*Technical University of Lodz, Institute Technology Fermentation and Microbiology, Poland*
- TP 519 **Endocrine Disrupting Chemicals in New Orleans Surface Waters and Mississippi Sound, Gulf of Mexico Marine Sediments;** Guangdi Wang¹; Peng Ma¹; Qiang Zhang¹; John Lewis¹; Yoko Fukukawa²; Susan O'Reilly²; ¹*Xavier University of Louisiana, New Orleans, LA;* ²*Naval Research Laboratory, Code 7431, Stennis Space Center, Mississippi*
- TP 520 **Oxidation of Bacteriophage MS2 Virus Proteins during UV254 and Singlet Oxygen Mediated Inactivation;** Laure Menin¹; Krista Wigginton²; Jonathan Paz Montoya²; Tamar Kohn²; ¹*EPFL SB ISIC-GE, Lausanne, Switzerland;* ²*EPFL - ENAC - LCE, Lausanne, Switzerland*
- TP 521 **Investigation of Matrix Effects Regarding Microcystin LR Analysis by Electrospray Tandem Mass Spectrometry;** Russell Chinn^{1,2}; Melissa Dale^{1,2}; ¹*Metropolitan Water District of Southern California, La Verne, CA;* ²*Metropolitan Water District of Southern California, La Verne, CA*
- TP 522 **Gas Chromatography-Mass Spectrometry Screening of Selected Endocrine Disruptors in the Kafue Flats of Zambia;** Kwenga Sichilongo; *University of Botswana, Gaborone, Botswana*
- TP 523 **Advantages of High Resolution Multi-Reflecting Time-of-Flight Mass Spectrometry for Rapid and Comprehensive Pesticide Screening in Food Extracts Using UHPLC;** Matthew Giardina¹; Julie Kowalski²; Kevin Siek¹; Jack Cochran²; ¹*LECO Corporation, St. Joseph, MI;* ²*Restek Corporation, Bellefonte, PA*
- TP 524 **Real-Time Correction of Retention Time Shift for Multiple Residues Screening by LC-MS/MS;** Louis Maljers; Chunang (Christine) Gu; Ze Zhang; Mark Sanders; *ThermoFisher Scientific, San Jose, CA*
- TP 525 **Sub ppt Limits of Quantitation with New Setup for Water Analysis Using ESI-TOF Full Scan Accurate Mass Screening;** Oliver Raether; Petra Decker; *Bruker Daltonik GmbH, Bremen, Germany*
- TP 526 **Ultra-Fast LC/MS Analysis of Acidic Herbicides in Water by Direct Injection: Evaluation of Different MRM Techniques Combined with Polarity Switching;** Wolfram Seitz²; Jianru Stahl-Zeng¹; Detlev Schleuder¹; Birgit Schlutt¹; Walter Weber²; Wolfgang Schulz²; ¹*AB Sciex, Frankfurterstr. 129 B, Darmstadt, Germany;* ²*Zweckverband Landeswasserversorgung, Langenau, Germany*
- TP 527 **Accurate Mass Screening and Quantitation of 510 Pesticides with Polarity Switching on High Resolution Benchtop Orbitrap Mass Spectrometry;** Ze Zhang; Chunang (Christine) Gu; James Chang; Mark Sanders; *ThermoFisher Scientific, San Jose, CA*
- TP 528 **Assessing Dietary Exposure to Pyrethroid Insecticides by LC/MS/MS of Food Composites;** Denise MacMillan¹; R. Dan Zehr¹; Adam Swank¹; Marsha Morgan²; ¹*USEPA/NHEERL, Research Triangle Park, NC;* ²*USEPA/NERL, Research Triangle Park, NC*
- TP 529 **Trace Analysis of Potable and Environmental Water by on-line SPE LC/MSMS Employing Thermal Gradient Focusing and Dual Ion Funnel Technologies;** Michael Flanagan; *Agilent Technologies, Santa Clara, CA*
- TP 530 **LC-APPI-MS/MS for Multi-Residue Analysis of "Difficult" Pesticides in Vegetables and Fruits;** Sheng-Suan (Victor) Cai¹; Roland Carlson²; Jack A. Syage¹; Karl Hanold¹; ¹*Syagen Technology, Inc., Tustin, CA;* ²*California Department of Food and Agriculture, Sacramento, CA*
- TP 531 **Development of Simultaneous Analysis Method on Organophosphorous Pesticides and Quaternary Ammonium Herbicides Using LC/MS;** Jun Watanabe; Haruo Hosoda; *Bruker Daltonics K. K., Yokohama, Japan*
- TP 532 **Rapid Screening of Breakdown Products of Triclosan Under Simulated Environmental Conditions by LC-MS/MS;** Stacy Tremintin¹; Loren Olson²; ¹*AB Sciex, Foster City, CA;* ²*Applied Biosystems, San Jose, CA*

IMAGING MS: METHOD DEVELOPMENT II, 533 - 554

- TP 533 **Ionization Energy Lowering in Clustered Species Demonstrated by Tunable Photon Energy Laser Desorption Postionization MS;** Melvin Blaze M.T.¹; Lynelle K. Takahashi^{2,3}; Jia Zhou³; Musahid Ahmed³; F. Douglas Pleticha¹; Gerald L. Gasper¹; Luke Hanley¹; ¹*University of Illinois at Chicago, Chemistry, Chicago, IL;* ²*University of California-Berkeley, Chemistry, Berkeley, CA;* ³*Lawrence Berkeley National Laboratory, Chem Sci Div, Berkeley, CA*
- TP 534 **Ultra-high Molecular Weight Polyethylene (PE-UHMW) Joint Implants – Choosing the Most Valuable Desorption Process (i/vMALDI and DESI) for Imaging MS;** Martina Marchetti-Deschmann¹; Julia Galehr¹; Vasiliki-Maria Archodoulaki²; Guenter Allmaier¹; ¹*Vienna University of Technology, CTA, Vienna, Austria;* ²*Vienna University of Technology, IMST, Vienna, Austria*
- TP 535 **Chemically Selective Imaging Using Mass Spectrometry: The Modified-Bead Stretched Sample Method;** Kevin Tucker; Leonid Serebryanny; Jonathan Sweedler; *University of Illinois, Champaign, IL*
- TP 536 **Improved Wavelet Analysis of Mass Spectral Imaging Data for Feature Selection and Data Compression through Incorporation of Spatial Information;** Nico Verbeeck; Raf Van de Plas; Bart De

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- Moor; Etienne Waelkens; *K.U.Leuven, Leuven - Heverlee, BELGIUM*
- TP 537 **Optimization of Gold Nanoparticles as a Matrix for MALDI Imaging Mass Spectrometry;** Andrew Smith¹; Matt Spencer¹; Tom Darlington¹; Richard Baldwin¹; Elizabeth Ward²; Steven Oldenburg¹; *nanoComposix, San Diego, CA*; ²*Claremont Mckenna, Claremont, CA*
- TP 538 **Fourier Transform Mass Spectrometry Imaging of Biological Samples at Cellular Resolution;** Andreas Roempp; Sabine Günther; Yvonne Schober; Zoltan Takats; Bernhard Spengler; *Justus Liebig University, Giessen, Germany*
- TP 539 **Monitoring and Quantifying Chlorophyll a at the Single Organelle Level Using MALDI MS Imaging;** Ji Hyun Jun^{1,2}; Wei Sun^{1,2}; Basil J. Nikolau^{1,3}; Edward S. Yeung^{1,2}; Young Jin Lee^{1,2}; ¹*Ames Laboratory-US DOE, Ames, IA*; ²*Department of Chemistry, Iowa State University, Ames, IA*; ³*Department of Biochemistry, Iowa State University, Ames, IA*
- TP 540 **Surface Mapping Using Individual Cluster Impacts;** Francisco Alberto Fernandez Lima¹; Michael J. Eller¹; Stanislav V. Verkhoturov¹; John D. DeBord¹; Serge Della-Negra²; Emile A. Schweikert¹; ¹*Texas A&M University, College Station, TX*; ²*Institut de Physique Nucléaire d'Orsay, Orsay, France*
- TP 541 **Giant Fullerenes as *in-situ* Internal Calibrants for High Mass Accuracy MALDI-IM-oTOFMS Tissue Imaging;** Ernest K. Lewis¹; Thomas F. Egan¹; Sasa Miladinovic²; Shelley N Jackson³; Amina S. Woods³; Charles L. Wilkins²; J. Albert Schultz¹; ¹*Ionwerks, Inc., Houston, TX*; ²*University of Arkansas, Fayetteville, AR*; ³*NIDA-IRP, NIH, Baltimore, MD*
- TP 542 **Practical Considerations on Normalization in MALDI Imaging;** Soeren Oliver Deininger; Michael Becker; Eryk Wolski; Herbert Kaminski; Rainer Paape; Shannon Cornett; *Bruker Daltonik GmbH, Bremen, Germany*
- TP 543 **Multidimensional Spectroscopy Combining ToF-SIMS, Synchrotron-FTIR and -UV Microspectroscopies on the Same Tissue Section;** Vanessa Petit¹; Matthieu Réfrégiers²; Catherine Guettier^{3,4}; Alain Brunelle¹; Olivier Laprêvot^{1,5}; Paul Dumas⁶; François Le Naour^{3,4}; ¹*Centre de Recherche de Gif, ICSN-CNRS, Gif-sur-Yvette, France*; ²*DISCO, Synchrotron Soleil, Gif-sur-Yvette, France*; ³*INSERM U785, Villejuif, France*; ⁴*Faculté de médecine Paris-Sud, Kremlin-Bicêtre, France*; ⁵*Université Paris-Descartes, Paris, France*; ⁶*SMIS, Synchrotron Soleil, Gif-sur-Yvette, France*
- TP 544 **Improving MALDI Signal Reproducibility Using a Deuterated Internal Standard and Wide-Isolation Tandem Mass Spectrometric Imaging;** David Pirman; Peggy R. Borum; Richard A. Yost; *University of Florida, Gainesville, FL*
- TP 545 **MALDI vs. Laser Desorption Vacuum Ultraviolet Postionization MS for Imaging of Bacterial Biofilms;** Peter J. Koin¹; Berdan Aydin Sevinc¹; Chhavi Bhardwaj¹; Artem Akhmetov¹; Gerald Gasper¹; Melvin Blaze M.T.¹; Jerry F. Moore²; Luke Hanley¹; ¹*University of Illinois at Chicago, Chicago, Chemistry, Chicago, IL*; ²*MassThink LLC, Naperville, IL*
- TP 546 **Imaging Mass Spectrometry Data Reduction: Enabling Molecular Histology of Clinical Datasets;** Liam McDonnell¹; Alexandra van Remoortere¹; René van Zeijl¹; Nico de Velde²; André Deelder¹; ¹*LUMC, Leiden, the Netherlands*; ²*Hogeschool Leiden, Leiden, the Netherlands*
- TP 547 **Analysis of Painting Cross Sections by Secondary Ion Mass Spectrometry;** Michael P. Napolitano¹; Julie Arslanoglu²; Andras Kiss³; Donald F. Smith²; Ron M.A. Heeren³; Richard A. Yost¹; ¹*University of Florida, Gainesville, FL*; ²*The Metropolitan Museum of Art, New York, New York*; ³*FOM Institute AMOLF, Amsterdam, Netherlands*
- TP 548 **Laser Microdissection Inductively Coupled Plasma Mass Spectrometry (LMD-ICP-MS) – A Novel Tool for Bioimaging of Metals in Single Cells;** Johanna Sabine Becker; *Forschungszentrum Juelich, Juelich, Germany*
- TP 549 **Laser Desorption-Ionization of Lipid Transfers: Tissue Mass Spectrometry Imaging without Ionization Matrix;** Michael Volny¹; Veronika Vidova^{1,2}; Petr Novak^{1,3}; Martin Strohalm¹; Jaroslav Pol^{1,4}; Vladimír Havlicek^{1,2}; ¹*Institute of Microbiology, Prague, Czech Republic*; ²*Palacky University, Olomouc, Czech Republic*; ³*Charles University, Prague, Czech Republic*; ⁴*University of Helsinki, Helsinki, Finland*
- TP 550 **Direct Nano MS with Spatial Micro-Trapping of Single Dividing Frog (Xenopus) Egg;** Atsushi Kurisu¹; Siyu Zhang¹; Naohiro Tsuyama¹; Hajime Mizuno¹; Atsushi Suzuki²; Kimiko Takebayashi-Suzuki²; Takanori Harada¹; Tsutomu Masujima¹; ¹*Hiroshima Univ. BioMed., Hiroshima, Japan*; ²*Hiroshima Univ. Sci., Higashihiroshima, Japan*
- TP 551 **The Use of Hydrazine Based Derivatisation Reagents for Improved Sensitivity and Detection of Carbonyl Containing Compounds “In Tissue” Using MALDI-MS;** Bryn Flinders¹; Peter S. Marshall²; Josie Morrell²; Lisa E. Ranshaw²; M. Akram Khan¹; Malcolm R. Clench¹; ¹*Sheffield Hallam University, Sheffield, UK*; ²*GlaxoSmithKline, Stevenage, UK*
- TP 552 **Enhancing MALDI MS Signals through Chemistry: Analysis of Isoniazid Dosed Animals in Tuberculosis Studies;** M. Lisa Manier¹; Michelle L. Reyzer¹; Joey C. Latham¹; Laura E. Via²; Clifton E. Barry, III²; Richard M. Caprioli¹; ¹*Vanderbilt University, Nashville, TN*; ²*NIH/NIAMD, Bethesda, MD*
- TP 553 **Direct Tissue Profiling and Imaging of Human Skin by MALDI-MS: A Potential Tool For Classification of Chemical Irritants and Sensitizers;** Philippa J. Hart; David M. G. Anderson; Simona Francese; M. Nicola Woodroffe; Malcolm R. Clench; *Sheffield Hallam University, Sheffield, UK*
- TP 554 **FT-ICR Mass Spectrometry Imaging: Method Development for Vacuum and Atmospheric Pressure Biological Tissue Analysis;** Donald F. Smith; Marc C. Duursma; Andriy Kharchenko; Ron M.A. Heeren; *FOM-AMOLF, Amsterdam, Netherlands*

DIRECT IONIZATION: NEW DEVELOPMENTS, 555 - 575

- TP 555 **Solventless Corona Discharge Direct Probe Atmospheric Pressure Ionization (DPAPI) Alternative to solids probe EI/CI;** Kamel Harrata; Aisha Azher; *Iowa State University, Ames, IA*
- TP 556 **Improvements and Applications of the Flowing Atmospheric-Pressure Afterglow Ambient Ionization Source;** Jake Shelley¹; Justin Wiseman²; Gary M. Hieftje³; ¹*Indiana University, Bloomington, IN*; ²*Prosolia, Inc., Indianapolis, IN*; ³*Indiana University, Bloomington, IN*
- TP 557 **Compact Design of Handheld Mass Spectrometer Equipped with Ambient Ionization Source for *in situ***

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- Analysis; Guangming Huang¹; Michelle A. Visbal-Onufrak²; Jason Harper¹; yang Zhou²; R. Graham Cooks¹; Zheng Ouyang²; ¹Department of Chemistry, Purdue University, West Lafayette, IN; ²Weldon School of Biomedical Engineering, Purdue university, West Lafayette, IN
- TP 558 **Thermal Separations of Mixtures by Controlled Heating in the Direct Analysis in Real Time Ion Source**; Patrick R. Jones; Matthew Curtis; O. David Sparkman; *University of the Pacific, Stockton, CA*
- TP 559 **Sample Preparation and Sample Presentation for Direct Analysis in Real Time (DART)**; Robert B. Cody¹; John Dane¹; Drew Sauter²; A. D. Sauter, III²; ¹JEOL USA, Inc., Peabody, MA; ²Nanoliter, LLC, Henderson, NV
- TP 560 **Implementation of a Laser Ablation by IR Coupled with DART-based Ionization Source for Analysis of Pharmaceutical Samples**; Lu Zeng¹; Daniel B. Kassel²; Brian D. Musselman³; Mark Little⁴; ¹Takeda San Diego, Inc., San Diego, CA; ²Takeda San Diego, Inc, San Diego, CA; ³IonSense, Inc., Saugus, MA; ⁴Opotek, Inc., Carlsbad, CA
- TP 561 **Development of an Ion Transfer Tether for Non-Proximate Ion Formation and Detection in Direct Analysis In Real Time (DART) MS**; Brian D. Musselman; Elizabeth Crawford; Jordan Krechmer; *IonSense, Inc., Saugus, MA*
- TP 562 **Electrolytic Reduction of Disulfide Bonds of Proteins/Peptides with Online Mass Spectrometric Detection**; Yun Zhang; Howard Dewald; Hao Chen; *Ohio University, Athens, OH*
- TP 563 **High Throughput Analysis of Capture Cards with a Liquid Microjunction Surface Sampling Probe/Electrospray Ionization Mass Spectrometry System**; Matthew J. Walworth¹; Joseph J. Stankovich¹; Chuck Witkowski²; Jeremy L. Norris²; Vilmos Kertesz¹; Gary J. Van Berkel¹; ¹Oak Ridge National Laboratory, Oak Ridge, TN; ²Protein Discovery, Inc., Knoxville, TN
- TP 564 **Paper Spray Mass Spectrometry for Ambient Analysis of Tissue Samples**; He Wang; Nicholas Manicke; R. Graham Cooks; Zheng Ouyang; *Purdue University, West Lafayette, IN*
- TP 565 **Desorption Ionization by Charge Exchange (DICE) – A New Technique Using a Conventional ESI Probe for Generating Multiple Ion Types**; Changching Chan¹; Mark S. Bolgar²; Scott A Miller²; Athula B. Attygalle³; ¹Stevens Institute of Tech, New Brunswick, NJ; ²Bristol-Myers Squibb, New Brunswick, NJ; ³Stevens Institute of Technology, Hoboken, NJ
- TP 566 **A Membrane Based Ion Source for SALDI Mass Spectrometry**; Sergey Nikiforov¹; Vladimir Karavanskii²; ¹Advanced Energy Technology, Moscow, Russia; ²General Physic Institute, Moscow, Russia
- TP 567 **Direct Analysis of Dry Powders by Desorption Electrospray Ionization Mass Spectrometry**; Marcela Nefliu; *Merck Sharp & Dohme Co., Inc., West Point, PA*
- TP 568 **Optimization of Conditions for Rapid Analysis of the Proverbial "White Powders" Using Metal Substrates and Ambient Pressure Desorption Ionization**; Jordan Krechmer; Elizabeth Crawford; Joseph Tice; Brian D. Musselman; *IonSense, Inc., Saugus, MA*
- TP 569 **Thin Layer Chromatography and Mass Spectrometry Coupled Using Proximal Probe Thermal Desorption with Electrospray or Atmospheric Pressure Chemical Ionization**; Olga S. Ovchinnikova; Gary J. Van Berkel; *Oak Ridge National Laboratory, Oak Ridge, TN*
- TP 570 **Thin-Layer Chromatography (TLC) Coupled with Electrospray Laser Desorption Ionization (ELDI) Mass Spectrometry for High-Throughput Analysis of Mixture**; Jentaie Shiea; Li-Jay Wu; Min-Zong Huang; *National Sun Yat-Sen Univ., Kaohsiung, Taiwan*
- TP 571 **Coupling DESI-MS/MS and SPME for Rapid Analysis of Opiates in Urine**; Joseph H Kennedy¹; Craig Aurand²; Justin Wiseman¹; Brian C. Laughlin¹; Robert Shirey²; Brenda Sweeney³; ¹Prosolia, Inc, Indianapolis, IN; ²Sigma Aldrich, Bellefonte, PA; ³AIT laboratories, Indianapolis, IN
- TP 572 **Desorption Atmospheric Pressure Photoionization with PDMS as *in situ* Sample Preparation Method for DAPPI**; Anu Vaikkinen; Tapio Kotiaho; Risto Kostiaainen; Tiina J. Kauppila; *University of Helsinki, Helsinki, Finland*
- TP 573 **Optimizing Capture Agent Density and Electrospray Transmission in Surface-Enhanced Transmission Mode Desorption Electrospray Ionization**; John O'Brien; Joe Chipuk; Jennifer Brodbelt; *The University of Texas, Austin, TX*
- TP 574 **Creation and Use of Reagent Ions with an Atmospheric Solids Analysis Probe (ASAP)**; Frederick Strobel; *Emory University, Atlanta, GA*
- TP 575 **Laserspray Ionization Using the Atmospheric Pressure Solids Analysis Probe and New Tissue Imaging Approaches**; Andrew Harron; Tongwen Wang; Charles N. McEwen; *University of the Sciences in Philadelphia, Philadelphia, PA*

MALDI SAMPLE PREPARATION: MATRICES, NP'S AND LD 2, 576 - 593

- TP 576 **Newly synthesized Liquid matrices for high sensitivity UV-MALDI-MS**; Mark W Towers¹; Thorsten Wolfgang Jaskolla²; Michael Karas²; Rainer Cramer¹; ¹The University of Reading, Reading, UK; ²Goethe University, Frankfurt/Main, Germany
- TP 577 **Hydrogen/Deuterium Exchange combined to MALDI Mass Spectrometry : The Importance of the Choice of the Matrix**; Pascale Lemaire; Delphine Debois; Loic Quinton; Nicolas Smargiasso; Valerie Gabelica; Edwin De Pauw; *Mass Spectrometry Laboratory, University of Liege, Liege, BELGIUM*
- TP 578 **Matrix Effect in MALDI-ToF Mass Spectra of Derivatized Glycerol Ethoxylates**; Roman Borisov; Nikolai Polovkov; Dmitry Zhilyaev; Vladimir Zaikin; *Topchiev Institute of Petrochemical synthesis, Moscow, Russian Federation*
- TP 579 **Matrix Optimization for MALDI-TOF MS Lipid Fingerprinting of Single Bovine Embryos**; Christina Ramires Ferreira¹; Juliano Rodrigues Sangalli³; Luiz Fernando Arruda Santos²; Sergio Adriano Saraiva¹; Fabio Cesar Gozzo²; Felipe Perecin³; Flávio Vieira Meirelles³; Eduardo Jorge Pilau²; Marcos Nogueira Eberlin¹; ¹Thomson MS Laboratory - UNICAMP, Campinas, Brazil; ²Dalton MS Laboratory - UNICAMP, Campinas, São Paulo; ³FZEA - USP, Pirassununga, Brazil
- TP 580 **Positive to Negative Ion Ratios of Peptides in MALDI TOFMS: The Role of Acid/ Base Properties of Matrices and Analytes**; Andy Mahan¹; Kevin G. Owens¹; Richard Knochenmuss²; Jonathan Haulenbeek¹; April Holcomb³; ¹Drexel University, Philadelphia, Pennsylvania; ²Novartis, Basel, Switzerland; ³Ethicon, Inc, Philadelphia, PA

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- TP 581 **Evaluation of 4-Chloro-Alpha-Cyanocinnamic Acid (Cl-CCA) Using MALDI-TOF and MALDI-QIT-TOF;** Matthew Openshaw¹; Yuzo Yamazaki²; John Leszyk³; ¹Shimadzu Biotech, Manchester, UK; ²Shimadzu Corporation, Kyoto, Japan; ³University of Massachusetts Medical School, Shrewsbury, MA
- TP 582 **Metal Ions Loaded Polymer Encapsulating Gold Nanoparticles for LDI-MS;** Phillip T. Lang; Edward T. Castellana; David H. Russell; Texas A&M University, College Station, TX
- TP 583 **Measuring the Intracellular Stability of Monolayer-protected Nanoparticles Using Laser Desorption/Ionization Mass Spectrometry;** Zheng-Jiang Zhu; Oscar R. Miranda; Vincent M. Rotello; Richard Vachet; University of Massachusetts, Amherst, MA
- TP 584 **Nanoparticle-Assisted Seed-Layer Sample Preparation for Quantification of Small Molecule by MALDI-TOF MS;** Ying-Ru Luo¹; Mei-Chun Tseng²; Ying-Wei Lu³; Chun-Cheng Lin³; Yu-Ju Chen²; Ming-Ren Fuh¹; ¹Department of Chemistry, Soochow University, Taipei, Taiwan; ²Institute of Chemistry, Academia Sinica, Taipei, Taiwan; ³Department of Chemistry, Tsing Hua University, Hsinchu, Taiwan
- TP 585 **Matrix-Free LDI Mass Spectrometry on SAM Patterned Nanostructured Gold Thin Film;** Ranu Nayak; Daniel R. Knapp; Medical University of SC, Charleston, SC
- TP 586 **Laser Ablation Mass Spectrometry Studies of the Chromium Trioxide Oxidation Mechanisms;** Freneil Jariwala; Alina D. Bayer; Athula B. Attygalle; Stevens Institute of Technology, Hoboken, NJ
- TP 587 **Laser Desorption/Ionization Mass Spectrometry (LDI-MS) for the Detection and Characterization of Core-Shell Nanoparticles;** Bo Yan; Zhengjiang Zhu; Oscar Miranda; Yi-Cheun Yeh; Youngdo Jeong; Vincent Rotello; Richard Vachet; University of Massachusetts, Amherst, MA
- TP 588 **Matrix Pre-Coated Targets for MALDI Imaging Mass Spectrometry;** Kerri J. Grove; Richard M. Caprioli; Vanderbilt University, Nashville, TN
- TP 589 **Optimization in Mass Spectrometry Analysis of [6,6]-Phenyl C61-Butyric Acid Methyl Ester;** Evgenia Akhmetova; Santosh Narasimhachary; Ashock Saxena; Charles L. Wilkins; University of Arkansas, Fayetteville, AR
- TP 590 **Selective Analyte Capture Using Lipid Bilayer Functionalized Gold Nanorods for MALDI-MS Analysis;** Roberto C. Gamez; Edward T Castellana; David H. Russell; Texas A&M University, College Station, TX
- TP 591 **Application of Bio-Chip Made from Novel Amorphous Carbon for a Matrix-Assisted-Laser Desorption-Ionization Time Of Flight Mass Spectrometry Sample Trays;** Kiyoshi Nokihara¹; Takafumi Ohyama¹; Tetsuya Sogon¹; Akiyoshi Hirata¹; Yasutoshi Taira¹; Takeshi Kasama²; ¹HiPep Laboratories, Kyoto, Japan; ²Tokyo Medical and Dental university, Tokyo, Japan
- TP 592 **Selective Isolation and Detection of Peptides According to pI value and AminoAcid Content Using Polymeric Reverse Micelles and MALDI MS;** Andrea Gomez-Escudero; Yangbin Chen; Sankaran Thayumanavan; Richard Vachet; University of Massachusetts, Amherst, MA
- TP 593 **Selective Enrichment and Detection of Low pI Peptides Using Polymeric Reverse Micelles and MALDI- MS Analysis;** Nadnudda Rodthongkum; Yangbin Chen; Sankaran Thayumanavan; Richard W. Vachet; University of Massachusetts, Amherst, MA
- MALDI TANDEM MS, 594 - 596**
- TP 594 **Facilitating Top-/Middle-Down and Bottom-Up Mass Spectrometry Studies with MALDI-TOF/TOF;** Lihai Guo¹; Joseph A. Loo²; Fadi A. Abdi³; Shixin Sun³; Yongming Xie¹; ¹AB Sciex, Shanghai, Shanghai, China; ²UCLA, Los Angeles, CA; ³AB Sciex, Framingham, MA
- TP 595 **Structural Analysis of Glycopeptides Using a Novel Tandem Time-Of-Flight Mass Spectrometer with a Spiral Ion Trajectory “MALDI Spiral-TOF/TOF”;** Shuichi Shimma¹; Michisato Toyoda¹; Jun Tamura²; Yoshiyuki Itoh²; James Doug Meinhardt³; Takaya Satoh⁴; ¹Osaka University, Toyonaka, Osaka, Japan; ²JEOL Ltd., Akishima, Japan; ³JEOL USA, Inc, Peabody, MA; ⁴JEOL Ltd. MSBU R&D Group1 Team1, Akishima, Japan
- TP 596 **Sequence Analysis of Silencing RNA Oligonucleotides by MALDI QTOF;** Tasneem Bahrainwala¹; Martin Gilar²; Vera Ivleva²; Nicholas Ellor¹; ¹Waters Corporation, Beverly, MA; ²Waters, Milford, MA
- ION SOURCES: APCI/APPI, 597 - 611**
- TP 597 **Small-Size Ionization Source Based on a Piezoelectric Micro Plasma;** Albrecht Brockhaus; Alexander Lau; Albrecht Glasmachers; University of Wuppertal, Wuppertal, Germany
- TP 598 **Optimization of a Field Free APCI Ion Source;** Thomas White; Avinash Dalmia; Craig M. Whitehouse; PerkinElmer, Inc., Branford, CT
- TP 599 **Robust Capillary Electrophoresis–Mass Spectrometry Interface Using a Miniature Flowing Atmospheric-Pressure Afterglow Ion Source;** Stefan Schmid; Pawel Lukasz Urban; Matthias Jecklin; Andrea Amantonico; Renato Zenobi; ETH Zürich, Zürich, Switzerland
- TP 600 **Implementation of a Glow Discharge Reagent Ion Source for the Introduction of ETD Reagent Anions into a Mass Spectrometer;** Lee Earley¹; Christopher Mullen¹; Jean-Jacques Dunyach¹; John E. P. Syka¹; Philip Compton²; Jeffrey Shabanowitz³; Donald F. Hunt³; ¹Thermo Fisher Scientific, San Jose, CA; ²Northwestern University, Chicago, IL; ³University of Virginia, Charlottesville, VA
- TP 601 **Direct Atmospheric Pressure Chemical Ionization Source Performance Study;** Craig M. Whitehouse; Victor Laiko; Shida Shen; PerkinElmer, Inc, Branford, CT
- TP 602 **Enhanced APCI on a Novel Ion Source Design;** Steve Bajic; Sukhdev S. Bangar; Waters Corporation, Manchester, UK
- TP 603 **Using Electric Discharge Sources to Induce both Atmospheric Pressure Photo-Ionization and Atmospheric Pressure Chemical Ionization;** Rob O'Brien¹; Hendrik Kersten²; Davin Carter¹; Thorsten Benter²; ¹UBC Okanagan, Kelowna, Canada; ²University of Wuppertal, Wuppertal, Germany
- TP 604 **Acetone as the Best Dopant for APPI Ionization in the Negative-Ion Mode;** Andreas Fredenhagen; Juergen Kuehnoel; Novartis Institutes fro BioMedical Research, Basel, Switzerland
- TP 605 **Evaluating the Relative Performance of a New Atmospheric Pressure Photoionization Source**

TUESDAY POSTERS

- through the Analysis of Steroids in Biological Fluids; Ross McCulloch; Damon Robb; Michael Blades; *University of British Columbia, Vancouver, Canada*
- TP 606 **Analysis of Anabolic Steroids from Urine with Gas Chromatography – Microchip Atmospheric Pressure Photoionization - Mass Spectrometry;** Laura Hintikka¹; Markus Haapala¹; Tiia Kuuranne²; Risto Kostiaainen¹; ¹*University of Helsinki, Helsinki, Finland*; ²*United Medix Laboratories Ltd., Helsinki, Finland*
- TP 607 **Development and Application of Ambient Sampling Chemi/Chemical Ion Source Using Dielectric Barrier Glow Discharge;** Lee Chuin Chen¹; Zhan Yu¹; Hiroko Furuya²; Yutaka Hashimoto¹; Kenichi Takekawa²; Hiroaki Suzuki³; Osamu Ariyada³; Kenzo Hiraoka¹; ¹*University of Yamaguchi, Kofu, Japan*; ²*Forensic Science Laboratory, Yamaguchi Prefectural, Fuefuki, Japan*; ³*Arios Inc, Akishima, Japan*
- TP 608 **Development of High Flowrate Aerodynamic Force Assisted APCI-MS Method for Real Time Remote Analysis and Continuous Monitoring of VOCs;** Jiuming He¹; Zhigang Luo¹; Xiaohao Wang²; Yi Chen²; Ruiping Zhang¹; Fei Tang²; Zeper Abliz¹; ¹*Institute of Materia Medica, CAMS & PUMC, Beijing, China*; ²*Department of PIM, Tsinghua University, Beijing, China*
- TP 609 **Wavelength Resolved Atmospheric Pressure Photoionization;** Valérie Rouam¹; Julie Allegrand²; Alexandre Giuliani^{1,4}; David Touboul²; Olivier Laprêvôt³; Matthieu Réfrégiers¹; ¹*Synchrotron SOLEIL, Gif-Sur-Yvette, France*; ²*CNRS-ICSN, Gif-Sur-Yvette, France*; ³*CNRS France, Gif-Sur-Yvette, France*; ⁴*CEPIA, INRA, Nantes, France*
- TP 610 **VUV Photoionization within Transfer Capillaries of Atmospheric Pressure Ion sources;** Hendrik Kersten¹; Walter Wissdorf¹; Klaus J. Brockmann¹; Thorsten Benter¹; Rob O'brien²; ¹*University of Wuppertal, Wuppertal, Germany*; ²*UBC Okanagan, Kelowna, BC*
- TP 611 **Study of In-Source Fragmentation Pathways of Lipids via Atmospheric Pressure Photo-Ionization (APPI);** Julie Allegrand^{1,2}; David Touboul^{1,2}; Alexandre Giuliani³; Olivier Laprêvôt^{1,2}; ¹*CNRS-ICSN, Gif-sur-Yvette, France*; ²*CNRS-ICSN, Gif-Sur-Yvette, France*; ³*Synchrotron Soleil, Gif-Sur-Yvette, France*
- ION STRUCTURE/ENERGETICS I, 612 - 636**
- TP 612 **Experimental and Theoretical Study of Structure and Reactivity of Cysteine Methyl Ester Radical Cation Generated via Dissociation of S-Nitroso Precursor;** Sandra Osburn¹; Jeffrey Steill²; Jos Oomens²; Michael J. Van Stipdonk³; Richard A. J. O'hair⁴; Victor Ryzhov¹; ¹*Northern Illinois University, Dekalb, IL*; ²*FOM Rijnhuizen, Nieuwegein, Netherlands*; ³*Wichita State University, Wichita, KS*; ⁴*University of Melbourne, Victoria, Australia*
- TP 613 **Comparison of Infrared Multiple Photon Dissociation Spectra of Protonated Diglyme Generated Using a CO₂ Laser and a Free Electron Laser;** Mohammad Ehsan; Wright Pearson; John R. Eyler; *Department of Chemistry, University of Florida, Gainesville, FL*
- TP 614 **Investigation of Gas-Phase Metal-Salen Complexes via Tandem Mass Spectrometry and IRMPD Spectroscopy;** Kelsey Witherspoon¹; Ryan Dain¹; Sam Molesworth¹; Jeffrey Steill²; Jos Oomens²; Michael J. Van Stipdonk¹; ¹*Wichita State University, Wichita, KS*; ²*FOM Rijnhuizen, Nieuwegein, Netherlands*
- TP 615 **IRMPD Spectroscopy of Protonated, Lithium and Silver Cationized Peptides;** Michael J. Van Stipdonk¹; Sarah Young¹; Stephanie Curtice¹; Sam Molesworth¹; Jeffrey Steill²; Jos Oomens²; ¹*Wichita State University, Wichita, KS*; ²*FOM Rijnhuizen, Nieuwegein, Netherlands*
- TP 616 **Investigation of Model BOC-Hydroxylamine/Metal Complexes via IRMPD Spectroscopy and DFT Modeling;** Ryan Dain¹; Jeffrey Steill²; Jos Oomens²; Garold L. Gresham³; Gary Groenewold³; Michael J. Van Stipdonk¹; ¹*Wichita State University, Wichita, KS*; ²*FOM Rijnhuizen, Nieuwegein, Netherlands*; ³*Idaho National Laboratory, Idaho Falls, ID*
- TP 617 **Infrared Multiple Photon Dissociation Spectroscopy of Cationized Cysteine: Effects of Metal Cation Size on Gas-Phase Conformation;** Murat Citir¹; Elena M. S. Stennett¹; Jos Oomens²; Jeffrey Steill²; Mary T. Rodgers³; Peter B. Armentrout¹; ¹*University of Utah, Salt Lake City, UT*; ²*FOM Rijnhuizen, Nieuwegein, Netherlands*; ³*Wayne State University, Detroit, MI*
- TP 618 **Mass Selected Resonant (1+1)-Photodissociation Spectroscopy of C₂H₅⁺ and C₂D₅⁺;** Hannes Schüttig; Jürgen Grotemeyer; *Christian-Albrechts-Univ, Kiel, Germany*
- TP 619 **Photoelectron Spectroscopy of Methoxy-Substituted Phenylnitrenes;** Neloni Wijeratne; Paul G. Wenthold; *Purdue University, West Lafayette, IN*
- TP 620 **Electrospray Mass Spectrometry and Ultraviolet-Visible Spectroscopy Studies of the Formation and Degradation of Diphosphine Ligand-Protected Gold Nano-Clusters;** Jeffrey W. Hudgens; Denis Bergeron; Ryan Bratton; *NIST, Rockville, MD*
- TP 621 **Infrared Characterization of Protonated Formic Acid Clusters: Tracking the Proton Across a Molecular Scaffold;** Christopher Leavitt¹; Helen Gerardi¹; Solveig Olesen²; Gary H. Weddle³; Mark Johnson¹; ¹*Yale University, New Haven, CT*; ²*University of Copenhagen, Copenhagen, Denmark*; ³*Fairfield University, Fairfield, CT*
- TP 622 **Probing Helix Stability in Gas-Phase Peptides by Fluorescence Measurement of Trapped Ions;** Huihui Yao; Rebecca A. Jockusch; *Department of Chemistry, University of Toronto, Toronto, Canada*
- TP 623 **Electronic Action Spectroscopy of Protonated Nile Red in the Gas Phase;** Robert J. Nieckarz; Konstantin Chingin; Vladimir Frankevich; Rui Wang; Renato Zenobi; *ETH Zürich, Zürich, Switzerland*
- TP 624 **Determination of the Non-covalent Interactions Required to Restore Fluorescence to Gaseous Fluorescein ions via Step-Wise Solvation;** Sandeep Sagoo; Peter D. McQueen; Rebecca A. Jockusch; *University of Toronto, Toronto, ON*
- TP 625 **Infrared Multiphoton Dissociation Spectroscopy of Crown Ether-Ammonium Complexes;** Kyle Rawle; David V. Dearden; *Brigham Young University, Provo, UT*
- TP 626 **Direct Infrared Absorption Measurements on Mass-Selected Cations Trapped in Solid Argon;** Nathan Roehr^{1,1}; Jan Szczepanski^{1,2}; Nicolas Polfer^{1,2,7}; ¹*Gainesville, FL*; ²*University of Florida, Gainesville, FL*
- TP 627 **Fluorescence Resonance Energy Transfer Measurements to Probe the Structure of Gaseous Ions;** Rebecca A. Jockusch; Francis Talbot; Anthony Rullo; Huihui Yao; *Department of Chemistry, University of Toronto, Toronto, Canada*

TUESDAY POSTERS

- TP 628 **Gas-Phase H/D Exchange of Non-protein Amino Acids;** Justine Arrington¹; Rita Straus¹; Elaine M. Marzluff²; John C. Poutsma¹; ¹College of William & Mary, Williamsburg, VA; ²Grinnell College, Grinnell, IA
- TP 629 **Rearrangement and Fragmentation Reactions of Different Estrogen and Indole Ethers: New Aspects Found with a FT-ICR;** Christoph Freudenhammer; Jurgen Grotemeyer; *Christian-Albrechts-Univ, Kiel, Germany*
- TP 630 **Characterization of Complex Organic Aerosols as Analogues to Titan Haze Materials by ESI/LDI FT-ICR Mass Spectrometry and NMR Spectroscopy;** Tamara Munsch; Arpad Somogyi; Guangxin Lin; Mark Smith; *University of Arizona, Tucson, AZ*
- TP 631 **Study of Radical z Ions Produced by ECD;** Daniel A. Thomas; Natalie J. Thompson; Takashi Baba; Gary L. Glish; *University of North Carolina, Chapel Hill, NC*
- TP 632 **Evidence of Remote Double Hydrogen Transfer from Aromatic Hydrogen for Unimolecular Dissociation of N-[3-(2,6-Dichlorophenyl)propanoyl]-1-azacycloalkan(e)-2-(thi)ones Using Four-Sector Tandem Mass Spectrometer;** Hiroshi Yamaoka¹; Yusuke Matsuo¹; Kimio Isa²; Ryuji Nakata²; Nico M.M. Nibbering³; ¹Osaka Prefecture University, Osaka, Japan; ²University of Fukui, Fukui, Japan; ³Vrije Universiteit, Amsterdam, The Netherlands
- TP 633 **Effects of Amide-to-Ester Bond Substitution in the Peptide Backbone on the Cleavage Frequency in Electron Transfer Dissociation and Collision-Activated Dissociation;** Eva C. Østerlund; Hye Ryung Jung; Frank Kjeldsen; *BMB, Odense M, Denmark*
- TP 634 **An Investigation of Neutral and Charged Fragments from Metastable Protein Ion Decomposition Using an Energy Sensitive Superconducting Cryodetector Mass Spectrometer;** George Leonard; Mark E. Bier; *Carnegie Mellon University, Pittsburgh, PA*
- TP 635 **Fragmentation Pathways of Singly and Doubly Charged Molecular Ions of Emetine;** Rong-Sheng Yang¹; Larry Heimark²; Pradip R. Das¹; Birendra Pramanik¹; ¹Merck Research Laboratories, Kenilworth, NJ; ²retired, Tacoma, WA
- TP 636 **Does Acetylation and Methylation Change Fragmentation Mechanisms in Resonance Electron Capture by Neutral Peptides?;** Yury V Vasil'ev; Douglas F. Barofsky; Max L. Deinzer; *Oregon State University, Corvallis, OR*
- ION MOBILITY I, 637 - 665**
- TP 637 **Using a Portable Hand-held Ion Mobility Spectrometer to Screen Dietary Supplements for Fluoxetine and Sibutramine;** Jamie Dunn; Connie Gryniewicz-Ruzicka; Laura Mecker; John Kauffman; Benjamin Westenberger; Lucinda Buhse; *Food and Drug Administration, St. Louis, MO*
- TP 638 **Pathways of Folding and Unfolding Prior to a quasi-Equilibrium Distribution of States in the Bradykinin [M+3H]³⁺ System;** Nicholas Pierson; David E. Clemmer; *Indiana University, Bloomington, IN*
- TP 639 **Glycosylation Stabilizes Compact Conformations of Ribonuclease;** Huilin Shi; Stephen J. Valentine; David E. Clemmer *Indiana University, Bloomington, IN*
- TP 640 **Ion Mobility Spectrometry (IMS) for Trace Analysis of Genotoxic Impurity in Pharmaceutical Products;** Yaning Ma; *Pfizer Inc., Groton, CT*
- TP 641 **Protein Ion Conformation Changes and Fragmentation caused by Ion Heating during Ion Trap Extraction;** Derrick L. Morast¹; Gregg Schieffer¹; Qin Zhao¹; Ethan R. Badman²; R. Sam Houk¹; ¹Iowa State University, Ames, IA; ²Hoffmann-La Roche Inc., Nutley, NJ
- TP 642 **Characterization of the Resolving Power and Resolution of a Monolithic Resistive Glass Drift Time Ion Mobility Spectrometer;** Mark Kwasnik; Facundo Fernandez; *Georgia Institute of Technology, Atlanta, GA*
- TP 643 **High-throughput Proteomics Platform and Software for Improved Biomarker Discovery;** Erin Baker; Yehia Ibrahim; David Prior; William F. Danielson; Karl Weitz; Anuj Shah; Gordon Slys; Brian Lamarche; Kevin Crowell; Jeffrey Stanley; Gordon Anderson; Janani Shutthanandan; Richard D. Smith; Mikhail Belov; *Pacific Northwest National Laboratory, Richland, WA*
- TP 644 **Crown Ether as Shift Reagent for Petroleomics Investigation with Ion Mobility Spectrometry;** Zhiyu Li¹; Stephen Valentine²; David E. Clemmer²; ¹Indiana University - Bloomington, Bloomington, IN; ²Indiana University, Bloomington, IN
- TP 645 **Evaluation of a nanoLC-IMS-TOF Platform for Broad and Sensitive Quantitative Proteomics Measurements;** Yehia Ibrahim; Erin Baker; William F. Danielson; David Prior; Richard D. Smith; Mikhail Belov; *Pacific Northwest National Laboratory, Richland, WA*
- TP 646 **Enhanced Ion Mobility Shift Reagents for Proteomic Applications;** Thomas J. Kerr; Randi L. Gant-Branum; John A. Mclean; *Vanderbilt University, Nashville, TN*
- TP 647 **Analysis of Heart Lipids Using MALDI-Ion Mobility-TOFMS;** Shelley N Jackson¹; Jeremy D Post¹; Alice Delvolve¹; Benoit Colsch¹; Thomas Egan²; J. Albert Schultz²; Amina S Woods¹; ¹NIDA-IRP, NIH, Baltimore, MD; ²Ionwerks, Inc., Houston, TX
- TP 648 **A Study of the Interaction of Quaternary Amines and Phospholipids by Ion Mobility Mass Spectrometry;** Amina S. Woods¹; Shelley N Jackson¹; Jeremy Post¹; Ernest K. Lewis²; Thomas Egan²; J. Albert Schultz²; ¹NIDA IRP, NIH, Baltimore, MD; ²Ionwerks, Inc., Houston, TX
- TP 649 **Exploring the Formation of Gas-Phase B-Hairpin by Ion Mobility-Mass Spectrometry and Molecular Dynamics;** Liuxi Chen; Qiang Shao; Yi-Qin Gao; David H. Russell; *Texas A&M University, College Station, TX*
- TP 650 **A Periodic-focusing DC-only Ion Funnel for a Cryogenic Ion Mobility-Mass Spectrometer;** Joshua Silveira¹; Chaminda M. Gamage¹; Jody May²; David H. Russell¹; ¹Texas A&M University, College Station, TX; ²Vanderbilt University, Nashville, TN
- TP 651 **Site-Specific Glycosylation Analysis Using Isoelectric Trapping Separations and MALDI-IM-TOF MS;** Pei-Jing Pai; Stephanie M. Cologna; William K. Russell; Gyula Vigh; David H. Russell; *Texas A&M University, College Station, TX*
- TP 652 **Enhanced Sensitivity and Coverage in Large-Scale Phosphoproteomics Studies Using High Field Asymmetric Waveform Ion Mobility Spectrometry and Decision Tree Fragmentation;** Eric Bonneil¹; Gaëlle Bridon¹; Tara L Muratore-Schroeder¹; Brenda Kesler²; Pierre Thibault¹; ¹Université de Montréal, Montréal, QC; ²Thermo Fisher Scientific, Redwood City, CA
- TP 653 **Modification and Optimization of a Plug and Play Microspray FAIMS System;** Michael Belford; Jean-Jacques Dunyach; *Thermo Fisher Scientific, San Jose, CA*

TUESDAY POSTERS

- TP 654 **Small Molecule Characterization and Method Development Using High-Field Asymmetric Ion Mobility Spectrometry (FAIMS) and Mass Spectrometry**; Cris Laphorn; *Pfizer Global Research and Development, Sandwich, Kent*
- TP 655 **Selective Analysis of Pharmaceutical Compounds in Complex Mixtures Using a Miniature High-Field FAIMS-MS Device**; Danielle E Toutoungi¹; Anthony Bristow²; Andrew D Ray³; Daniel Weston⁴; ¹*Owlstone Ltd, Cambridge, UK*; ²*Pharmaceutical Development, AstraZeneca, Macclesfield, UK*; ³*Pharmaceutical Development, AstraZeneca, Charnwood, UK*; ⁴*Clinical Pharmacology & DMPK, AstraZeneca, Charnwood, UK*
- TP 656 **Advantages of Using a DMS Ion Pre-filter on Field-deployable Atmospheric Pressure Ionization (API) Mass Spectrometers**; Erkinjon G Nazarov¹; Stephen L Coy¹; Evgeny V Krylov¹; Manuel J Manard²; Rusty Trainham²; Stephan Weeks²; ¹*Sionex Corp., Bedford, MA*; ²*NSTec, Santa Barbara, CA*
- TP 657 **Detection of Naled and Malathion Using GC/Differential Mobility Spectrometry**; Erick Molina¹; Richard A. Yost¹; Ulrich R. Bernier²; Erkinjon Nazarov³; ¹*University of Florida, Gainesville, FL*; ²*USDA-ARS-CMAVE, Gainesville, FL*; ³*Sionex Corp., Bedford, MA*
- TP 658 **Differential Ion Mobility Spectrometry (FAIMS) with Resolving Power Up to 300 and its Application to Lipid and Peptide Analyses**; Alexandre A. Shvartsburg¹; Giorgis Isaac Mezengie²; William F. Danielson¹; David Prior³; Keqi Tang⁴; Tom Metz¹; Richard D. Smith²; Nathalie Leveque⁵; ¹*Pacific Northwest National Laboratory, Richland, WA*; ²*PNNL, Richland, WA*; ³*Battelle PNNL, Richland, WA*; ⁴*Pacific NW National Laboratory, Richland, WA*; ⁵*Universite Paris-Sud XI, Plateau du Moulon, Orsay, France*
- TP 659 **Influence of Electrode Length, and Analytical Gap Dimensions on Ion Transmission and Resolution in a Planar FAIMS Device**; Mark Ridgeway¹; Alessandra Ferzoco¹; Desmond Kaplan²; Melvin A. Park²; Gary L. Glish¹; ¹*University of North Carolina, Chapel Hill, NC*; ²*Bruker Daltonics, Inc., Billerica, MA*
- TP 660 **Exploring the Integration of IMS-FAIMS-MS for Study of Explosives**; Marilyn Prieto; Chia-Wei Tsai; Richard A. Yost; *University of Florida, Gainesville, FL*
- TP 661 **Solvent Vapor Effects in Planar FAIMS**; Leonard Rorrer; Richard A. Yost; *University of Florida, Gainesville, FL*
- TP 662 **Automated Deconvolution of Complex Two-Dimensional Mass-Mobility Spectra of Multiply Charged Globular Ions into their Associated Mass-Charge Distributions**; Juan Fernandez Garcia¹; Alejandro Casado²; Carlos Larriba Andaluz²; Chris Hogan³; Juan Fernandez de la Mora¹; ¹*Yale University, New Haven, CT*; ²*SEADM, Valladolid, Spain*; ³*University of Minnesota, Minneapolis, MN*
- TP 663 **Distinct Kinetic Folding and Unfolding Pathways of Ubiquitin Revealed by Time-Resolved ESI Coupled to Ion Mobility-MS**; John Van Nostrand¹; Tamanna Rob¹; Bruce Thomson²; Derek Wilson¹; K W Michael Siu¹; ¹*York University - CRMS, Toronto, Canada*; ²*MDS Analytical Technologies, Concord, ON*
- TP 664 **Ion Mobility Measurement of the GroEL Tetradecameric Complex by Tandem Differential Mobility Analysis Mass Spectrometry**; Chris Hogan¹; Brandon Ruotolo²; Carol Robinson³; Juan Fernandez De La Mora⁴; ¹*University of Minnesota, Minneapolis, MN*; ²*University of Michigan, Ann Arbor, MI*; ³*University of Oxford, Oxford, UK*; ⁴*Yale University, New Haven, CT*
- TP 665 **Electrospray IMS-MS Analysis of Large Polymers: Escaping from the Crowded Fully-Stretched into the Globular Region**; Carlos Larriba Andaluz¹; Juan Fernandez Garcia¹; Chris Hogan²; Juan Fernandez De La Mora¹; ¹*Yale University - Mechanical Engineering Department, New Haven, CT*; ²*University of Minnesota, Minneapolis, MN*

INSTRUMENTATION: TOF, 666 - 682

- TP 666 **Development of a Tandem Time-Of-Flight Mass Spectrometer with an ESI Ion Source for Probing High-Energy CID and ETD**; Hirofumi Nagao¹; Shuichi Shimma¹; Michisato Toyoda¹; Shigeo Hayakawa²; Kunio Awazu¹; ¹*Osaka University, Toyonaka, Japan*; ²*Osaka Prefecture University, Sakai, Japan*
- TP 667 **A Novel Multiple-Coincidence Method to Make Accurate Mass-Identifications from Multi-Turn Time-of-Flight Spectra Complicated by Overtaking**; Osamu Furuhashi¹; Shigeki Kajihara¹; Kiyoshi Ogawa¹; Tohru Kinugawa²; ¹*Shimadzu Corporation, Kyoto, Japan*; ²*Kobe University, Kobe, Japan*
- TP 668 **Development of a Ultra-High Performance Multi-Turn TOF-SIMS System with a Femto-Second Laser for Post-Ionization**; Shingo Ebata¹; Morio Ishihara¹; Kousuke Kumonai¹; Ryo Mibuka²; Kiichiro Uchino²; Hisayoshi Yurimoto³; ¹*Osaka University, Toyonaka, Japan*; ²*Kyushu University, Kasuga, Japan*; ³*Hokkaido University, Sapporo, Japan*
- TP 669 **Analysis of Polychlorinatedbiphenyls with an Electron Impact Ionisation Source on an IMS enabled High-Resolution QToF Mass Spectrometer**; Gareth R Jones; Keith Worrall; Robert Bateman; Kyle D'silva; *Waters, Manchester, UK*
- TP 670 **Use of a Multi-Reflecting Time of Flight Mass Analyzer for Accurate Quantitation of Narrow (Sub-Second) Liquid Chromatographic Peaks**; Kevin Siek; Matthew Giardina; John Chakel; Scott Pugh; Mark Libardoni; Viatcheslav Artaev; *LECO Corporation, Saint Joseph, MI*
- TP 671 **Doughnut Multi-reflecting Time-of-Flight Mass Spectrometer**; Vyacheslav Shchepunov¹; Alexander Berdnikov²; Hideaki Izumi¹; Roger Giles¹; Nicolay Gall²; ¹*Shimadzu Research Laboratory, Manchester, UK*; ²*Institute for Analytical Instrumentation of RAS, St. Petersburg, Russia*
- TP 672 **Isolating the Effects of Microchannel Plate Parameters on the Ultimate Resolution in Time of Flight Mass Spectrometers**; Stephen Ritzau; Paul Mitchell; Paula Holmes; *Photonis USA, Inc., Sturbridge, MA*
- TP 673 **Design and Performance of New High Resolution MALDI-TOF Mass Spectrometers**; Kevin Hayden; Marvin Vestal; *VIC Instruments Corp., Sudbury, MA*
- TP 674 **Development of a Stigmatic Mass Microscope with High Mass and Spatial Resolving Power Using a Multi-Turn Time-of-Flight Mass Spectrometer**; Jun Aoki^{1,6}; Hisanao Hazama^{2,6}; Michisato Toyoda^{1,6}; Kunio Awazu^{2,6}; Katsuyoshi Masuda^{4,6}; Kenichi Fujii^{5,6}; Yasuhide Naito^{3,6}; ¹*Graduate School of Science, Osaka University, Toyonaka, Osaka, Japan*; ²*Graduate School of Engineering, Osaka University, Suita, Osaka, Japan*; ³*GPI, Hamamatsu, Shizuoka, Japan*; ⁴*Suntory Institute for Bioorganic Research, Mishima-gun, Osaka, Japan*; ⁵*Osaka Institute of Technology, Hirakata, Osaka, Japan*; ⁶*JST, CREST, Chioda-ku, Tokyo, Japan*

TUESDAY POSTERS

- TP 675 **Physical Signal Modulation on TOF Mass Analyzers Reduces Error in Centroid Peak Assignment and Improves Signal-To-Noise;** Jonathan Hilmer¹; Brian Bothner²; ¹Montana State University, Mass Spectrometry Facility, Bozeman; ²Montana State University, Bozeman, MT
- TP 676 **Tunable Postionization of Laser Desorbed Neutrals by Synchrotron Radiation to Detect Antibiotics in *S. epidermidis* Bacterial Biofilms;** Gerald L. Gasper¹; Lynelle K. Takahashi^{2,3}; Jia Zhou³; Musahid Ahmed³; Luke Hanley¹; ¹University Illinois Chicago, Chicago, IL; ²University of California, Berkeley, Berkeley, California; ³Chemical Sciences Division, LBNL, Berkeley, Berkeley, California
- TP 677 **Enlargement of Effective Area of M2 Ion Detector by Electron Optics;** Motohiro Suyama; Hiroshi Kobayashi; Masahiro Kotani; Takayuki Ohmura; Akio Suzuki; Yuuya Washiyama; *Hamamatsu Photonics K.K., Iwata, Japan*
- TP 678 **Development and Application of Miniaturized High-Resolution Time-Of-Flight Mass Spectrometer “MULTUM-S II” with an Infinite Flight Path;** Shuichi Shimma¹; Keiji Takahashi²; Shinichi Miki²; Michisato Toyoda¹; ¹Osaka University, Toyonaka, Japan; ²MSI Tokyo Inc., Chofu-shi, Japan
- TP 679 **Charge-State-Discrimination TOF Analyzer by Nano-Second Superconducting Molecule Detector;** Kouji Suzuki¹; Masataka Ohkubo¹; Shigehito Miki²; Kaori Chiba¹; Shigetomo Shiki¹; Masahiro Ukibe¹; Zhen Wang²; ¹AIST, RIIF, Tsukuba, Japan; ²NICT, Kobe, Japan
- TP 680 **Optimizing the Microchannel Plate Detector Assembly to Improve Time-Of-Flight Mass Resolution;** Paul Mitchell; Stephen Ritzau; Bruce Laprade; ¹Photonis USA, Inc., Sturbridge, MA
- TP 681 **Multi-Anode Detector in Mass Spectrometer;** Yi He; John F. Poehlman; Kirk Boraas; James P. Reilly; *Indiana University, Bloomington, IN*
- TP 682 **A Serpentine Extraction Ion Source for a Laser Desorption Postionization Microprobe Imaging MS;** Jerry F. Moore¹; Gerald Gasper²; Artem Akhmetov²; Luke Hanley²; ¹MassThink LLC, Naperville, IL; ²University of Illinois at Chicago, Chicago, IL

WEDNESDAY POSTERS

7:30 – 8:00 am..... All Wednesday posters should be set
 10:30 am – 2:30 pm..... All poster authors should be present
 11:45 am – 12:15 pm.....Lunch break for odd-numbered posters
 12:15 – 12:45 pm Lunch break for even-numbered posters
 7:30 – 8:00 pmRemove all Wednesday posters

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BIOINFORMATICS, 001 - 026

WP 001 **Precursor Monoisotopic Mass and charge Determination with Almost 100% Accuracy;** Xi Han¹; Baozhen Shan²; Bin Ma¹; ¹University of Waterloo, Waterloo, Canada; ²Bioinformatics Solutions Inc., Waterloo, ON, Canada

WP 002 **Constructing a Minimal Spanning Tree for Improving the Analysis of the Mass Spectrum of Complex Mixtures;** Yury Kostyukevich^{1,2}; Anton Grigoriev^{1,2}; ¹ Dolgoprudnii, Russian Federation; ²MIPT, Dolgoprudnii, Russia

WP 003 **A New Approach to Deisotoping of Complex Isotopically Resolved Spectra;** Dmitry M. Avtonomov^{1,2}; Ilya A Agron^{1,3}; Eugene Nikolaev^{1,2}; ¹The Institute for Energy Problems of Chemical Phys, Moscow, Russia; ²Institute of Biochemical Physics RAS, Moscow, Russia; ³Institute of Biomedical Chemistry RAMS, Moscow, Russia

WP 004 **Deconvolution of Complex Tandem Mass Spectra of Intact Proteins: A Combinatorial Approach;** Xiaowen Liu¹; Yuval Inbar¹; Sara Weitz²; Pieter Dorrestein²; Puneet Souda³; Julian Whitelegge³; Vineet Bafna¹; Pavel Pevzner¹; ¹Dept. of Comp. Sci. and Eng., UCSD, La Jolla, CA; ²Skaggs School, UCSD, La Jolla, CA; ³Pasarow Mass Spectrometry Laboratory, UCLA, Los Angeles, CA

WP 005 **Accurate Measurement of Biopolymer Molecular Weight with Orbitrap Mass Spectrometer;** Zheming Gu; Dawei Zhou; *XenoBiotic Laboratories, Inc., Plainsboro, NJ*

WP 006 **Quantitative and Qualitative Aspects of Deconvolution of Intact Proteins;** Natalia Belyaeva; Jim Shofstahl; Thomas McClure; Tonya Second; David Horn; *Thermo Fisher Scientific, San Jose, CA*

WP 007 **A Novel MS/MS Typing-Based Platform for Automated Selection and Detection of Strain-Specific Biomarkers;** Jane Razumovskaya; Appavu Sundaram; Vladimir M. Doroshenko; *SESI, Columbia, MD*

