



Welcome to the 60th ASMS Conference on Mass Spectrometry and Allied Topics. ASMS is pleased to acknowledge the participation of our Pacific Rim partners. Conference program activities and exhibit booths are in the West Building of the Vancouver Convention Centre. Corporate Member hospitality suites are located in the East Building (the one with the sails). There is an underground walkway between the buildings or you may make the lovely stroll along the harbor.

SPONSORS

ASMS gratefully acknowledges the support of these companies.



Internet Café

CONFERENCE SPONSORS



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1st Detect	New Objective, Inc.
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Brooks Automation	Tandem Labs
Canadian Life Sciences	Thermo Scientific
IDEX Health & Sciences	Zef Scientific, Inc.

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Titles in the following sections are provided by authors. The complete abstracts are available online: www.asms.org

The PDF document of proceedings submissions for orals and posters are online one day after presentation at the conference.

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GENERAL INFORMATION

Registration is open 10:00 am - 8:00 pm on Sunday and 7:30 am - 5:00 pm on Monday through Thursday.

Sunday Tutorial Session, 5:00 - 6:30 pm

Exhibit Hall A, Exhibit level



5:00 - 5:45 pm

Ambient Mass Spectrometry: Analysis in the Real World by a "Green" Technology

Jentaie Shiea

National Sun Yat-Sen University



5:45 - 6:30 pm

Statistics and Forensic Bioinformatics: Analytic Issues in High-Throughput Biology

Keith A. Baggerly

MD Anderson Cancer Center

Sunday Conference Opening, 5:00 - 6:30 pm

Exhibit Hall A

Welcome, Susan T. Weintraub

University of Texas Health Science Center at San Antonio



The Deepwater Horizon Oil Spill: From the Pipe to the Plume

Chris Reddy

Woods Hole Oceanographic Institution

PLENARY SESSIONS

Monday, 4:45 - 5:30 pm

Exhibit Hall A, Exhibit level



Award Lecture

Award for a Distinguished Contribution in Mass Spectrometry

Catherine C. Fenselau

University of Maryland

Tuesday, 4:45 - 5:30 PM

Exhibit Hall A



Award Lecture

Biemann Medal

Joshua J. Coon

University of Wisconsin-Madison

Thursday, 4:45 - 5:30 PM

Exhibit Hall A



Plenary Lecture

The Secret Life of Food

Shirley O. Corriher

Food scientist, TV personality, author and columnist

DON'T MISS

• WELCOME RECEPTION, SUNDAY, 7:45 - 9:30 PM

Exhibit Hall BC. Conference name badge is required.

• ASMS MEETING, WEDNESDAY, 4:45 - 5:30 PM

Enjoy a beverage and applaud awards, the work of the Board, and more!

• CLOSING GALA, THURSDAY, 5:45 - 9:00 PM

Ballroom Lobby. Let's celebrate - what a conference and what a city! The event features a buffet, cash bar and the "Soul Train," renowned Vancouver band, for listening and dancing. \$30 for registrant tickets.



ORAL SESSIONS are 8:30 - 10:30 am and 2:30 - 4:30 pm Monday through Thursday in **the West Building**.

Session A (MOA, TOA, WOA, ThOA), Ballroom A
Session B (MOB, TOB, WOB, ThOB), Ballroom B
Session C (MOC, TOC, WOC, ThOC), Ballroom C
Session D (MOD, TOD, WOD, ThOD), Room 118-120
Session E (MOE, TOE, WOE, ThOE), Room 211-214
Session F (MOF, TOF, WOF, ThOF), Room 220-222
Session G (MOG, TOG, WOG, ThOG), Room 301-305
Session H (MOH, TOH, WOH, ThOH), Exhibit Hall A

ORAL PRESENTATIONS are projected from ASMS computers running Microsoft Office 2010. Speakers are required to use the ASMS computers for their presentations.

SPEAKERS must load presentation at least one day prior to their talks. The speaker room is 107 and is open with a technician according to this schedule:

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

POSTERS AND EXHIBIT BOOTHS are in Exhibit Hall BC of the West Building. The Hall is open:

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

POSTER SET-UP is 7:30 am on the day scheduled and removal is 7:30 - 8:00 pm on the same day. Posters should not be removed early. Thursday posters must be removed by 3:30 pm. **Refer to the poster numbers in this final program for board assignments.** Presenters should supply pushpins or Velcro to mount their posters.

POSTER SESSIONS are 10:30 am - 2:30 pm, Monday through Thursday.

POSTER AUTHORS must be present at their poster on their scheduled day at these times.

10:30 am - 1:00 pm Odd-numbered posters
12:00 - 2:30 pm Even-numbered posters

Presenters who must leave a poster unattended should post a return time. Post-it notes for this purpose are provided at the Poster Supply counter near the entrance to the Hall. Presenters should wear "Poster Presenter" badges which are also available at the counter.

LUNCH CONCESSIONS are open 11:00 am - 2:00 pm in the foyer outside the Poster/Exhibit Hall. There are also many restaurants close to the convention center.

EXHIBIT BOOTHS must be attended as follows:

Sunday Reception 7:45 pm - 9:30 pm
Monday - Thursday 10:30 am - 2:30 pm

WORKSHOPS are 5:45 - 7:00 pm on Monday, Tuesday, and Wednesday. Light refreshments are provided in the pre-function areas on levels 1 and 2.

DINNER BREAK, 7:00 - 8:00 PM is time for a breath of fresh air before the opening of hospitality suites at 8:00 pm. For restaurant suggestions and reservations, visit the Vancouver Hospitality Desk near conference registration.

FREE WiFi ACCESS is provided in the Poster/Exhibit Hall. Computers are also provided at no charge at stations located throughout the West Building.

CONFERENCE PROCEEDINGS will be published online. Visit www.asms.org after June 30 to view or download the Proceedings. Submission to the Proceedings does not constitute publication and does not jeopardize the rights of authors to publish contents of their submissions.

WEB CASTING includes tutorial lectures, plenary lectures, and oral sessions. Web casting will be available to conference attendees for three months after the conference. ASMS does not retain rights to material included in web castings. To access the presentations, go to www.asms.org, select "web casting" on the home page, and enter your last name and the User ID printed on the back of your conference name badge.

CORPORATE HOSPITALITY SUITES may be open 8:00 - 11:00 pm, Monday through Wednesday. Suites are located in the **East Building** of the Convention Center. There is an underground walkway between the buildings or take the lovely stroll along the harbor.

CORPORATE BREAKFAST SEMINARS are hosted by some Corporate Members. Reservations are encouraged and may be made at company exhibit booths. For list of companies hosting a breakfast, refer to corporate list in this program.

EMPLOYMENT CENTER is located in room 306. The room is open to all conference attendees. Applicants and employers must enter resumes and employment opportunities online. No hard copies of resumes or employment opportunities will be posted in the center. There are computers in the center for searching the database of candidates and positions. Interview booths must be reserved one day in advance.

Sunday 1:00 - 8:00 pm
Monday - Wednesday 7:30 am - 5:00 pm
Thursday 7:30 am - 2:30 pm

GUEST REGISTRATION (\$10) includes designated name badge and entrance to the Sunday evening reception.



GENERAL INFORMATION

CONFERENCE REGULATIONS

- **Name badges** are required for all conference sessions, including the poster/exhibit hall and the employment center.
- **No smoking** is permitted in the convention center.
- **Cell phones** must be turned off in oral sessions.
- **No photography or recording** is allowed in oral sessions or in the poster/exhibit hall.
- **Placement of advertising** in the meeting areas is strictly limited to Corporate Members. There are poster boards and tables in the poster-exhibit hall for Corporate Member notices and literature. No easel signs are permitted.
- **Hardware, accessories** or any items for sale may be displayed only in corporate exhibit booths and hospitality suites.
- **No organized activities** (even off-site) other than those approved by ASMS are allowed during the conference week (5:00 pm on Sunday through 6:00 pm on Thursday).
- **Corporate or institutional logos** on slides and posters may appear only one time in the presentation.

CONFERENCE HOTELS

Map No.	Hotel	Telephone
1	Days Inn	604-681-4335
2	Coast Coal Harbour	604-697-0202
3	Fairmont Hotel Vancouver	604-684-3131
4	Fairmont Waterfront	604-691-1991
5	Hyatt Regency	604-683-1234
6	Marriott Pinnacle	604-684-1128
7	Pan Pacific	604-662-8111
8	Renaissance	604-689-9211
9	Sheraton	604-331-1000
10	Sutton Place	604-682-5511
11	Westin Bayshore	604-682-3377

TRANSPORTATION

Shuttle buses service two routes:

- Route 1: Sheraton Wall Centre and Sutton Place
- Route 2: Westin Bayshore

Shuttle buses are provided at these times.

- Sunday: 3:00 pm - 10:00 pm
- Monday: 6:30 am - 12:30 pm, 6:00 pm - 11:00 pm
- Tuesday: 6:30 am - 12:30 pm, 6:00 pm - 11:00 pm
- Wednesday: 6:30 am - 12:30 pm, 6:00 pm - 11:00 pm
- Thursday: 6:30 am - 12:30 pm, 5:30 pm - 9:30 pm

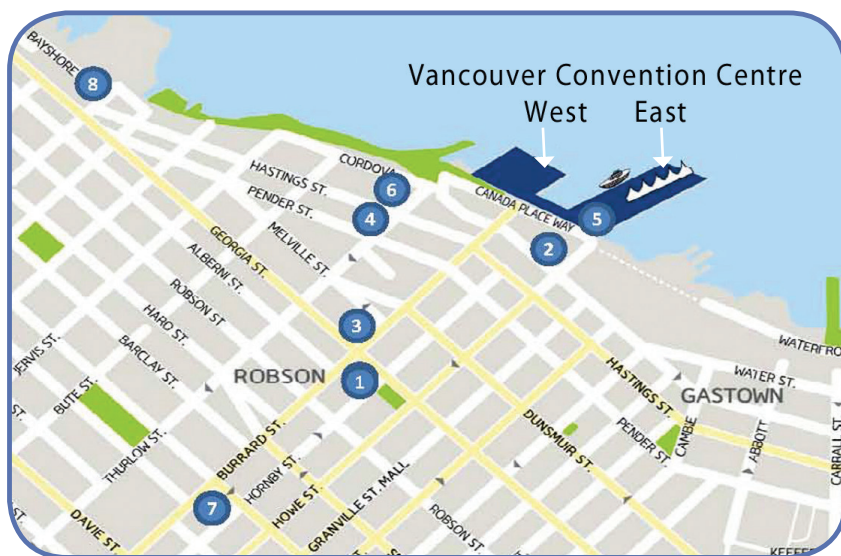
Vancouver has convenient public buses if you need transportation at other times and for other locations.

People staying at the Sheraton and Sutton Place, the 22, 32 and 44 buses lines. The #19 bus line services the Westin Bayshore. Single fare is \$2.50. No change is given - be sure to bring your Loonies (\$1 coin) and Toonies (\$2 coin)!

MEDIA EVENTS

Corporate media sessions are scheduled on Monday and Tuesday for members of the press and financial institutions. All media sessions are in the company hospitality suite, **East Building**.

Company	Monday	Location
Bruker Daltonics	8:00-9:00 am	Room 8, East, 2nd fl
Shimadzu	9:30-10:30 am	Room 10, East, 2nd fl
AB SCIEX	11:00 am-12 pm	Ballroom B, East Bldg
Agilent Technologies	1:30-2:30 pm	Ballroom C, East Bldg
Thermo Scientific	3:00-4:00 pm	Room 1, East, 2nd fl
Waters Corporation	4:30-5:30 pm	Ballroom A, East Bldg
Company	Tuesday	Location
PerkinElmer	9:30-10:30 am	Room 19, East, 2nd fl





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Berkeley, CA



Member at Large for Digital Communications
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University of Washington
Seattle, WA



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Chapel Hill, NC

Congratulations

to these members who were elected to the ASMS Board

Vice President for Programs



Jenny Brodbelt
University of Texas

Treasurer



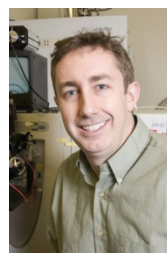
Neil L. Kelleher
Northwestern University

Member at Large for Education



Gavin E. Reid
Michigan State University

Member at Large for Digital Communications



Michael J. MacCoss
University of Washington

Staff

Judith A. Sjoberg, *Executive Director*
Cindi Lilly, Brent Watson
Jennifer Watson, Marin Walker
Miquela Sena, Lori Stevens



ASMS INTEREST GROUPS AND COMMITTEES

INTEREST GROUP COORDINATORS

<i>Analytical Lab Managers</i>	Nathan Dalleska Sarah Pruett
<i>Bioinformatics for MS</i>	Marc Kirchner Brian Searle
<i>Clinical Chemistry</i>	Cory Bystrom Nigel Clarke
<i>DNA/RNA</i>	Fenyu Meng Herbert Oberacher
<i>Drug Metabolism & Pharmacokinetics</i>	Chandra Prakash Petia Shipkova
<i>Energy, Petroleum & Biofuels</i>	Michael McGinley Wolfgang Schrader
<i>Environmental Applications</i>	Xing-Fang Li
<i>Flavor, Fragrance and Foodstuff</i>	Eric Handberg
<i>Forensics & Homeland Security</i>	Karen Wahl
<i>FTMS</i>	Amy McKenna Joshua Sharp
<i>Fundamentals</i>	Rebecca Jockusch Glen Jackson
<i>Hydrogen Exchange & Covalent Labeling</i>	Lars Konermann David Schriemer
<i>Imaging MS</i>	Felicia Green Timothy Garrett
<i>Ion Mobility MS</i>	Brandon Ruotolo Matthew Bush
<i>Ion Trap MS</i>	Joshua Coon
<i>LC/MS Related Topics</i>	Susan E. Abbatiello
<i>Metabolomics</i>	Paul West William Wikoff
<i>Metal Ion Coordination Chemistry</i>	Jinhua Ren Grant Johnson
<i>Peptide Fragmentation</i>	Helen J. Cooper Nick Polfer
<i>Pharmaceuticals</i>	Matthew Blatnik Chris Turck
<i>Polymeric Materials</i>	William Erb Andrew Hoteling
<i>Protein Therapeutics</i>	Sheng Gu Jon Williams
<i>Quantitative Intact Proteomics</i>	David Friedman Julian Whitelegge
<i>Regulated Bioanalysis</i>	Steven Lowes
<i>Undergraduate Research in MS</i>	Jennifer Grant
<i>Young Mass Spectrometrists</i>	Huo Chen

COMMITTEES

<i>Asilomar Conference</i>	Carolyn Cassady, Chair Gary Glish Glen Jackson Rebecca Jockusch
<i>Corporate Liaison</i>	Lance Nicolaysen, Chair Chris Connor Gary Glish Carol Harp Andrew Herman Carla Marshall-Waggett Roy Martin Michael Sabatino
<i>Digital Communications</i>	David Goodlett, Chair Nuno Bandeira Garry Corthals Mike Lee Steve Stein
<i>Education</i>	Richard Vachet, Chair Nadja Cech Dieter Dorrestein Jennifer Grant Lingjun Li
<i>Nominating</i>	Alan Marshall, Chair Julia Laskin Ragu Ramanathan Michael Siu Christine Wu
<i>Publications</i>	Evan Williams, Chair Russell Grant Carthene Bazemore-Walker Lan Huang Lars Konermann Lisa Marzilla Michael Gross (<i>ex officio</i>)
<i>Sanibel Conference</i>	Jon Williams, Chair Lucinda Cohen Lisa Deterding Jianhua Ren

ARCHIVIST

Michael Grayson



AWARD FOR A DISTINGUISHED CONTRIBUTION IN MASS SPECTROMETRY

2012 RECIPIENT: CATHERINE FENSELAU

Award Lecture: 4:45 pm, Monday, Exhibit Hall A



Efforts to detect, characterize, and differentiate microorganisms are driven by the needs of homeland security, counterterrorism and counter-proliferation programs, medical providers, food safety labs and microbiologists.

Professor Catherine Fenselau is honored for her pioneering work in this arena. The current paradigm for rapid MS characterization of intact microorganisms relies on the detection and identification of unique biomarker molecules from experimental mass spectra, a paradigm that can be traced back to Anhalt and Fenselau. In 1975, they were the first to report that biomolecules from different pathogenic bacteria, introduced intact in a mass spectrometer

- a) could be vaporized and directly ionized,
- b) could be structurally identified;
- c) and, most importantly, that the compositions and abundances of these chemical biomarkers, revealed in the mass spectra, permitted taxonomic distinctions.

Fenselau's pioneering philosophy to employ intact molecular biomarkers for rapid microorganism characterization by mass spectrometry was in stark contrast to concurrent research elsewhere advocating vigorous pyrolysis prior to MS analysis.

In the following decade Fenselau's team was the first to evaluate newer ionization methods (laser desorption, plasma desorption and fast atom bombardment) for the rapid MS analysis of non-volatile biomarkers from intact bacterial cells. They introduced computer algorithms for characterizing mixtures of cells based on biomarker profiles related to taxonomic groupings. Her work in fingerprinting and applying proteomic techniques for microorganisms has laid the foundation for what is soon to become a major revolution in epidemiology to track and prevent disease from established and newly emerging infectious diseases. Commercial products based on these approaches have been placed around Europe and Asia to further the clinical application of MS to microbiology.

Dr. Catherine Fenselau is Professor of Chemistry at the University of Maryland, College Park.

BIEMANN MEDAL

2012 RECIPIENT: JOSHUA J. COON

Award Lecture: 4:45 pm, Tuesday, Exhibit Hall A



ETD, the ion-ion analog of ECD, has become an essential method for protein sequencing because it allows for the dissociation, and consequently the sequence and analysis of large peptide cations, peptide cations bearing post-translational modifications, and even intact proteins. By allowing chemists and biologists to probe previously inaccessible regions of the proteome, ETD offers a unique lens through which to study proteins.

Besides being a critical participant in the development of electron transfer dissociation (ETD), **Joshua Coon** is honored for coupling this fragmentation technique with the high-resolution Orbitrap analyzer. Coon was instrumental in demonstrating the greatly enhanced analytical capabilities of the ETD/Orbitrap configuration in large-scale proteomics applications, and in developing related mass spectrometric techniques, such as Supplemental activation for ETD and real-time decision making to blend dissociation methods. In a seminal study, Coon's team discovered that the fundamental difference between radicals and even-electron species stretches into the molecular mass domain, and that these species can always be separated given sufficient mass accuracy.

His achievements have been recognized by many awards, including the ACS Arthur F. Findeis Award, the Ken Standing Award, and the Pittsburgh Conference Achievement Award. He continues to develop both ETD applications and the method itself.

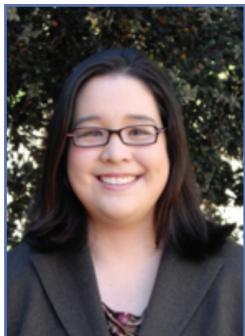
Dr. Joshua Coon is Associate Professor of Chemistry at the University of Wisconsin-Madison.



ASMS RESEARCH AWARDS

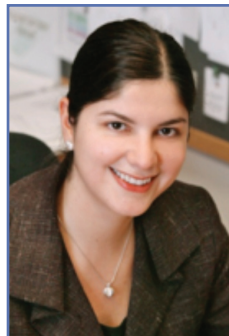
The Research Awards are fully funded by Thermo Scientific and Waters Corporation in the amount of \$35,000 each. Awards will be presented at the Biemann Medal Award Lecture, 4:45 pm, Tuesday, Exhibit Hall A

Sponsored by
THERMO SCIENTIFIC



Sharon J. Pitteri
Stanford University School of Medicine

Sponsored by
WATERS CORPORATION



Ileana M. Cristea
Princeton University

CALL FOR 2013 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 or research faculty in a North American university. Applicants may not have previously received an award under this program.
- APPLICATION** Applicants should submit the following no later than November 30.
1. Three-page proposal, including references and figures
 2. One-page fiscal proposal and justification
 3. List of current research support
 4. *Curriculum vitae*
 5. Two letters of recommendation may be e-mailed directly to ASMS: office@asms.org
- DEADLINE** Application materials 1-4 should be arranged in order and assembled as one PDF and emailed to office@asms.org. File may not exceed 5 MB.
- FISCAL** The awards of \$35,000 each will be made to a university in the name of the selected individual for the researcher's exclusive use. In accepting this award, the institution will agree to not charge overhead on the funds.
- INFORMATION** Contact ASMS. Telephone: (505) 989-4517 • office@asms.org

RON A. HITES AWARD FOR OUTSTANDING RESEARCH PUBLICATION IN JASMS



The Ron Hites Award recognizes an outstanding presentation of 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 Ron Hites of Indiana University, who led the creation of *JASMS* in 1988 while president of ASMS. The corresponding author receives a cash award of \$2,000 and all authors are acknowledged with certificates of commendation.

The 2012 award recognizes Hao Chen, Shiyong Wu, and Zhixin Miao from Ohio University for "The Study of Protein Conformation in Solution via Direct Sampling by Desorption Electrospray Ionization Mass Spectrometry," *J Am Soc Mass Spectrom* 2010, 21, 1730 - 1736.

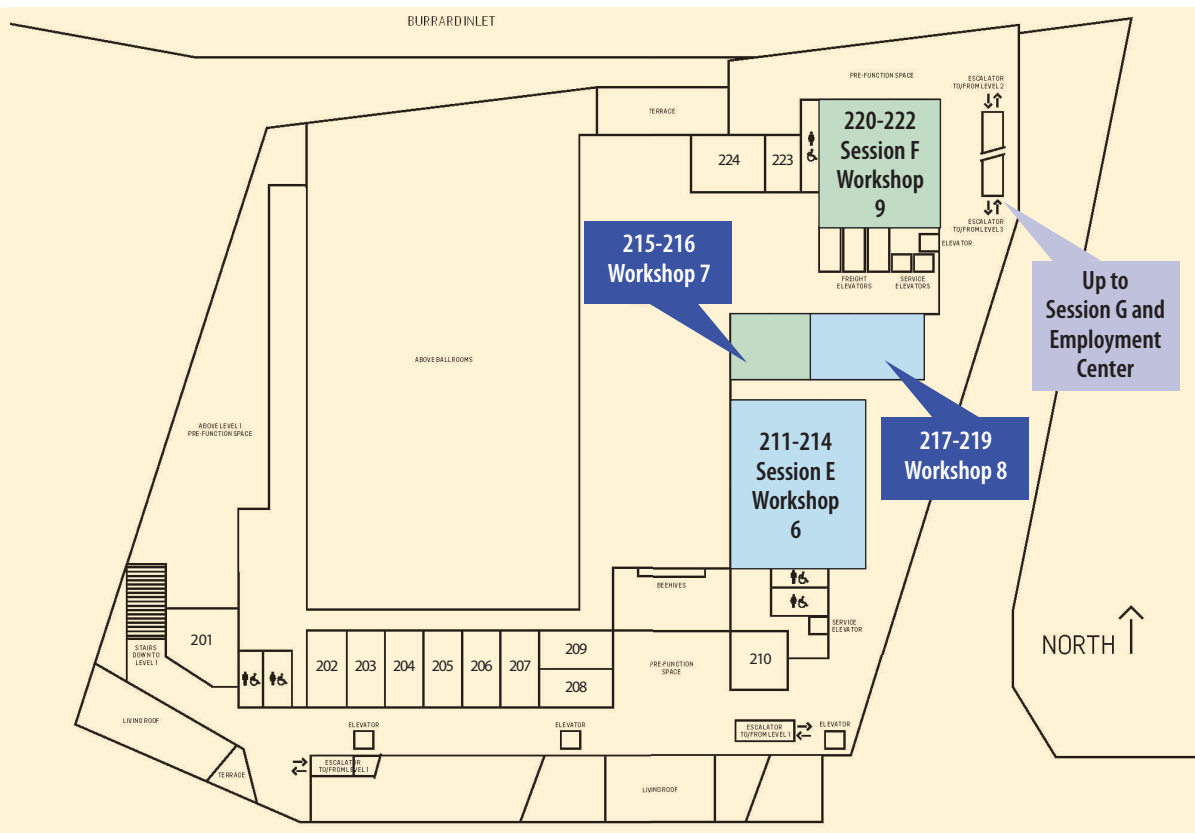


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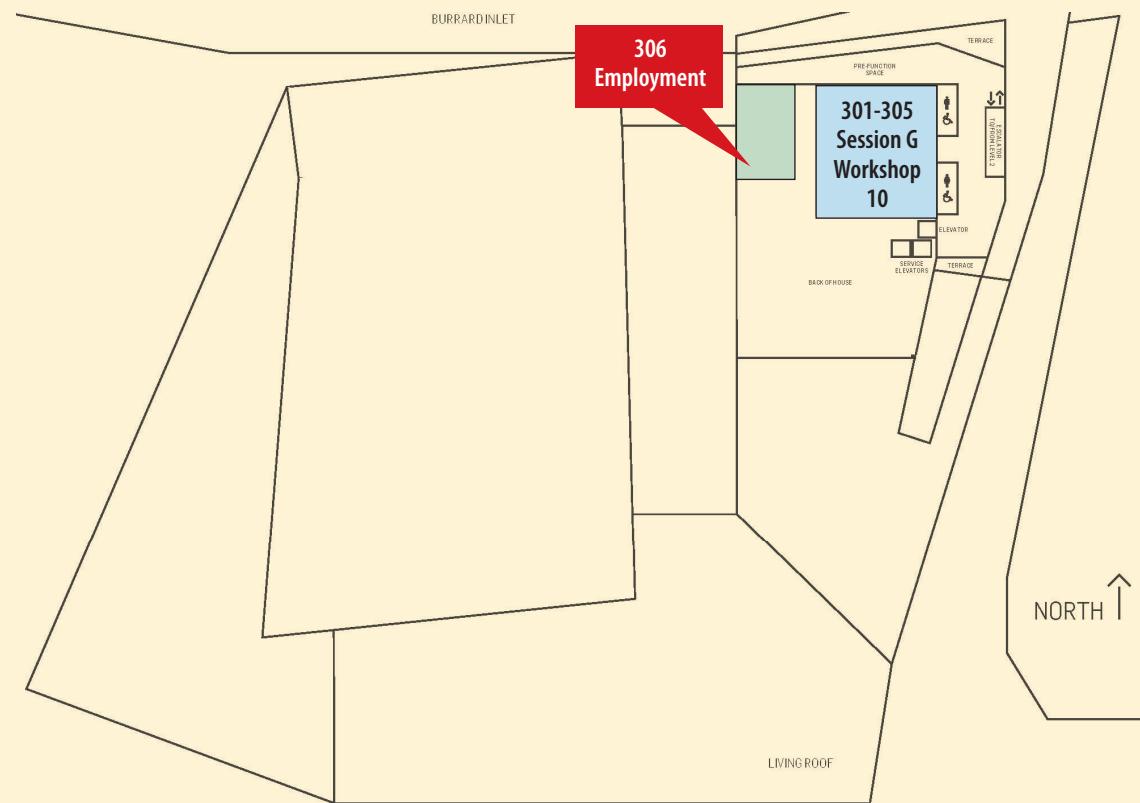


WEST BUILDING VANCOUVER CONVENTION CENTRE

LEVEL TWO

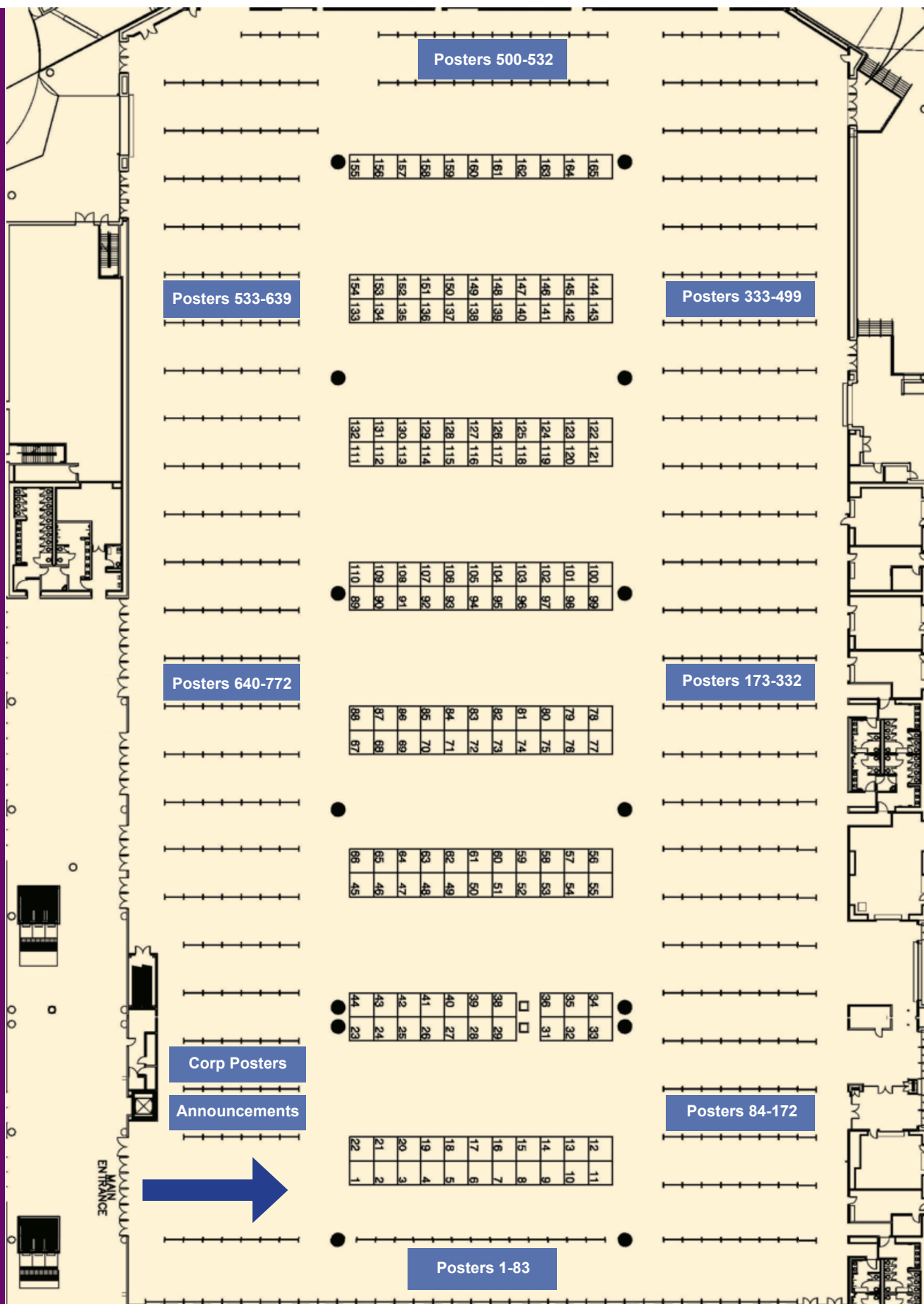


LEVEL THREE





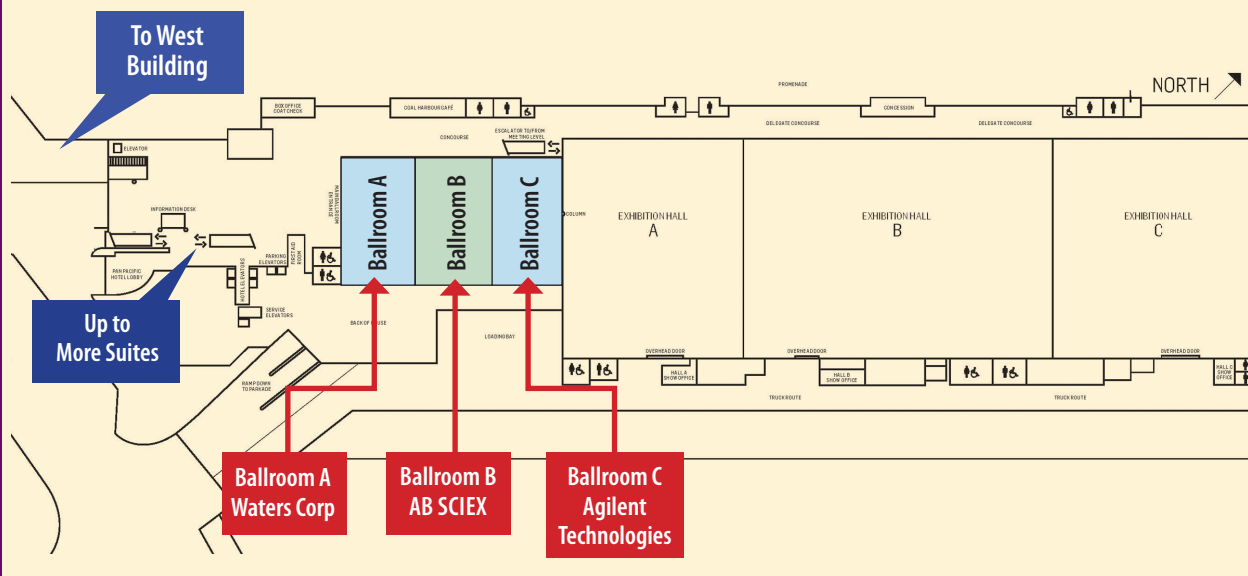
POSTERS / EXHIBIT HALL



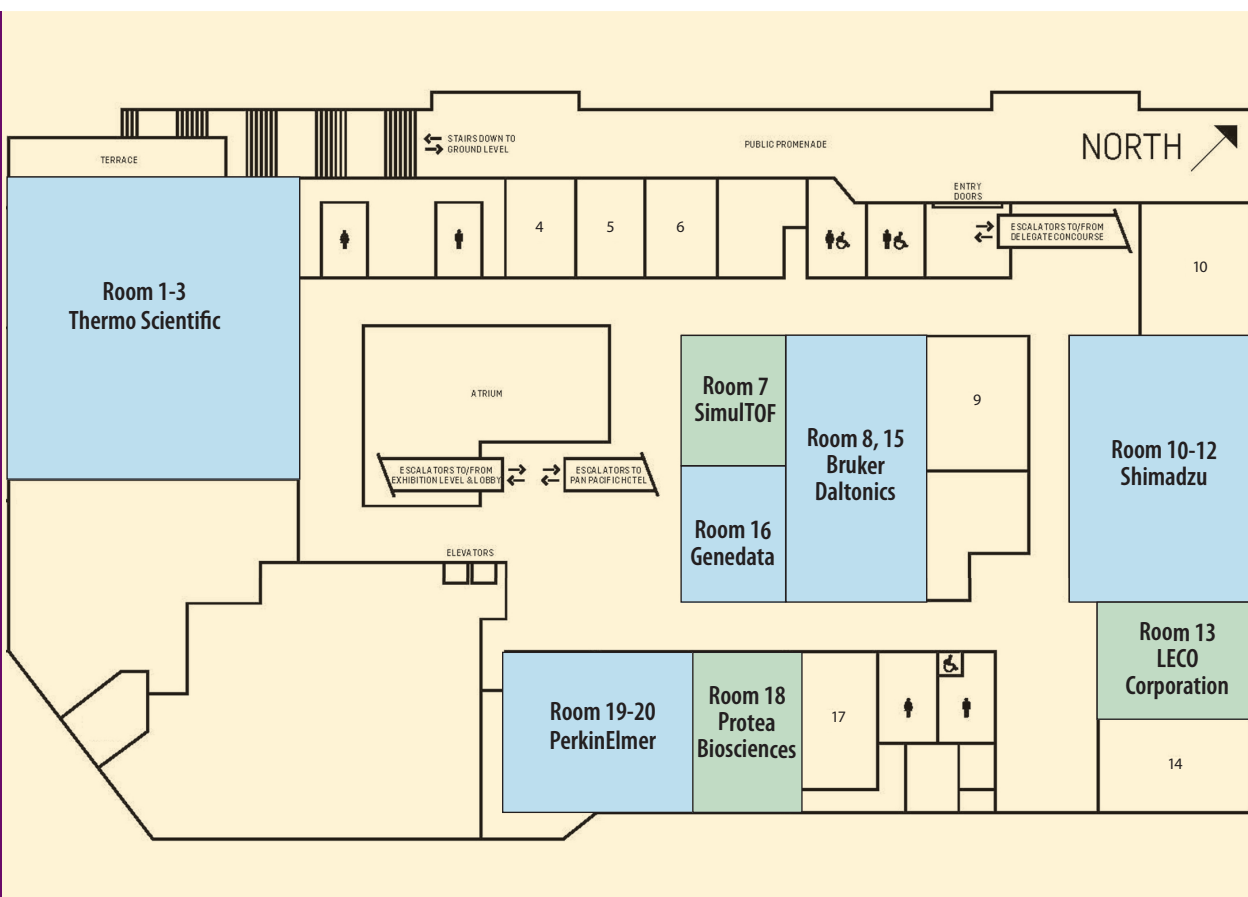


HOSPITALITY SUITES, EAST BUILDING

GROUND LEVEL, EAST BUILDING



LEVEL TWO, EAST BUILDING





Company	Booth	Poster or Tabletop	East Building Hospitality Suite	Breakfast Seminar
1st Detect	33	Poster		
AB SCIEX	44		Ballroom B	7 AM, Mon, Tues & Wed, Rm 206- 207 7 AM, Mon & Tues, Rm 110 7 AM, Wed, Rm 208-209 7AM, Wed, Room 202-203
Advanced Chem Dev (ACD/Labs)	79	Poster		7 AM, Mon, Rm 202-203
Advion	12			
Agilent Technologies	22	Poster	Ballroom C	7 AM, Mon, Tues & Wed, Rm 109
AIM Research Company	73			
Alliance Pharma, Inc.	111			
Alturas Analytics, Inc.	70			
American Laboratory		Tabletop		
Analytical Sales & Services	51	Poster		
Analytical Scientific Instruments	127			
Antec	56			
Applied Kilovolts	47	Poster		
Apricot Designs, Inc.	123			
Ardara Technologies	153	Poster		
Beckman Coulter, Inc.	142			
Bertin Technologies	106			
Bio Chromato, Inc.	81	Poster		
Biocrates Life Sciences AG	87			
Bioinformatics Solutions, Inc.	88	Poster		
Bio-Rad Laboratories	98			
Bioreclamation	68			
Biotage	143			7 MA, Tues, Rm 208-209
Brooks Automation	119	Poster		
Bruker Daltonics	67		Room 8 & 15	7 AM, Mon & Tues, Rm 111-112
C&EN	144			
CAMAG Scientific, Inc.	41			
Cambridge Isotope Labs	29			
Canadian Life Science	45	Poster		
Cell Signaling Technology	99			
Cerno Bioscience	59			
CETAC Technologies	133			
Chemyx, Inc.	63	Poster		
Chiral Technologies, Inc.	46	Poster		
Chrysalis Scientific Technologies	103	Poster		
CorSolutions	136	Poster		
CovalX	122			



ASMS CORPORATE MEMBERS

Company	Booth	Poster or Tabletop	East Building Hospitality Suite	Breakfast Seminar
Covance				
Covaris, Inc.	60	Poster		7 AM, Mon, Rm 215-216
CSS Analytical Company, Inc.	49			
CTC Analytics	118			
Denator AB	154	Poster		
Deurion, LLC		Poster		
Drummond Scientific Company	145			
EBARA Technologies	158	Poster		
Edwards	38			
Elforlight, Ltd.	156			
EMD Millipore	139	Poster		
Entech Instruments	3	Poster		
ETP Symposium, Inc.		Poster		
Expedeon	130			
ExSAR Corporation	78	Poster		
Extrel	100			
FLIR Systems	109			
Fortis Technologies	134	Poster		
Frontage Laboratories, Inc.	117			
Genedata, Inc.	6	Poster	Room 16	
Genetic Engineering & Biotech News		Tabletop		
GenTech Scientific, Inc.	120			
Gerstel, Inc.	18	Poster		
GL Sciences, Inc.	150			
Glygen Corp.	132	Poster		
Hamamatsu Corp	146			
Harvard Apparatus	124			
Honeywell Burdick & Jackson	97			
Horizon Technology, Inc.	52			
Hudson Surface Technology	112	Poster		
iChrom Solutions	91			
IDEX Health & Science	66	Poster		
Imtakt USA	89			
Institute for Systems Biology	151			
INTAVIS, Inc.	35			
Integrated Analysis, Inc.	25			
Integrated Proteomics Applications, Inc.	9			
International Equipment Trading, Ltd.	4			
International Labmate		Tabletop		
ionBench	121			
IONICS Mass Spectrometry Group, Inc.	93	Poster		
IonSense, Inc.	57	Poster		6:45 AM, Tues Rm 217-219
ITT Exelis	17			
JEOL USA, Inc.	102			
JPT Peptide Technologies	116			
LEAP Technologies	36	Poster		



Company	Booth	Poster or Tabletop	East Building Hospitality Suite	Breakfast Seminar
LECO Corporation	65	Poster	Room 13	7 AM, Mon, Tues & Wed, Rm 114-115
LGC, Ltd	126			
Lhasa Limited	5	Poster		
MassTech, Inc.	125			
Matrix Science, Ltd.	14			
McKinley Scientific, LLC	64			
MestreLab Research	7			
MicroLiter Analytical Supplies, Inc.	92			
Morpho Detection Inc (formerly Syagen)	74	Poster		
MPI Research				
MS Bioworks	71			
MS Noise	77			
MSP Kofel	113			
mSPEC Group	8			
Nest Group, The		Poster		
New England Biolabs	80			
New England Peptide, LLC	152			
New Objective, Inc.	2	Poster		6:45 AM, Tues, Rm 202-203
NIST	62			
Nonlinear Dynamics	61			
Nusep	82			
Oerlikon Leybold Vacuum	107			
OI Analytical	128			
Omni Enclosures	26			
Omni International	58	Poster		
Optimize Technologies	11			
Orochem Technologies, Inc.	149			
Parker Hannifin	34	Poster		
PEAK Scientific Instruments	90	Poster		
Perfinity Biosciences, Inc.	53	Poster		
PerkinElmer, Inc.	110		Room 19-20	
Pfeiffer Vacuum	165	Poster		
Phenomenex	115			7 AM, Tues, Rm 215-216
Phoenix S & T	40			
PHOTONIS	76	Poster		
Physical Electronics	86			
Phytronix Technologies, Inc.	28			
Pressure BioSciences	94	Poster		
Prolab GmbH	95	Poster		
Promega Corporation	72			
PromoChrom Technologies	108	Poster		
Prosolia, Inc.	10			
Protea Biosciences, Inc.	69	Poster	Room 18	
Protein Metrics, Inc.	85			
Proteome Software, Inc.	50			
Proton Onsite	75			



ASMS CORPORATE MEMBERS

Company	Booth	Poster or Tabletop	East Building Hospitality Suite	Breakfast Seminar
Pubget	140			
Quantlon Technologies.....	84			
Research Scientific Services	39			
Restek Corporation.....	114			
RMI Laboratories, LLC	27			
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Susan T. Weintraub
Vice President for Programs

STUDENT ASSISTANTS

Graduate students assist with many aspects of the conference, including registration, oral and poster sessions, and the employment center. The students each receive a stipend to help with their conference travel expenses.

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Bich Vu
Paul West
Julian Whitelegge
William Wikoff



PROGRAM OVERVIEW

SATURDAY

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, Exhibit Hall A  5:00 - 5:45 pm Ambient Mass Spectrometry: Analysis in the Real World by a “Green” Technology Jentaie Shiea National Sun Yat-Sen University  5:45 - 6:30 pm Statistics and Forensic Bioinformatics: Analytic Issues in High-Throughput Biology Keith A. Baggerly MD Anderson Cancer Center
6:45 - 7:45 PM	CONFERENCE OPENING, Exhibit Hall A Susan T. Weintraub, ASMS Vice President for Programs  Plenary Lecture 7:00 - 7:45 pm The Deepwater Horizon Oil Spill: From the Pipe to the Plume Chris Reddy Woods Hole Oceanographic Institution
7:45 - 9:30 PM	RECEPTION IN THE POSTER-EXHIBIT HALL, Exhibit Hall BC

PROGRAM OVERVIEW



MONDAY

7:00 AM - 5:00 PM	REGISTRATION
8:30 - 10:30 AM	ORAL SESSIONS • MOA am: Disease Biomarkers and Pathways, Ballroom A • MOB am: Time-of-flight Mass Spectrometry: New Developments in Instrumentation and Applications, Ballroom B • MOC am: Quantitative Analysis by MS in Drug Discovery and Development: Novel Approaches, Ballroom C • MOD am: Traditional Chinese Medicine and Bioactive Natural Products: Advances in MS Analysis, Room 118-120 • MOE am: Biotherapeutics and their Impurities and Degradants: Structural Characterization and QC, Room 211-214 • MOF am: Radical-driven Peptide Fragmentation, Room 220-222 • MOG am: Fundamentals: Ambient and Atmospheric Pressure Ionization, Room 301-305 • MOH am: Post-translational Modification: Beyond Phosphorylation, Exhibit Hall A
10:30 AM - 2:30 PM	POSTER SESSION AND EXHIBITS , Exhibit Hall BC Monday Posters
2:30 - 4:30 PM	ORAL SESSIONS • MOA pm: Protein-Protein and Protein-Ligand Interactions: Characterization by Mass Spectrometry, Ballroom A • MOB pm: FTMS: New Developments in Instrumentation, Ballroom B • MOC pm: Integrated Qualitative and Quantitative LC-MS for Small Molecule Analysis, Ballroom C • MOD pm: Microorganisms: Identification and Characterization, Room 118-120 • MOE pm: Biotherapeutics and Biomarkers: New Developments in Quantitative Analysis, Room 211-214 • MOF pm: Fundamentals: Ion Spectroscopy, Room 220-222 • MOG pm: Ambient Ionization: Instrumentation and Applications, Room 301-305 • MOH pm: PTMs: Comprehensive Analysis and Combinatorial Patterns, Exhibit Hall A
4:45 - 5:30 PM	AWARD LECTURE , Exhibit Hall A  Award for a Distinguished Contribution in Mass Spectrometry Catherine C. Fenselau <i>University of Maryland</i>
5:45 - 7:00 PM	WORKSHOPS There are light refreshments on levels 1 and 2. • MWksh1: Characterization and Quantitation of Antibody Drug Conjugates, Room 109 • MWksh2: The Future of Proteomics Data Repositories, Room 110 • MWksh3: Mass Spectrometry Applications in Art, Cultural Heritage, and Natural History, Room 114-115 • MWksh4: Young Mass Spectrometrists: A Focus on Career Development, Room 116-117 • MWksh5: Structures, Reactions and Thermochemistry of Gas-Phase Ions (in Honor of Alex Harrison's 80th Birthday), Room 118-120 • MWksh6: Characterization and Quantitation of Protein Therapeutics, Room 211-214 • MWksh7: Current Topics in Mass Spectrometry: A Workshop for Undergraduates, Room 215-216 • MWksh8: FTMS Workshop, Room 217-219 • MWksh9: Bioanalysis in R&D: Regulatory Submission Challenges and Opportunities, Room 220-222 • MWksh10: Metabolomics – Coming of Age in the “Omics” World: Part I: The Basics, Room 301-305
7:00 - 8:00 PM	DINNER BREAK
AFTER 8:00 PM	CORPORATE HOSPITALITY SUITES , East Building



PROGRAM OVERVIEW

TUESDAY

7:00 AM - 5:00 PM	REGISTRATION
8:30 - 10:30 AM	ORAL SESSIONS • TOA am: Informatics: Validation, Ballroom A • TOB am: Imaging MS: Biological Applications, Ballroom B • TOC am: Ion Traps and Hybrid Instruments: New Developments, Ballroom C • TOD am: Applications, Room 118-120 • TOE am: Biomarkers in Drug Discovery and Development, Room 211-214 • TOF am: Distonic Radical Ions: Fundamentals and Applications, Room 220-222 • TOG am: FAIMS and DMS: New Developments and Applications, Room 301-305 • TOH am: Systems Biology/Cellular Pathways, Exhibit Hall A
10:30 AM - 2:30 PM	POSTER SESSION AND EXHIBITS , Exhibit Hall BC Tuesday Posters
2:30 - 4:30 PM	ORAL SESSIONS • TOA pm: Informatics: Identification, Ballroom A • TOB pm: Imaging MS: Pharmaceutical Applications, Ballroom B • TOC pm: Instrumentation: New Developments in Ionization and Sampling, Ballroom C • TOD pm: Plant "omics", Room 118-120 • TOE pm: Biomarkers of Drug Toxicity, Response & Efficacy Biomarkers: Innovative MS Approaches, Room 211-214 • TOF pm: Gas-Phase Ions: Reactions and Dynamics, Room 220-222 • TOG pm: Petroleum and Biofuel Research: Advances in MS Analyses, Room 301-305 • TOH pm: Quantification of Targeted Proteins and Post-translational Modification, Exhibit Hall A
4:45 - 5:30 PM	AWARD LECTURE , Exhibit Hall A Biemann Medal Joshua J. Coon <i>University of Wisconsin-Madison</i>
5:45 - 7:00 PM	WORKSHOPS There are light refreshments on levels 1 and 2. • TWksh1: Metabolomics – Coming of Age in the “Omics” World: Part II: Advanced, Room 109 • TWksh2: Analytics of Fossil Fuels and Biofuels: Where Do We Stand?, Room 110 • TWksh3: Current Topics in Metal Ion Chemistry, Room 114-115 • TWksh4: Computational Challenges in Identification and Quantification, Room 116-117 • TWksh5: Imaging MS: Developing Quantitative Imaging, Room 118-120 • TWksh6: H/D Exchange and Covalent Labeling, Room 211-214 • TWksh7: Who Ran That? Guidelines for Authorship and Acknowledgement of Mass Spectrometrists and their Laboratories in Scientific Literature, Room 215-216 • TWksh8: Challenges and Advances in Glycomics and Glycoproteomics, Room 217-219 • TWksh9: Hot Topics in LC-MS Instrumentation Troubleshooting, Room 220-222 • TWksh10: Mass Spectrometry in the Clinical Lab: Time for Self Assessment, Room 301-305
7:00 - 8:00 PM	DINNER BREAK
AFTER 8:00 PM	CORPORATE HOSPITALITY SUITES , East Building

PROGRAM OVERVIEW



WEDNESDAY

7:00 AM - 5:00 PM	REGISTRATION
8:30 - 10:30 AM	ORAL SESSIONS - WOA am: Informatics: Quantification, Ballroom A - WOB am: Imaging MS: Instrumentation and Ionization Sources, Ballroom B - WOC am: Accurate Mass Applications: Pharmaceutical, Bioanalytical, and Clinical, Ballroom C - WOD am: Advances in Nano-scale Separations for MS Analysis, Room 118-120 - WOE am: Carbohydrate Analysis: New Developments, Room 211-214 - WOF am: Polymer MS: Materials, Medical Devices, and Pharmaceuticals, Room 220-222 - WOG am: H/D Exchange: Protein Structure/Function, Room 301-305 - WOH am: Intact Proteins, Exhibit Hall A
10:30 AM - 2:30 PM	POSTER SESSION AND EXHIBITS , Exhibit Hall BC Wednesday posters
2:30 - 4:30 PM	ORAL SESSIONS - WOA pm: Environmental Chemistry and Toxicology, Ballroom A - WOB pm: Metabolomics: Clinical Applications, Ballroom B - WOC pm: Regulated Bioanalysis using High Resolution LC/MS: Headache or Opportunity? Ballroom C - WOD pm: Overcoming Challenges in MS Analysis through Improvements in Sample Preparation, Room 118-120 - WOE pm: Glycoproteins: New MS Approaches, Room 211-214 - WOF pm: Fundamentals of Ion Activation and Dissociation, Room 220-222 - WOG pm: H/D Exchange: New Developments in Technology, Room 301-305 - WOH pm: Quantitative Proteomics, Exhibit Hall A
4:45 - 5:30 PM	ASMS MEETING , Ballroom A Wine, beer, soft drinks
5:45 - 7:00 PM	WORKSHOPS There are light refreshments on level 1 and 2 - WWksh1: Pharmaceutical Applications of Nucleic Acid Mass Spectrometry, Room 109 - WWksh2: Challenges and Opportunity in Water and Health Research, Room 110 - WWksh3: Quantitative Intact Proteomics (QIP), Room 114-115 - WWksh4: Trans-Proteomic Pipeline (TPP) and Related Open-Source Proteomics Resources, Room 116-117 - WWksh5: Data-independent Acquisition, Room 118-120 - WWksh6: Navigating an Increasingly Complex Regulatory LC-MS Landscape, Room 211-214 - WWksh7: New Capabilities for Polymeric Materials, Room 215-216 - WWksh8: Ambient Ionization Quantitation and Imaging for Flavors, Fragrance and Foodstuffs, Room 217-219 - WWksh9: Applying Ion Mobility-Mass Spectrometry to Challenges in Proteomics and Systems Biology, Room 220-222 - WWksh10: Our Current Toolbox of Peptide Dissociation Methods: What More Do We Wish For?, Room 301-305
7:00 - 8:00 PM	DINNER BREAK
AFTER 8:00 PM	CORPORATE HOSPITALITY SUITES , East Building



PROGRAM OVERVIEW

THURSDAY

7:00 AM - 5:00 PM	REGISTRATION
8:30 - 10:30 AM	ORAL SESSIONS • ThOA am: Food Safety: Advances in MS for Characterization of Additives and Contaminants, Ballroom A • ThOB am: Metabolomics/Lipodomics: New MS Technologies and Applications, Ballroom B • ThOC am: Biological Samples, Ballroom C • ThOD am: Fundamentals of Peptide Fragmentation, Room 118-120 • ThOE am: Biomolecular Structure Analysis by Covalent Labeling: Future Directions, Room 211-214 • ThOF am: Nucleic Acids: Emerging Trend, Room 220-222 • ThOG am: Ion Mobility: Fundamentals, Room 301-305 • ThOH am: Phosphoproteomics, Exhibit Hall A
10:30 AM - 2:30 PM	POSTER SESSION AND EXHIBITS , Exhibit Hall BC Thursday posters
2:30 - 4:30 PM	ORAL SESSIONS • ThOA pm: Environmental Contaminants: The Role of MS in the 21st Century, Ballroom A • ThOB pm: Lipids, Ballroom B • ThOD pm: Food "omics": MS Characterization of Food and Nutritional Supplements, Room 118-120 • ThOE pm: Antibodies and Antibody-Drug Conjugates: Quantitation and Characterization, Room 211-214 • ThOF pm: Ion Manipulation, Analysis and Detection: New Developments, Room 220-222 • ThOG pm: Ion Mobility: Applications, Room 301-305 • ThOH pm: PTMs: Advances in Isolation, Derivatization and Separation, Exhibit Hall A
4:45 - 5:30 PM	PLENARY LECTURE , Exhibit Hall A The Secret Life of Food Shirley O. Corriher Food scientist, TV personality, author and columnist
5:45 - 9:00 PM	CLOSING GALA , Ballroom



Workshops are organized on topics of special interest to mass spectrometry.
Light refreshments are provided on Level 1 and 2.