WP 008 **Exploring Data-Dependent Acquisition Strategies with COM Instrument Control Libraries for the LTQ-Orbitrap (Thermo Scientific) Instruments;** Aleksey Nakorchevsky; John Yates; *The Scripps Research Institute, La Jolla, CA*

WP 009 **mzServer: Remote Mass-Informatics through a Web-Based mzAPI;** Manor Askenazi¹; James Webber²; Saurav Singh²; Jarrod Marto²; ¹Dana-Farber Cancer Institute and Hebrew University, Boston, MA; ²Dana Farber Cancer Institute, Boston, MA

WP 010 **First Demonstration on NSE Biomarker of a Computational Environment Dedicated to Lab-on-Chip Based Cancer Diagnosis;** Pierre Grangeat¹; Laurent Gerfault¹; Caroline Paulus¹; Vangelis Kritsotakis²; Manolis Tsiknakis²; Frédérique Lisacek³; Pierre-Alain Binz⁴; Manuel M Perez-Perez⁵; Mathieu Trauchessec⁶; Virginie Brun⁶; ¹CEA, LETI, MINATEC, DTBS, LE2S, Grenoble, France; ²FORTH, ICS, Heraklion, Greece; ³SIB, Proteome Informatics Group, Geneva, Switzerland; ⁴GeneBio SA, Geneva, Switzerland; ⁵ATOS Research and Innovation, Madrid, Spain; ⁶CEA/INSERM/UJF U880, LEDyP, Grenoble, France

WP 011 **Beyond Monoisotopic Mass II : Prediction of Peptide PTMs by Isotope Cluster Analysis;** Jonathan A Epstein¹; Matthew T. Olson²; Peter S. Backlund¹; Paul S. Blank¹; Aaron Catlin¹; Alfred L. Yergey¹; ¹NICHD, NIH, Bethesda, MD; ²JHMI, Baltimore, MD

WP 012 **SpecPlot – A Versatile Tool for Spectrum Visualization;** Phil Boucharde; Nuno Bandeira; *Center for Computational Mass Spectrometry, UCSD, La Jolla, CA*

WP 013 **Improvement and Application of Analytical Software for Examining Reproducibility in Shotgun Proteomics;** Xinjian Yan; Dmitrii V. Tchekhovskoi; Bhaskar Godugu; Stephen Stein; *NIST, Gaithersburg, MD*

WP 014 **Fragment Selection and Scoring for Isomer Detection by Tandem Mass Spectrometry;** Javier Satulovsky; Maggie Bynum; Hongfeng Yin; Kevin Killeen; *Agilent Laboratories, Santa Clara, CA*

WP 015 **Online Library of Peptide Fragmentation Mass Spectra;** Niksa Blonder; Qian Dong; Yuri Mirokhin; Jeri Roth; Paul Rudnick; Stephen Stein; *NIST, Gaithersburg, MD*

WP 016 **Creating Consensus Spectra with a Peak Density-Based Clustering Method;** Songfeng Wu; Bhaskar Godugu; Xiaoyu Yang; Steve Stein; *NIST, Gaithersburg, MD*

WP 017 **Evaluation of Methods for Unsupervised Classification of MALDI Mass Spectra;** Joseph Salisbury¹; Emmanuel Obasuyi¹; Nicole Zaia¹; Kristin Boggio¹; Nathalie Agar²; Jeffrey Agar¹; ¹Brandeis

WEDNESDAY POSTERS

- WP 018 *University, Waltham, MA; ²Brigham and Women's Hospital, Harvard University, Boston, MA*
Outlier Analysis of Protein Microarray Data for Biomarker Discovery; Huy Vuong¹; David M. Lubman¹; Michael S. Sabel¹; Sara Forrester²; Timothy Barder²; ¹University of Michigan, Ann Arbor, MI; ²Eprogen, Inc, Darien, IL
- WP 019 **Automated Analysis of Hydrogen/Deuterium Exchange-Mass Spectrometry Data of Large Proteins to Determine Exchange Rate Constant with Near Single-Residue Resolution;** Zhongqi Zhang; Gang Xiao; Amgen, Thousand Oaks, CA
- WP 020 **Strategy for Automatic Interpretation of MS Data in Target Compound Analysis: Evaluation Methods for Comparing Data Against Acceptance Criteria;** David N. Heller; Hui Li; FDA/CVM, Laurel, MD
- WP 021 **Biomarker Discovery by Automatic Annotation of N-glycan Species in MALDI-TOF-TOF Spectra;** Chuan-Yih Yu; Anoop M. Mayampurath; Yehia Mechref; Haixu Tang; Indiana University, Bloomington, IN
- WP 022 **Improving Wavelet Denoising of HPLC-MS Data by Adaptive Thresholding in the Retention Time Domain;** Salvatore Cappadona^{1,2}; Linda Pattini³; Fredrik Levander⁴; Reinout Raijmakers^{1,2}; Shabaz Mohammed^{1,2}; Albert J.R. Heck^{1,2}; Bas van Breukelen^{1,2}; ¹Biomolecular MS & Proteomics - Utrecht University, Utrecht, Netherlands; ²Netherlands Proteomics Centre, Utrecht, Netherlands; ³Bioengineering Department - Politecnico di Milano, Milano, Italy; ⁴Immunotechnology Dept, Lund University, Lund, Sweden
- WP 023 **mMass Reloaded - Advances in the Popular Cross-Platform Software for Precise Analysis Of Mass Spectrometric Data;** Martin Strohal¹; Daniel Kavan^{1,2}; Petr Novak^{1,2}; Vladimir Havlicek^{1,3}; ¹Institute of Microbiology, Prague, Czech Republic; ²Faculty of Science, Charles University, Prague, Czech Republic; ³Palacky University, Olomouc, Czech Republic
- WP 024 **Digging Deeper into a Million-Spectral Dataset: Analysis of 3D-Fractionated Salivary Proteome by Using Search Algorithms for High-Mass-Accuracy Data;** Pratik Jagtap¹; Sricharan Bandhakavi²; Sean L. Seymour³; Tim Griffin²; ¹Minnesota Supercomputing Institute, UMN, Minneapolis, MN; ²University of Minnesota, Minneapolis, MN; ³AB SCIEX, Foster City, CA
- WP 025 **A Mathematical Algorithm for Estimation Protein Dynamics Using Mass Spectrometry;** Sergei Ilchenko²; Nadia Rachdaoui²; Ling Li¹; Belinda Willard¹; Arthur McCullough¹; Takhar Kasumov¹; ¹CCF, Cleveland, OH; ²Case Western Reserve University, Cleveland, OH
- WP 026 **Probabilistic Scoring of Protein-Protein Interactions from Label-Free Quantitative AP-MS Data;** Hyungwon Choi¹; Ashton Breitreutz²; Dattatreya Mellacheruvu¹; Damian Fermin¹; Mike Tyers^{2,3}; Zhaohui Qin¹; Anne-Claude Gingras^{2,4}; Alexey Nesvizhskii¹; ¹University of Michigan, Ann Arbor, MI; ²Samuel Lunenfeld Research Institute, Toronto, Canada; ³University of Edinburgh, Edinburgh, UK; ⁴University of Toronto, Toronto, Canada
- WP 028 **Acetaldehyde Adducts as a Biomarker of Exposure;** Alina Costin; Maria Ospina; Hubert Vesper; Centers for Disease Control and Prevention, Atlanta, GA
- WP 029 **Characterization of Intact Complexes of Recombinant Albumin Domains with ON 01910, an Antineoplastic Benzylstyryl Sulfone, Using Electrospray Mass Spectrometry;** John Roboz; Sool Yeon Cho; Mount Sinai School of Medicine, New York, NY
- WP 030 **Interaction Site of Periplasmic Metal-Resistance Proteins CusF/CusB Determined by Chemical Cross-Linking and Mass Spectrometry;** Tiffany Mealman¹; Pragya Singh²; David R. Goodlett²; Megan McEvoy¹; Vicki H. Wysocki¹; ¹University of Arizona, Tucson, AZ; ²University of Washington, Seattle, WA
- WP 031 **Reporter Ion Signature for Cross-Linked Peptides;** Lutz Fischer; Helena Barysz; Zhuo Chen; Lau Sennels; Salman Tahir; Juri Rappsilber; Wellcome Trust Centre for Cell Biology, Edinburgh, UK
- WP 032 **Structural Characterization of Chemically Stabilized, ALS-Associated Variants of Cu, Zn Superoxide Dismutase;** Jared R. Auclair; Kristin J. Boggio; Dagmar Ringe; Gregory A. Petsko; Jeffrey Agar; Brandeis University, Waltham, MA
- WP 033 **Cysteine Rich Protein Segments: A Comparison of Disulfide Mapping Methods;** Cedric Bobst¹; Adriana Z. Kita¹; Igor A. Kaltashov¹; Melanie Lin²; Paul Salinas²; John J. Thomas²; Philip J. Savickas²; ¹University of Massachusetts, Amherst, MA; ²Shire HGT, Cambridge, MA
- WP 034 **Disulfide Mapping of Therapeutic Proteins by Differential Mass Spectrometry (dMS);** Yi Du; Van M. Hoang; Merck Research Laboratories, West Point, PA
- WP 035 **Insights into Formaldehyde Cross-Linking of Proteins and Cross-Link Reversal by Mass Spectrometry Based Time-Course Analysis;** Xuan Ding; Juergen Kast; University of British Columbia, Vancouver, BC
- WP 036 **BPL Modifications in Viruses: Reactions with Model Peptides;** Joost Uittenbogaard; Bert Zomer; Peter Hoogerhout; Hugo D. Meiring; Ad de Jong; Bernard Metz; Netherlands Vaccine Institute, Bilthoven, Netherlands
- WP 037 **Determination of the Binding Sites of Dimethylphenylisocyanate on Human Serum Albumin;** Justin M. Hettick; Tinashe B. Ruwona; Paul D. Siegel; NIOSH, Morgantown, WV
- WP 038 **Identification of MDI Albumin Adducts with Liquid Chromatography Tandem Mass Spectrometry and Mascot Software;** Fagen Zhang; Michael J. Bartels; The Dow Chemical Company, Midland, MI
- WP 039 **Characterization of Challenging PEGylated Therapeutics Utilizing Advanced MS Technology and Novel Preparation Techniques;** Tonya Pekar Second¹; Rosa Viner¹; Andrew Carr²; Chad Cummins²; John E. P. Syka¹; Lihua Huang²; ¹Thermo Fisher Scientific, San Jose, CA; ²Eli Lilly and Company, Indianapolis, IN
- WP 040 **Effect of Fluorescent Dye Labeling on Electrospray Ionization Efficiencies of Peptides and Proteins;** Suraj Saraswat; Dragan Isailovic; University of Toledo, Toledo, OH
- WP 041 **Formation of Carbamino Groups with Peptides and Proteins Studied by Mass Spectrometry;** Donald J. Douglas; Peran Terrier; University of British Columbia, Vancouver, Canada

PROTEINS: MODIFIED, 027 - 060

- WP 027 **Identification of Acrolein Adducts by LC/MS/MS;** Maria Ospina; Alina Costin; Hubert Vesper; Center/Disease Control & Prevention, Atlanta, GA

WEDNESDAY POSTERS

- WP 042 **Use of Label-Free Quantitative Mass Spectrometry to Identify Lyric Ubiquitylation Sites: Towards the Determination of Lyric Functional Modulation;** Karin Barnouin¹; Hayley Thirkettle^{2,3}; Sarah Hanrahan¹; Nick Totty¹; David Neal²; Hayley Whitaker²; ¹London Research Institute, Cancer Research UK, London, UK; ²Cambridge Research Institute, Cancer Research UK, Cambridge, UK; ³Paterson Institute for Cancer Research, Manchester, UK
- WP 043 **Characterization of Trisulfide – A Common Modification in Antibodies;** Sheng Gu; Dingyi Wen; R.Blake Pepinsky; Paul H. Weinreb; Yaping Sun; Lihe Zhang; Susan Foley; Sha Mi; Werner Meier; *Biogen Idec, Cambridge, MA*
- WP 044 **MS Analysis of Differentially Acetylated Species of CheY, Response Regulator in Chemotaxis of *E.coli*. From Top-Down to Bottom-Up;** Tevie Mehlman; Bassem Ziadeh; Orna Liarzi; Rina Barak; Michael Eisenbach; Alla Shainskaya; *Weizmann Institute of Science, Rehovot, Israel*
- WP 045 **Mass Spectrometric Identification of Human CENP-A Post-Translational Modifications;** Aaron Bailey¹; Tatyana Panchenko²; Ben Black²; Daniel Foltz¹; Jeffrey Shabanowitz¹; Donald Hunt¹; ¹University of Virginia, Charlottesville, VA; ²University of Pennsylvania, Philadelphia, PA
- WP 046 **Role of Methionine Sulfoxide Reductase in Repairing Catalase of *Helicobacter pylori*;** ViLinh Tran¹; Manish Mahawar²; Robert J. Maier²; Joshua S. Sharp¹; ¹Complex Carbohydrate Research Center, UGA, Athens, GA; ²Department of Microbiology, UGA, Athens, GA
- WP 047 **Identification of H-Ras Posttranslational Modifications under Oxidative Stresses;** Yuhuan Ji¹; Dagmar J. F. Haeussler²; Markus M. Bachschmid²; David Perlman¹; Richard A. Cohen²; Cheng Lin¹; ¹Department of Biochemistry, Boston University, Boston, MA; ²Department of Medicine, Boston University, Boston, MA
- WP 048 **Mapping Free Radical Initiated Oxidation of apo B-100 Low Density Lipoprotein by LC-MS/MS;** Sourav Sourav Chakraborty¹; Yang Cai²; Matthew A. Tarr¹; ¹Department of Chemistry, University of New Orleans, New Orleans, LA; ²The Research Institute for Children, New Orleans, LA
- WP 049 **Semi-Quantitative Analysis of Combinatorial Post-Translational Modifications on Full-Length Histone H4 of Cow, Mouse and Chicken;** Li Zhou¹; Michael Parra¹; Yuan-Yu Lee¹; Yanbao Yu¹; Yi Huang²; Brian D. Strahl¹; Xian Chen¹; ¹University of North Carolina - Chapel Hill, Chapel Hill, NC; ²Fudan University, Shanghai, China
- WP 050 **Localization and Quantification of Free Sulfhydryl in Monoclonal Antibodies by Top-Down HPLC/MS Analysis;** Pavel V. Bondarenko; Gang Xiao; Thomas M. Dillon; Zhongqi Zhang; *Amgen, Inc., Thousand Oaks, CA*
- WP 051 **Fourier Transform Mass Spectrometry of Antiproliferative Agents and Their Protein Targets;** Jeremy J. Wolff¹; DongEun Lee²; Matthew L. Meketa²; Andrew G. Myers²; ¹Bruker Daltonics, Billerica, MA; ²Harvard University, Cambridge, MA
- WP 052 **Discovery of New Protein Methyltransferases and Relative Quantitation of the Methylation State of Their Translational Machinery Substrates Using Mass Spectrometry;** Kristofor Webb; Rebecca Lipson; Julian Whitelegge; Steve Clarke; *University of California LA, Los Angeles, CA*
- WP 053 **Analysis of Fluorescently Labeled Proteins by MALDI-MS;** Dragan Isailovic; Suraj Saraswat; Nidhi Jaiswal; *University of Toledo, Toledo, OH*
- WP 054 **Top-Down Sequencing of Intact Histones by MALDI-TOF In Source Decay;** Elaine Stephens; Sew Peak Chew; *Medical Research Council, Cambridge, UK*
- WP 055 **Top-Down ECD Analysis of Beta 2 Microglobulin Protein Deamidation;** Xiaojuan Li¹; Cheng Lin¹; Peter B. O'connor²; ¹Boston University School of Medicine, Boston, MA; ²University of Warwick, Coventry, UK
- WP 056 **Identification of Different Protein Isoforms in *C. elegans* Using the Molecular Weight Fractionation and Shotgun Proteomics;** Gennifer Merrihew; Sanna Oddone; Michael J. Maccoss; *University of Washington, Seattle, WA*
- WP 057 **HDAC3 and HDAC8 Alkylation by a Selective Photoaffinity Labeling Inhibitor;** Yongsoo Choi¹; Bai He¹; Raghupathi Neelapuru¹; Subash Velaparthi²; Sylvie Blond¹; Pavel A Petukhov¹; Richard B van Breemen¹; ¹University of Illinois College of Pharmacy, Chicago, IL; ²The Scripps Research Institute, La Jolla, CA
- WP 058 **Localization of the Specific Site of Enzyme-Mediated Covalent Binding of Phycoerythrobilin to C-Phycoerythrin;** M. Nazim Boutaghou; Avijit Biswas; Richard B. Cole; Wendy M. Schluchter; *University of New Orleans, New Orleans, LA*
- WP 059 **Use of Hybrid LTQ-Orbitrap to Detect Ubiquitin and Polyubiquitin-Chain-Derived Peptides in Unenriched Whole-Cell and Tissue Lysates;** Thomas A. Shaler¹; Brigit Riley²; Steve Kaiser²; Ron Kopito²; Chris Becker¹; ¹Caprion Proteomics U.S. LLC, Menlo Park, CA; ²Stanford University, Stanford, CA
- WP 060 **Mapping the Chromatin Structure Controlling Life Cycle Progression of Plasmodium Falciparum;** Anita Sara²; Serena Cervantes¹; Michael Washburn²; Karine Le Roch¹; Laurence Florens²; ¹University of California Riverside, Riverside, CA; ²Stowers Institute for Medical Research, Kansas City, MO

PROTEIN CONFORMATION: (HDX), 061 - 088

- WP 061 **Localizing Binding-Induced Folding in Disordered Proteins CBP and ACTR with H/D-MS;** Theodore Keppel; David Weis; *University of Kansas, Lawrence, KS*
- WP 062 **Structure/Dynamics Studies of Dodecameric DPS-like Cages from Bacteria and Archaea (Mesophilic vs. Thermophilic);** Navid Movahed¹; Geoff Blatter¹; Jonathan Hilmer²; George Gauss¹; Martin Lawrence¹; Mark Young¹; Trevor Douglas¹; Brian Bothner¹; ¹Montana State University, Bozeman, MT; ²Montana State University, Mass Spectrometry Facili, Bozeman, MT
- WP 063 **Histidine Hydrogen-Deuterium Exchange Mass Spectrometry for Probing Structural Changes in Rhodopsin;** Masaru Miyagi; David Lodowski; Krzysztof Palczewski; *Case Western Reserve Univ., Cleveland, OH*
- WP 064 **Understanding the Transferrin Binding Protein B – Porcine Transferrin Interaction and its Role in Iron Release and Transfer;** Leslie Silva; Ronghua Yu; Tony B. Schryvers; David C. Schriemer; *University of Calgary, Calgary, Canada*
- WP 065 **An Integrated Microfluidic Chip for Spatially Resolved Measurements of Millisecond Time-Scale**

WEDNESDAY POSTERS

- WP 066 **Conformational Dynamics in Proteins;** Tamanna Rob; Derek Wilson; *York University, Toronto, Canada*
Understanding Oncogenic Activation and Inhibitor Binding of the Epidermal Growth Factor Receptor by Hydrogen Exchange Mass Spectrometry; Kasper D. Rand¹; Cai-hung Yun^{2,3}; Michael J. Eck^{2,3}; John R. Engen¹; ¹*Northeastern University, Boston, MA*; ²*Harvard Medical School, Boston, MA*; ³*Dana-Farber Cancer Institute, Boston, MA*
- WP 067 **Investigation of the Protein Dynamics of AMP-Activated Protein Kinase with Hydrogen/Deuterium Exchange Mass Spectrometry;** Rachelle R. Landgraf¹; Michael J. Chalmers¹; Bruce D. Pascal¹; Francis Rajamohan²; Melissa S. Harris²; Ravi G. Kurumbail²; Patrick R. Griffin¹; ¹*The Scripps Research Institute, Jupiter, FL*; ²*Pfizer Inc., Groton, CT*
- WP 068 **HDX Reveals DNA Binding Modulates Ligand-Dependent Co-Activator Interaction with the VDR/RXR α Nuclear Receptor Complex;** Jun Zhang¹; Michael J. Chalmers¹; Bruce D. Pascal¹; Scooter Willis¹; Keith R. Stayrook²; Jeffrey A. Dodge²; Patrick R. Griffin¹; ¹*The Scripps Research Institute, Scripps Florida, Jupiter, FL*; ²*Lilly Research Laboratories, Eli Lilly and Company, Indianapolis, IN*
- WP 069 **Screening for Unique RXR α -retinoid Interactions by Automated Hydrogen/Deuterium Exchange;** Leeann Boerma; Gang Xia; Donald Muccio; Matthew B. Renfrow; *University of Alabama at Birmingham, Birmingham, AL*
- WP 070 **Cross Comparison of Differential HDX MS Datasets;** Bruce D. Pascal¹; Michael J. Chalmers¹; Scooter Willis¹; Jeffrey A. Dodge²; Stephen J. Iturria²; Jun Zhang¹; Patrick R. Griffin¹; ¹*The Scripps Research Institute, Scripps Florida, Jupiter, FL*; ²*Eli Lilly and Company, Indianapolis, Indiana*
- WP 071 **Allostery and Feedback Regulation in the Cyclic AMP Pathway Unravalled by Amide Hydrogen/Deuterium Exchange Mass Spectrometry;** Ganesh S. Anand; Balakrishnan S. Moorthy; Suguna Badireddy; *NUS, Singapore*
- WP 072 **Development of an HXMS Workflow and its Application to Epitope Mapping;** Keith Fadgen; Michael Eggertson; Martha Stapels; Joomi Ahn; *Waters Corp., Milford, MA*
- WP 073 **Combination of Top-Down and Bottom-Up Approaches to HDX MS: On-Line Digestion and Continuous Flow Injection Followed by Peptide Ion ECD/ETD;** Rinat Abzalimov¹; Cedric Bobst¹; Michael Easterling²; Igor A. Kaltashov¹; ¹*University of Massachusetts, Amherst, MA*; ²*Bruker Daltonics, Inc., Billerica, MA*
- WP 074 **Interactions of Various Modulators with Human FXR-LBD Studied by Hydrogen/Deuterium Exchange with LC-ESI Mass Spectrometry;** Liping Yang¹; Claudia Maier¹; ¹*Oregon State University, Corvallis, OR*
- WP 075 **Investigating Novel Molecular Events Involved in Calcium-Calmodulin Activation of Smooth Muscle Myosin Light Chain Kinase Using Hydrogen-Deuterium Exchange Mass Spectrometry;** Madonna Lily Choi¹; Michael Walsh¹; John Chik^{1,2}; ¹*University of Calgary, Calgary, Canada*; ²*Mount Royal University, Calgary, AB*
- WP 076 **The Transport Cycle of a Membrane ABC Transporter Probed by HDX MS;** Shahid Mehmood; Jean-Michel Jault; Eric Forest; *Inst. for Structural Biology, Grenoble, France*
- WP 077 **Measurement of pKa Values and C2 H/D Exchange Rates of Individual Histidine Residues in Proteins Using MALDI-MS;** Naoka Hayashi¹; Hiroki Kuyama²; Chihiro Nakajima²; Osamu Nishimura²; Masaru Miyagi³; Hisayuki Matsu⁴; Takashi Nakazawa¹; ¹*Nara Women's University, Nara, Japan*; ²*Institute for Protein Research, Osaka, Japan*; ³*Case Western Reserve University, Cleveland, Ohio*; ⁴*National Cardiovascular Center Research Institute, Osaka, Japan*
- WP 078 **Using Hydrogen/Deuterium Exchange Mass Spectrometry to Study the Conformation of Myoglobin Adsorbed on Silver Nanoparticles;** Yaoling Long; Barber David; David Powell; John Eyler; *University of Florida, Gainesville, FL*
- WP 079 **The Potential for "Synergistic" Protein Digestion Using Multiple, Immobilized Protease for Hydrogen/Deuterium Exchange Mass Spectrometry;** Anne Yang²; John Chik^{1,2}; ¹*Mount Royal University, Calgary, Canada*; ²*University of Calgary, Calgary, AB*
- WP 080 **Slow H/D Exchange of Histidine Residues as a Probe of Protein Folding and Stability;** Duc Tran; Michael C. Fitzgerald; *Duke University, Durham, North Carolina*
- WP 081 **Recognizing False EX1 Signatures Caused by Peptide Carryover during HXMS Analyses;** Jing Fang; Kasper D. Rand; Penny J. Beuning; John R. Engen; *Northeastern University, Boston, MA*
- WP 082 **Apolipoprotein-E Oligomerization Investigated by Hydrogen/Deuterium Exchange Mass Spectrometry;** Richard Yu-Cheng Huang; Brian C. Gau; Kanchan Garai; Carl Frieden; Michael L. Gross; *Washington University, St. Louis, MO*
- WP 083 **Front-End Automation for Solution-Phase H/D Exchange FT-ICR Mass Spectrometry;** Qian Zhang^{1,2}; Greg T. Blakney¹; Mark R. Emmett¹; Huimin Zhang¹; B. Kerry Maddox³; Scott M. Stagg^{2,3}; Alan G. Marshall^{1,2}; ¹*Ion Cyclotron Resonance Program, NRMFL, Tallahassee, Florida*; ²*Department of Chemistry and Biochemistry, FSU, Tallahassee, Florida*; ³*Institute of Molecular Biophysics, FSU, Tallahassee, Florida*
- WP 084 **Investigating Conformational Changes in Oxidized Interferon alpha-2b by Hydrogen/Deuterium Exchange Mass Spectrometry (HX MS);** Joomi Ahn¹; Keith Fadgen²; John R. Engen¹; ¹*Northeastern University, Boston, MA*; ²*Waters Corporation, Milford, MA*
- WP 085 **Probing the HIV-1 Vif:Cullin 5 Interaction Using Hydrogen Exchange Mass Spectrometry;** Sean R. Marcisin; John R. Engen; *Northeastern University, Boston, MA*
- WP 086 **Conformational Changes of an Integral Membrane Protein Studied by Hydrogen/Deuterium Exchange Mass Spectrometry;** Yan Pan¹; Leonid Brown²; Lars Konermann¹; ¹*University of Western Ontario, London, Canada*; ²*University of Guelph, Guelph, Canada*
- WP 087 **Membrane-Assisted Hydrogen/Deuterium Exchange Mass Spectrometry for Protein Dynamics and Protein/Protein Interaction Studies;** Juan Astorga-Wells; Michael Fitzen; Hans Jörnvall; *Karolinska Institutet, Stockholm, Sweden*
- WP 088 **Mapping the Interfaces of Insulin Oligomers by H/D Amide Exchange and Top-Down Mass Spectrometry;** Yining Huang¹; Weidong Cui²; Michael L. Gross²; ¹*WUSTL, St. Louis, MO*; ²*Washington University, St. Louis, MO*

WEDNESDAY POSTERS

PROTEOMICS TISSUE, 089 - 106

- WP 089 **Dysregulation of PSD and NMDA Receptor Complex Composition and Activity in Schizophrenia;** Matthew L Macdonald¹; Eugene F. Ciccimaro²; Anamika Banerjee¹; Chang-Gyu Hahn¹; Ian A. Blair³; ¹University of Pennsylvania, Philadelphia, PA; ²ThermoFisher Scientific, Somerset, NJ; ³Univ. of Penn/SOM/Pharmacol, Philadelphia, PA
- WP 090 **Unlocking the Proteome of Formalin-Fixed CNS Tissue: Optimisation and Application to the Study of Multiple Sclerosis;** Linda Ly¹; Ben Crossett²; John W. Prineas¹; Michael Barnett^{1,3}; ¹Central Clinical School, University of Sydney, Australia; ²School of Molecular and Microbial Biosciences, University of Sydney, Australia; ³Brain and Mind Research Institute, University of Sydney, Australia
- WP 091 **Chamber-Related Variation in Phosphorylation State of Cardiac Troponin Revealed by High Resolution Top-Down Mass Spectrometry;** Xintong Dong; Jiang Zhang; Timothy Hacker; Holly Norman; Jitandrakumar Patel; Takushi Kohmoto; Richard Moss; Ying Ge; University of Wisconsin-Madison, Madison, WI
- WP 092 **Differential Proteomics Analysis in Ischemic Cardiac Disease;** Evelyn H. Kim¹; Vladimir I. Galchev¹; Sharlene M. Day¹; Francis Pagani¹; JinYoung Kim²; Yangsun Kim³; David E. Misek¹; Margaret V. Westfall¹; ¹University of Michigan, Ann Arbor, MI; ²Korea Basic Science Institute, Ochang, South Korea; ³Hudson Surface Technology, Newark, NJ
- WP 093 **Proteomic Analysis of Formalin-Fixed Paraffin-Embedded (FFPE) Her2 Positive Breast Cancer Tissue Using Differential Mass Spectrometry;** Ekaterina G. Deyanova; Qinghua Song; Nathan Yates; Ronald Hendrickson; Merck & Co. Inc., Rahway, NJ
- WP 094 **Global Proteomics of Early-Stage Recurrent Breast Cancer;** Nicholas Bateman¹; Jenny Heidbrink Thompson²; Marlene M. Darfler²; Mai Sun¹; Brian L Hood¹; Sheeno Thyparambil²; Todd Hembrough²; Thomas P. Conrads¹; David Krizman²; ¹University of Pittsburgh Cancer Institute, Pittsburgh, PA; ²Expression Pathology Inc., Rockville, MD
- WP 095 **Handling of Clinical Samples for Improved Proteomics;** John Lindsay¹; Marcus Svensson¹; Mats Borén¹; Per Svenningsson²; Per André³; Karl Sköld¹; ¹Denator AB, Gothenburg, Sweden; ²Inst. for Physiology and Pharmacology, Karolinska Institute, Stockholm, Sweden; ³Biological and Medical Mass Spectrometry, Uppsala University, Uppsala, Sweden
- WP 096 **Label-Free LC-MS-Based Proteomics for Integrated Preclinical Pharmaceutical Toxicology: Experience from the FP6 InnoMed PredTox Consortium;** Ben Collins¹; Christine Miller²; Martin Wells³; William Gallagher¹; Stephen Pennington¹; ¹UCD Conway Institute, University College Dublin, Dublin, Ireland; ²Agilent Technologies, Santa Clara, CA; ³Nonlinear Dynamics, Newcastle upon Tyne, UK
- WP 097 **A Quantitative Proteomic Study on the Inhalable Nanoparticle-Induced Lung Injury Animal Model;** Mei Ling Wu¹; Chia-Hua Chen²; Jui-Ping Li²; Yi-Ting Wu²; Jen-Kun Chen²; Chung-Shi Yang²; Yi-Ting Chen¹; ¹Chang Gung University, Taoyuan, Taiwan; ²National Health Research Institutes, Miaoli, Taiwan
- WP 098 **Quantitative Proteomic Analysis of Gill in Zebrafish (Danio rerio) Exposed to Naphthenic Acids from Oils Sands Process Water;** Andrea De Souza; Tyson MacCormack; Greg Goss; Liang Li; University of Alberta, Edmonton, Canada
- WP 099 **Quantitative Analysis of the brain Synaptic Plasma Membrane Proteins from the DHA-Deficient and Adequate Mice Using 16O/ 18O Labeling;** Vishaldeep Sidhu; Bill Huang; Hee-Yong Kim; NIAAA/NIH, Rockville, MD
- WP 100 **Effect of Botanicals on Regulation of Insulin Action in Primary Human Skeletal Muscle Culture Using Mass Spectrometry;** Peter Scherp; Indu Kheterpal; Ku Ginger; Zhong Wang; William Cefalu; Pennington Biomedical Research Center, Baton Rouge, LA
- WP 101 **Broad-Scale Proteomic Analysis from Less Than 3ug Protein Derived from Human Prostate Epithelium Isolated Using Laser Capture Microdissection;** Kristin West¹; Nikhil Garge¹; Zhi Huang²; Andra Frost²; Maureen Bunger¹; ¹Research Triangle Institute, Research Triangle Park, NC; ²University of Alabama at Birmingham, Birmingham, AL
- WP 102 **Immune-Related Changes in Oxidative Stress of SAMP8 Mice following in vivo N-acetylcysteine Treatment: A Proteomics Assessment;** Renā A. S. Robinson¹; D. Allan Butterfield³; William A. Banks²; William M. Pierce⁴; ¹University of Pittsburgh, Pittsburgh, PA; ²Saint Louis University, Saint Louis, MO; ³University of Kentucky, Lexington, KY; ⁴University of Louisville, Louisville, KY
- WP 103 **2-DE-MALDI-TOF Tandem MS for Evaluation of Protein Expression Patterns in Tissues of the Model Fish Species, Fundulus grandis;** Naga Abbaraju; M. Nazim Boutaghou; Richard B. Cole; Bernard B. Rees; University of New Orleans, New Orleans, LA
- WP 104 **Rat Muscle Proteome and Transcriptome: Differential Analysis According to Changes in Fuel Partitioning;** Thierry Wasselin; Chrystel Husser; Alain van Dorsselaer; Fabrice Bertile; LSMBO, IPHC-DSA, Strasbourg, France
- WP 105 **Proteomic Comparison of the Peritoneal Dialysates in Chronic Diabetic and Glomerulonephritic Patients;** Hsin-Chieh Wu²; Hung Su²; Ming-Hui Yang¹; Yu-Chang Tyan²; ¹National Sun Yat-Sen University, Kaohsiung, Taiwan; ²Kaohsiung Medical University, Kaohsiung, Taiwan
- WP 106 **Exploration of Resveratrol's Target Profile Using Chemical Proteomics;** Mary Shannon Duggan; Hua Tang; Paul L. Richardson; Violeta Marin; Timothy Esbenschade; Diana Donnelly-Roberts; Lance Lee; Shaun McLoughlin; Abbott Labs, Abbott Park, IL

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- WP 107 **A Combined Proteomic and Lipidomic Approach for Biomarker Discovery of Obstetric Disorders in Individual Patient Plasma during the First Trimester;** Susan E. Slade¹; Eamonn Breslin¹; John P. Shockcor²; Hayley Crowe²; Stephen McDonald²; Ranjit Akolekar³; Kypros Nicolaides³; Steven Thornton¹; James Scrivens¹; ¹University of Warwick, Coventry, UK; ²Waters Corp, Milford, MA; ³Kings College Hospital, London, UK
- WP 108 **A Comprehensive Analysis of Swine Plasma Proteome Using Combinatorial Peptide Ligand Libraries (CPLL), Dual-Enzyme Digestion and Dual-Activation Sequencing with LTQ/Orbitrap/ETD;** Jun Li; Marc S. Halfon; Jun Qu; University at Buffalo, Buffalo, NY
- WP 109 **Deep Quantitative Profiling Reveals a Substantial Effect of Post Menopausal Hormone Therapy on the**

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- Serum Proteome**; Sharon Pitteri¹; Aaron Aragaki¹; Hiroyuki Katayama^{1,3}; Sophie Paczesny^{1,2}; Lynn Amon¹; Hong Wang¹; Qing Zhang¹; Tina Busald Buson¹; Melissa Johnson¹; Lin Chen¹; Pei Wang¹; Martin McIntosh¹; Ross Prentice¹; Samir Hanash¹; ¹Fred Hutchinson Cancer Research Center, Seattle, WA; ²University of Michigan, Ann Arbor, MI; ³Eisai Inc., Andover, MA
- WP 110 **Optimizing Plasma Digestion for Quantitative Proteomic Studies: Diagnostic Peptides as Endogenous Markers of Incomplete Digestion**; Naomi R. Choodnovskiy¹; Margaret Pyle¹; Susan E. Abbatello¹; Leigh Anderson²; Derek Smith³; Steven A. Carr¹; ¹Broad Institute, Cambridge, MA; ²Plasma Proteome Institute, Washington, DC; ³UVic-Genome BC Proteomics, Victoria, BC
- WP 111 **Plasma Proteome Profiling of HIV-1/HCV Mono and Co-Infected Individuals by Multiplex iTRAQ Quantitative Proteomics**; Vivekananda Shetty¹; Sinnathamby Gomathinayagam¹; Zacharie Nickens¹; Edward Acheampong²; Pooja Jain²; Ramila Philip¹; ¹Immunotope, Inc., Doylestown, PA; ²Drexel Inst of Biotechnology and Virology Research, Doylestown, PA
- WP 112 **Enhancement in MALDI Profiling of the Low Molecular Weight Human Serum Proteome Using Ultrafiltration**; Christine Bunai¹; Krista White²; Christopher Wilkins²; Richard R Drake²; Maureen B. Tracy¹; Dariya Malyarenko¹; ¹College of William and Mary, Williamsburg, VA; ²Eastern Virginia Medical School, Norfolk, VA
- WP 113 **Combining Abundant Plasma Protein Depletion and the ALiPHAT Method for Quantitative Global and Targeted Proteomic Studies**; Christopher M. Shuford¹; Adam M. Hawkridge¹; John C. Burnett Jr.²; David C. Muddiman¹; ¹North Carolina State University, Raleigh, NC; ²Mayo Clinic College of Medicine, Rochester, MN
- WP 114 **Identification and Quantification of Plasma Biomarkers for Metabolic Syndrome in Ossabaw Swine**; Jacob A. Galan¹; Hui-Jie Zhang¹; Lianshui Wang²; Haixu Tang²; Michael Sturek³; Weiguo Andy Tao¹; ¹Purdue University, West Lafayette, IN; ²Indiana University, Bloomington, IN; ³Indiana University School of Medicine, Indianapolis, IN
- WP 115 **Sickle Cell Disease-Associated Alterations in Human Plasma**; David H. Perلمان; Wantao Ying; Lei Li; Marianna Budnik; Vivek N. Bhatia; Lynda M. Reid; Elizabeth S. Klings; Martin H. Steinberg; Catherine E. Costello; Mark E. McComb; Boston University School of Medicine, Boston, MA
- WP 116 **Characterization of Secreted Human Complement Component C3 in Breast Cancer to Reveal the Related Enzyme Activity and Pathway**; Zhi Zeng; Shiao-Lin Wu; William Hancock; Barnett Institute, Northeastern University, Boston, MA
- WP 117 **A Reproducible and Sustainable Two Dimensional HPLC Method that Removes Highly and Moderately Abundant Plasma Proteins Stepwise and Continuously**; Weixun Wang; Jun Man; Nathan Yates; Ronald Hendrickson; Merck Research Labs, Rahway, NJ
- Wilhelm Haas¹; Steven Gygi¹; ¹Harvard Medical School, Boston, MA; ²Chemistry Department, Edinburgh University, Edinburgh, Scotland
- WP 119 **Comparative Phosphoproteomics of the Nematode Models *P. pacificus* and *C. elegans***; Nadine Borchert¹; Karsten Krug²; Silke Wahl²; Ralf J. Sommer¹; Boris Macek²; ¹Max-Planck-Institute for Developmental Biology, Tübingen, Germany; ²Proteome Center, Tübingen, Germany
- WP 120 **The Myocardial Phosphoproteome**; Alistair V. G. Edwards¹; Melanie Y. White¹; Benjamin L. Parker¹; Melanie Schulz²; Kasper Engholm-Keller²; Brett D. Hambly¹; Martin R. Larsen²; Stuart J. Cordwell¹; ¹The University of Sydney, Sydney, Australia; ²Univ. Southern Denmark, Odense, Denmark
- WP 121 **Phosphorylation Detection by MudPIT Separation**; Daniela Mavrici¹; Andrew Schumacher²; Stuart C. Feinstein²; Lori Kohlstaedt¹; ¹QB3, University of California at Berkeley, Berkeley, CA; ²Neuroscience Research Institute, UC Santa Barbara, Santa Barbara, CA
- WP 122 **Phosphoproteomic Analyses of Phosphorylation Sites in Membrane Fractions of 400 mM High-Salt-Stressed Arabidopsis Thaliana**; Ing-Feng Chang¹; Shu-Ying Wang¹; Lan-Yu Wang²; Jue-Liang Hsu³; ¹National Taiwan U, Taipei, Taiwan; ²Mass Solutions Technology Co. Ltd., Taipei, Taiwan; ³National Pingtung University, Pingtung, Taiwan
- WP 123 **Quantitative Synthesis/Degradation Proteomic Analysis of Vps4B-Mediated Perturbations in EGFR Signaling in Breast Cancer Cells under Hypoxic Conditions**; Zhongping Liao¹; Yunhu Wan¹; Stefani Thomas¹; David Ann²; Austin Yang¹; ¹Univ of Maryland at Baltimore, Baltimore, MD; ²City of Hope, Duarte, CA
- WP 124 **Phosphoproteomic Analysis of Human Embryonic Stem Cells**; Laurence M. Brill¹; Wen Xiong³; Ki-Bum Lee²; Scott Ficarro⁴; Andrew Crain¹; Yue Xu³; Alexey Tersikh¹; Evan Snyder¹; Sheng Ding³; ¹Burnham Instit for Med Res, La Jolla, CA; ²Rutgers University, Piscataway, NJ; ³The Scripps Research Institute, La Jolla, CA; ⁴Dana-Farber Cancer Instit, Boston, MA
- WP 125 **Proteome and Phosphoproteome Revealed Unique Features of Mouse Embryonic Stem Cells**; Qing-Run Li; Xiao-Bin Xing; Tao-Tao Chen; Rong Zeng; Shanghai Institutes for Biological Sciences, CAS, Shanghai, China
- WP 126 **Changes in Protein Phosphorylation and Abundance in a Drought Sensitive Rice MAP Kinase Mutant Using Gel- and Liquid-Based Proteomics Approach**; Sophie Alvarez¹; Ellen Marsh¹; Jing Ning²; Lizhong Xiong²; Daniel Schachtman¹; Leslie M. Hicks¹; ¹Danforth Center, St Louis, MO; ²Huazhong Agricultural University, Wuhan, China
- WP 127 **Identification of Kinases and Phosphorylation Sites Involved in MicroRNA Biogenesis**; Erica Jacobs; Brian Chait; Rockefeller University, New York, NY
- WP 128 **Characterization of Csn5/Jab1 Phosphorylation by the IKK Complex and Its Biological Roles in TNF- α Induced Signaling Pathway**; Lei Fang; Lan Huang; University of California, Irvine, CA
- WP 129 **Study of T-cell Receptor (TCR) Complex Signaling Using Proteomic Approach**; Wei-Yun Chen¹; Meng-Chieh Chen¹; Mei-Chun Tseng²; Wen-Chin Yang¹; Yet-Ran Chen¹; ¹Agricultural Biotechnology Research Center, Academia Sinica, Taipei, Taiwan; ²Institute of Chemistry, Academia Sinica, Taipei, Taiwan

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- WP 118 **Kinase Activity Assay for Kinome profiling (KAYAK): A Versatile Multiplexed Mass Spectrometry Based Assay for Measuring Kinase Activity**; Fiona E Mcallister^{1,2}; Ryan Kunz¹; Kazuishi Kubota¹; Mat Sowa¹; Yonghao Yu¹; Ramin Rad¹;

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- WP 130 **Elucidating ROCK Signaling Network through Quantitative Phosphoproteomics Using 8-plex Isobaric Tags, High Resolution Tandem Mass Spectrometry, and Alternative Fragmentation Technologies;** Qiangwei Xia; Joshua J. Coon; Guokai Chen; James Thomson; *Univ of Wisconsin-Madison, Madison, WI*
- WP 131 **Fyn Promotes Phosphorylation of Collapsin Response Mediator Protein 1 at Tyrosine 504, a Novel, Isoform-Specific Regulatory Site;** Gwen Buel¹; John Rush²; Bryan Ballif¹; ¹*University of Vermont, Burlington, VT*; ²*Cell Signaling Technology, Danvers, MA*
- WP 132 **Nucleotides and Growth Factors Modulate EGFR Activation Distinctively;** Amanuel Kehasse; David H. Perlman; Giuseppe Infusini; Mark E. McComb; Vickery Trinkaus-Randall; Catherine E. Costello; *Boston University School of Medicine, Boston, MA*
- WP 133 **Phosphoproteomics Analysis in Human Metastasis-Related Gene-Manipulated Breast Cancer Cells;** Xiaolei Xie¹; Jintang He⁴; Yashu Liu¹; Na Yang⁵; Fan Xiang²; Steven Goodison³; David M. Lubman¹; ¹*University of Michigan, Ann Arbor, MI*; ²*Shimadzu Biotech, Pleasanton, CA*; ³*M. D. Anderson Cancer Center - Orlando, Orlando, FL*; ⁴*Department of Surgery, University of Michigan, Ann Arbor, MI*; ⁵*University of Michigan, Medical Center, Ann Arbor, MI*
- WP 134 **Phosphoproteomics Analysis of *Leishmania mexicana* Major Life Stages, Wild Type and Kinase Deletion Mutants by Multistage Activation LC-MS/MS;** Heidi Rosenqvist^{1,2}; Martin Wiese¹; Ole N. Jensen²; ¹*SIPBS, University of Strathclyde, Glasgow, UK*; ²*Univ. of Southern Denmark, Odense, Denmark*
- WP 135 **Study of Prostate-Specific G Protein-Coupled Receptor Signalling in Human LNCaP Cells by Quantitative Phosphoproteomics: From Method Evaluation to Biological Data;** Heike Piechura¹; Katja Kuhlmann¹; Silke Oeljeklaus¹; Martin Eisenacher¹; Christian Stephan¹; Helmut E. Meyer¹; Hanns H. Hatt²; Eva M. Neuhaus³; Bettina Warscheid¹; ¹*Ruhr-Universität, Medizinisches Proteom-Center, Bochum, Germany*; ²*Ruhr-Universität, Department for Cellphysiology, Bochum, Germany*; ³*Charite, Neurowissenschaftliches Forschungszentrum, Berlin, Germany*
- WP 136 **Mode of Action Analysis of Sorafenib by Integrating Chemical Proteomics and Phosphoproteomics;** Andreas Tebbe; Marc Kaminski; Sebastian Wandinger; Christian Eckert; Stefan Müller; Christoph Schaab; Klaus Godl; Martin Klammer; *KINAXO Biotechnologies, Munich, Germany*
- WP 137 **Phosphoproteome of PTEN-Null and PTEN-Expressing U-87 MG Human Glioblastoma Cells Using a Phosphochip Coupled to a QTOF and ETD trap;** Vaibhav Chumbalkar¹; Vadiraja Bhat²; Khatri Latha¹; Oliver Bogler¹; ¹*UT MD Anderson Cancer Center, Houston, TX*; ²*Agilent Technologies, Wilmington, DE*
- WP 138 **High Resolution Mass Spectrometry Based Profiling of Phosphoproteome in Breast Epithelial Cells with PIK3CA Knock-In Mutants;** Xinyan Wu; Raghothama Chaerkady; Jun Zhong; Yi Yang; Kumaran Kandasamy; Min-Sik Kim; Ben Ho Park; Akhilesh Pandey; Min Ling; *Johns Hopkins University, Baltimore, MD*
- WP 139 **Identification and Functional Characterization of Pheromone Induced Fus3 Specific Phosphorylation Sites of the Yeast 26S Proteasome by Quantitative Mass Spectrometry;** Robyn Kaake; Lan Huang; *University of California, Irvine, CA*

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- WP 140 **Quantitation of Insoluble/Low Level *Escherichia coli* Proteins Under Acid Adaptation Conditions Using ¹⁵N Labeling, Subtractive Protein Solubilization and ProteaseMAXTM Digestion;** Grzegorz Sabat; Gregory Barrett-Wilt; Heather L. Burch; Michael R. Sussman; Amy C. Harms; *University of Wisconsin, Madison, WI*
- WP 141 **Construction of a Protein Assembly Timeline for Spliceosomes by Relative MS-Based Quantification;** Carla Schmidt; Monika Raabe; Klaus Hartmuth; Mads Gronborg; Reinhard Luhrmann; Henning Urlaub; *MPI for Biophysical Chemistry, Goettingen, Germany*
- WP 142 **How Deep Can We Go? Stable-Isotope Labeling for Quantitative Proteomics of Neuronal Cells;** Martin Hornshaw¹; Jenny Ho¹; Ian Gilmore²; William James Griffiths²; Yuqin Wang²; ¹*Thermo Fisher Scientific, Hemel Hempstead, UK*; ²*Swansea University, Swansea, UK*
- WP 143 **Use of Multiplex SILAC Labeling to Study NT3 Signaling in Primary Neurons;** Guoan Zhang¹; Katrin Deinhardt¹; Moses Chao¹; Thomas Neubert²; ¹*New York University, New York, NY*; ²*Skirball Institute, NYUMC, New York, NY*
- WP 144 **Label-Free Quantitative Proteomic Studies on an Environmentally Important Methanotroph;** Nisha A. Patel; Konstantinos Thalassinou; Yin Chen; Andrew Crombie; Susan E. Slade; J. Colin Murrell; James H. Scrivens; *University of Warwick, Coventry, UK*
- WP 145 **Proteomics of Adipose-Derived Human Stem Cells under Hyperosmotic Treatment;** Elizabeth S. Oswald; Lewis M. Brown; J. Chloë Bulinski; Clark T. Hung; *Columbia University, New York, NY*
- WP 146 **Characterizing Human Respiratory Cilia Using Data-Independent LC/MS^E Provides Component Level Protein Stoichiometry Measurements;** Kevin Blackburn¹; Kristin Thompson²; Michael Goshe¹; Lawrence Ostrowski²; ¹*NC State University, Raleigh, NC*; ²*University of North Carolina at Chapel Hill, Chapel Hill, NC*
- WP 147 **Proteomic Analysis of Environmental Stress;** Chumithri Gayani Gammulla; Karlie Neilson; Mehdi Mirzaei; Sridevi Muralidharan; Dylan Xavier; Dana Pascovici; Brian Atwell; Paul A. Haynes; *Macquarie University, North Ryde, Sydney, Australia*
- WP 148 **Large Scale Quantitative Proteomics of Maize Bundle Sheath and Mesophyll Chloroplasts Using the First Maize Genome Assembly;** Friso Giulia; Wojciech Majeran; Mingshu Huang; Qi Sun; Klaas J. van Wijk; *Cornell University, Ithaca, NY*
- WP 149 **Large Scale Label-Free Quantitative Proteomics of an Obligate Biosymbiotic System;** Anton Poliakov; Calum Russell; Angela Douglas; Klaas J. Van Wijk; *Cornell University, Ithaca, NY*
- WP 150 **Protein Correlation Profiling in Combination with Blue Native PAGE Applied to Structural Analysis of the Proteasome in *Plasmodium falciparum*;** Nicole Sessler^{1,3}; Karsten Krug¹; Alfred Nordheim²; Benjamin Mordmüller³; Boris Macek¹; ¹*Proteome Center Tübingen, University of Tübingen, Tübingen, Germany*; ²*Department of Molecular Biology, Univ. of Tübingen, Tübingen, Germany*; ³*Institute of Tropical Medicine, Univ. of Tübingen, Tübingen, Germany*

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- WP 151 **Survey of Estrogen-Induced Differential Protein Expression *in vivo* from Mouse Brain Mitochondria Using LC-MS/MS and Label-Free Relative Quantitation;** Tatjana Talamantes; Vien Nguyen; Laszlo Prokai; *University of North Texas Health Science Center, Fort Worth, TX*
- WP 152 **Colistin Resistant *Acinetobacter baumannii* Exhibits Unique Protein Profile;** Sara E. Whitson¹; E. Ricky Chan¹; Giridharan Gokulrangan²; Sergei Ilchenko³; Mark D. Adams¹; Masaru Miyagi³; Mark Chance³; ¹Case Western Reserve University School Of Medicine, Cleveland, OH; ²Case Center for Proteomics, Cleveland, OH; ³Case Western Reserve University, Cleveland, OH
- WP 153 **Quantitative Label Free Proteomics Approach for Understanding the Molecular Mechanisms of Cellular Response against Stress;** Nathan Smith; Christophe Espirito Santo; Sathish Kumar Natarajan; Janani Prahlad; Jaekwon Lee; Gregor Grass; Mark Wilson; Donald Becker; Renu Nandakumar; M.P. Nandakumar; *University of Nebraska, Lincoln, NE*
- WP 154 **Proteomics, Ultrastructure and Physiology of Hippocampal Synapses in a Mouse Model of Fragile X Syndrome Reveals a Pre-Synaptic Phenotype;** Patricia Klemmer¹; Roel van der Schors¹; Rhiannon Meredith³; Joke Wortel²; August B. Smit¹; Ka Wan Li¹; ¹Dept. Mol. & Cell. Neurobiology, CNCR, NCA, VU, Amsterdam, Netherlands; ²Dept. Func. Genomics, CNCR, NCA, VU, Amsterdam, Netherlands; ³Dept. Int. Neurophys., CNCR, NCA, VU, Amsterdam, Netherlands
- WP 155 **Elucidation of Methyl Jasmonate Signaling in Brassica napus Guard Cells by LC MALDI;** Aaron Booy¹; Brigitte Simons¹; Sean L. Seymour¹; Mengmeng Zhu²; Sixue Chen²; ¹AB SCIEX, Concord, Canada; ²University of Florida, Gainesville, Florida
- WP 156 **Quantification of Beta Tubulin Isoforms with iTRAQ Labelling and MALDI Analysis of Specific Peptides;** Nicole Bec; Christian Larroque; *IRCM/CRLC Val d'Aurelle P. Lamarque, Montpellier, France*
- WP 157 **Quantitative Proteomics of Lycopene Effects on Prostate Primary Epithelial Cells by LC-MS/MS;** Xi Qiu¹; Yang Yuan¹; Chenqi Hu¹; Avani Vaishnav²; Larisa Nonn²; Richard B. Van Breemen¹; ¹University of Illinois, Chicago, IL; ²University of Illinois Medical Center, Chicago, IL
- WP 158 **Quantitative Proteomics Analysis of cAMP/protein kinase A (PKA)-mediated Protein Changes in S49 Lymphoma Cells;** Yurong Guo¹; Lingzhi Zhang²; Paul Insel²; Susan Taylor^{1,2}; ¹HHMI, San Diego, CA; ²Department of Pharmacology, UCSD, La Jolla, CA
- WP 159 **Antimicrobial Histones in Gills of Perch and Walleye: Identification by Mass Spectrometry;** Lorraine Anderson; Richard Leino; *University of Minnesota, Minneapolis, MN*
- WP 160 **Quantitative Proteomics Profiling Using iTRAQ and SCX RP-RP LC-MS;** Edward Lau¹; Maggie P. Y. Lam¹; S. O. Siu¹; Simon Lee²; Ivan Chu¹; ¹University of Hong Kong, Hong Kong, Hong Kong; ²University of Macau, Macau, China
- WP 161 **Tissue-Based Identification of Renal Cell Carcinoma Markers;** Olena Masui¹; Leroi Desouza¹; K W Michael Siu¹; George Yousef²; Nicole White²; Olga Krakovska¹; ¹York University, Toronto, Canada; ²St. Michael's Hospital, Toronto, Canada
- WP 162 **Proteomic Analysis of Aldosterone Regulated Changes in Endosomal Compartments;** Manimalha Balasubramani; Guy Uechi; Emanuel Schreiber; Huamin Wang; Robert Edinger; John Johnson; *University of Pittsburgh, Pittsburgh, PA*
- WP 163 **Ultrahighthroughput Targeted Quantitative Proteomics for Measuring Plasma Membrane CFTR Expression;** Bekim Bajrami; Xudong Yao; *University of Connecticut, Storrs, CT*

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- WP 164 **Comparison of SISCAPA, SCX, and SCX + Ion Funnel MS Coupled with SID-MRM-MS for the Verification of Protein Biomarker Candidates;** Regine M. Schoenher¹; Hasmik Keshishian²; Tao Liu³; Terri A. Addona²; Li-Chia Feng¹; Lei Zhao¹; Jeffrey R. Whiteaker¹; Michael Burgess²; Eric Kuhn²; Mahmud Hossain³; Errol W. Robinson³; David G. Camp, II³; Richard D. Smith³; Steven A. Carr²; Amanda G. Paulovich¹; ¹Fred Hutchinson Cancer Research Center, Seattle, WA; ²Broad Institute, Cambridge, MA; ³Pacific Northwest National Laboratory, Richland, WA
- WP 165 **Analytical Challenges in the Development of a Quantitative SPE/LC/MS/MS Assay for Amyloid Beta Peptides in Cerebrospinal Fluid;** Erin E. Chambers¹; Mary E. Lame²; Diane M. Diehl¹; Yanhua Zhang³; ¹Waters Corporation, Milford, MA; ²Pfizer Neuroscience Research Unit, Groton, CT; ³Pfizer PDM, Groton, CT
- WP 166 **Identification of Disease Biomarker Candidates Using Subcellular Fractionation Coupled to Metabolic Labeling of Mouse Model of Alcoholic Liver Disease;** Prince Tiekou¹; Christine Wu¹; Hide Tsukamoto²; ¹University of Colorado School of Medicine, Aurora, CO; ²University of Southern California, Los Angeles, CA
- WP 167 **Application of Dried Blood Spots for the Quantitative Assessment of Biologics;** Jonathan Kehler; Chester L Bowen; Christopher A. Evans; *GlaxoSmithKline, King Of Prussia, PA*
- WP 168 **Effect of Collision Energy Optimization on the Measurement of Peptides by Selected Reaction Monitoring (SRM) Mass Spectrometry;** Daniela Tomazela¹; Brendan Maclean¹; Susan E. Abbatiello²; Steven A. Carr²; Michael J. Maccoss¹; ¹University of Washington, Seattle, WA; ²Broad Institute, Cambridge, MA
- WP 169 **Tandem Mass Tag (TMT) Labelling Developed for Peptidomics of Cerebrospinal Fluid: Investigating Preanalytical Sample Handling Influencing the CSF-Peptidome;** Hans-Dieter Zucht; Sasa Koncarevic; Karsten Kuhn; Christian Baumann; Stefan Selzer; Marco Schärfke; Petra Budde; *Proteome Sciences R&D GmbH & Co. KG, Frankfurt, Germany*
- WP 170 **Solving the "Arginine-Conversion Problem" in SILAC by Genetic Engineering;** Juri Rappsilber; Claudia Bicho; Flavia de Lima Alves; Zhuo Chen; Ken Sawin; *Wellcome Trust Centre for Cell Biology, Edinburgh, UK*
- WP 171 **Development of Quantitative Methods to detect Trace Amounts of Hazelnut and Soy Allergens in Food;** Rowan L. Dobson¹; Séverine Fourdrilis²; Stéphanie Kirsch²; Dominique Baiwir²; Guy Maghuin-Rogister¹; Marie Louise Scippo¹; Edwin De Pauw¹; ¹Liege University, Liège, Belgium; ²University of Liege, Liege, Belgium
- WP 172 **A Novel Software Algorithm for High-Throughput Optimization of Quantitative MS/MS Parameters for Peptide Quantitation and Alteration/Modification Screening;** Xavier Misonne¹; Anthony Romanelli¹;

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- Kevin Shirey²; ¹AB SCIEX, Framingham, MA; ²Sound Analytics, Niantic, CT
- WP 173 **Using Mass Spectrometry to Speed Up the Production of Influenza Vaccine and Ensure the Quality of the Final Product;** Tracie L. Williams; Carrie L. Pierce; James L. Pirkle; John R. Barr; *Centers for Disease Control and Prevention, Atlanta, GA*
- WP 174 **Quantitation Analysis of Multiply Charged Small Peptides Using Liquid Chromatography/Targeted-Enhanced Multiply Charged Scan in a Hybrid Quadrupole Linear Ion Trap;** Changtong Hao¹; J.C. Yves Leblanc²; J. Larry Campbell²; Udo Verkerk¹; K W Michael Siu¹; ¹York University, Toronto, Canada; ²AB SCIEX, Concord, Canada
- WP 175 **Search Algorithm for Determining Differences in the MS/MS Spectra of Aspartate Isomers in Amyloid-Beta Peptides;** Maria I. Indevkina²; Igor Popov²; Anton Grigoriev³; Alexey Kononikhin¹; Sergey Kozin⁴; Eugene Nikolae¹; ¹The Institute for Energy Problems of Chemical Phys, Moscow, Russian Federation; ²Institute of Biochemical Physics RAS, Moscow, Russia; ³Moscow Institute of Physics and Technology, Moscow, Russia; ⁴Institute of Biomedical Chemistry RAMS, Moscow, Russia
- WP 176 **Evaluation of Quantification Consistency Using Forward and Reverse Differential Isotope Labeling of Proteome Digests;** Andy Lo; Joel H. Weiner; Liang Li; *University of Alberta, Edmonton, Canada*
- WP 177 **Development of an LC-MS/MS Method for Quantification of P-glycoprotein;** Tasso Miliotis¹; Constanze Hilgendorf¹; Peter Abrahamsson²; Tommy B Andersson¹; Martin Ahnoff¹; ¹AstraZeneca R&D Molndal, Molndal, Sweden; ²Agilent technologies, Gothenburg, Sweden
- WP 178 **An FTICR – Ion Trap Cluster for High Throughput Label-Free Quantitative Proteomics;** Magnus Palmblad; Yuri E.M. Van Der Burgt; Hans Dalebout; Ekaterina Mostovenko; André M. Deelder; *Leiden University Medical Center, Leiden, Netherlands*
- WP 179 **Investigation of Peptide loss in MRM-Experiments during Absolute Protein Quantification;** Olaf Boernsen; Rafael Sande; Denis Herzog; Stephan Bek; *Novartis Pharma AG, Basel, Switzerland*
- WP 180 **Investigating Ion Mobility Coupled with Time-of-Flight Mass Spectrometry and Liquid Chromatography for the Parallel Sequencing of Labelled Isobaric Peptides;** Jim Langridge¹; Chris Hughes¹; Marc V. Gorenstein¹; Scott Geromanos¹; Johannes Pc Vissers¹; Thérèse Mckenna¹; Dan Golick¹; Bernhard Kuster²; ¹Waters Corporation, Manchester, UK; ²Technical University Munich, Freising, Germany
- WP 181 **Subtle Modification of Isotope Ratio Proteomics (SMIRP) through Manipulation of ¹³C/¹²C ratio in *E. coli* and the Development of IsoArt;** Puneet Souda¹; Arthur Laganowsky¹; Sara Bassilian¹; Jonathan Katz²; Julian Whitelegge¹; ¹University of California Los Angeles, Los Angeles, CA; ²University of Southern California, Los Angeles, CA
- WP 182 **The use of Dual cHiPLC Columns to Increase Throughput in Quantitative Peptide MRM Analyses;** J.Bryce Young; Nicole Hebert; Erika Lin; Remco Van Soest; *Eksigent Technologies, Dublin, CA*
- WP 183 **Delving Deeper - A Comparative Proteomic Analysis of Depleted Suction Blister Fluid;** André Müller¹; Keiryn Bennett¹; Oliver Brandt²; Florian P. Breitwieser¹; Jacques Colinge¹; Georg Stingl²; Giulio Superti-Furga¹; Adelheid Elbe-Bürger²; ¹CeMM - Center for Molecular Medicine, Vienna, Austria; ²Dept. Dermatology, Med. Uni. Vienna, Vienna, Austria
- WP 184 **A New Automated Approach for the Determination of Peptides Using On-Line SPE-LC-MS/MS;** John Crutchfield²; Martin Sibum¹; Emile Koster¹; ¹Spark Holland, Emmen, Netherlands; ²Spark Holland Inc., Brick, NJ
- WP 185 **Comparison of Triple Quadrupole, Ion Trap and Orbitrap Parameters Required for Optimal Absolute Protein Quantitation;** David M. Schieltz¹; Sara C. Mcgrath¹; Lisa G. Mcwilliams²; John R. Barr¹; ¹Centers for Disease Control and Prevention, Atlanta, GA; ²Battelle Memorial Institute, Atlanta, GA
- WP 186 **Ultra High-Resolution, UHR-TOF Coupled with UHPLC for Quantitative Determination of Peptides and Small Molecule Drugs in Biological Matrix;** Hongwei Zhang; Baomin Xin; Asoka Ranasinghe; Qian Ruan; Li Ma; Mingshe Zhu; Timothy Olah; *Bristol-Myers Squibb, Princeton, NJ*
- WP 187 **The Dynamic Range of MS/MS-based Label-Free Quantification in Ion Trap Instruments;** Alexander Scherl; HuiSong Pak; Patrizia Arboit; Carla Pasquarello; *University of Geneva, Geneva, Switzerland*
- WP 188 **Bioanalytical Challenges and Strategies used to Develop a Highly Sensitive LC/MS/MS-based Method for Peptides in Support of a Discovery Program;** Hongwei Zhang; Baomin Xin; Christian Caporuscio; Timothy Olah; *Bristol-Myers Squibb, Pennington, NJ*
- WP 189 **Robust and Sensitive Relative Quantitation of TMT Labeled *E. coli* Digest by Dual Cell Linear Ion Trap-Orbitrap Hybrid Mass Spectrometer;** Terry Zhang; Rosa Viner; Vlad Zabrouskov; David Horn; *ThermoFisher, San Jose, CA*
- WP 190 **A Novel Approach for Quantitative Peptides Analysis by Selected Electron Transfer Reaction Monitoring;** Chien-Chen Lai; Bi-Ying Wei; *National Chung Hsing University, Taichung, Taiwan*
- WP 191 **An On-Line Solid Phase Extraction LC-MS/MS Method for the Simultaneous Determination of Hepcidin Isoforms in Human Serum;** Takahide Uchimura; Tomonori Kamei; Kazuo Tokuda; Kazuhiro Nishimiya; Takehiko Kawanishi; *Chugai Pharmaceutical Co.,Ltd, Kamakura, Kanagawa, Japan*
- WP 192 **Comparison of Two Label-Free Quantification Methods; Monitoring Involution Induced Changes in the Extracellular Matrix;** Kirk Hansen; Lauren Kiemele; Jenean Obrien; Pepper Schedin; *Univ. of CO. Denver, AMC, Aurora, CO*

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- WP 193 **Does Scrambling of b-Ions Lead to Incorrect Assignments of Protein Sequences?;** Irine Saminathan; Alan Hopkinson; K W Michael Siu; *CRMS, Chemistry, York University, Toronto, Canada*
- WP 194 **Multiple Structures of b-Ions Probed by Electron Capture Dissociation;** Cheng Lin¹; Xiaojuan Li¹; Peter O'Connor²; ¹Boston University School of Medicine, Boston, MA; ²Warwick University, Coventry, UK
- WP 195 **Sequencing of Phosphopeptide Anions: Negative Electron Transfer Dissociation and IR-MPD;** Israel Ugalde; Nicolas Polfer; *University of Florida, Gainesville, FL*
- WP 196 **Characterizing Negative Electron Transfer Dissociation (NETD) Induced Neutral Losses;** Neil

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- WP 197 **ExD Fragmentation of Modified Peptides Containing Beta Amino Acids Including Isoaspartate and Various Beta and Cyclic Beta Amino Acids;** Nadezda P. Sargaeva¹; Cheng Lin¹; Konstantin Aizikov¹; Chunxiang Yao¹; Xiang Yu¹; Xiaojuan Li¹; Peter B. O'Connor²; ¹*Boston University School of Medicine, Boston, MA*; ²*University of Warwick, Coventry, UK*
- WP 198 **Comparison of Hot ECD with ECD and AI-ECD in Radio Frequency Ion Trap Using Mascot MS/MS Search;** Hiroyuki Satake; Akihito Kaneko; Naomi Manri; Atsumu Hirabayashi; Yuichiro Hashimoto; Takeshi Sakamoto; *Hitachi, Ltd., Central Research Laboratory, Kokubunji, Tokyo, Japan*
- WP 199 **Gas-Phase Fragmentation of [M+nH+OH]ⁿ⁺ Ions Formed from Peptides Containing Intra-Molecular Disulfide Bonds;** Xiaoxiao Ma; Yu Xia; *Purdue University, West Lafayette, IN*
- WP 200 **New Algorithm for the Identification of Intact Disulfide Linkages Based on Fragmentation Characteristics in Tandem Mass Spectra;** Seonhwa Choi¹; Jaeho Jeong²; Seungjin Na¹; Hyo Sun Lee²; Hwa-Young Kim³; Kong-Joo Lee²; Eunok Paek¹; ¹*University of Seoul, Seoul, South Korea*; ²*Ewha Womans University, Seoul, South Korea*; ³*Yeungnam University College of Medicine, Daegu, South Korea*
- WP 201 **Selective C-I Bond Cleavage in ECD: Prospects for Designing Novel Chemical Cross-Linker and Mechanistic Implications;** Bo Wang; Cynthia Cipolla; Kristina Hakansson; *University of Michigan, Ann Arbor, MI*
- WP 202 **Tandem MS, Isotope Labeling, and DFT Study of Model Phosphotriptides;** Sarah Young; Ryan Dain; Sam Molesworth; Michael J. Van Stipdonk; *Wichita State University, Wichita, KS*
- WP 203 **Effect of Basic Residues on Selective C α -C Bond Cleavages of Peptide Radical Cations;** Tao Song¹; Minjie Xu¹; Quan Quan¹; C. K. Siu²; Decai Fang³; Ivan K. Chu¹; ¹*The University of Hong Kong, HK, China*; ²*City University of Hong Kong, HK, China*; ³*Beijing Normal University, Beijing, China*
- WP 204 **The Theoretical Calculations of Relative Ion Intensities in MSMS Spectra of Doubly Charged Penta-Peptides;** Tibor Pechan; Steven Gwaltney; *Mississippi State University, Mississippi State, MS*
- WP 205 **Structural Characterization of b₂⁺, [M+H-17]⁺, and [M+H-18]⁺ From Glutamine Containing Tripeptides Using IRMPD Spectroscopy, DFT, and Tandem Mass Spectrometry;** Sam Molesworth¹; Sarah Young¹; Jeffrey Steill²; Jos Oomens²; Michael J. Van Stipdonk¹; ¹*Wichita State University, Wichita, KS*; ²*FOM Rijnhuizen, Nieuwegein, Netherlands*
- WP 206 **Density Functional Theory -- Based Predictions of Ion Intensity Relationships in Mass Spectra of Oligoalanines;** Oleg Obolensky¹; Wells Wu²; Rong-Fong Shen³; Yi-Kuo Yu¹; ¹*National Center for Biotechnology Information, NLM, Bethesda, MD*; ²*NIH (NIA), Baltimore, MD*; ³*NIA/NIH, Baltimore, MD*
- WP 207 **Computational and Experimental Study of Bond Cleavage Mechanisms in phospho-serine Peptide ECD and ETD Mass Spectrometry;** Christopher Moss; Thomas W. Chung; Frantisek Turecek; *University of Washington, Seattle, WA*
- WP 208 **Carbonyl vs. Side-Chain Directed Nucleophilic Attacks in Peptide Collision-induced Dissociation;** Shen Zou¹; Warren K Mino¹; Xian Chen¹; Jeffrey Steill²; Jos Oomens^{2,3}; Nicolas Polfer¹; ¹*University of Florida, Gainesville, FL*; ²*FOM Rijnhuizen, Nieuwegein, Netherlands*; ³*University of Amsterdam, Amsterdam, Netherlands*
- WP 209 **Residue Dependence of Observable Modified b1 Ions for Proteome Digests Labeled with Substituted Phenylisothiocyanates;** Pamela Ann Diego; Xudong Yao; *University of Connecticut, Storrs Mansfield, CT*
- WP 210 **Specific N-Terminal Labeling and Its Application on Protein Mixture Analysis;** Suping Zheng; Min Bian; Steven Becht; Xiaoya Ding; *PPD, Inc., Middleton, WI*
- WP 211 **Effect of Basic Amino-Acid Residue on Radical Migration and Dissociation of α -Carbon-Centered Glycylarginyltryptophan Radical Cation;** Dominic Chun Ming Ng¹; Tao Song¹; Chi Kit Siu²; Ivan Keung Chu¹; ¹*The University of Hong Kong, Hong Kong, China*; ²*City University of Hong Kong, Hong Kong, China*
- WP 212 **A Comparison of 193 nm Photofragment ion Spectra Probing Fragment Ions Formed on Distinct Timescales;** Kevin Kmiec; David H. Russell; *Texas A&M University, College Station, TX*

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- WP 213 **An MRM assay for HAPLN1 - A Protein with Potential as a Prognostic Marker for Malignant Pleural Mesothelioma (MPM);** Sofia Waldemarson¹; Chandra M.V. Goparaju¹; Asa Wahlander¹; Steven Blais¹; David Fenyo²; Harvey I. Pass¹; Thomas Neubert¹; ¹*New York University Medical Center, New York, NY*; ²*The Rockefeller University, New York, NY*
- WP 214 **Determination of Lipoygenase Products of Arachidonic Acid in Tissue and Plasma by LC-MS/MS;** Kris King; Ling Morgan; Guangyu Zhao; Chris Tran; *Tandem Labs, Woburn, MA*
- WP 215 **Delipidation of ApoB48 and ApoB100 for Fast Quantitation by LC-ESI/MS/MS;** Theresa Mclaughlin; Michael Lassman; Elizabeth Polizzi Somers; Zhu Chen; Thomas Roddy; *Merck Research Labs, Rahway, NJ*
- WP 216 **The Albuminome: Converting Proteomic-Based Discovery into Biomarker Validation;** Christine A. Jelinek¹; Rebekah L. Gundry²; Jennifer E. Van Eyk²; Robert J. Cotter¹; ¹*Johns Hopkins School of Medicine, Baltimore, MD*; ²*Johns Hopkins University, Baltimore, MD*
- WP 217 **Phospho-Tau SRM – A Multi-Site Phosphorylation Assay for Tau Protein in Pre-Clinical Models of Alzheimer’s Disease and Other Neurological Disorders;** Malcolm Ward; Helen Byers; James Campbell; Emma Schofield; *Proteome Sciences Plc, London, UK*
- WP 218 **Developing and Validating An Immunoaffinity LC-MS/MS Assay for the Quantitation of Matrix Metalloproteinase 9 in Mouse Serum;** Mireia Fernandez Ocana¹; Hendrik Neubert²; ¹*Pfizer, Sandwich, UK*; ²*Pfizer Inc., Sandwich, UK*
- WP 219 **Direct Quantitation of Hydroxyethylvaline in Hemoglobin by Liquid Chromatography/ Positive Electropray Tandem Mass Spectrometry;** Fagen Zhang; Kathy A. Brzak; Michael J. Bartels; *The Dow Chemical Company, Midland, MI*
- WP 220 **LC/MRM Quantification of Protein-Bound Chlorotyrosine and Bromotyrosine in Serum of Patients Infected by Inflammatory Bowel Disease;** Yu Zeng¹; John S. Wishnok²; Joshua Korzenik²; Steve Tannenbaum^{1,3}; ¹*MIT, Cambridge, MA*; ²*Massachusetts*

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- General Hospital, Boston, MA; ³Department of Chemistry, MIT, Cambridge, MA
- WP 221 **Discovering Oral Squamous Cell Carcinoma Biomarkers via Novel, Non-Invasive *in-situ* of Oral Lesion Exudates and Proteomic Analysis;** Joel Kooren; Chuanning Tang; Nelson Rhodus; Matthew Stone; Tim Griffin; *University of Minnesota, Minneapolis, MN*
- WP 222 **LC/MS/MS Quantitation of CA125 in Human Urine for Ovarian Cancer Diagnosis and Prognosis;** Bob Xiong¹; Lily Li²; Patrick Bennett¹; Bin Ye³; Daniel Cramer³; ¹Tandem Labs, Woburn, MA; ²TandemLabs, Woburn, MA; ³Brigham and Women's Hospital, Boston, MA
- WP 223 **Assay for the Simultaneous Measurement of Multiple Amyloid Beta Isoforms;** Kwasi Mawuenyega; Randall Bateman; *Washington University School of Medicine, Saint Louis, MO*
- WP 224 **Development and Implementation of a TMT-SRM Assay for the Qualification of Candidate Biomarkers of Alzheimer's Disease;** Darragh O'Brien^{1,2}; Andreas Güntert²; Karsten Kuhn³; Malcolm Ward¹; Simon Lovestone²; James Campbell¹; Helen Byers¹; ¹Proteome Sciences Plc, London, UK; ²Institute of Psychiatry, King's College London, London, UK; ³Proteome Sciences R&D GmbH&CoKG, Frankfurt am Main, Germany
- WP 225 **Mass Spectrometric Study of the Highly Selective Derivatization of Biological Thiols by Selenium Reagents;** Kehua Xu^{1,2}; Yun Zhang¹; Bo Tang²; Julia Laskin³; Patrick Roach³; Hao Chen¹; ¹Ohio University, Athens, OH; ²Shandong Normal University, Jinan, China; ³Pacific Northwest National Laboratory, Richland, WA
- WP 226 **Synthesis of Stercobilin and its Deuterated Isotopomer: ESI and MS/MS of a Potential Autism Biomarker;** Dr. Troy Wood²; Dr. Amber Charlebois¹; Gregory Pirrone¹; ¹Failigh Dickinson University, Madison, NJ; ²SUNY University at Buffalo, Buffalo, NY
- WP 227 **Open-Platform and Targeted MRM Approaches for Prediction of INF/Ribavirin Treatment Response in Hepatitis C Patients;** Laura Dubois¹; Keyur Patel²; Joseph Lucas¹; J. Will Thompson¹; Jeanette McCarthy¹; John McHutchison²; Arthur Moseley¹; ¹Duke Institute for Genome Sciences and Policy, Durham, NC; ²Duke Clinical Research Institute, Durham, NC
- WP 228 **PhosphoScan Direct: A Novel Method for Quantitative Monitoring of Signaling Pathways;** Charles L. Farnsworth; Matthew P. Stokes; Xiaoying Jia; Jian-Min Ren; Joan MacNeill; Christopher Bunker; John Rush; Jeffrey C. Silva; *Cell Signaling Technology, Danvers, MA*
- WP 229 **Practice of Protein Biomarker Assay Development and Validation From Drug Discovery to Development;** Lily Li; Bob Xiong; David Ho; Patrick Bennett; *TandemLabs, Woburn, MA*
- WP 230 **Development of an Optimized ProteaseMAX Assisted Trypsin Digestion of Human CSF for SRM Quantification of GFAP and Identification of Biomarkers;** Robert Cunningham¹; Dustin Frost¹; Albee Messing²; Lingjun Li¹; ¹Univ. of Wisconsin-Madison, Madison, WI; ²Waisman Center, Univ. of Wisconsin-Madison, Madison, WI
- WP 231 **Evaluation of a Large Set of Quantitative Peptide Affinity-Based Mass Spectrometric Assays;** Jeffrey Whiteaker¹; Lei Zhao¹; Eric Kuhn²; Susan E. Abbatillo²; Matthew Pope³; Angela Jackson⁴; Michael Burgess²; Leigh Anderson⁵; Terry Pearson³; Steven A. Carr²; Amanda Paulovich¹; ¹Fred Hutchinson Cancer Research Center, Seattle, WA; ²Broad Institute, Cambridge, MA; ³University of Victoria, Victoria, British Columbia, Canada; ⁴UVic Genome BC Proteomic Centre, Victoria, BC; ⁵Plasma Proteome Institute, Washington, DC
- WP 232 **Peptide Choice for MRM3 Quantification in Clinical Evaluation of Biomarkers;** Tanguy Fortin¹; Arnaud Salvador²; Jean-Philippe Charrier¹; Geneviève Choquet-Kastylevsky¹; Jérôme Lemoine²; ¹BIOMERIEUX, Marcy L'etoile, France; ²University of Lyon (UCBL-1), Lyon, France
- WP 233 **IEF-Chip/HPLC-Chip-SRM-MS: Quantification of Proteins Using Chip-Based Enrichment/Separation with Selected Reaction Monitoring MS and Stable Isotope Dilution;** Agnes Rafalko; Shujia Dai; William Hancock; Barry L. Karger; Marina Hincapie; *Northeastern University, Barnett Institute, Boston, MA*
- WP 234 **Screening for Drug-Drug Interactions Using a Targeted Proteomics Strategy;** Daniel B. Kassel¹; Kheng B. Lim¹; Melinda Manuel¹; Teruaki Okuda²; Naomi Kamiguchi²; Christie L Hunter³; Brian Williamson³; Lydia Nuwaysir³; ¹Takeda San Diego, Inc, San Diego, CA; ²Takeda Pharmaceutical Company, Limited, Osaka, Japan; ³Applied Biosystems, Foster City, CA
- WP 235 **Evaluating Blood Collection Tubes for Plasma Protein Biomarker Discovery Using Selected Reaction Monitoring Mass Spectrometry;** Sarah Randall^{1,2}; Matthew McKay^{1,2}; Mark Molloy^{1,2}; ¹APAF, Sydney, Australia; ²Macquarie University, Sydney, Australia
- WP 236 **Development of a Quantitative SRM Assay for Histone H2AX Ser139 Phosphorylation, a Key Regulator of the DNA Damage Response (DDR);** Mary F Lopez¹; Victoria Lunyak²; Amol Prakash³; Michael Athanas⁴; Taha Rezaei⁵; Bryan Krastins¹; David Sarracino⁵; ¹ThermoFisher, Cambridge, MA; ²Buck Institute for Age Research, Novato, CA; ³ThermoFisher Scientific, Cambridge, MA; ⁴VAST Scientific, Wayland, MA; ⁵Thermo Fisher Scientific, San Jose, CA

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- WP 237 **Combining Protein- and Peptide-Level Enrichment for the Determination of Minor Human Milk Protein Phosphorylation;** John Froehlich¹; Ning Tang²; Keith Waddell²; Carlito Lebrilla¹; ¹University of California, Davis, CA; ²Agilent Technologies, Santa Clara, CA
- WP 238 **A New Method to Identify Phosphoproteins Quantitatively and in Real Time Using 2D-DIGE;** Sun Yong Jeong^{1,2}; Cristina Osorio²; Robert DeKroon^{1,2}; Eric Hamlett¹; Jennifer Robinette²; Mihaela Mocanu²; Oscar Alzate^{1,2}; ¹Department of Cell and Developmental Biology, Chapel Hill, NC; ²UNC-Systems Proteomics Center, Chapel Hill, NC
- WP 239 **Evaluation of a Protein Phosphorylation Determination Method Using a MALDI-TOF/TOF Mass Spectrometer;** Jhoana Mendoza; Rong Wang; *Mount Sinai School of Medicine, New York, NY*
- WP 240 **Unspecific Products of Specific Cleavage: Implications for Phosphorylation Analysis;** Anna Shevchenko; Henrik Thomas; Andrea Knaust; Andrej Shevchenko; *MPI of Molecular Cell Biology and Genetics, Dresden, Germany*

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- WP 241 **Top-Down High Resolution Electron Capture Dissociation Mass Spectrometry for Characterization of Post-Translational Modifications in Non-Human Primate Cardiac Troponin**; Fangmin Xu; Lisa Xu; Xintong Dong; Timothy Hacker; Ying Ge; *University of Wisconsin-Madison, Madison, WI*
- WP 242 **Functional Study of BR-Signalling Kinases (BSKs) in Arabidopsis**; Shouling Xu^{1,2}; Peng Xu¹; Robert Chalkley²; Shenheng Guan²; A.L. Burlingame²; Zhiyong Wang¹; ¹*Carnegie Institution for Science, Stanford, CA*; ²*University of California, San Francisco, CA*
- WP 243 **Improved Phosphoproteome Analysis by Multi-Enzymatic Digestions Targeting the Trypsin-Resistant Proteome (TReP)**; Bao Tran¹; Celine Hernandez^{1,2}; Alexandra Potts¹; Patrice Waridel¹; Frederique Lisacek²; Manfredo Quadroni¹; ¹*University of Lausanne, Lausanne, Switzerland*; ²*Swiss Institute of Bioinformatics, Geneva, Switzerland*
- WP 244 **FeOx, ZrOx, HfOx and TiOx Nano-Enhanced MALDI Plates for Selective Capture of Phosphorylated and Sialylated Peptides**; Paolo Soffientini¹; Andrea Di Fonzo¹; Emanuele Barborini²; Roberta Carbone²; Simone Vinati²; Gabriela Grigorean³; ¹*COGENTECH, Milan, Italy*; ²*Tethis s.r.l., Milan, Italy*; ³*IFOM-IEO, Milan, Italy*
- WP 245 **Large-Scale Phosphoproteomics with High Mass Accuracy at the MS and MS/MS Level Using HCD on an LTQ Orbitrap Velos**; Nagarjuna Nagaraj¹; Rochelle D'souza¹; Juergen Cox²; Jesper V Olsen³; Matthias Mann⁴; ¹*MaxPlanck Institute for Biochemistry, Munich, Germany*; ²*Max-Planck-Institute of Biochemistry, Martinsried, Germany*; ³*Copenhagen University, Copenhagen, Denmark*; ⁴*Max Planck Institute for Biochemistry, D Martinsried, Germany*
- WP 246 **Does Ion-trap CID Intramolecular Phosphate Transfer Compromise Site Localization in Large-Scale Phosphoproteomics Studies? Is ETD a Viable Alternative?**; Mike Aguiar¹; Wilhelm Haas¹; Sean Beausoleil¹; John Rush²; Steven Gygi¹; ¹*Harvard Medical School, Boston, MA*; ²*Cell Signaling Technology, Danvers, MA*
- WP 247 **Highly Efficient Online Enrichment Method for the Selective Analysis of Phospho-Epitopes in Complex HLA Elution Samples**; Geert Mommen; Ad de Jong; *Netherlands Vaccin Institute, Bilthoven, The Netherlands*
- WP 248 **Human Beta Defensin 3 Alters Activated T Cell Responses Via Tyrosine Phosphorylation of STAT1**; Xiaolin Li; Jeffrey Meisch; Daniela M. Schlatzer; Giri Gokulagan; Janna Kiselar; Alan D. Levine; Mark R. Chance; *Case Western Reserve University, Cleveland, OH*
- WP 249 **Exploring the Human Leukocyte Phosphoproteome Using a Microfluidic RP-TiO₂-RP HPLC Phosphochip Coupled to a Q-ToF Mass Spectrometer**; Reinout Raijmakers¹; Karsten Kraiczek³; Ad De Jong²; Shabaz Mohammed¹; Albert J.R. Heck¹; ¹*Utrecht University, Utrecht, Netherlands*; ²*Netherlands Vaccine Institute, Bilthoven, The Netherlands*; ³*Agilent Technologies, Waldbronn, Germany*
- WP 250 **Large-Scale Enrichment and Analysis of GlcNAcylated peptides from Arabidopsis Thaliana**; Sushmit Maitra¹; Yung-Chun Kim²; Neil Olszewski²; Jeffrey Shabanowitz¹; Donald F. Hunt¹; ¹*Dept. of Chemistry, University of Virginia, Charlottesville, VA*; ²*Dept of Plant Biology, University of Minnesota, St. Paul, MN*
- WP 251 **Characterizing Post-Translational Modifications by Mass Spectrometry for Protein Specific Activity Study**; David Wong; Marina Chow; Bill Cuevas; Jackie Huitink; Mariliz Johnson; Pooja Patel; Matt Reboli; *Genencor Division of Danisco US Inc., Palo Alto, CA*
- WP 252 **Differential Mass Spectrometric Analysis of Paxillin O-glcNAcylation Using Chemical Labeling and IMAC Enrichment**; Erin D Jeffery; Pablo Grigera; J. Thomas Parsons; Donald F. Hunt; *University of Virginia, Charlottesville, VA*
- WP 253 **Progress in the Characterization of Glycosylation Microheterogeneity in Xenopus laevis Vitelline Envelope Glycoprotein ZPA**; Liang Zhao¹; Fan Xiang²; Jerry L. Hedrick³; Andreas H. Franz¹; ¹*Department of Chemistry, University of the Pacific, Stockton, CA*; ²*Shimadzu Biotech, Pleasanton, CA*; ³*Department of Animal Science, UC Davis, Davis, CA*
- WP 254 **Glycosylation and Sialylation of Macrophage-Derived Human Apolipoprotein E Analysed by 1- and 2-D SDS-PAGE and Mass Spectrometry**; Youna Lee²; Mark J. Raftery¹; Wendy Jessup²; Maaik Kockx²; Renate Griffith³; Len Kritharides⁴; ¹*Bioanalytical Mass Spectrometry, Sydney, Australia*; ²*Centre for Vascular Research, SOMS, UNSW, Sydney, Australia*; ³*Pharmacology, SOMS, UNSW, Sydney, Australia*; ⁴*Department of Cardiology, Concord Hospital, University of Sydney, Sydney, Australia*

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- WP 255 **Structure, Reaction Intermediates and Topographical Characterization of β -amyloid Oligomerisation Revealed by Ion Mobility Mass Spectrometry and Electron Paramagnetic Resonance Spectroscopy**; Marius-Ionut Iurascu¹; Claudia Cozma¹; Michael Desor²; Malte Drescher¹; Michael Przybylski¹; ¹*University of Konstanz, Konstanz, Germany*; ²*Waters, Eschborn, Germany*
- WP 256 **Synthesis and Structural Characterization of a Proteolytic Parkinson-Related Fragment of α -Synuclein, α -Syn(71-140)**; Kathrin Lindner; Camelia Vlad; Michael Przybylski; *Universitat Konstanz, Konstanz, Germany*
- WP 257 **Investigation of β -Amyloid(1-40) Peptide Plaque Formation and Inhibition with Various Inhibitors by MALDI-TOF-MS**; Ömür Çelikbıçak; Bekir Salih; *Hacettepe University, Ankara, Turkey*
- WP 258 **Structural Characterization of A β Protein Crosslinking Using Ion Mapping and Tandem Mass Spectrometry**; Jennifer G. Bryant¹; William M. Tay²; A. Jeremy Nix²; Patricia K. Martin²; Terrone L. Rosenberry²; ¹*University of North Florida, Jacksonville, FL*; ²*Mayo Clinic, Jacksonville, Florida*
- WP 259 **Ecdysis Triggering Hormone Profiles in Endocrine Inka Cells Using Single Cell MALDI-MS**; Li Dai^{1,2}; Michael Adams²; ¹*University of Utah, Salt Lake City, UT*; ²*Depts. of Entomology, Cell Biology & Neuroscience, Riverside, CA*
- WP 260 **Electron Ionization Mass Spectra Obtained for Amino Acids and Peptides by Using Laser-Induced Acoustic Desorption (LIAD)**; Benjamin C. Owen; Lindsey M. Kirkpatrick; Hilka I. Kenttämäa; *Purdue University, West Lafayette, IN*
- WP 261 **A Systematic Study for Determining Optimal Protein Digest Conditions in Disulfide-Containing Proteins**; Kathryn Rebecchi; Eden Go; Heather Desaire; *University of Kansas, Lawrence, KS*

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- WP 262 **Measurement of Major Urinary Protein Synthesis Rate in Mice by Heavy Water Labeling and Peptide Mass Spectrometry;** Mahalakshmi Rudrabhatla¹; Mahalakshmi Shankaran¹; Tom Hirst¹; Scott Turner¹; Robert Beynon²; Richard Neese³; Marc Hellerstein³; ¹*Kinemed, Inc., Emeryville, CA*; ²*University of Liverpool, Liverpool, UK*; ³*Nutritional Science and Toxicology, UC Berkeley, Berkeley, CA*
- WP 263 **Selective ESI-MS Detection of Basic Peptides Using Crown Ethers and Proton Transfer Reactions;** Michelle Sweeney; Megan Macnaughtan; *Louisiana State University, Baton Rouge, LA*
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- WP 264 **A Systems Biology Approach to the Molecular Effects Induced by Secondhand Smoke Exposure in Rat Pup Brain;** Brian Fuller¹; Andrew K. Ottens¹; ¹*Virginia Commonwealth University, Richmond, VA*
- WP 265 **Toxicological Pathway Protein Analysis Using Highly Multiplexed Multiple Reaction Monitoring (MRM) Measurements;** Hua Lin; Thomas A. Shaler; Sophia Chen; Chris Becker; *Caprion Proteomics U.S. LLC, Menlo Park, CA*
- WP 266 **Large Scale Quantitative Analysis of Adipose and Liver Tissue of Obese Mice Using an LTQ Orbitrap XL;** Dorothea Rutishauser¹; Hadi al Hasani²; Ralf Herwig³; Michal Okoniewski¹; Jonas Grossmann¹; Ralph Schlapbach¹; ¹*Functional Genomics Center, ETH Zurich, Zurich, Switzerland*; ²*German Institute for Human Nutrition, DIfE, Potsdam-Rehbruecke, Nuthetal, Germany*; ³*Max Planck Institute for Molecular Genetics, Berlin, Germany*
- WP 267 **Quantitative Proteome Analysis of Pluripotent Cells by iTRAQ Mass Tagging Identifies Post-Transcriptional Regulation of Proteins Required for ES Cell Self-Renewal;** Robert N. O'Brien; Zhouxin Shen; Kiyoshi Tachikawa; Angel Lee; Steven P. Briggs; *University of California San Diego, La Jolla, CA*
- WP 268 **Profiling Human Transcriptional Regulators with Shotgun Nucleoproteomics;** Andrew Stergachis; Eric Rynes; Greg Finney; Michael MacCoss; John Stamatoyannopoulos; *University of Washington, Seattle, WA*
- WP 269 **Quantitative Proteomics Analysis of Human Adenovirus Infections by iTRAQ-8plex;** Hung Viet Trinh¹; Peter Gehrig²; Hansruedi Baetschmann²; Jonas Grossmann²; Ralph Schlapbach²; Urs Greber¹; Silvio Hemmi¹; ¹*IMLS, University of Zurich, Zurich, Switzerland*; ²*Functional Genomics Center, Zurich, Switzerland*
- WP 270 **Proteomic Analysis of 3T3-L1 Adipocyte Mitochondria during Differentiation, Maturation, and Hypertrophic Enlargement;** William K. Russell; Stephanie Cologne; Billy Newton; Arul Jayaraman; David H. Russell; *Texas A&M University, College Station, TX*
- WP 271 **A Systems Biology Approach; Proteomic Study on Rapamycin Treated Human Cancer Cell Line;** Sudha Rajagopalan; Yugandhar Reddy; Nilanjan Guha; Siji Joseph; Syed Salman Lateef; *Agilent Technologies India Pvt.Ltd, Bangalore, India*
- WP 272 **Global Analysis of Protein Expression Dynamics in Human Tumor Cells upon Treatment with the Raf Inhibitor Sorafenib;** Sven Nahnsen¹; Oliver Kohlbacher²; Alfred Nordheim³; Boris Macek¹; ¹*Proteome Center, University of Tübingen, Tübingen, Germany*; ²*Center for Bioinformatics, University of Tübingen, Tübingen, Germany*; ³*Department of Molecular Biology, Univ. of Tübingen, Tübingen, Germany*
- WP 273 **Proteomic Profiling of Cellular Reprogramming: Are Human Induced Pluripotent Stem Cells (hiPSCs) Indistinguishable from Human Embryonic Stem Cells (hESCs)?;** Javier Munoz¹; Teck Yew Low¹; Yee Jiun Kok²; Andre Choo²; Albert J.R. Heck¹; ¹*Utrecht University, Utrecht, Netherlands*; ²*Bioprocessing Technology Institute, Singapore, Singapore*
- WP 274 **A Systems Biology View of the HeLa Proteome: Mapping 4000+ Proteins to Their Cellular Pathways;** Robert Lj Graham; Michael J Sweredoski; Sonja Hess; *CalTech, Pasadena, CA*
- WP 275 **An Integrated Proteomic Approach to Decipher Cell Type-Specific Proteasome Structures and Functions;** Charity Aiken^{1,2}; Lan Huang^{1,2}; ¹*Dept. of Physiology and Biophysics, University of California, Irvine, Irvine, CA*; ²*Dept. of Developmental and Cell Biology, University of California Irvine, Irvine, CA*
- WP 276 **Localization of Organelle Proteins by Isotope Tagging (LOPIT) in the HEK293T Cell Line;** Andrew Christoforou¹; Matthew Trotter²; Phil Charles¹; Alfonso Martinez Arias³; Kathryn Lilley¹; ¹*Cambridge Centre for Proteomics, Cambridge, UK*; ²*Laboratory for Regenerative Medicine, Cambridge, UK*; ³*Department of Genetics, University of Cambridge, Cambridge, UK*
- WP 277 **A Comprehensive Strategy to Maximize the Analysis of Substrates of the Ubiquitin Proteasome Pathway by LC-MS/MS;** Geoffrey Smith; Michael J Sweredoski; Sonja Hess; *Caltech, Pasadena, CA*
- WP 278 **LC/MS^E Label-Free Quantitative Proteomic Analysis of Purified Invasive Versus Non-Invasive *Plasmodium falciparum* Merozoites in Support Of Malaria Vaccine Development;** Krishan Kumar¹; Michael Nold²; J. David Haynes^{3,4}; Prakash Srinivasan⁴; J. Kathleen Moch³; Karine Reiter¹; David Narum¹; ¹*Laboratory of Malaria Immunol and Vaccinology, NIH, Rockville, MD*; ²*Waters Corporation, Milford, MA*; ³*Walter Reed Army Institute of Research, Silver Spring, MD*; ⁴*Laboratory of Malaria and Vector Research, NIH, Rockville, MD*
- WP 279 **Virus and Host Proteomics of the Lactic Acid Bacteria *Streptococcus thermophilus* and Its Phage D2972;** Jacque Young^{1,2}; Manesh Shah¹; Brian Dill¹; Philippe Horvath⁴; Christine Sun³; Christophe Fremaux⁵; Jillian Banfield³; Rodolphe Barrangou⁵; Nathan C. Verberkmoes¹; ¹*Oak Ridge National Labs, Oak Ridge, TN*; ²*Univ. of Tennessee, Knoxville, TN*; ³*University of California, Berkeley, CA*; ⁴*Danisco France SAS, Dangé-Saint-Romain, France*; ⁵*Danisco USA, Inc., Madison, WI*
- WP 280 **Expanding the Protein Library and Knowledge of Relative Protein Abundances for M. Tuberculosis;** Thomas A. Shaler¹; Hua Lin¹; Sophia Chen¹; Julian Richards²; James Galagan³; Chris Becker¹; ¹*Caprion Proteomics U.S. LLC, Menlo Park, CA*; ²*Broad Institute, Cambridge, MA*; ³*Boston University, Boston, MA*
- WP 281 **Elucidating the Parasitic/Symbiotic Association between the Archaea *Ignicoccus hospitalis* and *Nanoarchaeum equitans* via Differential Proteomics;** Richard J. Giannone; Mircea Podar; Robert Hettich; *Oak Ridge National Laboratory, Oak Ridge, TN*
- WP 282 **Protein Abundance Dynamics in the Unicellular Cyanobacterium *Cyanothece* ATCC 51142 During Light-Dark Cycle;** Uma K. Aryal¹; Jon M. Jacobs¹;

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- Jana Stöckel²; Carrie D. Nicora¹; Himadri B. Pakrasi²; David W. Koppenaal¹; Louis A. Sherman³; Richard D. Smith¹; ¹*Biological Science Division, Pacific Northwest Nat, Richland, WA*; ²*Department of Biology, Washington University, St Louis, MO*; ³*Dept. of Biological Sciences, Purdue University, West Lafayette, IN*
- WP 283 **Identification of Host Species from the Blood Meal of Tick Nymphs Using LC/MSMS; Ünige A. Laskay¹**; Erin M. Johnson¹; Alan G. Barbour²; Vicki H. Wysocki¹; ¹*University of Arizona, Tucson, AZ*; ²*University of California Irvine, Irvine, CA*
- WP 284 **A Systems Biology Approach to Understanding *in-vitro* Protein Translation Reveals a Biosignature of Inhibitory Cold-Shock Proteins; Sushmita Mimi Roy**; Sunil Bajad; Evan Green; Junhao Yang; Tyler H Heibeck; James Zawada; Henry Heinsohn; *Sutro Biopharma Inc, South San Francisco, CA*
- WP 285 **Proteomic Profiling of a Wild-Type and a Translation Defective Strain in *Escherichia coli* for Understanding Regulatory Mechanisms in Protein Synthesis; Debnath Pal**; Umesh Varshney; Arnab Roy; Pratip Saha; Goutam Kar; Aluri Srinivas; *Indian Institute of Science, Bangalore, India*
- WP 286 **Integrating Metagenomics and Metaproteomics Provides Insight into the Molecular Activities and Biosignature(s) of the Human Gut Microbiota in Crohn's Disease; Alison Russell^{1,2}**; Nathan C. Verberkmoes²; Manesh Shah²; Brandi Cantarel³; Emmanuel Mongodin³; William Hsiao³; Regina Lamendella⁴; Claire Fraser-Liggett³; Janet Jansson⁴; Robert Hettich²; ¹*University of Tennessee-Knoxville, Knoxville, TN*; ²*Oak Ridge National Lab, Oak Ridge, TN*; ³*University of Maryland School of Medicine, Baltimore, MD*; ⁴*Lawrence Berkeley National Lab, Berkeley, CA*
- WP 287 **Characterization of Bacterial Proteins from Organisms without Sequenced Genomes; Colín Wynne¹**; Nathan J. Edwards²; Catherine Fenselau¹; ¹*University of Maryland, College Park, MD*; ²*Georgetown University Medical Center, Washington, DC*
- WP 288 **Integrative Proteomics and Network Analyses of Growth Stresses Induced Systems Fluctuations in *Haloarcula marismortui*; Lichieh Julie Chu¹**; Hanying Yang¹; Peiyin Shih¹; Yuchieh Kao¹; Yihsuan Shannon Tsai²; Jinzhi Chen²; Gueitang Huang¹; Rueyhung Roc Weng¹; Ying Sonia Ting²; Xuefeng Fung³; Wailap Victor Ng¹; David R. Goodlett²; ¹*National Yang Ming University, Taipei, Taiwan*; ²*University of Washington, Seattle, WA*; ³*Zhejiang University, Hangzhou, China*
- WP 289 **Toward a Complete Map of the *Drosophila Melanogaster* Protein Interactome; Bo Zhai¹**; Julian Mintseris¹; Robert Obar¹; Guruharsha Kuthethur¹; Jean-François Rual¹; Joseph Carlson²; Odise Cenaj¹; Xiao Chen²; Aijaz Noor³; Venkateswara Onteddu³; Pujita Vaidya¹; Kenneth Wan²; Charles Yu²; K. VijayRaghavan³; Susan Celniker²; Spyros Artavanis-Tsakonas¹; Steven Gygi¹; ¹*Harvard Medical School, Boston, MA*; ²*Lawrence Berkeley National Laboratory, Berkeley, CA*; ³*Tata Institute of Fundamental Research, Bangalore, India*
- WP 290 **Effects of Growth Conditions on the Secretome of *Chlamydomonas reinhardtii*; Lauren Fields**; Casey Madinger; Michelle Cushing; Jack S. Benner; *New England Biolabs, Ipswich, MA*
- WP 291 **Proteomics of Leaf Tissues from *Populus*; Gregory Hurst**; Xiaohan Yang; Timothy Tschapinski; Gerald Tuskan; Trish Lankford; Manesh Shah; Sara Jawdy; Lee Gunter; Nancy Engle; *Oak Ridge National Laboratory, Oak Ridge, TN*
- WP 292 **Deep Proteome Characterization and Comparison of *Populus* Species under Wild-Type vs. Tensional Stress Environmental Conditions; Paul Abraham^{1,2}**; Udaya Kalluri¹; Rachel Adams^{1,2}; Gerry Tuskan¹; Bob Hettich¹; ¹*Oak Ridge National Lab, Oak Ridge, TN*; ²*GST, University of Tennessee, Knoxville, TN*
- WP 293 **Coupling Sequence Identities to Exact Masses Using a Simple, Automated Procedure; Noam Kirshenbaum**; Michal Sharon; *The Weizmann Institute of Science, Rehovot, Israel*

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- WP 294 **Methods for Biodiscovery of Oral Glycosylation Using Liquid Chromatography Mass Spectrometry; Liaqat Ali**; *Gothenburg University, Gothenburg, Sweden*
- WP 295 **Preparative PAGE Fractionation and ESI-FTMS Analysis of Bikunin Glycosaminoglycan; Tatiana Laremore¹**; Kemal Solakyildirim¹; Mellisa Ly¹; Franklin E. Leach III²; Toshihiko Toida³; Dmitri Zagorevski¹; Jon Amster²; Robert Linhardt¹; ¹*Rensselaer Polytechnic Institute, Troy, NY*; ²*University of Georgia, Athens, GA*; ³*Chiba University, School of Pharmacy, Chiba, Japan*
- WP 296 **Rapid Deglycosylation of Proteins for Carbohydrate and Protein Characterization by Mass Spectrometry Using EndoH-Bound Magnetic Beads; Casey Madinger**; Ellen Guthrie; Jack S. Benner; *New England Biolabs, Ipswich, MA*
- WP 297 **A Unique Workflow for Glycoprotein Characterization from Sample Preparation to MS/MS Spectral Interpretation; Jenny Albanese¹**; Randy Lee²; ¹*Applied Biosystems part of Life Technology, Foster City, CA*; ²*ProZyme, Inc., Hayward, CA*
- WP 298 **2D-HPLC with Online and Offline Orbitrap Mass Spectrometry for Profiling and Characterization of N-linked Glycans Released from Biotherapeutic Receptor-Fc Glycoproteins; Andrew Hanneman**; Chi-Ting Huang; *Acceleron Pharma, Cambridge, MA*
- WP 299 **An Investigation to Assess the Enrichment of Glycopeptides from Tryptic Digestion Mixtures by Comparing Cellulose and Chitin-Based Stationary Phases; Ed Bodnar**; Helene Perreault; *University of Manitoba, Winnipeg, Canada*
- WP 300 **Influence of Matrix on the In Source Decay of Permethylated Glycans during MALDI-TOF Analysis; Nicolas Smargiasso**; Edwin De Pauw; *University of Liege, Liege, Belgium*
- WP 301 **High Sensitivity MALDI Analysis of Glycans by a New 3AQ Labeling Method in 3AQ/CHCA Liquid Matrix; Kaoru Kaneshiro**; Yuko Fukuyama; Shinichi Iwamoto; Sadanori Sekiya; Kenichi Taniguchi; Koichi Tanaka; *Shimadzu Corporation, Kyoto, Japan*
- WP 302 **Mid-Infrared 6µm MALDI MS of Acidic Biomolecules; Yoshinao Wada**; Michiko Tajiri; *Osaka MCHRI & Osaka University, Osaka, Japan*
- WP 303 **High-Throughput Quantitative Analysis of Sialylated N-glycans Using Negative MALDI-TOF MS; Chong-Feng Xu**; Li Zang; Samnang Tep; Yelena Lyubarskaya; *Biogen Idec, Cambridge, MA*
- WP 304 **Negative-Ion MALDI-MSⁿ for Discrimination of α2,3- and α2,6-sialylation on Glycopeptides Labeled with a Pyrene Derivative; Takashi Nishikaze**; Toshio

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- WP 305 Nakamura; Hiroshi Jinmei; Junko Amano; *The Noguchi Institute, Tokyo, Japan*
Mass-Spectral Investigation of Sialic-acid Linkages in Blood-serum Glycoproteins; William R. Alley; Milos V. Novotny; *Indiana University, Bloomington, IN*
- WP 306 **Ionic liquid for Ionization Efficiency Improvement of Polysaccharides in ESI-MS;** Yu-Ling Chang; Chung-Hsuan Chen; *The Genomics Research Center, Academia Sinica, Taipei, Taiwan*
- WP 307 **The Interplay of Permanent Charge and Hydrophobicity with Respect to Electrospray Ionization of Glycans;** Hunter Walker; Brian Papas; Daniel Comins; David C. Muddiman; *North Carolina State University, Raleigh, NC*
- WP 308 **Improvement of ESI Behavior of Heparan Sulfate Oligosaccharides by Using a Chip-based Pulsed Post-Column Makeup Flow for Online LC/MS;** Yu Huang¹; Xiaofeng Shi¹; Hongfeng Yin²; Kevin Killeen³; Joseph Zaia⁴; *¹Boston University School of Medicine, Boston, MA; ²Agilent Labs, Santa Clara, CA; ³Agilent Laboratories, Santa Clara, CA; ⁴Boston University, Boston, MA*
- WP 309 **Use of Ion Mobility and Negative Ion CID Mass Spectrometry for the Identification of N-glycans from Nanomolar Amounts of Glycoprotein;** David J. Harvey¹; Max Crispin¹; Christopher Scanlan¹; Camille Bonomelli¹; Frank Sobott²; Charlotte Scarff³; Konstantinos Thalassinos³; James Scrivens³; *¹University of Oxford, Oxford, UK; ²CeProMa, University of Antwerp, Antwerp, Belgium; ³University of Warwick, Coventry, UK*
- WP 310 **A Separation-Free Quantitative MS-Based Profiling Approach Using 2-AA Isotopically Labeled Substrates for High-Throughput Glycan Screening;** Justin M Prien; Lorna Maheu; Brad Prater; Qiang Qin; Steve Cockrill; *Amgen, Longmont, CO*
- WP 311 **LC/MS Analysis of Heparan Sulfate Chain Processing by Human Sulf2;** Gregory O Staples; Xiaofeng Shi; Joseph Zaia; *Boston University School of Medicine, Boston, MA*
- WP 312 **Characterization of Heparan Sulfate N-sulfated Domains Binding Fibroblast Growth Factor-2;** Hicham Naimy; Nancy Leymarie; Joseph Zaia; *Boston Univ., Boston, MA*
- WP 313 **A Novel Strategy for Characterization of Mucins Toward Biomarker Discovery: Composition-Based Arrangement of Mass Spectral Data;** Yu-Ki Matsuno¹; Weijie Dong¹; Seiya Yokoyama²; Suguru Yonezawa²; Hisashi Narimatsu¹; Akihiko Kameyama¹; *¹Research Center for Medical Glycoscience, AIST, Tsukuba, Japan; ²Human Pathology, Kagoshima University, Kagoshima, Japan*
- WP 314 **Novel Sulfated and Fucosylated Glycans Isolated from Human Saliva and Tear;** Sureyya Ozcan; Hyun Joo An; Carlito Lebrilla; *Department of Chemistry, University of California, Davis, CA*
- WP 315 **Mass Spectrometric Analysis of N-linked Glycans from Folate Receptor;** Nidhi Jaiswal; Suraj Saraswat; Mahohar Ratnam; Dragan Isailovic; *University of Toledo, Toledo, OH*
- WP 316 **Site-Specific N-Glycosylation of Biologically Active L-Selectin;** Véronique Blanchard; Stefanie Wedepohl; Matthias Kaup; Sebastian Riese; Jens Dervedde; Markus Berger; Rudolf Tauber; *Charité Berlin, Berlin, Germany*
- WP 317 **Characterization of Chondroitin Sulfate Using High Resolution Ion Trap-Time of Flight (IT-TOF) Mass Spectrometry;** Hiro Katagiri¹; Herbert M. Geller¹; Faith A. Hays²; Yuhui Wang²; William A. Hedgepeth²; Masatoshi Takahashi²; *¹National Heart, Lung, and Blood Institute, NIH, Bethesda, MD; ²Shimadzu Scientific, Columbia, MD*
- WP 318 **N-Glycan Profile Comparison of Serum and Cancer Cell Culture Lysate Using Liquid Chromatography Mass Spectrometry;** Kathryn Cindric; Ting Ye; Kinjal Amin; Qinfeng Liu; *Campbell University, Buies Creek, NC*
- WP 319 **A Mass Spectrometry Based Glycomic Approach for Identification of Carbohydrate Dependant Virulence Factors Using *Caenorhabditis Elegans* as a Surrogate Host;** Md Mizanur Rahman¹; Jonathan Hodgkin²; John F Cipollo¹; *¹Food and Drug Administration/ CBER, Bethesda, MD; ²Department of Biochemistry, University of Oxford, Oxford, UK*

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- WP 320 **Comprehensive Lipid Profiling of Algal Strains for Biofuel Feedstock by High Resolution Mass Spectrometry;** Karen Glenn; Patrick McGinn; Stephen O'Leary; Jeremy Melanson; *National Research Council of Canada, Halifax, Canada*
- WP 321 **Lipidomics: Fatty Acid and Lipid Profiling in Human Plasma Using RP-HPLC/ESI-MS Method;** Miroslav Lisa; Eva Čáňová; Kateřina Netušilová; Michal Holčapek; *University of Pardubice, Pardubice, Czech Republic*
- WP 322 **Different Distribution of Individual Molecular Species in Mouse Organs Obtained by Automated Lipid Search Engine and Multivariate Analyses;** Ryo Taguchi; Hiroki Nakanishi; Moonjin Ra; *The University of Tokyo, Tokyo, Japan*
- WP 323 **Triacylglycerol Profiling and Positional Isomer Analysis in Omega-3 Enriched Fish Oil by Mass Spectrometry;** Lisandra Cubero Herrera¹; Karen M. Glenn¹; Tobias Karakach¹; Michael A. Potvin²; Jeremy E. Melanson¹; *¹NRC Institute for Marine Biosciences, Halifax, Canada; ²Ocean Nutrition Canada, Dartmouth, Canada*
- WP 324 **Lipidomics and Neurodegeneration;** Sarita Hebbar; Dominik Schwudke; *National Centre for Biological Sciences, TIFR, Bangalore / Bengaluru, India*
- WP 325 **Integrating Shotgun Lipidomics and HPLC Separation of Lipids into a New Platform for Total Lipid Analysis;** Reinaldo Almeida¹; Christer Ejsing²; *¹Advion BioSciences Ltd., Arnsberg, Germany; ²University of Southern Denmark, Odense, Denmark*
- WP 326 **Distinctive Oxidized Cardiolipin Species Generated by Singlet Oxygen and Radical Initiator Characterized by HPLC-MS/MS Analysis;** Junhwan Kim; Paul Minkler; Robert Salomon; Charles Hoppel; *Case Western Reserve University, Cleveland, OH*
- WP 327 **The Identification and Quantification of Molecular Lipid Species by Higher Energy Collisional Dissociation on Orbitrap Instruments;** Kai Schuhmann^{1,2}; Ronny Herzog²; Stefan R. Bornstein¹; Andrej Shevchenko²; *¹Department of Internal Medicine III, TU Dresden, Dresden, Germany; ²Max Planck Institute CBG, Dresden, Germany*
- WP 328 **Characterization of Nonpolar Lipids by Using Laser-Induced Acoustic Desorption/Chemical Ionization, APCI, and ESI;** Zhicheng Jin; Shavani Daiya; Hilka Kentamaa; *Purdue University, West Lafayette, IN*
- WP 329 **Analysis of a New Immunomodulatory Milk Lipid Particle Using Top-Down Lipidomics on a Hybrid**

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- WP 330 **Triple Quadrupole FT-ICR Mass Spectrometer;** Larry Lerno¹; Jennifer T. Smilowitz²; J. Bruce German²; Carlito Lebrilla¹; ¹UC Davis, Dept. of Chemistry, Davis, California; ²UC Davis, Dept. of Food Science, Davis, California
- WP 331 **Lipid Analysis from Biological Samples by Normal-Phase Chromatography / Atmospheric Pressure Photoionisation Mass Spectrometry;** Mathieu Gaudin^{1,4}; Laurent Imbert²; Danielle Libong²; Pierre Chaminade²; Philippe Loiseau³; Julie Allegrand⁴; Auzeil Nicolas¹; David Touboul⁴; Olivier Lapr vot^{1,4}; ¹C-TAC, Paris Descartes University, Paris, France; ²Paris-Sud Analytical Chemistry Group, Chatenay-Malabry, France; ³BIOCIS, Paris-Sud Faculty of Pharmacy, Chatenay-Malabry, France; ⁴CNRS-ICSN, Gif-Sur-Yvette, France
- WP 332 **Reversed Phase Liquid Chromatography Coupled to ESI Mass Spectrometry for Separation, Detection of Polar Lipids in Biological Samples;** Ying Zhou¹; Julian Ollesch²; Holger Wille³; David S. Newburg³; Catherine E. Costello¹; ¹Boston University School of Medicine, Boston, MA; ²University of California, San Francisco, San Francisco, CA; ³Harvard University, Massachusetts General Hospital, Boston, MA
- WP 333 **Identification of Triacylglycerol in Oils Using LTQ-Orbitrap Mass Spectrometer;** CheongTae Kim²; DaeHyun Kim²; WooSeok Kang²; Jongsoo Park¹; ¹Euro Science Co., Ltd., Sunghnam City, South Korea; ²NongShim Co., Ltd, Seoul, South Korea
- WP 334 **Rapid Liquid Chromatography-Mass Spectrometry Screening for Lipids in the Unicellular Red Alga Porphyridium cruentum;** Behnaz Shafii; A. Daniel Jones; Michigan State University, East Lansing, MI
- WP 335 **Nascent HDL from ABCA1: Using the Lipid Composition of Nascent HDL to Deduce the Intracellular Lipid Source;** Shaila Bhat; Mary G. Sorci-Thomas; John S. Owen; Dharika Shah; Michael P. Samuel; Manal Zabalawi; Michael J. Thomas; WFU School of Medicine, Winston-Salem, NC
- WP 336 **NP-HPLC/MS/MS Analysis of Neutral Lipid Oxidation in Human Atherosclerosis;** Patrick Hutchins¹; Robert C. Murphy²; ¹Univ of Colorado, Denver, CO; ²University of Colorado Den, Aurora, CO
- WP 337 **HPTLC-MALDI MS and MS/MS Analysis of Lipid Mixtures;** Martin Schuereberg¹; Beate Fuchs²; Andrea Bischoff²; Rosemarie Suess²; Detlev Suckau¹; Ulrike Anders¹; Gertrud Morlock³; Juergen Schiller²; ¹Bruker Daltonics, Bremen, Germany; ²University Leipzig, Medical School, Leipzig, Germany; ³University of Hohenheim, Inst. of Food Chemistry, Stuttgart, Germany
- WP 338 **A Novel Method for Analysis of Diversities in Ceramides and Glycosphingolipids by MALDI-TOFMS and MS2 Equipped with High-Energy CID;** Kouji Tanaka^{1,2}; Masaki Yamada³; Yuzo Yamazaki³; Andrew Eaton⁴; Toshifumi Aoyama⁵; Atsushi Hara⁵; Reiji Kannagi¹; Mamoru Kyogashima^{1,2}; ¹Aichi Cancer Center Research Institute, Nagoya, Japan; ²Nagoya City University, Nagoya, Japan; ³Shimadzu Corporation, Kyoto, Japan; ⁴Kratos Analytical, Manchester, UK; ⁵Shinshu University, Graduate School of Medicine, Matsumoto, Japan
- WP 339 **Regioisomeric Characterization of Triacylglycerols Using Atmospheric Pressure Chemical Ionization Mass Spectrometry and Silver-Ion Liquid Chromatography;** Michal Holcapek; Hana Velinska; Miroslav Lisa; University of Pardubice, Pardubice, Czech Republic
- WP 340 **Ozone Induced Dissociation for Lipidomics Workflows;** Berwyck Poad¹; Huong Pham Thu³; Todd W Mitchell¹; J. Larry Campbell²; Stephen J Blanksby¹; ¹University of Wollongong, Wollongong, Nsw, Australia; ²MDS Analytical Tech, Sciex, Concord, ON; ³School of Chemistry, University of Wollongong, Wollongong, Australia
- WP 341 **Double Bond Localization in Wax Ester Molecular Species by HPLC/APCI-MS Utilizing CID of the Acetonitrile Adducts;** Vladimir Vrko slav; Martina H kov ; Josef Cva ka; Institute of Organic Chemistry and Biochemistry, Prague, Czech Republic
- WP 342 **METABOLOMICS III, 341 - 367**
- WP 343 **Metabonomic Approaches for Identification of Urinary Phospholipids as Markers of Drug-Induced Phospholipidosis;** Petia Shipkova; Serhiy Hnatyshyn; Nelly Aranibar; Michael Reily; Monicah Otieno; Lois Lehman-McKeeman; Don Robertson; Bristol-Myers Squibb, Princeton, NJ
- WP 344 **Characterising Functionalised Surfaces for Studying Metabolite-Protein Interaction, Using ToF-SIMS;** Malinda Salim; Phillip C Wright; Seetharaman Vaidyanathan; The University of Sheffield, Sheffield, UK
- WP 345 **Discovery of Cancer Stem Cell Biomarkers Using Metabolomics;** Paul R. West; Alan Smith; April Weir; Gabriela Cezar; Stemina Biomarker Discovery, Madison, WI
- WP 346 **Metabolomics and Integrated Functional Genomics for the Discovery and Elucidation of Saponin Biosynthesis;** Lloyd W. Sumner; John H. Snyder; David V. Huhman; Stacy Allen; Yuhong Tang; The Noble Foundation, Ardmore, OK
- WP 347 **Targeted and Non-Targeted Profiling and Quantification of Plant Hormones and Related Compounds by Mass Spectrometry;** Baichen Zhang¹; Leslie M. Hicks²; ¹Donald Danforth Center, St Louis, MO; ²Danforth Center, St. Louis, MO
- WP 348 **Identification of Derivatized Components of Standard Reference Material (SRM) 1950 Metabolites in Human Plasma by Linear Quadrupole Gas Chromatography/Mass Spectrometry;** Bruce A. Benner¹; Gauthier Eppe²; Nathan G. Dodder¹; Edward White¹; ¹NIST, Gaithersburg, MD; ²Liege University, Li ge, Belgium
- WP 349 **Metabolomic Analysis Reveals Metabolic Conditionality of Antibiotic Resistance in Staphylococcus aureus;** Steven M. Fischer¹; Elizabeth Alexander²; Kyu Rhee²; ¹Agilent Technologies, Santa Clara, CA; ²Cornell Medical College, New York, NY
- WP 350 **Combined use of HILIC and RPLC Increases Metabolite Coverage in LC-MS Analyses of Yeast Metabolome;** Anna Lindahl; Hasanuzzaman Bhuiyan; Anders Nordstrom; Karolinska Institute, Stockholm, Sweden
- WP 351 **Metabolomic Profile of Human Serum to Determine the Age Related Immunosenesence Biomarkers;** Gauthier Eppe; Andrei Turtoi; Edwin De Pauw; Liege University, Li ge, Belgium
- WP 352 **GCxGC-TOFMS Elucidation of Differences in the Metabolome of Strains of the Pathogen Stagonospora nodorum;** Robert Trengove^{1,3}; Joel Gummer²; Catherine Rawlinson³; Garth Maker¹; Christian Krill²; Peter Solomon⁴; Richard Oliver²; ¹Murdoch University, Murdoch, Australia; ²ACNFP, Murdoch University,