MONDAY WORKSHOPS, 5:45 - 7:00 PM

1. Characterization and Quantitation of Antibody Drug Conjugates Organized by Pharmaceuticals Interest Group Monday, Room 109

Chris Turck & Matthew Blatnik, presiding

The workshop will be concerned with a challenging area in mass spectrometry, the analysis of antibody conjugates where a small drug molecule is covalently linked to a large protein. Topics that will be discussed include intact protein analysis, pharmacokinetic profiling, stability profiling by relative quantitation of degradation products to monitor bioavailability, matrix effects (plasma, tissue culture cells), mass deconvolution.

2. The Future of Proteomics Data Repositories Monday, Room 110

Paul Rudnick & Lennart Martens, presiding

The purpose of this workshop is to address the current state of proteomics data repositories and discuss the desired role(s) and function(s) of an ideal future one. To initiate open discussion, 4 or 5 speakers will describe current repositories or offer their perspectives as users and/or developers. Issues such as journal requirements, the importance of annotation, whether or not to store raw or processed data, and information technologies are likely topics for discussion.

3. Mass Spectrometry Applications in Art, Cultural Heritage, and Natural History Monday, Room 114-115 Mehdi Moini, presiding

The purpose of this workshop is to bring together scientists, conservators, and curators interested in mass spectrometry (MS) applications to art and cultural heritage objects, as well as natural history specimens. This will be an interactive workshop in which various subjects relevant to the application of MS to museums' specimens will be discussed in a casual, dialog format. A preliminary list of topics include: 1) Analysis of proteinaceous and organic specimens such as silk and wool textiles, leather and animal guts objects, bone and tissues, ink, paper, paint, coatings, binders, and wood. 2) Analysis of the fundamental factors that cause degradation of museums' objects; identification of their deterioration markers, using degradation markers as clocks for dating objects, and studying environmental factors that affect deterioration. 3) Application of MS to paleo-organic matter such as fossilomics, amino acid racemization, and ancient DNA. 4) To be determined.

4. Young Mass Spectrometrists: A Focus on Career Development Organized by Young Mass Spectrometrists Interest Group Monday, Room 116-117 Hao Chen & Bich Vu, presiding

The workshop will hold panel discussions on personal career management and planning. The topics will be related to scientific publishing, grant writing, industrial and corporate internships, career pathways in academia, industry, and government organizations. Representatives from industry, academia, and government organizations inside and outside the US will be invited to share best practices on career prospects.

5. Structures, Reactions and Thermochemistry of Gas-Phase Ions (in Honor of Alex Harrison's 80th Birthday) Organized by Fundamentals Interest Group Monday, Room 118-120

Glen Jackson & Rebecca Jockusch, presiding

Around the time of the ASMS meeting, IJMS will be publishing a special issue edited by Bela Paizs and Veronica Bierbaum in

honor of Alex Harrison's 80th Birthday. We plan to honor this event by providing a series of invited short presentations with discussion on the major research topics in which Alex has been active. In the tradition of the fundamentals group, presenters will include young scientists active in areas of fundamental mass spectrometry research.

6. Characterization and Quantitation of Protein Therapeutics Organized by Protein Therapeutics Interest Group Monday, Room 211-214

Sheng Gu & Justin Sperry, presiding

The workshop will discuss and share emerging techniques used to characterize and quantify protein therapeutics in various matrices by mass spectrometry. The focus of the workshop will be daily challenges faced by difficult samples such as antibody-drug conjugates, heavily glycosylated proteins etc. The workshop will be a place for the scientists, who work with proteins/peptides and other similar bio-therapeutics, to share their experiences in analyzing these samples by mass spectrometry based methodologies. The workshop will also try to stimulate discussions on perspective of new technologies that could improve the efficiency/throughputs in analyzing biotherapeutics.

7. Current Topics in Mass Spectrometry: A Workshop for Undergraduates Organized by Undergraduate Research in MS Interest Group Monday, Room 215-216

Christine Hughey & Jennifer Grant, presiding

This workshop will give undergraduates an introduction to and an overview of "hot" topics that they will see throughout the week. The focus of our first workshop is biological MS, with a focus on metabolomics/lipidomics, imaging and top-down proteomics. Discussion will be limited to high resolution instrumentation (e.g., q-TOFs, TOFs and Orbitraps).

8. FTMS Workshop Organized by FTMS Interest Group Monday, Room 217-219 Joshua Sharp, presiding

Based on feedback from Interest Group members, we will be splitting the focus of the workshop in two directions. First, we will be presenting a 10-minute explanation of transient manipulation targeted at novice and intermediate users. We will be seeking a speaker to overview issues in transient manipulation and interpretation, including calibration, apodization, and issues with quantitation. We will then be inviting speakers give very brief presentations on the design and figures of merit for Orbitrap and different ICR cell designs, followed by time for extended discussion and question and answer sessions.

9. Bioanalysis in R&D and Regulatory Submission: Challenges and Opportunities Organized by DMPK Interest Group Monday, Room 220-222

Petia Shipkova, Joanna Pols, & Chandra Prakash, presiding

The workshop will include 2 speakers, one from R&D and one from the FDA (10-15 min per presentation) followed by Q&A and discussion with the audience. The goal is for the speakers to provide thoughts about emerging tools for bioanalysis, provide a regulatory perspective of reviewing bioanalytical data submitted for regulatory submissions, and to facilitate an active discussion with the audience of current and future practices.



WORKSHOPS

10. Metabolomics – Coming of Age in the “Omics” World: Part I: The Basics

Organized by Metabolomics Interest Group

Monday, Room 301-305

William Wikoff & Paul West, presiding

This is the first of two separate Metabolomics sessions: “Metabolomics Basics.” This will include a panel and presentations that are more educational and informative, with lecture presentations to facilitate education of new users. The advanced

session is on Tuesday. The objectives of these workshop sessions are to provide an open forum for metabolomics researchers, from experts to novices, to discuss current challenges, future directions and entertain proposals for solutions that will benefit the metabolomics community as a whole. Key topics for discussion will include trends in metabolomics applications and publications, data analysis, databases and repositories, and metabolite identification/annotation. Bring your comments and questions. We look forward to your participation.

TUESDAY WORKSHOPS, 5:45 - 7:00 PM

1. Metabolomics – Coming of Age in the “Omics” World: Part II: Advanced

Organized by Metabolomics Interest Group

Tuesday, Room 109

William Wikoff & Paul West, presiding

This is the second Metabolomics workshop session and will be geared for more experienced participants. There will be a panel focused on discussion of advanced topics and eliciting discussion from the audience. The objectives of these workshop sessions are to provide an open forum for metabolomics researchers, from experts to novices, to discuss current challenges, future directions and entertain proposals for solutions that will benefit the metabolomics community as a whole. Key topics of discussion will include trends in metabolomics applications and publications, data analysis, databases and repositories, and metabolite identification/annotation. Bring your comments and questions. We look forward to your participation. Please also see the description for Part I, Monday number 10.

2. Analytics of Fossil Fuels and Biofuels:

Where Do We Stand?

Organized by Energy, Petroleum & Biofuels Interest Group

Tuesday, Room 110

Michael McGinley & Wolfgang Schrader, presiding

Mass spectrometry has evolved as probably the major analytical method to analyze extremely complex mixtures in biofuel and fossil fuel production. Both applications have in common that they are dealing with really complex samples although the compounds that need to be analyzed are different and therefore demand a different approach. We will cover the state of the art in analytics of hydrocarbon-based energy resources and want to discuss the question what future developments need to consider.

3. Current Topics in Metal Ion Chemistry

Organized by Metal Ion Coordination Chemistry Interest Group

Tuesday, Room 114-115

Grant E. Johnson & Jianhua Ren, presiding

The workshop will serve as an informal venue for active metal ion researchers to discuss the current challenges and future directions of the field. Those who wish to learn more about metal ion chemistry (especially young scientists) are strongly encouraged to attend. Key topics of discussion will include ion formation, reactivity, structure and energetics studied by mass spectrometry and complementary techniques such as ion spectroscopy as well as theoretical calculations. Some of the potential topics include metal ion-assisted fragmentation of molecules, structure and thermochemistry of metal ion-molecule complexes, clustering of molecules around metal ions, hydration of metal ion complexes, electrospray ionization of organometallic complexes, heavy(lanthanide/actinide) metal ion chemistry, and optical properties of metal ion biomolecule hybrids.

4. Computational Challenges in Identification and Quantification

Organized by Bioinformatics for MS Interest Group

Tuesday, Room 116-117

Brian Searle & Marc Kirchner, presiding

Recent developments in instrumentation as well as algorithmic advances have enabled alternate approaches to quantification

and identification. The meeting will prompt a discussion about tradeoffs in de novo vs database identification and/or discuss the potential challenges associated with data independent acquisition.

5. Imaging MS: Developing Quantitative Imaging

Organized by Imaging MS Interest Group

Tuesday, Room 118-120

Ian Gilmore & Timothy J. Garrett, presiding

Last year a successful workshop was held titled ‘Towards Quantitative Imaging’ with very lively discussions. This found that one of the key obstacles to quantitative imaging was the need to get rid of ion suppression effects, perhaps through blotting, better internal standards, or new ionisation techniques. This year’s workshop will aim to explore the present research available and being developed to deal with this key issue. Then we will debate the current gaps and opportunities that will further the aim of reducing ion suppression effects as well as the effects of data processing for the development of quantitative imaging mass spectrometry.

6. H/D Exchange and Covalent Labeling

Organized by H/D Exchange & Covalent Labeling Interest Group

Tuesday, Room 211-214

David Schriemer, presiding

This workshop will provide a forum for discussing methods and experimental parameters for protein structural studies by hydrogen/deuterium exchange and covalent labeling. There will be a number of brief talks to highlight new advances within the field. The goal of these talks (5 min maximum) will be to stimulate discussion. The workshop will also include a question and answer session, with questions being submitted in advance.

7. Who Ran That? Appropriate Guidelines for Authorship and Acknowledgement of Mass Spectrometrists and their Laboratories in Scientific Literature

Organized by Analytical Lab Managers Interest Group

Tuesday, Room 215-216

Sarah Pruett & Nathan Dalleska, presiding

As mass spectrometry increasingly plays a central role in bioanalysis, the question of when authorship and/or acknowledgements in publications is appropriate becomes essential. The mass spectrometrists is often asked to design studies, analyze and interpret data, and even provide text for subsequent publication. The analyst is not, however, always credited for these contributions. This year’s workshop will address this topic and what the best approach is for resolution.

8. Current Challenges and Advances in Glycomics and Glycoproteomics

Tuesday, Room 217-219

Yehia Mechref, presiding

The high structural variation of glycan derived from glycoconjugates, which substantially increases with the molecular size of a protein, contributes to the complexity of glycosylation patterns commonly associated with glycoconjugates. In the case of glycoproteins, such variation originates from the multiple glycosylation sites of proteins and the number of glycan structures associated with each site (microheterogeneity). The



ability to comprehensively characterize highly complex mixture of glycans has been analytically stimulating and challenging. This workshop will discuss and evaluate the new advances in MS and LC-MS approaches facilitating comprehensive characterization of protein glycosylation, including separation methods, sample preparation, bioinformatic tools, fragmentation mechanisms. The workshop will also address current challenges in glycomics and glycoproteomics, including, isomeric separation and microheterogeneity.

9. Hot Topics in LC-MS Instrumentation Troubleshooting
Organized by LC/MS & Related Topics Interest Group
Tuesday, Room 220-222
Susan E. Abbatiello, presiding

Researchers are invited to attend the 2012 workshop in LC-MS Instrumentation Troubleshooting to share their experiences – both successes and failures – in troubleshooting LC-MS instrumentation. A panel of experts will be present and roaming the room to facilitate discussion and answer questions from the audience. Topics of discussion, based upon 2012 survey results, will include generation and use of a system suitability sample for LC-MS system evaluation, troubleshooting low MS

signal, identifying and addressing impurities and contaminants in LC-MS data, and general maintenance and repair of LC-MS instrumentation. We are excited to once again include two original student research presentations at the beginning of the workshop. Please come ready for highly interactive discussions!

**10. Mass Spectrometry in the Clinical Lab:
 Time for Self Assessment**
Organized by Clinical Chemistry Interest Group
Tuesday, Room 301-305
Nigel Clarke & Cory Bystrom, presiding

The growth in the use of mass spectrometry in the clinical lab over the last decade has been impressive and many high throughput labs have made substantial investments in this area. Impacts from healthcare reform, regulatory changes and continued technological advances will undoubtedly influence the trajectory of mass spectrometry as a central analytical tool in the clinical lab. Our discussion, stimulated with brief presentations, will attempt to explore this landscape and attempt to identify key opportunities and risks for the next decade.

WEDNESDAY WORKSHOPS, 5:45 - 7:00 PM

**1. Pharmaceutical Applications of
 Nucleic Acid Mass Spectrometry**
Organized by DNA/RNA Interest Group
Wednesday, Room 109
Fanyu Meng & Herbert Oberacher, presiding

Nucleic acid-based molecules, including antisense RNAs, aptamers, miRNAs, and small-interfering RNAs, have great potential to serve as therapeutics for treatment of human diseases. Indeed, many such molecules have been tested in clinical studies, and a few have been approved by regulatory agencies in the US and EU (e.g., fomivirsen and pegaptanib). Apparently, mass spectrometry has broad impact to support the discovery and development of nucleic acid therapeutics. In this workshop, a panel of scientists will share their perspectives of how mass spectrometry can be used to facilitate the nucleic acid drug development. Both success stories and current challenges will be discussed.

**2. Challenges and Opportunity in
 Water and Health Research**
Organized by Environmental Applications Interest Group
Wednesday, Room 110
Susan Richardson & Xing-Fang Li, presiding

Sustainable water source and quality from rivers, lakes, and groundwater to our tap water is a global challenge. The workshop will focus on three areas of water issues, including (1) emerging disinfection byproducts and human health effects, (2) oil sand produced water and ecotoxicology, and (3) emerging environmental contaminants and mass spectrometry. The objective of the workshop is to discuss the challenges and opportunities in water and health research. What can mass spectrometry do? Please bring your ideas and questions to the discussion.

3. Quantitative Intact Proteomics (QIP)
Organized by Quantitative Intact Proteomics Interest Group
Wednesday, Room 114-115
David Friedman & Julian Whitelegge, presiding

We will continue the open forum format that we started two years ago, during which the discussion was directed by topics submitted to the QIP Interest Group ahead of time. The major focus of this workshop will be on quantitative methods used for intact proteins: 2D gel-based (DIGE) using fluorescent tags, multiplexing and internal standards; Top-down using GelFree-type separations

etc. The goal is to achieve cross-fertilization between different areas of the community with respect to experimental design, power analysis, multivariate statistical analysis, and fitness for purpose.

**4. Trans-Proteomic Pipeline (TPP) and Related Open-Source
 Proteomics Resources**
Wednesday, Room 116-117
Eric W. Deutsch & Luis Mendoza, presiding

This workshop will begin with a tutorial-style presentation on how to use the freely available and open-source suite of software tools for the analysis of proteomics shotgun datasets called the Trans-Proteomic Pipeline (TPP). The presentation will include demonstrations of use of format conversions, PeptideProphet, iProphet, PTMProphet, ProteinProphet, and related tools through the TPP graphical user interface, both in a local installation and on the Amazon EC2 cloud computing platform. Next we will present examples of how to use other resources from the Seattle Proteome Center including PeptideAtlas and SRMAtlas for the planning of targeted proteomics experiments. The workshop will conclude with an open discussion on use of the tools, possible improvements, as well as future directions. There will be an opportunity to talk with the developers of the TPP.

We expect about 100 attendees who are interested in getting a quick introduction to the TPP, PeptideAtlas, and related resources, and discussing future directions with the developers.

5. Data-independent Acquisition
Wednesday, Room 118-120
Yishai Levin, presiding

The proteomics field is striving to identify more and more proteins but has not taken care to realize that protein identification by data directed acquisition is irreproducible for analysis of complex samples. Data independent acquisition methods have been gaining interest in the proteomics field to facilitate reproducible protein identification compared to the traditional method of data directed acquisition. The workshop will include short presentations of 5 to 7 minutes by four experienced panelists followed by discussion. Each presentation will describe a different aspect of the approach: technical detail, the software required and typical applications.



WEDNESDAY WORKSHOPS, 5:45 - 7:00 PM

continued

6. Navigating an Increasingly Complex Regulatory LC-MS Landscape
Organized by Regulated Bioanalysis Interest Group
Wednesday, Room 211-214
Steve Lowes, presiding

2012 is already shaping up to be a pivotal year in regulated bioanalysis, with the implementation of the EMA guidance, the imminent release of the draft FDA guidance and the confirmed GBC conference scheduled for September. This workshop will present, for open discussion, the latest bioanalytical hot topics. The final agenda will be driven by the outcome of an RBIG survey but will be consistent with the ongoing themes of regulatory language harmonization, recent FDA directives and how as a bioanalytical community we are able to address and adapt to the emerging regulations. Format of the workshop will focus on three short presentations followed by audience discussion.

7. New Capabilities for Polymeric Materials
Organized by Polymeric Materials Interest Group
Wednesday, Room 215-216
Andrew Hoteling, presiding

The workshop will include group discussions centered on the following topics related to synthetic polymers:

- Polymer Related Chemical Information
- New MS capabilities

Future Polymer AnalyticalSelect scientists will give brief presentation (2-3 slides) on applications related to these topics to seed discussions.

8. Ambient Ionization Quantitation and Imaging for Flavors, Fragrance and Foodstuffs
Organized by Flavor, Fragrance and Foodstuff Interest Group
Wednesday, Room 217-219
Eric Handberg, presiding

Recent advances in imaging mass spectrometry can be applied to flavors, fragrance and foodstuffs. This workshop will begin with a presentation from an instrument vendor on ambient ionization imaging for food, flavor and fragrance. Discussion leaders and

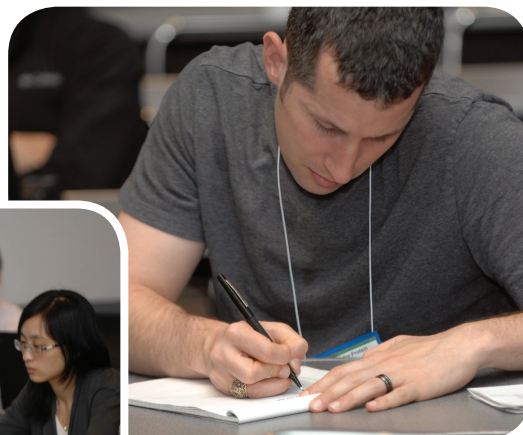
the workshop participants will answer 5 relevant questions to quantitative imaging mass spectrometry for the Flavors, Fragrance and Foodstuffs Interest Group. The answers will be summarized for the workshop summary report and a workshop survey will be collected.

9. Applying Ion Mobility-Mass Spectrometry to Challenges in Proteomics and Systems Biology
Organized by Ion Mobility MS Interest Group
Wednesday, Room 220-222
Brandon T. Ruotolo & Matthew F. Bush, presiding

Although integration of ion mobility mass spectrometry (IM-MS) into workflows aimed at both gas-phase ion structure determination and problems in structural biology has escalated dramatically in recent years, IM-MS has not yet found wide adoption in the proteomics and systems biology communities. This trend is surprising, as IM-MS technology in the hands of a few key researchers has been demonstrated to enhance the dynamic range, peak capacity, and information content of such experiments when compared to similar MS-only experiments. In this workshop, we will showcase research that demonstrates the incredible promise of IM-MS for such applications, discuss the challenges associated with integrating IM-MS data into existing proteomics and systems biology workflows, and highlight specific applications in this space where IM-MS technology may be uniquely positioned to provide solutions.

10. Our Current Toolbox of Peptide Dissociation Methods: What More Do We Wish For?
Organized by Peptide Fragmentation Interest Group
Wednesday, Room 301-305
Helen Cooper & Nick Polfer, presiding

A plethora of dissociation techniques are now available to sequence peptides. This workshop aims to give a brief overview of the merits and weaknesses of these techniques, and the general complementarity of these approaches. The workshop will consist of short oral contributions (limited to 10 min), followed by extensive discussions.





5:00 - 6:30 PM, SUNDAY
TUTORIAL SESSION
Susan T. Weintraub, presiding
Exhibit Hall A, Exhibit level



5:00 - 5:45 pm
Ambient Mass Spectrometry: Analysis in the
Real World by a "Green" Technology
Jentaie Shiea
National Sun Yat-Sen University



5:45 - 6:30 pm
Statistics and Forensic Bioinformatics:
Analytic Issues in High-Throughput Biology
Keith A. Baggerly
MD Anderson Cancer Center

6:45 - 7:45 PM, SUNDAY
CONFERENCE OPENING
Exhibit Hall A, Exhibit level

Welcome, Susan T. Weintraub
University of Texas Health Science Center at San Antonio



The Deepwater Horizon Oil Spill:
From the Pipe to the Plume
Chris Reddy
Woods Hole Oceanographic Institution

7:45 - 9:00 PM, SUNDAY
WELCOME RECEPTION
Exhibit Hall BC, Exhibit level

8:30 - 10:30 AM, MONDAY MORNING
DISEASE BIOMARKERS AND PATHWAYS
Rong Wang, presiding
Ballroom A

- MOA am 08:30 **Biomarkers of HIV and HCV Immunobiology: A Proteomics First Systems Medicine Approach;** Daniela Schlatter; Donald Anthony; Alan Levine; Yanwen Chen; Jill Barnholtz Sloan; Julia Sugalski; Mark Chance; Case Western Reserve University, Cleveland, OH
- MOA am 08:50 **Deep and Quantitative Proteomic Analysis of Breast Tumors using Super-SILAC Reveals Novel Markers;** Tamar Geiger¹; Stefka Tyanova²; Juergen Cox²; Matthias Mann²; ¹Sackler Faculty of Medicine, Tel Aviv University, Tel Aviv, Israel; ²Max-Planck-Institute of Biochemistry, Martinsried, Germany
- MOA am 09:10 **Integration of Phosphoproteomic and siRNA Screens of the Wnt/b-catenin Pathway Unearth Novel Drug Targets in Melanoma;** Richard James¹; Katie Bosch¹; Travis Biechelle¹; Theresa Vertigan³; Jimmy Eng³; Alejandro Wolf-Yadlin³; Randall Moon¹; Priska Von Haller²; ¹University of Washington, Department of Pharmacology, Seattle, WA; ²University of Washington Proteome Resource, Seattle, Washington; ³University of Washington, Seattle, WA
- MOA am 09:30 **A SRM-MS Based Assessment of Prostate Cancer (PCa) Stage-Related Proteins for Personalized Medicine to Improve Therapeutic Outcomes;** Makoto Kihara¹; Naoki Tanaka¹; Makiko Otsuji¹; Takahiro Kimura²; Yuko Kamata²; Toshihiro Yamamoto²; Hirotaka Kawakami³; Yasuhiko Bando³; Shin Egawa²; Toshihide Nishimura¹; ¹Medical ProteoScope Co. Ltd., Kanagawa, Japan; ²Jikei University School of Medicine, Tokyo, Japan; ³Biosys Technologies Inc., Tokyo, Japan
- MOA am 09:50 **Diagnostic, Prognostic, and Predictive Plasma Protein Biomarker Signatures of Colorectal Cancer;** Silvia Surinova¹; Ching-Yun Chang²; Tim Clough²; Lenka Radova³; Peter Schueffler⁴; Meena Choi²; Marta Dziechciarková³; Josef Srovnal³; Kamil Vyslouzil⁵; Hendrik Weisser¹; Joachim Buhmann⁴; Olga Vitek²; Marián Hajdúch³; Ruedi Aebersold¹; ⁶; ¹Institute of Molecular Systems Biology, ETH, Zurich, Switzerland; ²Department of Statistics, Purdue University, West Lafayette, IN; ³Institute of Molecular and Translational Medicine, Olomouc, Czech republic; ⁴Institute for Computational Science, ETH, Zurich, Switzerland; ⁵Department of Surgery, University Hospital, Olomouc, Czech republic; ⁶Faculty of Science, University of Zurich, Zurich, Switzerland
- MOA am 10:10 **Discovery of Antiviral Roles of Mammalian Sirtuins: A Systems Biology View;** Emre Koyuncu; Yana Miteva; Hanna Budayeva; Thomas Shenk; Ileana M. Cristea; Princeton University, Princeton, NJ



MONDAY MORNING ORAL SESSIONS

8:30 – 10:30 AM, MONDAY MORNING TIME-OF-FLIGHT MASS SPECTROMETRY: NEW DEVELOPMENTS IN INSTRUMENTATION AND APPLICATIONS Peter Derrick (Australia & New Zealand Society for Mass Spectrometry), presiding Ballroom B

- MOB am 08:30 **Treatment of Coulomb Interaction Effects in High Resolution TOF and Electrostatic FT Mass Spectrometers in Terms of Phase-space Rotation;** Boris Kozlov¹; Sergey Kirillov¹; Andrey Monahov²; ¹MS Consulting, Bar, Yugoslavia; ²Ioffe Physical Technical Institute, St Petersburg, Russia
- MOB am 08:50 **Miniaturized Ultra High-mass Resolution Time-of-flight Mass Spectrometer “infITOF” and Its Application for Environmental Analysis ;** Shuichi Shimma; Michisato Toyoda; Osaka University, Toyonaka, Japan
- MOB am 09:10 **A New Approach to TOF Mass Spectrometry for High Performance MS and MS-MS;** Marvin Vestal; Kevin Hayden; Virgin Instruments Corp., Sudbury, MA
- MOB am 09:30 **Distance-of-Flight Mass Spectrometry: Time-of-Flight MS for Impatient People;** Alexander Gundlach-Graham¹; Elise A. Dennis¹; Steven J. Ray¹; Christie G. Enke²; Charles J. Barinaga³; David W. Koppenaal³; Anthony J. Carado³; Gary M. Hieftje¹; ¹Indiana University, Bloomington, IN; ²University of New Mexico, Placitas, NM; ³Pacific Northwest Nat'l Laboratory, Richland, WA
- MOB am 09:50 **Nanostructure Cryodetector for Mass Spectrometry;** Masataka Ohkubo¹; Koji Suzuki¹; Nobuyuki Zen¹; Shigetomo Shiki¹; Masahiro Ukibe¹; Masaki Koike¹; Roberto Cristiano²; Mikkel Ejrnaes²; Alessandro Casaburi²; Nobuyuki Yoshikawa³; Yoshihiro Takahashi³; ¹AIST, RII, Tsukuba, Japan; ²C.N.R. - Institute of Cybernetics, Napoli, Italy; ³Yokohama National University, Yokohama, Japan
- MOB am 10:10 **A Mechanical Nanomembrane Detector for Time-of-flight Mass Spectrometry;** Lloyd Smith¹; Jonghoo Park¹; Hua Qin²; Michael S. Westphall¹; Mark A. Scalf¹; Ryan T. Hilger³; Robert Blick¹; ¹University of Wisconsin, Madison, WI; ²Suzhou Institute of Nano Tech & Nano Bionics, Suzhou City, P.R. China; ³Purdue University, West Lafayette, IN

8:30 – 10:30 AM, MONDAY MORNING QUANTITATIVE ANALYSIS BY MS IN DRUG DISCOVERY AND DEVELOPMENT: NOVEL APPROACHES Kevin Bateman, presiding Ballroom CD

- MOC am 08:30 **Nanophotonic Ion Production for Ultra-sensitive Direct Mass Spectrometry of Complex Samples;** Bennett N Walker; Akos Vertes; George Washington University, Washington, DC
- MOC am 08:50 **Analysis of Biological Samples by Paper Spray-MS: Toward Point of Care Mass Spectrometry;** Nicholas Manicke¹; Ryan Espy²; Jiangjiang Liu²; John Hertig³; Zheng Ouyang²; R. Graham Cooks²; ¹Quantum Technologies, West Lafayette, IN; ²Purdue University, West Lafayette, IN; ³Alfred Mann Institute at Purdue University, West Lafayette, IN
- MOC am 09:10 **Development of Quantitative Nanoscale Techniques for Ultra Trace Analysis of Biological Microsamples;** Jack Henion¹; Yuanyuan Li¹; Kevin Bateman²; Li Sun²; ¹Advion Bioanalytical Labs, Inc.,

Ithaca, NY; ²Merck Research Laboratories, West Point, PA

- MOC am 09:30 **Investigation of Lower LC Flow Rates and Smaller ID Columns in Quantitative Bioanalysis by LC-MS/MS;** Richard King; PharmaCadence Analytical Services, LLC, Hatfield, PA
- MOC am 09:50 **LC-MS/MS Bioanalysis of Monoclonal Antibody Drugs in Drug Development: Practical Considerations in Assay Development and Validation;** Guowen Liu; Qin Ji; Robert Dodge; Huadong Sun; David Shuster; Qihong Zhao; Mark Arnold; Bristol-Myers Squibb Co., Princeton, NJ
- MOC am 10:10 **Design and Utility of High throughput Open-Access Liquid Chromatography Tandem Mass Spectrometry in Quantitative Clinical Toxicology;** Russell Grant; Matthew Crawford; Brian Rappold; Patricia Holland; Stacy Dee; Labcorp., Burlington, NC

8:30 – 10:30 AM, MONDAY MORNING TRADITIONAL CHINESE MEDICINE AND BIOACTIVE NATURAL PRODUCTS: ADVANCES IN MS ANALYSIS Richard van Breemen and De-an Guo (Chinese Mass Spectrometry Society), presiding Room 118-120

- MOD am 08:30 **Application of LC-MS Related Technologies in Pharmacognostic Investigations of Traditional Chinese Medicines (TCM);** Yang Ye; Shanghai Institute of Materia Medica, CAS, Shanghai, China
- MOD am 08:50 **A Mass Spectrometric Approach to Address Complexity and Synergy in Bioactive Natural Products;** Nadja Cech; Univ. of N. Carolina Greensboro, Greensboro, NC
- MOD am 09:10 **Characterization and Purification of Novel Bufadienolides from Toad Skin using LC/QTOF and Orthogonal Two Dimensional LC Method;** Xinmiao Liang; Xiuli Zhang; Yanfang Liu; Xiaolong Li; Dalian Institute of Chemical Physics, CAS, Dalian, China
- MOD am 09:30 **A Pharmacokinetic and Pharmacodynamic Study of American Ginseng on Reproductive Function;** Ed Lui^{2,3}; Matthew Barnes^{2,3}; Lique Coolen^{2,3}; Takeo Sakuma¹; Feng Zhong¹; Hesham Ghobarah¹; Carmei Seto¹; ¹AB SCIEX, Concord, CANADA; ²University of Western Ontario, London, ON; ³Ontario Ginseng Innovation & Research Consortium, London, Canada
- MOD am 09:50 **Fast Screening of Steroids in Health Care Products by Gas Chromatography-Mass Spectrometry;** Zhanliang Wang; Moutian Wu; China Anti-doping agency, Beijing, China
- MOD am 10:10 **Identification of Natural Products in Medicinal Plants Using Custom Accurate Mass Retention Time and MS/MS Libraries;** Daniel Cuthbertson¹; Jasenka Piljac-Zegarac¹; Joaquim Marques¹; Laurence Davin¹; Norman Lewis¹; Julia Kappel¹; Sarah Schäfer^{1,2}; Matthias Wüst²; Megan Rolf³; Toni Kutchan³; Theodore Sana⁴; Steven M. Fischer⁴; B. Markus Lange¹; ¹Washington State University, Pullman, WA; ²University of Bonn, Bonn, Germany; ³Donald Danforth Plant Science Center, St. Louis, MO; ⁴Agilent Technologies, Santa Clara, CA



**8:30 – 10:30 AM, MONDAY MORNING
BIOTHERAPEUTICS AND THEIR IMPURITIES AND
DEGRADANTS: STRUCTURAL CHARACTERIZATION AND QC**

**Jon Williams, presiding
Room 211-214**

- MOE am 08:30 **Rapid Conformational Analysis of Protein Pharmaceuticals by an Abbreviated Hydroxyl Radical Footprinting Method**; Caroline Watson; Joshua S. Sharp; *University of Georgia, Athens, GA*
- MOE am 08:50 **Comprehensive Mass Spectral Reference Library of Glycans and Glycopeptides for Therapeutic Antibodies**; Maria Lorna A. De Leoz^{1,2}; Lisa E. Kilpatrick¹; Xinjian Yan¹; Xiaoyu Yang¹; Michael Tarlov¹; Stephen E. Stein¹; ¹NIST, Gaithersburg, MD; ²University of Maryland, College Park, MD
- MOE am 09:10 **The Relationship between Mutation, Structure and Glycosylation of IgG Antibodies Revealed Using Native MS and HDX-MS**; Rebecca Rose¹; Ewald van den Bremer²; Aran Labrijn²; Janine Schuurman²; Patrick van Berkel²; Paul Parren²; Albert J.R. Heck¹; ¹Utrecht University, Utrecht, Netherlands; ²Genmab, Utrecht, Netherlands
- MOE am 09:30 **Glycosylation Analysis of Therapeutic Antibodies in Serum Samples using Microfluidic CD Platform and MALDI-MS**; Thuy Tran; Gunnar Thorsén; *Stockholm University, Stockholm, Sweden*
- MOE am 09:50 **Subunit LC-MS Methods for the Characterization of Biotherapeutics: Case Studies for Antibody-Drug Conjugates and CRM₁₉₇ Using Ultrahigh-Resolution QTOF Mass Spectrometry**; Justin Sperry¹; James Carroll¹; Jason Rouse²; ¹Analytical R&D, Pfizer, Inc., Chesterfield, MO; ²Pfizer, Inc., Andover, MA
- MOE am 10:10 **Determining Cystine Knot and Disulfide Linkages in Recombinant Human Arylsulfatase A Using Multi-enzyme and LC-MS/MS with Electron Transfer Dissociation Approaches**; Wenqin Ni¹; Melanie Lin²; Paul Salinas²; Philip J. Savickas²; Barry L. Karger¹; Shiaw-Lin Wu¹; ¹Northeastern University, Boston, MA; ²Shire Human Genetic Therapies, Inc., Lexington, MA

**8:30 – 10:30 AM, MONDAY MORNING
RADICAL-DRIVEN PEPTIDE FRAGMENTATION**
**Helen Cooper and T. W. Dominic Chan (Hong Kong Society for Mass Spectrometry), presiding
Room 220-222**

- MOF am 08:30 **Isomerization of Radical Peptide Ions and Subsequent Radical-Induced Dissociations**; Tao Song¹; Chi K. Siu²; Ivan K. Chu^{1*}; ¹The University of Hong Kong, China; ²City University of Hong Kong, China
- MOF am 08:50 **Charge Carrier Effects in Electron-Mediated Peptide Anion Fragmentation**; Katherine E. Hersberger; Ning Wang; Kristina Hakansson; *University of Michigan, Ann Arbor, MI*
- MOF am 09:10 **A Novel One-step Free-radical Initiated Peptide Sequencing Mass Spectrometry in the Negative Ion Mode**; Han Bin Oh; *Sogang Univ. Dept. of Chemistry, Seoul, South Korea*
- MOF am 09:30 **Distinguishing D-amino Acids in Peptide Epimers by Radical Directed Dissociation**; Yuanqi Tao; Neil Quebbemann; Ryan R. Julian; *University of California, Riverside, Riverside, CA*

- MOF am 09:50 **Gas-phase Chemistry of Amino Acid and Peptide Radical Ions Formed via X-NO₂ (n=1,2) Bond Homolysis**; Richard A. J. O'Hair¹; Michael Leeming¹; William A. Donald¹; Sandra Osburn²; Victor Ryzhov²; ¹University of Melbourne, Victoria, Australia; ²Northern Illinois University, DeKalb, IL

- MOF am 10:10 **Determination of Peptide Topology Through Time-resolved Double-resonance ECD FT-ICR-MS**; Marie Perot-Taillandier¹; Severine Zirah²; Sylvie Rebuffat²; Uwe Linne³; Mohamed A. Marahiel³; Richard B. Cole¹; Jean-Claude Tabet¹; Carlos Afonso^{1,4}; ¹University Pierre & Marie Curie - UMR CNRS 7201, Paris, France; ²National Museum of Natural History, UMR 7245 CNRS, Paris, France; ³University Marburg, Department of Chemistry, Marburg, Germany; ⁴University of Rouen - UMR CNRS 6014 Cobra, Mont Saint Aignan, France

**8:30 – 10:30 AM, MONDAY MORNING
FUNDAMENTALS: AMBIENT AND ATMOSPHERIC PRESSURE
IONIZATION**
**Facundo Fernandez, presiding
Room 301-305**

- MOG am 08:30 **Elucidation of Species and Reaction Mechanisms Responsible for Analyte Desorption/Ionization in the Low-Temperature Plasma Ambient Ionization Source**; Jacob Shelley^{1,2}; Joshua Wiley¹; Jon Dalgleish¹; George Chan²; Gary M. Hieftje²; R. Graham Cooks¹; ¹Purdue University, West Lafayette, IN; ²Indiana University, Bloomington, IN
- MOG am 08:50 **On the Pivotal Role of Ion Bound Clusters in Atmospheric Pressure Ionization Mass Spectrometry**; Thorsten Benter¹; Sonja Klee¹; Valerie Derpmann¹; Hendrik Kersten¹; Sebastian Klopotoski¹; Klaus J. Brockmann¹; Rob O'Brien²; ¹University of Wuppertal, Wuppertal, Germany; ²UBC Okanagan, Kelowna, BC
- MOG am 09:10 **Desorption is Not Responsible for Mass Dependent Detection Deficiency during Desorption Electrospray Ionization Mass Spectrometry (DESI-MS) of Proteins**; Kevin Douglass; Andre Venter; *Western Michigan University, Kalamazoo, MI*
- MOG am 09:30 **Particle Size Distributions in Matrix-Assisted Inlet Ionization**; Thabiso Musapelo; Kermit K. Murray; *Louisiana State University, Baton Rouge, LA*
- MOG am 09:50 **Combining Theoretical Calculation and MS Analysis to Find a Source of H⁺ for Protonated PAH Ions Generated by APPI**; Arif Ahmed; Cheol Ho Choi; Yunju Cho; Jieun Jeong; Byoungjun Kim; Sunghwan Kim; *Chemistry Department, Kyungpook National University, Daegu, South Korea*
- MOG am 10:10 **Mechanistic Considerations for Ionization of Nonvolatile Compounds in Laserspray Ionization (LSI) and Matrix Assisted Laser Desorption/Ionization (MALDI)**; Charles N. McEwen¹; Sarah Trimpin; ¹Univ. of the Sciences, Philadelphia, PA; ²Wayne State University, Detroit, MI



MONDAY MORNING ORAL SESSIONS

8:30 – 10:30 AM, MONDAY MORNING POST-TRANSLATIONAL MODIFICATIONS: BEYOND PHOSPHORYLATION Hanno Steen, presiding Exhibit Hall A

- MOH am 08:30 **Comparative Proteomics Reveals Unexpected Diversity of Signal Peptides**; Sam Payne¹; Dmitry Ivankov²; Stefano Bonissone³; Si Wu¹; Roslyn Brown¹; Dmitriy Frishman²; Richard D. Smith¹; Pavel Pevzner³; ¹PNPL, Richland, WA; ²Technical University of Munich, Munich, Germany; ³UCSD, La Jolla, CA
- MOH am 08:50 **Targeted Mass Spectrometry Identification of SUMOylation Sites in Human Proteins using Paralog-specific Reporter Ions**; Frederic Lamoliatte; Eric Bonneil; Chantal Durette; Olivier Caron-Lizotte; Pierre Thibault; *IRIC, Montreal, Ca*
- MOH am 09:10 **Novel Language for the Histone Code: Serine, Threonine and Tyrosine O-acetylation**; Laura-Mae Britton; Benjamin Garcia; *Princeton University, Princeton, NJ*
- MOH am 09:30 **Quantitation of the Mitochondrial Lysine Acetylome in SIRT3 Knockout Animals using MS1 Filtering in Skyline**; Matthew Rardin¹; Birgit Schilling¹; Michael Cusack¹; Dylan Sorensen¹; Brendan Maclean²; Michael J. Maccoss²; C. Ronald Kahn³; Eric Verdin⁴; Bradford W. Gibson¹; ¹Buck

Institute for Research on Aging, Novato, CA; ²Univ of Washington, Seattle, WA; ³Joslin Diabetes Center Harvard Medical School, Boston, MA; ⁴Gladstone Institute of Virology and Immunology, San Francisco, CA

- MOH am 09:50 **Mass Spectrometric O-Glycoproteome Analysis of Zinc-Finger Nuclease Glycoengineered Human Cell Lines ("SimpleCells")**; Sergey Y. Vakhrushev; Catharina Steentoft; Katrine T.-B. G. Schjoldager; Malene B. Vester-Christensen; Yun Kong; Eric P. Bennett; Ulla Mandel; Hans H. Wandall; Henrik Clausen; Steven B. Levery; *University of Copenhagen, Copenhagen, Denmark*
- MOH am 10:10 **MethylScan Reveals Quantitative Change of Arginine Methylation in Mouse Brain and Embryo**; Hongbo Gu; Jeffrey C. Silva; Ailan Guo; Kimberly A. Lee; Jian Min Ren; Matthew P. Stokes; Charles L. Farnsworth; Xiaoying Jia; Roberto D. Polakiewicz; Michael J. Comb; *Cell Signaling Technology, Inc., Danvers, MA*

10:30 AM - 2:30 PM
MONDAY POSTER SESSION
Exhibit Hall BC
Lunch concessions are open 11:00 am - 2:00 pm
Exhibit Hall Foyer

MONDAY AFTERNOON ORAL SESSIONS

2:30 – 4:30 PM, MONDAY AFTERNOON PROTEIN-PROTEIN AND PROTEIN-LIGAND INTERACTIONS: CHARACTERIZATION BY MASS SPECTROMETRY Christoph Borchers, presiding Ballroom A

- MOA pm 2:30 **Use of Multiple Structural Proteomics Approaches for the Characterization of Protein Complexes**; Evgeniy Petrotchenko¹; Jason Serpa¹; David Wishart²; Christoph Borchers¹; ¹UVic-GBC Proteomics Centre, Victoria, Canada; ²University of Alberta, Edmonton, Canada
- MOA pm 2:50 **Determination of Synphilin-1 interaction networks using isotopically tagged cross-linking and mass spectrometry**; Xiaobin Xu¹; Han Hu¹; Nancy M. Leymarie²; Anatoli B. Meriin²; Yi Pu¹; Mark E. Mccomb²; Michael Y. Sherman²; Catherine E. Costello²; ¹Boston University, Boston, MA; ²Boston University School of Medicine, Boston, MA
- MOA pm 3:10 **Mass Spectrometry Driven Development of Novel Antidiabetic Therapeutics**; David Marciano; Michael Chalmers; Caitlin Steckler; Bruce Pascal; Scott Novick; Devrishi Goswami; Patrick Griffin; *The Scripps Research Institute, Jupiter, FL*
- MOA pm 3:30 **Cancer Protein Interactomes: Towards a Fast Mapping of Regulated Interactions**; Jean-Philippe Lambert¹; Zhen Yuan Lin¹; Brett Larsen¹; Lorne E B Taylor¹; Quan Zhong²; Marc Vidal²; Tony Pawson¹; Stephen A Tate³; Anne-Claude Gingras¹; ¹Samuel Lunenfeld Research Institute, Mount Sinai H, Toronto, Canada; ²CCSB, Dana Farber Institute, Harvard Medical Sc., Boston, MA; ³AB SCIEX, Concord, ON

- MOA pm 3:50 **Deciphering the Mechanism and Dynamics of Hemoglobin Capture by *Staphylococcus aureus* Cell-surface Protein, IsdH, by Native MS**; Jiang Zhang; G. Reza Malmirchegini; Robert T. Clubb; Joseph A. Loo; *Univ. California, Los Angeles, Los Angeles, CA*
- MOA pm 4:10 **Unravelling the Assembly of the Hsp90 Chaperone and its Client Complexes in Real Time**; Nina Morgner; Ima-Obong Ebong; Carol Robinson; *University of Oxford, Oxford, UK*

2:30 – 4:30 PM, MONDAY AFTERNOON FTMS: NEW DEVELOPMENTS IN INSTRUMENTATION Jon Amster, presiding Ballroom B

- MOB pm 2:30 **Design Considerations for High Field FT-ICR MS at 21 T: Simulation and Practice**; Franklin E. Leach III¹; Jean H. Futrell¹; Andriy Kharchenko; Aleksey Tolmachev¹; Errol Robinson¹; Shawna Hengel¹; Gordon Anderson¹; David W. Koppenaal¹; Ljiljana Pasa-Tolic¹; ¹Pacific Northwest National Laboratory, Richland, WA; ²FOM Institute for Atomic and Molecular Physics, Amsterdam, Netherlands
- MOB pm 2:50 **"Crowd Control" of Ions in Orbitrap Mass Spectrometry**; Dmitry Grinfeld¹; Alexander Makarov¹; Eduard Denisov¹; Michael Skoblin²; Mikhail Monastyrskiy²; ¹Thermo Fisher Scientific (Bremen) GmbH, Bremen, Germany; ²General Physics Institute RAS, Moscow, Russia
- MOB pm 3:10 **Absorption Mode FTICR MS: Advantages and Limitations**; Peter B. O'connor¹; Yulin Qi¹; Steven L. Van Orden²; David Kilgour¹; Mark P. Barrow¹;



¹University of Warwick, Coventry, United Kingdom;
²Bruker Daltonics, Billerica, MA

MOB pm 3:30 **The Role of High Mass Accuracy in Targeted Proteomics;** Joshua J. Coon; Amelia C. Peterson; Derek Bailey; Christopher M. Rose; Aaron R. Ledvina; Graeme C. McAlister; Michael S. Westphall; Univ of Wisconsin-Madison, Madison, WI

MOB pm 3:50 **Progress on Dynamically Harmonized FT-ICR Cell Implementation;** Eugene Nikolaev¹; ³; Roland Jertz²; Igor Popov^{1,3}; Anton Grigor'ev¹; Claudia Kriete²; Matthias Witt²; Jochen Friedrich²; M Gokhan Baykut²; Jens Fuchser²; ¹The Institute for Energy Problems of Chemical Phys, Moscow, Russia; ²Bruker Daltonik GmbH., Bremen, Germany; ³Institute of Biochemical Physics Rus. Ac. Sc., Moscow, Russia

MOB pm 4:10 **Optimizing FT-ICR Methodology: Simulations and Experiments;** Alan G. Marshall¹; Tong Chen²; Feng Xian²; Nathan K. Kaiser¹; John P. Quinn¹; Steven C. Beu³; Christopher L. Hendrickson^{1,2}; ¹Ion Cyclotron Resonance Prog, Tallahassee, FL; ²Florida State University, Tallahassee, FL; ³S. C. Beu Consulting, Austin, TX

INTEGRATED QUALITATIVE AND QUANTITATIVE LC-MS FOR SMALL MOLECULE ANALYSIS
Ragu Ramanathan, presiding
Ballroom CD

MOC pm 2:30 **Integrating a High Resolution Quan/Qual based Biotransformation Workflow with an Electronic Notebook Solution across Sites;** Jonathan L. Josephs; Chiuwa Emily Luk; Mark Hillman; William Humphreys; Bristol-Myers Squibb, Pennington, NJ

MOC pm 2:50 **Software Automation Tools for High Content Metabolic Stability Screening in Early Drug Discovery;** Veronica Zelesky¹; John Janiszewski¹; Richard Schneider¹; Ismael Zamora²; Suma Ramagiri³; Brendon Kapinos¹; ¹Pfizer Inc., Groton, CT; ²CEO, Sant Cugat Del Valles, Spain; ³AB SCIEX, Concord, ON

MOC pm 3:10 **Development of a Higher Throughput Metabolite Screening Assay in Early ADME Profiling Using Generic HRMS Acquisition and Automated Data Processing;** Anthony Paiva¹; Cheryl Klakouski¹; Tatyana Zvyaga¹; Dieter Drexler¹; Jonathan Josephs¹; Harold Weller¹; Wilson Shou¹; Ismael Zamora²; ¹Bristol-Myers Squibb Company, Wallingford, CT; ²Lead Molecular Design, San Cugat del Valles, Spain

MOC pm 3:30 **Accurate Mass Quantitation of *in vivo* Plasma Samples using High Resolution QToF and MS^E Data Analysis across a Global Network;** Mark D. Wrona¹; Debadeep Bhattacharya¹; Stephen McDonald¹; Joanne Mather¹; Robert Plumb¹; Nigel P. Ewing²; Eric Langlois³; Julie Laterreur³; ¹Waters Corporation, Milford, MA; ²Vertex Pharmaceuticals Inc., Cambridge, MA; ³Vertex Pharmaceuticals Canada, Laval, QC, Canada

MOC pm 3:50 **Detection of Human Metabolites and Quantitative Assessment of their Coverage in Preclinical Species Using High Resolution Mass Spectrometry;** Shuguang Ma; Genentech Inc, South San Francisco, CA

MOC pm 4:10 **Study ADME of Herbal Medicine in Humans via Quantitative/Qualitative Analysis of Non-radiolabeled Bioactive Component and Its**

Metabolites using Q-TOF LC/MS; Hu Li¹; Xiaorong Ran²; Xiaomei Zhuang¹; Guolin Shen¹; Yuqin Dai³; Mingshe Zhu⁴; ¹Beijing Institute of Pharmacology and Toxicology, Beijing, China; ²Agilent Technologies, China, Beijing, China; ³Agilent Technologies, Santa Clara, CA; ⁴Bristol-Myers Squibb, Princeton, NJ

2:30 – 4:30 PM, MONDAY AFTERNOON
MICROORGANISMS: IDENTIFICATION AND CHARACTERIZATION
Joe Zaia, presiding
Room 118-120

MOD pm 2:30 **Application of a PCR/ESI-MS Assay for the Identification of Foodborne Bacterial Pathogens;** Sarah E. Pierce; Chong-Ming Cheng; Donna M. Williams-Hill; William B. Martin; U.S. Food and Drug Administration, Irvine, CA

MOD pm 2:50 ***Escherichia coli* Detection in a Complex food Matrix using Phage Amplification and Mass Spectrometry;** Armelle Martelet¹; Guillaume L'Hostis¹; Eric Ezan²; Christophe Junot²; Christine Rozand³; Alain Theret³; Gaspard Gervasi³; Jean-Claude Tabet⁴; Bruno Muller¹; François Becher²; ¹Equipe mixte CEA/bioMérieux, Gif-Sur-Yvette, FRANCE; ²CEA - DSV/iBiTec-S/SPI/LEMM, Gif-sur-Yvette, France; ³bioMérieux S.A., Marcy-l'Etoile, France; ⁴Institut Parisien de Chimie Moléculaire UMR 7201, Paris, France

MOD pm 3:10 **Pathogenic Bacteria Detection via Breath VOC Profiling using Secondary Electrospray Ionization Mass Spectrometry (SESI-MS): A Mouse Model Study;** Jiangjiang Zhu; Matthew Wargo; Jane Hill; University of Vermont, Burlington, VT

MOD pm 3:30 **Rapid Identification of Mycobacterium tuberculosis Complex from Mycobacteria Growth Indicator Tube Broth using Nanodiamonds Combined with MALDI-TOF Mass Spectrometry;** Ching-Jen Kung¹; Po-Chi Soo²; Kai-Chih Chang²; Wen-Ping Peng¹; ¹National Dong Hwa University, Shoufeng, Hualien, Taiwan; ²Tzu Chi University, Hualien, Taiwan

MOD pm 3:50 **Rapid Identification of Reassorted Strains of Pandemic Influenza with Mass Spectrometry;** Aaron Lun¹; Jason Wong²; Kevin Downard¹; ¹University of Sydney, Sydney, Australia; ²University of New South Wales, Sydney, Australia

MOD pm 4:10 **Global Protein Expression Profiling of a Bacterial Proteome Using Super-SILAC Combined With High Resolution Mass Spectrometry;** Boumediene Soufi; Vaishnavi Ravikumar; Karsten Krug; Boris Macek; Proteome Center Tuebingen, University of Tuebingen, Tuebingen, Germany

2:30 – 4:30 PM, MONDAY AFTERNOON
BIOTHERAPEUTICS AND BIOMARKERS: NEW DEVELOPMENTS IN QUANTITATIVE ANALYSIS
Guodong Chen, presiding
Room 211-214

MOE pm 2:30 **Comparison of Isotope Dilution Methods to Label-free Methods for Absolute Quantitative Analysis of Vaccines;** Jonathan Bundy; Tracie Williams; Wanda Santana; Wei Wang; Emily Winne; Jon Rees; David Schieltz; James Pirkle; John R. Barr; Centers for Disease Control and Prevention, Atlanta, GA



MONDAY AFTERNOON ORAL SESSIONS

- MOE pm 2:50 **A Universal Surrogate Tryptic Peptide for LC-MS/MS Bioanalysis of Human Monoclonal Antibody and Fc-fusion Proteins in Animal Pharmacokinetic Study;** Michael Furlong; Zheng Ouyang; Steven T. Wu; James Tamura; Ragu Ramanathan; Timothy Olah; Adrienne Tymiak; Mohammed Jamal; *Bristol-Myers Squibb Company, Princeton, NJ*
- MOE pm 3:10 **Development of an SPE-LC/MS/MS Method for Quantitation of Four Synthetic Insulins in Human Plasma: Challenges of working with Large Peptides;** Erin E. Chambers; Kenneth Fountain; *Waters Corporation, Milford, MA*
- MOE pm 3:30 **A Rapid-Throughput Platform for Quantitation of Site-Specific Glycosylation with Differentiation of Structural Isomers;** Serenus Hua¹; Hyun Joo An²; Charles Nwosu¹; John Strum¹; Ning Tang³; Keith Waddell³; Carlito Lebrilla¹; ¹*UC Davis, Davis, CA*; ²*Chungnam National University, Daejeon, South Korea*; ³*Agilent Technologies, Santa Clara, CA*
- MOE pm 3:50 **Mass Spectrometric Immunoassay for Insulin-Like Growth Factor 1;** Dobrin Nedelkov¹; David Phillips¹; Bryan Krastins²; Eric Niederkofler¹; Urban Kiernan¹; Kemmons Tubbs¹; ¹*Thermo Fisher Scientific, Tempe, AZ*; ²*Thermo Fisher Scientific, Cambridge, MA*
- MOE pm 4:10 **A Mass Spectrometric Map for Cancer-associated Proteins;** Ruth Hüttenhain¹; Martin Soste²; Nathalie Selevsek¹; Yansheng Liu¹; Hannes Röst¹; Atul Sethi¹; Christine Carapito³; Terry Farrah⁴; Eric Deutsch⁴; Ulrike Kusebauch⁴; Robert Moritz⁴; Emma Niméus-Malmström⁵; Oliver Rinner⁶; Ruedi Aebersold^{1,7}; ¹*Institute of Molecular Systems Biology, ETH Zurich, Zurich, Switzerland*; ²*Institute of Biochemistry, ETH Zurich, Zurich, Switzerland*; ³*IPHC, UoS, CNRS, UMR 7178, Strasbourg, France*; ⁴*Institute for Systems Biology, Seattle, WA*; ⁵*Department of Oncology, Lund University, Lund, Sweden*; ⁶*Biognosys AG, Zurich, Switzerland*; ⁷*Faculty of Science, University of Zurich, Zurich, Switzerland*

2:30 – 4:30 PM, MONDAY AFTERNOON FUNDAMENTALS: ION SPECTROSCOPY Alessandra Ferzoco, presiding Room 220-222

- MOF pm 2:30 **Intracavity Infrared Multiple Photon Dissociation Spectroscopy of Transition Metal Carbene Cations: Agostic Interactions or Not?;** Peter B. Armentrout¹; Andrew Sweeney¹; Abhigya Mookherjee¹; Vivike Lapoutre²; Joost Bakker²; ¹*University of Utah, Salt Lake City, UT*; ²*FOM Institute for Plasma Physics, "Rijnhuizen", Nieuwegein, Netherlands*
- MOF pm 2:50 **Water-Induced Folding of Diprotonated 1,7-Diaminoheptane Investigated by Infrared Photo-Dissociation Spectroscopy;** Maria Demireva; Jeremy T. O'Brien; Evan R. Williams; *University of California, Berkeley, CA*
- MOF pm 3:10 **Multiplexed Infrared Photodissociation Spectroscopy of Peptides;** Nicolas Polfer; Corey Stedwell; Kerim Gulyuz; *University of Florida, Gainesville, FL*
- MOF pm 3:30 **Spectroscopic Identification of Non-oxazolone b2 Fragments from Peptides Containing Pro and Gln;** Jos Oomens^{1,2}; Josipa Grzetic¹; Giel Berden¹;

¹*FOM Rijnhuizen, Nieuwegein, Netherlands*;
²*University of Amsterdam, Amsterdam, Netherlands*

- MOF pm 3:50 **Highly Selective Binding of Cucurbiturils to Amino Acids: An IRMPD Study;** Chad Jones; David V. Dearden; *Brigham Young University, Provo, UT*
- MOF pm 4:10 **Conformational Distribution of Doubly Protonated Bradykinin Revealed by Cold Ion Spectroscopy Coupled with FAIMS;** Georgios Papadopoulos; Oleg Boyarkin; Thomas Rizzo; *Ecole Polytechnique Fédérale de Lausanne, Ch-1015 Lausanne, Switzerland*

2:30 – 4:30 PM, MONDAY AFTERNOON AMBIENT IONIZATION: INSTRUMENTATION AND APPLICATIONS Kermit Murray and Mituo Takayama (Mass Spectrometry Society of Japan), presiding Room 301-305

- MOG pm 2:30 **Gas Chromatography/Ambient Ionization Mass Spectrometry (GC/AMS) for the Analysis of Long Chain n-Alkanes in Crude Oil;** Siou-Sian Jhang; Min-Zong Huang; Jentaie Shiea; *National Sun Yat-Sen Univ., Kaohsiung, Taiwan*
- MOG pm 2:50 **Application of Negative Atmospheric Ions Formed in Corona Discharges to Specific Analyte Ionization under Ambient Conditions;** Kanako Sekimoto; Mami Sakai; Mitsuo Takayama; *Yokohama City University, Yokohama, Japan*
- MOG pm 3:10 **Coupling Surface Acoustic Wave Nebulization with Droplet Microfluidics for Rapid Hydrogen Deuterium Exchange Mass Spectrometry;** J. Scott Edgar¹; Daniel Winters³; Yue Huang¹; Sung Hwan Yoon¹; Scott Heron¹; C. Logan Mackay³; Christophe Masselon²; Pat Langridge-Smith³; David R. Goodlett¹; ¹*University of Washington, Seattle, WA*; ²*CEA Grenoble, Grenoble, France*; ³*SIRCAMS, University of Edinburgh, Edinburgh, UK*
- MOG pm 3:30 **Spatially Resolved Laser Induced Forward Transfer of Material followed by Liquid Microjunction Surface Sampling and Electrospray Ionization Mass Spectrometry;** Olga S. Ovchinnikova; Gary J. Van Berkel; *Oak Ridge National Laboratory, Oak Ridge, TN*
- MOG pm 3:50 **Probe Electrospray as an Ambient Field Desorption;** Kenzo Hiraoka¹; Mridul Kanti Mandal¹; Lee Chuin Chen¹; Kentaro Yoshimura²; Zhan Yu¹; Sen Takeda²; ¹*University of Yamanashi, Kofu 400-8511, JAPAN*; ²*Faculty of Medicine, University of Yamanashi, Chuo, Japan*
- MOG pm 4:10 **Toward Single Cell Analysis by Plume Collimation in Laser Ablation Electrospray Ionization Mass Spectrometry;** Jessica A. Stolee; Akos Vertes; *George Washington University, Washington, DC*

2:30 – 4:30 PM, MONDAY AFTERNOON PTMs: COMPREHENSIVE ANALYSIS AND COMBINATORIAL PATTERNS Ljiljana Pasa-Tolic and Eunok Paek (Korean Society for Mass Spectrometry), presiding Exhibit Hall A

- MOH pm 2:30 **Probing the Function of Combinatorial Histone Codes using a Combinatorial Approach;** Peter A. DiMaggio; Gary LeRoy; Nicolas L. Young; Benjamin A. Garcia; *Princeton University, Princeton, NJ*

MONDAY AFTERNOON ORAL SESSIONS



- MOH pm 2:50 **Sequential Digestion for Concomitant Quantitative Analysis of N-glycosylated and Phosphorylated Membrane Proteome**; Chih-Wei Chien¹; Chia-Li Han²; Jung-Lin Wu³; Hsin-Yi Wu²; Chia-Feng Tsai⁴; Yi-Ting Wang⁵; Kuo-I Lin³; Yu-Ju Chen²; ¹*Chemistry, National Tsing-Hua University, Hsinchu, Taiwan*; ²*Chemistry, Academia Sinica, Taipei, Taiwan*; ³*Genomics Research Center, Academia Sinica, Taipei, Taiwan*; ⁴*Chemistry, National Taiwan University, Taipei, Taiwan*; ⁵*CBMB TIGP Academia Sinica, Taipei, Taiwan*
- MOH pm 3:10 **Ultra-Efficient Characterization of Myelin Basic Protein Splice Variants and PTM Positional Isomers with 1-Dimensional Superficially Porous Reversed-Phase LC/MS**; Daniel A. Plymire; Junmei Zhang; Michael J. Roth; William H. Rounds; Erica M. Maresh; Steven M. Patrie; *University of Texas Southwestern Medical Center, Dallas, TX*
- MOH pm 3:30 **ROSics: Post-translational Modifications of Cellular Proteins in Response to Reactive Oxygen Species**; Kong-Joo Lee; *Ewha Womans University, Seoul, South Korea*
- MOH pm 3:50 **Analysis of Phosphorylation and Ubiquitin Crosstalk in Protein Degradation**; Danielle Swaney¹; Pedro Beltrao²; Lea Starita¹; Judit Villen¹; ¹*University of Washington, Seattle, WA*; ²*University of California-San Francisco, San Francisco, CA*
- MOH pm 4:10 **Isoform-Specific Analysis of Accelerated Cellular Senescence and Escape with High-throughput Top Down Proteomics**; Dorothy Ahlf; Adam Catherman; John C. Tran; Ken Durbin; Yupeng Zheng; Paul Thomas; Neil L. Kelleher; *Northwestern University, Evanston, IL*

4:45 - 5:30 PM, MONDAY AFTERNOON
PLENARY SESSION
Scott A. McLuckey, presiding
Exhibit Hall A



Award Lecture

Award for a Distinguished Contribution in Mass Spectrometry

Catherine C. Fenselau
University of Maryland

5:45 - 7:00 PM, MONDAY AFTERNOON
WORKSHOPS
See workshop schedule

AFTER 8:00 PM, MONDAY EVENING
CORPORATE HOSPITALITY SUITES
East Building

TUESDAY MORNING ORAL SESSIONS

8:30 – 10:30 AM, TUESDAY MORNING INFORMATICS: VALIDATION Olga Vittek, presiding Ballroom A

- TOA am 08:30 **Inference from Mass Spectrometry-based Proteomics Data**; Lukas Käll; *Royal Institute of Technology, Stockholm, Sweden*
- TOA am 08:50 **New Challenges for the Annotation of Proteomics Data in the UniProt Knowledgebase**; Pierre-Alain Binz¹; Edouard de Castro¹; Nicole Redaschi¹; Delphine Baratin¹; Severine Duvaud¹; Alan Bridge¹; Lydie Bougueleret¹; Ioannis Xenarios¹; The Uniprot Consortium^{1,2}; ¹*Swiss Institute of Bioinformatics, Geneva 4, Switzerland*; ²*EBI and PIR, Hinxton and Washington, UK and DC*
- TOA am 09:10 **Validating Protein Identification Results with Optimized FDR Estimation using p-Value Scoring**; Jan Eriksson¹; David Fenyo²; ¹*Swedish University of Agricultural Sciences, Uppsala, Sweden*; ²*New York University, New York, NY*
- TOA am 09:30 **Unbiased Nonparametric Evaluation of Protein Identifications in Shotgun Proteomics: 1 Peptide in 2 Replicates or 2 Peptides in 1 Replicate?**; Oliver Serang; Joao Paulo; Hanno Steen; Judith Steen; *Harvard Medical School/Children's Hospital Boston, Boston, MA*
- TOA am 09:50 **Tracking Interactomes: ProHits in 2012**; Guomin Liu¹; Jianping Zhang¹; Hyungwon Choi²; Jean-

Philippe Lambert¹; Tharan Srikumar³; Brett Larsen¹; Alexey Nesvizhskii⁴; Brian Raught³; Mike Tyers⁵; Anne-Claude Gingras¹; ¹*Samuel Lunenfeld Research Institute, Mount Sinai H, Toronto, Canada*; ²*National University of Singapore, Singapore*; ³*Ontario Cancer Institute, Toronto, Canada*; ⁴*University of Michigan, Ann Arbor, MI*; ⁵*Institut de Recherche en Immunothérapie et Cancer, Montréal, Canada*

- TOA am 10:10 **MRMSpace: Informatics Reveals Inadequacy of Triple Quadrupole Instruments in Multiple Reaction Ion Monitoring of the Human Proteome**; Stephen Barnes; Chandrahas Narne; Mikako Kawai; Chiquito Crasto; *University of Alabama at Birmingham, Birmingham, AL*

8:30 – 10:30 AM, TUESDAY MORNING IMAGING MS: BIOLOGICAL APPLICATIONS Sheerin Shahidi-Latham, presiding Ballroom B

- TOB am 08:30 **MALDI-IMS and In situ Identification of Hydrophobic Proteins in Brain Tissue**; Joshua J. Nicklay; Glenn A. Harris; Kevin L. Schey; Richard M. Caprioli; *Vanderbilt University School of Medicine, Nashville, TN*
- TOB am 08:50 **Multiplexed Detection of Breast Cancer Antigens in FFPE Tissue Sections Using a Novel Combination of Immunohistochemistry and Mass Spectral Imaging**; Jan True; Rui Hong; Brian Kelly; Chris Bieniarz; *Ventana Medical Systems, Tucson, AZ*



TUESDAY MORNING ORAL SESSIONS

TOB am 09:10 **Improving IMS Biomarker Discovery: Using High Mass and Increased Spatial Resolution to Measure Time Dependent Lipid Changes in Brain Trauma;** Jeremy Post¹; Kathrine Baldwin¹; Ludovic Muller¹; Damon Barbacci²; Gregory Bull³; J. Albert Schultz²; Brian Cox³; Amina S. Woods¹; ¹NIH/NIDA-IRP, Baltimore, MD; ²Ionwerks, Inc., Houston, TX; ³Uniformed Services University of Health Sciences, Bethesda, MD

TOB am 09:30 **Profiling Spatial Lipid Species Distribution in Mouse Brain by Liquid Extraction Surface Analysis;** Zane Berzina^{1,2}; Reinaldo Almeida^{1,2}; Peter Husen¹; Johannes Vogt³; Jan Baumgart³; Robert Nitsch³; Christer S. Ejlsing¹; ¹Department of Biochemistry and Molecular Biology, Odense, Denmark; ²Advion BioSciences, Harlow, UK; ³Institute for Microscopic Anatomy and Neurobiology, Mainz, Germany

TOB am 09:50 **Mass Spectrometry Imaging of Metabolites in Biological Samples using Nano-DESI, MALDI and SIMS;** Ingela Lanekoff; Rosalie Chu; Christine Mahoney; Jordan Smith; Grigoriy Pinchuk; Charles Timchalk; Ljiljana Pasa-Tolic; Julia Laskin; *Pacific NW National Laboratory, Richland, WA*

TOB am 10:10 **Spatial Systems Biology: Imaging the Effect of the Microbiome on Gut Metabolism with Mass Spectrometry;** Christopher M. Rath¹; Theodore Alexandrov^{1,2}; Steven Higginbottom³; David Relman³; Michael Fishbach⁴; Justin Sonnenburg³; Pieter Dorrestein¹; ¹Univ. of California at San Diego, La Jolla, CA; ²University of Bremen, Bremen, Germany; ³Stanford University School of Medicine, Stanford, CA; ⁴University of California at San Francisco, San Francisco, CA

8:30 – 10:30 AM, TUESDAY MORNING ION TRAPS AND HYBRID INSTRUMENTS: NEW DEVELOPMENTS

**Sharon Pitteri, presiding
Ballroom CD**

TOC am 08:30 **Seeing is Believing: The Fluorescence Spectroscopy of Trapped Ions and Visualization of the Ion Cloud;** Rebecca A. Jockusch; Francis Talbot; Stephen Sciuto; *University of Toronto, Toronto, Canada*

TOC am 08:50 **A DAPI-RIT-DAPI System for In-trap Gas Phase Reactions;** Ziqing Lin¹; Linfan Li¹; Wei Xu¹; Yu Xia²; Zheng Ouyang¹; ¹BME, Purdue University, West Lafayette, IN; ²Chemistry, Purdue University, West Lafayette, IN

TOC am 09:10 **Extending Ion Trap MS Dynamic Range by Differential Mobility Filtration ;** Adam B Hall^{1,2}; Stephen L Coy^{1,3}; Amol Kafle¹; James Glick¹; Erkinjon Nazarov⁴; Paul Vouros¹; ¹Northeastern University, Boston, MA; ²Boston University - Biomedical Forensic Sciences, Boston, MA; ³Georgetown University, Washington, DC; ⁴Draper Laboratory - Bioengineering Center at USF, Tampa, FL

TOC am 09:30 **Single Particle Analyzer of Mass and Mobility: A New Hybrid Charge Detection Mass Spectrometer/Ion Mobility Spectrometer for Massive Ion Analysis;** Samuel Merenbloom; Daniel Mortensen; Evan R. Williams; *University of California, Berkeley, Berkeley, CA*

TOC am 09:50 **A Toroidal Ion Trap Mass Analyzer Utilizing Cylindrical Electrodes;** Nicholas Taylor; Daniel E. Austin; *Brigham Young University, Provo, UT*

TOC am 10:10 **Orbitrap Mass Spectrometry of Native Protein Complexes up to 1 MD;** Rebecca Rose¹; Eugen Damoc²; Eduard Denisov²; Alexander Makarov²; Albert J.R. Heck¹; ¹Utrecht University, Utrecht, Netherlands; ²Thermo Fisher Scientific (Bremen) GmbH, Bremen, Germany

8:30 – 10:30 AM, TUESDAY MORNING COMPONENT SOURCE DETERMINATION FOR DRUGS, PHARMACEUTICALS, AND HOMELAND SECURITY APPLICATIONS

**Karen Wahl, presiding
Ballroom 118-120**

TOD am 08:30 **The American Oyster, *Crassostrea virginica*: A Tale of Two Southern USA Coasts; The Analysis of Heavy Metal Contaminants by ICPMS;** Marc E. Engel; *FL Dept of Agriculture and Consumer Services FDACS, Tallahassee, FL*

TOD am 08:50 **Beer-omics: Molecular Fingerprinting of Craft Beers by High Resolution Mass Spectrometry;** Christine A. Hughey¹; Jenny Phung¹; Chelsey McMinn¹; Bruce Wilcox²; ¹James Madison University, Harrisonburg, VA; ²Applied Proteomics, Inc., Harrisonburg, VA

TOD am 09:10 **Electrospray Ionization FT-ICR Mass Spectrometry Fingerprinting of Scottish Malt Whisky;** Pat Langridge-Smith¹; Sophie Thurlow¹; C. Logan Mackay¹; Peter B. O'Connor²; David Kilgour²; Matthias Witt³; ¹SIRCAMS, University of Edinburgh, Edinburgh, UK; ²University of Warwick, Warwick, UK; ³Bruker Daltonik GmbH, Bremen, Germany

TOD am 09:30 **Chemical Fingerprint for Panax Notoginseng Powders by UPLC-Q-TOF-MSE;** Li-juan Zhang^{1,2}; He-shui Yu^{1,2}; Li-ping Kang^{1,2}; Chenqi Xiong¹; Yang Zhao¹; Xin-bo Song²; Ting-guo Kang²; Kate Yu³; Bai-Ping Ma¹; ¹Beijing Institute of Radiation Medicine, Beijing, China; ²Tianjin University of Traditional Chinese Medicine, Tianjin, China; ³Waters Corporation, Milford, MA

TOD am 09:50 **Characterization of Trace Level Impurities of Small Molecules through Simultaneous Multiple Collision MSMS Spectroscopy;** Arvind Thyagarajan; Mohan Kasi; Saravanan Subramaniyam; Govindarajan Chandramohan; Venkat Manohar; *IICMS, Chennai, India*

TOD am 10:10 **Mass Spectrometric Based Analysis for Chemical Warfare Agent Metabolites in Biomedical Samples;** Kevin J. Shefcheck; John Tokarz; Timothy Allan; Joy Ginter; Alex Jestel; *U.S. Army-ECBC, Aberdeen Proving Ground, MD*

8:30 – 10:30 AM, TUESDAY MORNING BIOMARKERS IN DRUG DISCOVERY AND DEVELOPMENT **Matt Blatnik, presiding Room 211-214**

TOE am 08:30 **Biomarkers Discovery for Targeted Oncology Therapeutics Using Pathway-based Quantitative Phosphoproteomics;** An Chi¹; Jannik N. Andersen²; Kenzie MacIsaac¹; Sriram Sathyanarayanan¹; Kumiko Nagashima¹; Hongbo Guo³; Ronald C. Hendrickson⁴; Peter Blume-Jensen⁵; John F. Reilly¹; Cloud Paweletz¹; ¹Merck, Boston, MA; ²MD



Anderson Cancer Center, Houston, TX; ³University of Toronto, Toronto, ON; ⁴Memorial Sloan-Kettering Cancer Center, NY, NY; ⁵Metamark Genetics, Inc, Cambridge, MA

- TOE am 08:50 **Phospho-Signature Predicts Dasatinib Response in Non-Small Cell Lung Cancer**; Martin Klammer¹; Andreas Tebbe¹; Felix Oppermann¹; Stefan Müller¹; Klaus Godt¹; Christoph Schaab^{1,2}; ¹Evotec Munich, Munich, Germany; ²Max Planck Institute of Biochemistry, Martinsried, Germany
- TOE am 09:10 **Protein-specific Glycosylation as Biomarkers for Cancer**; L. Renee Ruhaak¹; Cynthia Williams¹; Carol Stroble^{1,2}; Hai-Chi Pham²; Lauren Dimapasoc¹; Suzanne Miyamoto²; Carlito Lebrilla¹; ¹University of California, Davis, CA; ²UC Davis Cancer Center, Sacramento, CA
- TOE am 09:30 **Implementation of SFC-MS in Drug Discovery Bioanalysis: Application to Pharmaceuticals and Biomarkers**; Thomas McDonald¹; Elizabeth A. Groeber¹; William Farrell²; Beijing Tan¹; Christopher Holliman¹; ¹Pfizer, Inc., Groton, CT; ²Pfizer, Inc, La Jolla, CA
- TOE am 09:50 **A Chemical Proteomics Strategy for the Discovery of Targets for Antibody-based Therapy**; Danilo Ritz¹; Dario Neri^{1,2}; Tim Fugmann¹; ¹Philochem AG, Otelfingen, Switzerland; ²Institute of Pharmaceutical Sciences, ETH Zurich, Zurich, Switzerland
- TOE am 10:10 **Controlled Analysis of Pre-analytical Variables in Blood Specimen Collection, Processing, Handling and Storage**; Geun-Cheol Gil¹; Bich Nguyen¹; Paul Drogaris²; Yuliya Karpievitch¹; Xiaolei Xie¹; Daniel López-Ferrer¹; John Villaincourt²; Yiyong Zhou²; Rene Allard²; Daniel Chelsky¹; Sushmita Mimi Roy¹; ¹Caprion Proteomics US LLC, Menlo Park, CA; ²Caprion Proteomics INC, Montreal, Canada

8:30 – 10:30 AM, TUESDAY MORNING DISTONIC RADICAL IONS: FUNDAMENTALS AND APPLICATIONS

Michael Siu and Richard O'Hair (Australia & New Zealand Society for Mass Spectrometry), presiding
Room 220-222

- TOF am 08:30 **Recent Advances in Research on Distonic Radical Cations**; Hilikka Kenttamaa; *Purdue University, West Lafayette, IN*
- TOF am 08:50 **The Photons Take Charge: Synthesis and Characterization of Distonic Radical Anions Formed by Photodetachment of Small Dianions**; Stephen J Blanksby¹; Adam J Trevitt¹; Benjamin Kirk¹; Pramesh Hettiarachchi¹; Celli Lloyd¹; Tim Clark²; ¹University of Wollongong, Wollongong, NSW, Australia; ²Friedrich-Alexander-Universität Erlangen-Nürnberg, Erlangen, Germany
- TOF am 09:10 **Structure AND Reactivity of the Distonic and Aromatic Radical Cations of Tryptophan**; Victor Ryzhov¹; Andrii Piatkivskiy¹; Kendall Jaderberg¹; Sandra Osburn¹; Josipa Grzetic²; Jos Oomens²; Alan C. Hopkinson³; K W Michael Siu³; Udo Verkerk³; ¹Northern Illinois University, DeKalb, IL; ²FOM Rijnhuizen, Nieuwegein, Netherlands; ³York University, Toronto, ON

- TOF am 09:30 **Peptide Sulfinyl Radical Ions: Gas-Phase Formation, Unimolecular Dissociation, and Ion/Molecule Reactions**; Lei Tan¹; Yu Xia²; ¹Purdue University, West Lafayette, IN; ²Purdue University, West Lafayette, IN
- TOF am 09:50 **Structural Characterization of Polyproline Peptides in the Gas Phase by Photoinitiated Diradical Cross-linking**; Xing Zhang; Ryan R. Julian; *University of California, Riverside, Riverside, CA*
- TOF am 10:10 **Negative Ion Electron Capture Dissociation (niECD) of Glycopeptide Anions**; Ning Wang; Kristina Hakansson; *University of Michigan, Ann Arbor, MI*

8:30 – 10:30 AM, TUESDAY MORNING

FAIMS AND DMS: NEW DEVELOPMENTS AND APPLICATIONS
Pierre Thibault, presiding
Room 301-305

- TOG am 08:30 **High-definition FAIMS with Resolving Power up to 500 and Interpretation of Histone Code**; Alexandre A. Shvartsburg¹; Gordon A. Anderson¹; Tom A. Seim¹; William F. Danielson¹; Randy Norheim¹; Yupeng Zheng²; Richard D. Smith¹; Neil L. Kelleher²; ¹PNNL, Richland, WA; ²Northwestern University, Evanston, IL
- TOG am 08:50 **Optimization and Characterization of the Performance of a New Ultra-fast FAIMS MS Interface**; Michael Ugarov¹; Yuqin Dai¹; Harry Bunting¹; William Frazer¹; Danielle Toutoungi²; Billy Boyle²; ¹Agilent Technologies, Santa Clara, CA; ²Owlstone Ltd, Cambridge, United Kingdom
- TOG am 09:10 **Real-Time 2D Separation with LC-DMS-ToF-MS; Increasing the Selectivity of High Resolution MS in Qualitative and Quantitative Analysis**; Nic Bloomfield; J.C. Yves Leblanc; Alexandre Loboda; Igor Chernushevich; Brad Schneider; *AB SCIEX, Concord, ON, Canada*
- TOG am 09:30 **Chip-based FAIMS / Triple Quadrupole MS: Instrumental Studies and Analytical Capabilities**; Christopher Beekman¹; Chia-Wei Tsai¹; Michael Ugarov²; George Stafford²; Richard A. Yost¹; ¹University of Florida, Gainesville, FL; ²Agilent Technologies, Santa Clara, CA
- TOG am 09:50 **Separation, Identification and Characterization of Localization Variants of Biologically Modified Peptides by Differential Ion Mobility Spectrometry**; Ji LUO²; Rongxia Li¹; Qing-Run Li¹; Jianlan Yu²; Wei Xu¹; Tao Xing²; Feng Qin²; Wenhai Jin²; Yongming Xie²; Rong Zeng¹; ¹Shanghai Institutes for Biological Sciences, Shanghai, China; ²AB SCIEX Asia Pacific Application Support Center, Shanghai, China
- TOG am 10:10 **High Field Asymmetric Waveform Ion Mobility Spectrometry Enables Enrichment of Peptide Precursors Ideal for Electron Transfer Dissociation**; Kristian E. Swearingen; Michael R. Hoopmann; Ramsey A. Saleem; John D. Aitchison; Robert Moritz; *Institute for Systems Biology, Seattle, WA*



TUESDAY MORNING ORAL SESSIONS

8:30 – 10:30 AM, TUESDAY MORNING SYSTEMS BIOLOGY/CELLULAR PATHWAYS Albert Heck, presiding Exhibit Hall A

- TOH am 08:30 **Building a Quantitative Map of the Cellular Reprogramming by Oncogenic ^{V600E}BRAF**; Robert Parker¹; Roderick Clifton-Bligh²; Mark Molloy¹; ¹Macquarie University, Sydney, Australia; ²Kolling Institute of Medical Research, Sydney, Australia
- TOH am 08:50 **An Optimised Strategy for Proteomic Analysis of Transcription Factor Complexes in Leukaemia**; Roberto Giambruno; Florian Grebien; Christian Knoll; Sarah Vittori; Melanie Planyavsky; Jacques Colinge; Giulio Superti-Furga; Keiryn L. Bennett; CeMM Research Center for Molecular Medicine, Vienna, Austria
- TOH am 09:10 **Proteomic Cornerstones of Hematopoietic Stem Cell Differentiation**; Jenny Hansson¹; Daniel Klimmeck^{1,2}; Simon Raffel³; Sergey Y. Vakhrushev^{1,4}; Andreas Trumpp^{2,3}; Jeroen Krijgsveld¹; ¹EMBL, Heidelberg, Germany; ²DKFZ, Heidelberg, Germany; ³HI-STEM, Heidelberg, Germany; ⁴University of Copenhagen, Copenhagen, Denmark

- TOH am 09:30 **Global Analysis of Host Post-Translational Modifications in HIV-1 Infection**; Jeffrey Johnson; Stefanie Jaeger; Tasha Johnson; Nevan Krogan; UCSF, San Francisco, CA
- TOH am 09:50 **The Phagosome Proteome of HSV-1 Infected Macrophages Reveals Novel Insights on the Role of Membrane Trafficking in MHC-class-I Presentation**; Christina Bell; Luc English; Roger Lippé; Michel Desjardins; Pierre Thibault; University of Montreal, Montreal, Canada
- TOH am 10:10 **Mining the Ubiquitinome for Endocytic DUB Substrates**; Janel McLean¹; Ilektra Kouranti¹; Yanling Yang²; Kathleen Gould¹; Junmin Peng²; ¹HIMI and Vanderbilt University, Nashville, TN; ²St. Jude Children's Research Hospital, Memphis, TN

10:30 AM - 2:30 PM
TUESDAY POSTER SESSION
Exhibit Hall BC
Lunch concessions are open 11:00 am - 2:00 pm
Exhibit Hall Foyer

TUESDAY AFTERNOON ORAL SESSIONS

2:30 – 4:30 PM, TUESDAY AFTERNOON INFORMATICS: IDENTIFICATION Lukas Käll, presiding Ballroom A

- TOA pm 2:30 **RNA-Seq Data for Individualizing Proteomic Analysis of Breast Cancer**; Steven Shen¹; Christopher Maher²; Zuoqian Tang¹; Stuart Brown¹; Meera Prasad¹; Jeremy Hoog²; Shunqiang Li²; John Wrobel³; Brian Risk³; Jainab Khatun³; Robert T. Kitchens²; Katherine A. Hoadley⁴; Sherri R. Davies²; Morgan Giddings³; Charles M. Perou⁴; Matthew J. Ellis²; R. Reid Townsend²; David Fenyo¹; ¹New York University, New York, NY; ²Washington University, St. Louis, MO; ³Boise State University, Boise, ID; ⁴University of North Carolina, Chapel Hill, NC
- TOA pm 2:50 **Identification and quantification of peptides in complex mixtures via LCMS trace characterization**; Pedro Navarro¹; Ludovic Gillet¹; Ruedi Aebersold¹; Lyle Burton²; Stephen A. Tate²; Ron Bonner²; ¹IMSB-ETH, Zurich, Switzerland; ²AB Sciex, Concord, ON
- TOA pm 3:10 **MS-GF+: Universal and Sensitive Database Search Engine for Mass Spectrometry**; Sangtae Kim; Pavel Pevzner; University of California, San Diego, La Jolla, CA
- TOA pm 3:30 **Large-scale Glycopeptide Identification by Database Search**; Marshall W. Bern¹; Chris Becker¹; Yong Kil¹; Doron Kletter²; Mudita Singhal²; Julian Saba³; David Horn³; Sergei Snovidia⁴; Rosa Viner⁵; ¹Protein Metrics, Palo Alto, CA; ²Palo Alto Research Center, Palo Alto, CA; ³Thermo Fisher Scientific, San Jose, CA; ⁴Institute of Biological Chemistry, Academia Sinica, Taipei, Taiwan; ⁵ThermoFisher Scientific, San Jose, CA
- TOA pm 3:50 **A Computational Strategy to Improve the Identification of Phosphopeptides**; Markus Muller¹; Oliver Horlacher¹; Frederic Nikitin¹;

Christina Ludwig²; Ruedi Aebersold²; Frederique Lisacek¹; ¹Swiss Institute of Bioinformatics, Geneva, Switzerland; ²Institute of Molecular Systems Biology, Zurich, Switzerland

- TOA pm 4:10 **Bottom-up Peak Grouping for Unknown Identification from High-resolution Mass Spectrometric Data**; Martin Loos; Heinz Singer; Emma Schymanski; Matthias Ruff; Michael Stravs; Juliane Hollender; Eawag Dübendorf, Switzerland, Dübendorf, Switzerland

2:30 – 4:30 PM, TUESDAY AFTERNOON IMAGING MS: PHARMACEUTICAL APPLICATIONS Michelle Reyzer, presiding Ballroom B

- TOB pm 2:30 **MALDI MS Imaging Analysis of Neurological Positron Emission Tomography (PET) Ligands: Application to both Established and Developmental Compounds**; Richard Goodwin¹; Anna Nilsson²; C. Logan Mackay³; Pat Langridge-Smith³; Lars Farde¹; Per E. Andren²; Suzanne Iverson¹; ¹AstraZeneca, Södertälje, Sweden; ²Uppsala University, Uppsala, Sweden; ³SIRCAMS, Edinburgh, United Kingdom
- TOB pm 2:50 **Observing Directly the Distribution of an Inhaled Domain Antibody in Mice by MALDI MS Imaging**; Claire Scott¹; Laura Tomlinson¹; Peter Francis¹; Neil Freeman¹; Andy West¹; Laura Slack²; Ruud De-Wildt²; Peter Morley²; Peter S. Marshall¹; ¹CSC, GlaxoSmithKline, Stevenage, United Kingdom; ²Biopharm, GlaxoSmithKline, Stevenage, United Kingdom
- TOB pm 3:10 **Mass Spectrometry Imaging (MALDI-TOF/TOF) of Potentially Neuroprotective Compound in a Brain Mouse Model of Parkinson Disease**; Hanane Kadar¹; Gael Le douaron^{2,3}; Majid Amar³; Bruno Figadère²; Laurent Ferrière²; Rita Raisman-Vozari³;



David Touboul¹; Alain Brunelle¹; ¹CNRS-ICSN, Gif-Sur-Yvette, France; ²UMR-8076 (BioCIS) Laboratoire de Pharmacognosie, Châtenay-Malabry, France; ³INSERM UMR-S 975, UPMC, CRIMC, Paris, France

TOB pm 3:30 **Molecular Imaging of Drug Eluting Coronary Stents: Method Development, Optimization;** Gyorgy Vas³; Jiun-Tang Huang³; Renata Szyszka²; Li Hannah-Qiuhua³; Vladimir Veselov³; Gail Reed⁴; Lori Alquier³; Xiande Wang³; Sylvester Price¹; ¹Cordis Corporation ARD, Spring House, PA; ²Drexel University, Philadelphia, PA; ³Product and Process Scientific Solutions, J&J, Raritan, NJ; ⁴McNeil Consumer Healthcare, Fort Washington, PA

TOB pm 3:50 **Quantitative Analysis of Chloroquine and its Metabolite in Ocular Tissue of Pigmented Rat using MALDI Imaging Quadrupole Time-of-Flight Mass Spectrometry;** Yasuhiro Yamada¹; Hidefumi Kaji¹; Henry Shion²; Alan Millar²; Motoji Oshikata³; Yukari Haramaki³; ¹Mitsubishi Tanabe Pharma, Saitama, JAPAN; ²Waters Corp., Milford, MA; ³Nihon Waters, Tokyo, Japan

TOB pm 4:10 **Investigating Treatment Response of Combretastatin Resistant and Susceptible Tumours using MALDI-MSI and Conventional Proteomic Techniques;** Laura M Cole¹; Jo E Bluff²; Emmanuelle Claude³; Florian Wulfert¹; Vikki A Carolan¹; Martyn N Paley⁴; Gillian M Tozer²; Malcolm R Clench¹; ¹Sheffield Hallam University, BMRC, Sheffield, UK; ²Tumour Microcirculation, University of Sheffield, Sheffield, United Kingdom; ³Waters Corporation UK, Manchester, UK; ⁴Academic Radiology, University of Sheffield, Sheffield, UK

2:30 – 4:30 PM, TUESDAY AFTERNOON

INSTRUMENTATION: NEW DEVELOPMENTS IN IONIZATION AND SAMPLING

Michael Heien, presiding
Ballroom CD

TOC pm 2:30 **Increasing Analyte Ion Charge States via Sub-ambient Pressure Ionization with Nanoelectrospray;** Ioan Marginean; Scott Kronewitter; Ron Moore; Matthew Monroe; Keqi Tang; Richard D. Smith; PNNL, Richland, WA

TOC pm 2:50 **Synchronized Discharge Ionization (SDI) for Analysis of VOC in Air using Miniature Ion Trap Mass Spectrometer;** Tsung-Chi Chen¹; Chien-Hsun Chen¹; Zheng Ouyang^{1,2}; ¹Department of BME, Purdue University, West Lafayette, IN; ²CAID, Purdue University, West Lafayette, IN

TOC pm 3:10 **Backpack Mass Spectrometer with Hand-Held Sampling Probe for In-Field Analysis –Instrument Performance;** Paul I. Hendricks¹; Jon Dalglish¹; Jacob T. Shelley¹; Tsung-Chi Chen²; Matthew Kirleis⁴; Jason S. Duncan³; Matt McNicholas⁴; Linfan Li²; John P. Denton⁴; Chien-Hsun Chen²; Zheng Ouyang²; R. Graham Cooks¹; ¹Dept. Chemistry Purdue University, West Lafayette, IN; ²BME, Purdue University, West Lafayette, IN; ³Purdue University, West Lafayette, IN; ⁴ECET, Purdue University, West Lafayette, IN

TOC pm 3:30 **Development and Application of Surface Acoustic Wave Nebulisation for Top-Down Protein Fragmentation;** Andrew Dennison¹; John Edgar²; Daniel Winters¹; Sung Hwan Yoon²; Yue Huang²; Yifan Li³; Anthony Walton³; C. Logan Mackay¹; David R. Goodlett²; Pat Langridge-Smith¹; ¹SIRCAMS, University of Edinburgh, Edinburgh,

UK; ²University of Washington, Seattle, WA; ³SMC, University of Edinburgh, Edinburgh, UK

TOC pm 3:50 **In-Line Analysis for Digital Microfluidics with Nanoelectrospray Ionization Mass Spectrometry;** Andrea Kirby; Aaron Wheeler; Department of Chemistry, University of Toronto, Toronto, Canada

TOC pm 4:10 **Atmospheric Pressure Laser-Induced Acoustic Desorption Chemical Ionization (AP/LIAD-CI) Mass Spectrometry for Saturated Hydrocarbon Analysis;** Leonard Nyadong¹; John Paul Quinn¹; Chang Samuel Hsu³; Chris Hendrickson^{1,2}; Ryan P. Rodgers^{1,2}; Alan G. Marshall^{1,2}; ¹Nat'l High Magnetic Field Lab. Florida State Univ., Tallahassee, FL; ²Dept. of Chem. and Biochem., Florida State Univ., Tallahassee, FL; ³Future Fuels Institute, Florida State Univ., Tallahassee, FL

2:30 – 4:30 PM, TUESDAY AFTERNOON PLANT "OMICS"

Brett Phinney, presiding
Ballroom 118-120

TOD pm 2:30 **Medicago-Omics: A Proteomic, Phosphoproteomic, Transcriptomic, and Genetic Analysis of Plant Early Responses to Microbial Symbiotic Signals;** Christopher M. Rose; Muthusubramanian Venkateshwara; Jeremy Volkening; Derek J. Bailey; Paul A. Grimsrud; Junko Maeda; Maegen Howes-Podoll; Désirée den Os; Michael S. Westphall; Michael R. Sussman; Jean-Michel Ané; Joshua J. Coon; Univ of Wisconsin-Madison, Madison, WI

TOD pm 2:50 **Cross-linking Measurements of Potato leafroll virus Reveal Protein Interaction Topologies Required for Virion Stability, Aphid Vector Transmission, and Virus-plant Interactions;** Michelle Cilia^{1,2}; Juan Chavez³; Chad Weisbrod³; Ho-Jong Ju⁴; Jimmy Eng³; Stewart Gray^{1,2}; James Bruce³; ¹United States Department of Agriculture, ARS, Ithaca, NY; ²Cornell University, Ithaca, NY; ³University of Washington, Seattle, WA; ⁴Chonbuk National University, Deokjin-dong Jeonju-si, South Korea

TOD pm 3:10 **Approaches for Dealing with Non Targeted Data from Multi Batch Extremely Large Datasets;** Scott Harrison; Karl Fraser; Geoff Lane; Chris Jones; Susanne Rasmussen; Scott Campbell; AgResearch Ltd, Palmerston North, New Zealand

TOD pm 3:30 **Comprehensive Quantification of the Lignin Biosynthetic Pathway: A Systems Biology Study in the Model Woody Plant *Populus trichocarpa*;** Christopher M. Shuford; Zhichang Yang; Jie Liu; Hsi-Chuan Chen; Jack Wang; Rui Shi; Quanzi Li; Ronald R. Sederoff; Vincent L. Chiang; David C. Muddiman; N.C. State University, Raleigh, NC

TOD pm 3:50 **Nontargeted Metabolomic Profiling of Tissues from Fourteen Medicinal Plant Species using Liquid Chromatography/Time-of-Flight Mass Spectrometry and Multiplexed Collisional Activation;** A. Daniel Jones¹; Mary Dawn A Celiz²; Banibrata Ghosh¹; E. A. Prabodha Ekanayaka¹; Farzad Shadkani³; ¹Michigan State University, East Lansing, MI; ²MBI, Lansing, MI; ³University of Toronto, Toronto, ON

TOD pm 4:10 **Establishing a Proteome Atlas for *Populus*: Putting the pieces together for effective plant proteomics;** Paul Abraham^{1,2}; Richard J. Giannone¹;



TUESDAY AFTERNOON ORAL SESSIONS

Rachel Adams^{1,2}; Gerald Tuskan¹; Robert Hettich¹;
¹Oak Ridge National Laboratory, Oak Ridge, TN;
²University of Tennessee, Knoxville, TN

2:30 – 4:30 PM, TUESDAY AFTERNOON BIOMARKERS OF DRUG TOXICITY, RESPONSE AND EFFICACY: INNOVATIVE MS APPROACHES

Asok Dongre, presiding
 Room 211-214

- TOE pm 2:30 **Quantitative Glycoproteomics for Drug Toxicity Diagnosis in Blood;** Bingyun Sun¹; Jeffrey A. Ranish²; Angelita G. Utleg²; Andrew Keller²; Zhiyuan Hu²; Cynthia Lorang²; Shizhen Qin²; Denis Lee²; Vinita M. Alexander²; Amy Brightman²; Robert L. Moritz²; Leroy Hood²; ¹Simon Fraser University, Burnaby, Canada; ²Institute for Systems Biology, Seattle, WA
- TOE pm 2:50 **The Berg Interrogative Biology® Platform: AI-based multi-"Omic" Analytical Engine Used in Identification of Novel Molecular Markers Associated with Drug-induced Cardiotoxicity;** Min Du¹; Vivek K. Vishnudas²; Michael A. Kiebish¹; Eric M. Grund²; Viatcheslav R. Akmaev²; Tracey Friss¹; Rangaprasad Sarangarajan²; Shen Luan¹; Niven R. Narain²; ¹Berg Diagnostics, Boston, MA; ²Berg Biosystems, Boston, MA
- TOE pm 3:10 **Integrated Molecular Analysis of Cisplatin Resistance in Ovarian Cancer;** Pang-ning Teng¹; Nicole Chappell^{2,3}; Brian L. Hood¹; Tracy Litzi¹; Kelly Conrads¹; Chandramouli Gadiseti⁴; Kathleen Darcy¹; Chad Hamilton^{1,3}; John Risinger⁵; Larry Maxwell^{1,6}; Thomas P. Conrads^{1,7}; ¹Women's Health Integrated Research Center, Annandale, VA; ²National Capital Consortium Fellowship, Bethesda, MD; ³Walter Reed National Military Medical Center, Bethesda, MD; ⁴GenEpria Consulting Inc, Columbia, MD; ⁵Dept of OB/GYN, Michigan State University, Grand Rapids, MI; ⁶Dept of OB/GYN, Inova Fairfax Hospital, Falls Church, VA; ⁷Dept of OB/GYN, Uniformed Services University, Bethesda, MD
- TOE pm 3:30 **Dynamics of Degradation: Monitoring Changes in Protein Turnover Rates in Relation to Chemoresistance;** Juan Chavez¹; Michael R. Hoopmann²; Chad Weisbrod¹; Jimmy Eng¹; James Bruce¹; ¹University of Washington, Seattle, WA; ²Institute for Systems Biology, Seattle, WA
- TOE pm 3:50 **Metabolomic Screening for Toxicological and Efficacy Markers in Drug Discovery;** Petia Shipkova; Serhiy Hnatyshyn; Nelly Aranibar; Michael Reilly; Don Robertson; Bristol Myers Squibb, Princeton, NJ
- TOE pm 4:10 **Monitoring Drug Metabolizing Enzymes – Immuno MRM of CYP 3A4, 3A5, 3A7 and MDR1 using One Antibody;** Oliver Poetz¹; Anke Schnabel²; Hannes Planatscher¹; Katrin Marcus²; Thomas Joos¹; ¹NMI, Reutlingen, Germany; ²Medizinisches Proteom-Center, Bochum, Germany