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- WP 351 *Murdoch, Australia*; ³*Metabolomics Australia, Murdoch University, Murdoch, Australia*; ⁴*The Australian National University, Canberra, Australia*
LC/MS Based Metabolomics Approach for the Study of Salicylic Acid Response in *Arabidopsis thaliana*; Jong Bok Seo¹; Kwang Chul Kwon¹; Hak Chul Jin²; Yu Ran Kim¹; Ohkmae K Park²; Myung Hee Nam¹; ¹*Korea Basic Science Institute, Seoul, South Korea*; ²*Korea University, Seoul, South Korea*
- WP 352 **A Rapid Method for Estimating Triglyceride Synthesis *in vivo* Using Stable Labeled Fatty Acids and Analysis by UPLC-MS/MS**; Timothy He; David G. McLaren; Jose Castro-Perez; Stephen Previs; Shengping Wang; Ray Rosa; Vivienne Mendoza; Douglas G. Johns; Thomas P. Roddy; *Merck & Co., Rahway, NJ*
- WP 353 **Comparison of Metabolomic Profiles between the Androgen-Dependent and -Independent Prostate Cell Lines by Using Liquid Chromatography and Mass Spectrometry (LC-MS)**; Nagireddy Putluri¹; Shaiju Vareed¹; Theodore Sana²; Steven Fischer²; Gagan Thangjam¹; Vasanta Putluri¹; Ling Lan³; Judith Giri⁴; Arun Sreekumar¹; ¹*Cancer Center, Medical College of Georgia, Augusta, GA*; ²*Metabolomics Laboratory Application Group, Agilent Technologies, Santa Clara, CA*; ³*Department of Biostatistics, Medical College of Georgia, Augusta, GA*; ⁴*Pathology, Biomedical and Radiological Technologies, Medical College of Georgia, Augusta, GA*
- WP 354 **Searching the Hydrophobic Cargo of Human Serum Albumin to Gain Insights into Type II Diabetes**; Jared Bowden¹; Penggao Duan²; Edward Dratz¹; ¹*Montana State University, Bozeman, Montana*; ²*Bruker Daltonics, Billerica, MA*
- WP 355 **Changes in the Serum Metabolome Caused by Inflammation**; Erin G. Prestwich¹; Ramesh Babu Indrakanti²; Koli Taghizadeh¹; Peter Dedon³; ¹*Massachusetts Institute of Tech, Cambridge, MA*; ²*MIT, Cambridge, MA*; ³*MIT, Dept. of Biological Engineering, Cambridge, MA*
- WP 356 **Flux Analysis of Central Metabolic Pathways in *Thermoanaerobacter tengcongensis***; Wei Tong¹; Qian Wang¹; Zhe Cao³; Zhuowei Wang¹; Zhen Chen¹; Chuanqi Zhou¹; Quanhui Wang¹; Rong Wang^{1,2}; Siqi Liu¹; ¹*Beijing Institute of Genomics, CAS, Beijing, China*; ²*Mount Sinai School of Medicine, New York, NY*; ³*Agilent Technologies Co. (China), Beijing, China*
- WP 357 **Improving the Performance of AccQ•Tag Amino Acid Quantitation in Biological Samples by UPLC-ESI-MS/MS Using the Xevo TQ Mass Spectrometer**; Carolina Salazar¹; Jenny M. Armenta²; Diego F. Cortes¹; Vladimir Shulaev¹; ¹*Virginia Bioinformatics Inst., Blacksburg, VA*; ²*Waters Corporation, Beverley, MA*
- WP 358 **Cigarette Smoke Exposure Induces Metabolome Alterations in Uterine Tissue of Pregnant Mice**; Rachel Neal¹; Jing Chen¹; Robert M. Greene²; M. Michele Pisano²; ¹*EOHS, SPHIS, University of Louisville, Louisville, KY*; ²*Birth Defects Center, University of Louisville, Louisville, KY*
- WP 359 **Metabolomics of Hypobaric Hypoxia: Oxidative Stress and Its Metabolic Signature**; Denise U. Sonntag¹; Jacqueline Pichler Hefti²; Urs Hefti³; Lorenz Risch⁴; Tobias M. Merz⁵; Andreas Huber²; Klaus M. Weinberger¹; ¹*BIOCRATES Life Sciences AG, Innsbruck, Austria*; ²*Center of Laboratory Medicine, Kantonsspital, Aarau, Switzerland*; ³*Department of Orthopedic Surgery, Kantonsspital, Liestal, Switzerland*; ⁴*VIVIT-Institute, Feldkirch, Austria*; ⁵*Dept of Intensive Care Med., University Hospital, Bern Switzerland*
- WP 360 **Evaluation of the LTQ-Orbitrap Technology for Quantitative Metabolite Profiling in Cell Extracts**; Ludovic Muller¹; Jean Labarre²; Sandra Alves¹; Eric Ezan³; Jean-Claude Tabet¹; Christophe Junot³; ¹*IPCM, UPMC Paris Universit s, Paris, France*; ²*DSV/iBiTec-S/SBIGeM, CEA/Saclay, Gif-sur-Yvette, France*; ³*DSV/iBiTec-S/SPI, CEA/Saclay, Gif-sur-Yvette, France*
- WP 361 **Mass Spectrometric Detection of Nucleotides in Single Muscle Cells and Development of an LDI-Based Signal Amplification Assay**; Stephan Rupert Fagerer¹; Pawel Lukasz Urban¹; Fabian Dettwiler¹; David Aguayo¹; Claudio Signorelli¹; Jachen Denoth¹; Yu-Chie Chen²; Renato Zenobi¹; ¹*ETH Zurich, Zurich, Switzerland*; ²*NCTU, Hsinchu, Taiwan*
- WP 362 **Two pH Optimized LC-MS Methods for Metabolomics Analysis of Hydrophilic Compounds on Silica Hydride Stationary Phase**; Theodore R. Sana¹; Steven M. Fischer¹; Stefan Jenkins¹; Maria Matyska²; Joseph J. Pesek³; ¹*Agilent Technologies, Santa Clara, CA*; ²*MicroSolv Technologies, Eatontown, NJ*; ³*San Jose State University, San Jose, CA*
- WP 363 **Isotopomics: A Tool for Mapping Dynamic Metabolism in Rats**; Jean-Philippe Godin; *Nestl  Research Center, Lausanne, Switzerland*
- WP 364 **Plant Metabolomics: Tomato Metabolite Profiling and Identification Employing High Resolution MS Strategies**; Helen Welchman¹; David Portwood²; Mark Seymour²; Mark Earl²; Gary Woffendin¹; Martin Hornshaw¹; Michael Athanas³; Madalina Oppermann¹; ¹*Thermo Fisher Scientific, Hemel Hempstead, UK*; ²*Syngenta, Bracknell, UK*; ³*VAST Scientific, Boston, MA*
- WP 365 **LC-MS Analysis of Hydrophilic Metabolites in Guinea Pig Lungs Infected with Mycobacterium Tuberculosis**; Justin Searcy; Gavin Ryan; Courtney Hastings; Dean Crick; *Colorado State University, Fort Collins, CO*
- WP 366 **A Differential Isotope-Coded Mass Defect Label for Metabolite Discovery and Relative Quantitation**; Jacobo Iglesias; Albert Koulman; Dietrich Volmer; *Medical Research Council, Cambridge, UK*
- WP 367 **Antioxidants in Carob Bean Extracts: Evaluation of Extraction Methods Using High Resolution Mass Spectrometry**; Catharina Crone¹; Michaela Scigelova¹; Olaf Scheibner¹; Martin Hornshaw²; Luis Duarte³; Lu sa B. Roseiro³; Francisco Girio³; M. Gabriela Bernardo-Gil⁴; ¹*Thermo Fisher Scientific (Bremen), Bremen, Germany*; ²*Thermo Fisher Scientific (Hemel Hempstead), Hemel Hempstead, UK*; ³*Laborat rio Nacional de Energia e Geologia, Lisboa, Portugal*; ⁴*Centro de Engenharia Qu mica e Biologica, Lisboa, Portugal*

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- WP 368 **Withdrawn**
- WP 369 **The Analysis of Free and Total Amino Acids in Food Matrices Using aTRAQ Technology Chemistry and LC/MS/MS Specificity**; Jim Krol; Scott B. Daniels; Babu Purkayastha; *Applied Biosystems, Framingham, MA*
- WP 370 **2-Methyl-2-nitrosopropane, A Promising Label for Biological Thiol Targets: A Combined Electronic Paramagnetic Resonance and Electrospray Tandem Mass Spectrometry Study**; Mathilde Triquigneaux; Beatrice Tuccio; Laurence Charles; *laboratoire chimie provence, Marseille, France*

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- WP 371 **The Characterization and Differentiation of Sorbitan Esters by LC-MS-MS Combined with Statistical Data Processing;** Stephen Rumbelow¹; Johnie Brown²; ¹*Croda Inc, New Castle, DE*; ²*Applied Biosystems, Framingham, MA*
- WP 372 **LC/MS/MS Approach to Determine *in vivo* Receptor Occupancy of CNS Drugs at GABAA and D2 Receptors in Rat Brain;** Farzin Gharahdaghi; John Zysk; Teng Peng; John Roberts; Reto Gadiant; Vijay Chhajlani; Min Ding; Donna Maier; *Astrazeneca, Wilmington, DE*
- WP 373 **Comparison of LC-MS, LC-CAD and Indirect CE as the Assay Technique for a Non-Chromophoric Impurity in an Active Pharmaceutical Ingredient;** Hong Gao; *Merck & Co. Inc., Rahway, NJ*
- WP 374 **The Odds are in Your Favour: An Investigation of the Unusual Fragmentations of Quinazolines Using ESI-QIT-MS and DFT Calculations;** Angelika Galezowska¹; Mark W. Harrison²; G. John Langley¹; ¹*University of Southampton, Southampton, UK*; ²*Analytical Chemistry Group, AstraZeneca, Macclesfield, UK*
- WP 375 **Pesticide Screening and Quantitation in Cotton Goods;** Anna Marques¹; April L. Thomas¹; Jose Costa²; Daniel Lebre³; Andre Schreiber⁴; ¹*AB Sciex USA, Framingham, MA*; ²*AB Sciex Brazil, Sao Paulo, Brazil*; ³*CEMSA, Sao Paulo, Brazil*; ⁴*AB Sciex Canada, Concord, Canada*
- WP 376 **Quantitation of Nitroglycerin, Glycerol 1,2-dinitrate and Glycerol 1,3-dinitrate in Human Plasma via HPLC with MS/MS Detection;** Paul Connolly; Jingduan Chi; Jennifer Ammarman; Denise Hemminger; Emily Barrey; *MPI Research Inc., State College, PA*
- WP 377 **Evaluation of Accurate Mass and Dynamic Range Capabilities of Low and High-Resolution Instrumentation in Compound Identification in Drug Discovery;** Vladimir Capka^{1,2}; Sharon Tentarelli^{1,2}; ¹*Astra Zeneca R&D Boston, Waltham, MA*; ²*Astra Zeneca R&D Boston, Waltham, MA*
- WP 378 **When Stability, Solubility, and Chiral Selectivity Intertwine: A Quantitative Assay for Dexlansoprazole;** Ryan S. Adler; Brad Bessette; Min Meng; Spencer Carter; Scott A. Reuschel; Patrick Bennett; *Tandem Labs, Salt Lake City, UT*
- WP 379 **Characterization of Potentially Bioactive Peptides and Small Molecules in *Tetraponera rufonigra* Using HPLC-Chip Cube - Accurate-Mass Q-TOF MS and MS/MS;** Hooi Ling Liew¹; Aishah A. Latiff¹; Michael Harvey²; Chow-Yang Lee³; Chee Yuen Gan¹; ¹*Doping Control Centre, Minden, Malaysia*; ²*Oasis Biologics Sdn Bhd, Damansara Perdana, Malaysia*; ³*School of Biological Sciences, USM, Minden, Malaysia*
- WP 380 **The SALDI-MS Screening and LC-MS/MS Identification of Amino Acids and Amines from the Miller Volcanic Spark Discharge Experiment;** Zdenek Spacil^{1,2}; Ly Jiang³; Pawel Dziedzic³; Frank Turecek¹; Armando Cordova^{3,4}; ¹*University of Washington, Seattle, WA*; ²*Charles University in Prague, Hradec Kralove, Czech Republic*; ³*Stockholm University, Stockholm, Sweden*; ⁴*Mid Sweden University, Sundsvall, Sweden*
- WP 381 **Verification of the Origin of Whisky by Electrospray FT-ICR Mass Spectrometry and Statistical Methods;** Matthias Witt¹; Rainer Paape¹; Jens Fuchser¹; Gary Kruppa²; ¹*Bruker Daltonik GmbH, Bremen, Germany*; ²*Bruker Daltonics Inc., New York, NY*
- WP 382 **Analysis of Black Tea Thearubigins: An Electrospray-FT-ICR Mass Spectrometric Study;** Matthias Witt¹; Nikolai Kuhnert²; Michael Clifford³; M Gokhan Baykut¹; ¹*Bruker Daltonik GmbH, Bremen, Germany*; ²*Jabocs University, Bremen, Germany*; ³*University of Surrey, Guilford, UK*
- WP 383 **Differentiation of Diastereomeric Phosphoramidate Prodrugs with Electrospray LC-MS;** Donghui Bao; P. Ganapati Reddy; Bruce Ross; Michael J. Sofia; *Pharmasset, Princeton, NJ*
- WP 384 **TLC-MS/MS: Integrated Liquid Surface Sampling-Nano Electrospray Determination of Small Drug Molecules from Thin Layer Chromatography Plates;** Jack D. Henion¹; Daniel Eikel²; Chris Alpha; Simon J. Prosser⁴; Geoffrey S. Rule⁶; Joseph Ebel³; Mark Allen¹; ¹*Advion BioSciences, Inc, Ithaca, NY*; ²*AdvionBioSystems, Ithaca, NY*; ³*Advion Biosystems Inc., Ithaca, NY*; ⁴*Advion BioSciences, Inc., Ithaca, NY*; ⁵*Analytical Toxicology, Cornell University, Ithaca, NY*; ⁶*Advion Biosystems, Salt Lake City, UT*
- WP 385 **Highly Sensitive LC/MS/MS Method for Quantitation of Bronchodilators in Dried Blood Spot Samples;** Suma Ramagiri¹; Mauro Aiello¹; Hesham Ghobarah¹; Neil Spooner²; *AB/SCIEX, Concord, Canada*; ²*GlaxoSmithKline Pharmaceutical, Welwyn, UK*
- WP 386 **Formation and Biological Activity of 11-oxo-eicosatetraenoic Acid, a Novel 15-hydroxyprostaglandin Dehydrogenase-Derived Arachidonic Acid Metabolite;** Cong Wei; Suhong Zhong; Xiaojing Liu; Ian Blair; *Center for Cancer Pharmacology, University of Penn, Philadelphia, PA*
- WP 387 **Rapidly Screening of Melamine in Milk Using Liquid Electrospray Laser Desorption / Ionization Mass Spectrometry;** Ming-Hui Yang¹; Chu-Nian Cheng¹; Yu-Chang Tyan²; Jentaie Shiea¹; ¹*National Sun Yat-Sen Univ., Kaohsiung, Taiwan*; ²*Kaohsiung Medical University, Kaohsiung, Taiwan*
- WP 388 **Analysis of Impurities in α -zearalanol by High Performance Liquid Chromatography/Ion Trap/Time-of-Flight Mass Spectrometry;** Kang Ma¹; Jing Dong²; Jinjing Xing³; ¹*National Institute of Metrology of China, Beijing, China*; ²*Shimadzu International Trading(Shanghai)Co., Limit, Beijing, China*; ³*Jiangsu Institute of Metrology, Nanjing, China*
- WP 389 **Fragmentation Pathway Study of Rhein by Ion Trap Combined Time-of-Flight Mass Spectrometer;** Jing Dong; Lei Cao; *Shimadzu International Trading (Shanghai) Co., Limit, Beijing, China*
- WP 390 **Gas Chromatography-Atmospheric Pressure Chemical Ionisation Time of Flight Mass Spectrometry Optimisation and Application to Impurity Identification in Drug Development;** Mark W. Harrison^{1,1}; Anthony W.T. Bristow^{1,2}; Martin Sims^{1,2}; Athen-Engeland Thomas^{1,3}; Barsch Aiko^{1,3,1}; ¹*Macclesfield, UK*; ²*AstraZeneca, Macclesfield, UK*; ³*Bruker Daltonics GmbH, Bremen, Germany*
- WP 391 **Detection and Identification by LC-MS of an Extractable/Leachable Impurity Essential for Ophthalmic Formulation Stability;** Audrey Tousignant; Yvonne Lear; Éric Vincent; Anne Danion; Alain Carrier; *Sandoz Canada Inc., Boucherville, Canada*
- WP 392 **Analysis of the Formation of Novel Melphalan Hydrolysis Products under Isolated Lung Perfusion Conditions Using LC-MSMS;** Jasper Boschmans¹;

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- WP 393 **Identification and Confirmation of an Unknown Degradation Product in the Stability Samples of a Pharmaceutical Dosage Form**; Charles Pan¹; Jack Guan²; Melissa Lin¹; ¹*Novartis, East Hanover, NJ*; ²*Sandoz, East Hanover, NJ*
- WP 394 **Isomer Differentiation of Hydroxypyridine N-oxides Using Metal Complexation and Electrospray Ionization Mass Spectrometry**; Matías Butler; Pau Arroyo Mañez; Gabriela Cabrera; *Universidad de Buenos Aires, Buenos Aires, Argentina*
- WP 395 **Analysis of an Expired Ophthalmic Solution of Polymyxin B Sulfate and Trimethoprim by LC-MS**; Sharanya Reddy; David Negrotti; Avinash Dalmia; Daniel Pentek; William Goodman; *PerkinElmer, Shelton, CT*
- WP 396 **Dried Blood Spot Analysis - Utilizing the Technique to Develop Assays in Rare or Limited Matrices**; Chad Christianson; Casey Johnson; Jennifer Zimmer; Shane Needham; *Alturas Analytics, Inc., Moscow, ID*
- WP 397 **SFC/MS and LC/MS Analysis of Bio-Diesel Fuels**; Anna Marques¹; Debora Santos²; Rogerio C. Rodrigues³; Alexandre S. Machado³; David J. Tognarelli⁴; Becky Wittrig⁵; Robert Ellis⁶; Stephen Tate⁶; Mauro Aiello⁶; Tadeo Sakuma⁶; ¹*ABSciex USA, Framingham, MA*; ²*ABSciex Brazil, Sao Paulo, Brazil*; ³*SENAI/CETIND, Lauro de Freitas, Brazil*; ⁴*JASCO, Easton, MA*; ⁵*Restek Corporation, Bellefonte*; ⁶*ABSciex Canada, Concord, CA*
- WP 398 **Adding Empirical Formula Rules to Accurate Mass and Exact Isotope Modeling for Elemental Composition Determination**; Ming Gu; Yongdong Wang; *Cerno Bioscience, Yardley, PA*
- WP 399 **LC-MS/MS Method Improvement Using Dried Blood Spot Technology: Evaluation of Extraction Efficiency, HPLC Column Life Span and Automation**; Jie Zhang; Shimin Wei; Harold T Smith; Francis LS Tse; *Novartis Institutes for BioMedical Research, East Hanover, NJ*
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- WP 401 **Assessment of Protein Digestion Protocols by Combining Standard (LTQ-Orbitrap-MS) and unbiased (QToF-MSE) Tandem Mass Spectrometry**; Ileana R. León; Richard R. Sprenger; Simone Sidoli; Clifford Young; Ole N. Jensen; *Univ. of Southern Denmark, Odense, Denmark*
- WP 402 **Qualification of Automation Procedures for Preparation of Calibration Standards and QCs in Biological Matrices**; Jie Zhang; David Ayres; Shimin Wei; Harold T Smith; Francis LS Tse; *Novartis Institutes for BioMedical Research, East Hanover, NJ*
- WP 403 **Extraction of Tamoxifen and Metabolites from Urine and Plasma Using Supported Liquid Extraction (SLE) prior to LC-MS/MS Analysis**; Elena Gairloch; Lee Williams; Rhys Jones; Helen Lodder; Geoff Davies; Steve Jordan; Richard Calverley; Claire Desbrow; Gary Dowthwaite; *Biotage GB Limited, Cardiff, UK*
- WP 404 **Mixed Mode Polymeric SPE for the Fractionation of Acidic, Basic and Neutral Combination Therapeutics in Plasma**; Paul Boguszewski; William Hudson; Yunglin Chen; *Varian, Inc., Lake Forest, CA*
- WP 405 **Extraction of Paraquat and Diquat from Urine: Method Optimisation Using a New Resin-based Mixed-Mode Weak Cation Exchange SPE Sorbent**; Lee Williams; Rhys Jones; Geoff Davies; Helen Lodder; Gary Dowthwaite; Claire Desbrow; Richard Calverley; Steve Plant; Steve Jordan; *Biotage GB Limited, Cardiff, UK*
- WP 406 **Rapid and Generic Sample Clean-up of Clinical Samples for Quantitation of a Drug Candidate**; S. Nicholas Potter; Michael Boudreaux; Janet Tam; Julie Zalikowski; *Amgen Inc., Seattle, WA*
- WP 407 **Microcrystalline Cellulose Degradation with a Cellulase Enzyme Employing LC-MS to Follow Glucose Formation and Degradation Impurities**; Louis-Philippe Labranche¹; Jonathan Drapeau¹; Anne Danion¹; Alain Carrier²; ¹*Sandoz, Boucherville, Canada*; ²*Sandoz Canada, Boucherville, QC*
- WP 408 **Optimizing Tissue Analysis For LC-MS/MS in Support of Drug Distribution Studies**; Nalini Anand; Michael Koleto; Rohan Thakur; Tong Wu; *Taylor Technology, Princeton, NJ*
- WP 409 **Quantification of Clindamycin in Human Plasma by LC/MS/MS Using an Isotopically Labelled Versus Structurally Related Internal Standard**; Scott Kragerud; Autumn Dinnel; Chelsie Grochow; Ardeshir Khadang; Chinna Pamidi; *Cetero Research, Fargo, ND*
- WP 410 **Development of an Ultra Fast Online-SPE-LC-ESI-MS/MS Approach for Pharmacokinetic Studies**; Nils Helge Schebb; Bora Inceoglu; Bruce Hammock; *University of California, Davis, CA*
- WP 411 **The Phospholipid Fix: Quantitative Measurement and Analytical Solutions for Phospholipid Depletion**; Russell Grant; Patricia Holland; Brian Rappold; *Labcorp, Burlington, NC*
- WP 412 **A Specific 3D Conformation that Can Cause Bioanalytical Challenges**; Yizhong Zhang; Rick Steenwyk; *Pfizer Inc., Groton, CT*
- WP 413 **Determination of Malonyl-CoA Levels and Distribution in Rat Brain Tissue Using Liquid-Liquid Extraction and LC/MS/MS**; Joelle Onorato; Luping Chen; Petia Shipkova; Zhengping Ma; Anthony Azzara; James Devenny; Ningning Liang; Tasir Haque; Dong Cheng; *Bristol-Myers Squibb, Princeton, NJ*
- WP 414 **Determination of Trace Sulfonamides in Swine Waste Water by Three-Phase Liquid-Phase Microextraction Combined with Liquid Chromatography-Tandem Mass Spectrometry**; Chien-Chun Shen; Chung-Yu Chen; Maw-Rong Lee; *National Chung-Hsing University, Taichung, Taiwan*
- WP 415 **Sensitive Femtogram Determination of Aflatoxins B1, B2, G1 and G2 in Food Matrices Using Tandem LC-MS/MS**; Yang Chen¹; Peter Stone²; Jack Cappozzo¹; ¹*National Center for Food Safety and Technology/IIT, Summit-Argo, IL*; ²*Agilent Technologies, Inc., Santa Clara, CA*
- WP 416 **Mercury and Arsenic Speciation Analysis by IC-ICP/MS**; Jörg Kleimann¹; Jay Gandhi²; Laura H. Reyes³; H.M. Skip Kingston³; ¹*Metrohm International Headquarters, Herisau, Switzerland*; ²*Metrohm USA, Tampa, FL*; ³*Duquesne University, Pittsburgh, PA*

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- WP 417 **A Highly Sensitive Method for the Quantitation of Testosterone and Dihydrotestosterone in Human Serum Using LC-MS/MS;** Ginny B. James; Jonathan Rathe; Curtis Sheldon; Chad Briscoe; Ridha Nachi; *MDS Pharma Services, Lincoln, NE*
- WP 418 **Increased Protein Coverage and Tyrosine Cleavage of Chymotrypsin In-Gel Digestions;** Tatiana N. Boronina; Robert N. Cole; *Johns Hopkins School of Medicine, Baltimore, MD*
- WP 419 **Extraction of THC and Metabolites from Urine and Plasma Using Supported Liquid Extraction (SLE) Prior to LC-MS/MS Analysis;** Rhys Jones; Lee Williams; Helen Lodder; Geoff Davies; Steve Jordan; Richard Calverley; Claire Desbrow; Gary Dowthwaite; *Biotage GB Limited, Cardiff, UK*
- WP 420 **Efficiency Assay of Detergent Removal Columns on Protein and Peptide Samples for Mass Spectrometric Analysis;** Sophie Alvarez¹; Aftab Alam²; Leslie M. Hicks¹; ¹*Danforth Center, St Louis, MO*; ²*G-Biosciences/Genotech, Maryland Heights, MO*
- WP 421 **The Use of a New Automated Blood Analyzer for the Determination of Immunosuppressants in Whole Blood;** Meike Baden¹; Norbert Helle¹; Fredrick D. Foster²; Dirk Bremer²; Juergen Wendt³; ¹*TeLA GmbH, Bremerhaven, Germany*; ²*Gerstel GmbH & Co KG, Mülheim an der Ruhr, Germany*; ³*Agilent Technologies, Waldbronn, Germany*
- WP 422 **Quantification of Lipids and the Challenge of Developing LC/MS Methods for Compounds with Both Hydrophilic and Hydrophobic Characteristics;** Lin Tan; Troy Voelker; Yue Zhao; Ryan S. Adler; Cassie Ye; Min Meng; Patrick Bennett; Scott Reuschel; *Tandem Labs, Salt Lake City, UT*
- WP 423 **Simultaneous Determination of Plasma Catecholamines Using an Integrated Strategy of an Automated Protein Precipitation Technique, Reductive Ethylation Labeling and UPLC-MS/MS;** Chengjie Ji; Max Tella; *Pfizer Inc, Groton, CT*
- WP 424 **Analysis of Drugs of Abuse Using Automated Disposable Pipette Extraction and LC/MS/MS;** Fred Foster¹; John Stuff¹; Edward Pfannkoch¹; William Brewer²; Sparkle Ellison²; Stephen Morgan²; Tom Gluodenis³; ¹*Gerstel, Inc., Linthicum, MD*; ²*University of South Carolina, Columbia, SC*; ³*Agilent Technologies, Wilmington, DE*
- WP 425 **Determination of Nitrofurantoin Metabolites in Shrimp by Liquid Chromatography-Tandem Mass Spectrometry in APCI mode Using 1 Hr Sonication Extraction;** Haejung An; Mark Henry; Teresa Cain; Darin Files; Han Chol Paek; Dennis Farley; *US FDA, Irvine, CA*
- WP 426 **Method Development for Polar Embedded Polymeric SPE;** William Hudson; Paul Boguszewski; Yung-lin Chen; *Varian, Inc., Lake Forest, CA*
- WP 427 **A Novel Concept for Sample Collection and Sample Preparation;** Stefan König; Werner Döbelin; *Inovalab AG, Reinach, Switzerland*
- WP 428 **Simultaneous Determination of Nicotinic Acid and Its Three Metabolites in Human Urine with Different Calibration Curve Ranges by LC/MS/MS;** Jiang Luo; Jia Liu; Xiaohang Shen; Jinsong Xing; *WuXi AppTec, Shanghai, China*
- WP 429 **A Quantitative UPLC-MS/MS Method for Determining Human Metabolites of Ellagic Acid in Urine;** Ken Riedl; Pratiq Patel; Jim Fuchs; Li-Shu Wang; Gary Stoner; Steven Schwartz; *The Ohio State University, Columbus, OH*
- WP 430 **Approaches in Method Development and Determination of Endogenous 25-Hydroxyvitamin D3 in Rat Serum by Electrospray LC-MS/MS;** Rong Yi; Hong Zhang; Gina de Boer; Xuejun Peng; *Can Test Ltd, Burnaby, Canada*
- WP 431 **Lycopene Sub-Cellular Localization in Primary Prostate Epithelial and Stromal Cells;** Yongchao Li¹; Avani Vaishnav²; Linlin Dong¹; Larisa Nonn²; Richard B. Van Breemen¹; ¹*University of Illinois College of Pharmacy, Chicago, IL*; ²*University of Illinois College of Medicine, Chicago, IL*
- WP 432 **Development of LC-APPI-MS/MS Methods for the Rapid Quantitation of Retinyl Esters;** Thomas McDonald; Beijing Tan; Jennifer Laperle; Christopher Holliman; *Pfizer Inc., Groton, CT*
- WP 433 **A New Methodology for Determination of Tretinoin in Rat Plasma Using Column Switching and LC-MS/MS Techniques;** Yansheng Liu; Moo-Young Kim; Yu-Hui Fu; Chen-Yu Chung; Sarah Swenson; Darioush Dadgar; *KCAS Laboratory, Shawnee, KS*
- WP 434 **LC-MS/MS Method for Simultaneous Determination of L-Arginine (ARG), L-Citrulline (CIT), and Asymmetric Dimethylarginine (ADMA) in Human Plasma;** Yuwen Zhao¹; Hsun Wen Chou¹; Lina Tang¹; Yuan-Shek Chen¹; Kumar Ramu¹; James Hui²; ¹*QPS, LLC, Newark, DE*; ²*Gilead Sciences, Inc., Durham, NC*
- WP 435 **Simultaneous Quantitation of Histamine and 1-methylhistamine Using Pre-Column Derivatization Prior to HILIC-MS/MS Analysis. Application to a Rat Brain Microdialysis Study;** Emmanuel Bourgoigne; François Xavier Mathy; David Boucaut; Hilmar Boekens; Steven Smith; *UCB pharma, Braine L'alleud, Belgium*
- WP 436 **Simultaneous Quantitation of Three Major Acrylonitrile Mercapturic Acids and Cofinine by an Isotope-Dilution UPLC-MS/MS Method;** Chia-Fang Wu; Kuen-Yuh Wu; *National Taiwan University, Taipei, Taiwan*
- WP 437 **A Systematic Approach to Targeted Analysis of Carotenoids in the Skin of False Percula Anemone Fish Using LC/MS;** Hayley Crowe¹; Lucy Fernandes²; Kate Yu¹; Nancy Breen³; John Shockcor¹; Henry Shion¹; Harold Pomeroy³; Bradford Bourque³; Alan Millar¹; Stephen Oshea³; ¹*Waters Corporation, Milford, MA*; ²*Waters Corp., Manchester, UK*; ³*Roger Williams University, Bristol, RI*
- WP 438 **A Mass Spectrometry Platform to Quantitatively Profile Cancer Cell Metabolism from Cell Lines to Tissues;** John M Asara^{1,2}; Jason Locasale¹; Xuemei Yang¹; Rami Rahal²; Matthew G Vander Heiden³; ¹*Beth Israel Deaconess Medical Center, Boston, MA*; ²*Harvard Medical School, Boston, MA*; ³*Massachusetts Institute of Technology, Cambridge, MA*
- WP 439 **Yeast Elemental, Molecular and Isotopic Fractionation Fingerprinting: An Original Mass Spectrometry Strategy;** Johann Far; Hugues Preud'homme; Sylvain Berail; Ryszard Lobinski; *LCABIE-UMR5254-IPREM, University of Pau, Pau, France*
- WP 440 **Analysis of Urinary Organic Acids by GC Tandem Mass Spectrometry for the Accurate Diagnosis of Inborn Errors of Metabolism;** Lisa Bates-Dubrow; Aaron Wheat; Patricia Whittecar; Amy Daniel; Carolyn Sparks; Leslie Wheat; Jessalyn Permenter; Stephen

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- WP 442 **Quantitative Analysis of Cyanobacterial Free Fatty acids by Direct Infusion ESI;** Daniel C. Brune; Shuqin Li; Xinyao Liu; James A. Garcia; Roy Curtiss III; Wim Vermaas; *Arizona State University, Tempe, AZ*
- WP 443 **Characterization of the Populus Metabolome with an LTQ-Orbitrap Mass Spectrometer;** Maria Ahnlund-Hansson^{1,2}; Thomas Moritz^{1,2}; ¹Swedish University of Agricultural Sciences (SLU), Umeå, Sweden; ²Umeå Plant Science Center, Umeå, Sweden
- WP 444 **Metabolic Profiling of Corn (Zea mays) Roots by Mid-Infrared Laser Ablation Electrospray Ionization Mass Spectrometry;** Jennifer A Day¹; Bindesh Shrestha¹; Peter Nemes^{1,2}; Akos Vertes¹; ¹George Washington University, Washington, DC; ²University of Illinois at Urbana-Champaign, Urbana, IL
- WP 445 **Confirmation of Metabolite Identification in LC-FTMS Metabolomics Experiments Using an In-Line Triple Quadrupole;** Nicholas Carruthers¹; Gilles Lajoie¹; ¹University of Western Ontario, London, Canada
- WP 446 **Accurate Mass Spectrometry Based Quantification and Characterization of Hepatic Microsomal Metabolism of the Thiopeptide Antibiotic GE 37468A;** Mustafa Varoglu; Xiaowei He; Min Chu; Scott Coleman; *Cubist Pharmaceuticals, Lexington, MA*
- WP 447 **Application of High Resolution Orbitrap Mass Analyzer to Quantitation and Profiling of Amino Acids and Short Peptides after Derivatization;** Pavel Aronov; Rabindra Tirouvanziam; Allis S. Chien; *Stanford Univ., Stanford, CA*
- WP 448 **Determination of 16 Anabolic Steroids Esters in Equine Plasma by Liquid Chromatography-Electrospray-Tandem Mass Spectrometry;** Youwen You¹; Cornelius Uboh²; Lawrence Soma¹; Fuyu Guan¹; Xiaoqing Li¹; Ying Liu¹; Jeffrey Rudy²; Jinwen Chen¹; ¹University of Pennsylvania, West Chester, PA; ²West Chester University, West Chester, PA
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- WP 449 **Identification of Novel Metabolites of Bile Acids: S-Acyl Glutathione Conjugates in Rat Bile by LC-ESI-Linear Ion Trap MS/MS;** Naohiro Hori¹; Kuniko Mitamura¹; Toshihiro Sakai¹; Takashi Iida²; Shigeo Ikegawa¹; ¹Kinki University, Higashi-Osaka, Japan; ²Nihon University, Tokyo, Japan
- WP 450 **Metabolism and Transport of the Glutathione Conjugate of 4-Hydroxy-2-nonenal in Human Monocytic THP-1 Cells Studied by Electrospray LC-MS/MS;** Brandi L. Langsdorf; Cristobal L. Miranda; Jan F. Stevens; *Oregon State University, Corvallis, OR*
- WP 451 **Atrazine Metabolism: Characterization of Novel Metabolites and Glutathione Adducts Detected by LC-TOF-MS;** André Leblanc; Lekha Sleno; *UQAM, Montreal, Canada*
- WP 452 **Trapping Experiments with Electrochemically Generated Iminium Ions – Correlation to Metabolism in Human and Rat Liver Microsomes;** Kim Grimstrup Madsen¹; Thomas Amos Jacobsen¹; Steen H. Hansen²; Christian Skonberg²; Ulrik Jurva³; Joergen Olsen⁴; ¹NeuroSearch A/S, Ballerup, Denmark; ²University of Copenhagen, Fac. Pharm. Sciences, Copenhagen, Denmark; ³AstraZeneca R&D Mölndal, Mölndal, Sweden; ⁴Novo Nordisk A/S, Måløv, Denmark
- WP 453 **On-Line Coupling of Electrochemistry/HPLC/MS as an Effective Tool for the Simulation of the Oxidative Metabolism of Alkaloids;** Sandra Jahn¹; Anne Baumann¹; Torsten Vielhaber¹; Bettina Seiwert²; Uwe Karst¹; ¹University of Münster, Münster, Germany; ²University of Leipzig, Leipzig, Germany
- WP 454 **Electrochemistry Coupled to Mass Spectrometry as a Biomimetic Tool for the Investigation of the Metabolic Pathway of Pro-Hapten Skin Sensitisers;** Torsten Vielhaber¹; Sandra Jahn¹; Anne Baumann¹; Wiebke Lohmann¹; Raniero Zazzeroni²; Uwe Karst¹; ¹University of Münster, Münster, Germany; ²Unilever, Bedford, UK
- WP 455 **Simulation of the Oxidative Metabolism of Triclocarban in an Electrochemical Thin Layer Cell Coupled Online to LC/ESI-ToF-MS;** Anne Baumann¹; Nils-Helge Schebb²; Ki Chan Ahn²; Tristan Rose²; Bruce D. Hammock²; Uwe Karst¹; ¹University of Münster, Münster, Germany; ²University of California, Davis, CA
- WP 456 **Structural Identification of Oxidative Metabolites and Reactive Intermediates of Trizodone by Ultra High-Resolution Q-TOF Mass Spectrometry;** Qian Ruan; Li Ma; Asoka Ranasinghe; Hongwei Zhang; W. Griffith Humphreys; Timothy Olah; Mingshe Zhu; *Bristol-Myers Squibb, Princeton, NJ*
- WP 457 **Investigating the use of Electrochemistry with Mass Spectrometry To Detect Reactive Metabolites;** Matthew Lochansky¹; Annie Moran²; Randy Rutkowske¹; Luke Miller¹; ¹GlaxoSmithKline, Research Triangle Park, NC; ²University of North Carolina, Chapel Hill, NC
- WP 458 **Bioactivation of 2-Acyl-5-chlorothiophene-containing Compounds by Human Liver Microsomes;** Weiqi Chen; Haiying zhang; Donglu Zhang; William Humphreys; Jinping Gan; *Bristol-myers Squibb, Princeton, NJ*
- WP 459 **Investigation of Free Radical Metabolism of Raloxifene by NADPH-fortified Human Liver Microsomes Using Liquid Chromatography/ LTQ-Orbitrap;** Heng-Keang Lim; Ke Yang; Silva Jose; *DMPK, GPCD, Johnson and Johnson PRD, Raritan, NJ*
- WP 460 **Detection and Characterization of Covalent Protein Adducts by Liquid Chromatography-LTQ/Orbitrap;** Heng-Keang Lim; Wing W Lam; Jose Silva; *DMPK, GPCD, Johnson and Johnson PRD, Raritan, NJ*
- WP 461 **Live Single-Cell Drug (Tamoxifen) Metabolism and Transport in an Organelle of a HepG2 Cell;** Sachiko Date; Kiyoshi Takeshima; Hajime Mizuno; Naohiro Tsuyama; Takanori Harada; Tsutomu Masujima; *Hiroshima Univ. BioMed., Hiroshima, Japan*
- WP 462 **in-vitro Metabolic Profile of Investigational Anticancer Agents by LC-Ion Trap Mass Spectrometry;** Mohamed Attwa; Adnan Kadi; *King Saud University, College of Pharmacy, Riyadh, Saudi Arabia*
- WP 463 **Chirality Study of Homolytic Decomposition Metabolites from 15-Hydroperoxy-Eicosatetraenoic Acid (15-HPETE) and 11-HPETE by LC-MS/MS;** Suhong Zhang; Xiaojing Liu; Cong Wei; Clementina

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- WP 464 Mesaros; Ian A. Blair; *Center for Cancer Pharmacology, University of Penn, Philadelphia, PA*
Use of Deuterated Naphthalene and Orbitrap LC-MS for Identification of *in vivo* Biomarker Protein Adducts in Urine; William T. Jewell; Nathalie Pham; Alan Buckpitt; *UC Davis, Davis, CA*
- WP 465 **MsXelerator RM: A Software Platform for Reactive Metabolite Detection Using Low and High Resolution Mass Spectrometry Data;** Marco Ruijken; *MsMetrix, Maarssen, Netherlands*
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- WP 466 **Exploration and Comparison of Milk Whey Proteins from Human Milk, Cow's Milk and Infant Formula Using Non-Gel-based Proteomics Approach;** Qiang Zhang; Anh Le; Jeff Sanders; Mike Baim; *Mead Johnson Nutrition, Evansville, IN*
- WP 467 **Mining the Small Proteome of the Biotrophic Fungal Pathogen *Blumeria graminis* to Reveal Effectors Delivered to its Host Barley;** Laurence V. Bindschedler¹; Tim A. Burgis²; Pietro D. Spanu²; Rainer Cramer¹; ¹*University of Reading, Reading, UK*; ²*Imperial college London, London, UK*
- WP 468 **Differential Quantitation of Protein Markers in Plant Tissue: A Proteomic Case Study for Agriculture;** Leah Riter¹; Pamela Jensen¹; Olga Vitek²; Ping Feng¹; Susan MacIsaac¹; ¹*Monsanto Company, St Louis, MO*; ²*Purdue University, West Lafayette, Indiana*
- WP 469 **A Quantitative Method for Seven Polypeptide Antibiotic Residues in Animal Tissues and milk by Liquid Chromatography-Tandem Mass Spectrometry;** Joe O. Boison; Ron Gedir; Stephen Lee; Johanna Matus; *Canadian Food Inspection Agency, Saskatoon, Canada*
- WP 470 **High-Throughput Cyclolinopeptide and Triacylglycerol (TAG) Profiling of Linum usitatissimum Using LDTD-MS/MS;** Julie Marr¹; Patrice Tremblay²; Pierre Picard³; Peta-Gaye Burnett⁴; Denis Paskal Okinyo Owiti⁴; Martin J.T. Reaney⁴; ¹*Agilent Technologies, Mississauga, Canada*; ²*Phytronix Technologies, Quebec, QC*; ³*Phytronix Technologies, Inc., Quebec, QC*; ⁴*University of Saskatchewan, Saskatoon, Canada*
- WP 471 **Dicamba O-demethylase Monooxygenase (DMO) Substrate Specificity Studies Using UPLC-Mass Spectrometry;** Yanfei Wang; Mason Hughes; Ryan Bartlett; *Monsanto Company, Chesterfield, MO*
- WP 472 **Determination and Risk Assessment of Arsenic Compounds in Agricultural Products by Anion-Exchange Liquid Chromatography with Inductively Coupled Plasma-Mass Spectrometry;** Sung-Kug Park; Hoon Choi; Hee-Ra Park; Ock-Jin Paek; Young-Woon Kang; Cheon-Ho Jo; Dong-Sul Kim; *Korea Food and Drug Administration, Seoul, South Korea*
- WP 473 **Applications of UHPLC Orbitrap-MS for the Multiresidue Screening of Pesticides in Agricultural Commodities;** James Chang¹; Jon Wong²; ¹*Thermo Fisher Scientific, San Jose, CA*; ²*FDA-CFSAN, College Park, MD*
- WP 474 **Screening for Pesticides in Food and Water Samples with Identification based on Library Searching Using Accurate Mass LC/MS/MS;** Andre Schreiber¹; Yun Yun Zou¹; Doina Caraiman¹; Tanya Gamble¹; Rebecca Wittrig²; Paul Yang³; ¹*AB SCIEX, Concord, Canada*; ²*Restek, Bellefonte, PA*; ³*Ministry of Environment, Toronto, Ontario, Canada*
- WP 475 **Comparative Assessment of ToF Profiling and Tandem Quadrupole Mass Spectrometric Screening of Pesticides in a Vegetable Matrix;** Stephen Wong¹; Evelyn Goh¹; Mark Ritchie¹; Eleanor Riches²; Peter Hancock²; James Morphet²; ¹*Waters Pacific Pie Ltd, Singapore, Singapore*; ²*Waters Corporation, Northwich, UK*
- WP 476 **Multi Residue Pesticide Screening and Confirmation in Food Using LC/MS/MS System and Library Searching;** Hyunjeong Cho¹; Gijun Park¹; Byungchul Son¹; Youngbae Son¹; Sunghoon Yeo²; Hansoon Kwon²; ¹*National Agricultural Products Quality Management, Seoul, South Korea*; ²*AB SCIEX Korea, Seoul, South Korea*
- WP 477 **Study of Qualitative Screening Analysis of Organophosphorus Pesticides Residues in Foods Using a GC-TOFMS with Fast GC Technique;** Masaaki Ubukata¹; Yoshiyuki Itoh¹; Jun Tamura¹; Yoshihisa Ueda¹; Jun Onodera¹; Bob DiPasquale²; Robert Hertsens²; ¹*JEOL Ltd., Akishima, Japan*; ²*JEOL (Europe) B. V., Zaventem, Belgium*; ³*JEOL USA Inc., Boston, MA*
- WP 478 **Electrospray MS as an Effective, Quantitative Method for Tracking Root Exudates Throughout a Plant's Growth Cycle;** Sharon Curtis¹; Paul Mayer¹; Savka Orozovic²; Morris Switzer²; Carlos Monreal²; Justin Renaud¹; ¹*University Of Ottawa, Ottawa, Canada*; ²*Agriculture and Agri-Food Canada, Ottawa, Canada*
- WP 479 **Distribution of Almond Phenolics in Skins and Water during Blanching as Quantified by LC-TOF MS;** Christine A. Hughey¹; Carina Minardi¹; Lorenzo Reyes¹; Anuradha Prakash¹; Bruce Wilcox²; ¹*Chapman University, Orange, CA*; ²*Applied Proteomics, Inc., Orange, CA*
- WP 480 **Analysis of Organic Volatile Compounds in Brazilian Stingless Bee Honey;** Ildenize Cunha¹; Jose L. P. Jará²; Marcos N Eberlin²; ¹*ThomSON Mass Spectrometry Laboratory - UNICAMP, Campinas, Brazil*; ²*ThomSON Lab UNICAMP, Campinas, Sp, Brazil*
- WP 481 **Single Kernel Method for Detection of 2-acetyl-1-pyrroline in Aromatic Rice Germplasm Using SPME-GC/MS;** Rolfe Bryant^{1,2}; Anna Mcclung^{1,2}; Casey C. Grimm³; ¹*USDA-ARS-DB NRRC, Stuttgart, AR*; ²*USDA-ARS-DB NRRC, Stuttgart, AR*; ³*USDA-ARS-SRRC, New Orleans, LA*
- WP 482 **Structural Investigation of Synthetic Lignins by Nano-Electrospray Ionization Quadrupole Time-of-Flight Tandem Mass Spectrometry;** Chamnongsak Chanthamontri¹; Timothy Zwier¹; John Ralph²; Scott A. McLuckey¹; ¹*Purdue University, West Lafayette, IN*; ²*University of Wisconsin-Madison, Madison, Wisconsin*
- WP 483 **High Throughput Analysis of Melamine in Infant Milk Powder Formula Using LDTD-MS/MS;** Serge Auger; Pierre Picard; Patrice Tremblay; Gregory Blachon; Sylvain Letarte; *Phytronix Technologies inc., Québec, Canada*
- WP 484 **Effect of Internal Standard on the Accuracy of Vitamin D Measurement by Liquid Chromatography Tandem Mass Spectrometry (LC/MS/MS);** Min Huang; Doug Winters; *Covance, Nutrition Chemistry and Food Safety, Madison, WI*
- WP 485 **LC-MS/MS Based Targeted Profiling of Plant Hormones in Stressed Arabidopsis and Tomato Leaves;** Chao-Jung Chen¹; Yit-Wai Mak²; Yet-Ran Chen¹; Sheng-Yu Huang³; Kefei Wang⁴; ¹*Agricultural Biotech Research Ct, Academia Sinica, Taipei, Taiwan*; ²*Yit-Wai Mak, Taipei, Taiwan*; ³*Sheng-Yu Huang, Taipei, Taiwan*; ⁴*Kefei Wang, Taipei, Taiwan*

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- ²Scientific Instrument Ct, Academia Sinica, Taipei, Taiwan; ³Mass Solutions Technology, Taipei, Taiwan; ⁴Thermo Fisher Scientific, San Jose, CA
- WP 486 **Determination of the Secondary Metabolite Bikaverin from Maize by LC-MS/MS;** Mark Busman; USDA-ARS, Peoria, IL
- WP 487 **Multi-Residue Analysis of Veterinary Drugs in Animal Produce by Hybrid Triple Quadrupole Linear Ion Trap LC-MS/MS;** Pavel Metalnikov; Irina Bogdanova; Alexander Komarov; Alexander Panin; VGNKI, Moscow, Russian Federation
- FLAVORS AND FRAGRANCES, 488 - 492**
- WP 488 **A GC/MS Tailored Multivariate Approach to the Analysis of Trace Odor Compounds in Green Tea;** Takeshi Serino¹; Sadao Nakamura¹; Anthony Gray²; David Peterson²; ¹Agilent Technologies, Tokyo, Japan; ²Agilent Technologies, Santa Clara, CA
- WP 489 **Volatile Composition and Organoleptic Qualitative Evaluation of Rose Species by Live Single Cell Direct Mass Spectrometry;** Mónica Lorenzo Tejedor; Hajime Mizuno; Naohiro Tsuyama; Takanori Harada; Tsutomu Masujima; Hiroshima Univ. BioMed., Hiroshima, Japan
- WP 490 **Identification of Non-Volatile Congeners by Accurate Mass LC-TOF to Determine Bourbon Product Authenticity;** Luke Adam¹; Sue Dantonio²; Lynne Marshall²; Andre Szczesniewski²; ¹Beam Global Spirits, Louisville, KY; ²Agilent Technologies, Schuamburg, IL
- WP 491 **Quantitative Analysis and Confirmation of Presence of Some Migrants in Food Packaging;** Philippe Tourelle¹; Gilles Jarry¹; Cécile Busset²; Stephen Lock²; ¹Impress Metal Packaging, La Flèche, France; ²AB SCIEX, Paris, France
- WP 492 **Distinguishing Among Three Luteolin Glycoside Isomers by Using Host-Guest Chemistry and LC-MS/MS;** Canan Ozer; Dil Ramanathan; Kean University, Union, NJ
- HOMELAND SECURITY, 493 - 514**
- WP 493 **Development of Ion Mobility Separation and Mass Spectrometric Conditions in a Q-ToF Instrument for the Analysis of Chemical Warfare Agents;** Paul D'agostino; Claude Chenier; DRDC Suffield, Medicine Hat, Canada
- WP 494 **Improving Selectivity and Sensitivity of Anti-Terrorism Detection Equipment with FAPA-IMS-IMS;** Jonathan Dilger^{1,2}; Jeff Everett¹; Jake Shelley¹; Stephen Valentine¹; Gary M. Hieftje¹; David E. Clemmer¹; ¹Indiana University, Bloomington, IN; ²Naval Surface Warfare Center, Crane Division, Crane, IN
- WP 495 **Ambient Direct Analysis in Real Time with a Monolithic Ion Mobility Spectrometry (DART-IMS) Platform for Chemical Agent Monitoring;** Glenn A Harris; Facundo Fernandez; Georgia Institute of Technology, Atlanta, GA
- WP 496 **Quantitation of Alkyl Methylphosphonic Acids as Free Metabolites of Organophosphorus Nerve Agents in Rat and Human Urine by LC/ESI/MS/MS;** Sophie Gougeon; Cécile Montauban; Didier Christin; Laurent Taysse; Anne Bossee; DGA NRBC Defence, Vert-Le-Petit, France
- WP 497 **Withdrawn**
- WP 498 **Advances in Mobile GC/MS Technology for Homeland Security and Defense;** Garth Patterson; Cynthia Liu; Mark Gregory; Mitch Wells; Dennis Barket; ICx Griffin, West Lafayette, IN
- WP 499 **Use of RAMFAC (Rapid Multivariate Factorization) Deconvolution Algorithm In a Portable GC/MS Instrument for Compound Identification;** Joe Oliphant¹; Edgar Lee¹; Dennis Tolley²; Cory Grant¹; Chad Grant¹; ¹Torion Technologies, American Fork, UT; ²Brigham Young University, Provo, Utah
- WP 500 **A LVI- GC- EI/MS - Selective Detectors Apparatus for Enhanced Sensitivity in Detection and Identification of Chem.-Terror Agents;** Nitzan Tzanani; Dana Marder; Hagit Prihed; Israel Inst. for Biological Research, Ness Ziona, Israel
- WP 501 **Effect of Prednisolone for Mitigation of Neovascularization of the Cornea Following Exposure to HD by use of Quantitative Shotgun Proteomics;** Mitchell Meade¹; Pavel Shiyonov¹; Michael Babin²; ¹AFRL, Dayton, OH; ²Battelle, Columbus, OH
- WP 502 **Comparison of LC-MS/MS Strategies for Nerve Agent Metabolites Analysis;** John Tokarz; Kevin J. Shefcheck; Joy M. Ginter; US Army - ECBC, Aberdeen Proving Ground, MD
- WP 503 **Detection of Ribosomal Inactivating Proteins via Immuno-precipitation and MALDI-TOF MS;** James Robertson; Roman Aranda IV; Shauna M Dineen; Jason Bannan; FBI Laboratory, Quantico, VA
- WP 504 **Forensic Characterization and Source Apportionment of Endogenous Peptides Derived from Biological Threat Agents;** Brian H. Clowers; Cinnamon D. Bolz; Heather Engelmann; David S. Wunschel; Angela M Melville; Nancy B. Valentine; Christina Sorensen; Karen L. Wahl; Pacific Northwest National Laboratory, Richland, WA
- WP 505 **Simultaneous Profiling and Quantitation of Phosphonic Acids;** Keith Goodman¹; Anthony Romanelli¹; Patrick South²; Mark Bauer²; ¹AB SCIEX, Framingham, MA; ²Battelle, Columbus, OH
- WP 506 **Investigation Using SIMION on the Implementation of a Cubic Ion Trap as an Ionization Chamber on a GC/LIT;** Sarah Vitcher^{1,2}; Claude Beaugrand³; Laurens Dudragne²; Roberta Collino²; Jean-Claude Tabet¹; ¹University Paris VI (UPMC), Paris, France; ²Thales Security Solutions & SystemS, Vélizy-Villacoublay, France; ³ALPHA-MOS, Toulouse, France
- WP 507 **GC-MS Analysis of Carbohydrate and Fatty Acid Marker Abundance in Ricin Toxin Preparations;** Kate C. Antolick; David S. Wunschel; Heather A. Colburn; Helen W. Kreuzer; James J. Moran; Angie M. Melville; Pacific Northwest National Laboratory, Richland, WA
- WP 508 **Gas Chromatographic-Negative Ion Chemical Ionization Mass Spectrometric Analysis of Sulfur Mustard-Plasma Protein Adducts in Rabbits from Ocular Vapor Exposure;** Richard Lawrence; Bethany Williams; Denise Milhorn; Benedict Capacio; US Army MRICD, Aberdeen Proving Ground, MD
- WP 509 **Comparison and Evaluation of Sample Preparation Methods for Identification of Highly Pathogenic Bacteria Using MALDI-ToF Mass Spectrometry;** Michal Drevinek¹; Jiri Dresler²; Hana Placakova¹; Martin Hubalek³; ¹Natl Inst for NBC Protection, Milin, Czech Republic; ²Central Military Institute of Health, Prague, Czech Republic; ³Institute of Molecular Pathology, Univ. of Defense, Hradec Kralove, Czech Republic
- WP 510 **Quantification of Botulinum Neurotoxins A and B: From Method Development to Applications in Clinical Samples;** Bryan Parks; Jakub Baudys; Wanda

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- WP 511 **High-Salt Washing Significantly Improves the Detection of BoNT/A in Stool Matrix by Mass Spectrometry**; Dongxia Wang; Jakub Baudys; Suzanne Kalb; John R. Barr; *Centers for Disease Control and Prevention, Atlanta, GA*
- WP 512 **Application of a Label-Free Mass Spectrometry Method to Measure Relative Quantities of Proteins within Botulinum Neurotoxin Complexes**; Hercules Moura; Adrian R Woolfitt; Rebecca R Terilli; Maria Solano; John R. Barr; *Centers for Disease Control & Prevention, Atlanta, GA*
- WP 513 **The Use of Mass Spectrometry to Determine the Enzymatic Target of Clostridium baratii Type F Neurotoxin**; Suzanne R. Kalb¹; Jakub Baudys²; Christina Egan³; Theresa J. Smith⁴; Leonard A. Smith⁴; John R. Barr¹; ¹*CDC, Atlanta, GA*; ²*Battelle Memorial Institute, Atlanta, GA*; ³*Wadsworth Center, New York State Dept. of Health, Albany, NY*; ⁴*Integrated Toxicology, USAMRIID, Ft. Detrick, MD*
- WP 514 **Carbohydrate Analysis by MALDI-MS and GC-MS to Detect Potential Markers of Organism Processing and Preservation**; Angela M. Melville; David S. Wunschel; Heather A. Colburn; Christina M. Sorensen; Casey L. Stamper; Nancy B. Valentine; Heather E. Engelmann; Kate C. Antolick; Karen L. Wahl; *Pacific Northwest National Laboratory, Richland, WA*

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- WP 515 **Complementary Mass Spectrometric Techniques for the Characterization of Intractable Polymers**; Patricia M. Peacock; *Dupont, Wilmington, DE*
- WP 516 **Characterization of Butyl Rubber Thermal-Oxidative Decomposition Products**; James Hochrein; Robert Bernstein; Michael White; Shawn Dirk; Steven Thornberg; Cody Washburn; *Sandia National Laboratories, Albuquerque, NM*
- WP 517 **A Study of Structure and Thermal Degradation of Flame Retardant Polycarbonate**; Yoshiyuki Itoh¹; Hiroaki Sato²; Masaaki Ubukata¹; Kanae Teramoto¹; Jun Tamura¹; ¹*JEOL Ltd., Akishima, Japan*; ²*AIST, Tsukuba, Japan*
- WP 518 **Dual Measurement of Polymer and Peptide Thermal Decomposition by Calorimetry and Laser Desorption Ionization Using a Single Microfabricated Device Platform**; Curtis Mowry; Matthew Moorman; John Anderson; Jeffrey Reich; *Sandia National Laboratories, Albuquerque, NM*
- WP 519 **Time of Flight Secondary Ion Mass Spectrometric Determination of Molecular Weight Distribution of Low Polydispersity Poly(Dimethylsiloxane) with Polyatomic Primary Ions**; Hye Kyoung Moon; David D. Wells; Joseph A. Gardella, Jr; *State University of New York at Buffalo, Buffalo, NY*
- WP 520 **Fragmentation of Polyacrylates by Tandem ESI-FTMS**; Sasa Miladinovic¹; Cynthia Kaeser²; Charles L. Wilkins¹; ¹*University of Arkansas, Fayetteville, AR*; ²*University of the Cumberland, Williamsburg, KY*
- WP 521 **Mechanistic Study of the Collision-Induced Dissociation of Sodium-Cationized Poly lactide Oligomers : A Joint Experimental and Theoretical Investigation**; Julien De Winter; Vincent Lemaure; Philippe Marsal; Olivier Coulembier; Jérôme Cornil; Philippe Dubois; Pascal Gerbaux; *University of Mons, Mons, Belgium*