2:30 – 4:30 PM, TUESDAY AFTERNOON GAS-PHASE IONS: REACTIONS AND DYNAMICS

Paul Mayer, presiding
 Room 220-222

- TOF pm 2:30 **Energetics of Lipid Binding in a Hydrophobic Protein Cavity;** Lan Liu¹; Klaus Michelsen²; Elena Kitova¹; Paul Schnier²; John Klassen¹; ¹University of Alberta, Edmonton, Canada; ²Amgen, Thousand Oaks, CA

- TOF pm 2:50 **Nucleophilic Substitution on Aromatic Bromides: Attack at Carbon vs. Bromine. Does the Thermochemistry Matter?;** Scott Gronert¹; John Garver²; Charles Nichols²; Benjamin Worker²; Veronica M. Bierbaum²; ¹Virginia Commonwealth University, Richmond, VA; ²University of Colorado, Boulder, CO
- TOF pm 3:10 **Gas Phase Stability of Triphenylphosphine Capped Gold Clusters Investigated by Collision and Surface Induced Dissociation;** Grant Johnson; Thomas Priest; Julia Laskin; Pacific Northwest National Laboratory, Richland, WA
- TOF pm 3:30 **Gas-phase Reactions of Pallada- and Nickela-lactones: Insights into Metal-catalyzed C-C Bond Forming;** Krista L. Vikse; George N. Khairallah; Richard A. J. O'Hair; University of Melbourne, Melbourne, Australia
- TOF pm 3:50 **Gas-Phase Reactions of the Oxygen Radical Cation;** Charles Nichols; Zhibo Yang; Benjamin Worker; Denver Hager; Veronica Bierbaum; University of Colorado, Boulder, CO
- TOF pm 4:10 **Gas phase Ion-Molecule Reactions between Unsaturated Bis(2,2'-bipyridine) Ruthenium Complex and O₂, CO, and Hydrocarbons;** Ameneh Gholami^{1,2}; Travis Fridgen^{1,2}; ¹Memorial University of NL, St. John's, NL; ²Memorial University of NL, St. John's, NL

2:30 – 4:30 PM, TUESDAY AFTERNOON PETROLEUM AND BIOFUEL RESEARCH: ADVANCES IN MS ANALYSES Wolfgang Schrader presiding Room 301-305

- TOG pm 2:30 **Completion of the Petroleome: The Structural, Compositional, and Chemical Continuum of Heavy Crude Oil;** Ryan P. Rodgers^{1,3}; Leonard Nyadong¹; Amy McKenna¹; Vladislav Lobodin^{1,3}; Chang Samuel Hsu³; David Podgorski^{1,3}; Benjamin Bythell¹; Jie Lu³; Winston K. Robbins⁴; Alan G. Marshall^{1,2}; ¹Nat'l High Magnetic Field Lab, Tallahassee, FL; ²Department of Chemistry and Biochemistry, FSU, Tallahassee, FL; ³Future Fuels Institute, FSU, Tallahassee, FL; ⁴Consultant, Brunswick, ME
- TOG pm 2:50 **Asphaltenes Asbiomarkers for Petroleum Thermal Evolution;** Vanessa Gonçalves Dos Santos¹; Marcos A. Pudenzzi¹; Máira Fasciotti¹; Rosana Pereira²; Wagner L. Bastos²; Boniek G. Vaz²; José R. Cerqueira²; Erica T. de Moraes²; Eugenio V. Santos Neto²; Marcos N. Eberlin¹; ¹ThomSON Mass Spectrometry Laboratory, Campinas, Brazil; ²PETROBRAS R&D Center, Rio de Janeiro, Brazil
- TOG pm 3:10 **Differentiation of Petroleum Crude Oil Samples Using Low-Temperature Plasma and FT-ICR-MS;** Mario Benassi Neto; Arton Berisha; Andreas Roempp; Bernhard Spengler; Justus Liebig University, Giessen, Germany
- TOG pm 3:30 **High Resolution Mass Spectrometric Analysis of Biocrude Derived from Subcritical Water Treatment of Algae Biomass;** Patrick Hatcher; Wassim Obeid; Jose L. Garcia; Elodie Salmon; Sandeep Kumar; Old Dominion University, Norfolk, VA
- TOG pm 3:50 **Analysis of Bio-oils from different Pyrolysis Process Steps and Biomass using FT-ICR-MS and Q-TOF-MS;** Patrícia Verardi Abdelnur¹; Boniek G. Vaz²; Jose Dilcio Rocha¹; Marlon Brando B. Almeida³; Rosana Cardoso L. Pereira³; ¹Embrapa Agroenergy,



Brasilia, Brazil; ²PUC-Rio, Rio de Janeiro, Brazil;
³Petrobras, Rio de Janeiro, Brazil

- TOG pm 4:10 **Characterization of Catalytically Converted Lignin by Using High Performance Liquid Chromatography/ High Resolution Tandem Mass Spectrometry Using Hydroxide-Doped Electrospray Ionization**; Benjamin Owen; Tiffany Jarrell; Laura Haupt; Christopher Marcum; Trenton Parsell; Mahdi Abu-Omar; Hilka Kenttamaa; *Purdue University, West Lafayette, IN*

**2:30 – 4:30 PM, TUESDAY AFTERNOON
QUANTIFICATION OF TARGETED PROTEINS AND POST-
TRANSLATIONAL MODIFICATION**

**Xudong Yao (Singapore Society for Mass Spectrometry) and
Manfred Raída, presiding
Exhibit Hall A**

- TOH pm 2:30 **The Precision of Heavy-Light Peptide Ratios measured by MALDI-TOF Mass Spectrometry and its Application to LC-Free SISCAPA Protein Quantification**; Leigh Anderson²; Morteza Razavi³; Terry Pearson³; Gary Kruppa¹; Rainer Paape¹; Detlev Suckau¹; ¹*Bruker Daltonics, Bremen, Germany*; ²*SISCAPA Assay Technologies, Inc., Washington, DC*; ³*Dept. of Biochem. Microbiology, Univ. Victoria, Victoria BC, Canada*
- TOH pm 2:50 **Estimating Absolute Protein Abundances using Targeted Mass Spectrometric Techniques (SRM and SWATH-MS)**; Christina Ludwig¹; Hannes Röst¹; Manfred Claassen²; Ruedi Aebersold¹; ¹*ETH Zürich, Institute of Molecular Systems Biology, Zürich, Switzerland*; ²*Computer Science Department, Stanford University, Stanford, USA*
- TOH pm 3:10 **Isoform Specific Quantification Assays for SAA in Lung Cancer Plasma Using High Resolution Targeted LC-MS**; Yeoun Jin Kim¹; Sebastien Gallien¹; Elodie Duriez¹; Panchali Goswami¹; Stephane Trevisiol¹; Guy Berchem²; Bruno Domon¹; ¹*Luxembourg Clinical Proteomics Center, Strassen, Luxembourg*; ²*CRP-Sante, Strassen, Luxembourg*
- TOH pm 3:30 **An Antibody-free, Targeted Mass Spectrometry Approach for Quantification of Proteins at Low Picogram/Milliliter Levels in Human Blood Plasma/Serum**; Tujin Shi; Thomas Fillmore; Rui Zhao; Xuefei Sun; Tao Liu; Keqi Tang; Mahmud Hossain; Ron Moore; Weijun Qian; David Camp; Richard D. Smith; *Pacific Northwest National Laboratory, Richland, WA*

- TOH pm 3:50 **High Sensitivity Targeted Analysis of Protein Variants by Mass Spectrometry**; Keith Ashman¹; Isabel Ruppen²; Fernando Garcia²; Pilar Ximénez-Embún²; ¹*UQCCR, Brisbane, Australia*; ²*CNIO, Madrid, Spain*

- TOH pm 4:10 **Defining Chromatin Signatures through a Targeted High Resolution Multiplex Assay for Histone Modifications**; Jordan Taylor; Xiaoyun Wu; Namrata Udeshi; Lola Fagbami; Steven A. Carr; Jacob D. Jaffe; *The Broad Institute, Cambridge, MA*

**4:45 - 5:30 PM, TUESDAY AFTERNOON
PLENARY SESSION**

**Scott A. McLuckey, presiding
Exhibit Hall A**



**Award Lecture
Biemann Medal**

Joshua J. Coon
University of Wisconsin - Madison

**5:45 - 7:00 PM, TUESDAY EVENING
WORKSHOPS
See workshop schedule**

**AFTER 8:00 PM, TUESDAY EVENING
CORPORATE HOSPITALITY SUITES
East Building**





WEDNESDAY MORNING ORAL SESSIONS

8:30 – 10:30 AM, WEDNESDAY MORNING INFORMATICS: QUANTIFICATION Marc Kirchner, presiding Ballroom A

- WOA am 08:30 **QPROT: A Computational Tool for Label-free Differential Expression Analysis using Spectral Count and Intensity Data**; Hyungwon Choi¹; Sinae Kim²; Damian Fermin³; Chih-Chiang Tsou³; Alexey Nesvizhskii³; ¹National University of Singapore, Singapore, Singapore; ²University of Medicine & Dentistry of New Jersey, Newark, NJ; ³University of Michigan, Ann Arbor, MI
- WOA am 08:50 **PROXINORM - Changing the Face of Peptidomics Label-Free Relative Quantification with Proximity-based Intensity Normalization**; Susan Van Riper¹; Ebbing De Jong²; John Carlis²; Timothy Griffin²; ¹University of Minnesota Rochester, Rochester, MN; ²University of Minnesota, Minneapolis, MN
- WOA am 09:10 **An Elegant Algorithm to Calculate the Aggregated Isotopic Distribution and Exact Center-masses**; Jürgen Claesen³; Piotr Dittwald⁴; Tomasz Burzykowski³; Dirk Valkenborg^{1,2}; ¹VITO, Mol, Belgium; ²University of Antwerp, Antwerp, Belgium; ³Hasselt University, Diepenbeek, Belgium; ⁴University of Warsaw, Warszawa, Poland
- WOA am 09:30 **Advancing Statistical Analysis of Multiplexed MS/MS Quantitative Data with Scaffold Q+**; Brian C. Searle; Mark Turner; Proteome Software Inc., Portland, OR
- WOA am 09:50 **A Statistical Framework for Protein Significance Analysis in SRM Experiments with Sparse Labeled References**; Ching-Yun Chang¹; Eduard Sabido²; Ruedi Aebersold^{2,3}; Olga Vitek^{1,4}; ¹Department of Statistics, Purdue University, West Lafayette, IN; ²IMSB - ETH Zurich, Zürich, Switzerland; ³Faculty of Science, University of Zürich, Zürich, Switzerland; ⁴Department of Computer Science, Purdue University, West Lafayette, IN
- WOA am 10:10 **Targeted Proteomics Quantitative Analysis of Data Independent Acquisition MS/MS in Skyline**; Brendan MacLean; Jarrett Egerton; Donald M. Marsh; Michael J. MacCoss; Univ of Washington, Seattle, WA

8:30 – 10:30 AM, WEDNESDAY MORNING IMAGING MS: INSTRUMENTATION AND IONIZATION SOURCES Felicia Green and Ian Gilmore, presiding Ballroom B

- WOB am 08:30 **Transmission Geometry Laser Ablation Coupled with a Conventional ESI/APCI Source for High Spatial Resolution Spot Sampling and Chemical Imaging**; Matthias Lorenz; Olga S. Ovchinnikova; Gary J. Van Berkel; Oak Ridge National Laboratory, Oak Ridge, TN
- WOB am 08:50 **Laser Ablation - Liquid Flow Bridge Capture for Analysis and Imaging of Living Biofilms with Application to Biocorrosion**; Eric Kaufman; Jan Sunner; University of Oklahoma, Norman, OK
- WOB am 09:10 **High-Resolution Ambient Imaging Using Nanospray Desorption Electrospray Ionization Mass Spectrometry**; Julia Laskin; Ingela Lanekoff; Brandi S Heath; Andrey Liyu; Mathew Thomas; Dongsheng Li; James P Carson; Pacific Northwest National Laboratory, Richland, WA

WOB am 09:30 **Infrared Laser Ablation Sample Transfer for MALDI Imaging**; Kermit K. Murray; Sung Gun Park; Louisiana State University, Baton Rouge, LA

WOB am 09:50 **Nanoparticulate Implantation for Near-surface Molecular Imaging of Tissue by Laser Desorption**; J. Albert Schultz¹; Ludovic Muller²; Damon Barbacci¹; Thomas Egan¹; Ernest K. Lewis¹; Michael I. McCully¹; Valerie Vaughn¹; Kelley Waters¹; Bruce Brinson³; Robert Hauge³; Jerry Moore⁴; Carey Balaban⁵; Amina S. Woods²; ¹Ionwerks, Inc., Houston, TX; ²NIH/NIDA-IRP, Baltimore, MD; ³Rice University, Houston, TX; ⁴Masstink, Naperville, IL; ⁵University of Pittsburgh, Pittsburgh, PA

WOB am 10:10 **The Timepix Active Pixel Detector for Mass Spectrometry Imaging: Highly Parallel Space- and Time-Resolved Imaging of Bio-Molecules**; Julia Jungmann¹; Don Smith¹; Luke MacAleese^{1,2}; Jan Visser³; Ron M.A. Heeren¹; ¹FOM Institute for Atomic and Molecular Physics, Amsterdam, Netherlands; ²LASIM - UMR5579 CNRS & Université Lyon 1, Lyon, France; ³National Institute for Subatomic Physics (Nikhef), Amsterdam, The Netherlands

8:30 – 10:30 AM, WEDNESDAY MORNING ACCURATE MASS APPLICATIONS: PHARMACEUTICAL, BIOANALYTICAL, AND CLINICAL Cory Bystrom, presiding Ballroom CD

- WOC am 08:30 **Ultra High Mass Resolution Mass Spectrometric Applications in the Pharmaceutical Industry**; Wendy Zhong; Merck, Summit, NJ
- WOC am 08:50 **The Use of High Resolution Mass Spectrometry for Solving Biotransformation-related Issues in Drug Discovery Setting**; Natalia Penner; Chandra Prakash; Biogen Idec, Cambridge, MA
- WOC am 09:10 **Simultaneous Evaluation of *in vitro* Stability and Biotransformation of Peptide Drug Candidates using High Resolution Mass Spectrometry**; Ji Ma; Timothy Carlson; Bradley Wong; Amgen Inc., South San Francisco, CA
- WOC am 09:30 **Characterization of Comprehensive CID (MS²) for Analyte Identification in Biological Samples: HPLC-TOF-MS with Accurate Mass and Relative Isotope Abundance**; Jeffrey Patrick; Kevin Siek; Li Zhang; Joe Binkley; LECO Corporation, St. Joseph, MI
- WOC am 09:50 **Changes in Biochemical Profiles During Yeast Fermentation Determined by IROA (Isotopic Ratio Outlier Analysis)**; Felice De Jong; Chris Beecher; NextGen Metabolomics Inc, Ann Arbor, MI
- WOC am 10:10 **Simultaneous Qualitative, Semi-quantitative and Quantitative Analyses in Clinical Laboratories using Second Generation Exactive High Resolution Accurate Mass Spectrometry**; Bertrand Rochat¹; Hugues Henry¹; Olaf Scheibner²; Benedicte Duret²; ¹CHUV, Lausanne, Switzerland; ²Thermo Fisher Scientific, Bremen, Les Ulis, France



8:30 – 10:30 AM, WEDNESDAY MORNING
ADVANCES IN NANO-SCALE SEPARATIONS FOR MS ANALYSIS
 Linda Brecci, presiding
 Room 118-120

- WOD am 08:30 **Ultrasensitive Microscale Proteomic Analysis of Limited Availability Clinical Samples Using Porous Layer Open Tubular (PLOT) Liquid Chromatography Mass Spectrometry**; Alexander R. Ivanov¹; Siyang Li¹; Shujia Dai¹; Jonathan Bones¹; Barry L. Karger¹; *Barnett Institute, Northeastern University, Boston, MA*
- WOD am 08:50 **Miniaturization of Size-Based Separation Device for Top-Down Proteomic Analysis of Low Microgram Samples**; John C. Tran¹; Phillip Y. Chu¹; Adam Catherman¹; Cong Wu²; Ken Durbin¹; Philip Compton¹; Paul Thomas¹; Neil L. Kelleher¹; ¹*Northwestern University, Evanston, IL*; ²*University of Illinois, Urbana, IL*
- WOD am 09:10 **Increased Throughput for 2D LC in the Analysis of Human Placental Samples**; Martha Stapels¹; Keith Fadgen¹; J. Will Thompson²; Arthur Moseley²; Jim Langridge¹; ¹*Waters Corporation, Milford, MA*; ²*Duke University School of Medicine, Durham, NC*
- WOD am 09:30 **Development and Performance Evaluation of a Robust nanoLC-MS/MS Vented Column Set-up with 25 µm ID Columns for Improved Sensitivity**; Thomas Koecher¹; Peter Pichler²; Mauro De Pra³; Laurent Rieux³; Remco Swart³; Karl Mechtler^{1,4}; ¹*IMP, Vienna, Austria*; ²*Christian Doppler Laboratory for Proteome Analysis, Vienna, Austria*; ³*Thermo Fisher Scientific, Amsterdam, Netherlands*; ⁴*IMBA, Vienna, Austria*
- WOD am 09:50 **Ultra Low-flow Sheathless Capillary Electrophoresis-mass Spectrometry for Comprehensive Profiling of Ionogenic Metabolites in Body Fluids**; Rawi Ramautar¹; Bart Schoenmaker¹; Ernst Suidgeest²; Jean-Marc Busnel³; Arn Van Den Maagdenberg⁴; André M. Deelder¹; Lotte De Groote⁴; Oleg A. Mayboroda¹; ¹*Biomolecular Mass Spectrometry Unit, LUMC, Leiden, Netherlands*; ²*Department of Radiology, LUMC, Leiden, The Netherlands*; ³*Beckman Coulter, Brea, CA*; ⁴*Department of Human Genetics, LUMC, Leiden, The Netherlands*
- WOD am 10:10 **Development and Implementation of a Plug and Play Device for Streamlining NanoLC ESI-MS Analysis**; Michael Bereman¹; Edward J. Hsieh¹; Colleen Van Pelt²; Thomas N. Corso²; Michael J. Maccoss¹; ¹*University of Washington, Seattle, WA*; ²*CorSolutions, Groton, NY*

8:30 – 10:30 AM, WEDNESDAY MORNING
CARBOHYDRATE ANALYSIS: NEW DEVELOPMENTS
 Joshua Sharp, presiding
 Room 211-214

- WOF am 08:30 **Glycosylation in Mummies: Glycans Persist for Thousands of Years**; Sureyya Ozcan^{1,6}; Hyun Joo An²; Rudolf Grimm³; Thomas Bereuter⁴; Christian Reiter⁵; Carlito Lebrilla^{1,6}; ¹*University of California, Davis, CA*; ²*Chungnam national university, Daejeon, South Korea*; ³*Agilent Technologies, Santa Clara, CA*; ⁴*Graz University of Technology, Graz, Austria*; ⁵*Department of Forensic Medicine Medical Univers, Vienna, Austria*; ⁶*University of California, Davis, CA*

- WOF am 08:50 **Novel Superficially Porous Particle HILIC Separation Material and Application to High Resolution N-linked Glycan Analysis by LC/MS**; Barry Boyes^{1,2}; Shujuan Tao²; Ron Orlando³; ¹*Advanced Materials Technology Inc., Wilmington, DE*; ²*Complex carbohydrate research center, UGA, Athens, GA*; ³*University of Georgia, Athens, GA*
- WOF am 09:10 **Characterization of Isomeric O-acetylated N-glycans from Fish Serum by Capillary Electrophoresis-electrospray Ionization-mass Spectrometry**; Roxana G. Jayo; David D.Y. Chen; *University of British Columbia, Vancouver, Canada*
- WOF am 09:30 **Towards de novo Structural Determination of Oligosaccharides from Tandem Mass Spectra**; Cheng Lin¹; Pengyu Hong²; Xiang Yu¹; Yiqun Huang¹; Joseph Zaia¹; Catherine E. Costello¹; ¹*Boston University School of Medicine, Boston, MA*; ²*Brandeis University, Waltham, MA*
- WOF am 09:50 **Mass Spectrometric Profiling of Glycosaminoglycans on Tissue Histological Sections**; Chun Shao¹; Xiaofeng Shi²; Nancy Leymarie²; Joseph Zaia¹; ¹*Boston University, Boston, MA*; ²*Boston University School of Medicine, Boston, MA*
- WOF am 10:10 **Structural Elucidation of Highly Sulfated Heparin and Heparan Sulfate Glycosaminoglycans Using CID FT-ICR**; John Muchena¹; Lingyun Li³; Melissa Ly²; Robert J. Linhardt³; Jon Amster¹; ¹*University of Georgia, Athens, GA*; ²*Agilent Technologies, Santa Clara, CA*; ³*Rensselaer Polytechnic Institute, Troy, NY*

8:30 – 10:30 AM, WEDNESDAY MORNING
POLYMER MS: MATERIALS, MEDICAL DEVICES, AND PHARMACEUTICALS
 William Erb, presiding
 Room 220-222

- WOF am 08:30 **Correlating Surface Changes of UHMW-PE Hip Joint Explants to Time-dependent Biomolecule Adsorption by MALDI-TOF Imaging Mass Spectrometry**; Sophie Fröhlich¹; Lennard Dekker²; Omar Belgacem³; Alan Barnes⁴; Theo Marten Luiders²; Vasiliki-Maria Archodoulaki¹; Guenter Allmaier¹; Martina Marchetti-Deschmann¹; ¹*Vienna University of Technology, Vienna, Austria*; ²*ErasmusMC, Rotterdam, Rotterdam, Netherlands*; ³*Shimadzu, Kratos, Manchester, UK*; ⁴*ISS, Manchester, UK*
- WOF am 08:50 **Protein Interactions with Synthetic Polymers: Do Structural Changes Occur?**; Vincenzo Scionti; Xiumin Liu; Chrys Wesdemiotis; *The University of Akron, Akron, OH*
- WOF am 09:10 **Direct Detection and Characterisation of Additives from Polymers by Liquid Extraction Surface Analysis Mass Spectrometry**; Martin R. L. Paine¹; Todd W Mitchell¹; Philip J Barker²; Shane A MacLaughlin²; Stephen J Blanksby¹; ¹*University of Wollongong, Wollongong, Australia*; ²*BlueScope Steel Research, Wollongong, Australia*
- WOF am 09:30 **Towards the Characterization of Both Soluble and Insoluble Plasma-polymers Obtained from Siloxane Precursors - A Combined Mass Spectrometry/Solid-state NMR Study**; Thierry Fouquet^{1,2}; Jérôme Bour¹; Valérie Toniazzi¹; David Ruch¹; Laurence Charles²; ¹*CRP Henri Tudor - AMS department, Esch-Sur-Alzette, Luxembourg*; ²*Aix-Marseille University, ICR-SACS, Marseille, France*



WEDNESDAY MORNING ORAL SESSIONS

WOF am 09:50 **Characterization of Silicone Polymers using Compositional HPLC Separation, Electrospray Ionization, Accurate Mass, and Tandem MS;** Andrew J. Hoteling; Peter Papagelis; *Bausch + Lomb, Inc., Rochester, NY*

WOF am 10:10 **The Use of Shape Selective Tandem Mass Spectrometry in the Characterisation of Complex Formulations Containing Polymeric Components;** James Scrivens¹; Charlotte Scarff²; Charles Wilkins³; Jonathon Snelling¹; ¹*University of Warwick, Coventry, UK*; ²*University of Leeds, Leeds, UK*; ³*University of Arkansas, Fayetteville, AR*

8:30 – 10:30 AM, WEDNESDAY MORNING H/D EXCHANGE: PROTEIN STRUCTURE/FUNCTION David Schriemer, presiding Room 301-305

WOG am 08:30 **Membrane Receptor Signaling via Helix-Coil Transitions Uncovered by Amide Hydrogen/Deuterium (H/D) Exchange Mass Spectrometry;** Ganesh S. Anand; Loo Chien Wang; *NUS Singapore, Singapore*

WOG am 08:50 **MHC Class II Structural Features Dictate HLA-DM Susceptibility and Peptide Exchange;** Corrie A. Painter¹; Katherine Kellersberger²; Maria P. Negroni¹; Zarixia Zavala-Ruiz¹; James E. Evans¹; Lawrence J. Stern¹; ¹*University of Massachusetts Medical School, Worcester, MA*; ²*Bruker Daltonics, Billerica, MA*

WOG am 09:10 **Structural Dynamics of Plasminogen Activator Inhibitor 1 Investigated Using Hydrogen/Deuterium Exchange Mass Spectrometry;** Morten Beck Trelle⁴; Jeppe Buur Madsen¹; Daniel Hirschberg²; Michael Ploug³; Peter A. Andreassen¹; Thomas J.D. Jørgensen⁴; ¹*Aarhus University, Aarhus, Denmark*; ²*University of Helsinki, Helsinki, Finland*; ³*Finsen Laboratory, Copenhagen, Denmark*; ⁴*University of Southern Denmark, Odense, Denmark*

WOG am 09:30 **Conformational Dynamics of Large “Two-Headed Ligand Keys”: Unlocking the Glucagon-Like Peptide-1 Receptor Signaling Pathway;** Graham M. West¹; Kyle W Sloop²; Francis S Willard²; Michael Chalmers¹; Bruce Pascal¹; Jeffrey A Dodge²; Patrick R Griffin¹; ¹*The Scripps Research Institute, Scripps Florida, Jupiter, FL*; ²*Eli Lilly, Indianapolis, IN*

WOG am 09:50 **High Resolution Epitope Mapping by Amide Hydrogen/Deuterium Exchange Mass Spectrometry and Computational Docking;** Deepangi Pandit¹; Steven Tuske¹; Stephen Coales¹; Jennifer Nemeth²; Yoshitomo Hamuro¹; ¹*ExSAR Corporation, Monmouth Junction, NJ*; ²*Janssen Research & Development, Radnor, PA*

WOG am 10:10 **The Role of Hydrogen Exchange and Mass Spectrometry in Measurements of Protein Flexibility and Plasticity;** John R. Engen; Jing Fang; Penny J. Beuning; *Northeastern University, Boston, MA*

8:30 – 10:30 AM, WEDNESDAY MORNING INTACT PROTEINS Weixun Wang, presiding Exhibit Hall A

WOH am 08:30 **Top-down Proteomics of Myofilaments for Cardiac Biomarker Discovery;** Han Zhang¹; Chad Dooley¹; Matthew Lawrence¹; Qiang Xiong²; Amanda Bergs³; Gary Valaskovic³; Jin Song¹; Jianyi Zhang²;

Ying Ge¹; ¹*University of Wisconsin-Madison, Madison, WI*; ²*University of Minnesota Medical School, Minneapolis, MN*; ³*New Objective, Inc., Woburn, MA*

WOH am 08:50 **Selected Reaction Monitoring with Top-Down Electron Transfer Dissociation to Characterize Hemoglobin Disorders;** Didia Coelho Graça¹; Pierre Lescuyer^{1,2}; Lorella Clerici²; Yury O. Tsybin³; Ralf Hartmer^{4,5}; Markus Meyer^{4,5}; Kaveh Samii²; Denis Hochstrasser^{1,2}; Alexander Scherl¹; ¹*University of Geneva, Geneva, Switzerland*; ²*Geneva University Hospital, Geneva, Switzerland*; ³*Ecole Polytechnique Federale, Lausanne, Switzerland*; ⁴*Bruker Daltonics, Bremen, Germany*; ⁵*Bruker Daltonics, Bremen, Germany*

WOH am 09:10 **A Two-Dimensional IEF-SPLC/MS Platform for High-Throughput Intact Protein Analysis in Complex Biofluids to Streamline Biomarker Discovery;** Junmei Zhang; Daniel A. Plymire; Michael J. Roth; Erica M. Maresch; William H. Rounds; Steven M. Patrie; *UT Southwestern, Dallas, TX*

WOH am 09:30 **Investigating the Details of Oncogenic Mutant p53 Reactivation using FT-ICR Mass Spectrometry;** David J Clarke¹; Jenna Scotcher²; Ted Hupp³; C. Logan Mackay¹; Pat Langridge-Smith¹; ¹*SIRCAMS, University of Edinburgh, Edinburgh, UK*; ²*National High Magnetic Field Laboratory, Tallahassee, FL*; ³*University of Edinburgh, Edinburgh, UK*

WOH am 09:50 **Insights into the architecture of the intact chloroplast F₁F₀ ATP synthase;** Carla Schmidt; Nina Morgner; Min Zhou; Carol Robinson; *University of Oxford, Oxford, UK*

WOH am 10:10 **Top-Down Mass Spectrometry of Proteasome Complex Proteins with nLC-FT-ICR-MS;** Rajeswari Lakshmanan¹; Rudy Alvarado¹; Jeremy Wolff²; Joseph A. Loo¹; ¹*UCLA, Los Angeles, CA*; ²*Bruker Daltonics Inc, Billerica, MA*

10:30 AM - 2:30 PM
WEDNESDAY POSTER SESSION
Exhibit Hall BC
Lunch concessions are open 11:00 am - 2:00 pm
Exhibit Hall Foyer



**2:30 – 4:30 PM, WEDNESDAY AFTERNOON
ENVIRONMENTAL CHEMISTRY AND TOXICOLOGY**

**Enrico Davoli, presiding
Ballroom A**

- WOA pm 2:30 **Combining Mass Spectrometry and Toxicology for a Multi-Country European Epidemiologic Study on Drinking Water Disinfection By-Products;** Susan Richardson¹; Sridevi Anduri¹; Matthew Bloodgood¹; Michael Plewa²; Clara Jeong²; Mark Nieuwenhuijsen³; Manolis Kogevinas³; Cristina Villanueva³; Emma Goslan⁴; Wentai Luo⁵; Lorne Isabelle⁵; James Pankow⁵; ¹US EPA, NERL, Athens, GA; ²University of Illinois, Urbana, IL; ³Centre for Research in Environmental Epidemiology, Barcelona, Spain; ⁴Cranfield University, Cranfield, UK; ⁵Portland State University, Portland, OR
- WOA pm 2:50 **Mass Spectrometry Identification of a Bacterial Source of N-DBP Precursors;** Jessica M. Boyd; Wenjun Zhou; Xing-Fang Li; *University of Alberta, Edmonton, Canada*
- WOA pm 3:10 **Analysis of total Microcystins using Laser Diode Thermal Desorption-Atmospheric Pressure Chemical Ionization-Tandem Mass Spectrometry (LDTD-APCI-MS/MS);** Audrey Roy-Lachapelle; Sébastien Sauvé; *Université de Montréal, Montréal, Canada*
- WOA pm 3:30 **Development of SPME/LC/MS/MS Method for *in vitro* and *in vivo* Determination of Pharmaceutical Bioconcentration in Fish Bile, Muscle Respectively;** Paul Togunde¹; Erasmus Cudjoe¹; Ken Oakes²; Mark Servos²; Janusz Pawliszyn¹; ¹Waterloo University, Chemistry department, Waterloo, Canada; ²Waterloo University, Biology department, Waterloo, Canada
- WOA pm 3:50 **Mass Spectrometry Based Biomarker Analysis of Organophosphorus Exposure in Agricultural Workers;** Edward J. Hsieh; Judit Marsillach; Rebecca Richter; Michael Paulsen; Michael J. MacCoss; Christopher Simpson; Clement Furlong; *University of Washington, Seattle, WA*
- WOA pm 4:10 **Real Time Visualization of Spatially and Temporally Resolved Data from an In-field, Mobile Membrane Introduction Mass Spectrometer;** Ryan J. Bell^{1,2}; Nicholas G. Davey^{1,3}; Morten Martinsen⁴; R. Timothy Short⁵; Christian Collin-Hansen⁶; Oyvind Mikkelsen⁴; Rudolf Schmid⁴; Christopher G. Gill^{1,2}; Erik T. Krogh^{1,2}; ¹Applied Environmental Research Labs (AERL), Nanaimo, BC, Canada; ²Vancouver Island University, Nanaimo, BC, Canada; ³University of Victoria, Victoria, BC, Canada; ⁴Norwegian University of Science and Technology, Trondheim, Norway; ⁵SRI International, St Petersburg, FL; ⁶Statoil ASA, TPD RD, Trondheim, Norway

**2:30 – 4:30 PM, WEDNESDAY AFTERNOON
METABOLOMICS: CLINICAL APPLICATIONS**

**Cameron Sullards and Man-Ho Choi (Korean Society for Mass Spectrometry), presiding
Ballroom B**

- WOB pm 2:30 **A Quantitative Proteomic Strategy to Identify Early Serum Biomarkers of Colorectal Cancer using the Apc(Min/+) Mouse Model;** Melanie M. Ivancic; Edward L. Huttlin; Xiaodi Chen; Amy A. Irving; William F. Dove; Michael R. Sussman; *University of Wisconsin-Madison, Madison, WI*

- WOB pm 2:50 **Targeted Metabolomic Analysis of Modified Angiotensin Peptides as Potential Biomarkers of Cardiovascular Diseases;** Seon Hwa Lee¹; Ryo Takahashi¹; Shota Kojima²; Shinsaku Suzuki¹; Takaaki Goto¹; Tomoyuki Oe¹; ¹Tohoku University, Sendai, Japan; ²Mochida Pharmaceutical Co., Ltd, Fujieda, Japan
- WOB pm 3:10 **Metabolomics in Personalized Medicine;** Rima Kaddurah-Daouk; *Duke University Medical Center, NC*
- WOB pm 3:30 **Novel Fabry Disease Biomarkers Detected by a Metabolomic Time-of-Flight Mass Spectrometry Approach;** Michel Boutin; René Gagnon; Pamela Lavoie; Christiane Auray-Blais; *Université de Sherbrooke, Sherbrooke, Canada*
- WOB pm 3:50 **Lipidomic Analysis of Human Tears, Meibum and Contact Lenses: New Rapid Screening Techniques for Dry Eye Syndrome Biomarkers;** Simon HJ Brown¹; Carolina ME Kunnen^{2,3}; Michael J Kelso¹; Eric B Papas^{2,4}; Percy Lazon de la Jara^{3,4}; Jennifer T Saville¹; Mark DP Willcox²; Stephen J Blanksby¹; Todd W Mitchell¹; ¹University of Wollongong, Wollongong, Australia; ²University of New South Wales, Sydney, Australia; ³Vision CRC, Sydney, Australia; ⁴Brien Holden Vision Institute, Sydney, Australia
- WOB pm 4:10 **Development and Initial Validation of a Metabolite Profile for the Early Detection of Breast Cancer Recurrence;** Haiwei Gu^{1,2}; Danijel Djukovic^{1,2}; Leiddy Alvarado³; Vincent Asiago³; Murthy Shanaiah²; Robert Ballas⁴; Daniel Raftery^{1,2}; ¹University of Washington, Seattle, WA; ²Matrix-Bio, Inc., West Lafayette, IN; ³Purdue University, West Lafayette, IN; ⁴Biomarker Associates, Inc., Newark, DE

**2:30 – 4:30 PM, WEDNESDAY AFTERNOON
REGULATED BIOANALYSIS USING HIGH RESOLUTION LC/MS:
HEADACHE OR OPPORTUNITY?**

**Steve Lowes, presiding
Ballroom CD**

- WOC pm 2:30 **Overview of Regulatory Guidelines and How High Resolution and Mass Accuracy MS Data Fulfill the Requirements;** Gary Schultz; Steve Lowes; *Advion Bioanalytical Labs, a Quintiles Company, Ithaca, NY*
- WOC pm 2:50 **Thorough and Practical Evaluation of the Use of QTOF in High Throughput Regulated Bioanalysis: Performance, Robustness and Return on Investment;** Louis-Philippe Morin¹; Jean-Nicholas Mess¹; Suma Ramagiri²; Johnny Cardenas²; Xavier Misonne²; Mauro Aiello²; Gary Impey²; Milton Furtado¹; Fabio Garofolo¹; ¹Algorithme Pharma Inc., Laval, Canada; ²AB Sciex, Concord, Canada
- WOC pm 3:10 **Quantitative Pharmacokinetic Sample Analysis and Metabolite Identification of Buspirone using High Resolution Accurate Mass Spectrometry;** Kevin Cook¹; Rose Herbold¹; Keeley Murphy¹; Panos Hatsis²; ¹Thermo Fisher Scientific, San Jose, CA; ²Novartis, Cambridge, MA
- WOC pm 3:30 **Quantitative Analysis of Potential Genotoxic Impurities by High Resolution Mass Spectrometer;** Chunang (Christine) Gu¹; Kate Comstock²; Hongxia (Jessica) Wang²; Larry Wigman¹; Cadapakam (CJ) Venkatramani¹; Alan Deese¹; ¹Genentech, South San Francisco, CA; ²Thermo Fisher Scientific, San Jose, CA



WEDNESDAY AFTERNOON ORAL SESSIONS

WOC pm 3:50 **Accurate Mass MS/MS an Attractive Option For the Quantification of Biotherapeutics in DMPK Studies;** Robert Plumb^{1,2}; Christopher A. Evans³; Paul Rainville¹; Joanne Mather⁴; Nicholas Ellor⁵; Gordon Fujimoto⁴; ¹Waters, Milford, MA; ²Imperial College, department of Surgery and Cancer, London, UK; ³GlaxoSmithKline, King Of Prussia, PA; ⁴waters corporation, Milford, MA; ⁵Waters Corp., Beverly, MA

WOC pm 4:10 **Evaluation of Resolving Power and Extraction Window with Comparison of Profile and Centroid Modes for High-Resolution Mass Spectrometry Phospholipid Quantitation;** Mingkun Fu; Qing Lu; *Millennium: the Takeda Oncology Company, Cambridge, MA*

2:30 – 4:30 PM, WEDNESDAY AFTERNOON OVERCOMING CHALLENGES IN MS ANALYSIS THROUGH IMPROVEMENTS IN SAMPLE PREPARATION

Alexander Ivanov, presiding
Room 118-120

WOD pm 2:30 **An Efficient and Restricted Protease for Middle Down Proteomics;** Cong Wu^{1,2}; John Tran³; Leonid Zamborg²; Kenneth Durbin⁴; Mingxi Li¹; Dorothy Ahlf⁴; Phillip Chu⁴; Philip Compton³; Bryan Early³; Paul Thomas^{3,4}; Jonathan Sweedler²; Neil Kelleher^{4,5}; ¹Department of Biochemistry, University of Illinois, Urbana, IL; ²The Institute of Genomic Biology, Urbana, IL; ³Proteomics Center of Excellence, Evanston, IL; ⁴Departments of Chemistry and Molecular Bioscience, Evanston, IL; ⁵The Chemistry of Life Processes Institute, Evanston, IL

WOD pm 2:50 **Localized *in-situ* Micro Hydrogel-Mediated Protein Digestion and Extraction For Imaging Mass Spectrometry;** Glenn A. Harris¹; Joshua J. Nicklay¹; Kevin L. Schey¹; Richard M. Caprioli²; ¹Vanderbilt University, Nashville, TN; ²Vanderbilt Univ Sch of Med, Nashville, TN

WOD pm 3:10 **Surface Preparation Instead of Sample Preparation: Accurate Quantitation Without Internal Standards or Separations ;** Michael J. Roth; Erica Maresh; Daniel A. Plymire; Junmei Zhang; William H. Rounds; Steven M. Patrie; *University of Texas Southwestern Medical Center, Dallas, TX*

WOD pm 3:30 **Converting Proteomic Based Discovery into a Validation Assay for Cardiac Ischemic Biomarkers;** Christine Jelinek¹; Yan Jia¹; Qin Fu²; Kevin W. Meyer⁴; Rebekah Gundry³; David Taggart⁶; Jennifer Van Eyk²; Robert J. Cotter¹; ¹Johns Hopkins School of Medicine, Baltimore, MD; ²Johns Hopkins University, Baltimore, MD; ³Medical College of Wisconsin, Milwaukee, WI; ⁴Perfinity Biosciences, West Lafayette, IN; ⁵John Radcliffe Hospital, Oxford, England

WOD pm 3:50 **Subcellular Analysis of Individual Neurons with Capillary Electrophoresis Electrospray Mass Spectrometry;** Jordan Aerts; Stanislav Rubakhin; Jonathan Sweedler; *University of Illinois at Urbana-Champaign, Champaign, IL*

WOD pm 4:10 **High Throughput Screening using Electrospray Mass Spectrometry by Droplets;** Shuwen Sun; Robert T. Kennedy; *Univ. of Michigan, Ann Arbor, MI*

2:30 – 4:30 PM, WEDNESDAY AFTERNOON GLYCOPROTEINS: NEW MS APPROACHES

Helene Perreault, presiding
Room 211-214

WOE pm 2:30 **Relating N-glycan Structures to their Protein Glycosylation site using MS-based Glycoproteomics to Investigate Fundamental Processes in Glycobiology;** Morten Thaysen-Andersen; Matthew P. Campbell; Nicole H. Packer; *Macquarie University, Sydney, Australia*

WOE pm 2:50 **A Method for Extensive Protein-specific Glycosylation Analysis in Complex Protein Mixtures;** Charles Nwosu; Jincui Huang; Danielle Aldredge; John Strum; Serenus Hua; Richard Seipert; Carlito Lebrilla; *University of California Davis, Chemistry Dept., Davis, CA*

WOE pm 3:10 **N-glycan Profiling of Human Serum Transferrin using Microfluidic chip-QTOF with Integrated Glycan Cleavage;** Monique Van Scherpenzeel; Gerry Steenberg; Dirk Lefeber; *UMC St. Radboud, Nijmegen, Netherlands*

WOE pm 3:30 **GlycoMap_Sera: A Framework for Discovery of Glycopeptide Biomarkers in Human Serum Samples;** Anoop Mayampurath¹; Chuan-Yih Yu¹; Ehwang Song²; Yehia Mechref²; Haixu Tang¹; ¹Indiana University, Bloomington, IN; ²Texas Tech University, Lubbock, TX

WOE pm 3:50 **Utilization of glycopeptide enrichment and complementary MS-MS fragmentation techniques for the characterization of glycan diversity in the Campylobacter genus;** Nicholas Scott¹; Harald Nothaft¹; Stuart Cordwell²; Christine Szymanski¹; ¹U of Alberta, Edmonton, Canada; ²The University of Sydney, The University of Sydney, Australia

WOE pm 4:10 **The First Algorithm for Automated Assignment of Glycopeptides from ETD Data;** Zhikai Zhu; Daniel Clark; Eden Go; David Hua; Heather Desaire; *Department of Chemistry, University of Kansas, Lawrence, KS*

2:30 – 4:30 PM, WEDNESDAY AFTERNOON FUNDAMENTALS OF ION ACTIVATION AND DISSOCIATION

Rebecca Jockusch, presiding
Room 220-222

WOF pm 2:30 **The Protein ECD Spectrum Is Resolved into "Charge Site" Spectra that Structurally Characterize Regions of the Backbone;** Owen Skinner¹; Kathrin Breuker²; Fred W. McLafferty¹; ¹Cornell University, Ithaca, NY; ²University of Innsbruck, Innsbruck, Austria

WOF pm 2:50 **A Mechanistic Study of Activated-ion Electron Capture Dissociation Mass Spectrometry of Peptides;** Aleksey Vorobyev¹; Fabien Chiro²; Konstantin O. Zhurov¹; Ünige A. Laskay¹; Matthew Wodrich¹; Yuri O. Tsybin¹; ¹Ecole Polytechnique Fédérale de Lausanne, Lausanne, Switzerland; ²Université Lyon 1, Villeurbanne, France

WOF pm 3:10 **Altering the Collision Induced Unfolding and Dissociation Properties of Large Protein Homotetramers using Gas-phase Ion-neutral Reaction Chemistry;** Russell Bornschein; Brandon Ruotolo; *University of Michigan, Ann Arbor, MI*



WOF pm 3:30 **Structural and Energetic Effects in the Molecular Recognition of Peptides and Proteins by 18-Crown-6: Threshold Collision-Induced Dissociation and Theoretical Studies;** Yu Chen; M. T. Rodgers; *Wayne State University, Detroit, MI*

WOF pm 3:50 **Ozone-induced Dissociation of Conjugated Double Bonds in Lipids Reveals Significant Enhancement in Reaction Rate and Novel Odd Electron Product Ions;** Alan T. Maccarone¹; Huong T. Pham¹; J. Larry Campbell²; Todd W Mitchell¹; Stephen J Blanksby¹; ¹*University of Wollongong, Wollongong, Australia*; ²*AB SCIEX, Concord, ON*

WOF pm 4:10 **Novel Method for Determining Ion Internal Energies Using ToF Applied to Ion Emission from Organic Surfaces Impacted by Nanoparticles;** Daniel DeBord; Stanislav Verkhoturov; Lisa Perez; Emile Schweikert; *Texas A&M University, College Station, TX*

**2:30 – 4:30 PM, WEDNESDAY AFTERNOON
H/D EXCHANGE: NEW DEVELOPMENTS IN TECHNOLOGY**
Mike Chalmers, presiding
Room 301-305

WOG pm 2:30 **Improved Protein Hydrogen/Deuterium Exchange Mass Spectrometry Platform with Fully Automated Data Processing;** Zhongqi Zhang; Aming Zhang; Gang Xiao; *Amgen, Inc., Thousand Oaks, CA*

WOG pm 2:50 **Hydrogen/ Deuterium Exchange on the Sub-Millisecond Time-Scale;** Anastasia Kharlamova; Scott A. McLuckey; *Purdue University, West Lafayette, IN*

WOG pm 3:10 **Spatially Resolved Protein Hydrogen Exchange Measured by Subzero Cooled Chip-based Nanoelectrospray Ionization Tandem Mass Spectrometry;** Sabine Amon; Morten B Trelle; Ole N. Jensen; Thomas J.D. Jorgensen; *University of Southern Denmark, Odense M, Denmark*

WOG pm 3:30 **Hydrogen Exchange Coupled with Electron Transfer Dissociation to Study Glycan Amide Exchange Properties;** Kerry Hassell¹; Miklos Guttman²; Kelly Lee²; John R. Engen¹; ¹*Northeastern University, Boston, MA*; ²*University of Washington, Seattle, WA*

WOG pm 3:50 **Mass Shift Analysis of the Human DNA Damage Repair Complex by H/DX. New techniques for Targeted higher Resolution Measurements;** Martial Rey; Menglin Yang; Yaping Yu; Susan Lees-Miller; David Schriemer; *University of Calgary, Calgary, Canada*

WOG pm 4:10 **Oligomer-Specific Structural Information Revealed at the Residue Level by Online H/D Exchange and Top-Down Mass Spectrometry;** Yining Huang; Weidong Cui; Don L. Rempel; Michael L. Gross; *Washington University, St. Louis, MO*

**2:30 – 4:30 PM, WEDNESDAY AFTERNOON
QUANTITATIVE PROTEOMICS**
Peter Pichler, presiding
Exhibit Hall A

WOH pm 2:30 **Enhanced Isobaric Labeling Enables 18-plexed Quantitative Exploration of the HSF1-dependent Cellular Response to Multiple Proteotoxic Stresses at a Proteomic Scale;** Edward L. Huttlin¹; Mark Jedrychowski¹; Karsten Kuhn²; Chengkai Dai³; Lily Ting¹; Graeme McAlister¹; Ramin Rad¹; John C.