- WP 522 **CAD Versus ETD Fragmentation Pathways of Polyesters**; Vincenzo Scionti; Chrys Wesdemiotis; *The University of Akron, Akron, OH*
- WP 523 **Characterization of Copolymers by Mass and Tandem Mass Spectrometry**; Aleer M. Yol; Roderic P. Quirk; Chrys Wesdemiotis; Jon E. Janoski; *The University of Akron, Akron, OH*
- WP 524 **Influence of the End-Group on the MS/MS Dissociation of Electrosprayed Poly(Dimethylsiloxane) Oligomers: Hydride vs Trimethylsilyl End-Groups**; Thierry Fouquet; Stéphane Humbel; Laurence Charles; *University Aix-Marseille I & III, Marseille, France*
- WP 525 **Mass Spectrometric Investigations of Bisphenol A and Other Migrants in Canned Food**; Luke K. Ackerman; Gregory Noonan; John Roach; Eugene Mazzola; Pierluigi Delmonte; Timothy Begley; *FDA Center for Food Safety, College Park, MD*
- WP 526 **Selectivities Estimation of tritonX-114-Co(II) Complex by Electrospray Ionization Fourier Transform Ion Cyclotron Resonance (ESI-FTICR) Mass Spectrometry**; Khaled Edbey¹; Grainne Moran²; Gary D. Willett²; ¹*University of Garyounis, Benghazi, Libya*; ²*University of New South Wales, Sydney, Australia*
- WP 527 **Qualitative Analysis of the Additives in Polypropylene Film by MALDI-MS Combined with Micro HPLC Fractionation**; Hirotaaka Shioji; Yoshihiko Taguchi; Nobuyuki Sato; *Toray Research Center, Inc., Otsu, Japan*

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- WP 528 **5975-SMB - A New Type of GC-MS with Advanced Capabilities**; Aviv Amirav¹; Alexander B. Fialkov²; Alexander Gordin²; Tal Alon²; ¹*Tel-Aviv University, Tel-Aviv, Israel*; ²*Tel Aviv University, Tel Aviv, Israel*
- WP 529 **Quantitative Solid Phase Microextraction Analysis of Volatiles and Semivolatiles Using field Portable Gas Chromatography-Toroidal Ion Trap Mass Spectrometry (SPME-GC-TMS)**; Christopher R. Bowerbank; Joseph L. Oliphant; Edgar D. Lee; Douglas W. Later; *Torion Technologies Inc., American Fork, UT*
- WP 530 **Reduced Sample Preparation for Determination of N-Nitrosamines in Food and Beverages with Heart-Cutting GC/MS**; Andrew Tipler; Adam J. Patkin; William Goodman; *PerkinElmer, Shelton, CT*
- WP 531 **Removing the Need for Extractions in the Analysis of Pesticides Using Triple Quadrupole GC/MS System**; Eric Phillips; *ThermoFisher Scientific, Austin, TX*
- WP 532 **Mars Organic Molecule Analyzer: Detecting Organics in Extra-Terrestrial Soil via Low Power Gas Chromatography-Mass Spectrometry**; Veronica Pinnick¹; Arnaud Buch²; Friso H. W. Van Amerom³; Ryan M. Danell⁴; Luann Becker⁵; Robert J. Cotter¹; ¹*Middle Atlantic MS Laboratory, Baltimore, MD*; ²*Ecole Centrale Paris, Paris, France*; ³*SRI International, St. Petersburg, Florida*; ⁴*Danell Consulting, Greenville, NC*; ⁵*John's Hopkins University, Baltimore, MD*
- WP 533 **Withdrawn**
- WP 534 **Mass Spectra of the Derivatives of Biological Buffer Components by GC-MS**; Yufang Zheng; Edward White V; Stephen E. Stein; *NIST, Gaithersburg, MD*
- WP 535 **Methods for the Detection of Benzenedithiols and Their Analogs by GC-MS**; Kirill Tretyakov¹; Roman Borisov²; Nino Todua¹; Vladimir Zaikin²; Stephen Stein¹; Anzor Mikaia¹; ¹*National Institute of Standards*

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- and Technology, Gaithersburg, MD; ²Topchiev Institute of Petrochemical Synthesis RAS, Moscow, Russia
- WP 536 **Determination of Indole in Seafood by Headspace SPME GC-MS;** F. Aladar Bencsath; Ann Abraham; Ronald A. Benner, Jr; *FDA, Gulf Coast Seafood Lab, Dauphin Island, AL*
- WP 537 **Electron Ionization Mass Spectra of Derivatives of Sulfabenzamide and Related Compounds: Unusual Rearrangement Involving Migration of Carbonyl O-Atom;** Nino Todua¹; Kirill Tretyakov¹; Roman Borisov²; Dmitry Zhilyaev²; Vladimir Zaikin²; Stephen Stein¹; Anzor Mikaia¹; *National Institute of Standards and Technology, Gaithersburg, Maryland; ²Topchiev Institute of Petrochemical Synthesis RAS, Moscow, Russia*
- WP 538 **Use of Deuterated O-n-butyl-hydroxylamines in the Analysis of Fructosylamino Acids Provide GLC/MS Characteristics that Improve Separation, Identification and Verification;** Thomas P. Mawhinney; Deborah Chance; Valeri Mossine; Nancy Cassity; James Waters; *University of Missouri, Columbia, MO*
- WP 539 **Low-Pressure Positive Chemical Ionization GC/MS for the Analysis of Lipids from Chromulina freiburgensis Defl., A Potential Biofuel Source;** Douglas Cameron; Ashley Stewart; *Montana Tech, Butte, MT*
- WP 540 **Development of a Sensitive and Reliable Method for the Measurement of Drugs of Abuse comparing GC-TOF/MS vs. GC- Quadrupole/MS;** Petra Gerhards¹; Juergen Sawazki³; Gerhard Horner²; Pierre Schanens²; *¹ALMSCO International, Llantrisant, UK; ²five technologies, Munich, Germany; ³Apotheke der LVR Klinik Viersen, Viersen, Germany*
- WP 541 **Headspace-GC/MS Quantification of Furan in Rat Blood and Liver;** Mona I. Churchwell; Linda S. Von Tungenl; Daniel R. Doerge; *Nat. Ctr. Tox. Res., Jefferson, AR*
- WP 542 **Analysis of Polybrominated Biphenyls in Pharmaceutical Manufacturing Process Samples Using GC-MS;** Chen Ding; Adrian Anderson; Gang Zhao; Russel Cink; Qunying Zhang; Nancy Benz; *Abbott Laboratories, North Chicago, IL*
- WP 543 **Trace Level Determination of Phenyl Chloroformate as a Potential Genotoxic Impurity in Process Related Intermediates and Drug Substance;** Qizhi (Kelly) Hu; Susanna Lai; Sheng Cui; David Yeung; Xiao-Keng Liu; Fang Wang; Tiffany Correll; *Amgen, Inc., Thousand Oaks, CA*
- WP 544 **Electron Ionization Mass Spectra and Retention Indices of Phthalate Monoesters and Derivatives;** Yuxue Liang; Yufang Zheng; Edward White V; Stephen Stein; *National Institute of Standards and Technology, Gaithersburg, MD*
- WP 545 **Investigation of Hazardous, Volatile Hydrocarbons in Commercial Beverages;** Sarah J Saylor¹; Catherine Bentzley¹; Alexander V. Kachur^{1,2}; *¹University of the Sciences in Philadelphia, Philadelphia, PA; ²University of Pennsylvania, Philadelphia, PA*
- WP 546 **High Sensitivity Multi-Residue Pesticide Analysis in Fruit Preserve Using GC-MS/MS;** Hans J. Huebschmann; *Thermo Fisher Scientific, Austin, TX*
- WP 547 **The Application of APGC TOF MS in the Analysis of Archeological Biomarkers Associated with Bitumens in Egyptian Mummies;** Steve Smith¹; Hilary J. Major¹; Keith Hall²; Natalie McCreesh³; Andrew Gize³; Tony Newton¹; *¹Waters Corporation, Manchester, UK; ²Hall Analytical, Manchester, UK; ³The University of Manchester, Manchester, UK*

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- WP 548 **Direct Molecular Analysis of Biomass Samples Using MALDI Imaging Mass Spectrometry;** Yanfeng Chen; Jung Seokwon; Mark Cameron Sullards; Arthur Ragauskas; *Georgia Institute of Technology, Atlanta, GA*
- WP 549 **Analysis of in situ Trypsin-Digested Amyloid Beta Peptides by MALDI-LIT-MSⁿ for Mass Spectral Imaging;** Daniel P. Magparangan¹; Timothy J. Garrett¹; Dieter M. Drexler²; Richard A. Yost¹; *¹University of Florida, Gainesville, FL; ²Bristol-Myers Squibb, Wallingford, CT*
- WP 550 **Comparative Study of the Molecular Content of Islets of Langerhans between ob/ob and Normal Mouse Pancreas with MALDI-IMS and LC/MS;** Laurens Minerva; Kurt Boonen; Geert Baggerman; Lut Arckens; *K.U.Leuven, Leuven, Belgium*
- WP 551 **High-Mass Accuracy MALDI Imaging of Trypic Peptides - Identification by On-Tissue MS/MS and LC/MS Measurements;** Yvonne Schober¹; Kerstin Strupat²; Spengler Bernhard¹; Andreas Römpf¹; *¹Justus Liebig University, Giessen, Giessen, Germany; ²Thermo Fisher Scientific, Bremen, Germany*
- WP 552 **MALDI Mass Spectrometry Imaging of Penile Cancer Tissue;** Brian Flatley¹; Peter Malone²; Rainer Cramer¹; *¹University of Reading, Reading, UK; ²Royal Berkshire NHS Foundation Trust Hospital, Reading, UK*
- WP 553 **MALDI Imaging of Post Mortem Human Spinal Cord in Amyotrophic Lateral Sclerosis;** Jörg Hanrieder; *Analytical Chemistry, Uppsala University, Uppsala, Sweden*
- WP 554 **The Distribution of the alphaA-crystallin Protein and Its Truncation Products in Tissue Sections from a rodent Model of Cataracts;** David R. Stella¹; Kyle A. Floyd¹; Angus C. Grey²; Matthew B. Renfrow¹; Kevin L. Schey³; Stephen Barnes¹; *¹University of Alabama at Birmingham, Birmingham, Alabama; ²University of Auckland, Auckland, New Zealand; ³Vanderbilt University, Nashville, TN*
- WP 555 **Brain Alterations of Neuropeptides in an Experimental Mouse Model of Parkinson's Disease;** Nicoletta Schintu¹; Anna Nilsson²; Per Svenningsson¹; Per E. Andren²; *¹Karolinska Institute, Stockholm, Sweden; ²Uppsala University, Uppsala, Sweden*
- WP 556 **Imaging MS in Studies of Pancreatic Cancer;** Patricia V. Abdelnur^{1,2}; Michelle L. Rezyer¹; Lisa M. Manier¹; Erika E. Frazier¹; Nipun Merchant¹; Marcos N. Eberlin²; Richard M. Caprioli¹; *¹Vanderbilt Univ Sch of Med, Nashville, TN; ²Thomson Lab UNICAMP, Campinas, SP, Brazil*
- WP 557 **Mass Spectrometric Imaging of Lysophosphatidylcholines in Various Tissue Types;** Robert F. Menger¹; Whitney L. Stutts¹; John A. Bowden²; Dhanam Anbukumar²; David A. Ford²; William W. Dawson³; Timothy J. Garrett⁴; Richard A. Yost¹; *¹University of Florida, Department of Chemistry, Gainesville, FL; ²St Louis University School of Medicine, St Louis, MO; ³University of Florida, Department of Ophthalmology, Gainesville, FL; ⁴University of Florida, College of Medicine, Gainesville, FL*
- WP 558 **High Field FTMS as a Tool in the Identification of Neurooncological Lipid Biomarkers;** Katherine A. Kellersberger¹; Nathalie Y.R. Agar²; *¹Bruker Daltonics,*

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- WP 559 *Billerica, MA; ²Brigham and Womens Hospital Harvard Medical School, Boston, MA*
High Mass Resolution Imaging and Metabolic Profiling of Flowers of Arabidopsis Cuticle Mutant; Zhihong Song³; Natasha D. Brohier²; Ji Hyun Jun²; Edward S. Yeung¹; Young Jin Lee²; Basil J. Nikolau²; ¹Ames Lab of US DOE, Ames, IA; ²Iowa State University, Ames, IA; ³Ames Lab of US DOE/Iowa State University, Ames, IA
- WP 560 **Molecular Pathology Using Desorption Electrospray Ionization Imaging Mass Spectrometry From the Lipid Profiles of Human Bladder and Kidney Cancers;** Allison Dill¹; Livia S Eberlin¹; Anthony Costa¹; Cheng Zheng¹; Demian R. Ifa¹; Liang Cheng²; Timothy Masterson²; Michael Koch²; Olga Vitek¹; R. Graham Cooks¹; ¹Purdue University, West Lafayette, IN; ²Indiana University School of Medicine, Indianapolis, IN
- WP 561 **Differentiation of Soft Tissue Tumors Using Imaging Mass Spectrometry;** Stefan Willems; Alexandra van Remoortere; René van Zeijl; André Deelder; Liam McDonnell; Pancras Hogendoorn; *LUMC, Leiden, Netherlands*
- WP 562 **Mapping Lipid Alterations in Traumatically Injured Rat Spinal Cord by desorption Electrospray Ionization Imaging Mass Spectrometry;** Marion Giroud; Yunzhou Shi; Ji-Xin Cheng; R. Graham Cooks; *Purdue University, West Lafayette, IN*
- WP 563 **Abnormal Alteration of Brain Lipids in the Scrapper-Gene Knockout Mice Revealed by Imaging Mass Spectrometry Coupled with Principle Component Analysis;** Ikuko Yao¹; Yuki Sugiura²; Mitsutoshi Setou³; ¹Kansai Medical University, Osaka, Japan; ²Tokyo Tech, Yokohama, Japan; ³Hamamatsu School of Medicine, Hamamatsu, Japan
- WP 564 **Mass Spectrometric Imaging of Glycosphingolipids from Breast Cancer Tissue Sections in Ion Mobility Separation Mode;** Kamila Czornak¹; Tiffány R. Blackwell²; Lu Jiang²; Kristine Glunde²; Ron M.A. Heeren¹; ¹AMOLF, Amsterdam, Netherlands; ²Johns Hopkins University School of Medicine, Baltimore, MD
- WP 565 **MALDI Imaging of Sub-20 Micron Lipid Distribution in Tissue Using Lasers Operating Between 1kHz and 10kHz;** Jeff Brown; Paul Murray; Emmanuelle Claude; Daniel Kenny; *Waters Micromass MS Technologies, Manchester, UK*
- WP 566 **Investigation of Tuberculosis Infection and Response to Therapy by Imaging Mass Spectrometry;** Michelle L. Reyzer¹; Jamie L. Allen¹; Laura Via³; JoAnne L. Flynn²; Clifton E. Barry, III³; Richard M. Caprioli¹; ¹Vanderbilt University, Nashville, TN; ²University of Pittsburgh, Pittsburgh, PA; ³NIAID, NIH, Bethesda, MD
- WP 567 **Lipid Topography of Colonic Mucosa by TOF-SIMS Imaging in Cfr Knockout Mice;** Mario Ollero^{1,2}; Alexandre Seyer¹; Marc Brulet¹; Alain Brunelle¹; Janine Fritsch^{2,3}; Aleksander Edelman^{2,3}; Olivier Laprèvote^{1,3}; ¹Centre de Recherche Gif, ICSN-CNRS, Gif-sur-Yvette, France; ²INSERM, U845, Paris, France; ³Université Paris Descartes, Paris, France
- WP 568 **Enhanced Visualization of Phospholipids in Animal and Plant Tissue Sections by Using Ionic Liquid Matrixes in MALDI Mass Spectrometry;** Kamlesh Shrivastava; Takahiro Hayasaka; Mitsutoshi Setou; *Hamamatsu University School of Medicine, Hamamatsu, Japan*
- WP 569 **Visualizing Sphingolipids in Porcine Ocular Lens by MALDI High-Resolution Mass Spectrometry**
- WP 570 **Imaging;** Jaroslav Pol^{1,2}; Veronika Vidova¹; Michael Volny¹; Petr Novak¹; Vladimir Havlicek¹; Susanne K Wiedmer²; Juha Holopainen²; ¹Institute of Microbiology, Prague, Czech Republic; ²University of Helsinki, Helsinki, Finland
- WP 571 **Identification and Visualization of Phospholipids in Tissue Sections Using MALDI, NALDI and DESI Mass Spectrometry Imaging: A Comparative Study;** Veronika Vidova^{1,2}; Michael Volny¹; Petr Novak^{1,3}; Martin Strohalm¹; Jaroslav Pol^{1,4}; Vladimir Havlicek^{1,2}; ¹Institute of Microbiology, Prague, Czech Republic; ²Palacky University, Olomouc, Czech Republic; ³Charles University, Prague, Czech Republic; ⁴University of Helsinki, Helsinki, Finland
- WP 572 **Imaging of Abundant Human Lens Lipids by Desorption Electrospray Ionization Mass Spectrometry;** Shane Ellis¹; Chunping Wu²; Jane M. Deeley¹; Xiangjia Zhu³; Roger Truscott³; Todd W Mitchell¹; R. Graham Cooks²; Stephen J Blanksby¹; ¹University of Wollongong, Wollongong, Australia; ²Purdue University, West Lafayette, IN; ³Save Sight Institute, University of Sydney, Sydney, Australia
- WP 573 **Selective MALDI Imaging Mass Spectrometry of Lipids by Adding Lithium Salts to the Matrix Solution;** Vincent Guérineau¹; David Touboul¹; Alain Brunelle¹; Olivier Laprèvote^{1,2}; ¹Centre de Recherche de Gif, ICSN-CNRS, Gif-sur-Yvette, France; ²Université Paris Descartes, Paris, France
- WP 574 **Optimization of the Collection Efficiency of Secondary Ions for Spatially Resolved Secondary Ion Mass Spectrometry in Crossbeam Devices;** Dirk Preikszas¹; Michel Aliman¹; Hubert Mantz¹; Albrecht Brockhaus²; Alexander Laue²; ¹Carl Zeiss NTS GmbH, Oberkochen, Germany; ²University of Wuppertal, Wuppertal, Germany
- WP 575 **Imaging of Neuropeptides with High Lateral Resolution and High Mass Accuracy by Matrix Assisted Laser Desorption/Ionization Mass Spectrometry (MALDI MS);** Sabine Günther; Andreas Roempp; Wolfgang Kummer; Bernhard Spengler; *Justus Liebig University, Giessen, Germany*
- WP 576 **ImmunolImaging: Quantitative Investigation of Tissue-Less Tissue Imaging and Simplification of the Tissue Proteome Using Alzheimer's Disease Model;** Fiona Plows¹; Mariana Rusa¹; Matt Hammond¹; Steve Roth¹; Amanda Bulman¹; Enrique Dalmasso¹; Martin Schuereberg²; Detlev Suckau²; ¹Bio-Rad Laboratories, Inc., Hercules, CA; ²Bruker Daltonics, Bremen, Germany
- WP 577 **Localization and Identification of Novel Peptides in Hirudo Medicinalis Using MALDI Imaging;** Jocelyne Bruand¹; Srinivas Sistla¹; Pieter Dorrestein²; Majid Ghassemian¹; Maxence Wisztorski³; Michel Salzet⁴; Terry Gaasterland¹; Eduardo Macagno¹; Vineet Bafna⁵; ¹UCSD, La Jolla, CA; ²University of California, San Diego, Skaggs School, La Jolla, CA; ³University of Lille 1, Villeneuve D'ascq, France; ⁴University, Villeneuve D'ascq Cedex, France; ⁵University of California San Diego, San Diego, CA
- WP 577 **Development of Methods for Quantitative MALDI Imaging by MRM for Absolute Spatial Quantitation of Proteins: Application to Breast Cancer Tissues;** Elizabeth Clemis¹; Derek Smith¹; Ryan M. Danell²; Christoph Borchers¹; ¹UVic Genome BC Proteomics Centre, Victoria, Canada; ²Danell Consulting, Greenville, North Carolina

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- WP 578 **3D Spatial Distribution of Synthetic Oligodeoxynucleotide in Tumor-Bearing Mice: An Imaging Mass Spectrometry Study;** Rita Casadonte¹; Joseph M. Amman¹; Jennifer Grandis²; David Carbone¹; Richard M. Caprioli³; ¹Vanderbilt University, Nashville, TN; ²University of Pittsburgh School of Medicine, Pittsburgh, Pennsylvania; ³Vanderbilt Univ Sch of Med, Nashville, TN
- WP 579 **Application of MALDI Mass Spectrometry Tissue Imaging to Discovery Biomarkers for Diagnosis and Prognosis of Alzheimer's Disease;** Sun Yong Jeong^{1,2}; Eric Hamlett¹; Oscar Alzate^{1,2}; ¹Department of Cell and Development Biology, UNC, Chapel Hill, NC; ²UNC-Systems Proteomics Center, Chapel Hill, NC
- WP 580 **Uncovering the Proteome of Late Stage Prostate Cancer by Imaging Mass Spectrometry;** Kristina Schwamborn¹; Peter Wild²; Richard M. Caprioli¹; ¹Vanderbilt University, Nashville, TN; ²Institute of Surgical Pathology, Zurich, Switzerland
- WP 581 **Investigation of the Cutaneous Proteome in Humans: Imaging MS of Biopsies from Skin Ulcers;** Domenico Taverna¹; Alonda C. Pollins²; Lillian B. Nanney²; Giovanni Sindona¹; Richard M. Caprioli²; ¹University of Calabria, Arcavacata Di Rende, Italy; ²Vanderbilt University, Nashville, TN
- WP 582 **Sub-Micrometer ToF-SIMS Mass Spectrometry Imaging of Lipid Droplets during Intestinal Absorption;** Alexandre Sever¹; David Touboul¹; Christine Coméra²; Xavier Collet²; Alain Brunelle¹; Olivier Laprèvote^{1,3}; ¹Centre de Recherche de Gif, ICSN-CNRS, Gif-Sur-Yvette, France; ²INSERM U563, Toulouse, France; ³Université Paris-Descartes, Paris, France
- WP 583 **Differentiation of Human Brain Gliomas by Lipid Analysis Using Desorption Electrospray Ionization Imaging Mass Spectrometry;** Livia S. Eberlin¹; Allison Dill¹; Alexandra Golby²; Keith Ligon²; Justin Wiseman³; Nathalie Agar²; R. Graham Cooks¹; ¹Purdue University, West Lafayette, IN; ²Brigham & Women's Hospital, Harvard Medical School, Boston, MA; ³Prosolia, Inc., Indianapolis, IN
- WP 578 **Charles**⁵; ¹University Aix-Marseille, Marseille, France; ²TOTAL FRANCE - CREs, Solaize, France; ³Sciences Chimiques Federation-CNRS, Marseille, France; ⁴Spectropole, Marseille, France; ⁵University Aix-Marseille I & III, Marseille, France
- WP 590 **Detection of Monolayer/Multilayer Transition at Surfaces by Laser-Desorption Mass Spectrometry;** Hans Joachim Räder; Nataliya Mavrinskaya; Klaus Müllen; *MPI for Polymer Research, Mainz, Germany*
- WP 591 **Sublimed MALDI-Matrix Supports Large Biomolecule Detection and High Density Arrays with SAMDI-TOF MS;** Alex Swaim; Daniel Smith²; Jaekuk Kim²; Steven Patrie²; ¹UT Dallas, Kingwood, TX; ²UT Southwestern Medical Center, Dallas, TX
- WP 592 **New Frontiers in MALDI-TOF-MS Sample Preparation for Peptides Analysis Using Electric Field Enhanced Deposition;** Parul Jain; Julie Harmon; *University of South Florida, Tampa, FL*
- WP 593 **High Intra- and Inter-Sample Precision Obtained for Electrospray Deposited MALDI TOFMS Samples of Controlled Spot Size;** Jonathan Haulenbeek; Kevin G. Owens; *Drexel University, Philadelphia, PA*
- WP 594 **RF Plasma Polymerized Ethylenediamine Modified MALDI Target for Enhanced E. coli Proteomic Analysis;** Lijuan Peng¹; Gary R. Kinsel¹; ¹Southern Illinois University, Carbondale, IL
- WP 595 **Chip-Based Open Channel Preconcentration for Mass Spectrometry Analysis of Biosamples;** Johan Jacksén; Åsa Emmer; *Royal Institute of Technology, Stockholm, Sweden*
- WP 596 **The Need for Constant Review of Laboratory Consumables;** Celia Smith; Rainer Cramer; *University of Reading, Reading, UK*
- WP 597 **Correlating Histochemistry and Mass Spectrometry for Single Cell-Type Analysis: To Stain or Not to Stain;** Jamie Allen¹; Erin Seeley¹; Kristina Schwamborn¹; Ray Mernaugh¹; Richard M. Caprioli²; ¹Vanderbilt University, Nashville, TN; ²Vanderbilt Univ Sch of Med, Nashville, TN
- WP 598 **Improved Method for Identification of Low Abundance Proteins Using 2D-gel Electrophoresis, MALDI-TOF and TOF/TOF;** Witold M Winnik¹; Oscar Alzate²; Maribel Bruno¹; Lyle Burgono¹; Yue Ge¹; Gary R. Klinefelter¹; Prasad R. Kodavanti¹; Jennifer B. Robinette²; Juan Suarez¹; Kathleen Wallace¹; ¹US EPA, NHEERL, Research Triangle Park, NC; ²UNC-Chapel Hill, Chapel Hill, NC
- WP 599 **High Resolution MALDI Plates for the Direct Coupling of PAGE Separations and Tissue Analysis with MALDI Mass Spectrometry;** Stephen J. Hattan; Kenneth C. Parker; Marvin L. Vestal; *VIC Instruments Corporation, Sudbury, MA*
- WP 600 **Evaluation and Optimization of Protein Recovery from Gels for MALDI-MS Analysis;** Kandalama Priyasantha; Mary Elizabeth Gimón-Kinsel; Gary R. Kinsel; *Southern Illinois University Carbondale, Carbondale, Illinois*
- WP 601 **Rapid Automated Off-Line LC-MALDI Analyses Using a Liquid Matrix Optimized for Uniformity and Durability of Ionization;** Yuko Fukuyama; Shinichi Iwamoto; Natsumi Funakoshi; Kenichi Taniguchi; Koichi Tanaka; *Shimadzu Corporation, Kyoto, Japan*
- WP 602 **Polymer-Based Single-Use Targets for Protein Characterization for NanoLC-MALDI Mass Spectrometry;** Wolfgang Winkler¹; Werner Balika²; Manfred Koranda²; Guenter Allmaier¹; ¹Vienna

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- WP 584 **Investigating the Sensitivity of Laserspray Ionization of an Orbitrap Exactive;** Diana L. Sardelis; Catherine Bentzley; Charles N. Mcewen; *University of the Sciences in Philadelphia, Philadelphia, PA*
- WP 585 **Sensitivity in MALDI with Small Spot Sizes;** Andriy Yamchuck; Victor Spicer; Werner Ens; *University of Manitoba, Winnipeg, Canada*
- WP 586 **In-Capillary Protein Methyl Esterification at Sub-Microliter Volumes;** Ashley N. St. Pierre; Ken K.-C. Yeung; *The University of Western Ontario, London, Canada*
- WP 587 **Nanoliter-Volume Protein Desalting and Enrichment with Capillary Isoelectric Trapping;** Christina J Booker; Jose S. Mejia; Samuel Sun; Sarah Woolsey; Ken K.-C. Yeung; *University of Western Ontario, London, Canada*
- WP 588 **Polymer Segregation in MALDI Spots Investigated by MALDI-TOF Imaging MS;** Steffen M. Weidner; Katrin Hoffmann; Andreas Thuenemann; Jana Falkenhagen; *Fed.Inst.f.Mat.Research, Berlin, Germany*
- WP 589 **Solid State Nuclear Magnetic Resonance as a Tool to Explore MALDI Samples;** Caroline Barrere¹; Hélène Pizzala¹; Michael Mazarin²; Fabio Ziarelli^{3,4}; Laurence

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- WP 603 **Cluster Compositions of Acetonitrile and Acetonitrile-Water Studied by Liquid-Ionization MS/MS and Optimized Structures by Computer Calculation;** Haruhiko Fukaya¹; Yasuo Shida¹; Masahiko Tsuchiya²; ¹Tokyo University of Pharmacy and Life Science, Tokyo, Japan; ²Yokohama National University, Yokohama, Japan
- WP 604 **Withdrawn**
- WP 605 **Driving Atmospheric Pressure Ion Sampling Efficiency to the MAX;** Alex Mordehai¹; Paul Momoh¹; Michael Ugarov¹; Anabel Fandino¹; Gangqiang Li²; Stuart Hansen²; Peter Williams²; John Fjeldsted¹; ¹Agilent Technologies, Santa Clara, CA; ²Agilent Laboratories, Santa Clara, CA
- WP 606 **Modular Computational Toolset for Atmospheric Pressure Ionization Method Development: SIMION Meets FEM;** Walter Wissdorf¹; Larissa Pohler¹; Thorsten Pöhler²; Herwart Hönen²; Klaus J. Brockmann¹; Thorsten Benter²; ¹University of Wuppertal, Wuppertal, Germany; ²RWTH Aachen, Aachen, Germany
- WP 607 **Novel Laminar Flow Ion Sources for LC- and GC-API MS;** Ian Barnes¹; Hendrik Kersten¹; Walter Wissdorf¹; Thorsten Pöhler²; Herwart Hönen²; Sonja Klee¹; Klaus J. Brockmann¹; Thorsten Benter¹; ¹University of Wuppertal, Wuppertal, Germany; ²RWTH Aachen, Aachen, Germany
- WP 608 **A Comparison of the Performance of Diode Pumped Solid State Lasers and Excimer Lasers in LC- and GC-API MS;** Sonja Klee; Hendrik Kersten; Matthias Lorenz; Walter Wissdorf; Klaus J. Brockmann; Thorsten Benter; University of Wuppertal, Wuppertal, Germany
- WP 609 **Fundamental Characterization of Ion Transfer Capillaries Used in Atmospheric Pressure Ionization Sources;** Klaus J. Brockmann; Walter Wissdorf; Lukas Hyzak; Hendrik Kersten; Thorsten Benter; University of Wuppertal, Wuppertal, Germany
- WP 610 **Spatially and Temporally Resolved Atmospheric Pressure Laser Ionization as a Powerful Tool for the Characterization of Ion Sources: An Overview;** Matthias Lorenz; Walter Wißdorf; Sonja Klee; Hendrik Kersten; Klaus J. Brockmann; Thorsten Benter; University of Wuppertal, Wuppertal, Germany
- WP 611 **Progress in the Development and Characterization of In-source Atmospheric Pressure-Electron Capture Dissociation (AP-ECD);** Damon Robb; Jason Rogalski; Juergen Kast; Michael Blades; University of British Columbia, Vancouver, BC

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- WP 612 **Mass Spectrometry Study of Cobalt(III) Porphyrins Fragmentation Patterns and Their Ligand Binding Strength;** Ekta Mishra¹; Victor Ryzhov¹; Jill L. Worlinsky²; Christian Brückner²; ¹Northern Illinois University, Dekalb, IL; ²University of Connecticut, Storres, CT
- WP 613 **Reinvestigation of the Thermochemistry of Sulfuric Acid-Related Ions;** Sara Koepke; Thomas M. Gilbert; Lee S. Sunderlin; Northern Illinois University, DeKalb, Illinois
- WP 614 **Thermochemical Properties of Fluorinated Alanes;** Jamelle K.P. Williams; Paul G. Wenthold; Purdue University, West Lafayette, IN

- WP 615 **Investigation of the O-O Dissociation Energy of Peroxycarboxyl Anions;** Alex A. Nickel; Jerry G. Lanorio; Kent M. Ervin; University of Nevada, Reno, Reno, NV
- WP 616 **Collision-Induced Dissociation of Protonated and Group I Metallated Lysine Complexes: Binding Energies, Transition State Energies, and Theoretical Structures;** Amy A. Clark; Peter B. Armentrout; University of Utah, Salt Lake City, UT
- WP 617 **Group I Metal – Ligand Thermochemistry of N-Methyl Proline (NMP) – An Experimental and Theoretical Approach;** Abhigya Mookherjee; Peter Armentrout; University of Utah, Salt Lake City, UT
- WP 618 **Gas-Phase Acidities and Mass Spectral Fragmentation Processes of Anions from N-Benzoylamino Acids;** Robert L. White; J. Stuart Grossert; Lana E. Greene; Dalhousie University, Department of Chemistry, Halifax, Canada
- WP 619 **Structures and Energetics of [UracilnCa]²⁺ (n=14-4) Clusters by BIRD and Theoretical Studies;** Elizabeth A.L. Gillis; Travis D. Fridgen; Memorial University of Newfoundland, St. John's, Newfoundland and Labrador, Canada
- WP 620 **Energetics of Cation-Phosphate Interactions in Biological Systems;** Julia Laskin¹; Zhibo Yang²; Amina S. Woods³; ¹Pacific NW National Laboratory, Richland, WA; ²University of Colorado, Boulder, CO; ³NIDA IRP, NIH, Baltimore, MD
- WP 621 **Complexation of α,β-alkyldiammonium Ions with Cucurbit[7]uril in the Gas Phase: Dependence of Bond Strength on Alkyl Chain Length;** Daniel Mortensen; David V. Dearden; Brigham Young University, Provo, UT
- WP 622 **Influence of Weak Interactions on Supramolecular Binding: Characterization of Cucurbit[6]uril Complexes with Alkylmonoammonium Ions via Experiment and Theory;** Ruijun Shi; David V. Dearden; Brigham Young University, Provo, UT
- WP 623 **A New Method To Measure Relative Collision Cross Sections Using Fourier Transform Ion Cyclotron Resonance Mass Spectrometry;** Fan Yang; David V. Dearden; Brigham Young University, Provo, UT
- WP 624 **First and Second Hydration Shell Energies of Barium Dications;** Oscar Wheeler; Theresa Cooper; Peter B. Armentrout; University of Utah, Salt Lake City, Utah
- WP 625 **Transition Metal Hydration Studies: Experimental and Theoretical Investigation of Binding Energies for the Cu²⁺ (H₂O)_n, n=7-10 Complexes;** Andrew Sweeney; Theresa Cooper; Peter B. Armentrout; University of Utah, Salt Lake City, UT
- WP 626 **ESI-MS Estimation of the Acidities of Polyfunctional Groups by the Kinetic Method: Hydroxycinnamic Acids;** Juan Davalos; Andres Guerrero; Antonio Chana; Rebeca Herrero; Instituto de Quimica-Fisica Rocasolano-CSIC, Madrid, Spain
- WP 627 **Experimental and Computational Studies of Gas-Phase Acidities Related to Deprotonation of Tripeptide Backbones Using FT-ICR Mass Spectrometry;** Samantha Bokatzian-Johnson; John Killian; Myrna Hernandez-Matus; David Dixon; Carolyn J. Cassidy; University of Alabama, Tuscaloosa, AL
- WP 628 **Experimental Determination of the Gas-Phase Heat of Formation of 2,3 and 3,4-Pyridyne;** Nathan Rau; Paul Wenthold; Purdue University, Lafayette, IN
- WP 629 **Polar Groups Induced Acidity Enhancements of Carboxylic Acids in the Gas Phase and in Solution;**

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- Yuan Tian¹; Jianhua Ren¹; ¹University of the Pacific, Stockton, CA
- WP 630 **Gas Phase Acidities of Short Cysteine-Containing Peptides**; Jialin Shen; Jianhua Ren; University of the Pacific, Stockton, CA
- WP 631 **Proton Affinities of Charged Peptides**; Xiaoning Zhao; Noah Fang; Jianhua Ren; University of the Pacific, Stockton, CA
- WP 632 **Gas-Phase Proton Affinity of N-heterocyclic Carbenes (NHCs)**; Min Liu¹; Jeehiun K. Lee¹; ¹Rutgers University, Piscataway, NJ
- WP 633 **Investigation of Nanoparticle Surface Chemistry for Laser Desorption Ionization Mass Spectrometry Applications**; Mario E. Gomez; Edward T. Castellana; David H. Russell; Texas A&M University, College Station, TX
- WP 634 **Synthesis and Enhanced Reaction Selectivity of the Mixed-Metal RCCMgLiCl₃⁻**; George N. Khairallah; Edward Whiting; Charlene C. L. Thum; Richard A. J. O'hair; Bio21 Inst, Univ of Melbourne, Melbourne, Australia
- WP 635 **Charge State Stability of PAMAM Dendrimers in the Gas Phase**; Aura Tintaru¹; Sabrina Pricl²; Jiangyu Wu³; Ling Peng³; Laurence Charles¹; ¹Aix-Marseille University, Marseille, France; ²University of Trieste, Trieste, Italy; ³Université de la Méditerranée, Marseille, France
- WP 636 **An *ab-initio* Study on Guanidination of Peptides in Matrix-Assisted Laser Desorption Ionization**; Francesco L Brancia¹; Roberto Marchese³; Mauro Stener²; Simone Rauegi³; ¹Aarhus University, Tjele, Denmark; ²University of Trieste, Trieste, Italy; ³SISSA, Trieste, Italy
- ION MOBILITY II, 637 - 665**
- WP 637 **Improving the Resolution of Ion Mobility Spectrometry**; Glenn E. Spangler; Technispan LLC, Lutherville, MD
- WP 638 **New Ion Mobility Spectrometry with a novel Flow-Rectification Nozzle for Mass Spectrometry**; Masaru Nishiguchi; Yoshihiro Ueno; Fujio Inoue; Daisuke Okumura; Hiroaki Waki; Hiroto Itoi; Shimadzu Corporation, Kyoto, Japan
- WP 639 **Development of a “Ping-Pong” Drift Tube: Theoretical Considerations of Resolving Power**; Sunyoung Lee; Stephen Valentine; David E. Clemmer; Indiana University, Bloomington, IN
- WP 640 **Conformational Studies of Melittin Using Electrospray Ion Mobility-Mass Spectrometry: The Effects of Temperature and Solvent Composition**; Sevugarajan Sundarapandian¹; Jody May¹; Brandon T. Ruotolo²; David H. Russell³; John A. Mclean¹; ¹Department of Chemistry, Vanderbilt University, Nashville, TN; ²Department of Chemistry, University of Michigan, Ann Arbor, MI; ³Department of Chemistry, Texas A&M University, College Station, TX
- WP 641 **Simulation of Ion Mobility at Reduced Pressures Based on Revised Ion-Molecule Collision Models**; Dimitris Papanastasiou¹; Mikhail Sudakov²; Roger Giles³; Emmanuel Raptakis¹; ¹Fasmatech, Athens, Greece; ²Ryazan State Radioengineering University, Ryazan, Russia; ³Shimadzu Research Laboratory, Manchester, UK
- WP 642 **Protein Complexes as Ion Mobility Standards: Strategies for Reducing Their Uncertainties and Benefits for Gas-Phase Structural Biology**; Zoe Hall¹; Kevin Giles²; John B. Hoyes²; Matthew F. Bush¹; Carol V. Robinson¹; ¹Department of Chemistry, University of Oxford, Oxford, UK; ²Waters Corporation, Manchester, UK
- WP 643 **Characterization of Insulin Oligomers Using Ion Mobility Mass Spectrometry**; Rune Salbo^{1,2}; Ingrid Pettersson¹; Helle Naver¹; Thomas J.D. Jørgensen²; Kim F. Haselmann¹; ¹Novo Nordisk, Måløv, Denmark; ²BMB, University of Southern Denmark, Odense, Denmark
- WP 644 **Determining the Topological Arrangements of Protein Complexes by Combining Ion Mobility Mass Spectrometry and Molecular Modelling**; Argyris Politis^{1,2}; Ahyoung Park^{1,2}; Suk-Joon Hyung^{2,3}; Daniel Barsky^{2,4}; Brandon Ruotolo^{2,3}; Carol V. Robinson^{1,2}; ¹University of Oxford, Oxford, UK; ²University of Cambridge, Cambridge, UK; ³University of Michigan, Ann Arbor, MI; ⁴Lawrence Livermore National Laboratory, Livermore, CA
- WP 645 **Traveling-Wave Ion Mobility Mass Spectrometry Studies of Gas-Phase Conformations of CC and CXC Chemokines: Monocyte Chemoattractant Protein-1, -2, and Interleukin-8**; Zhiyin Xun; Julie A. Leary; UC Davis, Davis, CA
- WP 647 **Development of a Hofmeister Series Analogue for Gas-phase Protein Complexes: Evidence from Ion Mobility-Mass Spectrometry**; Suk-Joon Hyung; Han Linjie; Alex Pagliaro; Brandon Ruotolo; University of Michigan, Ann Arbor, MI
- WP 648 **Ion-Mobility Mass Spectrometry Enables the Structure Determination of Heterogeneous Protein Assemblies**; Justin Benesch; University of Oxford, Oxford, UK
- WP 648 **New Avenues in Natural Product Discovery Using Ion Mobility-Mass Spectrometry**; Cody Goodwin; Larissa S. Fenn; Brian O. Bachmann; John A. Mclean; Vanderbilt University Department of Chemistry, Nashville, TN
- WP 649 **Assembly Pathways of Islet Amyloid Polypeptide and Aggregation Inhibition with a Designed Peptide, IAPP-GI**; Nicholas F. Dupuis; Chun Wu; Michael T. Bowers; University of California, Santa Barbara, CA
- WP 650 **Collision Cross-Section Determination of Isomeric Carotenoids Using Electrospray Ion Mobility Time-of-Flight Mass Spectrometry**; Linlin Dong¹; Henry Y. Shion²; Roderick Davis³; Brent Terry-Penak¹; Richard B. van Breemen¹; ¹University of Illinois College of Pharmacy, Chicago, IL; ²Waters Corp., Milford, MA; ³Univ. of Illinois at Chicago Research Resources Ctr, Chicago, IL
- WP 651 **Bottom Up Approaches for Protein Characterization by Laserspray Ionization – Ion Mobility Spectrometry – Mass Spectrometry**; Darrell Marshall; Thushani N. Herath; Ellen D. Inutan; Sarah Trimpin; Wayne State University, Detroit, MI
- WP 652 **Characterization of Proteins by Laserspray Ionization-Ion Mobility Spectrometry-Mass Spectrometry**; Fadia Cudry; Ellen D. Inutan; Tamara Hendrickson; Sarah Trimpin; Wayne State University, Detroit, MI
- WP 653 **Folding Analysis of Carbonic anhydrase2 Using Ion Mobility and Subsequent Collision-Induced Dissociation**; Kenji Hirose¹; Yoshiaki Nabuchi²; Mitsuo Takayama²; ¹Nihon Waters K.K., Osaka, Japan; ²Yokohama City University, Yokohama, Japan
- WP 654 **Laserspray Ionization (LSI) Ion Mobility Spectrometry (IMS) Mass Spectrometry (MS) of**

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- WP 655 **Proteins; Ellen D. Inutan;** Sarah Trimpin; *Wayne State University, Detroit, MI*
Higher Resolving Power and Ion Mobility Significantly Reduces the Effects of Over Lapping Ion Clusters in "Systems" Samples; Scott Geromanos; Dan Golick; Marc V. Gorenstein; Jim Langridge; *Waters Corporation, Milford, MA*
- WP 656 **MALDI Ion Mobility-Mass Spectrometry for Post-Ionization Fractionation of Peptides Containing Posttranslational Modifications; Whitney B. Ridenour;** John A. Mclean; Kevin L. Schey; Richard M. Caprioli; *Vanderbilt University, Nashville, TN*
- WP 657 **High-Throughput Ion Mobility-Mass Spectrometry Strategies for Monitoring Cellular Response in Real Time; Jody C. May;** Jeffrey R. Enders; Sevugarajan Sundarapandian; Kevin T. Seale; John P. Wiksw; John A. Mclean; *Vanderbilt University, Nashville, TN*
- WP 658 **Use of Traveling-Wave Ion Mobility Mass Spectrometry to Analyze Dead-End Isomers from Peptide Cross-Linking: Application to Lys Intrinsic Reactivity; Fabio C Gozzo¹;** Luiz Fernando Arruda Santos¹; Amadeu H Iglesias²; Eduardo J Pilau¹; Alexandre F. Gomes¹; ¹*IQ - University of Campinas, Campinas, Brazil;* ²*Brazilian Synchrotron Light Source, Campinas, Brazil*
- WP 659 **Ion Mobility Analyses of Peptide Ions Produced By CID and ETD Fragmentation; Ross Chawner¹;** Jeff Brown²; Kevin Giles²; Simon J. Gaskell³; Claire Evers¹; ¹*University of Manchester, Manchester, UK;* ²*Waters Corporation, Manchester, UK;* ³*Queen Mary, University of London, London, UK*
- WP 660 **Separation of Fragment Ions of Lipids in Gaucher Disease Tissues Using High/Low Energy Function Switching MALDI IMS Imaging; Marten Snel¹;** Paul J Trim¹; Emmanuelle Claude²; Jim Langridge²; Maria Fuller¹; ¹*Lysosomal Diseases Research Unit, SA Pathology, North Adelaide, Australia;* ²*Waters Corporation, Manchester, UK*
- WP 661 **Investigating Aniline Isomer Separation Utilizing Travelling Wave Ion Mobility and Polarizable Drift Gases; Gustavo HMF Souza^{1,3};** Iain D G Campuzano^{1,3}; Priscila M Lalli²; Fabiane M Nachtigall²; Maria Francesca Riccio²; Gilberto de Sa²; Romeu J Daroda²; Vanderlea de Souza²; Marcos N. Eberlin²; ¹*Waters Corporation, Barueri, Sao Paulo, Brazil;* ²*ThoMSon Mass Spectrometry Laboratory, UNICAMP, Campinas, Brazil;* ³*Waters Corporation, Manchester, UK*
- WP 662 **Thermally-Assisted Extractive Electrospray Ion Mobility Mass Spectrometry Characterisation of Medicinal Spray Formulations; James Scrivens;** Charlotte Scarff; Jonathon Snelling; *Univ of Warwick, Coventry, UK*
- WP 663 **Intrinsic Mobility of Gaseous Cationic and Anionic Aggregates of Ionic Liquids by Ion Mobility Mass Spectrometry; Priscila M Lalli¹;** Yuri E Corilo¹; Gilberto Sa²; Romeu J Daroda²; Vanderlea Souza²; Gunter Ebeling³; Jairton Dupont³; Marcos N Eberlin¹; ¹*ThoMSon Mass Spectrometry Laboratory, UNICAMP, Campinas, Brazil;* ²*National Institute of Metrology, Inmetro, Duque de Caxias, RJ, Brazil;* ³*Laboratory Of Molecular Catalysis, UFRGS, Porto Alegre, Brazil*
- WP 664 **Cage Flight! Ion Mobility-Mass Spectrometry of Self-Assembling 3-D Architectures; Martin De Cecco¹;** Chris Moffat¹; Nick Tomczyk²; Sarah Pike¹; Paul Lusby¹; Perdita Barran¹; ¹*University of Edinburgh, Edinburgh, UK;* ²*Waters Corporation, Manchester, UK*
- WP 665 **Characterization of Self-Assembled Zinc Terpyridine Macrocycles Using Traveling Wave Ion Mobility Mass Spectrometry; Xiaopeng Li;** Yi-Tsu Chan; George Newkome; Chrys Wesdemiotis; *The University of Akron, Akron, OH*

INSTRUMENTATION: NEW CONCEPTS I, 666 - 680

- WP 666 **Yttria / Rhenium Alloy Emission Filaments for Mass Spectrometers; John Manura;** Ronald Shomo; Christopher W. Baker; *Scientific Instrument Services, Ringoes, NJ*
- WP 667 **Electrospray Ionization Mass Spectrometry from Discrete Nanoliter-Sized Droplets; Patrik Ek;** Mårten Stjernström; Åsa Emmer; Johan Roeraade; *KTH Royal Institute of Technology, Stockholm, Sweden*
- WP 668 **Microfabrication of On-Line Micro-Reactors for Gas Chromatography Isotope Ratio Mass Spectrometry (GC-IRMS); Herbert Tobias;** J Thomas Brenna; *Cornell University, Ithaca, NY*
- WP 669 **A Pulsed-Valve Mass Spectrometric Approach to Measuring Trace Gas Permeation at Ambient Atmospheric Conditions; Dana Reed;** Fred DeRoos; Mark Mueller; Mark Roehrig; *3M Corporation, St. Paul, MN*
- WP 670 **Novel DMS/MS Coupling for a Triple Quadrupole Mass Spectrometer; Bradley B Schneider¹;** Thomas Covey¹; Stephen L Coy²; Evgeny V Krylov²; Erkinjon Nazarov²; ¹*AB SCIEX, Concord, Canada;* ²*Sionex Corp., Bedford, MA*
- WP 671 **Analyzing Liquids via Direct Injection Proton-Transfer-Reaction Mass Spectrometry (PTR-MS); Simone Jürschik¹;** Philipp Sulzer¹; Lukas Maerk¹; Alfons Jordan¹; Ralf Schottkowsky¹; Eugen Hartungen¹; Gernot Hanel¹; Hans Seehauser¹; Stefan Jaksch¹; Stefan Haidacher¹; Tilmann D. Märk^{1,2}; ¹*IONICON Analytik, Innsbruck, Austria;* ²*Institut für Ionenphysik und Angewandte Physik, Innsbruck, Austria*
- WP 672 **A New Sample Introduction Technique for Mass Spectrometry That Allows for Dried Blood Spot Analysis and Online SPE; Lena Knegt;** Emile Koster; *Spark Holland, Emmen, Netherlands*
- WP 673 **Laminar Flow Assisted Ion Transfer for Mass Analysis; Sandilya Garimella;** Jason Harper; Guangming Huang; Wei Xu; R. Graham Cooks; Zheng Ouyang; *Purdue University, West Lafayette, IN*
- WP 674 **Characterization of Protein and Labile Protein Modifications Using Laserspray Ionization on a LTQ - Electron Transfer Dissociation Mass Spectrometer; Thushani N. Herath;** Darrell Marshall; Alicia Richards; Ellen D. Inutan; Sarah Trimpin; *Wayne State Univ., Detroit, MI*
- WP 675 **Determination of 41Ca Using the Isobar Separator for Anions Coupled to an Accelerator Mass Spectrometer; Jean-Francois Alary¹;** Lisa M. Cousins²; John Eliades³; Reza Javahari²; William E. Kieser⁴; Albert E. Litherland³; Sha Ye²; Xiao-Lei Zhao³; ¹*Isobarex Corp., Bolton ON, Canada;* ²*Ionics Mass Spectrometry Group Inc., Bolton ON, Canada;* ³*IsoTrace, University of Toronto, Toronto ON, Canada;* ⁴*University of Ottawa, Ottawa ON, Canada*
- WP 676 **Withdrawn**
- WP 677 **Chip-Based Electrospray Interface for nanoLC-MS; Don Arnold;** Remco Van Soest; David Neyer; J. Bryce Young; Nicole Hebert; *Eksigent Technologies, Dublin, CA*
- WP 678 **Interfacing Ion Funnel Trap (IFT) to Triple Quadrupole Analyzer for Enhancing Sensitivity in**

WEDNESDAY POSTERS

- Multiple Reaction Monitoring (MRM) Mode;**
Satendra Prasad; David Prior; Bill Danielson; Karl Weitz; Yehia Ibrahim; Richard D. Smith; Mikhail Belov;
Pacific Northwest National Laboratory, Richland, WA
- WP 679 **Optimization of the Electrodynamic Ion Funnel for Enhanced Low Mass Transmission: Influence of Funnel Operational Pressure on Ion Transmission;**
Paul Momoh; Michael Ugarov; Mark Werlich; Tom Knotts; Alex Mordehai; *Agilent Technologies, Santa Clara, CA*
- WP 680 **A Novel Low Power, Real Time Pre-Concentrator for Use in Laboratory and Field Portable Chemical Detection Systems;** Thomas Bowden¹; Aaron Jesseph²; Pedro Ojeda¹; David Rafferty¹; Abrar Riaz¹; Michael Spencer¹; Guido F. Verbeck²; James Wylde¹; ¹*Ist Detect Corp., Houston, TX*; ²*University of North Texas, Denton, TX*

THURSDAY POSTERS

7:30 – 8:00 am..... All Thursday posters should be set
 10:30 am – 2:30 pm..... All poster authors should be present
 11:45 am – 12:15 pm.....Lunch break for odd-numbered posters
 12:15 – 12:45 pm Lunch break for even-numbered posters
 3:30 pm Remove all Thursday posters

Bioinformatics IV, 001 – 021
 Proteins: Recombinant, 022 – 043
 Protein Conformation and Chemical Cross-Linking, 044 – 077
 Proteomics: PTM Determination, 078 – 100
 Proteomics: New Approaches III, 101 – 130
 Proteomics: Clinical Applications, 131 – 165
 Quantitative Proteomics IV, 166 – 189
 Peptides Fragmentation and Sequencing, 190 – 215
 Biomarker Discovery III, 216 – 242
 Peptides PTM: Phosphorylation & Glycosylation, 243 – 263
 Immunology, 264 – 281
 Nucleic Acids, 283 – 308
 Carbohydrates II, 309 – 326
 Lipids III, 327 – 346
 Small Molecule Quantitation III, 347 – 375
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 Hydrocarbon & Petro: Biofuels & Geochemistry, 493 – 505
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 Computer Applications, 529 – 546
 High Throughput Analysis/Robotics, 547 – 576
 Imaging MS: Small Molecules, 577 – 599
 Ion Molecule Reactions, 600 – 622
 Instrumentation: New Concepts II, 623 – 641
 Instrumentation Quadrupoles and Traps, 642 – 672

BIOINFORMATICS IV, 001 - 021

ThP 001 **Quantitating Agilent Q-TOF Data Using MSQuant;** Joost W. Gouw¹; Peter Mortensen²; Leonard J. Foster¹; ¹University of British Columbia, Vancouver, Canada; ²University of Southern Denmark, Odense, Denmark

ThP 002 **Automated Quantitative Analysis of LC-MS/MS Data with Isobaric Tags or Stable Isotope Labeling in MassMatrix Database Search Engine;** Pang-Hung Hsu²; Liwen Zhang³; Michael A. Freitas³; Hua Xu¹; ¹Univ Illinois at Chicago, Chicago, IL; ²The Genomics Research Center, Taipei, Taiwan; ³Ohio State University, Columbus, OH

ThP 003 **Statistical Validation of Peak Assignments and Ratio Estimations in Stable-Isotope Labeling Experiments;** Alexey Nefedov; Rovshan Sadygov; University of Texas, Galveston, TX

ThP 004 **PepPARQuant: An Alternative, Open-Source Approach to Processing 15N Quantitation Data;** Phil Charles; Svenja Hester; Kathryn S Lilley; University of Cambridge, Cambridge, UK

ThP 005 **ISOQUANT – A Java Based Tool for MySQL-Database Export and Integrated Evaluation of Data Independent (LC-MSE) Label-Free Quantitative Proteomics Data;** Stefan Tenzer¹; Jörg Kuharev¹; Johannes Pc Vissers^{2,3}; Scott Geromanos^{2,3}; Hansjörg Schild¹; ¹UMC of the Johannes-Gutenberg-University Mainz, Mainz, Germany; ²Waters Corporation, Manchester, UK; ³Waters Corporation, Milford, MA

ThP 006 **GProX - A Graphical Platform for Integrated Bioinformatics Analysis of Quantitative Proteomics Data;** Kristoffer T. G. Rigbolt; Jens T. Vanselow;

Blagoy Blagoev; *Uni. of Southern Denmark, Odense, Denmark*

ThP 007 **Quantitative Proteome Analysis of the Regenerating Newt Heart by a Pulsed *in vivo* SILAC Approach;** Mario Looso; Marcus Krueger; Thilo Borchardt; Anne Konzer; Thomas Braun; *Max-Planck-Institute for Heart and Lung Research, Bad Nauheim, Germany*

ThP 008 **PVIEW2: A Comprehensive Open Source Software System for Isotope Labeled and Label-Free Protein Quantification;** Zia Khan; Mona Singh; Leonid Kruglyak; *Princeton University, Princeton, NJ*

ThP 009 **Increasing the Number of TMT-Quantifiable Proteins by Missing Value Imputation;** Wiebke Timm; Dominic Winter; Marc Kirchner; Judith A. Steen; Hanno Steen; *Children's Hospital Boston / Harvard Medical, Boston, MA*

ThP 010 **Automatic Relative Quantification for High-Resolution LC/MS 16/18O Labeling Experiments;** Anna Kreshuk¹; Marc Kirchner²; Bernhard Y Renard¹; Dominic Winter²; Bernhard X Kausler¹; Xinghua Lou¹; Michael Hanselmann¹; Judith A.J. Steen²; Hanno Steen²; Wolf D. Lehmann³; Fred A Hamprecht⁴; ¹University of Heidelberg, Heidelberg, Germany; ²Harvard Medical School/Children's Hospital Boston, Boston, MA; ³German Cancer Research Center, Heidelberg, Germany; ⁴Univ. of Heidelberg, Heidelberg, Germany

ThP 011 **Using Archived Proteomics Data to Establish Virtual Immunoprecipitations, Reverse Immunoprecipitations, and Interaction Networks;** Chengcheng Zhang; Jason Rogalski; Daniel Evans; Ronald Beavis; Juergen Kast; *University of British Columbia, Vancouver, BC*

ThP 012 **Quantitative Analysis on the Public Protein Prospector Site;** Peter R Baker; Nicholas J Agard; A.L. Burlingame; Robert Chalkley; *University of California, San Francisco, CA*

ThP 013 **Effect of Normalization on Diagnostic Protein Detection in 2-200 kDa TOF Mass Spectra from Leukemia Serum;** Maureen B. Tracy²; Dariya Malyarenko²; Dennis Weaver¹; Karl Kuschner²; Christine Bunai²; Eugene Tracy²; Dennis Manos²; William Cooke²; ¹St. Leo University, Hampton, VA; ²College of William and Mary, Williamsburg, VA

ThP 014 **Fragment Ion Repositories and Quantitative Protein Identifications;** Johannes PC Vissers¹; Stefan Tenzer²; Antoine H America³; Georgios Efstathiou⁴; Konstantinos Thalassinou⁴; Yishai Levin⁵; Andreaa Bodnari⁶; Jim Langridge¹; Scott Geromanos¹; ¹Waters Corporation, Manchester, UK; ²University of Mainz, Mainz, Germany; ³PRI - Plant Research International, Wageningen UR., Wageningen, Netherlands; ⁴University of Warwick, Coventry, UK; ⁵University of Cambridge, Cambridge, UK; ⁶University of Massachusetts Medical School, Worcester, MA

ThP 015 **Variations in Human Serum Albumin Peptide Intensities and Identifications Originating from the Sample and LC-MS/MS Platform;** Lisa E. Kilpatrick¹; Amy-Joan L. Ham²; Daniel C. Liebler²; Yuri Mirokhin¹; Jeri Roth¹; Paul Rudnick¹; Dmitrii V. Tchekhovskoi¹; Corbin Whitwell²; Xinjian Yan¹; Stephen Stein¹; ¹NIST, Gaithersburg, MD; ²Vanderbilt Univ. School of Medicine, Nashville, TN

ThP 016 **Systematic Assessment of the Reproducibility of Relative Quantification Based on LC-MS with Replicates;** Baozhen Shan¹; Clark Chen²; Bin Ma³; ¹BSI,