Rogers⁴; Ian Pike²; Wilhelm Haas¹; Steven Gygi¹; ¹*Harvard Medical School, Boston, MA*; ²*Proteome Sciences, Frankfurt Am Main, Germany*; ³*The Jackson Laboratory, Bar Harbor, ME*; ⁴*Thermo Fisher Scientific, Rockford, IL*

WOH pm 2:50 **Benchmarking Stable Isotope Labeling Based Quantitative Proteomics;** A.F. Maarten Altelaar; Christian Frese; Christian Preisinger; Marco Hennrich; Albert J.R. Heck; Shabaz Mohammed; *Utrecht University, Utrecht, Netherlands*

WOH pm 3:10 **Detection of Differential Expression of Splice Variants in the MaxQuant Framework for Quantitative Proteomics;** Juergen Cox¹; Nagarajna Nagaraj¹; Tami Geiger²; Cornelia Schoenbauer¹; Frank Schnorrer¹; Matthias Mann¹; ¹*Max-Planck-Institute of Biochemistry, Martinsried, Germany*; ²*Sackler Faculty of Medicine, Tel Aviv University, Tel Aviv, Israel*

WOH pm 3:30 **Proper Calibration Can Improve Accuracy and Precision of Targeted Proteomics Assays;** Andrew Hoofnagle; Jessica Becker; Philip Mayer; Tomas Vaisar; *University of Washington, Seattle, WA*

WOH pm 3:50 **Implementation of Multiplexed SID-SRM-MS Assays in Three Independent Laboratories to Quantify Protein Targets in 30 Individual Breast Cancer Cell Lines;** Jacob Kennedy¹; Ping Yan¹; Susan E. Abbatiello²; Chenwei Lin¹; Jeffrey Whiteaker¹; Richard Ivey¹; Lei Zhao¹; Travis D. Lorentzen¹; Eric Kuhn²; Karl R. Clauser²; Keith D. Rivera³; Youngsoo Kim⁴; Kyunggon Kim⁴; Hophil Min⁴; Pei Wang¹; Leigh Anderson⁵; Steven J Skates⁶; Steven A. Carr²; Amanda Paulovich¹; ¹*Fred Hutchinson Cancer Research Center, Seattle, WA*; ²*Broad Institute, Cambridge, MA*; ³*Cold Springs Harbor Laboratory, Cold Springs, NY*; ⁴*Seoul National University, Seoul, South Korea*; ⁵*Plasma Proteome Institute, Washington, DC*; ⁶*Massachusetts General Hospital, Boston, MA*

WOH pm 4:10 **Identification of Informative Biomarkers for Threatened Preterm Labour using SWATH™;** Jan Heng¹; Lorne Taylor¹; Monika Tucholska¹; Peter Kupchak²; Moyez Dharsee²; Kenneth Evans²; Stephen Tate³; Craig Pennell⁴; Tony Pawson¹; Stephen Lye¹; ¹*Samuel Lunenfeld Research Institute, Mt Sinai, Toronto, Canada*; ²*Ontario Cancer Biomarker Network, Toronto, Canada*; ³*AB Sciex, Concord, Canada*; ⁴*The University of Western Australia, Perth, Australia*

**4:45 - 5:30 PM, WEDNESDAY AFTERNOON
ASMS MEETING**
Scott A. McLuckey, presiding
Ballroom A

Wine, beer, soft drinks
Don't miss awards, Board reports, and more

**5:45 - 7:00 PM, WEDNESDAY EVENING
WORKSHOPS**
See workshop schedule

**AFTER 8:00 PM, WEDNESDAY EVENING
CORPORATE HOSPITALITY SUITES**
East Building



THURSDAY MORNING ORAL SESSIONS

8:30 – 10:30 AM, THURSDAY MORNING FOOD SAFETY: ADVANCES IN MS FOR CHARACTERIZATION OF ADDITIVES AND CONTAMINANTS

Luke Ackerman and Maw-Rong Lee (Taiwan Society for Mass Spectrometry), presiding
Ballroom A

- ThOA am 08:30 **Determination of the Fungal Secondary Metabolites Fusarubin and 8-O-Methylbostrycoidin from Maize by LC-MS/MS**; Mark Busman; *USDA-ARS, Peoria, IL*
- ThOA am 08:50 **Analysis of Aflatoxins in Peanut and Related Food Product by Microfluidic Chip-based Nano-Liquid Chromatography-Tandem Mass Spectrometry**; Ming-Ren Fuh; *Department of Chemistry, Soochow University, Taipei, Taiwan*
- ThOA am 09:10 **Rapid Detection of *Escherichia coli* O157:H7 and Several Predominant non-O157 *Escherichia coli* via VOC Based Biomarkers Profiling using SESI-MS**; Jiangjiang Zhu; Jane Hill; *University of Vermont, Burlington, VT*
- ThOA am 09:30 ***in situ* Detection of Tainted Plasticizer in Foods by Mobile Ambient Mass Spectrometry**; Marcia Shu-Wei Su; Chih-Chiang Chou; Min-Zong Huang; Jentaie Shiea; *National Sun Yat-Sen Univ., Kaohsiung, Taiwan*
- ThOA am 09:50 **Discovering Human Urinary Exposure Markers for Emerging Food Contaminants using a Signal Filtering Strategy Applied to Liquid Chromatography-mass Spectrometry Data**; Pao-Chi Liao; Jing-Fang Hsu; *National Cheng-Kung Univ., College of Medicine, Tainan, Taiwan*
- ThOA am 10:10 **Rapid Determination of Illicit Additives in Foodstuff using Paper Spray**; Zhiping Zhang; R. Graham Cooks; Zheng Ouyang; *Purdue University, West Lafayette, IN*

8:30 – 10:30 AM, THURSDAY MORNING METABOLOMICS/LIPIDOMICS: NEW MS TECHNOLOGIES AND APPLICATIONS

Lloyd Sumner and Yasushi Ishihama (Mass Spectrometry Society of Japan), presiding
Ballroom B

- ThOB am 08:30 **Metabolic Analysis of Single Pancreatic Beta-cells by Laser Desorption Ionization Mass Spectrometry on Silicon Nanopost Arrays**; John St. Angelo; Bindesh Shrestha; Bennett N Walker; Akos Vertes; *George Washington University, Washington, DC*
- ThOB am 08:50 **DESI-MS from Individual Mouse Preimplantation Embryos Allow Identification of Characteristic Chemical Signatures Related to Distinct Developmental Phases**; Christina Ferreira¹; Livia S Eberlin¹; Judy E Hallett¹; Valentina Pirro; R. Graham Cooks¹; ¹*Purdue University, West Lafayette, IN*; ²*Università degli Studi di Torino, Torino, Italy*
- ThOB am 09:10 **Advanced MSⁿ- and MS³-based Methods and Metabolic Tracer Studies for Lipids: location of Double Bond Position and *de-novo* Lipogenesis**; Miguel Rojas-Cherto^{1,2}; Jose Castro-Perez⁴; Julio Peironcelly^{1,2}; Piotr T Kasper^{1,2}; Leon Coulier^{2,3}; Thomas Roddy⁴; Rob J. Vreeken^{1,2}; Theo Reijmers^{1,2}; Thomas Hankemeier^{1,2}; ¹*Leiden University, Leiden, Netherlands*; ²*Netherlands Metabolomics Centre, Leiden, Netherlands*; ³*tno, Zeist, Netherlands*; ⁴*Merck Co & Inc, Rahway, NJ*

ThOB am 09:30 **An Optimized Organ Fixation Technique for Imaging and Quantitative Mass Spectrometry for High Energy Phosphate-Metabolites**; Yuki Sugiura^{1,2}; ¹*Keio University, Tokyo, Japan*; ²*PRESTO, Japan Science and Technology Agency (JST), Tokyo, Japan*

ThOB am 09:50 **Live Single-cell Mass Spectrometry for Organelle Level Metabolomics**; Hajime Mizuno¹; Naohiro Tsuyama¹; Sachiko Date²; Takanori Harada¹; Tsutomu Masujima^{1,2}; ¹*Hiroshima Univ. BioMed., Hiroshima, Japan*; ²*Quantitative Biology Center (QBiC), RIKEN, Osaka, Japan*

ThOB am 10:10 **Highly Sensitive LC-MS/MS Analysis of Phosphorylated Peptides in Minimal Number of Cells**; Takeshi Masuda¹; Yasuyuki Igarashi¹; Masaru Tomita¹; Jun Namiki²; Naoyuki Sugiyama¹; Yasushi Ishihama³; ¹*Institute for Advanced Biosciences Keio University, Tsuruoka, Japan*; ²*Keio University School of Medicine, Tokyo, Japan*; ³*Kyoto University, Kyoto, Japan*

8:30 – 10:30 AM, THURSDAY MORNING DRUGS, METABOLITES, PROTEINS AND BIOMARKERS NOVEL APPROACHES FOR ANALYSIS OF DRIED BIOLOGICAL SAMPLES Shane Needham, presiding Ballroom CD

- ThOC am 08:30 **Fully Automated On-line Extraction and LC-MS/MS Analysis of Dried Blood Spots for Pharmacokinetic Study of Alprazolam in Rat**; Guifen Xu¹; Yuqin Dai²; Na Pi Parra²; Craig Uyeda¹; Kirk Henne¹; Timothy Carlson¹; Keith Waddell²; Lester Taylor²; ¹*Amgen, South San Francisco, CA*; ²*Agilent Technologies, Santa Clara, CA*
- ThOC am 08:50 **DMPD (Dried Matrix on Paper Disc) – A precut DBS method for mouse PK studies with serial bleeding**; Leimin Fan; Jeffrey Hall; Donna Strasburg; Huaiqin Wu; Tawakol El-Shourbagy; *Abbott Laboratories, Abbott Park, IL*
- ThOC am 09:10 **Evaluation of Laser Diode Thermal Desorption MS for High Throughput ADME Quantitation**; John Laycock²; Hesham Ghobarah¹; Pierre Picard³; Loren Olson¹; ¹*AB SCIEX, San Jose, CA*; ²*Amgen, Inc, Thousand Oaks, CA*; ³*Phytronix Technologies, Inc., Quebec, QC*
- ThOC am 09:30 **Extraction and Analysis of Disease Biomarkers by ESIMSMS Directly from Dried Blood and Plasma Spots using a Novel Autosampler**; David S. Millington¹; Will Thompson²; Arthur Moseley²; Haoyue Zhang¹; Peter Smith³; Steven Hillman¹; ¹*Duke University Med Ctr, Durham, NC*; ²*Duke University Proteomics Core Facility, Durham, NC*; ³*Leap Technologies, Inc, Carrboro, NC*
- ThOC am 09:50 **Quantification of Endogenous Proteins in Dried Blood Spots by Multiple Reaction Monitoring Mass Spectrometry**; Andrew Chambers; Andrew Percy; Alex Camenzind; Christoph Borchers; *UVic-GBC Proteomics Centre, Victoria, BC*
- ThOC am 10:10 **A Consortium Determination of Whether Sample Hematocrit Differences are Material and Whether These Differences Can be Identified or Corrected**; Thomas Lloyd¹; Fumin Li²; Jie Zhang³; Perry Fan⁴; John R. Kagel⁵; Guowen Liu⁶; Ileana Ionita⁷; Chad Christianson⁸; Yong-Xi Li⁹; Michael Johnson¹⁰; Aziz Filali-Ansary¹¹; ¹*Worldwide Clinical Trials, Austin, TX*; ²*Covance Inc., Madison,*



WI; ³Novartis Institutes for BioMedical Research, East Hanover, NJ; ⁴Abbott Laboratories, Abbott Park, IL; ⁵University of North Carolina, Chapel Hill, NC; ⁶Bristol-Myers Squibb Co., Princeton, NJ; ⁷Pfizer, Ypsilanti, MI; ⁸Alturas Analytics, Moscow, ID; ⁹Medpace, Cincinnati, OH; ¹⁰Millennium Pharmaceuticals, Cambridge, MA; ¹¹Sanofi-Aventis, Chilly-Mazarin, France

**8:30 – 10:30 AM, THURSDAY MORNING
FUNDAMENTALS OF PEPTIDE FRAGMENTATION**
James Reilly, presiding
Room 118-120

- ThOD am 08:30 **On the Energetics of Head-to-tail Cyclization of Middle-sized b_n Ions**; Bela Paizs; DKFZ, Heidelberg, Tucson, AZ
- ThOD am 08:50 **Evidence for Alpha-Proton Scrambling in the Fragmentation of VGX Anhydride b_3 Ions**; Lindsay Morrison; Vicki H. Wysocki; University of Arizona, Tucson, AZ
- ThOD am 09:10 **Dissociation Energies as Predictors of Observability of b - and y -Peaks in Mass Spectra of Short Peptides**; O. I. Obolensky¹; Wells W. Wu²; Rong-Fong Shen³; Yi-Kuo Yu¹; ¹National Center for Biotechnology Information, NLM, Bethesda, MD; ²NIH (NIA), Rockville, MD; ³FDA, Bethesda, MD
- ThOD am 09:30 **Time-Resolved Collision-Induced Dissociation of Protonated Peptide Ions**; James Hager; AB Sciex, Concord, ON
- ThOD am 09:50 **Custom-Tunable Tags for Multiplex Electron Transfer Dissociation of Peptides**; Chang Xue; Jan Urban; Frantisek Turecek; University of Washington, Department of Chemistry, Seattle, WA
- ThOD am 10:10 **Database Search Algorithms for Negative Polarity LC-MS/MS of Complex Proteomic Samples: Adaptation for Ultraviolet Photodissociation and Negative ETD**; Hua Xu¹; James Madsen²; Jared Shaw²; Jennifer Brodbelt²; ¹Case Western Reserve University, Cleveland, OH; ²University of Texas Austin, TX

**8:30 – 10:30 AM, THURSDAY MORNING
BIOMOLECULAR STRUCTURE ANALYSIS BY COVALENT LABELING: FUTURE DIRECTIONS**
Janna Kiselar, presiding
Room 211-214

- ThOE am 08:30 **Advancements in Protein Interaction Reporter Technology: Protein Interactions and Topologies in Living Human Cells**; Juan Chavez; Chad Weisbrod; Jimmy Eng; Chunxiang Zheng; James Bruce; University of Washington, Seattle, WA
- ThOE am 08:50 **Elucidating the Topology of Large Protein Complexes using Chemical Cross-linking and Mass Spectrometry**; Alexander Leitner¹; Thomas Walzthoeni¹; Ruedi Aebersold¹; Stefan Bohn²; Friedrich Förster²; Andreas Bracher²; Ulrich Hartl²; Lukasz Joachimiak³; Judith Frydman³; ¹ETH Zurich, Zurich, Switzerland; ²Max Planck Institute of Biochemistry, Martinsried, Germany; ³Stanford University, Stanford, CA
- ThOE am 09:10 **Application of Homology Modelling, Ion Mobility and Protein Footprinting in Unison to Characterize Protein Biomolecular Complexes**; Yuichi Kokabu²; Mitsunori Ikeguchi²; Satoko Akashi²; Kevin Downard¹; ¹University of Sydney, Sydney, Australia; ²Yokohama City University, Yokohama, Kanagawa, Japan

Australia; ²Yokohama City University, Yokohama, Kanagawa, Japan

- ThOE am 09:30 **Kinetic Folding Mechanism of α_1 -Antitrypsin Probed by Hydroxyl Radical Labeling**; Bradley Stocks¹; Patrick Wintode²; Lars Konermann¹; ¹The University of Western Ontario, London, ON; ²University of Maryland, Baltimore, MD

- ThOE am 09:50 **Mass Spectrometric Methods to Probe Ligand Interactions in GPCRs: A study using Purified Serotonergic Receptor-ligand Samples**; Liwen Wang¹; Pius S Padayatti²; Sayan Gupta¹; Tivadar Orban¹; Wenyu Sun²; Rhijuta D' Mello¹; Krzysztof Palczewski¹; Mark R. Chance¹; ¹Case Western Reserve University, Cleveland, OH; ²Polgenix Inc, Cleveland, OH

- ThOE am 10:10 **Quantitative Comparison of *in vitro* and *in vivo* Covalently Labeled Ribosomal Proteins**; Ethan Jaffee; Matthew Lauber; William Running; James P. Reilly; Indiana University, Bloomington, IN

**8:30 – 10:30 AM, THURSDAY MORNING
NUCLEIC ACIDS: EMERGING TRENDS**
Norman Chiu, presiding
Room 220-222

- ThOF am 08:30 **LC-MS/MS for Assessing the Repair of DNA Interstrand Cross-link Lesions in Mammalian Cells**; Shuo Liu; Yinsheng Wang; University of California, Riverside, Riverside, CA
- ThOF am 08:50 **Quantitation of 1,3-Butadiene-induced DNA Adducts by nanoHPLC-nanoESI-MS/MS and High Resolution Tandem Mass Spectrometry**; Natalia Tretyakova; Dewakar Sangaraju; Peter Villalta; University of Minnesota, Minneapolis, MN
- ThOF am 09:10 **Sensitive, Quantitative Detection of Minor Alleles by Nucleic Acid Mass Spectrometry**; Charles R. Cantor; SEQUENOM, Inc., San Diego, CA, USA
- ThOF am 09:30 **New Mass Spectrometry Assays for Identifying and Characterizing Modified RNAs**; Patrick A. Limbach; Balasubrahmanyam Addepalli; Siwei Li; Rebecca Rohlf; Collin Wetzel; University of Cincinnati, Cincinnati, OH
- ThOF am 09:50 **Studying the Mechanism of CRISPR RNA Processing Using Ultra High Resolution TOF MS**; Sakham Waghamare; Mark Dickman; University of Sheffield, Sheffield, United Kingdom
- ThOF am 10:10 **Electrospray Co-solvents Favor Native G-Quadruplex Formation in Telomeric DNA: A Quantitative ESI-IMS-MS Study**; Adrien Marchand¹; Ruben Ferreira²; Valérie Gabelica¹; ¹University of Liège, Liège, Belgium; ²Institute for Research in Biomedicine (IRB), Barcelona, Spain

**8:30 – 10:30 AM, THURSDAY MORNING
ION MOBILITY: FUNDAMENTALS**
Perdita Barran, presiding
Room 301-305

- ThOG am 08:30 **Projected Superposition Approximation: Novel Developments and Life Science Applications**; Christian Bleiholder; Stephanie Contreras; Thanh Do; Michael T. Bowers; University of California, Santa Barbara, CA
- ThOG am 08:50 **Insights into Solution- and Gas-Phase Biomolecular Structure by Ion Mobility Spectrometry and Mass Spectrometry**



THURSDAY MORNING ORAL SESSIONS

Techniques; Nicholas A. Pierson; Huilin Shi; David E. Clemmer; *Indiana University, Bloomington, IN*

ThOG am 09:10 **A Critical Examination of Gas-phase Protein Conformation/Multimer Ion Formations by Electrospray Ion Mobility-Mass Spectrometry;** Kent Gillig; *Academia Sinica, Taipei, Taiwan*

ThOG am 09:30 **Bottom-Up Momentum-Transfer Theory for Ion Mobility;** William F. Siems¹; Larry A. Viehland²; Herbert H. Hill¹; ¹*Washington State University, Pullman, WA*; ²*Chatham University, Pittsburgh, PA*

ThOG am 09:50 **Calculating the Free Molecular Drag and Mobility of a vibrational ion in Air;** Carlos Larriba Andaluz; Qianrong Huang; Chris Hogan; *University of Minnesota, Minneapolis, MN*

ThOG am 10:10 **Complementary Aspects of Classical and Quantum Descriptions for Ion SCATTERING IN ION Mobility Spectrometry (IMS);** Glenn E. Spangler; *Technispan LLC, Lutherville, MD*

8:30 – 10:30 AM, THURSDAY MORNING PHOSPHOPROTEOMICS Judit Villen, presiding Exhibit Hall A

ThOH am 08:30 **Sensitive Kinase Assay Linked with Phosphoproteomics for Identifying Direct Kinase Substrates;** Liang Xue; Wenhong Wang; Anton Iliuk; Lianghai Hu; Jacob Galan; Michael Hans; Shuai Yu; Robert Geahlen; Andy Tao; *Purdue University, West Lafayette, IN*

ThOH am 08:50 **Monitoring Phospho-site Specific Dynamics using an *in vivo* Metabolic Stable Isotope Labeling of Amino Acids by Phosphate (SILAP) Approach;** Rosalynn Molden¹; Jonathan Goya¹; Zia Khan²; Benjamin Garcia¹; ¹*Princeton University, Princeton, NJ*; ²*University of Chicago, Chicago, IL*

ThOH am 09:10 **Global Analysis of the Dynamics of EGF Receptor Signaling using Phosphoproteomics and Gene Expression Profiling;** Kirsten Beck; Theresa Vertigan; Alejandro Wolf-Yadlin; *University of Washington, Seattle, WA*

ThOH am 09:30 **Synthesis and Characterization of a 100,000 Phosphopeptide Library Based on Public Data Repositories;** Simone Lemeer; Harald Marx; Jan Erik Schliep; Dominic Helm; Bernhard Kuster; *Technische Universität München, Freising, Germany*

ThOH am 09:50 **Global Characterization of Depolarization-Dependent Signalling in Rat Nerve-terminals using Comprehensive Quantitative Phosphoproteomics and other PTMomics Strategies;** Melanie Schulz¹; Jing Xue²; Mark Graham²; Phillip J. Robinson²; Martin R. Larsen¹; ¹*Univ. Southern Denmark, Odense, Denmark*; ²*Children's Med. Res. Inst., Wentworthville, Australia*

ThOH am 10:10 **Comprehensive Analysis of Immunoaffinity-based Profiling of Phospho-Tyrosine Signaling from Various Mouse Tissues: Evaluation of both MS/MS Identifications and MS Quantification;** Ailan Guo; Hongbo Gu; Jeffrey C. Silva; Kimberly A. Lee; Jian Min Ren; Matthew P. Stokes; Charles L. Farnsworth; Xiaoying Jia; Roberto D. Polakiewicz; Michael J. Comb; *Cell Signaling Technology, Inc., Danvers, MA*

10:30 AM - 2:30 PM
THURSDAY POSTER SESSION
Exhibit Hall BC
Lunch concessions are open 11:00 am - 2:00 pm
Exhibit Hall Foyer

THURSDAY AFTERNOON ORAL SESSIONS

2:30 – 4:30 PM, THURSDAY AFTERNOON ENVIRONMENTAL CONTAMINANTS: THE ROLE OF MS IN THE 21ST CENTURY Xing-Fang Li, presiding Ballroom A

ThOA pm 2:30 **Biotransformation of Arsenic Species;** Baowei Chen; Justin Geisel; Xiufen Lu; Anthony McKnight-Whitford; Shengwen Shen; Zonglin Yang; Chungang Yuan; X. Chris Le; *University of Alberta, Edmonton, Canada*

ThOA pm 2:50 **LC-QTOF/MS in Combination with Multivariate Statistical Methods for Data Evaluation: a Powerful Tool in the Non-target-analysis for Environmental Contaminants;** Wolfgang Schulz¹; Walter Weber¹; Detlev Schleuder²; ¹*Landeswasserversorgung, Langenau, Germany*; ²*AB Sciex, Darmstadt, Germany*

ThOA pm 3:10 **Tandem Quadrupole Mass Spectrometry for the Determination of Novel Environmental Pollutants;** Deepika Panawennage; Qian Wang; M. Paul Chiarelli; *Loyola University, Chicago, IL*

ThOA pm 3:30 **Characterization of Treated Wastewater by High Resolution Mass Spectrometry- Extending the Boundaries of Non-target Screening;** Heinz

Singer¹; Cristina Ripollés²; Martin Loos¹; Matthias Ruff¹; Emma Schymanski¹; Philipp Longree¹; Michael Stravs¹; Juliane Hollender¹; ¹*Eawag, Dübendorf, Switzerland*; ²*University Jaume I, Castellón, Spain*

ThOA pm 3:50 **Accurate Mass Analysis of Hydraulic Fracturing Waters: Tracer Identification by LC/Q-TOF/MS/MS Using the Kendrick Mass Defect;** E. Michael Thurman¹; Imma Ferrer¹; Jens Blotvogel²; Thomas Borch²; ¹*University of Colorado, Boulder, CO*; ²*Colorado State University, Fort Collins, CO*

ThOA pm 4:10 **Molecular Microscope: Comprehensive Oil Spill Characterization by Comprehensive GC & GC and FT-ICR Mass Spectrometry;** Amy McKenna¹; Ryan P. Rodgers¹; Robert Nelson²; Karin Lemkau²; Catherine A. Carmichael²; Christopher M. Reddy²; David Podgorski³; Chang Samuel Hsu³; Jie Lu³; Nathan K. Kaiser¹; Christopher L. Hendrickson¹; Winston K. Robbins¹; Yuri E. Corilo¹; Alan G. Marshall¹; ¹*Natl High Magnetic Field Laboratory, Tallahassee, FL*; ²*Woods Hole Oceanographic Inst., Woods Hole, MA*; ³*Future Fuels Institute, Tallahassee, FL*



2:30 – 4:30 PM, THURSDAY AFTERNOON

LIPIDS

Scott Shaffer, presiding
Ballroom B

- ThOB pm 2:30 **Comprehensive and Specific Biological Information at Cellular Resolution by MS Imaging**; Andreas Roempp¹; Sabine Guenther¹; Yvonne Schober¹; Zoltan Takats²; Dhaka Bhandari¹; Bernhard Spengler¹; ¹*Justus Liebig University, Giessen, Germany*; ²*Imperial College, London, UK*
- ThOB pm 2:50 **Liquid Chromatography - High Resolution Mass Spectrometry Analysis of Fatty Acid Kinetics: Application to Cancer Cell Metabolism**; Jurre J. Kamphorst¹; Jing Fan¹; Wenyun Lu¹; Justin Cross²; Eileen White^{3,4,5}; Craig B. Thompson²; Joshua Rabinowitz^{1,3}; ¹*Princeton University, Princeton, NJ*; ²*Memorial Sloan-Kettering Cancer Center, New York, NY*; ³*The Cancer Institute of New Jersey, New Brunswick, NJ*; ⁴*University of Medicine and Dentistry of New Jersey, Piscataway, NJ*; ⁵*Rutgers University, Dept of Molecular Biology, Piscataway, NJ*
- ThOB pm 3:10 **Identification of the Origin of Archaeological Fat Remains by Triacylglycerols Analysis using Li⁺ Cationisation, nanoESI Ionisation, High Resolution MS and IRMPD**; Caroline Tokarski¹; Nicolas Garnier²; Christian Rolando¹; ¹*Univ. de Lille 1, Sciences et Technologies, Villeneuve d'Ascq, France*; ²*SARL Laboratoire Nicolas Garnier, Vic le Comte, France*
- ThOB pm 3:30 **Identification and Quantification of Novel Human Lens Sphingolipids by TLC-DESI MS/MS and Chip-based nano-ESI MS/MS**; Jo Ann Seng¹; Shane Ellis¹; Jessica R Hughes¹; Roger JW Truscott²; Stephen J Blanksby¹; Todd W Mitchell¹; ¹*University of Wollongong, Wollongong, Australia*; ²*University of Sydney, Sydney, Australia*
- ThOB pm 3:50 **Methodologies of Sulfatide Analysis from Human Milk**; Ying Zhou¹; Hyejung Park¹; Serena Leone²; David S. Newburg²; Joseph Zaia¹; Catherine E. Costello¹; ¹*Boston University School of Medicine, Boston, MA*; ²*Boston College, Boston, MA*
- ThOB pm 4:10 **Identification of Novel Molting Hormones in *Drosophila***; Oksana Lavrynenko; Maria Carvalho; Suzanne Eaton; Andrej Shevchenko; *MPI CBG, Dresden, Germany*

2:30 – 4:30 PM, THURSDAY AFTERNOON

FOOD "OMICS": MS CHARACTERIZATION OF FOOD AND NUTRITIONAL SUPPLEMENTS

Tom Brenna, presiding
Room 118-120

- ThOD pm 2:30 **UHPLC- HRMS Untargeted Metabolomics Approach Applied to the Authentication of Beer and Wine**; Claudia Martins¹; Antonio Checa²; Héctor Gallart-Ayala²; Oscar Núñez²; Javier Saurina²; Santiago Hernández-Cassou²; ¹*Thermo Fisher Scientific, Barcelona, Spain*; ²*Chemistry Department - University of Barcelona, Barcelona, Spain*
- ThOD pm 2:50 **Food-Omics: Deciphering Bioactive Peptides in Functional Ingredients**; Sabine Lahrchi; Michael Affolter; Irma Silva Zolezzi; Alexandre Panchaud; *Nestlé Research Center, Lausanne, Switzerland*
- ThOD pm 3:10 **UHPLC-Q/TOF MS Profiling of Flavonoid Metabolite in Human Plasma**; Jihyun Lee¹; Jerry Zweigenbaum²; Alyson E. Mitchell¹; *University*

of California, Davis, CA; ²*Agilent Technologies, Wilmington, DE*

- ThOD pm 3:30 **A Rapid Screening Method for Oligosaccharide Function in Bacterial Consumption by nano-LC Chip/Time-of-Flight Mass Spectrometry**; Sarah Gutierrez; Santiago Ruiz-Moyano; Shuai Wu; David Mills; Carlito Lebrilla; *University of California Davis, Davis, CA*
- ThOD pm 3:50 **Real-time Analysis of Flavors and Pyrolysis-gases Inside of Individual Coffee Beans during the Roasting Process by Microprobe-sampling Photo-ionization Mass Spectrometry**; Ralf Zimmermann; Romy Hertz; Thorsten Streibel; *University of Rostock, Rostock, Germany*
- ThOD pm 4:10 **Monitoring Tea Fermentation and Manufacturing by Non-targeted Direct Analysis in Real Time (DART)**; Karl Fraser¹; Scott Harrison¹; Geoff Lane¹; Don Otter¹; Siew-Young Quek²; Yacine Hemar²; ¹*AgResearch Ltd, Palmerston North, NZ*; ²*University of Auckland, Auckland, NZ*

2:30 – 4:30 AM, THURSDAY AFTERNOON

ANTIBODIES AND ANTIBODY-DRUG CONJUGATES: QUANTITATION AND CHARACTERIZATION

Dawn Dufield, presiding
Room 211-214

- ThOE pm 2:30 **The Role of Mass Spectrometry in Antibody Drug Conjugate Drug Development: Trastuzumab emtansine (T-DM1)**; Ola M. Saad; Keyang Xu; Luna Liu; Neelima Koppada; Surinder Kaur; *Genentech, South San Francisco, CA*
- ThOE pm 2:50 **Multi-functional Antibody Conjugation Technology: Specific and Directional Modification of Antibodies using Activated Ester Chemistry**; Ryan Preston; Alice Lee; Wei Hong Yu; Lauren Wood; Robert Murphy; Michael Bacica; Abhijit Bhat; Olivier Laurent; David Tumelty; *Pfizer / CovX, San Diego, CA*
- ThOE pm 3:10 **A Bench-Top Orbitrap Mass Spectrometer Based Workflow Solution for Intact Monoclonal Antibody Characterization**; Zhiqi Hao¹; Yi Zhang¹; David Horn¹; Seema Sharma¹; Shiao-Lin Wu²; Irene, Ae-Ning Lin³; Yi-Hsuan Pan³; Ya-Fen Yang³; Andreas FR Huhmer¹; ¹*Thermo Fisher Scientific, San Jose, CA*; ²*Barnett Institute, Northeastern University, Boston, USA*; ³*CGMP BPPF, Development Center for Biotechnology, Taipei, Taiwan*
- ThOE pm 3:30 **Ultrasensitive, High-throughput and Robust Quantification of Monoclonal Antibodies in Tissues and Plasma using a Novel Trapping-micro-LC/MS Strategy and OAO Optimization**; Ming Zhang¹; Lipeng Dai¹; Haoying Yu²; Jun Qu¹; ¹*SUNY-Buffalo, Amherst, NY*; ²*New York State Center of Excellence in Bioinformat, Buffalo, NY*
- ThOE pm 3:50 **Bi-specific Antibodies and Antibody Mixtures Characterized by Native Mass Spectrometry**; Natalie J. Thompson¹; Sara Rosati¹; Linda J.A. Hendriks²; Thomas Mueller-Spaeth³; John de Kruijff²; Mark Throsby²; Esther Van Duijn¹; Albert J.R. Heck¹; ¹*Utrecht University, Utrecht, Netherlands*; ²*Merus BV, Utrecht, Netherlands*; ³*ChromaCon AG, Zurich, Switzerland*



THURSDAY AFTERNOON ORAL SESSIONS

ThOE pm 4:10 **Characterization of Antibodies and Immuno-Conjugates by a Novel High Resolution Quadrupole Time-of-Flight Mass Spectrometer;** Asish Chakraborty¹; St John Skilton¹; Steven D Pringle²; Nick Tomczyk²; Gareth Booth²; Weibin Chen¹; ¹*Waters Corporation, Milford, MA*; ²*Waters MS Technologies, Manchester, UK*

2:30 – 4:30 PM, THURSDAY AFTERNOON ION MANIPULATION, ANALYSIS AND DETECTION: NEW DEVELOPMENTS

Glen Jackson, presiding
Room 220-222

ThOF pm 2:30 **Simulation of Transient Rarefied Gas Expansion for Discontinuous Atmospheric Pressure Interface (DAPI) Using Direct Simulation MonteCarlo (DSMC);** Sandilya Garimella; Wei Xu; Zheng Ouyang; *Purdue University, West Lafayette, IN*

ThOF pm 2:50 **Using Metal Complex Ion-Molecule Reactions in a Miniature Rectilinear Ion Trap Mass Spectrometer to Detect Chemical Warfare Agents;** Adam M Graichen; Richard Vachet; *University of Massachusetts, Amherst, MA*

ThOF pm 3:10 **A Differentially Pumped Dual Linear Quadrupole Ion Trap Mass Spectrometer: An MSⁿ Instrument Capable of Clean Experiments;** Benjamin Owen¹; Jae C. Schwartz²; Tiffany Jarrell¹; Rob Oglesbee¹; Mark Carlsen¹; Hilkka Kenttamaa¹; ¹*Purdue University, West Lafayette, IN*; ²*Thermo Fisher Scientific, San Jose, CA*

ThOF pm 3:30 **Isolating multiple MS² Fragments using Waveforms with Multiple Frequency Notches Improves MS³ Sensitivity ~8 fold over Standard MS³-based TMT Methods;** Graeme McAlister¹; Mark Jedrychowski²; Yonghao Yu¹; Lily Ting¹; Edward L. Huttlin¹; Ramin Rad¹; Wilhelm Haas¹; Steven Gygi¹; ¹*Harvard Medical School, Boston, MA*; ²*HMS Cell Biology, Boston, MA*

ThOF pm 3:50 **Diazonium Conjugation of UV Chromophores to Tyrosine Residues for Targeted Proteomics;** Lisa A Vasicek²; Julia Aponte³; Jennifer Brodbelt¹; ¹*The University of Texas, Austin, TX*; ²*University of Texas, Austin, TX*; ³*University of Texas Austin, Austin, TX*

ThOF pm 4:10 **Super-resolution Mass Spectrometry: Method Development and Applications;** Yury O. Tsybin; Ünige A. Laskay; Luca Fornelli; Konstantin O. Zhurov; Saša M. Miladinović; Anton N. Kozhinov; *Ecole Polytechnique Fédérale de Lausanne, Lausanne, Switzerland*

2:30 – 4:30 PM, THURSDAY AFTERNOON ION MOBILITY: APPLICATIONS

Matt Bush, presiding
Room 301-305

ThOG pm 2:30 **Advanced Structural Mass Spectrometry for the Analysis of Complex Biological Systems: Unraveling Dynamic Biology;** John A. Mclean; *Vanderbilt University, Nashville, TN*

ThOG pm 2:50 **Utilizing High Throughput LC-IMS-QTOF MS Separations to Increase Proteome Coverage for Complex Biological and Environmental Samples;** Erin Baker; Kristin Burnum; Yehia Ibrahim; Daniel Orton; William F. Danielson; Matthew Monroe; Kevin Crowell; Gordon Slys; Jon Jacobs; Marina Gritsenko; Brian Anderson; Kim Hixson; Carrie D

Nicora; Ron Moore; Mary Lipton; Gordon Anderson; Richard D. Smith; *Pacific Northwest National Laboratory, Richland, WA*

ThOG pm 3:10 **Liquid Chromatography-Ion Mobility-Mass Spectrometry Investigation of the Role of Cyanamide in Peptide Synthesis in Samples from the Original Miller-Urey Experiment;** Facundo M. Fernandez¹; Manshui Zhou¹; H. James Cleaves¹; Jeffrey L. Bada²; ¹*Georgia Institute of Technology, Atlanta, GA*; ²*Scripps Institution of Oceanography, UCSD, La Jolla, CA*

ThOG pm 3:30 **Ion Mobility-Mass Spectrometry Reveals Interactions between Amyloid β Peptides, their Oligomers, and Opioid Neuropeptides;** Molly Soper¹; Suk-Joon Hyung¹; Mi Hee Lim^{1,2}; Brandon Ruotolo¹; ¹*University Of Michigan, Department of Chemistry, Ann Arbor, MI*; ²*University Of Michigan, Life Science Institute, Ann Arbor, MI*

ThOG pm 3:50 **Investigating the Macro- and Micro-structure of Intact Heterogeneous Protein Complexes by Means of Ion Mobility Mass Spectrometry;** Gillian R. Hilton¹; Andrew J. Baldwin²; Hadi Lioe³; Gemma Gargent⁴; Javier Velazquez-Muriel⁵; Lewis E Kay²; Andrej Sal⁶; Helen R. Saibil⁴; Nicholas Keep⁴; Carol Robinson¹; Justin Benesch¹; ¹*University of Oxford, Oxford, UK*; ²*University of Toronto, Toronto, Canada*; ³*University of Melbourne, Parkville, Australia*; ⁴*Birbeck College London, London, UK*; ⁵*University of California San Francisco, San Francisco, CA*

ThOG pm 4:10 **Mobility Experiments Show that Bacterial Spores Remain Viable after Electrospray Charging and Desolvation;** Sara Pratt; Daniel Austin; *Brigham Young University, Provo, UT*

2:30 – 4:30 PM, THURSDAY AFTERNOON PTMS: ADVANCES IN ISOLATION, DERIVATIZATION AND SEPARATION

David Speicher, presiding
Exhibit Hall A

ThOH pm 2:30 **First Large-Scale Proteomic Analysis of Arginine Methylation in Primary Murine Tissues and Human Cultured Cancer Cells;** Mark P. Jedrychowski¹; Ailan Guo²; Edward L. Huttlin¹; Jing Zhou²; Daniel Mulhern²; Stefan H. Willems¹; Sean A Beausoleil²; Michael Comb²; Steven Gygi¹; ¹*Harvard Medical School, Boston, MA*; ²*Cell Signaling Technology, Danvers, MA*

ThOH pm 2:50 **Quantitative and Qualitative Evaluation of Various Enrichment Methodologies for PostTranslational Modification Analysis by Mass Spectrometry;** J. Will Thompson¹; Brenna Richardson¹; Erik J. Soderblom¹; Charles Farnsworth²; Jeffrey Silva²; Arthur Moseley¹; ¹*Duke University School of Medicine, Durham, NC*; ²*Cell Signaling Technology, Danvers, MA*

ThOH pm 3:10 **Profiling of Protein Ubiquitination Following Cardiac Ischemia Preconditioning and Ischemia Reperfusion Injury;** Stephen Swatkoski; Tiffany Nguyen; Elizabeth Murphy; Marjan Gucek; *NHLBI/NIH, Bethesda, MD*

ThOH pm 3:30 **A Protein Post-translational Modification Systems Approach to Study Signaling during Myocardial Ischemia/Reperfusion and Cardioprotection: O-linked N-acetylglucosamine, Phosphorylation and Lysine Acetylation;** Benjamin L. Parker¹; Giuseppe Palmisano²; Kasper



Engholm-Keller²; Brett D. Hambly¹; Martin R. Larsen²; Stuart J. Cordwell¹; ¹*School of Medical Science The University of Sydney, Sydney, Australia*; ²*University of Southern Denmark, Odense, Denmark*

ThOH pm 3:50 **Comprehensive Characterization and Quantitation of Hyper-Modified Histone “PTM Isoforms” and Their Dynamic Changes in Response to DNA Damage**; Nicolas L. Young¹; Peter A. Dimaggio²; Benjamin Garcia¹; ¹*Princeton University, Princeton, NJ*; ²*Imperial College, London, England*

ThOH pm 4:10 **Unbiased selective Isolation of Protein N-terminal peptides from Complex Proteome Samples using Phospho Tagging (PTAG) and TiO₂-based depletion**; Geert P.M. Mommen^{1,2}; Bas van de Waterbeemd¹; Hugo Meiring D. ¹; Gideon Kersten¹; Albert J.R. Heck²; Ad P.J.M. de Jong¹; ¹*RIVM, Bilthoven, Netherlands*; ²*Utrecht University, Utrecht, Netherlands*

4:45 - 5:30 PM, THURSDAY AFTERNOON
PLENARY SESSION
Susan T. Weintraub, presiding
Exhibit Hall A



Plenary Lecture

The Secret Life of Food

Shirley O. Corriher

Food scientist, TV personality, author and columnist

5:45 - 9:00 PM, THURSDAY EVENING
Let's Celebrate
CONFERENCE FINALE (ticket required)
Buffet, cash bar and “Soul Train”
Ballroom





MONDAY POSTERS

7:30-8:00 am Set up all Monday posters
 10:30 am-1:00 pm Odd-numbered posters present
 12:00-2:30 pm Even-numbered posters present
 7:30-8:00 pm Remove all Monday posters

Quantitative Proteomics: SRM/MRM.....	001 - 030
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Elemental Analysis.....	730 - 739
Ion Activation/Dissociation.....	740 - 748
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SPECIAL POSTERS will be displayed all week

Special 1 **Historical Developments in Tandem Mass Spectrometry;** Michael A. Grayson; *Retired, St Charles, MO*

Special 2 **ABRF-sPRG 2011-2012 Study: Development and Characterization of a Comprehensive Standard for Analysis of Post-translational Modifications;** Alexander R. Ivanov¹; Christopher Colangelo²; Craig Dufresne³; David B. Friedman⁴; Kathryn S Lilley⁵; Karl Mechtler⁶; Brett Phinney⁷; Kristie L. Rose⁴; Paul Rudnick⁸; Brian C. Searle⁹; Scott A. Shaffer¹⁰; Susan T. Weintraub¹¹; ¹*Barnett Inst., Northeastern University, Boston, MA*; ²*Yale University, New Haven, CT*; ³*Thermo Fisher Scientific, West Palm Beach, FL*; ⁴*Vanderbilt University School of Medicine, Nashville, TN*; ⁵*University of Cambridge, Cambridge, UK*; ⁶*IMP Research Institute of Molecular Pathology, Vienna, Austria*; ⁷*University of CA, Davis, Davis, CA*; ⁸*NIST, Gaithersburg, MD*; ⁹*Proteome Software Inc., Portland, OR*; ¹⁰*University of Massachusetts Medical School, Worcester, MA*; ¹¹*Univ. of Texas HSC, San Antonio, TX*

Special 3 **The AnIML Mass Spectrometry Technique Definition, an Example Including AnIML Hybrids and AnIML Evolution;** Mark Bean¹; Burkhard Schaefer²; Maren Fiege³; Gary Kramer⁴; ¹*GlaxoSmithKline, Collegeville, PA*; ²*BSSN Software, Mainz, Germany*; ³*Waters GmbH, Frechen, Germany*; ⁴*National Institute of Standards and Technology, Gaithersburg, MD*

Special 4 **Analytical Information Markup Language (AnIML); A New XML Standard for Analytical Chemistry;** Burkhard Schaefer²; Mark Bean¹; Maren Fiege³; Gary Kramer⁴; ¹*GlaxoSmithKline, Collegeville, PA*; ²*BSSN Software, Mainz, Germany*; ³*Waters GmbH, Frechen, Germany*; ⁴*National Institute of Standards and Technology, Gaithersburg, MD*

Special 5 **Arthur J. Dempster: America's First Mass Spectrometrists;** Michael A. Grayson; *Retired, St Charles, MO*

Special 6 **Historical Review of Developments in Combined Gas Chromatography-Mass Spectrometry;** Michael A. Grayson; *Retired, St Charles, MO*

QUANTITATIVE PROTEOMICS: SRM/MRM, 001 - 030

MP 001 **Comparison of SRM- and MS3-based Absolute Quantification of the Cohesin Complex from Cell Lysate;** Nikolai Mischerikow; Michael Schutzbier;

Jan-Michael Peters; Karl Mechtler; *IMP/IMBA Vienna, Vienna, Austria*

MP 002 **Quantitation of Insulin-like Growth Factor-1 in Dried Blood Spots for Detection of Growth Hormone Abuse in Sport;** Holly Cox; Jessica Rampton; Daniel Eichner; *Sports Medicine Research and Testing Laboratory, Salt Lake City, UT*

MP 003 **Development and Validation of a Multiplex LC-MS/MS Strategy for the Quantitation of Plant-Expressed Proteins;** Trent Oman; Barry Schafer; Jeffrey Gilbert; John Lawry; Debbie Schwedler; Brian Wendelburg; *Dow AgroSciences, Indianapolis, IN*

MP 004 **Reversing the Curve: Determining LOD in the Presence of Endogenous Signal using SID-MRM-MS;** Eric Kuhn; Jennifer Ross; Susan E. Abbatiello; D. R. Mani; Steven A. Carr; *Broad Institute, Cambridge, MA*

MP 005 **A Multi-Site Evaluation of Highly-Multiplexed SID-MRM-MS: Stress-Testing the System;** Susan E. Abbatiello¹; Birgit Schilling²; Lisa Zimmerman³; D. R. Mani¹; Brendan Maclean⁴; Corbin A. Whitwell³; Steven C. Hall⁵; CPTAC Consortium⁶; Steven A. Carr¹; ¹*The Broad Institute of MIT and Harvard, Cambridge, MA*; ²*Buck Institute for Research on Aging, Novato, CA*; ³*Vanderbilt University, Nashville, TN*; ⁴*Univ of Washington, Seattle, WA*; ⁵*UCSF Sandler-Moore Mass Spectrometry Core Facility, San Francisco, CA*; ⁶*National Cancer Institute, Bethesda, MD*

MP 006 **Quantitative Analysis of Age-dependent Production of C-terminally Truncated αA-crystallin Species in Non-cataractous Wistar and Cataractous ICR/f Rats;** Landon Wilson¹; Kyle Floyd¹; David Anderson²; Kevin L. Schey²; Om Srivastava¹; Stephen Barnes¹; ¹*University of Alabama at Birmingham, Birmingham, AL*; ²*Vanderbilt University, Nashville, TN*

MP 007 **Application of Targeted Proteomics to Metabolically Engineered Pathways in *Escherichia coli*;** Pragya Singh¹; Tanveer S. Batth¹; Darmawi Juminaga¹; Robert H. Dahl²; Hong Ji³; Stephen Del Cardayre³; Jay D. Keasling⁴; Paul D. Adams¹; Christopher J. Petzold¹; ¹*Lawrence Berkeley Nat. Lab., Emeryville, CA*; ²*Amyris, Inc., Emeryville, CA*; ³*LS9, Inc., South San Francisco, CA*; ⁴*University of California, Berkeley, CA*



- MP 008 **Localization and Expression of G Protein Isoforms in Mouse Brain using Multiple Reaction Monitoring Mass Spectrometry**; David B. Friedman; Katherine Betke; Sarah Stuart; Kristie Lindsey Rose; W. Hayes McDonald; Heidi Hamm; *Vanderbilt University School of Medicine, Nashville, TN*
- MP 009 **An Integrated Proteomics Workflow for Shotgun and Stable-Isotope-Dilution MS for Quantitative Analysis of Whole-Genome-Sequenced Human-in-Mouse Breast Cancer Subtypes**; Jeanne Rumsey¹; Petra Erdmann-Gilmore¹; Alan Davis¹; Cheryl Lichti¹; Robert Kitchens¹; Steven Johnson¹; Jeremy Hoog¹; Shunqiang Li¹; Sherri Davies¹; Matthew Ellis¹; David Fenyo²; R. Reid Townsend¹; ¹Washington University, St. Louis, MO; ²New York University, New York, NY
- MP 010 **Absolute Quantification of Prion Protein (90-231) using Stable Isotope-Labeled Chymotryptic Peptide Standards in a LC-MRM AQUA Workflow**; Rob Sturm; Gloria Kreitinger; Clarissa Booth; Lloyd Smith; Joel Pedersen; Lingjun Li; *University of Wisconsin-Madison, Madison, WI*
- MP 011 **Translating Proteomics Methods from Discovery to MRM-based Quantitation**; Yanan Yang; Caroline S. Chu; Christine Miller; *Agilent Technologies, Santa Clara, CA*
- MP 012 **Comparison of Quantitative Data from Q-ToF and Triple Quadrupole LC/MS for the Quantification of Membrane Proteins for Vaccine Bioprocess Support**; John Loughney¹; Pavlo Pristatsky¹; John Mehl²; Jing Lin¹; Lance Dieter¹; Van Hoang¹; ¹Merck, West Point, PA; ²Bristol Myers Squibb, Princeton, NJ
- MP 013 **Targeted Proteomics to Study Replicative Aging in Yeast**; J.C. Wolters; H.P. Permentier; R. Bischoff; *University Groningen, Groningen, Netherlands*
- MP 014 **Absolute Quantification of Synaptic Vesicle and Active Zone Proteins during Synaptic Vesicle Docking**; Dominika Czernik; Janina Boyken; Reinhard Jahn; Henning Urlaub; *Max-Planck-Institute for Biophysical Chemistry, Goettingen, Germany*
- MP 015 **Immunoprecipitated Proteins as New References for Accurate Protein Quantification by MRM: Application to Cyclin Monitoring Throughout the Cell Cycle**; Timo Glatzer; Conrad von Schubert; Alexander Schmidt; *Biozentrum, University of Basel, Basel, Switzerland*
- MP 016 **Protein Quantitation in Industrial Microbial Processes**; Barbara S. Larsen; Andrew Eliot; Shawn Gannon; Timothy Snow; *The DuPont Company, Wilmington, DE*
- MP 017 **Use of Two Proteomic Standards to Evaluate Column, Ionization Source, and Flow Rate for Optimizing an MRM LC-MS Platform**; Melissa R. Radabaugh; James J. Walters; Gordon R. Nicol; *Sigma Aldrich, St. Louis, MO*
- MP 018 **Insertion of Glycine as an Alternative for Isotopic Labelling for Selected Reaction Monitoring Quantification of Proteins and Peptides in Biofluids**; Marcel Stoop¹; Linda IJsselstijn¹; Evert van Dijk²; Theo Luider¹; Lennard Dekker¹; ¹Erasmus MC, Rotterdam, the Netherlands; ²Pepscan, Lelystad, the Netherlands
- MP 019 **Method using SRM for Targeted Proteomics Studies of Nasal Lavage Fluid**; Harriet Mörtstedt; Monica H. Kåredal; Bo A.G. Jönsson; Christian Lindh; *Occupational and Environmental Medicine, Lund, Sweden*
- MP 020 **Improving SRM Assay Development: A Global Comparison between Triple Quadrupole, Ion Trap, and Higher Energy CID Peptide Fragmentation Spectra**; Erik De Graaf; A.F. Maarten Altelaar; Bas van Breukelen; Shabaz Mohammed; Albert J.R. Heck; *Utrecht University, Utrecht, Netherlands*
- MP 021 **MIMSL: An MRM Inspired MS/MS Lookup App for Validation of Qualitative Discovery and Targeted Quantitation in Proteomics**; Wen Yu; Hugh A. Rand; Mike Davis; Christopher Farnsworth; Paul L Auger Jr; Andrew A Welcher; *Amgen, Inc., Thousand Oaks, CA*
- MP 022 **An MS/MS and MRM Exploration into the Protein Expression, Post-Translational Modification and Protein Interactions of heterozygous FoxL2 C134W**; Annie Moradian¹; Michael J. McLean²; Grace SW. Cheng¹; David G. Huntsman³; Gregg B. Morin^{1,4}; ¹Genome Sciences Centre, BC Cancer Agency, Vancouver, BC; ²Dept. of Biochemistry University of Victoria, Victoria, BC; ³Centre for Translational and Applied Genomics, Vancouver, BC; ⁴Dept. of Medical Genetics University of BC, Vancouver, BC
- MP 023 **Development and Application of a Targeted Proteomic Assay for the Assessment of Active Small GTPase Isoforms**; Chengcheng Zhang; Shujun Lin; Jane O'Hara; Juergen Kast; *University of British Columbia, Vancouver, Canada*
- MP 024 **Proteomic Discovery and Validation on a Single MS Platform using a PACIFIC Directed Pseudo-SRM**; Young Ah Goo; Jimmy Eng; David Goodlett; *University of Washington, Seattle, WA*
- MP 025 **Serial-MRM Strategies for Multiplexed Data Independent Mining of Protein Isoforms**; John Lawry; *Dow Agrosciences, Indianapolis, IN*
- MP 026 **High-throughput Generation of Selected Reaction Monitoring Assays for Complete Proteomes by SWATH MS**; Mennat Ahmed¹; Martin Soste¹; Pedro Navarro²; Stephen Tate³; Lukas Reiter⁴; Oliver M. Bernhardt⁴; Nathalie Selevsek²; Ron Bonner³; Ruedi Aebersold²; Paola Picotti¹; ¹Institute of Biochemistry, Zuerich, Switzerland; ²Institute of Mol. Systems Biology, ETH Zuerich, Zuerich, CH; ³ABSciex, Concord, Toronto, Canada; ⁴Biognosys, Zuerich, CH
- MP 027 **Development of Targeted Proteome Assays**; Christopher Colangelo¹; Thomas Abbott¹; Mark Shifman¹; Gordana Ivosev²; Lisa Chung¹; Fumika Sakae¹; David Cox²; Stephen A Tate²; Ron Bonner²; Angus Nairn¹; Jesse Rinehart¹; Kenneth Williams¹; ¹Yale University, New Haven, CT; ²AB Sciex, Concord, ON
- MP 028 **Challenges Associated with the Bioanalytical Method Development of the Glucagon by LC-MS in a Regulated Environment**; Jean-Nicholas Mess; Richard Lavallée; Daniel Villeneuve; Fabio Garofolo; *Algorithme Pharma Inc., Laval, Canada*
- MP 029 **Quantification of Targeted Neuropeptides by LC-MS/MS in a Rat Model of Osteoarthritis Pain**; Floriane Pailleux; Catherine Ferland; Pascal Vachon; Francis Beaudry; *Université de Montréal, St-Hyacinthe, Canada*
- MP 030 **Improving Intact Protein and Peptide Detection by Combining Differential Mobility and Atmospheric Proton Transfer Reaction**; Tanya Gamble; J. Larry Campbell; J.C. Yves Leblanc; *AB SCIEX, Concord, On, Canada*
- PROTEOMICS: PLASMA, 031 - 041**
- MP 031 **Standard Flow and Nanoflow LC-MRM/MS Platform Comparison for Quantitating Cardiovascular Disease-related Plasma Proteins**; Andrew Percy; Andrew Chambers; Juncong Yang; Dominik Domanski; Christoph Borchers; *UVic - Genome BC Proteomics Centre, Victoria, BC*