THURSDAY POSTERS

- ThP 017 *Waterloo, Canada; ²Bioinformatics Solutions Inc., Waterloo, ON; ³University of Waterloo, Waterloo, ON*
Quantitative Protein Expression Analysis of Glucose-Lactose Diauxie in *Escherichia coli*; Ekaterina Mostovenko; Hans Dalebout; Rene J. M. van Zeijl; André M. Deelder; Magnus Palmblad; Leiden University Medical Center, Leiden, Netherlands
- ThP 018 **Improved Label-Free Quantitation Algorithms to Analyze High Complex Biological Samples; Ken Aoshima^{1,3}; Satoshi Tanaka^{1,3}; Hiroyuki Katayama¹; Kentaro Matsuura¹; Tatsuji Nakamura¹; Hideki Watanabe¹; Khin Than Myint¹; Keith Wilcoxon²; Yoshiya Oda^{1,3}; ¹Eisai Co., Ltd, Tsukuba, Japan; ²Eisai Research Institute, Andover, MA; ³CREST, Japan Science and Technology, Saitama, Japan**
- ThP 019 **New functionality for the Trans-Proteomic Pipeline: Tools for the Analysis of Proteomics Data; Luis Mendoza¹; David Shteynberg¹; Joseph Slagel¹; Natalie Tasman²; Brian S Pratt²; Henry H. Lam³; Jimmy Eng⁴; Alexey Nesvizhskii⁵; Andrew Keller¹; Eric Deutsch¹; Ruedi Aebersold⁶; Robert Moritz¹; ¹Institute for Systems Biology, Seattle, WA; ²Insilicos LLC, Seattle, WA; ³Hong Kong University of Science and Technology, Clear Water Bay, Hong Kong; ⁴University of Washington, Seattle, WA; ⁵University of Michigan, Ann Arbor, MI; ⁶ETH Zurich, Switzerland**
- ThP 020 **MRMPath: A Web-Based Tool that Identifies Peptide Transitions for LC-MRM-MS Analysis and Its Application to Biological Pathways; Chiquito Crasto; Chandrahas Narnie; Landon Wilson; Stephen Barnes; University of Alabama at Birmingham, Birmingham, AL**
- ThP 021 **Evolutionary Architecture for High Performance Proteomics Research; Claudiu Farcas; To-Ju Huang; Pavel Pevzner; Ingolf Krueger; Vineet Bafna; Nuno Bandeira; Center for Computational Mass Spectrometry, UCSD, La Jolla, CA**
- PROTEINS: RECOMBINANT, 022 - 043**
- ThP 022 **A Rapid Method to Identify Sites of Low Level Glycation in Recombinant Antibodies by Isotopic Labeling with ¹³C6- reducing Sugars; Jennifer Zhang¹; Taylor Zhang¹; Lihua Jiang²; Daniel Hewitt¹; YungFu Huang¹; Yung-Hsiang Kao¹; Viswanatham Katta¹; ¹Genentech Inc., South San Francisco, CA; ²Thermo Fisher Scientific, San Jose, CA**
- ThP 023 **LC-MS Analysis of a Non-Natural Amino Acid Uptake and Its Incorporation Into a Recombinantly Expressed Protein in *Pseudomonas fluorescens*; Greg Cantin¹; Diane Retallack¹; Kat Woodard¹; Tsoetne Javahishvili²; Shailaja Srinagesh²; Trung Phuong²; Mark Shimazu²; Jeff Allen¹; ¹Pfenex Inc., San Diego, CA; ²Ambrx, Inc., La Jolla, CA**
- ThP 024 **Investigation of Differential Methionine and Tryptophan Oxidation in Antibody Complementarity Determining Region Sequences; Lowell J. Brady; Becky Scott; Cappy Thwin; Julia Bach; Alison Wallace; Amy Guo; Lisa Connell-Crowley; Alain Balland; Amgen, Inc., Seattle, WA**
- ThP 025 **Investigating Aspartate Isomerization of Sequence Motifs in Complementarity-Determining Regions of Monoclonal Antibodies Using High-Resolution Mass Spectrometry; Sean Mathewson; Boyan Zhang; Charlene Li; Vikas Sharma; Genentech, Inc., South San Francisco, CA**
- ThP 026 **MS Analysis Reveals Differences in a Humanized mAb Protein Drug (Trastuzumab) and a Biosimilar Version; Martin Gilar¹; Hongwei Xie¹; Asish Chakraborty¹; Deepalakshmi P. Dakshinamoorthy²; Weibin Chen¹; Ying-Qing Yu¹; St John Skilton¹; Scott Berger¹; ¹Waters Corporation, Milford, MA; ²Waters India Pvt Ltd., Bangalore, India**
- ThP 027 **Changes in Media Composition due to Expression of IgG1 in HEK 293 and CHO-S Cells; Peter Slade¹; Defne Koch¹; Daniela Hutanu¹; David Judd²; Ming Lei¹; Cheryl Bartel¹; Steve Gorfien²; ¹Life Technologies (Eugene), Eugene, OR; ²Life Technologies (Grand Island), Grand Island, NY**
- ThP 028 **Determine Monoisotopic and Average Mass for Intact Proteins Using a high resolution Quadrupole Time-of-Flight Mass Spectrometry and Improved Deconvolution Algorithms; Ning Tang¹; Xiaoling Wu¹; Xiangdong Li¹; Joe Roark¹; Anthony Ferrige²; Keith Waddell¹; ¹Agilent Technologies, Santa Clara, CA; ²PPL, Isleham, UK**
- ThP 029 **Quality Control of Intact Recombinant Proteins Using Sensitive High-Resolution Mass Spectrometry; Wolfgang Jabs; Dirk Wunderlich; Karsten Michelmann; Christian Albers; Carsten Baessmann; Bruker Daltonik GmbH, Bremen, Germany**
- ThP 030 **MS as an Orthogonal Method to 2AB NP-HPLC for the Quantitative Determination of Glycans of Recombinant Monoclonal Antibodies; Wolfgang Wieder; Alfred Rupprechter; Werner Brunner; Mark Schiefermeier; Andreas Premstaller; Hansjoerg Toll; Sandoz GmbH, Kundl, Austria**
- ThP 031 **Platform Independent Analysis System for Characterization of Chemical Liability in Biotherapeutics; Steven C. Pomerantz; Dariusz Janecki; Jennifer F. Nemeth; Centocor Research and Development, Radnor, PA**
- ThP 032 **Analysis of N-linked Glycans from Recombinant and Human Plasma Derived Coagulation Factor IX Using HILIC LC/FLR/QToF MS; Ying Qing Yu¹; Weibin Chen¹; Martin Gilar¹; Cory Sutherland²; Anur Kumar²; Leland Paul²; ¹Waters Corporation, Milford, MA; ²CMC ICOS Biologics, Bothell, WA**
- ThP 033 **Intact Protein Analysis Combining Micro-High Performance Liquid Chromatography and LTQ Orbitrap Mass Spectrometry; Remco Swart¹; Jens Mohr²; Gunther Bohm³; Christian Huber²; ¹Dionex Corporation, Amsterdam, Netherlands; ²Paris-Lodron University, Salzburg, Austria; ³Thermo-Fisher Scientific, Reinach, Switzerland**
- ThP 034 **PRG 2010 Study: Tackling Unforeseen Problems in Otherwise ‘Straight-Forward’ Proteomics Analyses; David B. Friedman²; Tracy Andacht¹; Maureen K. Bunker³; Allis S. Chien⁴; David Hawke⁵; Jeroen Krijgsveld⁶; Robert Moritz⁷; Robert Settlege⁸; Chris Turck⁹; ¹Centers for Disease Control and Prevention, Athens, GA; ²Vanderbilt University School of Medicine, Nashville, TN; ³RTI International, Research Triangle Park, NC; ⁴Stanford University, Stanford, CA; ⁵UT-M.D. Anderson Cancer Center, Houston, TX; ⁶EMBL Heidelberg, Heidelberg, Germany; ⁷InstituteFor Systems Biology, Seattle, WA; ⁸Virginia Bioinformatics Institute, Blacksburg, VA; ⁹Max Planck Institute, Munich, Germany**
- ThP 035 **Mass Spectrometric Analysis of UV-A Light-Induced Cross-linking of the Lens Protein alphaB-crystallin with Antioxidant Supplementation; Kyle A. Floyd; David R. Stella; Ray Moore; Matthew B. Renfrow; Om**

THURSDAY POSTERS

- ThP 036 P. Srivastava; Stephen Barnes; *University of Alabama at Birmingham, Birmingham, AL*
Characterization of Bacteriophage Derived Anti-staphylococcal Protein(P128) from Production to Purification Using Micro-Fluidic Based LC System Coupled to an Advanced QTOF-MS; Ravindra Gudihal¹; Sundaram P.M²; Madhavi H.N²; Jiya Asrani²; ¹*Agilent Technologies India Pvt. Ltd, Bangalore, India*; ²*GangaGen Biotechnologies Pvt. Ltd, Bangalore, India*
- ThP 037 **ETD Mass Spectrometry for Determination of Disulfide Site and Scrambling Linkages: A Software Tool for Disulfide Mapping**; Shiaw-Lin Wu¹; Rovshan Sadygov³; Chen Li¹; Tonya Second²; Zhiqi Hao²; David Horn³; Andreas F Huhmer²; **Barry L. Karger¹**; ¹*Northeastern University, Boston, MA*; ²*Thermo Fisher Scientific, San Jose, CA*; ³*University of Texas, Galveston, TX*
- ThP 038 **Unrevealing Protein Modifications via Top-Down Fragmentation and Ion-mobility Time-of-flight Mass Spectrometry**; **Asish Chakraborty**; Weibin Chen ; Jeff Mazzeo; *Waters Corporation, Milford, MA*
- ThP 039 **Fine Characterization of Therapeutic Antibodies for Batch Release Using Mass Spectrometry**; Fabrice Cantais; Anicet Catrain; Géry Van Vyncht; **Arnaud Delobel**; *Quality Assistance SA, Donstiennes, Belgium*
- ThP 040 **Comparison of Detector Technologies for LC/QTOF MSE Biotherapeutic Protein Peptide Mapping Studies**; **Jeff Mazzeo**; Weibin Chen ; Scott Geromanos; Scott Berger; *Waters Corporation, Milford, MA*
- ThP 041 **Simultaneous Characterisation and Quantification of Hemagglutinin Proteins in a Vaccine Candidate with an LC-MS Assay**; **St John Skilton¹**; Joseph Rininger²; Weibin Chen¹; Hongwei Xie¹; Yinqing Yu¹; ¹*Waters, Milford, MA*; ²*Protein Sciences, Meriden, CT*
- ThP 042 **Quantitative Analysis of Host Cell Proteins in Biologics Derived from Different Cell Lines and Purification Schemes by a LC-MS Assay**; **Catalin Doneanu¹**; Manbir Labhan²; Alex Xenopoulos³; Holly Prentice³; Keith Fadgen¹; Weibin Chen¹; Martha Stapels¹; St John Skilton¹; William Haskins²; Jeff Mazzeo¹; ¹*Waters, Milford, MA*; ²*University of Texas, San Antonio, TX*; ³*Millipore, Bedford, MA*
- ThP 043 **Mapping the Surface Charge Pattern of a Recombinant Monoclonal Antibody Using Chemical Labeling and Mass Spectrometry**; **Liangyi Zhang**; Charelene Li; Charles Eigenbrot; Boyan Zhang; *Genentech Inc., South San Francisco, CA*
- ThP 048 Robert J. Nieckarz; Renato Zenobi; *ETH, Zurich, Switzerland*
Optimizing Gaseous Protein Conformations for Top-Down Proteomics and Binding Energy Measurements; **Sergio Castro¹**; Xianglei Kong¹; Steve Beu²; Kathrin Breuker³; Fred W. McLafferty¹; ¹*Cornell University, Ithaca, NY*; ²*S C Beu Consulting, Austin, TX*; ³*University of Innsbruck, Innsbruck, Austria*
- ThP 049 **Immunological and Mass Spectrometric Study of Structural Changes in Ara h 2 in Roasted Peanuts**; **Jinxi Li¹**; Kevin J. Shefcheck²; John H. Callahan²; Catherine Fenselau¹; ¹*University of Maryland, College Park, MD*; ²*FDA/CFSAN, College Park, MD*
- ThP 050 **Secondary Structures of Soft- and Reactively Landed Multiply Charged Protein Ions**; **Qichi Hu**; Peng Wang; Julia Laskin; *Pacific Northwest National Laboratory, Richland, WA*
- ThP 051 **Withdrawn**
- ThP 052 **Ion Mobility and Cross-Linking Approaches to Structure Determination of Protein Complexes by Mass Spectrometry**; Antonio Calabrese; Jingjia He; **Tara Pukala**; *University of Adelaide, Adelaide, Australia*
- ThP 053 **A Mass Spectrometric View at the in Transcription Involved Protein Complexes RNA Polymerase and Mediator**; **Kristina Lorenzen¹**; Sebastian Geiger²; Tobias Koschubs²; Patrick Cramer²; Albert J.R. Heck¹; ¹*University Utrecht, Utrecht, Netherlands*; ²*Ludwig-Maximilians-Universität München, München, Germany*
- ThP 054 **Development of Ion Mobility-Mass Spectrometry as a High-throughput Approach for Structural Genomics**; **Yueyang Zhong**; Suk-Joon Hyung; Brandon Ruotolo; *University of Michigan, Ann Arbor, MI*
- ThP 055 **Conformational Changes Associated with the Removal of Zinc Ions from Proteins in a Cyanobacterial Zn²⁺ Homeostatic System**; **Frances D. L. Kondrat**; Charlotte A. Scarff; Oksana I. Leszczyszyn ; Gregory R. Kowald; Claudia A. Blindauer; James H. Scrivens; *University of Warwick, Coventry, UK*
- ThP 056 **Probing Transferrin-Metal Interactions by Means of Traveling-Wave Ion Mobility Mass Spectrometry**; **Charlotte A. Scarff**; Frances D. L. Kondrat; Claire Booyjzsen; Arindam Mukherjee; Peter J. Sadler; James H. Scrivens; *University of Warwick, Coventry, UK*
- ThP 057 **A Critical Comparison of Positively and Negatively Charged Peptide Ion Structures Using Ion Mobility-Mass Spectrometry**; **Nkiruka Arinze**; Michal Kliman; Larissa S. Fenn; Sevugarajan Sundarapandian; Cody Goodwin; John A. Mclean; *Vanderbilt University, Nashville, TN*
- ThP 058 **Oxidative Footprinting and Hydrogen/Deuterium Exchange Mass Spectrometry for Epitope Mapping of Cancer Therapeutic Immunotoxins**; **Erin D. Hopper¹**; Masanori Onda²; Johanna Hansen²; Ira Pastan²; Kenneth B. Tomer¹; ¹*NIEHS, Research Triangle Park, NC*; ²*NCI, Bethesda, MD*
- ThP 059 **Submillisecond Time-Resolved Temperature-Jump Induces Protein Conformational Change as Probed by Fast Photochemical Oxidation of Proteins (FPOP)**; **Jiawei Chen**; Don L. Rempel; Michael L. Gross; *Washington University, St. Louis, MO*
- ThP 060 **Collision Cross Sections of Monomer, Dimer and Tetramer Gas-phase Ions from Human Hemoglobin**; **Yang Kang**; Peran Terrier ; Donald J. Douglas; *University of British Columbia, Vancouver, BC*
- ThP 061 **Development of a New Flow Cell System for Short-Duration Oxidative Protein Footprinting Using**

PROTEIN CONFORMATION AND CHEMICAL CROSS-LINKING, 044 - 077

- ThP 044 **Design and Evaluation of a Temperature-Controlled Nano-ESI Source for the Studies of Thermal Denaturation of Proteins and Their Assemblies**; **Guanbo Wang**; Rinat Abzalimov; Igor A. Kaltashov; *University of Massachusetts, Amherst, MA*
- ThP 045 **Comparison of Structure Stability between Biosimilar and Innovator Drugs Under Stressed Conditions by LC-MS analysis**; **Suli Liu**; Haitao Jiang; Shiaw-Lin Wu; William Hancock; *Barnett Institute, Northeastern University, Boston, MA*
- ThP 046 **Resolving Alternative Structures of Intact Proteins by High-Field Asymmetric Ion Mobility Spectrometry**; **Julian Saba**; Tonya Second; *Thermo Fisher Scientific, San Jose, CA*
- ThP 047 **Laser Spectroscopy of Trapped Green Fluorescent Protein Ions**; **Vladimir Frankevich**; Konstantin Chingin;

THURSDAY POSTERS

- ThP 062 **Ultraviolet Laser Flash Photolysis;** Jason S. Sampson¹; Jinglan Wang¹; James G. Smedley, III²; Kenneth B. Tomer¹; ¹NIEHS, Research Triangle Park, NC; ²KBI Biopharma, Durham, NC
- ThP 063 **Structural Analysis of Neurodegenerative Disease Protein Aprataxin by Chemical Surface Mapping and Mass Spectrometry;** Jinglan Wang; R. Scott Williams; Kenneth B. Tomer; Leesa Deterding; NIEHS, Research Triangle Park, NC
- ThP 064 **pH Dependence the Chemical Labeling of *Thermus thermophilus* HB8 Ribosomes;** William Running; James P. Reilly; Indiana University, Bloomington, IN
- ThP 065 **Covalent Labeling with Mass Spectrometry Identifies Subtle Structural Changes Associated with Protein Binding to Different Divalent Metal Ions;** Vanessa Leah Mendoza; Jia Dong; Richard Vachet; University of Massachusetts, Amherst, MA
- ThP 066 **Probing of Functional Regions on Coagulation Factor VIII;** Esther Bloem¹; Henriët Meems¹; Jacqueline Klein Gebbinck¹; Koen Mertens^{1,2}; Alexander B. Meijer^{1,2}; ¹Department of Plasma Proteins, Sanquin Research, Amsterdam, The Netherlands; ²Pharmaceutical Sciences, Utrecht University, Utrecht, The Netherlands
- ThP 067 **Structural Allostery and Binding Interface of Actin-Human Adenovirus Proteinase Complex;** Rhijuta D'Mello¹; Sayan Gupta¹; Vito Graziano²; William McGrath³; Mark Chance¹; Walter Mangel²; ¹Case Western Reserve University, Cleveland, OH; ²Biology Department- Brookhaven National Laboratory, Upton, NY
- ThP 068 **Conformational Mapping of Proteins Using an IR-Chromogenic Crosslinker and Infrared Multiphoton Dissociation;** Lisa A Vasicek; Scott Robotham; Jennifer Brodbelt; The University of Texas, Austin, TX
- ThP 069 **Characterization of Protein Structure Using Electron Transfer Dissociative Chemical Cross-Linker and Tandem Mass Spectrometry;** Myles Gardner; Lisa Vasicek; Colin Kubarych; Eric Anslyn; Jennifer Brodbelt; The University of Texas, Austin, TX
- ThP 070 **How to Efficiently Find a Needle in a Haystack: Method Optimization for Shotgun Chemical Cross-Linking Mass Spectrometry;** Adam Klein^{1,2}; Young-Jin Lee^{1,2}; ¹Iowa State University, Ames, IA; ²US-DOE Ames Laboratory, Ames, Iowa
- ThP 071 **Human Regulatory Protein 14-3-3 and Its Interactome by MS3D and H/D Exchange Techniques;** Katerina Pavlaskova^{1,2}; Hynek Mrazek^{1,2}; Petr Man¹; Vladimir Havlicek¹; Tomas Obsil³; Petr Novak¹; Miroslav Sulc^{1,2}; ¹Institute of Microbiology, v.v.i., Prague, Czech Republic; ²Faculty of Science, Charles University, Prague, Czech Republic; ³Institute of Physiology, v.v.i., Prague, Czech Republic
- ThP 072 **Mapping the Spatial Assembly of Enzymatic Complex Using MS3D Technique;** Petr Pompach^{1,2}; Petr Man^{1,2}; Karel Bezouska^{1,2}; Vladimir Havlicek^{1,3}; Petr Novak^{1,2}; ¹Institute of Microbiology, Prague, Czech Republic; ²Charles University, Prague, Czech Republic; ³Palacky University, Olomouc, Czech Republic
- ThP 073 **Chemical Cross-linking and H/D Exchange Combined with Mass Spectrometry: A Tool to Validate and Refine Protein Crystal Structure;** Daniel Rozbesky^{1,2}; Petr Pompach^{1,2}; Petr Man^{1,2}; Vladimir Havlicek^{1,3}; Karel Bezouska^{1,2}; Petr Novak^{1,2}; ¹Institute of Microbiology, Prague, Czech Republic; ²Charles University, Prague, Czech Republic; ³Palacky University, Olomouc, Czech Republic
- ThP 074 **Tandem Affinity Selective Enrichment of Inter-Peptide Crosslinks for Complex Structural Proteomics Crosslinking Applications;** Evgeniy V. Petrotchenko; Christoph H. Borchers; UVic-GBC Proteomics Centre, Victoria, Canada
- ThP 075 **Novel Mass Defect-Labeled Mass-Spectrometry Identifiable Cross-linker Applied to the 34kDa-Actin Protein System;** Lisabeth Hoffman¹; Paul Griffin¹; Marcus Fechheimer¹; Evgeniy Petrotchenko²; Christoph Borchers²; Jon Amster¹; ¹University of Georgia, Athens, GA; ²UVic-GBC Proteomics Centre, Victoria, BC
- ThP 076 **Characterization of Structure and Interactions of Transthyretin Using Chemical Cross-Linking and Top-Down Mass Spectrometry;** Xiaobin Xu¹; Giuseppe Infusini²; Nancy Leymarie²; David H. Perlman²; Mark E. McComb²; Catherine E. Costello²; ¹Boston University, Boston, MA; ²Boston University School of Medicine, Boston, MA
- ThP 077 **An Isotopically-coded CID-Cleavable Biotinylated Crosslinker CBDPS;** Evgeniy V. Petrotchenko; Jason J. Serpa; Christoph H. Borchers; UVic-GBC Proteomics Centre, Victoria, Canada
- ThP 078 **A New Category of Protein Crosslinkers for Protein Complexes;** Billy Clifford-Nunn; Janine R. Maddock; H.D. Hollis Showalter; Philip C. Andrews; University of Michigan, Ann Arbor, MI

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- ThP 078 **Spot the Difference: Proteomic Epigenetic Reference Maps for Discovery of Differential Histone Modifications among Disparate Cellular States;** Jacob D. Jaffe; Namrata Udeshi; Sally Peach; D. R. Mani; Steven A. Carr; The Broad Institute, Cambridge, MA
- ThP 079 **Probing the Global PTM Profile of Histones H4 and H3: Label Dependent Shot-Gun Proteomics;** Elisabeth Hersman; Christine Jelinek; Junbiao Dai; Dwella Moton Nelson; Rocio Montes de Oca; Katherine Wilson; Jef Boeke; Robert Cotter; Johns Hopkins School of Medicine, Baltimore, MD
- ThP 080 **Quantitative Cross-Species Comparison of Global Histone H3 Modification States between *Drosophila melanogaster* and *Homo sapiens* Using SILAC;** Sally E. Peach¹; Yuri B. Schwartz²; Yincenzo Pirrotta²; Steven A. Carr¹; Jacob D. Jaffe¹; ¹The Broad Institute, Cambridge, MA; ²Rutgers Univ. Dept. of Mol. Biol. & Bioch., Piscataway, NJ
- ThP 081 **Improved Methods for Comprehensive Assignment of Epigenetic Modification Configurations of Core Histone Proteins by High-Resolution ETD and HCD Mass Spectrometry;** Namrata Udeshi; Sally Peach; Steven A. Carr; Jacob D. Jaffe; The Broad Institute, Cambridge, MA
- ThP 082 **Mapping of Lysine Methylation and Acetylation in Core Histones in *Neurospora crassa*;** Lei Xiong; Fan Zhang; Yinsheng Wang; Chemistry Department, UCRiverside, Riverside, CA
- ThP 083 **Insight into the Mechanism of Polycomb Mediated Gene Silencing by Use of Quantitative Mass Spectrometry Analyses of Histone Modifications;** Shannon M Eliuk¹; Feixia Chu²; Barbara Panning¹; Al Burlingame¹; ¹University of California San Francisco, San Francisco, CA; ²University of New Hampshire, Durham, NH
- ThP 084 **Top-Down Characterization of Core Histones Using an Online Two-Dimensional Nanocapillary Liquid**

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- ThP 085 **Chromatography System; Zhixin Tian;** Rui Zhao; Nikola Tolić; Ronald J. Moore; David L. Stenoien; Errol W. Robinson; Richard D. Smith; Ljiljana Paša-Tolić; Pacific Northwest National Laboratory, Richland, WA
- ThP 086 **Combining Post-Translational Modification Specific Antibodies and Mass Spectrometry to Study PTMs on Histone H4; Katherine L. Stamper¹;** Robert J. Cotter²; ¹Johns Hopkins University, Baltimore, MD; ²Middle Atlantic MS Laboratory, Baltimore, MD
- ThP 087 **An Informatics Pipeline for the Detection of Protein Modifications from Proteomics Mass Spectrometry Data; James Wright;** Jyoti Choudhary; Wellcome Trust Sanger Institute, Hinxton, UK
- ThP 088 **On-Line, Salt-Free, Three-Dimensional Nanoflow-LCMS for Comprehensive Epitope-Mining; Ad de Jong;** Geert Mommen; Netherlands Vaccin Institute, Bilthoven, The Netherlands
- ThP 089 **Effect of Mitochondrial Superoxide Dismutase (SOD2) RNA Interference Knockdown on Mitochondrial Protein Carbonylation in *Drosophila melanogaster*; David Simpson;** Ian Martin; Mike Grotewiel; Scott Gronert; Virginia Commonwealth University, Richmond, VA
- ThP 090 **The First Global Screening of Protein Substrates Bearing Protein-bound 3,4-dihydroxyphenylalanine in *E. coli* and Human Mitochondria; Sang Kyu Lee;** Yue Chen; Hao Luo; Yingming Zhao; Ben May Department for Cancer Research, The University of Chicago, Chicago, IL
- ThP 091 **Modification and Inactivation of Mitochondrial Aconitase by 4-Hydroxy-2-Nonenal; Qingyuan Liu¹;** Scott Gronert²; ¹Virginia Commonwealth University, Richmond, VA; ²Virginia Commonwealth Uni, Richmond, VA
- ThP 092 **Site-Specific Characterisation of Hydroxyproline Residues in Collagen by MALDI-QIT-TOF MSn Analysis; Helen Montgomery¹;** Nitin Rustogi²; Koichi Tanaka³; Chris Sutton²; ¹Shimadzu, Koichi Tanaka MS Research laboratory, Manchester, UK; ²Institute of Cancer Therapeutics, Univ. of Bradford, Bradford, UK; ³Shimadzu Corporation, Kyoto, Japan
- ThP 093 **Identification and Assignment of Protein Citrullination Sites after Chemical Derivatization Using Alternating CID and ETD on a Spherical Ion Trap; Maria Stensland²;** Anders Holm²; Burkhard Fleckenstein²; Andrea Kiehne¹; Arnd Ingendoh¹; **Andrea Schneider¹;** ¹Bruker Daltonics, Bremen, Germany; ²Centre for Immune Regulation, University of Oslo, Oslo, Norway
- ThP 094 **Integration of Top-Down and Bottom-Up Proteomic Approaches: Applications of Protein/Peptide Identifications by On-Line Post-Column Digestions, Enzymatic Reactions, and High-Resolution MS; Matthew A. Rosenow;** Tony Tegeler; Jian Liu; Linda Nagore; Ashoka Polpitiya; Konstantinos Petritis; Translational Genomics Research Institute, Phoenix, AZ
- ThP 095 **Comprehensive Identification of Nitroxyl (HNO)-reactive Cysteines in Human Platelet Proteins by Quantitative Mass Spectrometry; Liwen Lin^{1,2};** Juergen Kast^{1,2}; ¹Dept. of Chemistry, University of British Columbia, Vancouver, Canada; ²Biomedical Research Centre, Vancouver, Canada
- ThP 096 **Identification of Post Translational Modification Sites in Dynamin-Related Protein 1; Weitao Jia;** Laura L. Lackner; Marjin G. Ford; Jodi Nunnari; Julie A. Leary; Dept. of Molecular and Cellular Biology, U.C.Davis, Davis, CA
- ThP 097 **Characterization of Oxidative Stress-Induced Protein Nitration in the Mitochondrial α -ketoglutarate Dehydrogenase Complex; Haiqiang Yu¹;** Qingli Shi²; Hui Xu²; Haiteng Deng¹; Gary Gibson²; ¹The Rockefeller University, New York, NY; ²Weill Med College of Cornell University, White Plains, New York
- ThP 098 **Identification of Animal Species by the MALDI-MS of Collagen in Animal Glues Used in Archaeological Materials; Takashi Nakazawa¹;** Atsuko Miyaji¹; Yoshiki Matsuo¹; Yuzo Yamazaki²; ¹Nara Women's University, Nara, Japan; ²Shimadzu Corporation, Kyoto, Japan
- ThP 099 **Comparing the Efficiency of Hydrazide Labels in the Study of Protein Carbonylation: Human Serum Albumin as a Test System; Zafer Uğur;** Scott Gronert; Virginia Commonwealth Uni., Richmond, VA
- ThP 100 **Identification of Novel Interaction Partners for Chromo, Tudor and MBT Domains by Heavy-Methyl SILAC-Based Proteomics; Sina Pleiner;** Gerhard Mittler; Max-Planck-Institute of Immunobiology, Freiburg, Germany
- ThP 101 **Comparative Redox Proteomics to Target Oxidatively Modified Cysteines in *Fusarium graminearum* Using Liquid Chromatography/Mass Spectrometry; Manisha Joshi¹;** Christof Rampitsch²; R Subramaniam³; ¹Department of Biochemistry and Medical Genetics, Winnipeg, Canada; ²Agriculture and Agri-Food Canada, CRC, Winnipeg, Canada; ³Agriculture and Agri-Food Canada, Ottawa, Canada

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- ThP 101 **Advances in Capillary Liquid Chromatography for High-Throughput Top Down Proteomics; Adam D. Catherman¹;** John C. Tran¹; Lee Sawdey²; Kenneth R. Durbin¹; Adaikkalam Vellaichamy¹; Gary Valaskovic²; Neil L. Kelleher¹; ¹University of Illinois, Urbana, IL; ²New Objective, Inc., Woburn, MA
- ThP 102 **Proteomic Profiling of Complex Samples Using Multidimensional Protein and Peptide Separation Strategy and Accurate Mass Mass Spectrometry; Vadiraja B. Bhat;** Haiying Chen; James Martosella; Agilent Technologies, Wilmington, DE
- ThP 103 **Mass Spectrometric Analysis of the Efficiency of Displacement Chromatography for the Chromatographic Separation of Complex Protein Mixtures; Marcel Kwiatkowski¹;** Moritz Wagner³; Robert Ahrends¹; Björn Lichtner¹; Andreas Bertsch²; Oliver Kohlbacher²; Maria Trusch¹; Hartmut Schlüter¹; ¹University Medical Center Hamburg-Eppendorf, Hamburg, Germany; ²University of Tübingen, Wilhelm Schickard Institut, Tübingen, Germany; ³Agilent Technologies, Waldbronn, Germany
- ThP 104 **Segmented 1D-nanoLC Combined with CID/ETD for Increased Sequence Coverage in Biomarker Discovery; Thomas Hagedorn;** Andrea Kiehne; Markus Lubeck; Carsten Baessmann; Arnd Ingendoh; Bruker Daltonik GmbH, Bremen, Germany
- ThP 105 **Online RP-RP Two Dimensional Liquid Chromatography for Shotgun Proteomics Using Peak-Parking and Partial-Loop Injection; Maggie P. Y. Lam¹;** S. O. Siu¹; Edward Lau¹; J. Zhang¹; Simon M. Y. Lee²; Ivan K. Chu¹; ¹The University of Hong Kong, Hong Kong, China; ²University of Macau, Macau, China
- ThP 106 **Integrated Microfluidic nanoESI-MS Platform for Sample Preparation and Analysis of Single Cells;**

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- Nitin Agrawal; Ryan Kelly; Xuefei Sun; Richard D. Smith; *Pacific Northwest National Laboratory, Richland, WA*
- ThP 107 **Investigating Chromatographic and Mass Spectrometric Resolution and Accuracy on Relative and Absolute Quantification of Proteins Associated with Cellular Hypoxia**; Joanne B. Connolly¹; Chris Hughes¹; Thérèse Mckenna¹; Jim Langridge¹; Susan Critchlow²; Rachel Rowlinson²; Lorna Tate²; Tom Dunkley²; ¹*Waters Manchester UK, Manchester, UK*; ²*AstraZeneca, Alderley Park, UK*
- ThP 108 **Preparation of a New Type of Packed Capillary Column with a Monolithic Emitter and Its Application in Proteomic Studies**; Yangjun Zhang¹; Jingxin Xie²; Weijie Qin¹; Xiaohong Qian¹; ¹*Beijing Institute of Radiation Medicine, Beijing, China*; ²*Shenyang Pharmaceutical University, Shenyang, China*
- ThP 109 **Peptide Identities Can Inform Peak Detection Parameters for 2D MS/MS Data**; Devin Lee Drew¹; Roumiana Alexandrova²; Nadim Jessani¹; Jacqueline Mason²; Xunyi Luo²; James G. Pan²; Faith Au Yeung²; Theo Goh²; ¹*Genedata, Inc., San Francisco, CA*; ²*Campbell Family Inst. for Breast Cancer Research, Toronto, Canada*
- ThP 110 **Optimal and Robust Analysis of High-Mass-Accuracy Orbitrap Datasets Using MaxQuant and ProteinPilot Search Algorithms**; Rongxiao Sa¹; Leeann Higgins¹; Sean L. Seymour²; Sricharan Bandhakavi¹; Edgar A. Arriaga¹; Tim Griffin¹; Pratik Jagtap³; ¹*University of Minnesota, Minneapolis, MN*; ²*AB SCIEX, Foster City, CA*; ³*Minnesota Supercomputing Institute, UMN, Minneapolis, MN*
- ThP 111 **Rapid Approaches for Data-independent Tandem Mass Spectrometry**; Scott A. Shaffer; Alexandre Panchaud; Shouhua Chen; David R. Goodlett; *University of Washington, Seattle, WA*
- ThP 112 **Data-Independent Acquisition for Effective Proteome Profiling on Three Different Linear Ion Trap Configurations**; Jesse D. Canterbury; Scott A. Shaffer; Jarrett Egerton; David R. Goodlett; Michael J. Maccoss; *University of Washington, Seattle, WA*
- ThP 113 **Comparative HPLC and Ultra High Performance nanoLC-MS/MS analysis of iTRAQ Labeled Cancer Tissue with Exclusion List Generation**; X. Simon Wang¹; Udo. H Verkerk¹; Leroi. V DeSouza¹; Remco. V Soest²; K. W. Michael Siu¹; ¹*York University, Toronto, Canada*; ²*Eksigent Technologies, Inc, Dublin, California*
- ThP 114 **Separation Free Proteomics: Coupling of a microfluidic Proteolytic Reactor to Electrospray Ionization Mass Spectrometry to Analyze Protein Mixtures**; Karan Hingorani; Derek Wilson; *York University, Toronto, Canada*
- ThP 115 **Rapid High-Resolution Reversed-Phase LC-MS Analyses of Peptides and Tryptic Digests Using New Fused-Core Particle Columns**; Barry Boyes^{1,2}; Darryl Johnson²; Stephanie Schuster¹; Jack Kirkland¹; Ron Orlando²; ¹*Advanced Materials Technology Inc, Wilmington, DE*; ²*University of Georgia, Athens, GA*
- ThP 116 **Protein Prefractionation Ahead of 2DLC-MSMS Enhanced Neuroproteome Coverage and Provides Biologically Relevant Spatial Information**; Miranda K. Landis; Brian F. Fuller; Andrew K. Ottens; *Virginia Commonwealth University, Richmond, VA*
- ThP 117 **Hydrophilic Interaction Chromatography Combined with Reversed Phase LC-MS Benefits Depth and Quality of Proteome Analysis Compared With Other**
- Orthogonal Techniques**; Lynn Spruce¹; Jessica Lee¹; Hua Ding¹; Jason Wojcechowskyj²; Steven H. Seeholzer¹; ¹*Children's Hospital of Philadelphia Research Insti, Philadelphia, PA*; ²*University of Pennsylvania, Philadelphia, PA*
- ThP 118 **Microfluidic Distributor/Reversed Phase Monolithic Column Array Devices for Fraction Collection and Analysis of Peptide Mixtures**; Jian Liu; Daniel Higbee; Daniel R. Knapp; *Medical University of SC, Charleston, SC*
- ThP 119 **1D Quantification with 2D Identification of Proteins in Label-Free Proteomics: The Best of Both Worlds**; Yishai Levin¹; Cindy Chepanoske²; Tim Bonnert²; Sabine Bahn¹; ¹*University of Cambridge, Cambridge, UK*; ²*Ceiba Solutions, Cambridge, MA*
- ThP 120 **First Light: Three Dimensional Separations Drive a Realization of High-Throughput Top Down Proteomics**; John C. Tran; Leonid Zamdborg; Kenneth R. Durbin; Ji Eun Lee; Mingxi Li; John F. Kellie; Adakkalam Vellaichamy; Adam D. Catherman; Cong Wu; Dorothy Ahlf; Paul Thomas; Neil L. Kelleher; *University of Illinois at Urbana-Champaign, Urbana, IL*
- ThP 121 **Ultrafast Capillary Electrophoresis MS/MS Analysis of Peptide Mixtures and Protein Digests in about a Minute**; Mehdi Moini; Ben Martinez; *Texas State University, San Marcos, TX*
- ThP 122 **Development of a Proteomics-on-a-chip Device with Fast MALDI Readout**; Jeonghoon Lee; Jon M. Beusse; Steven A. Soper; Kermit K. Murray; *Louisiana State University, Baton Rouge, LA*
- ThP 123 **Comprehensive Identification of Human Kinases by Enhanced Capture Compound™ Mass Spectrometry Using SCX-RP-2D-LC-MS/MS**; Olivia Graebner; Mirko Glinski; Jenny J. Fischer; Jan Ungewiß; Simon Michaelis; Christian Dalhoff; Friedrich Kroll; Michael Sefkow; Mathias Dreger; Hubert Köster; *caprotec bioanalytics GmbH, Berlin, Germany*
- ThP 124 **Investigating the *Neurospora crassa* Proteome Using a Dual Stage pI-Based Fractionation Scheme and LC-MS/MS Analysis**; Stephanie M. Cologna; William K. Russell; Ana Victoria Suescun; Gyula Vigh; Rodolfo Aramayo; David H. Russell; *Texas A&M University, College Station, TX*
- ThP 125 **One-Dimensional Capillary Liquid Chromatographic Separation Coupled with Tandem Mass Spectrometry Unveils Entire Proteome Expressed in *Escherichia coli* cells**; Mio Iwasaki¹; Shohei Miwa³; Oleg V. Krokhin²; Masaru Tomita¹; Nobuo Tanaka³; Yasushi Ishihama¹; ¹*Keio University, Yamagata, Japan*; ²*University of Manitoba, Winnipeg, MB*; ³*Kyoto Institute of Technology, Kyoto, Japan*
- ThP 126 **Characterisation of a Bacterial Proteome by Means of Ion Mobility Mass Spectrometry-Based Proteomics**; Konstantinos Thalassinou¹; Nisha Patel¹; Susan E. Slade¹; Jim Langridge²; Chris Hughes²; Scott Geromanos²; Marc V. Gorenstein²; Dan Golick³; Andrew Crombie¹; J. Colin Murrell¹; James Scrivens¹; ¹*University of Warwick, Coventry, UK*; ²*Waters Corporation, Manchester, UK*; ³*DanGo Designs Inc, Newton, MA*
- ThP 127 **Comparing Gel-Eluted Liquid Fraction Entrapment Electrophoresis to Gel-LC for the Analysis of Complex Proteomics Samples**; Issa Isaac; Cindy Brown; Chris Dill; Charles E. Witkowski, II; Jeremy L. Norris; *Protein Discovery, Inc., Knoxville, TN*

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- ThP 128 **A High Resolution, Highly Reproducible and Sensitive nano_LC Configuration that is Particularly Suitable for Large-Scale Label-Free Expression Profiling;** Frank Engler¹; Xiaotao Duan¹; Jun Li¹; Hao Wang²; Jun Qu¹; ¹University at Buffalo, Amherst, NY; ²UB Pharmaceutical Science, Buffalo, NY
- ThP 129 **Time-Course Reproducibility of Clinical Samples Using Retentate Chromatography MALDI-TOF Mass Spectrometry;** Sabine Jourdain¹; Enrique Dalmaso¹; Amanda Bulman¹; Fiona Plows¹; Martin Schuereberg²; Akos Czibere³; Sonja Hartwig⁴; Stefan Lehr⁴; ¹Bio-Rad Laboratories, Inc., Hercules, CA; ²Bruker Daltonics, Bremen, Germany; ³Harvard Stem Cell Institute, Boston, MA; ⁴German Diabetes Center, Duesseldorf, Germany
- ThP 130 **Comparison and Combination of Electrospray and MALDI Analyses of Complex Protein Mixtures;** Sean L. Seymour¹; Ignat Shilov¹; Aaron Booy²; Doug Simmons²; Stephen A Tate²; Alpesh Patel¹; Christie L Hunter¹; ¹AB SCIEX, Foster City, CA; ²AB SCIEX, Concord, ON, Canada
- PROTEOMICS: CLINICAL APPLICATIONS, 131 - 165**
- ThP 131 **Comparative Proteome Analysis of Mycobacterium Tuberculosis Using Label-Free Quantitative Method: the Response of Drug-Resistant and Drug-Sensitive Strains;** Moo-Jin Suh¹; Alifiya S. Motiwala²; Hamid Alami¹; Shih-Ting Huang¹; Robert D. Fleischmann¹; Scott N. Peterson¹; David Alland²; Rembert Pieper¹; ¹J. Craig Venter Institute, Rockville, MD; ²University of Medicine and Dentistry of New Jersey, Newark, NJ
- ThP 132 **Multiplexed MRM Analysis and Absolute Quantitation of 25 Proteins Implicated in Coronary Artery Disease;** Juncong Yang²; Michael Kuzyk²; Gabriela Cohen Freue^{3,4}; John Hill³; Bruce McManus^{3,4}; Christoph H. Borchers¹; ¹University of Victoria, Victoria, BC, Canada; ²UVic Genome BC Proteomics Centre, Victoria, BC, Canada; ³University of British Columbia, Vancouver, BC, Canada; ⁴PROOF Centre of Excellence, Vancouver, BC, Canada
- ThP 133 **Quantitative Proteomic Analysis of Human Monocyte-Derived Dendritic Cells after Exposure to Live *Brugia malayi microfilariae*;** Zhaojing Meng¹; Roshanak T. Semnani²; Thomas B. Nutman²; Timothy D. Veenstra¹; ¹SAIC-Frederick, Inc., Frederick, MD; ²NIAID, NIH, Bethesda, MD
- ThP 134 **Proteomics Study of the Interaction of Dimebon with Different Brain Regions in the Treatment of Alzheimer's Disease;** Milica Tesic Mark; Amy Frances Friss; Rong Wang; Mount Sinai School of Medicine, New York, NY
- ThP 135 **Quantitative Tracking of Binding and Cellular Uptake of Human Serum Transferrin in HeLa Cells;** Shunhai Wang; Cedric Bobst; Igor A. Kaltashov; University of Massachusetts, Amherst, MA
- ThP 136 **Quantitation of EGFR and phosphoEGFR in FFPE Tissue;** Sheeno Thyparambil¹; Jenny Heidbrink Thompson¹; Jon Burrows¹; David Krizman¹; Marlene M. Darfler¹; Paul Taylor²; Jiefei Tong²; Warren Shih³; Ming Tsao³; Michael Moran²; Todd Hembrough¹; ¹Expression Pathology Incorporated, Rockville, MD; ²Hospital for Sick Children, Toronto, ON; ³Princess Margaret Hospital, Toronto, Canada
- ThP 137 **The Temporal Proteome Response to Severe Traumatic Injury in Human Leukocytes Revealed by Large-Scale Quantitative Proteomics Employing an 18O-Labeled Reference;** Weijun Qian¹; Carrie D Nicora¹; Brianne O Petritis¹; Athena Schepmoes¹; Ron Moore¹; Matthew Monroe¹; Lyle Moldawer²; Ronald Maier³; Ronald Tompkins⁴; David Camp¹; Richard D. Smith¹; ¹Pacific Northwest National Lab, Richland, WA; ²University of Florida, Gainesville, FL; ³University of Washington, Seattle, WA; ⁴Massachusetts General Hospital, Boston, MA
- ThP 138 **Development of a Multiplexed Immuno MALDI (iMALDI) Mass Spectrometry Assay for Diagnosis of Hypertension Related Diseases;** Jennifer D. Reid^{1,3}; D. Randal Mason³; Daniel T. Holmes²; Christoph H. Borchers^{1,3}; ¹UVic Genome BC Proteomics Centre, Victoria, Canada; ²St. Paul's Hospital, Vancouver, BC, Canada; ³University of Victoria, Victoria, BC, Canada
- ThP 139 **A Targeted MS diagnostic for the multiplexed detection of liver enzymes in plasma for the detection of liver disease;** Julie A Weisz; Suzanne Y Ngo; Christine C Wu; University of Colorado School of Medicine, Aurora, CO
- ThP 140 **Using Tandem MS to Elucidate the Metabolism of CNS-derived Apolipoprotein E3 and Apolipoprotein E4 in Young Normal Control Participants;** Kristin Wildsmith; Bruce Patterson; Randall Bateman; Washington University, St. Louis, MO
- ThP 141 **Quantitative Analysis of Oxidative Modifications in HDL Using MRM;** Hussein N Yassine^{2,2}; Mike Kimzey¹; Michael A Galligan¹; Craig S Stump^{3,3}; George Tsapraillis¹; Serrine S Lau¹; ¹Southwest Environmental Health Sciences Center, Tucson, AZ; ²Department of Medicine, University of Arizona, Tucson, AZ; ³Southern Arizona VA Healthcare System, Tucson, AZ, Tucson, AZ
- ThP 142 **NCI's Clinical Proteomic Technologies for Cancer - Building a Robust and Reliable Cancer Protein Biomarker Development Pipeline;** Amir Rahbar¹; Emily S. Boja¹; Tara Hiltke¹; Chris Kinsinger¹; Mehdi Mesri¹; Robert Rivers¹; Henry Rodriguez^{1,2}; ¹NCI/NIH, Bethesda, MD; ²Clinical Proteomic Technologies for Cancer Network, Bethesda, MD
- ThP 143 **Towards Early Detection of Breast Cancer Using Serum Peptide Profiling;** Yuri E.M. Van Der Burgt; Berit Velstra; Wilma E. Mesker; Magnus Palmblad; Marco R. Bladergroen; Bart Mertens; Rob A.E.M. Tollenaar; André M. Deelder; Leiden University Medical Center, Leiden, Netherlands
- ThP 144 **Proteomic and Transcriptomic Analysis of Urinary Exosomes for Biomarker Discovery;** David L. Hachey¹; Zhen Wang¹; Salisha Hill¹; J. Matt Luther¹; Peter E. Clark¹; Shawn E. Levy²; Kevin L. Schey¹; ¹Vanderbilt University, Nashville, TN; ²HudsonAlpha Institute for Biotechnology, Huntsville, AL
- ThP 145 **Application of Laser Capture Microdissection Proteomics for Biomarker Discovery in Chronic Wound Keratinocytes;** Michael A. Freitas; John P. Shapiro; Sabyasachi Biswas; Sashwati Roy; Chandan K. Sen; Ohio State University, Columbus, OH
- ThP 146 **Sensitive, Reproducible Protein Identification from Laser Capture Microdissected Tissue;** John Shapiro; Sabyasachi Biswas; Gerard Lozanski; Metin N. Gurcan; Sashwati Roy; Chandan K. Sen; Michael A. Freitas; Ohio State University, Columbus, OH
- ThP 147 **Novel Biomarkers of Platinum Resistance Identified by Proteomic-Based Analysis of Platinum Sensitive and Resistant Ovarian Cancer Cell Lines;** Bunja Rungruang; Brian L. Hood; Mai Sun; Pang-Ning Teng; Nicholas Bateman; Melanie Flint; Thomas C. Krivak;

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- Thomas P. Conrads; *University of Pittsburgh Cancer Institute, Pittsburgh, PA*
- ThP 148 **Comprehensive Analysis of Gold Nanoparticle-Serum Interactions;** Nawei Zhang²; Yong Liang³; Joe Fernandez¹; Chun Chen¹; Haiteng Deng¹; *The Rockefeller University, New York, NY; ²Beijing Chaoyang Hospital affiliated CMSU, Beijing, China; ³Taizhou Medical College, Taizhou, China*
- ThP 149 **Proteomic Studies of Tracheal Aspirates Derived from Neonates with Respiratory Distress Syndrome Using GELFrEE Fractionation Coupled to nanoLC Mass Spectrometry;** Michael Bereman¹; Daniela Tomazela¹; Hillary Heins²; Sessions Cole²; Aaron Hamvas²; Michael J. Maccoss¹; *¹University of Washington, Seattle, WA; ²Washington University, St. Louis, MO*
- ThP 150 **Functional Characterization of Ubiquitination Profile Changes Induced by Oncogenic Protein NPM-ALK in ALK+ Anaplastic Large Cell Lymphoma Cells;** Fang Wu¹; Peng Wang²; Raymond Lai²; Liang Li¹; *¹Department of Chemistry, Edmonton, Canada; ²Department of Laboratory Medicine and Pathology, Edmonton, Canada*
- ThP 151 **Proteomic Cell Surface Phenotyping of Differentiating Acute Myeloid Leukemia Cells;** Andreas Hofmann¹; Bertran Gerrits²; Alexander Schmidt¹; Thomas Bock¹; Damaris Bausch-Fluck¹; Ruedi Aebersold¹; Bernd Wollscheid¹; *¹Institute of Molecular Systems Biology, ETH Zurich, Zurich, Switzerland; ²Functional Genomics Center Zurich, UZH/ETH Zurich, Zurich, Switzerland*
- ThP 152 **Progress In Standardizing Mass Spectrometry-based Platforms via Inter-laboratory Studies From Discovery to Verification (NCI-CPTAC Network Studies);** Emily S. Boja¹; Amir Rahbar¹; Christopher Kinsinger¹; Mehdi Mesri¹; Tara Hiltke¹; Robert Rivers¹; Henry Rodriguez^{1,2}; *¹NCI/NIH, Bethesda, MD; ²Clinical Proteomic Technologies for Cancer Network, Bethesda, MD*
- ThP 153 **Searching Multiple Tyrosine Kinase Signaling Pathways Aberrantly Activated in Malignant Mesothelioma by Using Mass Spectrometry;** Yibai Chen; Craig Menges; Anthony Yeung; Joseph Testa; *Fox Chase Cancer Center, Philadelphia, PA*
- ThP 154 **Correlation of Cyclopamine with Proteome Response in Glioma Mouse Xenografts by MALDI Imaging Mass Spectrometry;** Sara L. Frappier¹; Anuraag Sarangi¹; Michael Cooper¹; Richard M. Caprioli²; *¹Vanderbilt University, Nashville, TN; ²Vanderbilt Univ Sch of Med, Nashville, TN*
- ThP 155 **Characterization of Differentially Expressed Plasma Membrane Proteins Induced by NPM-ALK: Investigate Aberrant Signaling Pathways in ALK+ Anaplastic Large Cell Lymphoma;** Difei Sun; Fang Wu ; Peng Wang; Raymond Lai; Liang Li; *University of Alberta, Edmonton, AB*
- ThP 156 **The Fat Depot-Specific Secretome of Human Fat Cell Progenitors;** Yi Zhu; Tamara Tchkonkia; Nino Giorgadze; Kuo-ching Liang; Peter W. Li; Carrie J. Holtz Heppelmann; H. Robert Bergen, III; James L. Kirkland; *Mayo Clinic, Rochester, MN*
- ThP 157 **Analysis of Membrane Proteins from the Prefrontal Cortex in Schizophrenia and Control Subjects;** Bruno Manadas¹; Jane English²; David R Cotter³; Mike J. Dunn²; *¹Center for Neuroscience and Cell Biology, Coimbra, Portugal; ²University College Dublin, Dublin, Ireland; ³Royal College of Surgeons, Dublin, Ireland*
- ThP 158 **Detection of Alpha-Enolase and Triosephosphate Isomerase in Sera from Patients with Pancreatic Cancer by Autoantibodiomics Analysis;** Toyofumi Nakanishi¹; Yoshiharu Miyamoto¹; Nobuhiko Tanigawa¹; Takayuki Takubo¹; Kyoichi Takaori²; *¹Osaka Medical College, Osaka, Japan; ²Kyoto University Graduate School of Medicine, Kyoto, Japan*
- ThP 159 **Effect of mTOR-Inhibitor Rapamycin on U87MG Glioblastoma Cell Line Proteome;** Marcela Gimenez¹; Anelisa Ramao¹; Helen Julie Laure¹; Clarice Izumi¹; Sueli Miekko Oba Shinjo²; Suely Kazue Nagahashi Marie²; Jose Cesar Rosa¹; *¹University of Sao Paulo, Ribeirao Preto, Sao Paulo - Brazil; ²Medical School of Sao Paulo, Sao Paulo, Sao Paulo - Brazil*
- ThP 160 **Shotgun Proteomics Analysis of the Osteoblasts Differentiation of Rat Bone Marrow Stem Cells;** Leonardo Barcelos de Paula¹; Fabiola Singaretti de Oliveira²; Marcela Gimenez²; Lucas Oliveira Sousa¹; Helen Julie Laure¹; Adalberto Luiz Rosa²; Jose Cesar Rosa¹; *¹University of Sao Paulo - USP, Ribeirao Preto, Sao Paulo - Brazil; ²Dentistry School of Ribeirao Preto- USP, Ribeirao Preto, Sao Paulo - Brazil*
- ThP 161 **Analysis of Posttranslational Modifications of Human Free Light Chains by Means of Mass Spectrometry;** Petra Kapková; *University of Würzburg, Würzburg, Germany*
- ThP 162 **Effect of Glyco-oxidative Modifications on Plasma Fibrinogen Function in Diabetes;** Hussein N. Yassine¹; Michael Kimzey²; Michael A Galligan²; Craig S. Stump^{1,3}; George Tsapraillis²; Serrine S Lau²; *¹Department of Medicine, University of Arizona, Tucson, AZ; ²Southwest Environmental Health Sciences Center, University of Arizona, Tucson, AZ; ³Southern Arizona VA Healthcare System, Tucson, AZ*
- ThP 163 **Profiling of Oxidative Stress Proteomic Signature in the Plasma of Type II Diabetic Zucker Rats;** Ashraf G. Madian¹; Angela Myracle²; Naomi Diaz-Maldonado¹; Elsa M. Janle²; Fred Regnier¹; *¹Department of Chemistry, Purdue University, West Lafayette, IN; ²Department of Foods and Nutrition, Purdue University, West Lafayette, IN*
- ThP 164 **Identification of Novel P53-Interacting Candidates;** Steve Nguyen; Sofia Macieira; Matthias Mann; *Max Planck Institute, Martinsried, Germany*
- ThP 165 **Clinical Use of Intact Globin Chain Mass Spectrometry in the Identification of Hemoglobin Variants;** Patricia Wendt; Frank W. Crow; Ryan Morse; Jennifer Oliveira; James Hoyer; *Mayo Clinic, Rochester, MN*

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- ThP 167 **A Targeted Proteomics Approach to Quantitate the Levels of Delta 6-desaturase in Developing Safflower Seeds;** Rudy Alvarado¹; Isabel Dicely²; Ken Mai²; John Goodstal²; Daniel Facciotti²; Brett Phinney¹; *¹UC Davis Proteomics Core Facility, Davis, CA; ²Arcadia Biosciences, Davis, California*
- ThP 168 **Monitoring Post-Translational Modifications in Human Gamma S Crystallin by Multiple Reaction Monitoring (MRM) Mass Spectrometry;** Debra

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- ThP 169 **An nLC/MS/MS/MS/MS Based Standard Addition Method for Absolute Quantitation of FcRn Protein Copy Numbers in Cell Lysates;** Amey Lu; Fei Hua; Betty Tang; Yan Zhang; Albert B Seymour; Bruce Gomes; Ru Wei; *Pfizer RTC, Cambridge, MA*
- ThP 170 **Quantification of Poly(ADP-ribose)-Binding Proteins Using Multiple Reaction Monitoring (MRM);** Michel Boutin¹; Sylvie Bourassa¹; Jean-Philippe Gagné²; Maxim Isabelle²; Guy G. Poirier^{1,2}; ¹*Proteomics Platform, Laval University, CHUQ, Québec, Canada;* ²*Laval University, Medical Research Center, CHUQ, Québec, Canada*
- ThP 171 **MRM-Based Quantitation of SNAP-25 Protein Isoforms in Cells and Human Brain Samples;** Vilte E Barakauskas¹; Annie Moradian⁴; Grace SW Cheng⁴; Andrew J Dwork³; William G Honer¹; Gregg Morin^{2,4}; ¹*University of British Columbia Dept. of Psychiatry, Vancouver, Canada;* ²*University of British Columbia Dept. Med. Genetics, Vancouver, Canada;* ³*New York State Psychiatric Institute, New York, New York;* ⁴*Genome Sciences Center, BC Cancer Agency, Vancouver, Canada*
- ThP 172 **Predicting Response to Chemotherapy in Colorectal Cancer Using Selected Reaction Monitoring;** Matthew McKay^{1,2}; Sarah Randall¹; Dana Pascovici²; Wei Chua³; Stephen Clark³; Mark Molloy^{1,2}; ¹*Department of Chemistry and Biomolecular Sciences, Macquarie University, Sydney, Australia;* ²*APAF, Macquarie University, Sydney, Australia;* ³*Dept. of Medicine, Concord Repatriation Hospital, Sydney, Australia*
- ThP 173 **Quantifying the Cellulosome Protein Machine in Whole-Cell Lysate from *Clostridium thermocellum* as a Function of Cellulosic Substrate;** Andrew B. Dykstra^{1,2}; Lois A. St. Brice³; Joel Kreps⁴; Kelsey D. Cook^{2,5}; Lee R. Lynd³; Robert L. Hettich¹; ¹*Oak Ridge National Laboratory, Oak Ridge, TN;* ²*University of Tennessee, Knoxville, TN;* ³*Dartmouth College, Hanover, NH;* ⁴*Verenium Corporation, San Diego, CA;* ⁵*National Science Foundation, Arlington, VA*
- ThP 174 **Quantitative Analysis of STAT3 in Cardiac Tissue Using Multiple Reaction Monitoring;** Angel Aponte¹; Darci Phillips²; Guanghui Wang¹; Robert Balaban²; Marjan Gucek¹; ¹*Proteomics Core, NHLBI/NIH, Bethesda, MD;* ²*Laboratory of Cardiac Energetics, NHLBI/NIH, Bethesda, MD*
- ThP 175 **Sensitive, Reproducible, Robust and High Speed MRM Assay for Absolute Quantitation of 75 Proteins in Human Plasma;** Derek S. Smith¹; Michael A. Kuzyk¹; Tyra J. Cross¹; Jennifer L. Proc¹; Juncong Yang¹; Dominik Domanski¹; Christie L. Hunter²; Matthew M. Champion²; Christoph H. Borchers^{1,3,1}; ¹*UVic Genome BC Proteomics Centre, Victoria, BC, Canada;* ²*AB Sciex, Foster City, CA;* ³*University of Victoria, Victoria, BC, Canada*
- ThP 176 **Targeted Approach to the Identification of Theoretical Proteins from *Mycoplasma Hypopneumoniae* Strain 232;** Sarah Kruger¹; Matthew Padula²; Steven Djordjevic²; ¹*AB SCIEX, Keperra, Australia;* ²*UTS, Sydney, Australia*
- ThP 177 **Rapid Assay Development and Refinement for Targeted Protein Quantitation Using an Intelligent SRM (iSRM) Workflow;** Reiko Kiyonami; Amol Prakash; Vlad Zabrouskov; *ThermoFisher Scientific, San Jose, CA*
- ThP 178 **SRM-Based Quantitative Analysis of IGF-1R and IRS1 Directly in FFPE Tissues for Objective Pathological Analysis in Cancer Related Signaling Pathway;** Amol Prakash¹; Bryan Krastins¹; David Sarracino¹; Michael Athanas²; Taha Rezaei¹; Todd Hembrough³; Jenny Hiedbrink-Thompson³; Sheeno Thyparambil³; Jon Burrows³; David Krizman³; Mary F. Lopez¹; ¹*Thermo Fisher Scientific, Cambridge, MA;* ²*VAST Scientific, Cambridge, MA;* ³*Expression Pathology Inc., Rockville, MD*
- ThP 179 **Reducing Artifacts and Defining the Linear Quantitative Range of pSILAC;** Isabelle Kelly; Leonard J Foster; *Center for High-Throughput Biology, UBC, Vancouver, BC, Canada*
- ThP 180 **SILAC and Label-Free Approaches for Quantitatively Identifying Caveolae Proteome;** Yu Zi (Emma) Zheng¹; Michelle M. Hill⁴; Tom Hennessy²; Robert G. Parton³; Leonard J. Foster¹; ¹*University of British Columbia, Vancouver, Canada;* ²*Agilent Technologies, Singapore, Singapore;* ³*IMB, University of Queensland, Brisbane, Australia;* ⁴*Diamantina Institute, University of Queensland, Brisbane, Australia*
- ThP 181 **iTRAQ Application & Pragmatism: Dependency on Time of MS/MS Triggering, Label Distribution, and Mass Resolution with Sample Complexity;** Saw Yen Ow; Malinda Salim; Josselin Noirel; Caroline Evans; Phillip C Wright; *University of Sheffield, Sheffield, UK*
- ThP 182 **Differential Proteome Analysis of AKT1 and Mutant AKT1(E17K) in Human Mammary Epithelial Cells by Mass Spectrometry;** Tony Tegeler; Bodour Salhia; Matthew Rosenow; Jian Liu; Linda Nagore; Ashoka Polpitiya; John Carpten; Konstantinos Petritis; *Translational Genomics Research Institute, Phoenix, AZ*
- ThP 183 **Expression Protein Profile of Exosomes of Hepatic Cell Lines;** Eva Rodriguez-Suarez¹; Javier Conde-Vancells³; E. Gonzalez²; S.C. Lu⁴; Rune Matthiesen²; Felix Elortza¹; Jose Maria Mato³; Juan M Falcón Pérez³; ¹*Proteomic Platform, CIC bioGUNE, ProteoRed, Derio, Spain;* ²*Institute of Molecular Pathology and Immunology, O Porto, Portugal;* ³*Metabolomic Unit, CIC bioGUNE, CIBERehd, Derio, Spain;* ⁴*Keck School of Medicine, Univ Southern California, Los Angeles, CA*
- ThP 184 **Label-Free Proteomic Quantification Using an Ultra High Resolution (UHR) TOF and an Integrated Bioinformatics Platform;** Adam Dowle¹; Diana Saggese¹; Ed Bergström¹; David Ashford¹; Jerry Thomas¹; Jane Thomas-Oates¹; Markus Lubeck²; Wolfgang Jabs²; Carsten Baessmann²; ¹*Centre of Excellence in Mass Spectrometry, University of York, York, UK;* ²*Bruker Daltonik GmbH, Bremen, Germany*
- ThP 185 **Mass Spectrometric Analysis of Senescence-Associated Protein Changes in Cultured Human Fibroblasts Using a Label-Free Proteomics Approach;** Daniel Waldera¹; Ana-Maria Florea²; Sebastian Link¹; Birgit Korte¹; Barbara Sitek¹; Helmut E. Meyer¹; Guido Reifenger²; Kai Stühler¹; ¹*Medizinisches Proteom-Center, Bochum, Germany;* ²*Institut für Neuropathologie, Duesseldorf, Germany*
- ThP 186 **Comparison of Label-Free Proteomic Quantification Approaches for Chemical Proteomics;** Zhixiang Wu; Kurt Fellenberg; Simone Lemeer; Bernhard Kuster; *Technical University Munich, Freising, Germany*
- ThP 187 **Implementation of 18O Labeling for Urine Proteome Quantification Using Accurate Mass Tag Retention Time data Base;** Eugene Nikolaev¹; Ilya A Agron²; Dmitry M. Avtonomov²; Igor Popov⁴; Alexey