- MP 032 **Proteomics and Transfusion Medicine: Identification and Quantification of Chemical Modifications Induced by Pathogen Inactivation Treatments and Their Impact on Fibrinogen**; Alexia Ortiz¹; Fabrice Bray¹; Christine Defer²; Dominique Dernis²; Jean-Jacques Huart²; Caroline Tokarski¹; Christian Rolando¹; ¹Université de Lille 1, Sciences et Technologies, Villeneuve d'Ascq, France; ²Etablissement Français du Sang Nord-de-France, Lille, France
- MP 033 **Quantitative Proteomics to Understand Changes in Plasma from Patients with Severe Sepsis**; Zhiyin Cao; Sachin Yende; John A. Kellum; Rena A. S. Robinson; University of Pittsburgh, Pittsburgh, PA
- MP 034 **Identification of Protein Biomarkers as Diagnostic Targets for Invasive Aspergillosis**; Chengsi Huang¹; Jason McCarthy²; Marta Feldmesser²; Vicki H. Wysocki¹; ¹University of Arizona, Tucson, AZ; ²Albert Einstein College of Medicine, Bronx, NY
- MP 035 **Credentialing Plasma and Serum Biospecimen Banks for Proteomics Analyses**; Maria Hassis; Matthew Albertolle; Jennifer Adibi; Richard Niles; Miles Braten; Katherine Williams; UCSF, San Francisco, CA
- MP 036 **Multiplexed MRM Assay for Protein Biomarker Discovery in Human Plasma**; Derek Smith; Andrew Chambers; Juncong Yang; Dominik Domanski; Christoph Borchers; UVic-GBC Proteomics Centre, Victoria, BC
- MP 037 **Quantitative Proteomic Analyses of Serum from Autoimmune Patients**; Leesa Deterding; Jeffrey F. Kuhn; Olivier Lardinois; Shyama Peddada; Frederick Miller; Kenneth B. Tomer; NIEHS, Rtp, NC
- MP 038 **Phenotype Profiling by Label-Free Proteomics Analysis of Blood Plasma Predicts Progression of Alzheimer's Disease**; Hongqian Yang¹; Yaroslav Lyutvinskiy²; Hilikka Soininen³; Roman Zubarev⁴; ¹Karolinska Institutet, Stockholm, Sweden; ²Karolinska Institutet, MBB, Stockholm, Sweden; ³University of Eastern Finland, Kuopio, Finland; ⁴Karolinska Institute, Stockholm, Sweden
- MP 039 **A Quantitative Label-free Differential Proteomics Study of Methods for High-Abundance Protein Depletion from Monkey Plasma for Biomarker Discovery**; Hua Lin; Thomas, A. Shaler; Sophia Chen; Robert Balog; Polly Y. Chang; David E. Cooper; SRI International, Menlo Park, CA
- MP 040 **Proteomic Profiling of Fractionated Post-myocardial Infarction Plasma Identifies MMP-9 Dependent Markers**; Lisandra De Castro Brás^{1,2}; Kristine DeLeon^{1,2}; Qiuxia Dai^{1,2}; Yonggang Ma^{1,2}; Ganesh Halade^{1,2}; Kevin Hakala^{1,2}; Susan T. Weintraub^{1,2}; Merry Lindsey^{1,2}; ¹San Antonio Cardiovascular Proteomics Center, San Antonio, TX; ²UT Health Science Center at San Antonio, San Antonio, TX
- MP 041 **Non-depleted Plasma Proteome Analysis Using High Scan Speed Q-TOF Mass Spectrometer for Biomarker Discovery and Validation**; Jin Young Kim¹; Byung-Hee Shin²; Jason Neo³; Justin Lim³; Ju Yeon Lee¹; Hye Kyeong Min¹; Hye-Jin Sung⁴; Je-Yoel Cho⁴; Jong Shin Yoo¹; ¹Korea Basic Science Institute, Chungbuk, South Korea; ²AB SCIEX Korea, Seoul, South Korea; ³AB SCIEX, Singapore, Singapore; ⁴Seoul National University, Seoul, South Korea
- MP 042 **Proteomic Analyses of FFPE Colorectal Tumors by Electrospray Ionization (LC-ESI): Advancing Strategies in Extraction Methodologies**; Michael Syring¹; Matt Rosenow¹; Linda Nagore³; Ashoka D. Polpitiya¹; Svetlana Todorova¹; Aprill Watanabe¹; Scott Jewell²; Galen Hostetter²; Konstantinos Petritis¹; ¹Translational Genomics Research Institute, Phoenix, AZ; ²Van Andel Institute, Grand Rapids, MI; ³University of Texas at San Antonio, Helotes, TX
- MP 043 **Uncovering ex-vivo Degradation by ¹⁸O labeling - An Assessment Dependent to Sample Treatment and Stabilization Methods**; Christoph Stingl¹; Marcus Söderquist³; Mats Borén³; Jacques J. Bergman²; Theo M. Luider¹; ¹Erasmus Medical Center, Rotterdam, Netherlands; ²Academic Medical Center, Amsterdam, The Netherlands; ³Denator AB, Uppsala, Sweden
- MP 044 **Proteomic Analysis of Decellularized Tissue to Better Understand Scaffolds for Tissue Engineering and Replacement**; Brian L. Frey; Gisele Oliveira; Zhen Chang; Qi Yao Li; Nathan V. Welham; Lloyd M. Smith; University of Wisconsin-Madison, Madison, WI
- MP 045 **Comparison of Slide, Scroll, and Core Punch Sampling of Formalin-Fixed Paraffin Embedded Tissues for nanoLC-MS/MS Proteomic Analysis**; Anna Okumu; Chris Adams; Allis Chien; Stanford University, Stanford, CA
- MP 046 **A New Single-Use Device for Small (<10 mg) Tissue Sample Cryostabilization, Storage, Cryofracture, Homogenization, and Protein Extraction in Detergent-Free Buffers**; David Green¹; Gary Smejkal²; Ion Tsinteris²; Edwin Rudd²; William Skea²; John-David Herlihy²; Hamid Khoja²; James Laugham²; ¹Biotechnology Consulting Assoc., Fitzwilliam, NH; ²Covaris, Inc., Woburn, MA
- MP 047 **Comparative Cell-surface Membranomics of Cell Lines and Tissue**; Axel Ducret; Sabine Kux van Geijtenbeek; Sandrine Simon; Daniel Röder; Paul Cutler; F. Hoffmann-La Roche Ltd, Basel, Switzerland
- MP 048 **Analysis of Glycoprotein Expression in Pancreatic Cancer Tissues**; Evelyn Kim; Vladimir Galchev; David Misek; University of Michigan, Ann Arbor, MI
- MP 049 **Regulation of Insulin on Global Phosphorylation of Human Skeletal Muscle Revealed by Phosphoproteomics**; Jian-Ying Zhou¹; Marina A. Gritsenko¹; Therese R.W. Clauss¹; Xiangmin Zhang²; Morgan Zingsheim³; Danjun Ma²; Michael Caruso²; Richard D. Smith¹; Wei-Jun Qian¹; Zhengping Yi^{2,3}; ¹Pacific Northwest National Laboratory, Richland, WA; ²Wayne State University, Detroit, MI; ³Arizona State University, Tempe, AZ
- MP 050 **Global Analysis of Lysine Acetylation Sites in 16 Rat Tissues Reveals Organ Specificity and Subcellular Patterns**; Alicia Lundby¹; Kasper Lage¹; Dorte B. Bekker-Jensen¹; Anna Secher¹; Tine Skovgaard¹; Anatoliy Dmytriiev¹; Carsten Lundby²; Jesper V. Olsen¹; ¹NNF Center for Protein Research, Copenhagen, Denmark; ²University of Zürich, Zürich, Switzerland
- MP 051 **Enhanced Identification of Phosphopeptides by Peptide Dimethylation Coupled with Titanix Chromatography**; Masaki Wakabayashi; Yasushi Ishihama; Kyoto University, Kyoto, Japan
- MP 052 **Characterization of Prostate Specific Antigen in Prostate Tissue by Multiple Reaction Monitoring**; Akos Vegvari; Melinda Rezeli; Thomas Laruell; György Marko-Varga; Lund University, Lund, Sweden
- MP 053 **Evaluating Multiple Label-Free Quantitative Proteomic Platforms: A Case Study of Basal versus Luminal Human Breast Cancer Tumor Xenografts in Mouse**; Harsha P. Gunawardena¹; David Fenyó³; Sherri Davis²; Elaine Mardis²; Jeanne Rumsey²; Petra Erdmann-Gilmore²;

PROTEOMICS: TISSUE, 042 - 073



- Shun Li²; Yanbao Yu¹; Jainab Khatun⁴; John Wrobel⁴; Brian Risk⁴; Morgan Giddings⁴; Matthew J. Ellis²; R. Reid Townsend²; Xian Chen¹; ¹University of North Carolina at Chapel Hill, Chapel Hill, NC; ²Washington University, St. Louis, MO; ³New York University, New York, NY; ⁴Boise State University, Boise, ID
- MP 054 **Novel Regenerative Pathways in Multiple Sclerosis: A Quantitative Proteomic Analysis of Human Formalin-fixed Tissue**; Linda Ly; Ben Crossett; Twishi Gulati; Michael Barnett; University of Sydney, Sydney, Australia
- MP 055 **A Proteomic Approach for the Identification of Differentially Expressed Hepatic Proteins in Rats Fed Casein or Soy Proteins**; Dorcas Weber¹; Carla M Wood²; Chaowu Xiao^{2,3}; ¹Food Research Division, Health Canada, Ottawa, Canada; ²Nutrition Research Division, Health Canada, Ottawa, Canada; ³University of Ottawa, Ottawa, Canada
- MP 056 **Label-free Quantitative Expression Profiling of Liver Proteins from Fathead Minnows Field-Exposed to Waste Water Treatment Plant Effluent**; Erik J. Soderblom¹; Kim Ralston-Hooper²; Meredith E. Turner¹; M. Arthur Moseley¹; P. Lee Ferguson²; ¹Duke University School of Medicine Proteomics Core, Durham, NC; ²Duke University Civil & Environmental Engineering, Durham, NC
- MP 057 **iTRAQ-based Quantitative Proteomic Analysis of Retina Tissue in a Myopia Mouse Model after Atropine Treatment**; Lei Zhou^{1,2}; Amutha Barathi¹; Siew Kwan Koh¹; Roger W Beuerman^{1,2}; ¹Singapore Eye Research Institute, Singapore, Singapore; ²National University of Singapore, Singapore, Singapore
- MP 058 **Organ-centric LC/MS^E Proteomics using Spleen Tissue from a Mouse Model of Gaucher Disease**; Paul J Trim; Marten Snel; Maria Fuller; Lysosomal Diseases Research Unit, SA Pathology, North Adelaide, Australia
- MP 059 **Mobility Assisted Data Independent Label-Free LC-MS Analysis of Citrobacter rodentium Infected Mouse Colon**; Chris Hughes¹; Johannes Pc Vissers¹; James Collins²; Gad Frankel²; ¹Waters, Manchester, UK; ²Imperial College, London, UK
- MP 060 **Proteomic Profiling of Primary Human Mature Adipocytes (MA) Stromal Vascular Fraction (SVF) Cells using nanoLC-MALDI-MS/MS**; Hicham Benabdelkamel¹; Assim Alfadda^{1,2}; Afshan Masood¹; Reem Sallam^{1,3}; Mark Duncan^{1,4}; ¹Obesity Research Center, King Saud University, Riyadh, Saudi Arabia; ²Department of Medicine, King Saud University, Riyadh, Saudi Arabia; ³Department of Pathology, King Saud University, Riyadh, Saudi Arabia; ⁴Dept. of Medicine, University of Colorado Denver, Aurora, CO
- MP 061 **Proteomic Analysis of Age-Related Proteins in Mature Adipocytes Derived from Adipose Tissue of Obese Human Subjects**; Assim Alfadda^{1,2}; Hicham Benabdelkamel¹; Amr Moustafa^{1,3}; Abdulelah Bassas⁴; Mark Duncan^{1,5}; ¹Obesity Research Center, King Saud University, Riyadh, Saudi Arabia; ²Department of Medicine, King Saud University, Riyadh, Saudi Arabia; ³Department of Pathology, King Saud University, Riyadh, Saudi Arabia; ⁴Department of Surgery, Security Forces Hospital, Riyadh, Saudi Arabia; ⁵Dept. of Medicine, University of Colorado Denver, Aurora, CO
- MP 062 **Alternative Liquid Chromatography Tandem Mass Spectrometry Approaches for Proteome Analysis of Complete Adipose Tissue**; Tatjana Sajic; Ildiko Szanto; Gérard Hopfgartner; Emmanuel Varesio; University of Geneva, Geneva, Switzerland
- MP 063 **Proteomics Provides Mechanistic Insights into Ecophysiological Theories**; Marine Plumel; Danièle Thiersé; Alain Van Dorsselaer; François Criscuolo; Fabrice Bertile; Uds-CNRS, IPHC, UMR7178, Strasbourg, France
- MP 064 **Identification of Low-abundant Olfactory Cilia Membrane Proteins by In-depth Proteomics Analysis**; Astrid Tschapek¹; Heike Piechura³; Stefan Lorch¹; Michael Kohl¹; Christian Stephan¹; Helmut E. Meyer¹; Eva M. Neuhaus⁴; Hanns Hatt²; Bettina Warscheid³; Katja Kuhlmann¹; ¹MPC, Ruhr-Universität, Bochum, Germany; ²Ruhr-Universität, Bochum, Germany; ³Universität Freiburg, Freiburg, Germany; ⁴Charité Berlin, Berlin, Germany
- MP 065 **Identification and Quantification of Synaptic Proteins Immunoprecipitated from Human Brain Tissue**; Ann Brinkmalm¹; Gunnar Brinkmalm¹; Henrik Zetterberg¹; Rita Persson¹; Johan Gobom¹; Josef Panneel¹; Erik Portelius¹; Jenny Ho³; Martin Hornshaw³; Madalina Oppermann²; William G Honer⁴; Kaj Blennow¹; Annika Ohrfelt¹; ¹University of Gothenburg, Molndal, Sweden; ²Thermo Scientific, Kungens Kurva, Sweden; ³Thermo Fisher Scientific, Hemel Hempstead, UK; ⁴University of British Columbia, Vancouver, BC
- MP 066 **Comparative Proteomic Profiling of Purified Dystroglycan Protein Complexes in Wild Type and Dystrophic Murine Muscle**; Jung Yoon; Research Scientist, Columbus, OH
- MP 067 **Targeted Proteomic Profiling of Pancreatic Carcinoma Tissues by Immuno-Laser Capture Microdissection and LC-MS/MS**; Jianhui Zhu; Song Nie; Jintang He; David M. Lubman; University of Michigan Medical Center, Ann Arbor, MI
- MP 068 **Proteomics Analysis of Canine Prostate Carcinoma Tissue a Potential Animal Model of a Human Disease**; Darryl Johnson¹; Peter Sisk¹; Rachel Kopkin¹; Taylor Fields¹; Bruce LeRoy²; Ron Orlando¹; ¹Complex Carbohydrate Research Center, UGA, Athens, GA; ²Abbott Laboratories, Abbott Park, IL
- MP 069 **Proteomic Analysis Provides Insight on the Mechanism of Social Immunity in Honey Bees**; Robert Parker¹; Marta M. Guarna²; Andony Melathopoulos⁵; Kyung-Mee Moon²; Rick White²; Elizabeth Huxter⁴; Stephen F. Pernal³; Leonard J. Foster²; ¹Macquarie University, Sydney, Australia; ²University of British Columbia, Vancouver, Canada; ³Agriculture & Agri-Food Canada, Beaverlodge, Canada; ⁴Kettle Valley Queens, Grand Forks, Canada; ⁵Dalhousie University, Halifax, Canada
- MP 070 **Identification of CD90+ Glioblastoma Stem Cells Using Laser Capture Microdissection and LC-MS/MS**; Jintang He; Jianhui Zhu; Jing Wu; Song Nie; David M. Lubman; University of Michigan, Ann Arbor, MI
- MP 071 **Characterization of Neuropeptides from Single Cells in the Motor Nervous System of *Ascaris suum***; Christopher Konop; Molly Sygulla; Jennifer Knickelbine; Martha M. Vestling; Antony O. Stretton; University of Wisconsin, Madison, WI
- MP 072 **High-resolution nano-LC HILIC-RP Separation Enables In-depth Proteome Analysis of 10,000 FACS-sorted Adult Stem Cells**; Serena Di Palma¹; Houjiang Zhou¹; Daniel Stange²; Marc van de Wetering²; Hans Clevers²; Albert J.R. Heck¹; Shabaz Mohammed¹; ¹Utrecht University, Utrecht, Netherlands; ²Hubrecht Institute, Utrecht, Netherlands
- MP 073 **Quantitative Proteomics and Phosphoproteomics Analyses Reveal Effects of a Botanical Extract from *Artemisia Dracunculus* L. on Insulin Signaling**; Peter Scherp¹; Lauren Kelley²; Yongmei Yu¹; Zhong Wang¹;



William Cefalu¹; Indu Kheterpal¹; ¹Pennington Biomedical Research Center, Baton Rouge, LA; ²Louisiana College, Pineville, LA

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- MP 074 **Onco-proteomics Approach to Identify Novel Protein Variants in Databases Derived from Individual Melanoma Sequenced Genomes;** Patrice Waridel¹; Christian Iseli²; Donata Rimoldi¹; Alexandra Potts¹; Brian J. Stevenson¹; Ioannis Xenarios²; Manfredo Quadroni¹; ¹University of Lausanne, Lausanne, Switzerland; ²Swiss Institute of Bioinformatics, Lausanne, Switzerland
- MP 075 **A Two-dimensional Proteome Reference Map of the Aflatoxigenic Fungus *Aspergillus flavus*;** Olga Pechanova¹; Tibor Pechan¹; Jose Rodriguez¹; Paul Williams²; Ashli Brown¹; ¹Mississippi State University, Mississippi State, MS; ²USDA ARS, Mississippi State, MS
- MP 076 **Identification of *de novo* Protein Synthesis in Primary Neuronal Axons upon Pseudorabies Virus Infection;** Orkide O. Koyuncu¹; Saw Kyin^{1,2}; Henry Shwe^{1,2}; David H. Perlman^{1,2}; Lynn Enquist¹; ¹Dept. of Molecular Biology, Princeton University, Princeton, NJ; ²Princeton MS Center, Princeton University, Princeton, NJ
- MP 077 **Combined Proteomics and Transcriptomics Approaches Reveal the Mechanism of Neurodegeneration in Parkinson's Disease PC12 Model;** Guo Hui Li¹; Zai Jun Zhang²; Shuai Yuan²; Fei Sa²; Zhi Qiang Dong²; Ross K. K. Leung³; Stephen K. W. Tsui³; Herman Lam¹; Simon M. Y. Lee²; Ivan K. Chu¹; ¹The University of Hong Kong, Hong Kong, China; ²University of Macau, Macau, China; ³The Chinese University of Hong Kong, Hong Kong, China
- MP 078 **Proteomic Analysis of Anthrax Lethal Toxin Exposed Murine Macrophages and Human Coronary Artery Endothelial Cells;** Jason S. Sampson¹; Jeffrey F. Kuhn¹; Nicholas P. Fitzgerald²; Allison N. Schorzman³; Kenneth B. Tomer¹; ¹NIH, Raleigh, NC; ²NC State, Raleigh, NC; ³UNC, Chapel Hill, NC
- MP 079 **Mass Spectrometry-based Strategies for Identifying Protein Glutathionylation Research via a Chemo-enzymatic Approach;** Chi-Chi Chou^{1,2}; Bing-Yu Chiang¹; Chun-Hung Lin¹; Kay-Hooi Khoo^{1,2}; ¹Institute of Biological Chemistry, Academia Sinica, Taipei, Taiwan; ²Core Facilities for Protein Structural Analysis, Taipei, Taiwan
- MP 080 **Proteomic Analysis of the Effects of Palmitoylation in *Drosophila* Melanogaster Mutants Individually Lacking the palmitoyl-S-acylthiotransferases, dHLL4 or dHLP14;** Duane T. Mooney; Jing Hao Lim; Gurpreet Singh; Ben Reeves; Jen Vance; Paul Grieco; Steve Stowers; Edward Dratz; Montana State University, Bozeman, MT
- MP 081 **Identification of Sulfenic Acid Modifications in THP-1 Cells using a Modified Biotin-switch Assay;** Ru Li¹; Juergen Kast²; ¹UBC, Vancouver, Canada; ²University of British Columbia, Vancouver, BC
- MP 082 **Analysis of Differentially Expressed Proteins in *Escherichia coli* when Exposed to L-telluromethionine;** Kathleen Broderick; Jeffrey Boles; Sarah Brinkley; Tennessee Tech University, Cookeville, TN
- MP 083 **In-spray Supercharging of Peptides and Proteins in Electrospray Ionization Mass Spectrometry;** Saša M. Miladinović; Yu Lu; Luca Fornelli; Ünige A. Laskay; Hubert H. Girault; Yury O. Tsybin; Ecole Polytechnique Federale de Lausanne, Lausanne, Switzerland
- MP 084 **Improving the Productivity of Proteomics by Advancing Middle-Down Mass Spectrometry;** Ünige A. Laskay;

Luca Fornelli¹; Anton Kozhinov¹; Saša Miladinović¹; Laure Menin¹; Karine Salamin²; Michel Monod²; Yury O. Tsybin¹; ¹Ecole Polytechnique Fédérale de Lausanne, Lausanne, Switzerland; ²Centre Hospitalier Universitaire Vaudois, Lausanne, Switzerland

- MP 085 **High-Throughput Epitope Characterization of Cancer-Related Biomarkers;** Kemmons A Tubbs¹; Eric Niederkofler²; Dobrin Nedelkov²; Urban Kiernan³; ¹Thermo-Fisher Scientific, Tempe, AZ; ²Thermo Fisher Scientific, Tempe, AZ; ³Intrinsic Bioprobes, Inc., Tempe, AZ
- MP 086 **A Proteomics Strategy to Trace Dendrimer Delivery;** Li Yang; Jiayin Shen; Philip Low; Andy Tao; Purdue University, West Lafayette, IN
- MP 087 **Metalloprotein Characterization of the Marine Cyanobacteria: Diving into Marine Microbial Metallomes and the Search for Novel Metalloproteins in the Oceans;** Matthew McIlvin¹; Kevin Waldron²; Dawn Moran¹; Nigel Robinson³; Mak Saito¹; ¹Woods Hole Oceanographic Inst., Woods Hole Ma 02543, MA; ²Newcastle University, Newcastle, UK; ³Durham University, Durham, UK
- MP 088 **An Innovative N-terminomics Strategy: A Targeted Way to Deeply Dig into the Human Mitochondrial Proteome;** Christine Carapito¹; Christine Schaeffer-Reiss¹; Amos Bairoch^{2,3}; Pascale Gaudet³; Lydie Lane^{2,3}; Alain Van Dorsselaer¹; Thierry Rabilloud⁴; ¹IPHC, UoS, CNRS, UMR 7178, Strasbourg, France; ²University of Geneva, Geneva, Switzerland; ³Swiss Institute of Bioinformatics, CALIPHO group, Geneva, Switzerland; ⁴IRTSV/LBBSI, CEA-Grenoble, Grenoble, France
- MP 089 **Selective N-terminal Labeling Based on Differential pK_a-Values of α - and ε-Amino Groups - Novel Affinity Purification Strategy for N-terminal Peptides;** Martin Haar Pedersen; Martin Røssel Larsen; Giuseppe Palmisano; University of Southern Denmark, Odense M, Denmark
- MP 090 **Optimized Fast and Sensitive Acquisition Methods for Shotgun Proteomics on a Quadrupole Orbitrap Mass Spectrometer;** Christian Kelstrup; Clifford Young; Richard Lavalley; Michael Lund Nielsen; Jesper V. Olsen; CPR, University of Copenhagen, Copenhagen N, Denmark
- MP 091 **Towards Predictive Computational Models by Quantitative Phosphorylation Mapping: Ras and PI3K Signaling Pathways;** Laura Edwards; Kevin Blackburn; Kyle Grant; Jason Haugh; Michael Goshe; NC State University, Raleigh, NC
- MP 092 **Identification and Functional Study of Phosphorylated Substrates of Specific Cyclin-cyclin Dependent Kinase Complexes;** Yinyin Li; Frederick Cross; Brian Chait; The Rockefeller University, New York, NY
- MP 093 **Improved Identification of Hair Proteins by Parallel Cysteine Alkylation with 2-bromoethylamine and Iodoacetamide;** Richard A. Eigenheer¹; Robert H. Rice¹; John P. Sundberg²; Brett S. Phinney¹; ¹UC Davis, Davis, CA; ²The Jackson Laboratory, Bar Harbor, ME
- MP 094 **Analysis of the Salivary Proteome in Human Papillomavirus (HPV) Patients;** Isabele Campanhon; Leonardo Gomes; Dennis Ferreira; Lorena Gonçalves; Marcia Soares; UFRJ, Rio De Janeiro, Brazil
- MP 095 **Comparative Proteomic Analysis of Whole Saliva from Chronic Periodontitis Patients;** Lorena Da Rós Gonçalves¹; Marcia Soares¹; Fábio Nogueira¹; Carlos Garcia¹; Danielle Camisasca²; Gilberto Domont¹; Alfredo Feitosa⁴; Denise Pereira³; Russolina Zingali¹; Gilda Alves¹; ¹UFRJ, Rio de Janeiro, Brazil; ²UERJ, Rio de Janeiro, Brazil; ³INCA, Rio de Janeiro, Brazil; ⁴UFES, Vitória, Brazil



- MP 096 **Competitive Protein Adsorption as Observed and Quantified by -Surface Enzymatic Digestion (oSED) and Mass Spectrometry**; Torgny Undin; Jonas Bergquist; Andreas Dahlin; Magnus Wetterhall; *Uppsala University, Uppsala, Sweden*
- MP 097 **Identification of Multiple Forms of Selenoprotein P in a Candidate Human Plasma Standard Reference Material**; Guillaume Ballihaut¹; Lisa E. Kilpatrick²; Eric L. Kilpatrick²; W. Clay Davis¹; ¹NIST-HML, Charleston, SC; ²NIST, Gaithersburg, MD
- MP 098 **Tryptic Digest Reproducibility in Proteomic Workflows: An Easy to Use Test to Monitor Tryptic Sample Preparation**; Lawrence Eckler; *JPT Peptide Technologies, Berlin, Germany*
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- MP 099 **A Direct Comparison of Sample Preparation Formats used for Immunoaffinity-Mass Spectrometry Based Quantification of Protein Biomarkers**; Tara Umberger; Michael Berna; Jennifer Cox; Bradley L. Ackermann; *Eli Lilly and Company, Indianapolis, IN*
- MP 100 **Neuroproteomic Analysis of the Murine Synaptic Density Reveals Novel Mechanisms of Alcohol Addiction**; Scott P. Goulding^{1,2}; Nicholas Shulman³; Michael J. MacCoss³; Karen K. Szumlanski⁴; Christine C. Wu²; ¹University of Colorado, Anschutz Medical Campus, Aurora, CO; ²University of Pittsburgh, School of Medicine, Pittsburgh, PA; ³University of Washington, Seattle, WA; ⁴University of California, Santa Barbara, Santa Barbara, CA
- MP 101 **Characterization of Truncation Products of CXCL12 in Patients with MDS or AML Undergoing Phase I/II Trials with ON 01910.Na (rigosertib)**; Sool Yeon Cho; Shyamala C Navada; Lewis R. Silverman; John Roboz; *Mt. Sinai School of Medicine, New York, NY*
- MP 102 **LC-MRM Quantification of Src-Family Kinases using Protein Standards Expressed in Cell-Free Systems**; Elizabeth Remily-Wood¹; Michael Rosenblatt²; Robin Hurst²; Fumi Kinose¹; Eric Haura¹; Mark Meads¹; William Dalton¹; Kenneth Shain¹; John Koomen¹; ¹H. Lee Moffitt Cancer Center, Tampa, FL; ²Promega, Madison, WI
- MP 103 **LC-MS/MS Determination of Tachykinin-related Peptides in the Central Nervous System Reveals Differential Expression in TRPV1^{-/-} Mice**; Floriane Pailleux; Francis Beaudry; *Université de Montréal, St-Hyacinthe, Canada*
- MP 104 **Multiplexed Analysis of Cysteine-containing Peptides in Biological Samples Using Cysteine-Specific Tandem Mass Tags**; Jamal Souady^{1,2}; Bruno Doman¹; ¹Luxembourg Clinical Proteomics Center, Strassen, Luxembourg; ²Luxembourg Clinical Proteomics Center, Strassen, Luxembourg
- MP 105 **Applying Novel Cysteine-reactive Tandem Mass Tags to Quantitative Proteomic Analysis of Reversible Redox Cysteine Modifications**; Kuan-Ting Pan¹; Ryan Bomgarden²; John Rogers²; Rosa Viner³; Tzu-Ching Meng^{1,4}; Kay-Hoi Khoo^{1,4}; ¹IBS, National Taiwan University, Taipei, Taiwan; ²ThermoFisher Scientific, Rockford, IL; ³Thermo Fisher Scientific, San Jose, CA; ⁴Institute of Biological Chemistry, Academia Sinica, Taipei, Taiwan
- MP 106 **Mosquito Salivary Gland Protein Homeostasis**; Tuan Ngo; Osvaldo Marinotti; Anthony James; Paul Gershon; *UC-Irvine, Irvine, CA*
- MP 107 **Identification and Quantification of Ricin in Biomedical Samples by Immunoaffinity Enrichment and LC-ESI-MS/MS**; Xiaoxi Ma; Jijun Tang; Jia Chen; Qin Liu; Lei Guo; Chunzheng Li; Hua Li; Jianwei Xie; *Beijing Institute of Pharmacology and Toxicology, Beijing, China*
- MP 108 **Quantitative Analysis of Mouse Hecpudin in Mouse Serum via UPLC/MS-MS and Its Comparison to ELISA**; Linh T.B. Tran; Hongyan Li; Aaron Winters; Keegan Cooke; Christopher A. James; Mark J. Rose; *Amgen, Inc., Thousand Oaks, CA*
- MP 109 **Resolution of Matrix Recovery Challenges Encountered during the Bioanalysis of a New Large Therapeutic Peptide (THR-A) in Human Plasma**; Jean-Nicholas Mess¹; Daniel Villeneuve¹; Nicolaos Soilis¹; Milton Furtado¹; Andreas Orfanos²; Roger Leger²; Fabio Garofolo¹; ¹Algorithme Pharma Inc., Laval, Canada; ²Thrasos Therapeutics Inc., Montréal, Canada
- MP 110 **Quantification of Exendin[9-39] in human Neonate Plasma**; Maria Lasasoa; Lynn Spruce; Puja Patel; Diva D. DeLeon; Steven H. Seeholzer; *Children's Hospital of Philadelphia Research Inst., Philadelphia, PA*
- MP 111 **Beating Alpha 1-antitrypsin: A Novel Quantitative Analysis in High Resolution Mass Spectrometry**; Luca Genovesi; *Merck-Serono, Colletterto Giacosa, It*
- MP 112 **Numeric Model Estimation of Kinetic Parameters for Parallel and Sequential Acrylonitrile-hemoglobin Adduct Formation using Accurate Mass Proteomic Data**; Harrell E. Hurst; Jian Cai; Donald Nerland; Frederick Benz; *University of Louisville, Louisville, KY*
- MP 113 **A Refined Mass Spectrometry Deacetylation Assay Revealed a Nicotinamide-insensitive Sirtuin Family**; Frank Fischer¹; Melanie Gertz¹; Benjamin Suenkel¹; Mike Schutkowski²; Mahadevan Lakshminarasimhan¹; Clemens Steegborn¹; ¹University Bayreuth, Bayreuth, Germany; ²Martin Luther University Halle-Wittenberg, Halle-Wittenberg, Germany
- MP 114 **Quantitative Analysis of P-15 Peptide in Hydroxyapatite Matrix using LC/MS/MS**; Sheher Mohsin; Sue D'Antonio; Michael C. Zumwalt; Andre Szczesniowski; *Agilent Technologies, Schaumburg, IL*
- MP 115 **High Throughput Screening in Drug Discovery for Cancer Research Peptides Using High Resolution LCMS**; Keeley Murphy¹; Maciej Bromirski²; Francois A. Espourteille¹; ¹Thermo Fisher Scientific, San Jose, CA; ²Thermo Fisher Scientific GmbH, Bremen, Germany
- MP 116 **Relative Quantification of Proteins Involved in Cardiovascular Disease: Evaluation of the 4000 QTRAPTM and 5600 tripleTOFTM Mass Spectrometers**; Isabelle Kelly¹; Sylvie Bourassa¹; Sandra Breuils-Bonnet¹; Andre J. Tremblay²; Patrick Couture²; Arnaud Droit¹; ¹Proteomic Center, CHUL research Center, Quebec, Canada; ²INAF, Laval University, Quebec, Canada
- MP 117 **Advantages of using QTOF in the Bioanalysis of Large Therapeutic Peptides**; Fabio Garofolo¹; Suma Ramagiri²; ¹Algorithme Pharma Inc., Laval, Canada; ²AB Sciex, Concord, Canada
- MP 118 **Increased Robustness and Throughput for Targeted Protein Quantification using Capillary Flow Rate and Conventional ESI Probe**; Reiko Kiyonami¹; Laurent Rieux²; Vlad Zabrouskov¹; ¹ThermoFisher Scientific, San Jose, CA; ²Thermo Fisher Scientific, Amsterdam, Netherlands
- MP 119 **Automated High-Throughput Analysis of Proteins/Peptides in Blood-based Matrices Combining Immunoaffinity Extraction and Ultra-fast SPE/MS/MS**; Michelle Romm; Lauren Frick; Nikunj Parikh; Zachery Van Den Heuvel; Vaughn Miller; William A. Lamarr; *Agilent Technologies, Inc., Wakefield, MA*



- MP 120 **Experimental Mapping of Acquisition Parameters in SWATH Experiments;** Stephen A Tate¹; Ludovic Gillet²; Ron Bonner¹; Ruedi Aebersold²; ¹AB SCIEX, Concord, Canada; ²IMSB-ETH Zurich, Zurich, Switzerland
- MP 121 **Detection of rHuEPO in Horse Plasma Samples at Low pg/mL Level Employing High Resolution MS Strategies;** Claire Daully¹; Patrice Garcia²; Joel Louette³; Madalina Oppermann⁴; Marie-Agnès Popot²; Yves Bonnaire²; Ludovic Bailly-Chouriberry²; ¹Thermo Fisher Scientific, Courtaboeuf, France; ²Laboratoire des Courses Hippiques (LCH), Verrières-le-Buisson, France; ³Thermo Fisher Scientific GmbH, Ulm, Germany; ⁴Thermo Fisher Scientific, Stockholm, Sweden
- MP 122 **Probing Advantages of Different Selectivity Strategies for Targeted Quantitative Proteomics;** Kelli Jonakin; Sahana Mollah; Christie Hunter; AB SCIEX, Foster City, CA
- MP 123 **Targeted Quantification of Peptides Based on HR/AM MS/MS Analysis Using a Quadrupole-Orbitrap Instrument;** Sebastien Gallien¹; Elodie Duriez²; Scott Peterman²; Kevin Demeure¹; Bruno Domon¹; ¹Luxembourg clinical proteomics center, Strassen, Luxembourg; ²Thermo Fisher Scientific, Grimes, IA
- MP 124 **Designed Quantitation Standard Samples to Establish Benchmark Metrics for Quantitative Proteomics;** Xu Wang^{1,2}; Brian Williamson^{1,2}; Sean L. Seymour^{1,2}; Ignat Shilov^{1,2}; John McNamara^{1,2}; Christie Hunter^{1,2}; ¹AB SCIEX, Framingham, MA; ²AB SCIEX, Foster City, CA
- MP 125 **Spike-in Experiment to Evaluate LC-MS/MS Proteomic Analysis of Human Serum;** Cristina Di Poto¹; Tsung-Heng Tsai¹; Yi Zhao¹; Lewis K. Pannell²; Habtom Ressom¹; ¹Georgetown University, Washington, DC; ²Mitchell Cancer Institute, Mobile, AL
- MP 126 **An Extremely Rare BCR-ABL Fusion in Multiple Myeloma Detected Using a 3-Pronged Proteomics Approach for Assessing Activated Kinase Signaling Pathways in Cancers;** Susanne Breitkopf^{1,2}; Min Yuan¹; John M Asara^{1,2}; ¹Beth Israel Deaconess Medical Center, Boston, MA; ²Harvard Medical School, Boston, MA
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- MP 127 **Characterization of Glycosylated Amyloid β Peptides in Human and Cat Cerebrospinal Fluid by LC/ESI-FTICR-MS/MS;** Gunnar Brinkmalm¹; Erik Portelius¹; Niklas Mattsson¹; Mikael K Gustavsson¹; Charles H Vite²; Johan Gobom¹; Jan-Eric Månsson¹; Jonas Nilsson¹; Adnan Halim¹; Göran Larson¹; Ulla Rüetschi¹; Henrik Zetterberg¹; Kaj Blennow¹; Ann Brinkmalm¹; ¹University of Gothenburg, Molndal, Sweden; ²University of Pennsylvania, Philadelphia, PA
- MP 128 **Super-SILAC Quantification of N-glycosylation of Proteins Secreted during Breast Cancer Development;** Paul J. Boersema; Tamar Geiger; Dorota F. Zielinska; Jacek R. Wiśniewski; Matthias Mann; Max Planck Institute of Biochemistry, Martinsried, Germany
- MP 129 **Characterization of Hemagglutinin Glycosylation Produced with Different Cell Types Using LC-MS^E Based Methods;** Yanming An; John F Cipollo; Food and Drug Administration/CBER, Bethesda, MD
- MP 130 **Comprehensive Analysis of the Site-specific Micro-heterogeneity of Serum Glycoproteins via Nonspecific Proteolysis and NanoLC/MS/MS;** Danielle Aldredge; Charles Nwosu; Serenus Hua; John Strum; Carlito Lebrilla; University of California, Davis, CA
- MP 131 **Glyphics: Glycopeptide High-throughput Identification and Characterization Software;** Lin He¹; Baozhen Shan²; Bin Ma¹; ¹University of Waterloo, Waterloo, Canada; ²Bioinformatics Solutions Inc., Waterloo, ON
- MP 132 **Determination of Dynamic Glycosylation in Milk Glycoproteins and Their Complexes during Lactation;** Jincui Huang¹; Charles Nwosu¹; John Strum¹; Bruce Germann²; Carlito Lebrilla¹; ¹UC Davis Dept of Chem, Davis, CA; ²UC Davis Dept of Food Science, Davis, CA
- MP 133 **Carbonyl-reactive glyco-TMTs for the Quantification of the N-linked Glyco-proteome;** Hannes Hahne¹; Patrick Neubert¹; John C. Rogers²; Bernhard Kuster¹; ¹TU Muenchen, Freising, Germany; ²Thermo Fisher Scientific, Rockford, IL
- MP 134 **Glycoproteomic Identification and Characterization of Potential Glycoprotein Biomarkers in Ovarian Cancer Proximal Fluids;** Uros Kuzmanov^{1,2}; Natasha Musrap¹; Hari Kosanam³; Christopher R Smith³; Ihor Batruch³; Eleftherios P Diamandis^{1,2}; ¹LMP, University of Toronto, Toronto, Canada; ²SLRI, Mount Sinai Hospital, Toronto, ON; ³University Health Network, Toronto, ON
- MP 135 **Assessment of Limited and Universal Nonspecific Proteolysis for Qualitative and Quantitative Glycan Analysis;** John Schiel; Karen Phinney; NIST, Gaithersburg, MD
- MP 136 **N-linked Glycopeptide Identification using Glycan Decoy Database from Mass Spectrometry Data;** Sang-Oh Kwon^{1,2}; Seong Hwa Park³; Hyun Joo An²; Joseph Kwon³; Jong-Soon Choi^{1,2}; ¹Korea Basic Science Institute, Daejeon, South Korea; ²GRAST, Chungnam national university, Daejeon, South Korea; ³Gwangju Center, Korea Basic Science Institute, Gwangju, South Korea
- MP 137 **N-Glycosylation Site Analysis of Glycoprotein on the Basis Chemical and Enzymatic Digestion;** Joseph Kwon¹; Seong Hwa Park¹; Sang-Oh Kwon^{1,2}; Hyun Joo An²; Jong-Soon Choi^{1,2}; ¹Korea Basic Science Institute, Kwangju, South Korea; ²GRAST, Chungnam National University, Daejeon, South Korea
- MP 138 **Scoring Algorithms for Characterizing Site-specific Protein Glycosylation;** Chuan-Yih Yu¹; Anoop Mayampurath¹; Yunli Hu²; Yehia Mechref²; Haixu Tang¹; ¹Indiana University, Bloomington, IN; ²Texas Tech University, Lubbock, TX
- MP 139 **Fast liquid Chromatographic Separation of Blood Serum Glycoproteins using nanoRSLC System;** Rui Zhu; Ehwang Song; Yehia Mechref; Texas Tech University, Lubbock, TX
- MP 140 **Quantification of Blood Serum Glycoproteins through Enrichment with Hydrazide Chemistry and Lectin Affinity Chromatography;** Ehwang Song; Rui Zhu; Yehia Mechref; Texas Tech University, Lubbock, TX
- MP 141 **Ion Mobility Mass Spectrometry of IgG Fc Glycopeptides from Different Subclasses;** Michiko Tajiri¹; Yayoi Hongo²; Takemichi Nakamura²; Kenji Hirose³; Yoshinao Wada¹; ¹Osaka MCHRI, Izumi, Osaka, Japan; ²RIKEN, Wako, Japan; ³Nihon Waters K.K., Osaka, Japan
- MP 142 **Characterization of N-linked Glycans of Recombinant Proteins;** Wilson Phung; Peter Liu; Jennie Lill; Wendy Sandoval; Genentech, South San Francisco, CA
- MP 143 **Unique Collision Induced Dissociation Pathways of a Model Glycopeptide: Collision Energy and Charge State Dependence;** Venkata Kolli; Eric D. Dodds; University of Nebraska - Lincoln, Lincoln, NE



- MP 144 **A Site-Specific Study of Core Fucosylation of Human Alpha-2-Macroglobulin Using a Mass Spectrometric Assay;** Zhenxin Lin; Andy Lo; Diane Simeone; Mack Ruffin; Michelle Anderson; David M. Lubman; *University of Michigan, Ann Arbor, MI*
- MP 145 **Soluble and Immobilized, Recombinant PNGase F as a Tool for the Characterization of Glycoproteins and Glycoproteomes;** Michael Rosenblatt²; Laurie Engel²; Michael Ford¹; Richard Jones¹; David Allen¹; Ravi Amunugama¹; Gary Kobs²; Marjeta Urh²; *¹MS Bioworks, LLC, Ann Arbor, MI; ²Promega Corporation, Madison, WI*
- MP 146 **Ion Mobility-Mass Spectrometry Methodology for the Characterization of N-Linked Carbohydrate and Carbohydrate-Conjugate Isomers;** Nichole M. Lareau¹; Larissa S. Fenn²; Cody R. Goodwin¹; Jody C. May¹; Dana R. Marshall³; John A. Mclean¹; *¹Vanderbilt University, Nashville, TN; ²Waters Corporation, Cary, NC; ³Meharry Medical College, Nashville, TN*
- MP 147 **Characterization of Intact N-linked and O-linked Glycopeptides using alternating Higher Energy Collisional Dissociation (HCD) Fragmentation;** Li Cao¹; Nikola Tolić²; Da Meng²; Rui Zhao²; Ronald J. Moore²; Qibin Zhang²; Erika M. Zink²; Richard D. Smith²; Ljiljana Paša-Tolić²; Mary S. Lipton²; Si Wu²; *¹Morehouse School of Medicine, Atlanta, GA; ²Pacific Northwest National Laboratory, Richland, WA*
- MP 148 **Activated-Ion ETD in a Segmented ETD Reaction Vessel for the Analysis of Glyco-peptides;** Aaron Ledvina; Michael S. Westphall; Joshua J. Coon; *Univ of Wisconsin-Madison, Madison, WI*
- MP 149 **Use of Pressure-Assisted Enzymatic Digestion to Produce Homogenous Protein Preparations for use in Crystallographic Studies;** Eric Beil; Sam Wu; Dariusz Janecki; Jennifer F. Nemeth; Gary Gilliland; *Janssen Research & Development, LLC, Radnor, PA*
- MP 150 **'On-chip' Electrochemical Enrichment of Acidic Glycoconjugates using PEDOT;** Ed Bodnar; Helene Perreault; *University of Manitoba, Winnipeg, Canada*
- MP 151 **Multiple Microfluidic LC/MS Strategies for Determining Glycosite Microheterogeneity;** Melissa Ly; Gregory Staples; Hongfeng Yin; Kevin Killeen; *Agilent Laboratories, Santa Clara, CA*
- MP 152 **Characterization of Glycans Derived from Monoclonal Antibody by Capillary Electrophoresis-mass Spectrometry;** Suresh Babu CV¹; Ravindra Gudihal¹; Ning Tang²; Martin Greiner³; *¹Agilent Technologies India Pvt. Ltd, Bangalore, India; ²Agilent Technologies, Santa Clara, CA; ³Agilent Technologies R&D and Mktg., Waldbronn, Germany*
- MP 153 **Identification of an O-linked Protein Glycosylation System in *Acinetobacter Baumannii* ATCC 17978 by 2D-DIGE, MALDI-MS and MSMS;** Jeremy Iwashkiw¹; Bela Reiz¹; Evgenii Vinogradov²; Randy M. Whittall¹; Mario Feldman¹; *¹University of Alberta, Edmonton, AB, Canada; ²National Research Council Canada, Ottawa, ON, Canada*
- MP 154 **Targeted Identification of Glycosylated Proteins in the gastric pathogen *Helicobacter pylori*;** Scott Longwell; Danielle Dube; *Bowdoin College, Brunswick, ME*
- MP 155 **The Unusual Glycosylation of the Outer Surface of the Archaeon *Methanosarcina mazei*;** Deborah R. Leon¹; Rachel R. Ogorzalek Loo²; Joseph A. Loo²; Robert P. Gunsalus²; A. Jimmy Ytterberg³; Xiang Yu¹; Renate Lux²; Catherine E. Costello¹; *¹Boston University, Boston, MA; ²University of California Los Angeles, Los Angeles, CA; ³Karolinska Institute, Stockholm, Sweden*
- MP 156 **Mass Spectrometry of Apolipoprotein C-III for Simple and Rapid Assessment of Mucin-type O-Glycosylation;** Yoshinao Wada; Machiko Kadoya; *Osaka MCHRI, Osaka, Japan*
- MP 157 **Characterization of Carcino Embryonic Antigen (CEA) Microheterogeneity: A Case Study Considering N-link Glycoforms;** Ravi Amunugama; Michael Ford; Richard Jones; David Allen; *MS Bioworks, LLC, Ann Arbor, MI*
- MP 158 **Molecular Characterization of IgA1 Secreted by IgA1-Producing Cell Lines from Patients with IgA Nephropathy;** Kazuo Takahashi²; Hitoshi Suzuki³; Koshi Yamada¹; Stacy D. Hall¹; Zina Moldoveanu¹; Knud Poulsen⁴; Mogens Kilian⁴; Jiri Mestecky¹; Bruce A. Julian¹; Matthew B. Renfrow¹; Jan Novak¹; *¹University of Alabama at Birmingham, Birmingham, AL; ²Fujita Health University School of Medicine, Toyoake, Japan; ³Juntendo University Faculty of Medicine, Tokyo, Japan; ⁴Aarhus University, Aarhus, Denmark*
- MP 159 **A LCMS-based Analytical Strategy for Comparative Characterization of N-linked Glycoproteins: Variants of Recombinant Influenza Hemagglutinin as a Test Case;** Robert Sherwood¹; Yong Yang²; Tara Fish²; Wei Chen¹; James McCardle¹; Mark Jones³; Jocelyn Rose¹; Theodore W Thannhauser²; Sheng Zhang¹; *¹Cornell University, Ithaca, NY; ²USDA-ARS at Cornell University, Ithaca, NY; ³Fraunhofer USA Center for Molecular Biotechnology, Newark, DE*
- MP 160 **The Extent of Lysyl Hydroxylase 3 Mediated Glucosylation in Type I Collagen: site Specific Semi-quantitative Analysis and Functional Role;** Irina Perdivara¹; Marnisa Sricholpech²; Mitsuo Yamauchi²; Kenneth Tomer¹; *¹NIHES, Rtp, NC; ²University of North Carolina, Chapel Hill, NC*
- MP 161 **Characterization of Complex Recombinant Glycoprotein Vaccine Antigen ;** Dipak Thakur; Shivani Dharia; Kelly Reiser; Luis Maranga; *Novartis Vaccines and Diagnostics Inc., Cambridge, MA*
- MP 162 **Quantitative Study of Monocyte Glycoproteome upon Activation by Platelet Releasate;** Jiqing Huang; Arash Khosrovi; Juergen Kast; *Univ. of British Columbia, Vancouver, Canada*
- MP 163 **Towards Quantitative Glycoproteomics: Understanding ESI-and MALDI Ionisation of Peptides and Their Glycosylated Counterparts for Relative Glycoform Quantitation and Occupancy Determination;** Kathrin Stavenhagen^{1,2}; Morten Thaysen-Andersen³; Hannes Hinneburg¹; Simone Mosca¹; Laura Hartmann¹; Daniel V. Silva¹; Erdmann Rapp²; Peter H. Seeberger^{1,4}; Daniel Kolarich¹; *¹MPI of Colloids + Interfaces, Potsdam, Germany; ²MPI for Dynamics of Complex Technical Systems, Magdeburg, Germany; ³Macquarie University, Sydney, Australia; ⁴Free University Berlin, Berlin, Germany*
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- MP 165 **Self-Activation of ITK: Relative Rates of Autophosphorylation at Multiple Sites;** Thomas McLellan¹; Nicole Caspers¹; Jeffry Shields¹; Jeffrey Culp¹; Ravi Kurumbail¹; Quintus Medley²; Kieran Geoghegan¹; Ann Aulabaugh¹; *¹Pfizer, Inc Groton Laboratories, Groton, CT; ²Pfizer, Inc Cambridge North Laboratories, Cambridge, MA*



- MP 166 **Label-Free Phosphopeptide Quantitation and Occupancy Determination from a Single Protein Using LC-MALDI**; Oliver Drews; Anja Resemann; Waltraud Evers; Eckhard Belau; Andrea Schneider; Detlev Suckau; *Bruker Daltonik GmbH, Bremen, Germany*
- MP 167 **Functional Analysis of Site-specific Phosphorylation of p300/CBP in the Beta-catenin Interacting N-terminus**; Mingquan Guo¹; Zanzian Xia¹; Hong Ma²; ¹*University of Southern California, Los Angeles, CA*; ²*Children's Hospital Los Angeles, Los Angeles, CA*
- MP 168 **Analysis of Cellular ERK Activation/Deactivation Dynamics by Mass Spectrometric Phospho-form Profiling**; Bettina Hahn; Lorenza Alice D'Alessandro; Sofia Depner; Marcel Schilling; Katharina Waldow; Julie Bachmann; Martin Boehm; Ursula Klingmueller; Wolf D. Lehmann; *German Cancer Research Center, Heidelberg, Germany*
- MP 169 **Identification of Phosphorylation Sites on Cytoplasmic Dynein from *Rattus Norvegicus***; Lichao Zhang¹; Kenneth Pfister²; Kiev Blasier²; Jeffrey Shabanowitz¹; Donald F. Hunt^{1,3}; ¹*Department of Chemistry, University of Virginia, Charlottesville, VA*; ²*Department of Cell Biology, University of Virginia, Charlottesville, VA*; ³*Department of Pathology, University of Virginia, Charlottesville, VA*
- MP 170 **Identification and Characterization of Phosphorylated Proteins by Combined Top-down MS/MS and MS³ Analysis**; Jianzhong Chen^{1,2}; Pavel Shiyanov¹; Liwen Zhang²; John Schlager¹; Kari Green²; ¹*Air Force Research Laboratory, Columbus, OH*; ²*The Ohio State University, Columbus, OH*
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- MP 172 **Identification of Phosphorylation Sites in Microcephalin-1**; Paul A Jowsey; Michael Dunn; Daniel S Vidler; Peter G Blain; *Medical Toxicology Centre, Newcastle University, Newcastle, UK*
- MP 173 **Proteomic Characterization of Histone H2AX Localized Chromatin**; Michelle Cope; Benjamin Garcia; *Princeton University, Princeton, NJ*
- MP 174 **Analysis of Phosphorylation-dependent Protein-protein Interactions by Quantitative Mass Spectrometry**; Benno Kuropka¹; Christian Freund²; Eberhard Krause¹; ¹*Inst. Mol. Pharm., Berlin, Germany*; ²*FU Berlin, Berlin, Germany*
- MP 175 **MALDI-MS Analysis of *in vitro* and *ex vivo* Phosphorylation of 5-lipoxygenase**; Stavroula Markoutsas¹; Duran Sürün²; Hans-Erik Claesson³; Olof Rådmark³; Bernd L. Sorg¹; Michael Karas¹; ¹*Goethe-Univ. of Frankfurt, Frankfurt am Main, Germany*; ²*Georg-Speyer-Haus, Frankfurt am Main, Germany*; ³*Karolinska Institutet, Stockholm, Sweden*
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- MP 178 **Elucidating Histidine/Aspartic Acid Phosphorylation Cascades in Human Prostate Cancer Progression**; John Lapek¹; Katherine VanHise³; Lauren Ritter¹; Michael Nevid³; Gregory Tomblin^{1,2}; Alan Friedman¹; ¹*University of Rochester SMD, Rochester, NY*; ²*SUNY Buffalo, Buffalo, NY*; ³*University of Rochester, Rochester, NY*
- MP 179 **Improved Understanding of Protein Phosphorylation in *Sulfolobus* Species**; Trong Khoa Pham¹; Dominik Esser²; Julia Reimann³; Wen Qiu^{1,1}; Saw Y. Ow¹; Sonja V. Albers³; Bettina Siebers²; Phillip C. Wright¹; ¹*The University of Sheffield, Sheffield, UK*; ²*University of Duisburg-Essen, Essen, Germany*; ³*Max Planck Institute for Terrestrial Microbiology, Marburg, Germany*
- MP 180 **Analysis of Cell Specific Myc Interactions using HaloTag Technology**; Xiaoying Jia¹; Charles L. Farnsworth¹; Jeffrey C. Silva¹; Michael M. Rosenblatt²; Danette L. Daniels²; Jacqui Jacqui Mendez²; ¹*Cell Signaling Technology, Danvers, MA*; ²*Promega, Madison, WI*
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- MP 183 **Comparison of Top-down and Bottom-up Approach for Phosphoproteomic Studies of Cellular Signaling with Nano Flow LC-MS and LC-MS/MS**; Jason X. Tang; *Eli Lilly & Company, Indianapolis, IN*
- MP 184 **Molecular Genetics and Quantitative Proteomics to Identify Novel Regulatory Mechanisms of Lipid and Energy Metabolism in *C. elegans***; Julius Fredens; Kasper Engholm-Keller; Jakob Møller-Jensen; Martin R. Larsen; Nils J. Færgeman; *University of Southern Denmark, Odense M, Denmark*
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- MP 186 **Phosphoproteome Analysis of Postembryonic *Arabidopsis thaliana* Seedlings using Immobilized Metal-ion Affinity Chromatography and Mass Spectrometry**; Uma K. Aryal¹; Joan Krochko²; Andrew R.S. Ross³; ¹*Biological Science Division, Pacific Northwest Nat, Richland, WA*; ²*National Research Council of Canada, Saskatoon, Canada*; ³*Fisheries and Oceans Canada, Sidney, Canada*
- MP 187 **A Novel Method for Highly Selective Isolation of Intact Phosphoproteins from a Complex Mixture**; He-Hsuan Hsiao; Henning Urlaub; *Bioanalytical Mass Spectrometry Group, MPIbpc, Göttingen, Germany*
- MP 188 **Identification of Archaeological Silk Proteins by MALDI and ESI Mass Spectrometry**; Kazuki Kawahara¹; Mayumi Yamada²; Fumio Okada³; Miho Muguruma¹; Yoshiki Matsuo¹; Atsuko Miyaji¹; Yuji Kobayashi⁴; Takashi Nakazawa¹; ¹*Nara Women's University, Nara, Japan*; ²*AMR Inc., Tokyo, Japan*; ³*Kyoto University of Art and Design, Kyoto, Japan*; ⁴*Osaka University of Pharmaceutical Sciences, Osaka, Japan*
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- MP 191 **Analysis of the Nuclear Pore Complex upon Poliovirus Infection Using Mass Spectrometry**; Jian Liu¹; Christopher Bradley²; Ashoka D. Polpitiya¹; Spencer Hansen²; Tony Tegeler¹; Hyonson Hwang¹; Kurt Gustin²; Konstantinos Petritis¹; ¹*The Translational Genomics Research Institute, Phoenix, AZ*; ²*The University of Arizona College of Medicine, Phoenix, AZ*
- MP 192 **Investigating the p53-dependent Roles of SIRT1 and SIRT2 in regulating Human Cytomegalovirus Replication**; Hanna Budayeva; Emre Koyuncu; Yana Miteva; Thomas Shenk; Ileana M. Cristea; *Princeton University, Princeton, NJ*
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- MP 194 **Cloning, Expression and Purification of the Isolated Chains of Human Haptoglobin and Initial Characterization by Mass Spectrometry**; Camille Lombard; Jingshu Guo; Timothy C. Mueser; Wendell P. Griffith; *University of Toledo, Toledo, OH*
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- MP 198 **FAC-MS Based Function Discovery of Novel Transcriptional Regulators**; Ricardo Marti-Arbona; Los Alamos National Laboratory, Los Alamos, NM
- MP 199 **A Microchromatography Platform for High Throughput Purification of Monoclonal Antibodies from Cell Culture Supernatant**; Marc Beban; *Agilent Technologies, Santa Clara, CA*
- MP 200 **Top-down Protein Mass Spectrometry on a Benchtop**; Philip Compton¹; John F. Kellie¹; Ken Durbin¹; Cong Wu²; Eugen Damoc³; Eduard Denisov³; David Horn³; Neil L. Kelleher¹; ¹*Northwestern University, Evanston, IL*; ²*University of Illinois, Urbana, IL*; ³*Thermo Fisher Scientific, Bremen, Germany*
- MP 201 **Measuring the Reduction Potentials of Redox Signaling Proteins by Top-down FT-ICR Mass Spectrometry**; Jenna Scotcher^{1,2}; Alan G. Marshall^{1,2}; ¹*Ion Cyclotron Resonance Prog, Tallahassee, FL*; ²*Ion Cyclotron Resonance Prog, Tallahassee, FL*
- MP 202 **A Stable Isotope Method for Quantitation of the Extent of Co-/Post-translational Lipidation of Proteins**; Jason Williams; Chanil Choi; Vijayakanth Pagadala; Kenneth Tomer; Lutz Birnbaumer; *NIEHS/NIH/DHHS, Research Triangle Park, NC*
- MP 203 **Investigation of Proteolytic Cleavage at Modified Residues**; Tommy K. Cheung¹; Richard Jones²; Anwesha Dey³; Victoria Pham¹; Jennie Lill¹; Qui Phung¹; ¹*Genentech, Inc., South San Francisco, CA*; ²*MS Bioworks, LLC, Ann Arbor, MI*; ³*Physiol Chem Lab, South San Francisco, CA*
- MP 204 **Analysis of Chemically Alkylated Lysines in Proteins by Using Specific Proteases and Tandem Mass Spectrometry**; Lauren Pearson; Catherine Hatzos-Skintges; Gyorgy Babnigg; Kemin Tan; Carol Giometti; Andrzej Joachimiak; Changsoo Chang; *Argonne National Laboratory, Argonne, IL*
- MP 205 **Investigation of Microwave-assisted Protein Digestion Efficiency in MALDI-TOF MS using a New Scoring System**; Ji-Hye Lee^{1,2}; Sehwan Park¹; Min Sun Kim²; Sun Jong Baek²; Kyu Hwan Park²; Hyun Sik Kim²; Jeongkwon Kim¹; ¹*Chungnam National University, Daejeon, South Korea*; ²*Korea Basic Science Institute, Cheongwon-Gun, South Korea*
- MP 206 **Measurement of Human Lp(a) Kinetics in vivo Using LC-MS/MS**; Haihong Zhou¹; Michael Lassman¹; Tiffany Thomas²; Wenyu Li¹; Theresa McLaughlin³; Daniel Rader⁴; John Millar⁴; Henry Ginsberg²; Gissette Reyes-Soffer²; Brian Hubbard⁵; Stephen Previs¹; Thomas Roddy¹; ¹*Merck & Co., Inc., Rahway, NJ*; ²*Columbia University, New York, NY*; ³*Stanford University, Stanford, CA*; ⁴*University of Pennsylvania, Philadelphia, PA*; ⁵*Broad Institute, Boston, MA*
- MP 207 **Identification and Quantification of Isoforms using Protein Abundance and Turnover Data**; Aaron Ruhs; Pascal Gellert; Marcus Krüger; Thomas Braun; *Max-Planck-Institut for Heart and Lung Research, Bad Nauheim, Germany*
- MP 208 **Determination of 12C/13C Isotope Labels in Reductively Methylated Lysozyme**; Michelle Sweeney; Kevin Roberson; Pamlea Brady; Megan Macnaughtan; *Louisiana State University, Baton Rouge, LA*
- MP 209 **Quantitation of Protein Isotopic Labeling by Precursor Ion Scanning LC-MS/MS**; André Leblanc¹; Alexandre Arnold¹; Bertrand Genard²; Jean-Bruno Nadalini²; Marc-Olivier Séguin-Heine¹; Isabelle Marcotte¹; Réjean Tremblay²; Lekha Sleno¹; ¹*UQAM, Montréal, Canada*; ²*Université du Québec à Rimouski, Rimouski, Canada*
- MP 210 **Online Capillary Isoelectric Focusing – Electrospray Ionization–Mass Spectrometry for Protein Separation and Characterization using a Flow-Through Micro Vial Interface**; Xuefei Zhong; E.Jane Maxwell; Shuai Sherry Zhao; David D.Y. Chen; *University of British Columbia, Vancouver, Canada*
- MP 211 **Quantitative Assessment of Proteomics-based Experimental Workflows using RM 8323 Yeast Protein Extract**; Ashley Beasley Green; David M Bunk; Paul Rudnick; Karen Phinney; *National Institute of Standards and Technology, Gaithersburg, MD*
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MP 214 **Discovering the Iron-Regulated Cellular Proteome;** David Powers; UCLA, Los Angeles, CA

MP 215 **Exploiting the Versatility of a Hybrid Triple Quadrupole Linear Ion Trap Mass Spectrometer for Protein Analysis;** Sahana Mollah; Christie Hunter; AB SCIEX, Foster City, CA

MP 216 **Development of LC-MS Based Functional Assay to Screen PfTrxR Inhibitors by Relative Quantitation of Intact Thioredoxin;** Angela Calderon; Ranjith Munigunt; Auburn University, Auburn, AL

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MP 218 **A Structure/Function Analysis of Nucleotide Hydrolysis by Mitotic Centromere-associated Kinesin (MCAK) using H/DX-MS;** Kyle Burns; David Schriemer; University of Calgary, Calgary, AB

MP 219 **Assembly of Ebola Virus Matrix Protein VP40 is Regulated by Latch-like Properties of N and C Terminal Tails;** Leslie Silva¹; Michael Vanzille²; Sina Bavari²; J.M. Javad Aman²; David Schriemer¹; ¹University of Calgary, Calgary, Canada; ²US Army Medical Research Inst. of Infect. Diseases, Frederick, MD

MP 220 **Conformational Dynamics of a Membrane Transport Protein Probed by HDX and Covalent Labeling: The Glycerol Facilitator;** Yan Pan¹; Hadeesha Piyadasa²; Joe D. O'Neil²; Lars Konermann¹; ¹The University of Western Ontario, London, Canada; ²University of Manitoba, Winnipeg, Canada

MP 221 **Conformational Dynamics of Hemoglobin in Different Ligation States Studied by Hydrogen-Deuterium Exchange Mass Spectrometry;** Modupeola Sowole¹; Lars Konermann²; ¹University of Western Ontario, London, Canada; ²Univ. of Western Ontario, London, ON

MP 222 **Local Dynamics Analysis of Human Insulin and a Rapid-acting Insulin Analog by Hydrogen Deuterium Exchange/Mass Spectrometry;** Shiori Nakazawa^{1,2}; Joomi Ahn³; Noritaka Hashii²; Kenji Hirose⁴; Nana Kawasaki^{1,2}; ¹Grad. Sch. Life Sci., Hokkaido Univ., Sapporo, Japan; ²Natl. Inst. Health Sci., Setagaya-ku, Japan; ³Waters Corp., Milford, MA; ⁴Nihon Waters K.K., Shinagawa-ku, Japan

MP 223 **Measuring the Contribution of Glycans on the Dynamics of HIV Envelope gp120 by H/D Exchange;** Miklos Guttman¹; Thaddeus Davenport¹; Maria Khan²; Shiu-Lok Hu²; Kelly Lee¹; ¹University of Washington, Seattle, WA; ²Washington National Primate Research Center, Seattle, WA

MP 224 **Probing Influenza Hemagglutinin Dynamics with Hydrogen-Deuterium Exchange, Mass-Spectrometry;** Natalie Garcia; Miklos Guttman; Kelly Lee; University of Washington, Seattle, WA

MP 225 **Dynamics Study of Transferrin Receptor and Identification of the Interactions Critical for Binding Transferrin by Hydrogen Deuterium Exchange Mass Spectrometry;** Hanwei Zhao; Cedric Bobst; Igor A. Kaltashov; University of Massachusetts, Amherst, MA

MP 226 **Unraveling the Translocon Machinery at Work by Hydrogen-Deuterium Exchange Mass Spectrometry;** Malvina Papanastasiou¹; Morten B Trelle²; Giorgos Gouridis¹; Spyridoula Karamanou¹; Nikos Famelis^{1,3}; Thomas J.D. Jorgensen²; Anastassios Economou^{1,3}; ¹Inst. of Molecular Biology & Biotechnology, Forth, Iraklio, Greece; ²University of Southern Denmark, Odense M, Denmark; ³Dept of Biology, UoC, Iraklio, Greece

MP 227 **Dealing with Sequence Variability during the Comparative Hydrogen Exchange Mass Spectrometry Analysis of Multiple Allelic Variants;** Thomas E. Wales¹; Lori Emert-Sedlak²; Thomas E. Smithgall²; John R. Engen¹; ¹Northeastern University, Boston, MA; ²University of Pittsburgh School of Medicine, Pittsburgh, PA

MP 228 **Analysis of the Bromodomain BRD3 and Its Interactions with the Inhibitor JQ1;** William Smith^{1,2}; Sean Marcisin¹; Panagis Filippakopoulos³; Stefan Knapp³; James Bradner²; John Engen¹; ¹Northeastern University, Boston, MA; ²Dana-Farber Cancer Institute, Boston, MA; ³Structural Genomics Consortium, Oxford, England

MP 229 **Investigating Changes in Conformation upon Binding of a Potent DOT1L Inhibitor Responsible for Selective Killing of Mixed Lineage Leukemia;** Roxana E. Iacob¹; Emma J. Chory²; Alexander Federation²; James E. Bradner²; John R. Engen¹; ¹Northeastern University, Boston, MA; ²Dana-Farber Cancer Institute/ HMS, Boston, MA

MP 230 **Architecture of E. coli WbrA Protein in Solution;** Petr Man^{1,2}; Zdenek Kukacka^{1,2}; Irina Kishko³; Rudiger Ettrich³; Jannette Carey⁴; Petr Novak^{1,2}; ¹Institute of Microbiology, ASCR, Prague 4, Czech Republic; ²Charles University in Prague, Prague 2, Czech Republic; ³Institute of Nanobiology and Structural Biology, Nove Hrad, Czech Republic; ⁴Chemistry Department, Princeton University, Princeton

MP 231 **Comparative Conformational Studies of Bacterial and Human Peroxiredoxins using Hydrogen Deuterium Exchange Mass Spectrometry;** Sasidhar N Nirudodhi; Oregon State University, Corvallis, OR

MP 232 **Revealing Structural Changes of Stressed IgG1 Antibody by a Fully-automated Hydrogen/Deuterium Exchange Mass Spectrometry (HDX-MS) Workflow;** Jennifer Zhang; Genentech Inc., South San Francisco, CA

MP 233 **Chemistry, Structure and Biology of Nuclear Receptors;** Pat Griffin; Michael Chalmers; Naresh Kumar; Mi Ra Chang; Cesar Corzo; Janelle Lauer; The Scripps Research Institute, Jupiter, FL

MP 234 **Probing the Conformational Dynamics of Full Length PR Interactions with TBP using HDX;** Devrishi Goswami¹; Michael J. Chalmers¹; Celetta G. Callaway²; Dean P. Edwards²; Patrick R. Griffin¹; ¹The Scripps Research Institute, Jupiter, FL; ²Baylor College of Medicine, Texas, TX

MP 235 **Fragment Antibody Binding to a Highly Conserved Influenza Epitope - An HDX Study;** Joomi Ahn¹; Eveline Sneekes-Vriese³; Otto Diefenbach³; Alexandr Muck²; St John Skilton¹; Ying-Qing Yu¹; Adrian Apetri³; ¹Waters Corp, Milford, MA; ²Waters Corporation, Jena, Thuringia, Germany; ³Crucell BV, Leiden, Netherlands

MP 236 **Direct Measurement of Hydrogen/ Deuterium Exchange in The DAHP Synthase Molten Globule;** Tamanna Rob¹; Preet Kamal Gill¹; Shaolong Zhu¹; Naresh Balachandran²; Paul Berti²; Derek Wilson¹; ¹York University, Toronto, Canada; ²McMaster University, Hamilton, Canada



- MP 237 **Identifying Amyloidogenic Surfaces on a Native-like Folding Intermediate of an Acylphosphatase from *Sulfolobus solfataricus* Using Time-resolved H/D Exchange**; Yanfang Liang; Tamanna Rob; Agnesa Shala; Derek Wilson; *York University, Toronto, Canada*
- MP 238 **Detailed Mechanistic Studies on Covalent Nucleophilic Enzymes using Time-Resolved Electrospray Mass Spectrometry with H/D Exchange**; Peter Liuni¹; Araby Jeganathan¹; Dasantila Golemi-Kotra¹; Derek Wilson^{1,2}; ¹*York University Department of Chemistry, Toronto, Canada*; ²*Center for Research in Mass Spectrometry, Toronto, Canada*
- MP 239 **Amide Hydrogen/Deuterium Exchange by Top-Down Electron Capture Dissociation - Fourier Transform Ion Cyclotron Mass Spectrometry**; Teerapat Rojsajakul; Thomas Neis; Fred King; *Department of Chemistry, West Virginia University, Morgantown, WV*
- MP 240 **Developing Top-Down HDX-MS with Electron Capture Dissociation as a Structural Tool for Large (29 kDa) Proteins**; Jingxi Pan; Jun Han; Christoph H. Borchers; *University of Victoria-Genome BC Proteomics Centre, Victoria, Canada*
- MP 241 **Deciphering Prion Conformational Changes during Monomer to Oligomer Conversion by Top-Down HDX with Electron Capture Dissociation**; Jingxi Pan¹; Suping Zhang¹; Evgeniy Petrotchenko¹; Jun Han¹; David Wishart²; Christoph H. Borchers¹; ¹*University of Victoria-Genome BC Proteomics Centre, Victoria, Canada*; ²*University of Alberta, Edmonton, Canada*
- MP 242 **Discovering Protein Linear Interaction Motifs with Proteome-scale H/D Exchange Mass Spectrometry**; David Weis; *University of Kansas, Lawrence, KS*
- MP 243 **Characterization of N370S Mutant of Glucocerebrosidase by Hydrogen/Deuterium Exchange Mass Spectrometry (HDX-MS)**; Liangjie Tang; Stephen Coales; Jessica Lee; Yoshitomo Hamuro; *ExSAR Corporation, Monmouth Junction, NJ*
- MP 244 **Theory of PEPS (Protein Equilibrium Population Snapshot) HDX-ESI-MS; A Staphylococcal Nuclease Mutant Protein with a three State Unfolding Mechanism**; Rohana Liyanage; Derek Pyland; Wesley E. Stites; Jackson O. Lay Jr; *Department of Chemistry, University of Arkansas, Fayetteville, AR*
- MP 245 **Study of the Transcriptional Mechanism of DREAM by HDX-MS**; Jun Zhang¹; Pradeep Ramachandran²; Rajiv Kumar²; Michael L. Gross¹; ¹*Washington University in St. Louis, St. Louis, MO*; ²*Mayo Clinic, Rochester, MN*
- MP 246 **Hydrogen/Deuterium Exchange Mass Spectrometry Probes the Apolipoprotein E-amyloid- β (A β 40) Interactions**; Richard Yu-Cheng Huang; Kanchan Garai; Carl Frieden; Michael L. Gross; *Washington University, St. Louis, MO*
- MP 247 **Solution Hydrogen/Deuterium Exchange of Human Hemoglobin A, F and S Monitored by Electrospray Ionization Mass Spectrometry**; Yang Kang; Donald J. Douglas; *University of British Columbia, Vancouver, Canada*
- MP 248 **Mass Spectrometric Measurement of Histidine Imidazole C2-H/D-Exchange Reaction Rate and Dissociation Constant to Probe Protein Structure and Function**; Takashi Nakazawa¹; Naoka Hayashi¹; Haruka Hirata¹; Chihiro Nakajima²; Hiroki Kuyama²; Osamu Nishimura²; ¹*Nara Women's University, Nara, Japan*; ²*Osaka University, Osaka, Japan*
- MP 249 **His-HDX-MS to Understand the Mechanism of Anthrax Toxin Binding to the Cell Surface**; Vennela Mullangi¹; James Bann²; Masaru Miyagi³; ¹*Cleveland State University, Cleveland, OH*; ²*Wichita State University, Wichita, KS*; ³*Case Western Reserve University, Cleveland, OH*
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- MP 250 **Characterization of UV Induced Protein Expression in Mung Bean**; Pei-Wen Chiang¹; Yi-Shan Lu¹; Ming-Hui Yang; Tze-Wen Chung²; Yu-Chang Tyan¹; ¹*Kaohsiung Medical University, Kaohsiung, Taiwan*; ²*National Yunlin Univ of Science & Technology, Tainan, Taiwan*
- MP 251 **Functional Proteomics in Arabidopsis G-protein Signaling in Response to ABA**; Sophie Alvarez; Leslie M. Hicks; Sona Pandey; *Danforth Center, St Louis, MO*
- MP 252 **Proteomic Analysis of Salt-responsive Ubiquitin-related Proteins in Rice Root**; Chien-Chen Lai; Chih-Wei Liu; Chang-Sheng Wang; *National Chung Hsing University, Taichung, Taiwan*
- MP 253 **High Resolution Liquid Chromatography / Mass Spectrometry Profiling and Ion Mobility Characterization of Phenolic Compounds in Ethnobotanically Relevant Plants**; John Arnason¹; Ammar Saleem¹; Andrew Baker²; ¹*University of Ottawa, Ottawa, Ontario, Canada*; ²*Waters, Inc., Pleasanton, CA*
- MP 254 **Quantitative Mass Spectrometry of Proteins from Plants Metabolically Labeled with Nitrogen 15**; David Shearer¹; Stever Haber²; Melodie Budzinsky²; Victor Spicer¹; Oleg V. Krokhin¹; Kenneth G Standing¹; ¹*University of Manitoba, Winnipeg, Canada*; ²*Agriculture and Agri-foods Canada, Winnipeg, Canada*
- MP 255 **Isotope-Assisted Quantitative Profiling of Membrane Periphery Using Robust Cell Wall Decoupling Strategy to Understand Hormone Mediated Changes in Plant Proteome**; Grzegorz Sabat; Gregory Barrett-Wilt; Heather L. Burch; Michael R. Sussman; *University of Wisconsin, Madison, WI*
- MP 256 **Dual Stressor Effects on Relative Protein Abundance Levels in *Neurospora crassa* Strains Measured by iTRAQ® Technology**; Leeann Higgins; Todd Markowski; Nora Plesofsky; *University of Minnesota, St. Paul, MN*
- MP 257 **Molecular and Elemental Mass Spectrometry for Investigation of Phytosiderophore-promoted Iron Acquisition by Gramineous Plants**; Yvonne Schindlegger¹; Eva Oburger¹; Anna Regelsberger¹; Madeleine Dellmour¹; Gunda Koellensperger¹; Walter Schenkeveld²; Stephan Kraemer²; Markus Puschenreiter¹; Stephan Hann¹; ¹*BOKU-Vienna, Vienna, Austria*; ²*University of Vienna, Vienna, Austria*
- MP 258 **Characterization of Extracts from *Medicago truncatula* Using High Performance Time-of-Flight Mass Spectrometry with UHPLC-Accurate Mass Fragments and Precursors**; Jeffrey Patrick; Matthew Giardina; Joe Binkley; Kevin Siek; *LECO Corporation, St. Joseph, MI*
- MP 259 **Automated and Modular Growth Chambers for *in vivo* Labeling of Plant Metabolomes and Proteomes with ¹³C-carbon dioxide**; Will Menzel¹; Wen-Ping Chen¹; Angela Hendrickson Culler²; George G. Harrigan²; Suzanne Drury²; Pam Jensen²; James Doom²; Jerry D. Cohen¹; Adrian D. Hegeman¹; ¹*University of Minnesota, Saint Paul, MN*; ²*Monsanto Company, St. Louis, MO*
- MP 260 **A Quantitative Proteomics Approach to Discover and Validate Arabidopsis Phosphoproteins Involved in Early Osmotic Stress Response**; Kelly Stecker; Gregory



Barrett-Wilt; Kelli Jonakin; Michael Sussman; *University of Wisconsin, Madison, WI*

MP 261 **Large-Scale Characterization of Plant N-terminal Modifications Reveals Idiosyncratic N-alpha-acetylation Features;** Willy Vincent Bienvenu¹; David Sumpton²; Sergio Lilla²; Aude Martinez¹; Christelle Espagne¹; Thierry Meinell¹; Carmela Giglione¹; ¹CNRS, Centre de Recherche de Gif, ISV, Gif Sur Yvette, France; ²The Beatson Institute for Cancer Research, Glasgow, UK

MP 262 **A Study of Metal Hyperaccumulating Plants with CZE-QTOF-MS;** Damien Callahan¹; Siavash Foroughi¹; Matthias Pelzing²; Ute Roessner¹; ¹Metabolomics Australia, Melbourne, Australia; ²Bruker Biosciences, Melbourne, Australia

MP 263 **Quantitative Mass Spectrometry of Proteins from Brachypodium distachyon, a Model Organism for Grasses and Grains;** David Shearer¹; Steve Haber²; Melodie Budzinsky²; Victor Spicer¹; Oleg V. Krokhin¹; Kenneth Standing¹; ¹University of Manitoba, Winnipeg, Canada; ²Cereal Research, Agriculture & Agrifoods Canada, Winnipeg MB, Canada, MB

MP 264 **Label-free Quantitative Proteomic Analysis of Environmental Stress in Rice;** Mehdi Mirzaei¹; C. Gayani Gammulla¹; Karlie Neilson¹; Michael Mariani¹; G. Hosseini Salekdeh²; Brian Atwell¹; Paul A. Haynes¹; ¹Macquarie University, North Ryde, Sydney, Australia; ²Agricultural Biotechnology Institute of Iran, Tehran, Iran

MP 265 **Proteomic Analysis of Thylakoid Membranes of Phosphatidylglycerol-deficient Synechocystis Mutant Using 2D-LC-MS/MS;** Tatjana Talamantes¹; Bettina Ughy²; Mihály Kis²; Ildikó Domonkos²; Anna Sallai²; Hajnalka Laczkó-Dobos²; Zoltán Gombos²; Laszlo Prokai¹; ¹University of North Texas Health Science Center, Fort Worth, TX; ²Institute of Plant Biology, BRC, Szeged, Hungary

MP 266 **Quantitative Proteomic Study of Marine Phytoplankton under Phosphorus Stress;** Pang-Hung Hsu¹; Hua Xu²; Jeng Chang¹; ¹National Taiwan Ocean University, Keelung, Taiwan; ²Case Western Reserve University, Cleveland, OH

MP 267 **Differentiation of German and Roman Chamomiles by Comprehensive Chemical Fingerprinting using Ultra Performance Supercritical Fluid Chromatography Coupled with Mass Spectrometry;** Michael D Jones¹; Bharathi Avula²; Kate Yu¹; Yan-Hong Wang²; Mei Wang²; dominic moore¹; Warren Potts¹; Ikhlas Khan²; ¹Waters Corporation, Milford, MA; ²University of Mississippi, Oxford, MS

MP 268 **Shotgun Proteomic Analysis of Peanut Seeds under Environmental Stress;** Masoud Zabet Moghaddam¹; Kameswara Rao Kottapalli¹; Susan SanFrancisco¹; Mehdi Mirzaei²; Paul A. Haynes²; Paxton Payton³; ¹Texas Tech University, Lubbock, TX; ²Macquarie University, Sydney, Australia; ³USDA, Lubbock, TX

MP 269 **Label-Free Proteome Analysis of Arogenate Dehydratase Mutants in Arabidopsis thaliana;** Kim K. Hixson¹; Oliver Corea¹; Alan Budgeon¹; Karl Weitze²; Matthew Monroe²; Ljiljana Pasa Tolic²; Mary Lipton²; Laurence Davin¹; Norman Lewis¹; ¹Washington State University, Pullman, WA; ²Pacific Northwest National Laboratory, Richland, WA

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MP 270 **Identifying Targeted Cysteines of NADPH Oxidase-mediated Redox Signalling in Fusarium graminearum using LC-MS;** Manisha Joshi; Rajagopal Subramaniam;

Tao Fan; Christof Rampitsch; *Agriculture Canada, Winnipeg, Canada*

MP 271 **Characterization of Health Beneficial Minor Constituents in Black Currant Berry by LC-MS/MS;** Flaubert Mbeunkui; Mary H. Grace; Gad G. Yousef; Mary Ann Lila; *North Carolina State Univers, Kannapolis, NC*

MP 272 **Comparative Proteomic Analysis of Response to Sound Wave in Arabidopsis;** Young Sang Kwon¹; Woo Sik Chung¹; Sung Chul Shin¹; Mi-Jeong Jeong²; Soo-Chul Park²; Han Hong Bae³; Dong-Won Bae¹; ¹Gyeongsang National University, Jinju, South Korea; ²National Academy of Agricultural Science, Suwon, South Korea; ³Yeungnam University, Gyeongsan, South Korea

MP 273 **Proteomic Analysis of Bovine Tissue to Investigate Fescue Toxicosis Using Nanospray Ionization Tandem Mass Spectrometry;** Mitchell Radlund¹; Darrin Smith¹; James Matthews²; Kwangwon Son²; ¹Eastern Kentucky University, Richmond, KY; ²University of Kentucky, Lexington, KY

MP 274 **CE-MS for Determining the Role of Amino Acids and Peptides in Plant Nutrition;** Charles Warren; *University of Sydney, Australia*

MP 275 **First Identification and Characterization of Flavan-3-ol glycosides by UHPLC-ESI-Q-TOF in Grape Seeds and Wine in Vitis vinifera cv. Merlot;** Adeline Delcambre²; Cédric Saucier¹; ¹University of British Columbia, Kelowna, Canada; ²univrsity of british columbia, Kelowna, BC

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MP 276 **Online Analysis of a Constant-Perfusion Cell Culture Microfluidic Device for Exometabolomic Measurements;** Jeffrey R. Enders; Christina Marasco; Kevin Seale; John Wiksw; John A. Mclean; *Vanderbilt University, Nashville, TN*

MP 277 **Differential Mobility and High Resolution Mass Spectrometry for Metabolomics LC-MS Analysis;** Gérard Hopfgartner¹; Emmanuel Varesio¹; J.C. Yves Le Blanc²; ¹University of Geneva, Geneva, Switzerland; ²AB SCIEX, Concord, ON, ON

MP 278 **Sensitive and Efficient Identification of Mouse Tissue Lipids by Fourier Transform Ion Cyclotron Resonance Mass Spectrometry;** Huan He¹; Chris Hendrickson^{1,2}; Amy S. Paller³; Alan G. Marshall^{1,2}; ¹Ion Cyclotron Resonance Program, NRMFL, Tallahassee, FL; ²Department of Chemistry and Biochemistry, FSU, Tallahassee, FL; ³Department of Dermatology, Northwestern University, Chicago, IL

MP 279 **Supercritical Fluid Chromatography-Mass Spectrometry for the Rapid Analysis of Glycolysis Pathway Components;** Michael Greig; Phuong Tran; Christine Aurigemma; William Farrell; *Pfizer Global R&D- La Jolla, San Diego, CA*

MP 280 **The Effect of Incubation Temperature on Microbial Volatile Organic Compounds Emitted by Aspergillus fumigatus and Penicillium paneum;** Takae Takeuchi¹; Tomoko Kimura¹; Shoko Ichii¹; Masato Kiuchi²; Sachiyo Kaneko¹; Takahito Suzuki¹; ¹Nara Women's University, Nara, Japan; ²AIST, Ikeda, Japan

MP 281 **A Reference Material to Support Accuracy and Comparability in Metabolomics;** Karen Phinney; Stephen Long; Lane Sander; Michele Schantz; Katherine Sharpless; Gregory Turk; Stephen Wise; *NIST, Gaithersburg, MD*

MP 282 **A Model to Assess Repeatability of a GC-MS Generated Multivariate Metabolomics Data Matrix;** Shane Mason¹; Bernhard Wuest²; Regan Solomons³; Gerhard Koekemoer³;



- Carolus Reinecke¹; ¹Centre of Human Metabolomics, NorthWest University, Potchefstroom, South Africa; ²Agilent Technologies GmbH, Walldbronn, Germany; ³Tygerberg Hospital University Stellenbosch, Stellenbosch, South Africa; ⁴Statistical Consultation Services, NorthWest University, Potchefstroom, South Africa
- MP 283 **Construction of a Plant Secondary Metabolite, Triple Quadrupole Tandem Mass Spectral Library;** Zhentian Lei; David V. Huhman; Lloyd W. Sumner; *The Samuel Roberts Noble Foundation, Ardmore, OK*
- MP 284 **An Application of High Resolution Multistage Mass Spectral Trees for Identification of Electrochemically Synthesized Metabolites;** Agnieszka Kraj¹; Marco Ries³; Miguel Rojas-Cherto^{2,3}; Nico Reinhoud¹; Hendrik-Jan Brouwer¹; Rob J. Vreeken^{2,3}; Theo Reijmers^{2,3}; Thomas Hankemeier^{2,3}; Jean-Pierre Chervet¹; ¹Antec, Zoeterwoude, The Netherlands; ²Netherlands Metabolomics Centre, Leiden, The Netherlands; ³Division of Analytical Biosciences, LACDR, Leiden, The Netherlands
- MP 285 **Development of Methods to Identify Previously Unknown Secondary Metabolites from Myxobacteria Based on a comprehensive Metabolic Profiling Workflow ;** Thomas Hoffmann¹; Daniel Krug²; Armin Holle³; Gabriela Zurek³; Aiko Barsch³; Rolf Mueller²; ¹Pharmaceutical Biotechnology, Saarland University, Saarbruecken, Germany; ²Helmholtz-Institute for Pharmaceutical Research, Saarbruecken, Germany; ³Bruker Daltonik GmbH, Bremen, Germany
- MP 286 **Quantitative Structure-Property Relationship of Metabolites to Ionization Efficiency Assisted by 9-Aminoacridine in MALDI;** Daichi Yukihira; Daisuke Miura; Yoshinori Fujimura; Maiko Kaku; Nami Tomonaga; Hiroyuki Wariishi; *Kyushu University, Fukuoka, Japan*
- MP 287 **Targeted Metabolomic Profiling of a Novel C. elegans ALS Model Using Stable Isotope Labeling and High Resolution Accurate Mass Spectrometry;** Yasmin Boukhedimi¹; Sarah Jenna¹; J. Alex Parker²; Lekha Sleno¹; ¹UQAM, Montreal, Canada; ²University of Montreal, Montreal, Canada
- MP 288 **Relative Quantitation of Amine-containing Metabolites in Human Cells using Isotope-labeled Derivatization and High Resolution Quadrupole Time of Flight Mass Spectrometry;** Leanne B. Ohlund; Véronique Plante; Tze Chieh Shiau; Amélie Vézina; Borhane Annabi; René Roy; Lekha Sleno; *UQAM, Montreal, Canada*
- MP 289 **¹³C Kinetic and Steady State Flux Analysis for Flux Partition Quantification at Branch Node in Methylobacterium extorquens AM1 on Filters;** Song Yang; Yanfen Fu; Martin Sadilek; Bo Hu; David Beck; Mary Lidstrom; *University of Washington, Seattle, WA*
- MP 290 **Uncertainty Analysis of Isotopomer Mass Distribution: A Quality Control Tool in Metabolomics and Fluxomics;** Raffaele Guerrasio; Christina Haberhauer-Troyer; Matthias Steiger; Michael Sauer; Diethard Mattanovich; Gunda Köllensperger; Stephan Hann; *BOKU - Vienna, Vienna, Austria*
- MP 291 **Optimization of LC-ESI-TOF MS for High Performance Isotope Labeling Metabolome Profiling;** Chad Iverson; Liang Li; *University of Alberta, Edmonton, Canada*
- MP 292 **Deciphering Triterpene Saponin Biosynthesis using Natural Diversity, Metabolomics and Gene Expression Profiling;** Lloyd W. Sumner; John H. Snyder; Dong Sik Yang; Vered Tzin; David V. Huhman; Stacy Allen; Yuhong Tang; *The Samuel Roberts Noble Foundation, Ardmore, OK*
- MP 293 **Probing Isomeric Diversity of Acylsugars in Glandular Trichomes of Wild Tomato Relatives using UHPLC and Collision Induced Dissociation Mass Spectrometry;** Banibrata Ghosh; Jeongwoon Kim; Anthony L. Schillmiller; Cornelius Barry; Robert L. Last; A. Daniel Jones; *Michigan State University, East Lansing, Michigan*
- MP 294 **ESI-MS Phytochemical Profile and Genetic Analysis in Selected Chemotypes of *Arrabidaea chica* Verlot;** Elaine C. Cabral¹; Eduardo M. Schmidt¹; Ilza M. de O. Souza²; Glyn M. Figueira²; Jose M. Riveros³; Marcos N. Eberlin¹; Mary A. Foglio²; ¹Thomson Lab UNICAMP, Campinas, Brazil; ²CPQBA-UNICAMP, Campinas, Brazil; ³Institute of Chemistry - USP, Sao Paulo, Brazil
- MP 295 **Determination of the Molecular Transformations and Pathways that Occur during the Winemaking Process;** Mark Dreyer¹; Paul Tarr²; Mona Shahgholi²; ¹Thermo Fisher Scientific, San Jose, Ca; ²California Institute of Technology, Pasadena, Ca
- MP 296 **Comparative Phytochemical Analysis of Leaf extracts of *Ocimum* Varieties Using High Resolution Mass Spectrometry and Principal Component Analysis;** Annu Uppal; Manoj Pillai; *AB SCIEX India, Gurgaon, India*
- MP 297 **Profiling Metabolites Involved in Tryptophan Biosynthesis and Degradation in Yeast by Quadrupole-linear Ion Trap Mass Spectrometry;** Fong Lam Chu¹; Corey Nislow²; Guri Giaever²; Lekha Sleno¹; ¹UQAM, Montreal, Canada; ²University of Toronto, Toronto, Canada
- MP 298 **Developing an Assay for Tryptophan Metabolites in Order to Determine Their Impact on the Pathogenicity of *Chlamydia trachomatis*;** Timothy J. Conjelko³; Stephan Baumann¹; Michael Muehlbauer²; Joern Coers²; James Bain²; ¹Agilent Technologies, Inc., Santa Clara, CA; ²Duke University, Durham, NC; ³Agilent Technologies, Wixom, MI
- MP 299 **Using Information Dependent Acquisitions to Investigate Endogenous Pathways of Thyronamine Metabolism;** Sarah Hackenmueller; Thomas Scanlan; *Oregon Health & Science University, Portland, OR*
- MP 300 **Metabolomics Study of Mouse Brain Microdialysis Samples Using Liquid Chromatography Tandem Mass;** Lining Qi¹; John Schlager¹; Wataru Ito²; Alexei Morozov²; Pavel Shiyonov¹; ¹HJF - 711HPW/RHDJ, US Air Force Research Lab, Wright-Patterson Air Force Base, OH; ²National Institute of Mental Health, Bethesda, MD, US
- MP 301 **Senescence of Human Bone Marrow-Derived Clonal MSCs (hcMSC) Stimulates Irregularity of the expression of Endogenous Metabolites;** Seul Ji Lee¹; Yun Pyo Kang¹; Byeong Cheol Moon¹; Sun U. Song²; Tac-Ghee Yi²; Jeongmi Lee³; Jeong Hill Park¹; Sung Won Kwon¹; ¹Seoul National University, Seoul, South Korea; ²Inha University, Incheon, South Korea; ³Sungkyunkwan University, Suwon, South Korea
- MP 302 **Rapid CE-MS Method for Analysis of Human Stem Cell Culture Medium and Glycosylation in Proteins;** Shuai Sherry Zhao¹; Cai Tie^{1,2}; David Chen¹; ¹University of British Columbia, Vancouver, Canada; ²Peking University, Beijing, China
- MP 303 **Metabolomics of Estrus and Anestrus Urine from Manatees;** Noelle M. Elliott; Meghan Bills; Jodie V. Johnson; Richard A. Yost; David H. Powell; *University of Florida, Gainesville, FL*
- MP 304 **Profiling of Polar Metabolites in a Single Zebrafish Embryo by Direct-infusion High Resolution Mass Spectrometry;** Masanori Kusumoto; Hiroyuki Nakagawa; Jiro Deguchi; Kiyoko Bando; Toshiyuki Mikami; *Dainippon Sumitomo Pharma Co.,Ltd., Osaka, Japan*



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- MP 305 **Detection the Distribution of Apigenin's Absorption in Human Hepatocellular Carcinoma Cell Line with LC-MS/MS and ToF-SIMS;** Chun-Chao Chang; Fu-Der Mai; *Taipei Medical University, Taipei, Taiwan*
- MP 306 **Developing Imaging Mass Spectrometry in 3D Cell Cultures to Evaluate Novel Cancer Therapeutics;** Amanda B. Hummon; Haohang Li; Eric Weaver; Xin Liu; *University of Notre Dame, Notre Dame, IN*
- MP 307 **Increased MALDI-MSI Sensitivity of Glucocorticoids by using 2, 4-dinitrophenylhydrazine as a Reactive Matrix;** Sara Ståhl; Richard Goodwin; Per E. Andren; *Uppsala University, Uppsala, Sweden*
- MP 308 **Validation of Heme as a Marker of the Vasculature for MALDI Imaging of the Blood-Brain Barriers in Drug Development;** Xiaohui Liu^{1,2}; Claire Sauvageot³; N Murat Karabacak²; Michael Easterling⁴; Katherine Kellersberger⁴; Jeffrey Agar⁵; Charles Stiles³; Nathalie Agar^{1,2}; ¹*Brigham Women Hospital, Boston, MA*; ²*Harvard Medical School, Boston, MA*; ³*Dana Farber Cancer Institute, Boston, MA*; ⁴*Bruker Daltonics, Inc., Billerica, MA*; ⁵*Brandeis University, Waltham, MA*
- MP 309 **Drug Screening Using Microarrays and Imaging Mass Spectrometry;** Roberto Fernandez¹; Antonio Veloso¹; Gabriel Barreda-Gomez²; Egoitz Astigarraga²; Teresa Giralt¹; Rafael Rodriguez-Puertas¹; Jose A. Fernandez¹; ¹*Universidad del Pais Vasco, Leioa, Spain*; ²*IMG Pharma Biotech, Leioa, Spain*
- MP 310 **From the Mass Spectrometry Imaging of Oxaliplatin in Human Tumours to a Proposition for Its Mechanism of Action;** Amina Bouslimani¹; Nicole BEC¹; François Quenet²; Frédéric Pinguet³; Christian Larroque¹; ¹*IRCM U 896, CRLC Val d'Aurelle, Univ Montpellier 1, Montpellier, fr*; ²*Service de chirurgie A2, CRLC Val d'Aurelle, Montpellier, fr*; ³*Laboratoire d'oncopharmacologie CRLC Val d'Aurelle, Montpellier, fr*
- MP 311 **Imaging of Drugs Based on Transition Metals and Halogens in Thin Human and Animal Tissue Sections by Means of LA-ICP-MS;** Olga Reifschneider; Michael Sperling; Uwe Karst; *University of Münster, Münster, Germany*
- MP 312 **Multiplexed Imaging of Nanoparticle Biodistributions in Tissues using Laser Desorption/Ionization Mass Spectrometry;** Bo Yan; Sung-Tae Kim; Krishnendu Saha; Chang-Soo Kim; Amy L. Roberts; Daniel F. Moyano; Felix S. Alfonso; Ying Jiang; D. Joseph Jerry; Vincent M. Rotello; Richard W. Vachet; *University of Massachusetts Amherst, Amherst, MA*
- MP 313 **QUAL/QUAN Analysis of Drugs and Metabolites from Tissue sections by Liquid Extraction Surface Analysis - Differential Ion Mobility Mass Spectrometry;** Tiffany Porta¹; Thomas Kraemer²; Emmanuel Varesio¹; Gérard Hopfgartner¹; ¹*University of Geneva, Geneva, Switzerland*; ²*University of Zurich, Zurich, Switzerland*
- MP 314 **Complimentary High Mass Resolution Measurements Applied to Drug Distribution Analysis in Tissue;** Josie Morrell¹; Bianca Squillaci³; Dave Hassall⁴; Andy West²; Laura Tomlinson²; Peter Marshall²; ¹*Respiratory DMPK, GlaxoSmithKline, Stevenage, UK*; ²*CSC, GlaxoSmithKline, Stevenage, UK*; ³*PTS DMPK, GlaxoSmithKline, Stevenage, UK*; ⁴*Respiratory TAU, GlaxoSmithKline, Stevenage, UK*
- MP 315 **Imaging Drug and Metabolites in Target Tissue using Desorption electrospray Ionization Mass Spectrometry;** Lin Xu; Angela Wehr; Chandra Prakash; *Biogen Idec, Cambridge, MA*

- MP 316 **Characterization of Renal Crystalline Deposits in a Rat Drug Toxicity Study using MALDI MS Imaging;** Anna Nilsson¹; Benita Forngren²; Sivert Bjurström²; Elisa Basmaci²; Alexander Svanhagen²; Per E. Andren¹; Johan Lindberg²; ¹*Uppsala University, Uppsala, Sweden*; ²*AstraZeneca R&D, Södertälje, Sweden*
- MP 317 **Utility of Mass Spectrometry Imaging in Drug Delivery Systems;** David Bonnel¹; Frauke Kreye^{2,3}; Gregory Hamm¹; Youness Karrouit^{2,3}; Raphael Legouffe¹; Florence Siepmann^{2,3}; Juergen Siepmann^{2,3}; Jonathan Stauber¹; ¹*ImaBiotech, MS Imaging Departement, Lille, France*; ²*INSERM U 1008, Lille, France*; ³*University of Lille, College of Pharmacy, Lille, France*
- MP 318 **Accurate Mass Imaging in Full Scan Mode to Assess Effective Drug Delivery;** Sheerin K. Shahidi-Latham¹; Cristine Quiason¹; Jane Kenny¹; Katherine Kellersberger²; Shannon Cornett²; Brian Dean¹; ¹*Genentech, Inc., South San Francisco, CA*; ²*Bruker Daltonics Inc., Billerica, MA*
- MP 319 **Rapid Assessment of Drug and Metabolite Distribution in Whole Animal Tissues via Accurate Mass Imaging;** Cristine Quiason¹; Katherine A. Kellersberger²; D. Shannon Cornett²; Brian Dean¹; Sheerin K. Shahidi-Latham¹; ¹*Genentech Inc., South San Francisco, CA*; ²*Bruker Daltonics, Billerica, MA*
- MP 320 **Drug and Metabolites Study in Whole Body Animal by High Definition MALDI Imaging;** Emmanuelle Claude¹; Mark W Towers¹; Lars Bendahl²; Ian Edwards¹; Paul Murray¹; Johannes Pc Vissers¹; ¹*Waters Corporation, Manchester, UK*; ²*H. Lundbeck A/S, Valby, Denmark*
- MP 321 **Chemical Imaging of Zebrafish by Desorption Electrospray Ionization-Mass Spectrometry (DESI-MS);** Livia S Eberlin²; Alexander Chramow¹; Tanam S. Hamid¹; Marion Girod³; R. Graham Cooks²; Demian R. Ifta¹; ¹*York University, Toronto, Canada*; ²*Purdue University, West Lafayette, IN*; ³*ISA CNRS Univ Lyon 1, Villeurbanne Cedex, France*

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- MP 322 **Maldi Imaging of Small Histological Tissue Applied to Ophthalmology: Qualitative and Quantitative Approach in Drug Discovery;** Gregory Hamm¹; Nicolas Desbenoit^{2,6}; Legouffe Raphael¹; Fabien Pamelard¹; David Bonnel¹; Olivier Laprevote^{3,7}; Alain Brunelle³; Maxence Wisztorski⁵; Jean-Pierre Both⁴; Christophe Baudoin^{2,6}; Françoise Brignole-Baudouin^{2,6}; Jonathan Stauber¹; ¹*ImaBiotech, MS Imaging Department, Lille, France*; ²*Institut de la Vision, INSERM, UMR_S968, Paris, France*; ³*Institut de Chimie des Substances Naturelles, Gif-sur-Yvette, France*; ⁴*CEA-LIST, Gif-sur-Yvette, France*; ⁵*FABMS, Université de Lille, Villeneuve d'Ascq, France*; ⁶*CHNO des Quinze-Vingts, Paris, France*; ⁷*CTAC, Université Paris Descartes, Paris, France*
- MP 323 **The Sausage Omelette: Breakfast of (IMS) Champions or a Novel Quantitation Tool for Small Molecule Imaging?** Katherine Kellersberger¹; Mark R. Groseclose²; David S. Wagner²; Stephen Castellino²; ¹*Bruker Daltonics, Billerica, MA*; ²*GlaxoSmithKline, Research Triangle Park, NC*
- MP 324 **Quantitative Imaging Mass Spectrometry Using Internal Standards: A Case Study of Rifampicin in Rabbit Liver Tissue;** Chad Chumbley¹; Michelle Reyzer¹; Jamie Allen¹; Gwendolyn Marriner^{2,3}; Clifton Barry^{2,3}; Richard M. Caprioli^{1,4}; ¹*Vanderbilt University, Nashville, TN*; ²*National Institute of Allergy & Infectious Disease, Bethesda, MD*; ³*National Institutes of Health, Bethesda, MD*; ⁴*Vanderbilt Univ Sch of Med, Nashville, TN*