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- Kononikhin²; Maria I. Indeykina⁵; Oxana P. Trifonova⁷; Sergey Moshkovsky⁶; ¹The Institute for Energy Problems of Chemical Phys, Moscow, Russian Federation; ²INEP CP RAS, Moscow, Russian Federation; ³Russian Academy of Sci, Moscow, Russian Federation; ⁴Moscow State University, Moscow, Russian Federation; ⁵The Institute for Biomedical Chemistry Russian Aca, Moscow, Russia; ⁶Inst. Biomedical Problems, Moscow, Russian Federation
- ThP 188 **Rapid and Quantitative PACIFIC Method for Data-Independent Proteome Profiling**; Alexandre Panchaud; Sunhee Jung; Shawna M. Hengel; Jimmy K. Eng; Scott A. Shaffer; David R. Goodlett; *University of Washington, Seattle, WA*
- ThP 189 **Development of a Reference Measurement Procedure to Quantify Urinary Albumin**; Ashley S. Beasley; David Bunk; Karen Phinney; *National Institute of Standards and Technology, Gaithersburg, Maryland*
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- ThP 190 **Effect of Acidic Amino Acid on b-type Sequence Scrambling**; Talat Yalcin; Ahmet Emin Atik; *IYTE, Urla-Izmir, Turkey*
- ThP 191 **On the Existence of Structurally Different Isobaric Bn Fragment Ions**; Touradj Solouki; Behrooz Zekavat; Mahsan Miladi; *University of Maine, Orono, ME*
- ThP 192 **Femtosecond Laser-induced Ionization/Dissociation (fs-LID) Tandem Mass Spectrometry for the Enhanced Characterization of Low Charge State Protonated Phosphopeptide Ions**; Scott A. Smith¹; Christine L. Kalcic¹; Kyle A. Safran¹; Paul M. Stemmer²; Marcos Dantus¹; Gavin E. Reid¹; ¹Michigan State University, East Lansing, MI; ²Wayne State University, Detroit, MI
- ThP 193 **Small Neutral Losses in the Electron Capture Dissociation and Electron Transfer Dissociation of Nitrotyrosine-Containing Peptides**; Andrew Jones; Helen Cooper; *University of Birmingham, Birmingham, UK*
- ThP 194 **A Sweet Tooth that Bites: Site Selective Radical Induced Fragmentation at O-Glycosylated Residues**; Jolene K. Diedrich; Ryan R. Julian; *University of California, Riverside, Riverside, CA*
- ThP 195 **Contribution of ECD and ETD Activation Modes in the Top-Down Identification of Peptidic Toxins Containing Disulfide Bonds**; Chafia Bennaceur^{1,2}; Carlos Afonso¹; Sandra Alves¹; Anne Bossee²; Jean-Claude Tabet¹; ¹Université Paris 6/UMR7201, Paris, France; ²DGA CBRN Defence, Vert-Le-Petit, France
- ThP 196 **Effect of Cysteic Acid Position on the Negative Ion Fragmentation of Proteolytic Derived Peptides**; Brad J. Williams; Kevin L. Kmiec; William K. Russell; David H. Russell; *Texas A&M University, College Station, TX*
- ThP 197 **Radical-Induced Dissociation of N-Nitrosopeptides Through Collisional Activation**; Eric R. Knudsen; Ryan R. Julian; *University of California, Riverside, Riverside, CA*
- ThP 198 **Exploring the Potential of Electron Transfer Dissociation Mass Spectrometry for the Analysis of PNA-containing Branched Peptides**; Luc Tessier¹; Jenny Phipps²; Wei He²; Russ Blacher²; Raphael Terreux²; John Kelly¹; ¹National Research Council of Canada - Institute of Ottawa, Canada; ²PharmaGap Inc., Ottawa, Canada
- ThP 199 **A Study on the Fragmentation Characteristics of Large-size Bioactive Peptides under Electron-transfer Dissociation Conditions**; Chhabil Dass; *The University of Memphis, Memphis, TN*
- ThP 200 **Exploring Cyclic Peptide Fragmentation by Electron Transfer Dissociation Coupled to Orbitrap Mass Spectrometry**; Hao Wang^{1,2}; Xiaotao Duan^{1,2}; Jun Qu^{1,2}; ¹University at Buffalo, Amherst, NY; ²CoE in Bioinformatics & Life Sciences, Buffalo, NY
- ThP 201 **Controlling the Fragmentation Behavior of Tryptic and Lys-N Peptides upon Electron Transfer Induced Dissociation by Chemical Modification**; Marco Hennrich; Paul J. Boersema; Albert J.R. Heck; Shabaz Mohammed; *Utrecht University, Utrecht, Netherlands*
- ThP 202 **Probing the Fragmentation Behavior of Transition Metal-Peptide Complexes**; Heather Malone Watson; Carolyn J. Cassidy; *University of Alabama, Tuscaloosa, AL*
- ThP 203 **Metal Ion Interaction with Cyclodepsipeptides: Tandem Mass Spectrometry and NMR Study of Isariins and Isaridins**; Raja Banerjee^{1,2}; S Sudarshal²; R. S. Ranganayaki²; S. Raghothama³; ¹West Bengal University of Technology, Kolkata, India; ²Molecular Biophysics Unit, IISc, Bangalore, India; ³NMR Research Centre, Indian Institute of Science, Bangalore, India; ⁴NMR Research Centre, Indian Institute of Science, Bangalore, India
- ThP 204 **Comparing the Formation and Gas Phase Fragmentation, CID, IRMPD, ECD, of Peptide Radical Cations from [Cu(II)(tpy)(M+H)]³⁺ and [M+Cu]²⁺ Complexes**; Anastasia Kalli; Sonja Hess; *CalTech, Pasadena, CA*
- ThP 205 **Structural Parameters for Suppression and Re-Activation of the N-C_α Cleavages and H⁺ Loss from [M+nH]⁽ⁿ⁻¹⁾⁺**; Pui Shuen Wong; Tak-Wah Dominic Chan; *The Chinese Univ. of Hong Kong, Hong Kong Sar, China*
- ThP 206 **Investigation of Fragmentation Mechanism of Peptides Containing Histidine Residue**; Talat Yalcin; Cagdas Tasoglu; *IYTE, Urla-Izmir, Turkey*
- ThP 207 **Enhanced Data-Independent Acquisition Based LC-MS/MS Through Spectrum Deconvolution and Instrument Method Optimization**; Jarrett Egerton¹; Jesse D. Canterbury¹; Gennifer Merrihew¹; Gregory Finney²; Marshall W. Bern³; Michael J. Maccoss¹; ¹University of Washington, Seattle, WA; ²Univ of Washington, Genome S, Seattle, WA; ³Palo Alto Research Center, Palo Alto, CA
- ThP 208 **Optimization of Data-Dependent LC-MS/MS Using parallel CID/ETD Ion Trap Systems**; Hans Dalebout; Ekaterina Mostovenko; Yuri E.M. Van Der Burgt; Andre M Deelder; Magnus Palmblad; *Leiden University Medical Center, Leiden, Netherlands*
- ThP 209 **Characteristics of MS/MS Fragmentation Pattern in Endogenous Non-Tryptic Peptides**; Hernando Escobar²; David K. Crockett²; Eduardo Reyes-Vargas¹; Peter Jensen^{1,2}; Julio C Delgado^{1,2}; ¹University of Utah, Department of Pathology, Salt Lake City, Utah; ²ARUP Laboratories, Salt Lake City, UT
- ThP 210 **Optimizing Linear Ion Trap Data Dependent Parameters for Maximum Coverage in Proteomics Survey Experiments**; Julie Homer¹; Roger G. Biringer¹; August Specht²; Andreas F Huhmer¹; ¹Thermo Fisher Scientific, San Jose, CA; ²Thermo Fisher, San Jose, CA
- ThP 211 **Sequence Confirmation of Cyclic Thioether Bridged Peptides by Nanospray CID MS/MS**; Denise Keen; Roger Moore; Gabriel Gugiu; *City of Hope, Duarte, CA*

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- ThP 212 **Peptide Fragmentation at Atmospheric Pressure;** Vadym Berkout; Vladimir M. Doroshenko; *MassTech, Inc., Columbia, MD*
- ThP 213 **Using a Fragmentation Database to Derive VUV Photodissociation Selection rules and Interpret Peptide Spectra;** Xiaohui Liu; James P. Reilly; *Indiana University, Bloomington, IN*
- ThP 214 **Comparison of IR-MPD Spectra of Peptide Fragments to Computations: Conformational Searching and Diagnostic Vibrations;** Long Yu^{1,1}; Nicolas Polfer^{1,2,1}; *Gainesville, FL; ²University of Florida, Gainesville, FL*
- ThP 215 **The Effect of Peptide Size on the Occurrence of Hydrogen Scrambling upon Collisional Activation in Hydrogen/Deuterium Exchange Mass Spectrometry;** Sabine Amon; Ole N. Jensen; Thomas J.D. Jorgensen; *University of Southern Denmark, Odense, Denmark*
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- ThP 216 **Electron Transfer Dissociation Investigations of the Urinary Proteome and Peptidome in Pregnancy;** Sarah R Hart; *Keele University, Newcastle-Under-Lyme, UK*
- ThP 217 **Metabolic Profiling in Urine Samples from Patients with Invasive Histoplasma Infection;** Mark M. Kushnir¹; David K. Crockett¹; Alan L. Rockwood^{1,2}; Joann L. Cloud¹; Edward R. Ashwood^{1,2,1}; *ARUP Institute, Salt Lake City, UT; ²Department of Pathology, University of Utah, Salt Lake City, UT*
- ThP 218 **Proteomic Biomarker Discovery for Diabetic Complications: Urinary Protein Profiles in CACTI Study;** Daniela M Schlutzer¹; Jean-Eudes Dazard¹; Rob Ewing¹; Giridharan Gokulrangan¹; Janet Snell-Bergeon²; David Maahs²; Marian Rewers²; Mark R. Chance¹; *¹Case Western Reserve University, Cleveland, OH; ²Barbara Davis Center for Childhood Diabetes, UCD, Denver, Colorado*
- ThP 219 **Comprehensive and Quantitative N-Glycoproteome Analysis Method Reveals Novel Accessible Biomarkers in human Breast Cancer;** Andrei Turtoi¹; Yannick Greffe¹; Edwin De Pauw²; Vincent Castronovo¹; *¹University of Liege, Liege, Belgium; ²Liege University, Liege, Belgium*
- ThP 220 **Discovery of Urinary Glycoprotein Biomarkers in Bladder Cancer;** Na Yang¹; Shun Feng¹; Kerby Shedden¹; Xiaolei Xie¹; Yashu Liu¹; Xiang Fan²; Steven Goodison³; Charles Rosser³; David M. Lubman¹; *¹University of Michigan, Ann Arbor, MI; ²Shimadzu Biotech, Pleasanton, CA; ³M. D. Anderson Cancer Center, Orlando, FL*
- ThP 221 **A Comparative Glycoproteomics Approach to the Discovery of Biomarkers in Prion Diseases;** Lingjun Li¹; Xin Wei¹; Allen Herbst²; Di Ma¹; Judd Aiken²; *¹University of Wisconsin, Madison, WI; ²University of Alberta, Edmonton, Canada*
- ThP 222 **A Lectin Affinity-Based Biomarker Discovery Strategy Targeting Cancer-specific Glycoproteins in Human Plasma;** Birgit Schilling¹; Penelope M. Drake²; Richard K. Niles²; Miles Braten²; Dylan J. Sorensen¹; Eric Johansen²; Jason M. Held¹; Demetris Iacovides³; Steven C. Hall²; H. Ewa Witkowska²; Joe W. Gray³; Bradford W. Gibson¹; Susan J. Fisher²; *¹Buck Institute for Age Research, Novato, CA; ²University of California San Francisco, San Francisco, CA; ³Lawrence Berkeley National Laboratory, Berkeley, CA*
- ThP 223 **Quantitative Glycoproteomics of Ovarian Cancer Serum Using Lectin Enrichment Methodology;** Punit Shah; Julie Hafner; Zacharie Nickens; Vivekananda Shetty; Ramila Philip; *Immunotope, Inc., Doylestown, PA*
- ThP 224 **Study of N-Linked Glycopeptide Serum Biomarkers in Patients with Thyroid Related Disorders and Breast Cancer by LC-ESI-MS/MS;** Alejandro Cohen; Rita Kostyleva; Ken Chisholm; Dev Pinto; *IMB National Research Council of Canada, Halifax, Canada*
- ThP 225 **Identification and Confirmation of Biomarkers for Hepatocellular Carcinoma Using Quantitative Analysis of Glycoproteins and Their Glycosylations;** David M. Lubman; Yashu Liu; Chen Li; Jintang He; Jorge Marrero; *University of Michigan, Ann Arbor, MI*
- ThP 226 **Identification of Cell Surface Glycoprotein Markers for Glioblastoma-Derived Stem-Like Cells;** Jintang He¹; Yashu Liu¹; Xiaolei Xie¹; Mary Soules¹; Xing Fan¹; Fan Xiang²; David M. Lubman¹; *¹University of Michigan, Ann Arbor, MI; ²Shimadzu Biotech, Pleasanton, CA*
- ThP 227 **A Two-Pass, Informatics-Driven, Label-Free Discovery Workflow for Discovery of Neurovascular Mediators in PFO Related Stroke;** Michael Athanas¹; David Sarracino²; Taha Rezaei²; Amol Prakash²; Jennifer Sutton²; Bryan Krastins²; Mingming Ning³; Mary F Lopez²; *¹VAST Scientific, Cambridge, MA; ²Thermo Fisher Scientific, Cambridge, MA; ³Mass General Hospital/Harvard Medical School, Boston, MA*
- ThP 228 **Comparative LC-MS Analysis of Thin Fresh Frozen Myocardial Tissue Sections from Transgenic Mice with H-Ras v12 Induced Cardiomyopathy;** Xiaoying Ye¹; Bih-Rong Wei²; Heather R. Shive²; Donald Johann³; Mia R. Kumar²; R. Mark Simpson²; Timothy D. Veenstra¹; Josip Blonder¹; *¹SAIC-Frederick, Inc., Frederick, MD; ²National Cancer Institute, Bethesda, Maryland; ³NIH, Bethesda, MD*
- ThP 229 **Label-Free MS Identification of Biomarkers of Metabolic Disorder Associated Cardiovascular Disease in a Mouse Model;** Mark E. McComb¹; David H. Perlman¹; Deborah A. Siwik¹; Vivek N. Bhatia¹; Wilson Colucci²; Richard A. Cohen¹; Catherine E. Costello¹; *¹Boston University School of Medicine, Boston, MA; ²Boston Medical Center, Boston, MA*
- ThP 230 **iTRAQ Analysis Demonstrates that the Protein Signature of Aged Rat Ventricle is Unique from That of a Pressure Overload Model;** Jennifer Grant¹; Amy Bradshaw²; Catalin Baicu²; Susana Comte-Walters³; John Schwacke⁴; Michael Zile²; Kevin Schey⁵; *¹Biology Dept., University of Wisconsin-Stout, Menomonie, WI; ²Cardiac Division, Dept. of Medicine, MUSC, Charleston, SC; ³Dept. of Cell and Mol. Pharmacology, MUSC, Charleston, SC; ⁴Biochemistry and Molecular Biology, MUSC, Charleston, SC; ⁵Mass Spectrometry Research Center, Vanderbilt Univ, Nashville, TN*
- ThP 231 **Extensive Oxidative Protein Modifications Observed in Human Plasma and Candidate Biomarkers of Systemic Chronic Inflammatory and Oxidative Stress;** Xu Zhang; Marina Gritsenko; Matthew Monroe; Ron Moore; David Camp; Diana Bigelow; Weijun Qian; Jon Jacobs; Joel Pounds; Richard D. Smith; *Pacific Northwest National Lab, Richland, WA*
- ThP 232 **Endogenous Peptide and Protein Release with Early Phase Ischemia / Reperfusion Injury;** Melanie White; Lia Moshkanbaryans; Alistair Edwards; Benjamin Parker; Brett Hambly; Stuart Cordwell; *The University of Sydney, Sydney, Australia*

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- ThP 233 **A study on the Development of Myocarditis Biomarker Discovery Technology Using Proteome/Metabolome Research of Animal Rat Models;** Jong Bok Seo; Joo Hee Chung; Soo Young Kim; Eunjung Bang; Sang Goo Kim; Kwan Soo Hong; *Korea Basic Science Institute, Seoul, South Korea*
- ThP 234 **Quantitative Comparative Proteomic Analysis of Cytoplasmic Lipid Droplets Associated With Alcoholic Liver Disease;** Brittany D.M. Hodges¹; Hide Tsukamoto²; Christine C. Wu¹; ¹*University of Colorado School of Medicine, Aurora, CO*; ²*University of Southern California, Los Angeles, CA*
- ThP 235 **Identification of Protein Interaction Networks in Alzheimer's Disease Using Quantitative Proteomics;** Cristina Osorio; Robert DeKroon; Jennifer Robinette; Sergio Mejia; Carol Parker; Eric Hamlett; Oscar Alzate; *University of North Carolina, Chapel Hill, NC*
- ThP 236 **Quantitation of Isomerized Forms of Native Alzheimer's Amyloid-Beta Peptide Using MS/MS Fragmentation;** Maria Indeykina³; Igor Popov³; Alexey Kononikhin¹; Nina Khristenko⁴; Eugene Nikolaev¹; Sergey Kozin²; ¹*The Institute for Energy Problems of Chemical Phys, Moscow, Russian Federation*; ²*Institute of Biomedical Chemistry RAMS, Moscow, Russian Federation*; ³*Institute of Biochemical Physics RAS, Moscow, Russian Federation*; ⁴*Moscow Institute of Physics and Technology, Moscow, Russian Federation*
- ThP 237 **An Improved 2D-DIGE Analysis to Simultaneously Detect Changes in Protein Expression and Oxidative Modification;** Robert Dekroon^{1,2}; Sun Yong Jeong^{1,2}; Eric Hamlett²; Cristina Osorio¹; Jennifer Robinette¹; Mihaela Mocanu¹; Oscar Alzate^{1,2}; ¹*UNC-Systems Proteomics Center, Chapel Hill, NC*; ²*Department of Cell and Developmental Biology, Chapel Hill, NC*
- ThP 238 **Biomarker Discovery in Alzheimer's Disease by Proteomic Approaches;** Ming-Hui Yang²; Hung Su¹; Hsin-Chieh Wu¹; Li-Jhen Chen¹; Jentaie Shiea²; Yu-Chang Tyan¹; ¹*Kaohsiung Medical University, Kaohsiung, Taiwan*; ²*National Sun Yat-Sen Univ., Kaohsiung, Taiwan*
- ThP 239 **Vitamin D Binding Protein (Gc) as a Urinary Biomarker of Subclinical Kidney Damage;** Rhonda L. Pitsch; Pavel Shiyonov; Mitchell Meade; Frey Jeanette; Camilla Mauzy; John Schlager; *711th Human Performance Wing, WPAFB, OH*
- ThP 240 **Label-free Proteomic Profiling of D-Serine-induced Toxicity Biomarkers in Rat Urine;** Lining Qi; Pavel Shiyonov; John Schlager; *US Air Force Research Lab, Wright-Patterson Air Force Base, OH*
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- ThP 337 **Quantitative Analysis of Phospholipids Using NALDI Target Plates**; Simona Colantonio¹; Jack Simpson¹; Robert J. Fisher¹; Anu Puri²; Amichai Yavlovich²; Robert Blumenthal²; Julie M. Belanger²; ¹*SAIC/NCI-Frederick, Frederick, MD*; ²*National Cancer Institute, Frederick, MD*
- ThP 338 **Development of Global and High Sensitive 2D-Phospholipidomics**; Yoshiaki Sato¹; Tatsuji Nakamura¹; Ken Aoshima¹; Keith Wilcoxon²; Yoshiya Oda²; ¹*Eisai Co., Ltd, Tsukuba, Japan*; ²*Eisai Inc., Andover, MA*
- ThP 339 **Targeted Metabolomics - Validated Analysis of Free and Bonded Fatty Acids in Biofluids without Fractionation Using GC-MS After Methylation**; Hai Pham Tuan; Stephanie Angeben; Therese Koal; *Biocrates Life Sciences AG, Innsbruck, Austria*
- ThP 340 **Targeted Lipidomics – High-Throughput Analysis of Lipid Metabolites in Biological Samples via Flow Injection ESI-MS/MS**; Diane Schmiiederer; Hai Pham Tuan; Doreen Kirchberg; Therese Koal; *Biocrates Life Sciences AG, Innsbruck, Austria*
- ThP 341 **Application of Supercritical Fluid Chromatography/Mass spectrometry to Lipid Profiling of Soybean**; Takeshi Bamba¹; Jae Won Lee¹; Takato Uchikata¹; Atsuki Matsubara¹; Takuji Nakamura²; Eiichiro Fukusaki¹; ¹*Dept. Biotech., Grad. Sch. Eng., Osaka Univ., Suita, Japan*; ²*National Institute of Crop Science, Naro, Tsukuba, Japan*
- ThP 342 **Development of LC-MRM Method for a Rapid Screening of Rhamnolipids Produced by *Pseudomonas* Strains**; Leonardo Sastoque-Cala^{1,3}; Cecilia Silva-Sanchez²; Refugio Rodriguez-Vazquez²; Alba Marina Cotes-Prado³; Aura Marina Pedroza-Rodriguez¹; ¹*Pontificia Universidad Javeriana, Bogota, Colombia*; ²*CINVESTAV-IPN, Mexico, D.F., Mexico*; ³*corpoica, Bogota, Colombia*
- ThP 343 **Integrated MS2/MS3 Spectra Database Facilities Data-Dependent Mouse Heart Cardiolipin Analyses with the LipidQA Software Platform**; Haowei Song; Jack Ladenson; John Turk; *Washington University school of medicine, St. Louis, MO*
- ThP 344 **Lipid Identification Using a MS/MS Database of 120,000 Tandem Mass Spectra**; Tobias Kind; Kwang-Hyeon Liu; Do Yup Lee; Oliver Fiehn; *UC Davis - Metabolomics, Davis, CA*
- ThP 345 **Spectral Processing of QQQ Scans for Lipidomics Preserving All Features in a Spectrum**; Todd Williams¹; Lawrence Seib¹; Mary Michaelis¹; Asma Zaidi²; ¹*University of Kansas, Lawrence, KS*; ²*Kansas City University of Medicine and Biosciences, Kansas City, Missouri*
- ThP 346 **Benchmarking of Shotgun Lipidomics Software tools**; Ronny Herzog^{1,3}; Dominik Schwudke²; Andrej Shevchenko^{1,3}; ¹*Max Planck Institute CBG, Dresden, Germany*; ²*National Centre for Biological Sciences, Tata Inst, Bangalore / Bengaluru, India*; ³*Max Planck Institute CBG, Dresden, Germany*

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SMALL MOLECULE QUANTITATION III, 347 - 375

- ThP 347 **Determination of Metformin in Rat Plasma by HILIC-MS/MS Combined with Tecan Automation and Direct Injection;** Wei Zhang¹; Futian Han¹; Harry Zhao¹; Zhongping John Lin¹; Qingtao (Mike) Huang²; Naidong Weng²; ¹Frontage Laboratories, Inc., Malvern, PA; ²Johnson & Johnson Pharmaceutical Research & Dev, Raritan, NJ
- ThP 348 **Determination of Metformin in Human Plasma Using Hydrophilic Interaction Liquid Chromatography-Tandem Mass Spectrometry;** Ang Liu; Stuart Coleman; Matrix BioAnalytical Laboratories, New Haven, CT
- ThP 349 **Simultaneous Determination of Bezafibrate and Diflunisal in Human Plasma Using Liquid Chromatography-Tandem Mass Spectrometry;** Ang Liu; Stuart Coleman; Matrix BioAnalytical Laboratories, New Haven, CT
- ThP 350 **Validation of an LC/MS/MS Method for the Determination of Ibuprofen in Miniature Swine Plasma;** Lawrence Andrade; Adam Grenier; Teresa Pekol; Synomics Pharma, Wareham, MA
- ThP 351 **New Method for Rapid detection of Low Levels of Beta-Lactam Antibiotics in Recombinant Protein Therapeutics;** Melissa Zolodz; James Carroll; Ned Mozier; Pfizer, Chesterfield, MO
- ThP 352 **Quantification of a Very Polar Small Molecule, Guanfacine, in Human Plasma Using an Acquity UPLC and a 50 pg/mL LLOQ;** Troy Voelker; Lin Tan; Min Meng; Spencer Carter; Scott Reuschel; Tandem Labs, Salt Lake City, UT
- ThP 353 **Simultaneous Determination of Naloxone, 6 β -naloxol, and Naloxone-3 β -D-glucuronide in Mouse Plasma Using Liquid Chromatography-Tandem Mass Spectrometry;** Hongliang Jiang¹; Manjunath Shet²; Yurong Wang¹; ¹Covance Laboratories Inc., Madison, WI; ²Purdue Pharma L.P., Stamford, CT
- ThP 354 **Full Validation of LC-MS/MS Method for Determination of Phloroglucinol in Human Plasma;** Jin young Kim¹; Hyeon Jin Bae¹; Sun Koung Joung¹; Kyung Hee Cho¹; Sookie La¹; Hee Joo Lee^{1,2}; ¹BioCore Co.,Ltd, Seoul, Korea; ²Seoul Clinical Laboratories, Seoul, Korea
- ThP 355 **Quantification of Bambuterol in Human Plasma by LC-MS/MS Using Electropray Ionization Sources;** Ju-Hong Lee; Eunmi Ban; Jong-Oh Lee; Bio-Medieng, Seongnam, South Korea
- ThP 356 **Sensitive HPLC/MS/MS Assay for Bioequivalence Test of Anastrozole and Letrozole of Anti-Estrogen in Human Plasma;** Bohee Lim¹; Jooyeon Park¹; Haesook Bok¹; Soo-Youn Lee^{2,3}; Woosong Huh^{1,5}; Hojoong Kim¹; Sung Hwa Hong¹; Jaewook Ko^{1,4}; ¹Clinical Trial Center, Samsung Medical Center, Seoul, South Korea; ²Department of Laboratory Medicine and Genetics, Samsung Medical Center, Seoul, South Korea; ³Sungkyunkwan University School of Medicine, Seoul, South Korea; ⁴Division of Clinical Pharmacology, Seoul, South Korea; ⁵Department of Medicine, Samsung Medical Center, Seoul, South Korea
- ThP 357 **Sensitive Assay for Determination of Entecavir in Human Plasma Using LC/MS-MS;** Yifei Liu; Erika Hess; Tandem Labs, a division of Labcorp, West Trenton, NJ
- ThP 358 **Quantitative Analysis of Sirolimus in Mouse Whole Blood Using UPLC-MS/MS;** Linh Tran; Hongyan Li; Mark Rose; Christopher A. James; Amgen, Inc., Thousand Oaks, CA
- ThP 359 **Quantification of Tacrolimus in Human Whole Blood by Dry Blood Spot (DBS)-LC-MS/MS;** Haiqing Ding; Kathryn Piening; Tian-Sheng Lu; Guangchun Zhou; Yan Xu; John-Paul Gutierrez; Kristin Miller; Yong-Xi Li; Medpace Bioanalytical Laboratories, Cincinnati, OH
- ThP 360 **A Simple and Sensitive Method for the Determination of Cinacalcet in Human Dried Blood By Reverse Phase LC-MS/MS;** Philip S. Wong; Bernd Bruenner; Christopher James; Amgen, Thousand Oaks, CA
- ThP 361 **Determination of p-Phenylenediamine in Hair dyes by Using Microwave-Assisted Derivatization and Gas Chromatography-Mass Spectrometry;** Tzu-Ying Lin; Jing-Yi Huang; Maw-Rong Lee; National Chung-Hsing University, Taichung, Taiwan
- ThP 362 **In vivo Determination of Polyamines in Human Serum by Using Liquid Chromatography-Tandem Mass Spectrometry;** Ling-Chun Liao¹; Soo-Ray Wang²; Maw-Rong Lee¹; ¹National Chung-Hsing University, Taichung, Taiwan; ²Chung Shan Medical University, Taichung, Taiwan, ROC
- ThP 363 **Determination of Leukotriene B4 in Human Plasma by UFLC-MS/MS – A Novel Approach to Evaluate LTB4 as a Pharmacodynamic Biomarker;** Qingtao (Mike) Huang¹; Naidong Weng¹; Futian Han²; Weisheng Lin²; Zhongping (John) Lin²; Hsiaoju Lin²; Anne Fourie¹; Xiaohua Xue¹; Kirk Bertelsen¹; Jan de Jong¹; Ann Welton¹; ¹Johnson & Johnson, Princeton, NJ; ²Frontage Lab, Marven, PA
- ThP 364 **Determination of Serum Ribavirin Content Using Tandem Mass Spectrometry (LC-MS/MS): An Accurate, Precise, Selective and Sensitive Method;** Claudia Meek¹; Mamta K. Jain²; Tawanda Gumbo²; Richard Leff^{1,2}; ¹Texas Tech University Health Sciences Center, Dallas, TX; ²University of Texas Southwestern Medical Center, Dallas, TX
- ThP 365 **Differential Isotope Labeling for Quantitation of Acylglycines in Human Urine;** Avalyn Lewis; Kevin Guo; Liang Li; University of Alberta, Edmonton, Canada
- ThP 366 **A Rapid and Sensitive Chiral LC-MS/MS Method for the Determination of Warfarin Enantiomers in Human Plasma;** Chen-Yu Wang; Yan Xu; John Paul Gutierrez; Kristin Miller; Yong-Xi Li; Medpace Bioanalytical Laboratories, Cincinnati, OH
- ThP 367 **A Validated Method by LC-MS/MS with Electropray Ionization for Chiral Determination of R-Lipoic Acid and S-Lipoic Acid in Human Plasma;** Hwa Suk Kim; Seo Hyun Yoon; Joo-Youn Cho; Kyung Sang Yu; In-Jin Jang; Seoul National University, Seoul, South Korea
- ThP 368 **GLP Validation for a Quick and Sensitive Analysis of Lidocaine in Rat and Minipig Plasma;** Matthew Pollard; Derek Laine; Chad Christianson; Shane Needham; Alturas Analytics, Inc., Moscow, ID
- ThP 369 **Quantification of Caffeine Metabolites in Human Urine via a Simple and Rapid Liquid Chromatography-Tandem Mass Spectrometry Method;** Yao Shi; Laixin Wang; Jian Chen; Lisa Rohde; Spencer Carter; Min Meng; Scott Reuschel; Patrick Bennett; Tandem Labs, Salt Lake City, UT
- ThP 370 **Validation of a Liquid Chromatography Tandem Mass Spectrometry Assay Method for the Determination of R-Modafinil in Human Plasma;**

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- Gina de Boer; Xiufeng Ji; Winnie Lui; Rong Yi; Grace van der Gugten; Xuejun Peng; *Can Test Ltd, Burnaby, BC, Canada*
- ThP 371 **Comprehensive Typing of Unknown Microorganisms Based on Quantitative Analysis of Targeted Long Chain Fatty Acids by Mass Spectrometry**; Hongying Zhong; *Central China Normal University, Wuhan, China*
- ThP 372 **Quantitative Analysis of HM30181A in Human Plasma by Liquid Chromatography-Tandem Mass Spectrometry (LC-MS/MS)**; Bora Kim; Seul Oh¹; Seo Hyun Yoon; Joo-Youn Cho; Kyung-Sang Yu; In-Jin Jang; *Seoul National university, Seoul, Republic of Korea*
- ThP 373 **Matrix Effect Correlation for Multiple Analytes Using a Single Internal Standard**; Masuyuki Sugiyama; Shuhei Hashiba; Kazuki Tanaka; Hideki Hasegawa; Yuichiro Hashimoto; *Hitachi, Ltd, Central Research Lab, Kokubunji, Tokyo, Japan*
- ThP 374 **Relative Noise: A Novel Method for Determining Signal to Noise Ratios for Peaks in Quantitative LC-MS Applications**; Gordana Ivosev; Ron Bonner; Lyle Burton; John Gibbons; *AB SCIEX, Concord, Canada*
- ThP 375 **Simultaneous Quantitative Determination of Terbutaline and Its Prodrug Bambuterol in Human Plasma**; Jong-Dae Kim¹; Sun Koung Joung¹; Kyung Hee Cho¹; Sookie La¹; Hee Joo Lee^{1,2}; ¹*BioCore Co.,Ltd, Seoul, Korea*; ²*Seoul Clinical Laboratories, Seoul, Korea*
- SMALL MOLECULE ANALYSIS, 376 - 408**
- ThP 376 **Separation and Analysis of Fungicides in Orange Peel by GC/API-LC/MS**; Sheher Bano Mohsin¹; Michael Woodman¹; Harry Prest²; Patrick D. Perkins¹; ¹*Agilent Technologies, Schaumburg, IL*; ²*Agilent Technologies, Inc, Santa Clara, CA*
- ThP 377 **Enhanced Reproducibility of Small Molecule Analysis by MALDI-TOF Mass Spectrometry**; Hyesun Maeng^{1,2}; Miyoung Ha¹; Yangsun Kim^{1,2}; ¹*Hudson surface Technology, Inc., Newark, DE*; ²*Applied Surface Technology, Inc., Suwon, South Korea*
- ThP 378 **3D Imaging Mass Spectrometry of the Heart**; Lara Fornai^{1,2}; Ivo Klinkert¹; Annalisa Angelini²; Frans Giskes¹; Lennaert A. Klerk¹; Marny Fedrigo²; Gaetano Thiene²; Ron M.A. Heeren¹; ¹*Amolf, Amsterdam, Netherlands*; ²*University of Padua Medical School-Cardiovascular, Padua, Italy*
- ThP 379 **A Single Solution to Walk-Up Mass Spectrometry Access and Data Presentation**; Julie Herniman; G. John Langley; *University of Southampton, Southampton, UK*
- ThP 380 **Identification of Clozapine Oxidation and Hydrolysis Degradation Products by Using UPLC/UV/ESI-MS**; Xia Zhang; Xiaoping Zhang; Wai Tsui; Xiaotang Huang; *Teva Pharmaceuticals, Montvale, NJ*
- ThP 381 **Structure Elucidation with an Ultra-High Resolving TOF Instrument by Alternating MS and Broad-Band CID Analyses**; Peter Sander; Ilmari Krebs; Sebastian Goetz ; Birgit Schneider; *Bruker Daltonik, Bremen, Germany*
- ThP 382 **Detection of Small Biological Molecules by LDI-TOF-MS Using Self-Assembled Molecules on Silicon Surfaces**; Ömür Çelikkıçak¹; Gökhan Demirel²; Erhan Pişkin¹; Bekir Salih¹; ¹*Hacettepe University, Ankara, Turkey*; ²*Gazi University, Ankara, Turkey*
- ThP 383 **GC/MS Analysis of Bisphenol A and Other Potential Leachables from Container Closure Systems Used for Biopharmaceutical Therapeutics**; Sherry Castle; May Joy Miller; Katherine Taylor; Vinh Nguyen; *Shire Human Genetic Therapies, Cambridge, MA*
- ThP 384 **Development of a Universal Method for High-Throughput Screening of Antihypertensive Drugs by MALDI MS**; Eduardo C. Dias; Joey C. Latham; Dan M. Roden; Daniel R. Masys; Nancy J. Brown; Richard M. Caprioli; *Vanderbilt University, Nashville, TN*
- ThP 385 **Chemically Modified Porous Silicon for Laser Desorption/Ionization Mass Spectrometry**; Irina Shmigol¹; Sergei Alekseev²; Vladimir Zaitsev²; Valeriy Pokrovsky¹; ¹*O.O. Chuiko Institute of Surface Chemistry NASU, Kiev, Ukraine*; ²*National Taras Shevchenko University, Kiev, Ukraine*
- ThP 386 **Simultaneous Quantitation of Free and Liposomal Drug Forms in Human Serum by Evaporation-Free Extraction**; François Viel; Nuno Santos; Aimin Tan; Lise Laforest; Nadine Boudreau; Ann Lévesque; Adrien Musuku; Robert Massé; *Anapharm, Québec, Canada*
- ThP 387 **Electron Induced Dissociation (EID) of Small, Singly Charged Ions of Pharmaceutical Importance**; Jackie Mosely¹; Michael Smith¹; Zied Kaabia¹; Aruna Prakash¹; Glenn Hurst¹; Martin Sims²; Anthony W.T. Bristow²; ¹*Durham University, Durham, UK*; ²*AstraZeneca, Macclesfield, UK*
- ThP 388 **Relative Instability of Deuterated Internal Standard under Different pH Conditions and According to Deuterium Atoms Location**; Caroline Savard; Nathalie Pelletier; Nadine Boudreau; Sylvain Lachance ; Ann Lévesque; Robert Massé; *Anapharm, Québec, Canada*
- ThP 389 **Quantitation of Testosterone and Other Keto Steroids in Human Serum Using Derivatization Chemistry and LC/MS/MS**; Michal Weinstock¹; Brian Williamson²; Babu Purkayastha³; ¹*AB SCIEX, Framingham, MA*; ²*AB, Framingham, MA*; ³*Applied Biosystems, Framingham, MA*
- ThP 390 **Sample Collection Stability Issue When Dealing with Highly Bounded to Erythrocytes Molecules**; Nadia Savard; Marie-Josée Marcoux; Sylvain Lachance ; Ann Lévesque; Robert Massé; *Anapharm, Québec, Canada*
- ThP 391 **ESI HRMSn Fragmentation Pathways of Some N-Heterocyclic Drug Compounds**; Claudio Medana; *University of Turin, Torino, Italy*
- ThP 392 **Mass Spectra from Dried Fullerene C₆₀ Solutions Correlate with Aggregation in Initial Samples**; Sergei Snegir¹; Valeriy Pokrovsky¹; Michael Avdeev²; Alena Kyzyma²; ¹*O.O. Chuiko Institute of Surface Chemistry, NASU, Kiev, Ukraine*; ²*Joint Institute for Nuclear Research, Dubna, Russia*
- ThP 393 **Rapidly Monitoring Chemical Reactions and Identifying Products with Thermal Desorption/MS to Improve Synthesis Lab Workflow and Productivity**; Peter J. Lee; Michael P. Balogh; Jennifer Burgess; *Waters Corporation, Milford, MA*
- ThP 394 **A Robust and Ultra Sensitive Low Picograms Hormonal Contraceptive Determination by LCMSMS**; Guy Havaré; Sylvain Lachance ; Ann Lévesque; Robert Massé; *Anapharm, Québec, Canada*
- ThP 395 **Infrared Laser Desorption Electron Ionization for Ambient Mass Spectrometry**; Juaneka Hayes; Sung Gun Park; Kermit K. Murray; *Louisiana State University, Baton Rouge, LA*
- ThP 396 **Analysis of Urinary 8-Oxo-7,8-dihydro-2'-deoxyguanosine by Liquid Chromatography/Mass Spectrometry**; Ashley Wohler¹; Dipti Mangal¹; Clementina Mesaros²; Laura Phillips³; Ian A. Blair⁴; ¹*University of Pennsylvania, Philadelphia, PA*;

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- ²UPENN, Philadelphia, PA; ³Agilent Technologies, Wilmington, DE; ⁴Univ. of Penn/SOM/Pharmacol, Philadelphia, PA
- ThP 397 **Percutaneous Absorption of Drug Compounds into Skin Measured by a New MALDI-TOF SRM Mode;** Peter S. Marshall; Valerie Toteu-Djomte; Keith Biggadike; **GlaxoSmithKline, Stevenage, UK**
- ThP 398 **Structure Elucidation Methodologies for Oxygen- and Methyl-Containing Aromatic Analytes via Positive-Mode APCI/MSn Coupled with HPLC;** Lucas Amundson¹; Vanessa Gallardo¹; Steven Habicht²; Nelson Vinueza¹; Ryan Shea³; Allen Mossman³; Hilikka Kentamaa¹; ¹Purdue University, West Lafayette, IN; ²CNA, Alexandria, Virginia; ³BP Chemicals, Naperville, IL
- ThP 399 **Inter-Laboratory Validation of a Modified QuEChERS and LC-MS/MS Method for Analysis of >200 Pesticide Residues in Six Fatty Food Products;** Yi Lin¹; Narong Chamkasem²; Kai Chang³; Jon Wong³; ¹FDA PRLSW, Irvine, CA; ²FDA SRL, Atlanta, GA; ³FDA CFSAN, College Park, MD
- ThP 400 **Investigation of Luciferin Analogs Using LC-UV-MS/MS;** Pegah Jalili; Ettigounder Ponnusamy; Kevin Ray; Gordon Nicol; **Sigma-Aldrich, St. Louis, MO**
- ThP 401 **Extraction of Putative Endocrine Disruptors from Maternal Serum and Fetal Meconium and Detection by ESI Tandem MS;** Stephanie Curtice; Jeffrey May; Michael J. Van Stipdonk; **Wichita State University, Wichita, KS**
- ThP 402 **Identification of Degradants of Sufentanil Under Oxidative and Thermal Stress Using LC/MS/MS and UV Detection;** Renee Huang; Loren Olson; **AB Sciex, Foster City, CA**
- ThP 403 **In-Depth Fragmentation Analysis Utilizing Accurate Mass Q-ToF MS/MS for Identification of Degradation Products of Fluphenazine Decanoate in an Oil-based Matrix;** Todd Schwier; Paul Bigwarfe; Esther Hwang; Samantha Leidner; **Hospira, Inc., Lake Forest, IL**
- ThP 404 **Application of Desorption Electrospray Ionization to the Analysis of Liquid Crystal Displays;** Sung-Chan Jo; **LCD R&D Center, Samsung Electronics, Co., Ltd., Yongin, South Korea**
- ThP 405 **LD-FTICR for Exact Molecular Determination of Endohedral Metallofullerenes;** Michael Easterling¹; Steven Stevenson²; Christopher Thompson³; ¹Bruker Daltonics, Inc., Billerica, MA; ²University of Southern Mississippi, Hattiesburg, MS; ³Bruker Daltonics Inc., Billerica, MA
- ThP 406 **High-throughput Analysis of Keto-eicosanoids in a COX-2 Inhibition Assay via MALDI MS;** Joey C. Latham; Joseph Manna; Philip Kingsley; Lawrence Marnett; Richard M. Caprioli; **Vanderbilt Univ Sch of Med, Nashville, TN**
- ThP 407 **Multi-Residue Analysis of Veterinary Drugs in Milk by Turbulent Flow Chromatography Tandem Mass spectrometry;** Marie-Hélène Le Breton; **Nestlé Research Center, Lausanne, Switzerland**
- ThP 408 **Accurate Mass Measurements: Identifying Known Unknowns Using Publicly Accessible Databases;** James L. Little¹; Curtis D. Cleven¹; Stacy C. Brown²; ¹Eastman Chemical Company, Kingsport, TN; ²East Tennessee State Univ., Johnson City, TN
- LC/MS: 409 - 436**
- ThP 409 **Development of a Method for the Quantification of Fluorouracil and Flucytosine in Human Plasma;** Lee Winchester; John Rollag; Kayan Harris; Bridget Prenosil; **MDS Pharma Services, Lincoln, NE**
- ThP 410 **Novel Comprehensive On-line Two-dimensional Liquid Chromatography of Peptides by HILIC-RP-ESI/MS for Detailed Protein Characterization;** Krishnamoorthy Kuppannan; Scott Young; **The Dow Chemical Company, Midland, MI**
- ThP 411 **Dried Blood Spots Sampling in Combination with LC-MS/MS for Quantitative Analysis of Metoprolol Enantiomers and its Active Metabolite O-Desmethyl Metoprolol;** Xiaorong Liang; Hongliang Jiang; Xi Chen; Tom Addison; Kevin Jones; Douglas Fast; **Covance Laboratories Inc., Madison, WI**
- ThP 412 **Factorial Design for Optimizing the Q-TOF Setting. Reproducibility of Nanospray Measurements and the Development of MS/MS Libraries;** Yamil Simón-Manso; Pedatsur Neta; Xiaoyu Yang; Stephen E. Stein; **NIST, Gaithersburg, MD**
- ThP 413 **Calibration of User-Defined LC/MS Systems for Complementary Filtering and Validation of MS Based Identifications by “predictive” Chromatography of Biomacromolecules;** Anton Goloborodko¹; Tatyana Perlova¹; Marina L. Pridatchenko¹; Alexander V. Gorshkov²; Irina A. Tarasova¹; Eugene Moskovets⁴; Mikhail V. Gorshkov¹; Alexander R. Ivanov³; ¹Institute for Energy Problems of Chemical Physics, Moscow, Russian Federation; ²Institute of Chemical Physics, Moscow, Russian Federation; ³Harvard University HSPH, Boston, MA; ⁴MassTech Inc., Columbia, MD
- ThP 414 **LC-MS with Integrated UV Detection for Mass Balance Studies;** Carmai Seto¹; Elizabeth Kwong²; Takeo Sakuma¹; ¹AB SCIEX, Concord, Canada; ²Merck and Co, Rahway, NJ
- ThP 415 **Quantitative Determination of Bisphenol A from Human Saliva by Bulk Derivatization and Trap-and-Elute HPLC-ESI-MS;** Samuel H. Yang¹; Aaron A. Morgan¹; Hien P. Nguyen¹; Benjamin J. Figard²; Kevin Schug¹; ¹University of Texas at Arlington, Arlington, TX; ²Shimadzu North America (Regional Office - Houston), Houston, TX
- ThP 416 **Determination of Vancomycin in Human Plasma Using LC/MS-MS;** Yifei Liu; Erika Hess; **Tandem Labs, a division of Labcorp, West Trenton, NJ**
- ThP 417 **A New LC-MS Method for Investigating the Gamma-Aminobutyric Acid (GABA) Shunt Pathway in Plants;** Stephen J. Ambrose¹; Natalia Rudnitskaya²; Mark Pickard²; Randall Purves¹; ¹National Research Council, Saskatoon, Canada; ²InfraReady Products Ltd., Saskatoon, Canada
- ThP 418 **Matrix Effect and Correction in the Analysis of Bile Acids Composition for Pouchitis by LC-ESI-MS;** Xiaohan Cai¹; Xiang Zhou¹; Bo Shen²; Baochuan Guo¹; ¹Cleveland State University, Cleveland, OH; ²Cleveland Clinic, Cleveland, OH
- ThP 419 **Femtogram Quantitation of Naltrexone and 6-β-Naltrexone in Human Plasma by LC-MS/MS;** Roger D.D. Demers; Angela Lynn McGrath; **Tandem Labs, West Trenton, New Jersey**
- ThP 420 **Next-Generation Autosampler for LC-MS Equipped with Straight Injection Technology TM;** Yoshikazu Sugito; Tsuneaki Kaneko; Osamu Shirota; **Shiseido Co. Ltd, Tokyo, Japan**

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- ThP 421 **Quantitation of Tetracycline and 3 Derivatives in Human Urine by LC-MS/MS**; Roger Demers; Daria Wentzel; Denny Yifei Liu; Laura Cojocar; Erika Hess; Heike Mongiovi; *Tandem Labs, West Trenton, NJ*
- ThP 422 **Matrix Blind Online LC Sample Extraction Coupled with High Resolution Benchtop Mass Spectrometry Detection for Food Matrices**; Yang Shi; Catherine Lafontaine; Francois A. Espourteille; *Thermo Fisher Scientific, Franklin, MA*
- ThP 423 **Comparison of Full Scan High Resolution MS and Triple Quadrupole SRM in Quantitative Bioanalysis**; Yuan-Qing Xia¹; Jim Lau²; Bob Walker²; Timothy Olah¹; Mohammed Jemal¹; ¹*Bristol-Myers Squibb Company, Princeton, NJ*; ²*Agilent Technologies, Inc, Wilmington, Delaware*
- ThP 424 **Spacio-temporal Molecular Distribution in a Developing Frog (Xenopus) Egg by Micro LC-MS**; Siyu Zhang¹; Atsushi Kurisu¹; Naohiro Tsuyama¹; Hajime Mizuno¹; Atsushi Suzuki²; Kimiko Takebayashi-Suzuki²; Tsutomu Masujima¹; ¹*Hiroshima Univ. BioMed., Hiroshima, Japan*; ²*Hiroshima Univ. Sci., Higashihiroshima, Japan*
- ThP 425 **Use of Orthogonal Sub-2µm Diphenyl LC Columns for Improved Sensitivity in Bioanalysis**; Mike Chang; David Jones; Norwin von Doehren; Wilroy Bennen; Ritu Arora; *Varian Inc., Lake Forest, CA*
- ThP 426 **LC-ESI-MS/MS Analysis of Conjugated Steroid Estrogens for Understanding the Drug-Induced Modulation of Sulfotransferase Activity**; Sergiu P. Palli; Margaret O. James; Sriram Ambadapadi; Laura Rowland-Faux; *University of Florida, Gainesville, FL*
- ThP 427 **An LC-MS/MS Assay for the Analysis of Hexamethylene Bisacetamide in a Human Breast Cancer Mouse Model**; Kerri M. Smith¹; Wannarasmi Kechart²; Monica Montano²; Yan Xu^{1,3}; ¹*Cleveland State University, Cleveland, OH*; ²*Case Western Reserve University, Cleveland, OH*; ³*Case Cancer Pharmacology Core Facility, CWRU, Cleveland, OH*
- ThP 428 **Determination of Relative Affinity and Inhibitory Activity of Pyrazolone Analogs Using Mycobacterium Tuberculosis Shikimate Kinase LC-MS Based Screening Assays**; Vanisree Mulabagal; Angela Calderon; *Auburn University, Auburn, AL*
- ThP 429 **Rapid Through-put Methods for Accurate Quantification of Oligosaccharides in Human Milk**; John S. Strum¹; Jaehan Kim²; Shuai Wu¹; Mariana Barboza¹; Maria Lorna A. de Leoz¹; Rudolf Grimm³; Carlito B. Lebrilla^{1,4}; ¹*Department of Chemistry, UC Davis, Davis, CA*; ²*Department of Viticulture and Enology, UC Davis, Davis, CA*; ³*Agilent Technologies, Inc., Santa Clara, CA*; ⁴*Dept. Biochemistry and Molecular Medicine UC Davis, Davis*
- ThP 430 **High-resolution LC-MS for the Characterization of Intact Proteins Using Poly(styrene-co-divinylbenzene) Monolithic Capillary Columns**; Sebastiaan Eelink¹; Bert Wouters¹; Gert Desmet¹; Mario Ursem²; Achim Treumann³; ¹*Vrije Universiteit Brussel, Brussels, Belgium*; ²*Dionex Benelux, Amsterdam, The Netherlands*; ³*NEPAF, North East Proteome Analysis Facility, Newcastle upon Tyne, UK*
- ThP 431 **Development of a Method for Determining Veterinary Drugs used in All Food Producing Animals Using Liquid Chromatography-Mass Spectrometry**; Vallerie Muckova; Kwenga Sichilongo; *University of Botswana, Gaborone, Botswana*
- ThP 432 **A Top – Down FT-ICR Precursor Acquisition Independent from Ion Count (PACIFIC) Strategy on an LC Timescale**; C. Logan Mackay¹; Yihuan Tsai³; Adam A. Stokes¹; Muhammed Karim¹; Matthias Witt²; David R. Goodlett³; Pat Langridge Smith¹; ¹*SIRCAMS, Edinburgh, UK*; ²*Bruker Daltonik GmbH, Bremen, Germany*; ³*University of Washington, Seattle, WA*
- ThP 433 **Retention Time Shifts Associated with the Variation of Gradient Slope in Peptide RP HPLC: Critical Corrections for Scheduled MRM Analysis**; Oleg V. Krokhin; Hoangkim Vu; Alexander Gotfrid; Marine Grigoryan; Vic Spicer; *University of Manitoba, Winnipeg, Canada*
- ThP 434 **High Resolution MS for Quantitation of Drugs in Plasma: Evaluation of Resolution and Mass Extraction Window to Achieve Required Selectivity**; Yuan-Qing Xia¹; Jim Lau²; Bob Walker²; Nga Kit Eliza Fung¹; Timothy Olah¹; Mohammed Jemal¹; ¹*Bristol-Myers Squibb Company, Princeton, NJ*; ²*Agilent Technologies, Inc, Wilmington, DE*
- ThP 435 **Real Time 2D Separation; Increasing the LC peak Capacity Using Gas Phase Separation Prior to MS Analysis**; J.C. Yves Le Blanc¹; Emmanuel Varesio²; Gérard Hopfgartner²; ¹*AB-Sciex, Toronto, Canada*; ²*School of Pharmaceutical Sciences, EPGL, LSMV, Geneva, Switzerland*
- ThP 436 **A Substructure Approach to Assigning Product Ions from ca 1600 Da Active Pharmaceutical Ingredient**; Wei Ding; Yande Huang; Zhenrong Guo; Xujin Lu; Venkatapuram Palaniswamy; Mark S. Bolgar; *Bristol-Myers Squibb, New Brunswick, NJ*

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- ThP 437 **Considerations in Developing a Robust Ultrafiltration-LC-MS/MS Method for Quantitative Analysis of Unbound Analyte in Human Plasma**; Wenkui Li; Hui Lin; Harold T Smith; Francis LS Tse; *Novartis Institutes for Biomedical Research, East Hanover, NJ*
- ThP 438 **Plasma Pharmacokinetics of NSC 742410, a Novel Dinucleotide Multidrug, in Mice**; Lawrence R. Phillips²; John P. Carter¹; Eva Majerova¹; Melinda G. Hollingshead^{2,2}; ¹*SAIC-Frederick, Inc., NCI-Frederick, Frederick, MD*; ²*National Cancer Institute-Frederick, Frederick, MD*
- ThP 439 **Coupling One Step Peptide Extraction Using Dihydroxybenzoic Acid to LC/MS for Peptide Sequencing**; Elena Romanova; Ji Eun Lee; Neil L. Kelleher; Jonathan Sweedler; *University of Illinois, Urbana, IL*
- ThP 440 **Withdrawn**
- ThP 441 **The Detection of Veterinary Residues in Meat Using on Line SPE in Combination with LC/MS/MS Analysis**; Stephen J. Lock¹; Liliana Bonetto²; Francisco Mocholi²; ¹*ABSCIEEX, Warrington, UK*; ²*SAILab, Barcelona, Spain*
- ThP 442 **The First Protein Map of the Spiruline, Arthrospira Platensis Using a Combination of Gel-Based, 2D and 3D-LC MS/MS Approaches**; Sabine Matallana-Surget; Baptiste Leroy; Ruddy Wattiez; *Dept of Proteomic and Microbiology, UMONS, Mons, Belgium*
- ThP 443 **Determination of Perfluorochemicals in Milk Using Liquid Chromatography - Tandem Mass Spectrometry**; Wendy Heiserman; Gregory O. Noonan; Paul South; Timothy Begley; Gregory Diachenko; *Food and Drug Administration, College Park, MD*

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- ThP 444 **Fully Automated Multiple Reaction Monitoring Quantification of Eicosanoids in Biological Samples by Solid-Phase Extraction–Liquid Chromatography–Tandem Mass Spectrometry**; Carlos Ferreiro-Vera²; Jose Maria Mata Granados¹; María Dolores Luque de Castro²; Jose Manuel Quesada Gómez³; ¹Department of I+D+i, Sanyres Group, Córdoba, Spain; ²University of Córdoba, Córdoba, Spain; ³Reina Sofia Hospital, Córdoba, Spain
- ThP 445 **Vitamin D and Metabolites: Evaluation of Supported Liquid Extraction (SLE) prior to LC-MS/MS Analysis**; Lee Williams; Rhys Jones; Helen Lodder; Geoff Davies; Steve Jordan; Richard Calverley; Claire Desbrow; Gary Dowthwaite; *Biotage GB Limited, Cardiff, UK*
- ThP 446 **Identification of Growth Factors in Mouse Plasma by Immunoaffinity Depletion, Low Molecular Weight Protein Enrichment and LC-MS/MS Analysis**; Jianying Zhou¹; Janani I Shutthanandan¹; Brianne O Petritis¹; Karl K Weitz¹; Ronald J Moore¹; David G Camp II¹; Rohit N Kulkarni²; Richard D. Smith¹; Weijun Qian¹; ¹Pacific Northwest National Lab, Richland, WA; ²Harvard Medical School, Boston, Massachusetts
- ThP 447 **Carbamidomethyl-Dithiothreitol Modifications of Cysteine-Containing Peptides: A Potentially Significant Byproduct of Reduction-Alkylation Reactions in Proteomic Studies**; Tracy Ystesund¹; Wallace Muhonen¹; William Old²; Stephane Houel³; John Shabb¹; ¹University of North Dakota, Grand Forks, ND; ²University of Colorado, Boulder, CO; ³Howard Hughes Medical Instit, Boulder, CO
- ThP 448 **Construction of Proteomic and Glycomic Enzyme Reactors in Microwave Initiated Monolithic Supports**; Yehia Mechref; Yazen Jmeian; *Indiana University, Bloomington, IN*
- ThP 449 **New Sample Preparation Method Improves Multi-Residue Screening of Veterinary Drugs in Meat and Milk and Ensures Food Safety**; David Jones; Kazuyuki Yamashita; Eugene Chang; Paul Boguzewski; Ritu Arora; *Varian Inc., Lake Forest, CA*
- ThP 450 **Strategies for Efficient Sample Preparation of Various Tissues for LC/MS/MS Analysis**; Valerie Kempf¹; Carly Correll¹; Robert Friley¹; Larry Goll¹; David Singletary¹; Thorsten Degenhardt²; ¹Enthalpy Analytical, Inc., Durham, NC; ²Cempra Pharmaceuticals, Inc., Chapel Hill, NC
- ThP 451 **A Simultaneous Analysis of Multiple Classes of Veterinary Medicine Residues in Whole Blood and Blood Plasma by SPE-LC-MS/MS**; Richard Schriener; Jason Clague; Bruce Morris; *Hill Laboratories, Hamilton, New Zealand*
- ThP 452 **Development of a Synthetic Protein Quality Control (QC) Standard for the Assessment of Sample Proteolysis Reproducibility**; Bryan Krastins¹; Amol Prakash²; Scott Peterman³; David Sarracino¹; Michael Athanas⁴; Taha Rezai¹; Mary F Lopez⁵; ¹Thermo Fisher Scientific, Cambridge, MA; ²ThermoFisher Scientific, Cambridge, MA; ³Thermo Electron, Grimes, IA; ⁴VAST Scientific, Cambridge, MA; ⁵ThermoFisher, Cambridge, MA
- ThP 453 **Extension of Species-level Proteome Coverage in a Natural Microbial Community with the GelFree Fractionation System**; Brian Dill¹; Nicholas Justice²; Vincent Deneff²; Manesh Shah¹; Brian Thomas²; Michael Thelen³; Robert Hettich¹; Jillian Banfield²; Nathan Verberkmoes¹; ¹Oak Ridge National Laboratory, Oak Ridge, TN; ²University of California, Berkeley, Berkeley, CA; ³Lawrence Livermore National Laboratory, Livermore, CA
- ThP 454 **Characterization of Intact Antibodies by Pre-Fractionation Using Gel Electrophoresis and ESI-MS**; James B. Harkins, III; Cindy Brown; Chris Dill; Nghia Chiem; Charles E. Witkowski, II; Jeremy L. Norris; *Protein Discovery, Inc., Knoxville, TN*
- ThP 455 **Ultra Performance Liquid Chromatography-Tandem Mass Spectrometric (UPLC-MS/MS) Technique for Quantitation of Protein Free Efavirenz in Human Seminal Plasma**; Lindsay B. Avery; Teresa L. Parsons; Meyers David J.; Walter C. Hubbard; *Johns Hopkins Hospital, Baltimore, MD*
- ThP 456 **Addressing the Issues of Matrix Resolution and Measurement in Bioanalytical Assays**; Geneen Baynham¹; Paul Rainville²; Marian Twohig¹; Rob Plumb²; Ian Wilson³; ¹Waters Corporation, Milford, MA; ²Waters, Milford, MA; ³AstraZeneca, Manchester, UK
- ThP 457 **Solid Phase Extraction Combined with Liquid Chromatography–Tandem Mass Spectrometry for Determination of Cyromazine and Metabolites in Animal Tissue**; Pei-Cheng Wang; Ren-Jye Lee; Pin-Ren Yu; Maw-Rong Lee; *National Chung-Hsing University, Taichung, Taiwan*
- ThP 458 **Improving Internal Standard Reproducibility In LC-MS/MS Analysis of Half-Life Metabolic Stability Samples**; Shu Li; Wilson Shou; Cheryl Ferraro; Tatyana Zvyaga; Harold Weller; *Bristol-Myers Squibb Company, Wallingford, CT*
- ThP 459 **Rapid and Sensitive LC-MS-MS Method for Dutasteride in Human Plasma**; Minjung Chae; Seungwoo Kang; Na Ry Ha; *ISS, Seoul, South Korea*
- ThP 460 **Improved Assay Ruggedness Using Hybrid Sample Preparation**; Wei Zhou; Yilin Feng; Harold T Smith; Francis Tse; *Novartis Institutes for Biomedical Research, East Hanover, NJ*
- ThP 461 **Simultaneous Quantitation of Metformin and Glimepiride in Human Plasma Using Hydrophilic Interaction Liquid Chromatography-Tandem Mass Spectrometry**; Haejong Jang; *International Scientific Standard, Chuncheon, South Korea*
- ThP 462 **Stability Implications for Quantitative Determination of Bortezomib in Human Plasma Using LC/MS/MS**; Linge Li; William Mylott; Bruce Hidy; Rand Jenkins; *PPD, Richmond, VA*
- ThP 463 **Investigation of Extraction Recovery for a Novel Anti-cancer Agent in Rat and Beagle Whole Blood**; Yifei Liu¹; Carl Bates II²; Martin Paton³; ¹Tandem Labs, a division of Labcorp, West Trenton, NJ; ²Tandem Labs, West Trenton, NJ; ³Millennium Pharmaceuticals, Inc., Cambridge, MA
- ThP 464 **Interfacing the Droplet Compartmentalization of High-Efficiency Separations with Mass Spectrometry**; J. Scott Edgar; Gloria S. Yen; Robert M. Lorenz; Thomas Schneider; Daniel T. Chiu; *University of Washington, Seattle, WA*

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- ThP 465 **Use of HepaRG Cells for Cytotoxicity and Cytochrome P450 Induction Studies**; Yang Song^{1,2}; Richard B. Van Breemen¹; Scott G Franzblau²; ¹University of Illinois, Chicago, IL; ²Institute of Tuberculosis Research, Chicago, Illinois
- ThP 466 **Direct nanoMS Analysis of a Drug-Induced Phospholipidotic Droplet in a Single HepG2 Cell**

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- Kiyoshi Takeshima; Sachiko Date; Hajime Mizuno; Naohiro Tsuyama; Takanori Harada; Tsutomu Masujima; *Hiroshima Univ. BioMed., Hiroshima, Japan*
- ThP 467 **Determination of 13 Quinolones in Bovine Milk by Liquid Chromatography with Tandem Mass Spectrometry**; Chae-mi Lim Lim; Hyun-Jeong Kwon; Byung-hoon Cho; Su-Jeong Park; Myeong Ae Kim; Seong-Wan Son; *National Veterinary Research & Quarantine Service, Anyang, South Korea*
- ThP 468 **Using Zebrafish to Study the Impact of the Pharmaceuticals Caffeine, Erythromycin, and Fluoxetine Present as Environmental Pollutants to Mammals**; Samantha Weber; Rebeca Pinhancos; Molly Gill; Dil Ramanathan; *Kean University, Union, NJ*
- ThP 469 **LC-MS/MS Method Development Using Host-Guest Chemistry to Find the Lowest Detectable Limits for Melamine and Cyanuric Acid**; Regina Nardi; Karina Nogueir; Dil Ramanathan; *Kean University, Union, NJ*
- ThP 470 **Using a Knowledge-Based Software Program to Identify Potential Toxic Intermediates in Drug Compounds**; Sian Ives; Ernest Murray; Kristina Fielding; *Lhasa Limited, Leeds, UK*
- ThP 471 **LC/MS/MS Method to Identify and Quantify Two Metabolites of Davalintide (AC2307), a Novel Amylin-Mimetic Peptide, in Rat and Dog Plasma**; Ying Qu; Chris Bellows; John Ahn; Lala Mamedova; Steven Taylor; Jennifer Burkey; Yan Wang; *Amylin Pharmaceuticals, Inc., San Diego, CA*
- ThP 472 **Monitoring Tissue Distributions of Antibody Drug Conjugate Biotherapeutics by LC-MS**; Keyang Xu; Luna Liu; Helen Davis; Montserrat Carrasco-Triguero; Sophia Yap; Willy Solis; Michelle McDowell; Rebecca Erickson; Ola Saad; Kelly Flagella; Surinder Kaur; *Genentech, Inc., South San Francisco, CA*
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- ThP 473 **Stir Bar Sorptive Extraction (SBSE or Twister™) for Aqueous Environmental Samples**; Lorraine Iverson¹; St Germain Margie¹; Laura Webb¹; Ed Pfanncoch²; ¹USEPA, Kansas City, KS; ²Gerstel, Inc., Linthicum, MD
- ThP 474 **Analysis of Semi-Volatile Organic Compounds (EPA Method 8270D) in Environmental Water Samples Utilizing Solid Phase Extraction Disks and Carbon Cartridge**; David Gallagher; *Horizon Technology, Inc, Salem, NH*
- ThP 475 **Recent Developments and *in situ* Measurements of Underwater Mass Spectrometers**; Tim Short; Ryan J. Bell; Strawn K. Toler; Friso H. W. van Amerom; *SRI International, St Petersburg, FL*
- ThP 476 **Organic Material Released by Coastal Microbial Consortia upon Incubation with Glucose: Preliminary Identification of Novel Biomarkers for Bacterial Physiology**; Elizabeth Kujawinski; Melissa Soule; *Woods Hole Oceanographic Ins, Woods Hole, MA*
- ThP 477 **Optimization of Atmospheric Pressure Photoionization Fourier Transform Ion Cyclotron Resonance Mass Spectrometry for Characterization of Dissolved Organic Matter**; David C. Podgorski¹; Amy M. Mckenna^{1,2}; Ryan P. Rodgers^{1,2}; Alan G. Marshall^{1,2}; William T. Cooper¹; ¹Florida State University, Tallahassee, FL; ²National High Magnetic Field Laboratory, Tallahassee, Florida
- ThP 478 **Detection and Quantification of Low Temperature Air Oxidation of Fluoranthene Reaction Products on Mineral Matrices: Contribution of on-Line GPC-**
- (APCI/APPI)-Q-TOF; Thierry Ghislain; Coralie Biache; Raymond Michles; Pierre Faure; *Nancy Université, Vandoeuvre Lès Nancy, France*
- ThP 479 **Evaluation of pH Effects on the Adsorption of N-Nitrosamines by Powdered Activated Carbon Using LC-MS/MS**; Yinfa Ma¹; Xiaoliang Cheng¹; Honglan Shi²; Craig Adams³; Terry Timmons⁴; ¹Missouri S&T, Rolla, MO; ²Missouri S&T/ERC, Rolla, MO; ³University of Kansas, Lawrence, KS; ⁴Missouri Department of Natural Resources, Jefferson City, MO
- ThP 480 **Use of a Model Acid System to Interpret Results from GC/MS Analysis of Environmental Naphthenic Acids**; C. Dustin Clark; Nicole Glines; Henry Allred; Charley C. Langley; *Utah State University- Uintah Basin, Vernal, UT*
- ThP 481 **Development of Hydrophilic Interaction Chromatographic-Mass Spectrometry Method for the Analysis of the Acid Fraction of Oilsands Processing Water**; Brian Fahlman¹; Kerry M. Peru¹; John Headley¹; Stephen Mcdonald²; ¹Environment Canada, Saskatoon, SK; ²Waters Corporation, Beverly, MA
- ThP 482 **Determination of PAHs in the Oilfield Produced Water at the Nasser Oilfield, Libya by Using Gas Chromatography Mass Spectrometry [GC-MS]**; Salem Omar; Tom Smith; Malcolm Clench; *Sheffield Hallam University, Sheffield, UK*
- ThP 483 **Chemical Fingerprinting of Diesel Fuels by Gas Chromatography- and Direct Liquid Introduction-Fourier Transform Ion Cyclotron Resonance Mass Spectrometry**; Vincent Y. Taguchi¹; Robert Nieckarz²; Stefan Krolik³; Robert Williams⁴; ¹Ministry of the Environment, Toronto, Canada; ²ETH Zurich, Zurich, Switzerland; ³Consultant to Varian, Montreal, Canada; ⁴Varian Inc, Walnut Creek, CA
- ThP 484 **Determination of Levels of Volatile Methyl Silicones in Air Samples from across Canada**; Mehran Alaei; Helena Steer; *Environment Canada, Burlington, Canada*
- ThP 485 **Selection of an Optimal Reagent Ion for the Chemical Ionization of Atmospherically Relevant Carboxylic Acids**; Marc Fiddler^{1,2}; Solomon Bililign^{1,2}; ¹North Carolina A&T State U., Greensboro, NC; ²NOAA-ISETCSC, Greensboro, NC
- ThP 486 **Characterization of Airborne Allergens of Crab and Determination of Their Levels in Air Samples of Processing Plants Using Mass Spectrometry**; Anas Abdel Rahman¹; Andreas Lopata²; Robert Helleur¹; ¹Memorial university of NL, St. John's, Canada; ²RMIT University, Bundoora Campus Melbourne, Australia
- ThP 487 **Pretreatment Set for the Biological Agnet Analysis**; Yong G. Byun; *Agency for Defense Development, Daejeon, South Korea*
- ThP 488 **Seasonal, Spatial and Temporal Variations of Air Toxics in the Seattle-Tacoma Airshed Measured by Membrane Introduction Tandem Mass Spectrometry (MIMS-MS/MS)**; Nicholas G. Davey^{5,6}; Jacob M. Etzkorn^{5,6}; Morten Martinsen^{4,5}; Ji H. Park³; Robert S. Crampton¹; Cole T. E. Fitzpatrick¹; Timothy V. Larson^{1,3}; Christopher D. Simpson¹; Michael G. Yost^{1,2}; Erik T. Krogh^{5,6}; Christopher G. Gill^{5,6}; ¹DEOHS, University of Washington, Seattle, WA; ²PNASH Center, Seattle, WA; ³Environmental Engineering, Univ. of Washington, Seattle, WA; ⁴Institut for kjemi, NTNU, Trondheim, Norway; ⁵Applied Environmental Research Labs. (AERL), Nanaimo, Canada; ⁶Vancouver Island University, Nanaimo, Canada

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- ThP 489 **Membrane Inlet- Transportable FT-ICR Mass Spectrometry of Trace Halogenated Compounds in Water;** Essyllt Louarn¹; Christophe Dehon¹; Thibaud Navarro²; Joel Lemaire³; Michel Heninger²; H el ene Mestdagh¹; ¹Universit e Paris Sud XI, Orsay, France; ²AlyXan, Orsay, France; ³LCP CNRS - Universit e Paris Sud 11, Orsay, France
- ThP 490 **Fast Determination of Synthetic Polycyclic Musks in Solid Samples by Microwave-Assisted Headspace Solid-Phase Microextraction and Gas Chromatography-Mass Spectrometry;** Wang-Hsien Ding; National Central University, Chung-Li, Taiwan
- ThP 491 **Exploring the Link Between Urban Aerosols and DNA Adducts Using nanoLC-ESI-MS/MS;** Joshua J. Klaene^{1,2}; James Glick^{1,2}; Euripides G. Stephanou³; Paul Vouros^{1,2}; ¹Department of Chemistry, Northeastern University, Boston, MA; ²Barnett Institute, Northeastern University, Boston, MA; ³Department of Chemistry, University of Crete, Heraklion, Greece
- ThP 492 **A Mass Spectrometry-Based Approach for Source Identification and Odours Production Remediation;** Enrico Davoli; Giancarlo Bianchi; Giorgio Celeste; Marinella Palmiotto; Mario Negri Institute, Milano, Italy
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- ThP 493 **A 'Green' Technique for a 'Green' Future: Degraded Biodiesel Sample Analysis Using SFC-UV-MS;** Christianne Wicking¹; G. John Langley¹; Tom Lynch²; ¹University of Southampton, Southampton, UK; ²BP Global Lubricants, Pangbourne, UK
- ThP 494 **Petroleomic Analysis of Pyrolysis Biomasses Using APPI FT ICR and APPI LTQ-Orbitrap;** Erica Smith²; David Perdian²; Christopher Thompson³; Robert Brown¹; Young Jin Lee²; ¹Iowa State University, Ames, IA; ²Iowa State University Ames Laboratory US DOE, Ames, IA; ³Bruker Daltonics Inc., Billerica, MA
- ThP 495 **LC/MS/MS Process Monitoring of Bioethanol Production;** Robert Ellis¹; Hubert Piatkowski²; Tom Moy¹; Takeo Sakuma¹; ¹AB SCIEX, Concord, Canada; ²GreenField Ethanol Inc, Chatham, Canada
- ThP 496 **Pyrolysis and Reactive Pyrolysis GCMS of Biomass, Biofuel Synthesis Perspective;** Michael T. Cheng; Chevron Research, Richmond, CA
- ThP 497 **Hydrocarbon Phenotyping of Algal Species Using Pyrolysis Gas Chromatography Mass Spectrometry;** Dinesh Kumar; Tobias Kind; Oliver Fiehn; University of California, Davis, CA
- ThP 498 **Mass Spectral Characterization of the Pesticide Properties of Bio-oils from Pyrolysis;** Luis Caceres¹; Mohammad Hossain¹; Christina J. Booker¹; Franco Berruti²; Cedric Briens²; Ian M. Scott³; Brian D. McGarvey³; Ken K.-C. Yeung²; Ken Conn³; ¹Student, London, Canada; ²Professor/supervisor, London, Ontario; ³Associated Professor/Scientist, London, Ontario
- ThP 499 **Characterization of Algae Oil: APPI and MS Imaging Approaches Using LTQ-Orbitrap;** Erica Smith^{1,2}; Adam Klein^{1,2}; Brian Trewyn^{1,2}; Victor Lin^{1,2}; Young-Jin Lee^{1,2}; ¹Department of Chemistry, Iowa State University, Ames, IA; ²USDOE- Ames Laboratory, Ames, IA
- ThP 500 **Characterization of Generation II Biofuels by Ultrahigh-Resolution FT-ICR Mass Spectrometry;** Jacqueline M. Jarvis¹; Amy M. McKenna²; Rodger Hilten³; K. C. Das³; Ryan P. Rodgers^{1,2}; Alan G. Marshall^{1,2}; ¹Florida State University, Tallahassee, FL;
- ²Nat'l High Magnetic Field Lab, Tallahassee, FL;
- ³University of Georgia, Athens, GA
- ThP 501 **Beyond Petroleomics-Petroleum Geochemistry for the 21st Century;** Thomas Oldenburg; Melisa Brown; Ian Gates; Steve Larter; U of Calgary, Calgary, Canada
- ThP 502 **Evaluation of APGC TOF MS for Biomarker Analysis in Petroleum Geochemistry;** Hilary J. Major¹; Keith Hall²; Andrew Gize³; Gareth Harriman⁴; Tony Newton¹; ¹Waters Corporation, Manchester, UK; ²Hall Analytical, Manchester, UK; ³The University of Manchester, Manchester, UK; ⁴GHGeochemical Services, Bebbington, UK
- ThP 503 **Molar Weight Distribution of Elements in Crude Oil and Vacuum Residue by Microgel Permeation Chromatography Coupled to High Resolution ICPMS;** Justyna Dural¹; Pawel Pohl¹; Herv e Carrier⁴; Isabelle Merdrignac³; Charles Philippe Lienemann³; Bruno Grassl²; Brice Bouvssiere¹; Ryszard Lobinski¹; ¹LCABIE - CNRS UMR 5254, Pau, France; ²EPCP - IPREM - CNRS UMR 5254, Pau, France; ³IFP, Cedi « Ren e Navarre », Vernaison, France; ⁴LFC, UMR 5150, UPPA, Pau, France
- ThP 504 **FT-ICR/MS Molecular Analysis of Vanadium and Nickel Containing Compounds in Heavy Crude Oil;** Jeremie Ponthus; Isabelle Merdrignac; Frederique Perbost-Prigent; Institut Francais du P etrole, Solaize, France
- ThP 505 **Detailed Characterization of Metalloporphyrins in Petroleum by Fourier Transform Ion Cyclotron Resonance Mass Spectrometry;** Kathleen Edwards; Kuangnan Qian; Anthony Mennito; Clifford C. Walters; ExxonMobil Research & Engineering, Annandale, NJ
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- ThP 506 **Development of Forensic Applications of Planar Differential Ion Mobility Spectrometry (DMS) Interfaced to an Ion Trap Mass Spectrometer;** Adam B Hall^{1,2}; Paul Vouros¹; James Glick¹; Samantha Mosley¹; Erkinjon Nazarov³; Stephen L Coy³; ¹Northeastern University, Boston, MA; ²Boston University: Biomedical Forensic Sciences, Boston, MA; ³Sionex Corp., Bedford, MA
- ThP 507 **Evaluation of Performance and Benefit of Ultrahigh-Resolution ESI-TOFMS Coupled to Fast Chromatography in the Application of Forensic Screening;** Katherine Kellersberger¹; Anna Pelander²; Petra Decker³; Carsten Baessmann³; ¹Bruker Daltonics, Billerica, MA; ²University of Helsinki, Helsinki, Finland; ³Bruker Daltonik GmbH, Bremen, Germany
- ThP 508 **Forensic Science Applications with Nanomanipulation-Nanospray Ionization: Analysis of Paint, Drugs, and Ink Samples;** Nicole Wallace^{1,2}; Ubisha Joshi^{1,2}; Guido F. Verbeck^{1,2}; ¹Denton, TX; ²University of North Texas, Denton, Texas
- ThP 509 **Quantitative Analysis of Organic Gunshot Residues by LC/MS/MS;** Yanan Yang¹; Na Pi¹; Elisabeth Reeves²; Maryann Shen¹; Faye Springer²; ¹Agilent Technologies, Inc, Santa Clara, CA; ²Sacramento County District Attorney Crime Lab, Davis, CA
- ThP 510 **A Proteomic Approach to Body Fluid Identification for Forensic Applications;** Hevi Yang; Bo Zhou; Donald Siegel; Yingying Tang; Mechthild Prinz; Office of Chief Medical Examiner, New York, NY
- ThP 511 **LSD and 9,10-Dihydro-LSD Analysis in Street Drug Blotter Samples (Rio de Janeiro, Brazil) via EASI-MS;** Wanderson Rom ao¹; Bruno D. Sabino²; Amadeu C. J unior²; Boniek G. Vaz¹; Deleon N. Correa³; Marcos N.

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- Eberlin¹; *Universidade Estadual de Campinas (Unicamp), Campinas, Brazil*; ²*Instituto de Criminalística Carlos Éboli, Rio de Janeiro, Brazil*; ³*Technical-Scientific Police Superintendence, São Paulo, Brazil*
- ThP 512 **Fast SFC/MS/MS Analysis of Metabolism of Chiral Drugs of Abuse**; Maggie Lee¹; D.J. Tognarelli²; Carmai Seto³; Tanya Gamble³; Robert Ellis³; Tom Moy³; Takeo Sakuma³; ¹*Centre for Addiction and Mental Health, Toronto, ON*; ²*JASCO, Easton, MD*; ³*AB SCIEX, Concord, Canada*
- ThP 513 **Rapid Analysis of Phenethylamines in Biological Fluids by Ambient Sampling Dielectric Barrier Discharge Mass Spectrometry (DBD/MS)**; Hiroko Furuya¹; Lee Chuin Chen²; Yutaka Hashimoto²; Kenichi Takekawa¹; Kenzo Hiraoka²; ¹*Forensic Science Laboratory, Fufuki, Japan*; ²*University of Yamanashi, Kofu, Japan*
- ThP 514 **Measurement of Total Drug Consumption in a Small Population by Tandem Mass Spectrometry**; M. Paul Chiarelli¹; Deepika Panawennage¹; Sara Castiglioni²; Ettore Zuccato²; Enrico Davoli²; Qian Wang¹; Timothy O'Brien¹; ¹*Loyola University, Chicago, IL*; ²*Mario Negri Institute, Milano, Italy*; ³*Mario Negri Institute, Milano, Italy*
- ThP 515 **Quantitation of Salvinorin A and Metabolite in Human Blood, Plasma and Urine by LC/MS/MS**; Allan Xu; Barry Logan; Matthew McMullin; *NMS, Willow Grove, PA*
- ThP 516 **New Strategy for Quantification of THC Carboxylic Acid Direct from Hair**; Detlef Thieme²; Hans Sachs³; Axel Besa¹; Birgit Schlutt¹; Detlev Schleuder¹; ¹*AB SCIEX, Darmstadt, Germany*; ²*Department of Sports Medicine and Doping Analysis, Kreischa, Germany*; ³*FTC Munich, Munich, Germany*
- ThP 517 **A Validated Method for Determination of THC-COOH in Hair Using Large-Volume Injection and GC/NCI-MS with High Mass Enhancement**; Yuan-Jhe Chang; *Yan Zin Chang, Taichung, Taiwan*
- ThP 518 **Simultaneous Determination Drugs of Abuse in Hair Using LC-MS/MS with API-Active Derivatization**; Pin-Duo Lee; *Taichung, Taiwan*
- ThP 519 **Comprehensive Screening of Aconitum Alkaloids in Kambo Herbal Medicine, in Human Serum and Urine by High Resolution LC/TOF Mass Spectrometry**; Masahiko Takino¹; Makiko Hayashida²; Youkichi Ohno²; ¹*Agilent Technologies, Hachioji-Shi, Japan*; ²*Nippon Medical School, Tokyo, Japan*
- ThP 520 **Determination of Clenbuterol in Dietary Supplements**; John C Travis; David L. Weller; Kurtis R Kneen; Kerri L LeVanseler; Scott K Clipper; *NSF International, Ann Arbor, MI*
- ThP 521 **Simultaneous Separation and Confirmation of 10 Opiates in Equine Plasma by Capillary-Electrophoresis-Tandem Mass Spectrometry**; Xiaoqing Li¹; Cornelius Uboh²; Lawrence Soma¹; Fuyu Guan¹; Youwen You¹; Mark Kahler²; Jeffrey Rudy²; Ying Liu¹; Jiwen Chen¹; ¹*UPENN, West Chester, PA*; ²*West Chester University, West Chester, PA*
- ThP 522 **LC-MS/MS Analysis of Corticosteroids in Equine Urine**; Yan Chang; Don Catlin; *Anti-Doping Research, Inc., Los Angeles, CA*
- ThP 523 **High-Throughput Analysis of 60 Anabolic and Androgenic Steroids in Equine Plasma by Liquid Chromatography-Tandem Mass Spectrometry with Library Searching**; Ying Liu¹; Cornelius Uboh²; Lawrence Soma¹; Xiaoqing Li¹; Fuyu Guan¹; Youwen You¹; Jeffrey Rudy²; Jinwen Chen¹; ¹*UPENN, West Chester, PA*; ²*PA Equine Toxicology and Research Center, West Chester, PA*
- ThP 524 **Anti-Doping Control Using Comprehensive Multidimensional Gas Chromatography Time-of-Flight Mass Spectrometry (GCxGC-TOFMS) for Enhanced Detection of Anabolic Steroids in Urine**; John R. Heim; Doug Staples; Joe Binkley; *LECO Corporation, St. Joseph, MI*
- ThP 525 **Fast Screening and Identification of WADA Prohibited Anabolic Steroids in Urine by UHPLC/MS/MS**; Jerry Zweigenbaum; *Agilent Technologies, Wilmington, DE*
- ThP 526 **Rapid Detection and Confirmation of β -Agonist Drug Residues in Meat Samples by Liquid Chromatography-SRM and Mass Spectral Library Searching**; Anna M. Przyborowska; Dorentina Bexheti; John M. Halket; *King's College London, London, UK*
- ThP 527 **Confirmatory Analysis of Recombinant Human Erythropoietin and Analog in Equine Plasma by LC-MS**; Fuyu Guan¹; Cornelius Uboh²; Lawrence Soma¹; Jinwen Chen¹; ¹*University of Pennsylvania, Kennett Square, PA*; ²*PA Equine Toxicology and Research Center, West Chester, PA*
- ThP 528 **Characterization of Phospholipids-Based Drugs and Their Effect on Phospholipids Profiles in Biological Fluids Assessed by HPLC-ESI-MS/MS: Diagnostic and Forensic Implications**; Simone Esposito²; Xavier de la Torre²; Monica Mazzarino²; Francesco Botre^{1,2}; ¹*Sapienza University of Rome, Rome, Italy*; ²*Laboratorio Antidoping FMSI, Rome, Italy*

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- ThP 529 **Molecular Dynamics Simulations of Matrix Assisted Laser Desorption Ionization: Analysis of Intermolecular Matrix-Analyte Interactions**; Shivangi Nangia¹; Barbara Garrison²; ¹*Pennsylvania State University, University Park, PA*; ²*Penn State University, University Park, PA*
- ThP 530 **Numerical Simulation of Ion Dynamics in Collision Multipole Ion Guides**; Victor Laiko¹; Craig M. Whitehouse²; ¹*Perkin Elmer, Inc., Branford, CT*; ²*PerkinElmer, Branford, CT*
- ThP 531 **New Possibilities of Capacity Method Improvement for Ion Clouds Dynamics Simulations in Traps with Arbitrary Geometry Electrodes**; Pavel Ryumin; Ivan Boldin; Eugene Nikolaev; *The Institute for Energy Problems of Chemical Phys, Moscow, Russian Federation*
- ThP 532 **Accelerated Trajectory Simulations for SIMION with a Beowulf Cluster**; Peter Williams; *Agilent Laboratories, Santa Clara, CA*
- ThP 533 **Internet Telepresence for Cyber Mass Spectrometry**; Kermit K. Murray¹; Damien A. Narcisse²; ¹*Louisiana State Univ., Baton Rouge, LA*; ²*Louisiana State University, Baton Rouge, LA*
- ThP 534 **Achieving Regulatory Compliant Biotherapeutic LC/QToF-MS analyses within a Prototype Data Acquisition, Processing, and Bioinformatics Environment**; Scott Berger; Steven Bird; Virginia Corbin; *Waters Corporation, Milford, MA*
- ThP 535 **Aquaphile: Database for Managing Labeled Peptides and MRM / SRM Assays**; Simon Letarte; Andrew Keller; Leroy Hood; David Galas; *Institute for Systems Biology, Seattle, WA*

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- ThP 536 **A Unified Algorithm for Deconvoluting Electrospray Ionization Mass Spectral Data**; John Skilling¹; Keith G Richardson²; Jeff Brown²; Iain D G Campuzano²; Brian N Green²; Jason L Wildgoose²; ¹Maximum Entropy Data Consultants Ltd., Kenmare, Ireland; ²Waters Corporation, Manchester, UK
- ThP 537 **A Software Package to Facilitate Analysis of Intrinsic Fluorescence and Tandem Mass Spectrometry Data Sets for Quantitative Proteomics**; Mark A. Tervo; Jason D. Russell; Craig D. Wenger; Joshua J. Coon; University of Wisconsin, Madison, WI
- ThP 538 **Enhanced Sequencing Accuracy Using a Method Combining *de novo* Sequencing and tag Search Results for Tandem Mass Spectral Data**; Jingwen Yao¹; Ikuo Konishi²; ¹Shimadzu Research Laboratory (Europe) Ltd, Manchester, UK; ²Shimadzu Corporation, Kyoto, Japan
- ThP 539 **Advantages of Proteomic Analyses Using a Hybrid Q-TOF Instrument with MSⁿ Capability**; Adrian R Woolfitt; Hercules Moura; Yulanda M. Williamson; Rebecca R Terilli; Maria I Solano; John R. Barr; Centers for Disease Control and Prevention, Atlanta, GA
- ThP 540 **Y-Branch Algorithm for Filtering MS/MS Datasets Obtained by Higher-Energy C-Trap Dissociation Dramatically Increases Protein Identification Efficiency**; Yaroslav Lyutvinskiy; Roman Zubarev; Karolinska Institute, Stockholm, Sweden
- ThP 541 **Cross Re-Integration over Sample Set for Better Accuracy in Metabolite Analysis**; Hongping Dai; Corey D. DeHaven; Anne Evans; Metabolon, Inc., Durham, NC
- ThP 542 **Standardizing Metabolomic MS Databases: An Open-Source Tool to Cross-Reference Chemicals by Structure Codes, Compound Names and Database Identifiers**; Gert Wohlgenuth; Pradeep Haladiya; Oliver Fiehn; UC Davis, Davis, CA
- ThP 543 **Mass Spectrometry and Component Data Analysis (CODA) Processing in Pharmaceutical HPLC Method Development**; Guilong (Charles) Cheng; Pfizer, Inc., Groton, CT
- ThP 544 **“PetroMassSpec: Simplifying Petroleomic Data Analysis via Software Processing and Graphics”**; Yuri E. Corilo¹; Boniek G. Vaz¹; Rosineide C. Simas¹; Clécio F. Klitzke¹; Heliara Lopes Nascimento¹; Rosana C. L. Pereira²; Wagner L. Bastos²; Marcos N. Eberlin¹; ¹Thomson Mass Spectrometry Laboratory - UNICAMP, Campinas, Brazil; ²PETROBRAS, Rio De Janeiro, Brazil
- ThP 545 **Creation and Utility of a Large Mass Spectral Library in Hardware Independent Format**; Graham A. McGibbon¹; Andrey Paramonov²; Vitaly Lashin²; Graeme Whitley⁴; Bernd U. Berger; ¹ACD/Labs, Toronto, Canada; ²ACD/Labs (Ltd), Moscow, Russia; ³John Wiley & Sons, Inc., Weinheim, Germany; ⁴Wiley-Blackwell, Hoboken, NJ
- ThP 546 **Parameterless Peak Detection (PPD): Software for Fully Automatic Interpretation of Chromatographic Profiles**; David Wright; Rob Grothe; Thermo Fisher Scientific, San Jose, CA
- ThP 547 **Open Access UPLC/MS for the Analysis of Synthetic Peptides and Recombinant Proteins**; Bethanne Warrack¹; Brian Redding²; Guodong Chen¹; David Wang-Iverson¹; ¹Bristol-Myers Squibb, Princeton, NJ; ²Spectrix Analytical Services, Princeton, NJ
- ThP 548 **A Fully Automated Workflow for High-Throughput Serum Peptide- and Protein Profiling**; Marco R. Bladergroen; Yuri E.M. Van Der Burgt; Hans Dalebout; Magnus Palmblad; André M. Deelder; Leiden University Medical Center, Leiden, Netherlands
- ThP 549 **High Throughput Mass Spectrometry Based Screening for Inhibitors of Amyloid Beta Protein Oligomerization**; Kevin Krock; Richard B. Van Breemen; University of Illinois at Chicago, Chicago, IL
- ThP 550 **Development of High Throughput Screening Pulsed Ultrafiltration Mass Spectrometry (HTS-PUF MS)**; Jerry White¹; Jeff Dahl¹; Richard B. Van Breemen²; ¹University of Illinois at Chicago, Chicago, IL; ²University of Illinois, Chicago, IL
- ThP 551 **Analyzing Peptide Arrays by SAMDI MS/MS**; Stephanie Bousset²; Zachary A. Gurard-Levin¹; Milan Mrksich²; ¹University of Chicago, Chicago, IL; ²University of Chicago, HHMI, Chicago, IL
- ThP 552 **The Next Generation SAMDI-TOF MS Platform for High-Throughput Label-free Detection of Intact Proteins**; Jaekuk Kim; Steven Patrie; UT Southwestern Medical Center, Dallas, TX
- ThP 553 **A High-Throughput MALDI MS Assay for Multiplexed Read-Out of Histone Demethylase Inhibition**; Hamzah N Freeman¹; Melanie Leveridge¹; Sue Hutchinson¹; Andy West¹; Anja Resemann²; Detlev Suckau²; Klaus Schneider¹; ¹GlaxoSmithKline, Essex, UK; ²Bruker Daltonics, Bremen, Germany
- ThP 554 **In-depth Analysis of Membrane Proteome by Combined Approaches of GELFrEE, FASP, and Microwave Digestion**; Yanbao Yu; Ling Xie; Xian Chen; University of North Carolina, Chapel Hill, NC
- ThP 555 **Fully Automated Preparation, Extraction, and Subsequent LC/MS/MS Detection of a Panel of Ceramides as potential Mechanistic Biomarkers**; Steve Gernhardt; Justin Walton; Zhenhua Gu; Parya Nouri; Joseph Tweed; Rick Steenwyk; Pfizer, Clinton, CT
- ThP 556 **High Throughput Native Glycan Profiling by MALDI-MS and Chip-based LC ESI-MS**; Heidi Zhang¹; Dayin Lin²; Christian Graf¹; Lukas Trojer²; ¹Novartis Biologics, Basel, Switzerland; ²Agilent Technologies, Waldbronn, Germany
- ThP 557 **High-Throughput Quantitative Analysis of Immunosuppressants Using an Integrated Multiplex 2D-LC MS-MS System**; Min J. Yang; Peter Kovarik; Adrian Taylor; John Gibbons; Tom Covey; AB SCIEX, Concord, Canada
- ThP 558 **Evaluation of a New Peak Integration Algorithm for High Throughput LC/MS/MS Data Processing**; John Gibbons¹; Rick King²; Lyle Burton¹; Gordana Ivosev¹; Adam Lau¹; Feng Zhong¹; Hesham Ghobarah¹; ¹AB Sciex, Concord, Ontario, Canada; ²Pharmacadence Analytical Services, Hatfield, Pennsylvania
- ThP 559 **Flow Injection Electrospray Ionization Mass Spectrometry (FI-ESI-MS) Gradient Ratio Standard Addition (GR-SA) for Non-Chromatographic Quantification of Pharmaceutical Active Ingredients**; Dana Hostetler; Facundo Fernandez; Georgia Institute of Technology, Atlanta, GA
- ThP 560 **Advantages of Multiple HPLC Systems and a Single Mass Spectrometer Data File for High Throughput Screening**; Matthew Berube; Keeley Murphy; Francois A. Espourteille; Thermo Fisher Scientific, Franklin, MA
- ThP 561 **Laser Diode Thermal Desorption (LDTD)-MS/MS Analysis of Chloroquine, Proguanil and Mefloquine in Human Urine**; Sherry Liu¹; Scott Reuschel¹; Min Meng¹; Patrick Bennett¹; Serge Auger²; Pierre Picard²;

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- ThP 562 Patrice Tremblay²; ¹Tandem Labs, Salt Lake City, UT; ²Phytronix Technologies, Inc., Quebec, QC
Challenges and Opportunities in Adapting LC/MS/MS to High-Throughput Screening; John M. Peltier; Nicole White; David Farley; *Novartis Institutes for BioMedical Research, Cambridge, MA*
- ThP 563 **A Novel Algorithm for Automated High-Throughput Quantitative MS/MS Optimization Incorporating Saturation Control;** Anthony Romanelli¹; Kevin Shirey²; John Janiszewski³; ¹AB SCIEX, Framingham, MA; ²Sound Analytics, Niantic, CT; ³Pfizer, Groton, CT
- ThP 564 **Enhanced Workflow for Rapid Identification of Ultrafiltration Screening Ligands;** Jeff Dahl¹; Shunyan Mo¹; W. Jeffrey Hurst²; Richard B. Van Breemen¹; ¹University of Illinois, Chicago, IL; ²The Hershey Company, Hershey, PA
- ThP 565 **Application of Robotic Sample Preparation Program (RSPP) to Sample Dilutions for the Determination of BMS-562086 in Human Plasma by LC-MS/MS;** Hao Jiang; Zheng Ouyang; Naiyu Zheng; Jianing Zeng; *Bristol-Myers Squibb, Princeton, NJ*
- ThP 566 **Integration and Streamlining of Robotics, Automated Tuning LC/MS/MS, And LIMS Workflows For High Throughput In Vitro ADME Bioanalysis;** John Laycock; *Amgen, Inc, Thousand Oaks, CA*
- ThP 567 **LC/MS of Compound DMSO Solutions Acoustically Dispensed in Nanoliter Volumes;** Mark J. Hayward; Paul M. McCoy; Kristine M. Maurer; Bodil Ibsen Marstrand; Emily J Reinhard; Qing Ping Han; *Lundbeck Research USA, Stockton, NJ*
- ThP 568 **Rapid Screening of Degradation Products from Lignocellulosic Biomass Processing Using LC/MS/MS on a Hybrid Triple Quadrupole Linear Ion Trap;** Ramin Vismeh; Shishir Chundawat; James Humpala; Balan Venkatesh; Bruce E. Dale; A. Daniel Jones; *Michigan State University, East Lansing, MI*
- ThP 569 **A Fully Automated Online Extraction Method for Determination of Raltegravir in Plasma by LC/MS/MS;** Yifan Shi; Min Meng; Lisa Rohde; Troy Voelker; Lin Tan; Scott Reuschel; Patrick Bennett; Kc Van Horne; *Tandem Labs, Salt Lake City, UT*
- ThP 570 **Towards Automated Evaluation of Result Accuracy for LC/MS/UV/ELSD/CLND Substance Screening – Supporting Library Management and Medicinal Chemistry;** Mark Bayliss; Joseph Simpkins; *Virscidian Inc., Raleigh, NC*
- ThP 571 **Quantitation of Plasma Endocannabinoids by UFLC-MS/MS; Biochemical Fate of 2-Arachidonylglycerol;** Matthew Blatnik; Jason Barricklow; Yizhong Zhang; *Pfizer Inc., Groton, CT*
- ThP 572 **Development of a High-Throughput MS-Based Bioanalytical Method for Assessment of P-Glycoprotein Inhibition;** Andrew Wagner^{1,2}; Janet Kolb^{1,2}; John Herbst^{1,2}; Tatyana Zvyaga^{1,2}; Conway Charlie^{1,2}; Harold Weller^{1,2}; Wilson Shou^{1,2}; Can "Jon" Ozbal³; ¹Bristol-Myers Squibb Company, Wallingford, CT; ²Bristol-Myers Squibb Company, Princeton, NJ; ³BIOCIUS Life Sciences, inc, Woburn, MA
- ThP 573 **The Approach to Improve Recovery in Caco-2 Permeability Suite Supported by LC-MS/MS;** Xianmei Cai; Aaron Walker; Charles Cheng; Anthony Paiva; Ying Li; Janet Kolb; John Herbst; Juan Cadavid; Wilson Shou; *Bristol-Myers Squibb Company, Wallingford, CT*
- ThP 574 **Two-Dimensional Preparative SFC/MS System for Combined Achiral/Chiral Separations;** Yinong Zhang; John Eve; Rongda Xu; Lu Zeng; Daniel B. Kassel; *Takeda San Diego, Inc., San Diego, CA*
- ThP 575 **Detection of Active Ingredients in Pharmaceutical and Quasi Drugs with DART Ion Source and TOF-MS;** Haruo Hosoda¹; Jouji Seta¹; Jun Watanabe¹; Takashi Nirasawa¹; Noriyuki Iwasaki¹; Yoshiyuki Takahashi²; Teruhisa Shiota²; ¹bruker Daltonics KK, Yokohama, Japan; ²AMR, Inc., Tokyo, Japan
- ThP 576 **Solvent/Sample Interaction in the GC/MS Analysis of Amines;** O. David Sparkman; Matthew Curtis; Patrick R. Jones; *University of the Pacific, Antioch, CA*

IMAGING MS: SMALL MOLECULES, 577 - 599

- ThP 577 **Quantitative Imaging of Cocaine and Its Metabolites in Brain Tissue Using MALDI-MS/MS with a Multi-Notch SWIFT Waveform;** Richard F. Reich; Richard A. Yost; *Department of Chemistry, University of Florida, Gainesville, Florida*
- ThP 578 **Quantitative MALDI Imaging: Glucosinolates on Leaf Surfaces;** Ales Svatos¹; Rohit Shroff^{1,2}; ¹Max Planck Institute for Chemical Ecology, Jena, Germany; ²ETH Institute of Molecular Systems Biology, Zurich, Switzerland
- ThP 579 **Fine mapping the Spatial Distribution and Concentration of Unlabeled Drugs within Tissue Micro-Compartments Using Imaging Mass Spectrometry;** Anna Nilsson¹; Thomas Fehniger²; Lena Gustavsson²; György Marko-Varga²; Per E. Andren¹; ¹Uppsala University, Uppsala, Sweden; ²AstraZeneca R&D, Lund, Sweden
- ThP 580 **Microscopic Imaging Mass Spectrometry on Hepatic Micrometastasis of Human Colon Cancer Xenografts in Superimmunodeficient NOG Mice;** Akiko Kubo¹; Mitsuyo Ohmura¹; Masatoshi Wakui¹; Kenji Kawai²; Chiyoko Nishime²; Takako Hishiki¹; Mitsuru Murata¹; Kiyoshi Ogawa³; Mitsutoshi Setou⁴; Makoto Suematsu¹; ¹Keio University, Tokyo, Japan; ²Central Institute for Experimental Animals, Kanagawa, Japan; ³Shimadzu Corporation, Kyoto, Japan; ⁴Hamamatsu University School of Medicine, Okazaki, Japan
- ThP 581 **MALDI Imaging of Retinoids in RPE-Choroid Tissue;** Kevin L. Schey¹; Rosalie Crouch²; Anne Hanneken³; Patrice Goletz²; Lorie Blakeley²; Yiannis Koutalos²; Angus Grey¹; Zsolt Ablonczy²; ¹Vanderbilt University, Nashville, TN; ²Medical University of South Carolina, Charleston, SC; ³The Scripps Research Institute, La Jolla, CA
- ThP 582 **Capturing Bacterial Metabolic Exchange Using DESI-Imaging Mass Spectrometry;** Jeramie Watrous¹; Pieter Dorrestein²; ¹University of California, San Diego, San Diego, CA; ²University of California, San Diego, Skaggs School, La Jolla, CA
- ThP 583 **Mapping the Effect of Chemotherapy on Positron Emission Tomography (PET) Tracer Uptake in Tumour Micro-Environments Using Imaging Mass Spectrometry;** Emrys A Jones; Nicholas Lockyer; Adam McMahon; Kaye Williams; *University of Manchester, Manchester, UK*
- ThP 584 **Utilizing Complimentary in-situ Imaging Platforms to Understand Tumor Penetration for Oncology Drug Discovery;** Stacey R. Oppenheimer; David C. Gale; Dean Wilkie; Leslie A. Obert; *Pfizer Inc., Groton, CT*
- ThP 585 **The Application of Mass Spectrometry Imaging to Determine Biodistribution of a Small Molecular Agent, RTA 769, in Rat Brain Tissue;** Jihai Pang; Rhea Robyn; Edd Filex; Quanyuan Xu; Mary Johansen;

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- ThP 586 **Exploration of the Metabolome from Medicago Truncatula roots and Nodules by MALDI Mass Spectral Imaging;** Hui Ye¹; Ruibing Chen¹; Maegen Howes-Podoll²; Jean-Michel Ané²; Lingjun Li¹; ¹School of Pharmacy, UW-Madison, Madison, WI; ²Department of Agronomy, UW-Madison, Madison, WI
- ThP 587 **Profiling of Polyamine Distribution in the Mouse Embryo Using MALDI-Q-IM-TOF MS;** Han-Jia Lin²; Chia-Wei Wen^{1,2}; Yet-Ran Chen¹; ¹Agricultural Biotechnology Research Center, Taipei, Taiwan; ²Taiwan Ocean University, Keelung, Taiwan
- ThP 588 **Successful Application for Distribution Image of Chloroquine in Ocular Tissue of Pigmented Rat Using MALDI-Imaging Quadrupole Time-of-Flight Mass Spectrometry;** Yasuhiro Yamada³; Hidefumi Kaji³; Henry Y. Shion¹; Motoji Oshikata²; Yukari haramaki²; Alan L Millar¹; John P. Shockcor¹; ¹Waters Corp., Milford, MA; ²Nihon Waters, Tokyo, Japan; ³Mitsubishi Tanabe Pharmaceuticals Corporation, Saitama, Japan
- ThP 589 **SIMS and MALDI Mass Spectrometry Imaging of Drugs and Metabolites in Whole-Body Mouse Sections;** Erika Amstalden Van Hove¹; Donald Smith¹; Lieve Dillen²; Filip Cuyckens²; Katelijne Anciaux²; Ron M.A. Heeren¹; ¹FOM Institute AMOLF, Amsterdam, Netherlands; ²Johnson & Johnson PRD, Beerse, Belgium
- ThP 590 **Visualization of Spatiotemporal Metabolic Behaviors by in situ Metabolomic Imaging with MALDI-MS;** Daisuke Miura; Yoshinori Fujimura; Mayumi Yamato; Fuminori Hyodo; Hirofumi Tachibana; Hiroyuki Wariishi; ¹Kyushu University, Fukuoka, Japan
- ThP 591 **Direct Observation of Drug Delivery Using MALDI FT-ICR MS Imaging Method;** Kyu Hwan Park¹; Ji-Yeon Suh^{1,2}; Hyo-Jik Yang¹; Jeong Kon Kim²; Gyungoo Cho¹; Hyun Sik Kim¹; ¹Korea Basic Science Institute, Ochang-Myun Cheongwon-Gun, South Korea; ²Asan Medical Center, University of Ulsan, Seoul, South Korea
- ThP 592 **Fast Determination of Drugs of Abuse in Human Tissue Sections by MALDI Mass Spectrometric Imaging;** Tiffany Porta¹; Thomas Kraemer²; Emmanuel Varesio¹; Gérard Hopfgartner¹; ¹School of Pharmaceutical Sciences, EPGL, LSMS, Geneva, Switzerland; ²Institute of Legal Medicine, University of Zurich, Zurich, Switzerland
- ThP 593 **Imaging of Toxic Small Molecules in Potato Using Matrix-Assisted Laser Desorption/ionization Mass Spectrometric Imaging;** Miyoung Ha^{1,2}; Hyesun Maeng^{1,2}; Jong Hwan Kwak³; Yangsun Kim^{1,2}; OkPyo Zee³; ¹Hudson Surface Technology, Inc., Newark, DE; ²Applied Surface Technology, Inc., Suwon, South Korea; ³Sungkyunkwan University, Suwon, South Korea
- ThP 594 **Affects of Anesthesia on Rat Tail Cross-Sections Imaged by TOF-SIMS;** Itsuko Ishizaki¹; Yoshiharu Ohasi¹; John Hammond³; Scott Bryan³; Akiharu Kubo²; ¹ULVAC-PHI, Chigasaki, Japan; ²Keio University, Tokyo, Japan; ³Physical Electronics, Chanhassen, MN
- ThP 595 **LDI-MS Imaging of Flavonoid Metabolites in Genetically Mutated Arabidopsis;** Andrew Korte^{1,2}; Young-Jin Lee^{1,2}; Zhihong Song^{1,2}; Edward Yeung²; Basil Nikolau¹; ¹Iowa State University, Ames, IA; ²Ames Laboratory, US Department of Energy, Ames, Iowa
- ThP 596 **Identification and Distribution of a Reserpine Metabolite in Dosed Whole-Body Rat Tissue Using MS and MS/MS Mass Spectrometric Imaging;** John McNamara¹; Patrick Pribil¹; Sheerin Shahidi-Latham²; ¹AB SCIEX, Concord, ON; ²Genentech Inc, San Francisco, CA
- ThP 597 **Integrating Quantitation and Multiple Imaging Modalities for Mass Spectrometry Imaging Applications in Drug Discovery;** Stormy Koeniger¹; Nari Talaty¹; Yanping Luo¹; Jane Fagerland²; Damien Ready¹; Margery Stark Altman²; Xiaoming Hu¹; Martin Voorbach¹; Terese Seifert¹; Steven Cepa¹; Jennifer Bouska³; Robert W Johnson¹; Stephen Spanton¹; ¹Advanced Technology, GPRD, Abbott Laboratories, Abbott Park, IL; ²Preclinical Safety, GPRD, Abbott Laboratories, Abbott Park, IL; ³Cancer Research, GPRD, Abbott Laboratories, Abbott Park, IL
- ThP 598 **MALDI-MS Imaging of Small Molecule Drugs in Animal Eye, Brain, Lung, Liver and Tumor;** Fangbiao Li; Yunsheng Hsieh; Walter Korfmacher; ¹Merck Research Laboratories, Kenilworth, NJ
- ThP 599 **MALDI MS Imaging and LDI MS Imaging of Analyte Distribution in Mammalian Peripheral Sensory-Motor Circuit;** Stanislav Rubakhin¹; Jonathan Sweedler²; ¹Beckman Institute, UIUC, Urbana, IL; ²University of Illinois, Urbana, IL

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- ThP 600 **Adsorption of Aldehydes on Trapped Biomolecular Ions;** Xiangguo Shi¹; Jianhua Ren²; Ryan M. Danell³; Joel H. Parks¹; ¹Harvard University, Cambridge, MA; ²University of the Pacific, Stockton, CA; ³Danell Consulting, Greenville, NC
- ThP 601 **Ion-Molecule Reactions for Detecting the Low Molecular Weight Toxic Industrial Compound Ammonia Using Miniature Cylindrical Ion Trap Mass Spectrometers;** Jonell Smith; Adam Keil; Robert J. Noll; R. Graham Cooks; ¹Purdue University, West Lafayette, IN
- ThP 602 **Effects of Inherent Receptor Chirality on the Recognition of Aminosugars;** Matthias C. Letzel; Caterina Frascchetti; Marlene Paletta; Jochen Mattay; ¹University of Bielefeld, Bielefeld, Germany
- ThP 603 **Production, Isolation and Reactivity Studies of Metal(IV)-Oxo Species with Biomimetic Ligands: A Tandem Mass Spectroscopic and Density Functional Theory Study;** Ivan F Taylor¹; Stephen J Blanksby²; Stephen B Colbran¹; Gary D Willett¹; ¹University of New South Wales, Sydney, Australia; ²University of Wollongong, Wollongong, Australia
- ThP 604 **Gas-phase Reactivity of the 4,5-Didehydroquinolium and 4,5-Didehydroisoquinolinium Biradicals Toward Amino Acids and Dipeptides;** Enada F Archibold¹; Mingkun Fu²; Nelson Vinueza¹; George Pates¹; John Nash¹; Hilikka Kenttamaa¹; ¹Purdue University, West Lafayette, IN; ²The Takeda Oncology Company, Cambridge, MA
- ThP 605 **A Study on the Generation of a Pyridine-Based Tetraradical by SORI-CAD;** Jennifer Reece¹; Bartłomiej Jankiewicz²; Vanessa Gallardo¹; John Nash¹; Hilikka Kenttamaa¹; ¹Purdue University, West Lafayette, IN; ²Military University of Technology, Warsaw, Poland
- ThP 606 **Kinetic Reactivity of an Aromatic σ,σ,σ -Triradical: the 2,3,5-Tridehydropyridinium Cation;** Mohammad Sabir Aqueel¹; Nelson Vinueza¹; Bartłomiej Jankiewicz²; John Nash¹; Hilikka Kenttamaa¹; ¹Purdue

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- University, West Lafayette, IN; ²Military University of Technology, Warsaw, Poland
- ThP 607 **A Gas-Phase Study on Two *para*-Benzynes in an FT-ICR Mass Spectrometer;** Lindsey M. Kirkpatrick¹; Bartłomiej J. Jankiewicz²; Nelson R. Vinuesa¹; John J. Nash¹; Hilkka Kenttamaa¹; ¹Purdue University, Department of Chemistry, West Lafayette, IN; ²Military University of Technology, Warsaw, Poland
- ThP 608 **Substituent Effects on the Reactivity of 3-X-2,4,6-Tridehydropyridinium and 3-X-2,4-Didehydropyridinium Ions (X = Substituent);** Jinshan Gao; Anyin Li; John Nash; Hilkka Kenttamaa; Chemistry Department, West Lafayette, IN
- ThP 609 **Measurement of the Proton Affinities of Dehydro- and Didehydropyridines by Using Gas-Phase Ion-Molecule Reactions;** Anyin Li¹; Jinshan Gao¹; Mingkun Fu²; Bartłomiej Jankiewicz³; John Nash¹; Hilkka Kenttamaa¹; ¹Chemistry Department, West Lafayette, IN; ²Millennium, Cambridge, MA; ³Military University of Technology, Warsaw, Poland
- ThP 610 **Comparison of the Reactivity of Isomeric Charged Phenyl Radicals toward Tetrahydrofuran in Solution and in the Gas Phase;** Fanny Widjaja¹; Anthony Adeuya²; Hilkka Kenttamaa³; ¹Purdue University, West Lafayette, IN; ²FDA, Little Rock, AR; ³Chemistry Department, West Lafayette, IN
- ThP 611 **Guided Ion Beam Mass Spectrometry Determination of Thorium Carbide and Thorium Oxide Cation Bond Energies;** Richard Cox; Peter B. Armentrout; University of Utah, Salt Lake City, UT
- ThP 612 **Generation of Distonic Dehydrophenoxide Radical Anions From In-Source Dissociation;** Kiran Kumar Morishetti¹; Prabhakar Sripadi²; Vairamani Mariappanadar²; Jianhua Ren¹; ¹University of The Pacific, Stockton, CA; ²Indian Institute of Chemical Technology, Hyderabad, India
- ThP 613 **Moved to oral presentation**
- ThP 614 **A Radical Approach to Ion Conformation Determination: Electron Transfer Dissociation, ion Mobility and Molecular Modelling;** Iain D G Campuzano¹; Frantisek Turecek²; Jeff Brown¹; Keith Richardson¹; ¹Waters Corporation, Manchester, UK; ²University of Washington, Seattle, WA
- ThP 615 **Mass Spectrometric Studies of Complex Organocatalyzed Reactions in Solution and Gas Phase Using Triple Quadrupole MS and FT-ICR MS;** Mhd Wasim Alachraf; Wolfgang Schrader; Max-Planck Inst Coal Res., Mülheim / Ruhr, Germany
- ThP 616 **How the Shape of an H-Bonded Network Controls Proton-Coupled Water Activation in HONO Formation;** Michael Kamrath¹; Rachael Relph¹; Timothy Guasco¹; Ben Elliot¹; Anne McCoy²; Ryan Steele¹; Daniel Schofield³; Kenneth Jordan³; Albert Viggiano⁴; Eldon Ferguson⁵; Mark Johnson¹; ¹Yale University, New Haven, CT; ²The Ohio State University, Columbus, Ohio; ³University of Pittsburgh, Pittsburgh, Pennsylvania; ⁴AFRL, Hanscom Afb, MA; ⁵National Oceanic and Atmospheric Administration, Boulder, CO
- ThP 617 **Revealing Evidences for a Non-concerted Mechanism in a Aza-Diels-Alder Reaction: an Electrospray Ionization Mass spectrometry Investigation;** Adão Sabino; Ângelo de Fátima; Rodinei Augusti; Maria Diniz; Daniel da Silva; Federal University of Minas Gerais, Belo Horizonte, Brazil
- ThP 618 **Charged-Reagents for Mechanism Studies of Organic Reactions by ESI-MS/MS – Insights into the Hantzsch Reaction;** Vanessa Gonçalves Dos Santos¹; Boniek G Vaz¹; Rodrigo O M A de Souza²; Simon J Garden²; Marcos N Eberlin¹; ¹Thomson Mass Spectrometry Laboratory - UNICAMP, Campinas, Brazil; ²Federal University of Rio de Janeiro, Rio de Janeiro, Brazil
- ThP 619 **Gas-Phase and Computational Studies of SN2 and E2 Reactions of Alkyl Halides;** Keyanna Conner; Andrew Alexander; Scott Gronert; Virginia Commonwealth, Richmond, VA
- ThP 620 **FT-ICR-MS studies of Metal Cluster Ions of Insoluble Metal Sulfides formed Externally by Electrospray and Ion Chemistry;** Kaitlin Papson¹; Jeffrey Spraggins²; Douglas P. Ridge¹; ¹University of Delaware, Elkton, MD; ²Vanderbilt University, Nashville, TN
- ThP 621 **Solvent-Nickel Complexes Coordination Reaction in Collision-Induced Dissociation Process;** Xiaojiao Cao; Zhejiang University of Technology, Hangzhou, China
- ThP 622 **The Iron Cation Catalyzed Dissociation of the EDTA-Fe(III) Complex in Gas Phase: A Combined CID-MS Experimental and Theoretical Investigation;** Ke Zhi Jiang²; Leren Wan³; Yuki Hashi³; Yuanjiang Pan¹; Guoqiao Lai²; ¹Department of Chemistry, Zhejiang University, Hang Zhou, China; ²Hangzhou Normal University, Hang Zhou, China; ³Shimadzu Shanghai Office, Shang Hai, China

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- ThP 623 **Ruggedized Miniature Cylindrical Ion Trap Mass Spectrometer for Field Deployable MS and MS/MS Analysis;** James Fox; Guido F. Verbeck; University of North Texas, Denton, TX
- ThP 624 **Soft-Landing of Metal-Carbide Clusters by Rectilinear Ion Trap Mass Spectrometry;** William Hoffmann; Stephen Davila; Guido F. Verbeck; University of North Texas, Denton, TX
- ThP 625 **Electrospray Ionization Using a Miniature Mass Spectrometer to Model *in situ* Analysis of Bio-organic Materials in Planetary Ices;** Ewa Sokol¹; Robert J. Noll¹; R. Graham Cooks¹; Luther W. Beegle²; Hugh Kim²; Isik Kanik²; ¹Purdue University, West Lafayette, IN; ²Jet Propulsion Laboratory, Pasadena, CA
- ThP 626 **Fast, High Resolution Imaging Mass Spectrometry Using a Medipix Pixelated Detector;** Julia Jungmann; Luke Macaleese; Ronald Buijs; Frans Giskes; Ad de Snaaijer; Ron M.A. Heeren; FOM-Institute Amolf, Amsterdam, Netherlands
- ThP 627 **Charge Detection Mass Spectrometry of Protein Complexes;** John Smith; Craig Hollars; Joshua Maze; Martin Jarrold; Indiana University, Bloomington, Indiana
- ThP 628 **High Pressure Ion Detection for Miniaturized Mass Spectrometers;** Travis M. Falconer¹; Derek Wolfe¹; Collin McKinney¹; M. Bonner Denton²; J. Michael Ramsey¹; ¹University of North Carolina, Chapel Hill, NC; ²University of Arizona, Tucson, AZ
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