- MP 325 **Development of Methodology for the Quantification of Pharmaceuticals in Tissue Sections by MALDI-MSI**; Bryn Flinders¹; Josie Morrell²; Peter S. Marshall²; Lisa E. Ranshaw²; Malcolm R. Clench¹; ¹Sheffield Hallam University, Sheffield, UK; ²GlaxoSmithKline, Stevenage, UK
- MP 326 **Strategic Role of Matrix Solution Conditions for Quantitative MALDI Mass Spectrometric Imaging of Tissue Sections**; Dodge Baluya; Yuansheng Zhao; Jyoti Sharma; James Gallo; Rong Wang; Mount Sinai School of Medicine, New York, NY
- MP 327 **7.87 eV Laser Desorption Postionization MS Imaging to Quantify Small Molecule Antibiotics on Intact Colony Biofilms**; Melvin Blaze M.T; Chhavi Bhardwaj; Luke Hanley; University of Illinois at Chicago, Chemistry, Chicago, IL
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- MP 328 **Platinum Vapor Deposition-Assisted Laser Desorption/Ionization for Imaging Mass Spectrometry of Small Molecules**; Hideya Kawasaki¹; Tomoyuki Ozawa²; Hirotaka Hisatomi¹; Tetsuro Higashiisokawa¹; Ryuichi Arakawa¹; ¹Kansai University, Osaka, Japan; ²Nissan Chemical Industries, Ltd., Funabashi, Japan
- MP 329 **Enhancing MALDI MS Signals through Chemistry using Precoated Reagent Targets: Analysis of Derivatized Amino Acids and Neurotransmitters in Tissue**; Lisa Manier; Richard M. Caprioli; Vanderbilt University, Nashville, TN
- MP 330 **Imaging of Lipids in Rat Cerebellum by MALDI-MS**; Shelley N Jackson; Kun Leng; Benoit Colsch; Amina S. Woods; NIDA-IRP, NIH, Baltimore, MD
- MP 331 **Imaging of Brains from Glucose Transporter Double Knockout Mice Reveals Region-Specific Changes in Lipids**; Jihyeon Lim; Xiu-Quan Du; Berta Burd; Ruth H. Angeletti; Maureen J. Charron; Albert Einstein College of Medicine, Bronx, NY
- MP 332 **Visualization of Acetylcholine Distribution in the Brain by Imaging Mass Spectrometry**; Ikuko Yao^{1,2}; Yuki Sugiura^{2,3}; Nobuhiro Zaima³; Mitsutoshi Setou³; Seiji Ito¹; ¹Kansai Medical University, Osaka, Japan; ²PRESTO, Tokyo, Japan; ³Hamamatsu University School of Medicine, Hamamatsu, Japan
- MP 333 **Trehalose Distribution in Mouse Brain Tissue by MALDI Imaging: Preliminary Data**; Simona Colantonio¹; Stephan T. Stern²; Abdullah A. Mahmud²; Andrew G. Stephen¹; Robert J. Fisher¹; ¹PCL, SAIC/NCI-Frederick, Frederick, MD; ²NCL, SAIC/NCI-Frederick, Frederick, MD
- MP 334 **Molecular Imaging Analysis of Sleep Deprivation Impairs Ca²⁺ Expression in the Hippocampus with TOF-SIMS**; Fu-Der Mai; Chun-Chao Chang; Taipei Medical University, Taipei, Taiwan
- MP 335 **In situ Metabolic Flow Analyses of ¹³C₃ alanine in Tumor Bearing-liver using CE-MS and MALDI Mass Spectrometric Imaging**; Akiko Kubo; Mitsuyo Ohmura; Masatoshi Wakui; Takako Hishiki; Makoto Suematsu; Department of Biochemistry, Shinjuku, Japan
- MP 336 **Development of Direct Micro-Extracting Mass Spectrometry for Analysis of Molecules in Tissue Section**; Sachiko Date; Tsutomu Masujima; Quantitative Biology Center (QBiC), RIKEN, Osaka, Japan
- MP 337 **Molecular Imaging of Plausible Prebiotic Nucleobases by Desorption Electrospray Ionization and Laser Ablation-Direct Analysis in Real Time Mass Spectrometry**; Rachel Bennett¹; Joel Keelor¹; Arthur Weber²; Facundo Fernandez¹; ¹Georgia Institute of Technology, Atlanta, GA; ²SETI Institute, Mountain View, CA
- MP 338 **DESI Imaging Mass Spectrometry Investigation of Formamide Reactions on Mineral Surfaces**; Rachel V. Bennett¹; Denis A. Sokolov¹; Jeffery Davis²; Thomas M. Orlando¹; H. James Cleaves³; Facundo M. Fernandez¹; ¹Georgia Institute of Technology, Atlanta, GA; ²National Institute of Standards and Technology, Gaithersburg, MD; ³Carnegie Institution for Science, Washington, DC
- MP 339 **Spatial-resolved Analysis of Hydroxynitrile Glucosides Distribution in Plant Tissues by Desorption Electrospray Ionization (DESI) Imaging Mass Spectrometry**; Bin Li; Nanna Bjarnholt; Camilla Knudsen; Steen H. Hansen; Christian Janfelt; University of Copenhagen, Copenhagen, Denmark
- MP 340 **Comparison of Direct Lipid Analysis of Tissue Sections by Four Different Desorption Ionization Techniques**; Veronika Vidova^{1,2}; Jaroslav Pol²; Martin Strohalm²; Vladimir Havlicek²; Charles Frevert¹; Michael Volny^{2,2}; ¹University of Washington, Seattle, WA; ²Institute of Microbiology, Prague, Czech Republic
- MP 341 **Localisation of Adenine Nucleotides in Mouse Brain using Ion-Mobility Enabled MALDI Imaging**; Eleanor Q. Blatherwick; Bruno G. Frenguelli; James H. Scrivens; University of Warwick, Coventry, UK
- MP 342 **Data Independent MALDI Imaging Ion Mobility Acquisition for the Visualisation and Identification of Lipids Directly from a Single Tissue Section**; Emmanuelle Claude¹; Mark W Towers¹; Kieran J Neeson¹; Giuseppe Astarita²; Johannes P. C. Vissers¹; ¹Waters corporation UK, Manchester, UK; ²Waters Corporation US, Milford, US
- MP 343 **Mass Spectrometric Imaging of Lipidome in Breast Tumor Xenograft Models**; Kamila Chughtai¹; Lu Jiang²; Tiffany R. Greenwood²; Kristine Glunde²; Ron M.A. Heeren^{1,3}; ¹FOM Institute AMOLF, Amsterdam, Netherlands; ²The Johns Hopkins University School of Medicine, Baltimore, MD; ³The Netherlands Proteomics Centre, Utrecht, Netherlands
- MP 344 **Studies of Distribution of DMXAA in Solid Tumour by Mass Spectrometry Imaging MALDI-MSI**; Afran Batubara¹; Chris Sutton²; Paul Loadman²; Malcolm Clench¹; ¹Sheffield Hallam university, Sheffield, UK; ²University of Bradford, Bradford, UK
- MP 345 **MALDI-MS and MALDI-MS Imaging of Small Molecules using Deuterated Alpha-cyano-4-hydroxycinnamic Acid**; Mohammadreza Shariatgorji¹; Anna Nilsson¹; Richard Goodwin^{1,2}; Zoltan Banka³; Laszlo Kladni³; Tibor Hasko³; Andras Szabo³; Per E. Andren¹; ¹Uppsala University, Uppsala, Sweden; ²AstraZeneca, Uppsala, Sweden; ³Ubichem Research Ltd, Budapest, Hungary
- MP 346 **Metabolite Maps Reconstructed using a Quantitative Data by Capillary Electrophoresis-Mass Spectrometry (CE-MS)**; Tsuyoshi Nakanishi¹; Takako Hishiki²; Shigeki Kajihara¹; Kiyoshi Ogawa¹; Makoto Suematsu²; ¹Shimadzu Corporation, Kyoto, Japan; ²School of Medicine, Keio University, Tokyo, Japan
- MP 347 **Microregional Analysis of Allergic Granule in a RBL-2H3 Cell by Live Single-cell Mass Spectrometry**; Yuki Yamamoto¹; Hajime Mizuno¹; Naohiro Tsuyama¹; Sachiko Date²; Takanori Harada¹; Tsutomu Masujima^{1,2}; ¹Hiroshima Univ. Grad. Sch. Biomed. Sci, Hiroshima, Japan; ²RIKEN QBiC, Osaka, Japan



MP 348 **Using Mass Spectrometry Imaging to Resolve Heterogeneity of Composition and Metabolic Activity within Biofilms;** Katherine Louie¹; Ben Bowen¹; Adam Deutschbauer¹; Romy Chakraborty¹; Matt Fields²; Adam Arkin^{1,3}; Trent Northen¹; ¹Lawrence Berkeley National Lab, Berkeley, CA; ²Montana State University, Bozeman, MT; ³UC Berkeley, Berkeley, CA

MP 349 **Metabolic Profiling of Ischemia Mouse Brain by using MALDI-FT-ICR Imaging Mass Spectrometry;** Daisuke Miura¹; Yoshinori Fujimura²; Kazunori Saito³; Hiroyuki Wariishi¹; ¹Kyushu University, Fukuoka, Japan; ²ICMRN, Kyushu University, Fukuoka, Japan; ³Bruker Daltonics KK, Yokohama, Japan

MP 350 **Biodistribution in Tissue of Novel Drug Molecules via MALDI-Imaging Mass Spectrometry (MALDI-IMS);** Carly N. Ferguson¹; Ewa D. Micewicz²; Fred F. Kobzeff²; William H. McBride³; Richard A. Gatti³; Joseph A. Loo¹; University of California Los Angeles, Los Angeles, CA

MP 351 **Latent Fingerprint Chemical Imaging by Multiplex MALDI Mass Spectrometry;** Gargey Yagnik^{1,2}; Andrew Korte^{1,2}; Young Jin Lee^{1,2}; ¹Ames Laboratory US DOE, Ames, IA; ²Iowa State University, Ames, IA

MP 352 **The "After-Life" Experiment - Mass Spectrometry Imaging Used to Demonstrate the "Cycle of Life";** Callie Seaman¹; Gareth Hopcroft¹; Bryn Flinders²; Daniel Kinsman²; Malcolm Clench²; ¹Aquaculture, Sheffield, UK; ²Sheffield Hallam University, Sheffield, UK

MP 353 **Examination of Treatments for Chronic Skin Diseases by MALDI-MS Imaging and Profiling;** Christopher Mitchell¹; Vikki Carolan¹; Michael Donaldson²; Simona Francese³; Malcolm Clench³; ¹BMRC, Sheffield, UK; ²Stiefel, a GSK company, Middlesex, UK; ³Sheffield Hallam University, Sheffield, UK

MP 354 **In-situ Analysis of Plant Phototropism molecules by Live Single-cell Mass Spectrometry;** Takashi Fujii¹; Sachiko Date²; Hajime Mizuno¹; Naohiro Tsuyama¹; Takanori Harada¹; Tsutomu Masujima^{1,2}; ¹Hiroshima Univ. Grad. Sch. Biomed. Sci., Hiroshima, Japan; ²RIKEN QBiC, Osaka, Japan

MP 355 **In-situ Analysis of Plant Bioactive Molecules by Live Single-cell Mass Spectrometry;** Shuichi Matsuda¹; Sachiko Date²; Hajime Mizuno¹; Naohiro Tsuyama¹; Takanori Harada¹; Tsutomu Masujima^{1,2}; ¹Hiroshima Univ. Grad. Sch. Biomed. Sci., Hiroshima, Japan; ²Quantitative Biology Center (QBiC), RIKEN, Osaka, Japan

MP 356 **Imaging MS Analysis of Glucosinolates in Metal Hyperaccumulating Plants;** Michelle L. Reyzer¹; Rebecca Sims²; David H. McNear, Jr.²; Richard M. Caprioli¹; ¹Vanderbilt University, Nashville, TN; ²University of Kentucky, Lexington, KY

MP 357 **Plant Imprint Imaging Using Matrix Assisted Laser Desorption Ionization Mass Spectrometry (MALDI-MS);** Thomas Mueller¹; Anna Killingner¹; Bernhard Kraeutler¹; University of Innsbruck, Innsbruck, Austria

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MP 359 **MS-Viewer—A Web Based Spectral Viewer For Database Search Results;** Peter R Baker¹; A.L. Burlingame²; Robert Chalkley¹; ¹UCSF, Rokitnica, Poland; ²University of California, San Francisco, CA

MP 360 **RAId Web Service: Batch Processing of MS/MS Spectral Data;** Aleksey Y Ogurtsov¹; Gelio Alves¹; Yi-Kuo Yu¹; National Center for Biotechnology Information, NLM, Bethesda, MD

MP 361 **A Database Search Strategy for the Identification of Non-Tryptic Peptides in Shotgun Proteomics;** Gelio Alves¹; Aleksey Y Ogurtsov¹; Yi-Kuo Yu¹; National Center for Biotechnology Information, NLM, Bethesda, MD

MP 362 **Performance Comparison of Database Search Engines using Annotated MS/MS Data Obtained by Different Dissociation Techniques ;** Mark Ivanov¹; Lev Levitsky¹; Anton Goloborodko¹; Irina A. Tarasova¹; Mikhail V. Gorshkov¹; INEPCP RAS, Moscow, Russian Federation

MP 363 **Optimize Database Search Software for Peptide Identification with AB TripleTOF 5600;** Lian Yang²; Lei Xin¹; Baozhen Shan¹; ¹Bioinformatics Solutions Inc., Waterloo, Canada; ²University of Waterloo, Waterloo, Canada

MP 364 **An Optimized Kinetic Model of Peptide Fragmentation for Prediction of CID MS/MS;** Shaojun Sun¹; Rober Brown¹; Chia-Yu Yen¹; Karen Meyer-Arendt¹; Meredith Betterton¹; Ilkyeun Ra²; Natalie Ahn^{1,3}; William Old¹; ¹University of Colorado Boulder, Boulder, CO; ²University of Colorado Denver, Denver, CO; ³Howard Hughes Medical Institute, UCB, Boulder, CO

MP 365 **Basophile: A Chemistry-Based Fragmentation Model for Improved Peptide Identification;** Dong Wang¹; Surendra Dasari¹; David Tabb¹; Vanderbilt University, Nashville, TN

MP 366 **Spectronaut: A Fast and Efficient Algorithm for MRM-like processing of data Independent Acquisition (SWATH-MS) Data;** Oliver M. Bernhardt¹; Nathalie Selevsek²; Ludovic Gillet²; Oliver Rinner¹; Paola Picotti³; Ruedi Aebersold²; Lukas Reiter¹; ¹Biognosys, Zurich, Switzerland; ²Institute of Molecular Systems Biology, ETH Zurich, Zurich, Switzerland; ³Institute of Biochemistry, ETH Zurich, Zurich, Switzerland

MP 367 **Integration of Spectral Library in Standard Data Processing Pipeline for Shotgun Proteomics Data;** Kai Fritzemeier¹; Torsten Ueckert¹; Bernard Delanghe¹; Thermo Fisher Scientific (Bremen) GmbH, Bremen, Germany

MP 368 **A Neighbor-based Approach to Extending the Coverage of Spectral Libraries;** Chao Ji¹; Randy J. Arnold¹; Haixu Tang¹; Predrag Radivojac¹; Indiana University, Bloomington, IN

MP 369 **Spectral Alignment with Adaptive Penalties for Post-Translational Modifications and Mutations;** Laurence Bernstein¹; Nuno Bandeira^{2,3}; ¹UCSD - Bioinformatics Graduate Program, La Jolla, CA; ²Skaggs School of Pharmacy and Pharm. Sci., UCSD, La Jolla, CA; ³Center for Computational Mass Spec., CSE, UCSD, La Jolla, CA

MP 370 **Sequencing-grade de-novo Analysis of MS/MS Triplets (CID, HCD, and ETD) from Overlapping Peptides;** Adrian Guthals¹; Karl R. Clauser³; Ari Frank¹; Nuno Bandeira^{1,2}; ¹Center for Computational Mass Spec., CSE, UCSD, La Jolla, CA; ²Skaggs School of Pharmacy and Pharm. Sci., UCSD, La Jolla, CA; ³Broad Institute of MIT and Harvard, Cambridge, MA

MP 371 **Novel Mass Tag de novo Sequencing Approach for Peptide Identification;** Arun Devabhaktuni¹; Josh Elias¹; Stanford University, Stanford, CA

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MP 373 **Residual Mass Matrix Searching (RiMMS): A Novel Database Search Strategy for the En Masse Identification of Single Amino Acid Substitutions;** Joel



Chick; Deepak Kolippakkam; Steve Gygi; *Harvard medical school, Boston, MA*

- MP 374 **pNovo+: de novo Peptide Sequencing using Complementary HCD and ETD Tandem Mass Spectra;** Hai-Feng Chen¹; Hao Chi¹; Kun He¹; Long Wu¹; Bing Yang²; Chun-Qing Song²; Rui-Xiang Sun¹; Jianyun Liu³; Si-Min He¹; Meng-Qiu Dong²; ¹*Institute of Computing Technology, CAS, Beijing, China*; ²*NIBS, Beijing, Beijing, China*; ³*Beihang University, Beijing, China*
- MP 375 **In Depth Analysis of the Spectra Unassigned by Database Search;** Lian Yang²; Baozhen Shan¹; Zefeng Zhang¹; Weiwei Chen¹; Bin Ma²; ¹*Bioinformatics Solutions Inc., Waterloo, Canada*; ²*University of Waterloo, Waterloo, ON*
- MP 376 **Overcoming Species Boundaries in Protein Identification with a Bayesian Information Criterion-driven Error-tolerant Peptide Search (BICEPS);** Bernhard Renard¹; Buote Xu²; Marc Kirchner³; Franziska Zickmann¹; Dominic Winter³; Simone Korsten⁴; Norbert Brattig⁴; Amit Tzur⁵; Fred Hamprecht²; Hanno Steen³; ¹*Robert Koch-Institute, Berlin, Germany*; ²*University of Heidelberg, Heidelberg, Germany*; ³*Children's Hospital Boston / Harvard Medical, Boston, MA*; ⁴*Bernhard Nocht Institute, Hamburg, Germany*; ⁵*Bar-Ilan University, Ramat-Gan, Israel*
- MP 377 **Clustering and Extraction of Tandem Mass Spectra Acquired in Data-Independent Mode;** Huisong Pak¹; Frederic Nikitin²; Frederique Lisacek²; Alexander Scherl¹; Markus Muller²; ¹*University of Geneva, Geneva, Switzerland*; ²*Swiss institute of Bioinformatics, Geneva, Switzerland*
- MP 378 **Expanding the Universe of Peptide Identifications: Simultaneous Proteogenomic, Metaproteomic and Unbiased PTM Analysis for Biomarker Discovery of Pre-malignant Oral Lesions;** Pratik Jagtap¹; Jill Goslinga²; Joel Kooren²; Susan K. Van Riper²; Matt Wroblewski²; Tim Griffin²; ¹*Minnesota Supercomputing Institute, UMN, Minneapolis, MN*; ²*University of Minnesota, Minneapolis, MN*
- MP 379 **Using Activity-Based Probes and Advanced Analysis Tools to Detect and Analyze Cellulose Degrading Enzymes in Cow Rumen;** Brian Lamarche¹; Stephen Callister²; Aaron Wright²; Birgette Ahning¹; Amy Boaro¹; Michael Wilkins²; Robert Lewis¹; John Miller¹; Matthew Monroe²; Gordon Anderson²; Richard Smith²; ¹*Washington State University, Richland, WA*; ²*Pacific Northwest National Laboratory, Richland, WA*
- MP 380 **Direct Peptide Identification in LCMS Data;** Xuepo Ma¹; Jian Cui¹; Konstantinos Petritis²; Tony Tegeler²; Shoujiang Gao³; Jianqiu Zhang¹; ¹*Univ. of Texas at San Antonio, San Antonio, TX*; ²*Center for Proteomics, TGEN, Phoenix, AZ*; ³*Keck School of Medicine, USC, Los Angeles, CA*
- MP 381 **Essentially of Precursor Mass Accuracy and Low Mass Tolerance – Insights from Analyses of Data from Two Models of LTQ-Orbitrap;** Lichieh Julie Chu; Rueyhung Roc Weng; Hung-Wei Shu; Timothy H. Wu; Mengchieh Claire Chen; Yuwei Chang; Wailap Victor Ng; *National Yang Ming University, Taipei, Taiwan*
- MP 382 **How Useful Is the Product Ion Mass Accuracy for Peptide Identification?** Baozhen Shan¹; Ben Dankiw¹; Bin Ma²; ¹*Bioinformatics Solutions Inc., Waterloo, Canada*; ²*University of Waterloo, Waterloo, ON*
- MP 383 **A Novel Peptide LC-MS Observability Metric for Building Spectral Libraries of Human Plasma Proteins;** Qian Dong; Xinjian Yan; Yuri Mirokhin; Yuxue Liang; Lisa E. Kilpatrick; Jeri Roth; Paul Rudnick; Stephen E. Stein; *NIST, Gaithersburg, MD*
- MP 384 **MudPIT Re-analysis with Ranked Extracted Ion Chromatography (RExIC);** Peter Leopold¹; Samantha Peacock²; Benjamin Weindorf²; Keith Rivera²; Darryl J Pappin²; Cristian I. Ruse²; ¹*BioAnalyte Inc., Portland, ME*; ²*Cold Spring Harbor Laboratory, Cold Spring Harbor, NY*
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- MP 386 **MixGF: Spectral Probability for Mixture Spectra from More Than One Peptide;** Jian Wang; Philip Bourne; Nuno Bandeira; *University of California, San Diego, La Jolla, CA*
- MP 387 **Strategies for Differentiating Isomers from Heparan Sulfate Fragmentation using Tandem Mass Spectrometry;** Han Hu^{1,2}; Yu Xia²; Nancy Leymarie¹; Joseph Zaia¹; ¹*Boston University School of Medicine, Boston, MA*; ²*Boston University Bioinformatics Program, Boston, MA*
- MP 388 **Mass Fingerprinting of Complex Mixtures: Protein Inference from High Resolution Peptide Masses and Predicted Retention Time;** Luminita Moruz¹; Michael Hoopmann²; Viktor Granholm¹; Robert Moritz²; Lukas Käll³; ¹*Stockholm University, Solna, Sweden*; ²*Institute for Systems Biology, Seattle*; ³*Royal Institute of Technology (KTH), Solna, Sweden*
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- MP 390 **A New Methodology and Bioinformatics Tool for Identification of Bacteria Based on Mass Spectrometry;** Ricardo J. Carreira¹; Júlio D. Nunes-Miranda²; José L. Capelo²; ¹*University of British Columbia, Vancouver, Canada*; ²*University of Vigo, Ourense, Spain*
- MP 391 **Connect-The-Dots: A Tool for Developing New Hypothesis by Visualizing Quantitative Proteomic Data in Relation to Protein-Protein Interactions;** Michael J Sweredoski; Robert Lj Graham; Sonja Hess; *Caltech, Pasadena, CA*
- MP 392 **Spectrum Viewer: Revolutionising Reader-Article Interaction in the Web Browser by Embedding Dynamic Mass-Spectral Data;** Jimi-Carlo Bukowski-Wills¹; Juri Rappsilber^{1,2}; ¹*Wellcome Trust Centre for Cell Biology, Edinburgh, UK*; ²*Technische Universität Berlin, Berlin, Germany*
- MP 393 **Metabolite Identification using eMZed, a New Open Source Framework for LC-MS Data Analysis;** Patrick Kiefer¹; Uwe Schmitt²; Julia A. Vorholt¹; ¹*Swiss Federal Institute of Technology, Zurich, Switzerland*; ²*Mineway GmbH, Saarbruecken, Germany*
- MP 394 **Rapid Proteomics Analysis Algorithm Development Using Proteome Discoverer: A Development Environment for Proteomics Scientists;** Iman Mohtashemi; Kai Fritzemeier; Hans Grensemann; Bernard Delanghe; David Horn; Torsten Ueckert; *Thermo Fisher Scientific, San Jose, CA*
- MP 395 **paRseMSF: R Package for Parsing Thermo MSF Files;** Ashoka D. Polpitiya; Chen Zhao; Konstantinos Petritis; *Translational Genomics Research Institute, Phoenix, AZ*
- MP 396 **The Mass Spectrometry Toolkit (MSTK): Efficient Software Development for Mass Spectrometry Data Analysis;** Marc Kirchner^{1,5}; Mathias Wilhelm²; David Sichau²; Buote Xu²; Bernhard Kausler⁴; Anna Kreshuk⁴;



Xinghua Lou⁴; Thorben Kroeger⁴; Bernhard Y Renard³; Fred A Hamprecht⁴; Judith A Steen¹; Hanno Steen¹; ¹*Children's Hospital Boston / Harvard Medical, Boston, MA*; ²*Children's Hospital Boston, Boston, MA*; ³*Robert Koch Institute, Berlin, Germany*; ⁴*HCI, University of Heidelberg, Heidelberg, Germany*; ⁵*Technical University Munich (TUM), Munich, Germany*

- MP 397 **Longitudinal Monitoring of Quality Control Metrics on Orbitrap with the SIMPATIQCO Software as a Basis for Successful Proteomics Validation Studies**; Peter Pichler¹; Michael Mazanek²; Werner Straube²; Thomas Köcher²; Karl Mechtler²; ¹*Christian Doppler Laboratory for Proteome Analysis, Vienna, Austria*; ²*Research Institute of Molecular Pathology (IMP), Vienna, Austria*
- MP 398 **Real-time Analysis Based on Mass Relationships**; Chad R. Weisbrod; Juan D. Chavez; Chunxiang Zheng; Jimmy K. Eng; Patrick J. Nygren; F. Donelson Smith; John D. Scott; James E. Bruce; *University of Washington, Seattle, WA*
- MP 399 **Improvement of Real-time Statistical Analysis using Tumor Margins and Tumor Surrounding Regions**; Julia Balog^{1,2}; Laszlo Sasi-Szabo³; Zoltan Takats^{2,4}; ¹*Medimass Ltd., Budapest, Hungary*; ²*Semmelweis University, Budapest, Hungary*; ³*Debrecen University, Debrecen, Hungary*; ⁴*Imperial College, London, UK*

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- MP 401 **Liquid-Liquid Extraction with "Inter-Well Volume Replacement" Sample Dilution for Quantification of Apixaban in Human Dried Blood Spots by uHPLC-MS/MS**; Naiyu Zheng; Heidi Snapp; Guowen Liu; Jianing Zeng; Qin C. Ji; Mark E. Arnold; *Bristol-Myers Squibb Research & Development, Princeton, NJ*
- MP 402 **Method for the Direct Injection and On-line Sample Clean-up of Whole Methanolic Extracts from Dried Blood Spots**; Paul Rainville; Jennifer Simeone; Thomas Wheat; Robert Plumb; *Waters, Milford, MA*
- MP 403 **Single Step Removal of Proteins and Phospholipids from Plasma and DBS using a Novel Microvolume Plate**; Xin Zhang; Pamela Longenbach; Frank Marszalkowski; Pamela Iraneta; Moon Chul Jung; *Waters Corp, Milford, MA*
- MP 404 **High Sensitive and Robust Analysis with Fully Automated DBS Extraction System with LC/MS for Sartins and Statin**; Souki Kanda²; Amane Sakurai²; Yasuhiro Bando¹; Hiroshi Hike³; Takatomo Kawamukai³; ¹*Biosys Technologies, Inc., Tokyo, Japan*; ²*Toray Research Center, Inc., Kanagawa, Japan*; ³*AMR, Inc., Tokyo, Japan*
- MP 405 **Analysis of Entire Dried Blood Spots by Flow through Desorption Coupled to Online Solid-phase Extraction and Mass Spectrometry**; Lena Kneigt; Bert Ooms; Christel Hempen; *Spark Holland, Emmen, Netherlands*
- MP 406 **Therapeutic Drug Monitoring Using Direct Flow-Through Elution from Dried Blood Spots Together with Fast LC-TOF-MS**; Robert J. Seward¹; Jonathan Wilson¹; Dhvani Shah¹; Catherine Stacey¹; Lena Kneigt²; ¹*PerkinElmer, Waltham, MA*; ²*Spark Holland B.V., Emmen, Netherlands*

- MP 407 **Evaluation of Instech Automated Blood Sampler (ABS) for Dried Blood Spot Collection in Drug Discovery Rat PK Studies**; Elizabeth A. Mahan; Scott Fauty; Jacqueline Kenny; Suzie Yeh; Rena Zhang; *Merck Research Laboratories, West Point, PA*
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- MP 409 **Automated On-Line Extraction and LC/MS/MS Analysis of Dried Blood Spots for Quantitation of Clozapine and its Metabolites in Rat Blood**; Na Pi Parra; Doug McIntyre; Lester Taylor; Yuqin Dai; *Agilent Technologies, Santa Clara, CA*
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- MP 412 **Analysis of Dried Blood Spots by Paperspray Ionization-MSⁿ and MALDI-MSⁿ**; Elizabeth Muffly; Chia-Wei Tsai; Richard A. Yost; *University of Florida, Gainesville, FL*
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- MP 416 **Screening of Pyridoxine-dependent Epilepsy in Newborn Dried Blood Spots by LC-MS/MS**; Sunhee Jung¹; Sidney Gospe^{1,2}; Si Houn Hahn^{1,2}; ¹*Seattle Children's, Seattle, WA*; ²*University of Washington, Seattle, WA*
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- MP 418 **Evaluation of Hematocrit Effect in Extraction Procedures of DBS for Paper and In-Tips Version, Analyzed with LDTD-MS/MS**; Serge Auger; Grégory Blachon; Pierre Picard; *Phytronix Technologies, Inc., Quebec, Canada*
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- MP 423 **Hematocrit Influence of Sample Preparation for DBS-LC-MS/MS Assay;** Guangchun Zhou¹; Yan Xu¹; Kristin Miller¹; Thomas Astle²; Yong-Xi Li¹; ¹*Medpace, Cincinnati, OH*; ²*Tortec, Hamden, CT*
- MP 424 **Optimization of Sample Extraction Method for DBS-LC-MS/MS assay;** Yan Xu; Guangchun Zhou; Kathryn Barnett; Yong-Xi Li; *Medpace, Cincinnati, OH*
- MP 425 **Effect of DBS Drying Time and Conditions on the Quality of Bioanalytical Results for Discovery Pharmacokinetics;** Xiaohui Chen; Myrtha Durena; Suzie Ferreira; Jakal Amin; Panos Hatsis; Shawn Harriman; *Novartis, Cambridge, MA*
- MP 426 **Evaluation of DBS for the Quantitative Determination of Dexamethasone in Rabbit Aqueous Humor;** Cristina Johnson; Milan Patel; Lisa Borbridge; *Allergan, Irvine, CA*
- MP 427 **Novel Paper Strip Extraction Method for Xanthohumol, a Prenylflavonoid Derived from Hops;** LeeCole Legette¹; ²Ralph Reed^{1,2}; Lia Murty²; Jan F. Stevens^{1,2}; ¹*Linus Pauling Institute, Oregon State University, Corvallis, OR*; ²*College of Pharmacy, Oregon State University, Corvallis, OR*
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- MP 429 **Multi-Species Simultaneous Qualification of Bioanalytical Methods for Compounds at Late Drug Discovery Stage;** Justin Gordon; Michael Johnson; Jing-Tao Wu; Philip Geovanos; Shaoxia Yu; *Millennium Pharmaceuticals, Inc., Cambridge, MA*
- MP 430 **A Fully Automated Online Extraction Method for Determination of Buprenorphine in Rat Plasma by LC-MS/MS;** Qiuying Zhu¹; Min Meng¹; Troy Voelker¹; Juan Rogness¹; Perry Cao²; Ryan Turncliff²; ¹*Tandem Labs, Salt Lake City, UT*; ²*Alkermes, PLC, Waltham, MA*
- MP 431 **Quantitation of Donepezil in Rat Dried Blood Spots by LC-MS/MS: Method Development, Validation and GLP Toxicokinetic Sample Analysis;** Weiwei Yuan¹; Juan Rogness¹; Jesse Kolstad¹; Scott Reuschel¹; Min Meng¹; Susan Meier-Davis²; Fatima Arjmand²; ¹*Tandem Labs, Salt Lake City, UT*; ²*Teikoku Pharma USA, Inc, San Jose, CA*
- MP 432 **Handling of Significant Matrix Effects in a Sub-Picogram LC-MS/MS Method for the Analysis of Mometasone Furoate in Human Plasma;** Alan Dzerk; Veniamin Lapko; Karl Lindeholm; Roger Coe; Brandon Retke; Michael Merrill; Curtis Sheldon; *Celerion, Inc, Lincoln, NE*
- MP 433 **[FeFe]-Hydrogenase Maturation: Probing the Role of HydE Catalyzed reactions by HPLC and TOFMS;** Shourjo Ghose; Jonathan Hilmer; *Montana State University, Bozeman,*
- MP 434 **Automation and High Throughput Analysis of Mycophenolic Acid and Metabolite, Mycophenolic Acid Glucuronide In Plasma of ESRD Patients;** Joshua Prey¹; Kimberly Clark, MS¹; Rocco Venuto, MD²; Kathleen Tornatore-Morse, PharmD.²; Gerald Fetterly, PhD¹; ¹*Roswell Park Cancer Institute, Buffalo, NY*; ²*University at Buffalo, Buffalo, NY*
- MP 435 **Enhanced Chiral Chromatography for the Analysis of Ibuprofen Enantiomers using LC/MS/MS;** Guy Havard; Sylvain Lachance; Nathalie Pelletier; Nadine Boudreau; Ann Levesque; *PharmaNet Canada, Québec, Canada*
- MP 436 **LC-MS/MS Analysis of Mercapturic Acids: Addressing Selectivity and Matrix Effect Issues ;** Veniamin Lapko; Alan Dzerk; Ridha Nachi; Kirk Newland; Curtis Sheldon; *Celerion, Inc, Lincoln, NE*
- MP 437 **Comparative Analysis of Four Mass Spectrometric Methods for the Quantification of Drug Delivery Agents: Bisquaternary Ammonium Gemini Surfactants;** Joshua Buse¹; Haixia Zhang²; Steve Ambrose²; Randy W. Purves²; John C. Hudson³; Ronald E. Verrall⁴; Anas El-Aneel¹; ¹*Col. of Pharmacy, University of Saskatchewan, Saskatoon, Canada*; ²*Mass Spectrometry Laboratory, PBI NRC, Saskatoon, Canada*; ³*Beckman Coulter Inc., Regina, Canada*; ⁴*Dept. of Chemistry, University of Saskatchewan, Saskatoon, Canada*
- MP 438 **Improving the Bioanalysis of Endogenous Bile Acids as Biomarkers for Hepatobiliary Toxicity;** Troy Voelker¹; Kevin Cook²; Min Meng¹; Patrick Bennett²; ¹*Tandem Labs, Salt Lake City, UT*; ²*Thermo Fisher Scientific, San Jose, CA*
- MP 439 **Chromatographic Separation of Pristinamycin and its Metabolites in Incurred Samples;** Caroline Savard; Nathalie Pelletier; Sylvain Lachance; Sofi Gagnon-Carignan; Nadine Boudreau; Ann Levesque; *PharmaNet Canada, Québec, Canada*
- MP 440 **LC-MS/MS Analysis of Kynurenine Pathway Metabolites in Rat Plasma and CSF;** Susan Deupree¹; Patricia Wheelan¹; Mike Allen¹; Kathryn A. Lyons²; Celia Dominguez³; Ignacio Munoz Sanjuan³; Maria Beconi³; ¹*Tandem Labs-RTP, RTP, Durham, NC*; ²*PK Consultant, Holland, NY*; ³*CHDI, Inc., Los Angeles, CA*
- MP 441 **LC/MS/MS Analysis of 15-Hydroxy Lubiprostone in Human Plasma at Low Picogram Level;** Guy Havard; Marie-Josée Marcoux; Nadine Boudreau; Ann Lévesque; *PharmaNet Canada, Québec, Canada*
- MP 442 **Quantitation of OSI-906 in Mouse Plasma and Xenografts Using Liquid Chromatography Electrospray Ionization Tandem Mass Spectrometry (LC-ESI-MS/MS);** William Caufield; Burgess Freeman; *St. Jude Children's Research Hospital, Memphis, TN*
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- MP 444 **Quantitative Bioanalysis using the Q Exactive HRMS: Factors in choosing Resolution and Scan Type;** Jack Cunniff¹; Chris Yang²; Yujin Wang²; Kevin Cook¹; Patrick Bennett¹; ¹*Thermo Fisher Scientific, San Jose, CA*; ²*Gilead Sciences, Foster City, CA*



- MP 445 **Comparison of 1-aminocyclopropane-1-carboxylic Acid Quantification in Corn Leaf Tissue by HILIC/ESI-MS/MS and Reverse Phase UPLC/ESI-MS/MS**; Xiumei Han¹; Vera Cekic¹; John Simmonds²; L. Irina Zaharia¹; Suzanne R. Abrams¹; ¹NRC-Plant Biotechnology Institute, Saskatoon, Canada; ²Agriculture and Agri-Food Canada, Ottawa, Canada
- MP 446 **Improving Cleanliness and Sensitivity of Dried Blood Spot Extracts by Using Lipid Depletion Protein Precipitation**; Ritu Arora; William Hudson; David Jones; Paul Boguszewski; *Agilent Technologies, Lake Forest, CA*
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- MP 449 **Determination of Buprenorphine and Norbuprenorphine in Whole Blood Using Polymeric SPE and LC/MS/MS**; Irina Dioumaeva¹; John Hughes²; ¹Agilent Technologies, Inc., Lake Forest, CA; ²Agilent Technologies, Inc., Pleasanton, CA
- MP 450 **A Dried Blood Spot Method for Therapeutic Drug Monitoring of Rifampin to Optimize Tuberculosis Treatment in Children using LC-MS/MS**; Andrew Mayer¹; Moo-Young Kim¹; Gene Ray¹; Susan Abdel-Rahman²; Yansheng Liu¹; ¹KCAS LLC., Shawnee, KS; ²Children's Mercy Hospital, Kansas City, MO
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- MP 457 **LCMSMS Analysis and Ionic Suppression of an Immunosuppressant**; Eric Morin; Nathalie Pelletier; Sylvain Lachance; Nadine Boudreau; Ann L  vesque; *PharmaNet Canada, Qu  bec , Canada*
- MP 458 **Determination of Triapine, a Potent Inhibitor of Ribonucleotide Reductase, in Human Plasma by Liquid Chromatography Tandem Mass Spectrometry**; Ye Feng¹; Yan Xu^{1,2}; ¹Cleveland State University, Cleveland, OH; ²Case Comprehensive Cancer Center, Cleveland, OH
- MP 459 **Determination of GDC-0068 and Its Metabolite in Rat and Monkey Plasma using High-performance Liquid Chromatography Coupled to Mass Spectrometry**; Xiaorong Liang¹; Bianca M. Liederer¹; Brian Dean¹; Yuzhong Deng¹; Sarah Burke²; Dale Allen Campbell²; John R. Perkins²; ¹Genentech Inc., South San Francisco, CA; ²Advion Bioanalytical Labs, Ithaca, NY
- MP 460 **Elimination of Carry-over utilizing CTC HTS-xt in LC-MS analysis of Biological Samples**; Michael Johnson; Justin Gordon; Martin Paton; Jing-Tao Wu; Shaoxia Yu; *Millennium Pharmaceuticals, Inc., Cambridge, MA*
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- MP 463 **Method Development for an Antisense Oligonucleotide Tissue Detection Assay**; Catherine Formolo; Yetrib Hathout; Kristy J. Brown; *Children's National Medical Center, Washington , DC*
- MP 464 **Direct Quantitative Determination of a Nucleotide Diphosphate in Monkey and Rabbit Tissues using LC/MS-MS**; Suzanne Foley¹; Shane Karnik¹; John Begley¹; Laurie Keilholz²; Bernhard Lampert²; ¹Pyxant Labs Inc., Colorado Springs, CO; ²Chimerix, Inc., Durham, NC
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- MP 466 **Ion Suppression by PEG400 and Its Impact on Sensitivity and Electrospray Response Function for Small Molecules in Plasma Samples**; Luis Sojo; *Xenon Pharmaceutical, Burnaby, Canada*
- MP 467 **Determination of Entecavir in Human Plasma by LC-MS/MS**; Yeon Jin Shin¹; Sun Koung Joung¹; Sookie La¹; Kyung Hee Cho¹; Jae-Yong Lee¹; Hee Joo Lee^{1,2}; ¹BioCore, Seoul, South Korea; ²Seoul Clinical Laboratories, Seoul, South Korea
- MP 468 **Determination of Fludarabine in Human Plasma by Liquid Chromatography-Tandem Mass Spectrometry (LC-MS/MS)**; Youngmi Kim; Seo Hyun Yoon; Kyung Sang Yu; In-Jin Jang; Joo-Youn Cho; *Seoul National University, Seoul, South Korea*
- MP 469 **Determination of Risedronate in Dog Plasma by LC-MS/MS**; Jong Hwa Kim¹; Kyung Hee Cho¹; Jae-Yong Lee¹; Sun Koung Joung¹; Sookie La¹; Hee Joo Lee^{1,2}; ¹BioCore, Seoul, South Korea; ²Seoul Medical Science Institute, Seoul, KOREA
- MP 470 **Quantitation of Midazolam and Its Hydroxy Metabolites in Human Plasma: Application to a Pharmacokinetic Study**; Hwa Suk Kim; Seo-Hyun Yoon; Kyung-Sang Yu; In-Jin Jang; Joo-Youn Cho; *Seoul National University, Seoul, South Korea*



- MP 471 **High Resolution Liquid Chromatography with Fast Tandem Mass Spectrometric Detection for Multicomponent Analysis in Therapeutic Drug Monitoring;** Eliane Kuehn¹; Chantal Grivet¹; Neil J Loftus²; Alan Barnes²; Emmanuel Varesio¹; Gérard Hopfgartner¹; ¹University of Geneva, Geneva, Switzerland; ²Shimadzu MS/BU, Manchester, UK
- MP 472 **The Performance of Accelerator Mass Spectrometer Assays in Providing Pharmacokinetic Data following Concomitant Dosing for Regulatory Submission;** David M Higton; AstraZeneca R&D, Macclesfield, UK
- MP 473 **A Quantitative and Selective Analysis of Aldosterone and Cortisol in Plasma by LC-MS/MS for Clinical Research;** Linda Côté¹; Kevin Mccann²; Rory Doyle³; Joans Stevens⁴; ¹Agilent Technologies1, Montréal, QC; ²Agilent Technologies2, Santa Clara, CA; ³Agilent Technologies3, Little Falls, DE; ⁴Agilent Technologies4, Lake Forest, CA
- MP 474 **A Method of Correcting for Cross Talk between Isotope Peaks of Analyte and Internal Standard in MS/MS Quantitation;** Geoffrey S. Rule¹; Zlatuse Clark¹; Bingfang Yue²; Alan L. Rockwood^{1,3}; ¹ARUP Laboratories, Salt Lake City, UT; ²NMS Labs, Willow Grove, PA; ³University of Utah School of Medicine, Salt Lake City, UT
- MP 475 **A Cross Validation for Ultra-low Level Quantitation of Indacaterol in Human Serum: Successful Method Transfer across the Atlantic;** Tapan Majumdar; Shari Wu; Francis Tse; Tom Smith; Corrine Emotte; Olivier Kretz; Franck Picard; Novartis Pharmaceuticals Corporation, East Hanover, NJ
- MP 476 **A Fit-for-purpose LC/MS/MS Based Chiral Method for Semi-quantitative Assessment of Stereoisomers in Clinical Plasma Samples;** Martin Paton¹; Mark Qian¹; Carl Bates²; Laura Cojocaru²; Yifei Liu²; ¹Millennium: The Takeda Oncology Company, Cambridge, MA; ²Tandem Labs, West Trenton, NJ
- MP 477 **Quantitative Analysis of Potential Genotoxic Impurities during Pharmaceutical Development Prior to Availability of Reference Materials;** Joseph T. Snodgrass; Ricardo Borjas; David Nadig; Eduard Luss-Lusis; Patrick AuYeung; Vertex Pharmaceuticals, Inc., Cambridge, MA
- MP 478 **Determination of Drug Exposure Levels in Intestinal Mucosa by Quantitative UHPLC/TOFMS;** Bob Aiello¹; Dan Goldberg¹; Jim Conboy²; Wilhad Reuter³; Hayley Crowe³; ¹Karos Pharmaceuticals, Inc., New Haven, CT; ²Consultant, Westport, CT; ³PerkinElmer, Inc., Shelton, CT
- MP 479 **Rapid Relative Quantification of Neurotransmitters Extracted from Neuronal Tissue;** Michael L Heien¹; Eric Monroe¹; John Keogh¹; ¹University of Arizona, Tucson, AZ
- MP 480 **A Validated Method for the Quantitation of Olanzapine by Direct Injection of Plasma onto an LC-MS/MS System;** Katrina Emilia Nizzi; Timothy L. Shoaf; John W. Torchia; BASi, West Lafayette, IN
- MP 481 **A Multiplex Panel of Endogenous Mineralocorticoids by SLE and LC/MS/MS;** Grace Van Der Gugten¹; Daniel Holmes²; ¹St. Paul's Hospital, Vancouver, Canada; ²University of British Columbia, Vancouver, BC
- MP 482 **Quantification of Inositol and Inositol Phosphates using Hydrophilic Interaction Chromatography/ Tandem Mass Spectrometry;** Chih-Yu Lin; ABRC Academia Sinica, Taipei, Taiwan
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- MP 483 **Analysis of Triacylglycerols in Brevoortia tyrannus (Menhaden) Oil by Non-aqueous Reversed Phase Liquid Chromatography in Combination with Mass Spectrometry;** Carmen T. Santasania¹; Marco Beccaria²; Francesco Cacciola³; Paola Donato⁴; Paola Dugo²; Luigi Mondello²; ¹Supelco/Sigma-Aldrich, Bellefonte, PA; ²Dipartimento Farmaco-chimico, University of Messina, Messina, Italy; ³Chromaleont S.r.l./University of Messina, Messina, Italy; ⁴Centro Integrato di Ricerca (C.I.R.), Rome, Italy
- MP 484 **Characterization of Triacylglycerides in Vegetable Oils using MALDI LTQ Orbitrap XL Instrumentation;** Chris Weise²; Tilman Achstetter²; Kloeck Gerd²; Tabiwan N. Arrey¹; Thomas Moehring¹; Martin Zeller¹; Kerstin Strupat¹; ¹Thermo Fisher Scientific (Bremen) GmbH, Bremen, Germany; ²Hochschule Bremen, Bremen, Germany
- MP 485 **Edible Plant Oil Analysis using NARPLC-APCI/QTOFMS and GCMS;** Ying Ms. Wang; Chong-Tian Yu; Rong-Jie Fu; Agilent Technologies (China), Shanghai, China
- MP 486 **Structural Elucidation and Predictive Model Generation of Olive Oil Classification using a GC/Q-TOF MS and Multivariate Analysis;** Stephan Baumann; Sofia Aronova; Agilent Technologies, Inc., Santa Clara, CA
- MP 487 **Varietal and Regional Profiling of Red Wines Using UHPLC/QTOF MS;** Thomas Collins^{1,3}; Jerry Zweigenbaum²; Susan Ebeler¹; ¹UC Davis, Davis, CA; ²Agilent Technologies, Wilmington, DE; ³Treasury Wine Estates, Napa, CA
- MP 488 **Beer Brewing Style Affects Identity and Abundance of Gluten Protein Post-translational Modifications;** Sara C. Mcgrath; Mark M. Ross; John H. Callahan; FDA/CFSAN, College Park, MD
- MP 489 **SRM Quantification of Allergenic Milk in Commercial and Model Baked Goods Using an ¹⁵N-labeled Intact Protein Internal Standard;** G. Asher Newsome¹; John H. Callahan¹; Lauren S. Jackson²; Fadwa Al-Taher³; Peter F. Scholl¹; ¹FDA/CFSAN, College Park, MD; ²USDA/NCFCS, Chicago, IL; ³Illinois Institute of Technology IFSH, Bedford Park, IL
- MP 490 **Analysis of Terpene Trilactones from Ginkgo Biloba Extracts Using Ultra Performance Liquid Chromatography-High Resolution Time of Flight Mass Spectrometry;** Li Zhang; Jeffrey Patrick; Joe Binkley; LECO Corporation, St. Joseph, MI
- MP 491 **Analysis of Phytosterols in Health Supplements by LC/MS;** Marcus Miller; William C. Schnute; Thermo Scientific, Sunnyvale, CA
- MP 492 **Comprehensive Profiling of Chinese Herbal Medicines using High Resolution Time-of-Flight Mass Spectrometry;** Jeffrey Patrick; Kevin Siek; Fumie Kabashima; Joe Binkley; Li Zhang; LECO Corporation, St. Joseph, MI
- MP 493 **Rapid and High-Throughput Quantitative Determination of B-Vitamins in Nutritional Supplements using Flow-Injection Tandem Mass Spectrometry;** Deepak Bhandari; Gary Van Berkel; Oak Ridge National Laboratory, Oak Ridge, TN
- MP 494 **Comprehensive Analysis of α -Zein Proteins by High-Performance Liquid Chromatography Accurate-Mass Time-of-Flight Mass Spectrometry;** Derrick Morast; Timothy Anderson; Robert Houk; Iowa State University, Ames, IA



- MP 495 **High-throughput Quantitative Analysis of Bovine Milk Gangliosides by Ultra-High Performance Liquid Chromatography-Tandem Mass Spectrometry;** Hyeyoung Lee; Daniela Barile; Carlito Lebrilla; Bruce German; *University of California, Davis, CA*
- MP 496 **Developing Qualitative Biochemical Characterization Methods for NIST Standard Reference Materials (SRMs);** Mark Lowenthal; Nirina Rabe Andriamaharavo; Yuxue Liang; Pedatsur Neta; Paul Rudnick; Yamil Simon-Manso; Stephen Stein; Dmitrii V. Tchekhovskoi; Xiaoyu Yang; Karen Phinney; *National Institute of Standards and Technology, Gaithersburg, MD*
- MP 497 **Rapid Imaging of Sinapine in Daikon by Surface Desorption Atmospheric Pressure Chemical Ionization Mass Spectrometry for the Alternative Medicine Industry;** Jianping Yan¹; Eric Handberg²; Huanwen Chen¹; ¹*East China Institute of Technology, Nanchang City, China*; ²*East China Institute of Tech., Nanchang, China*
- MP 498 **Internal Extractive Electrospray Ionization Mass Spectrometry for *in vivo* Analysis of the Maturity of Strawberries;** Hua Zhang¹; Nannan Wang¹; Bin Jia¹; Eric Handberg¹; Huanwen Chen¹; ¹*East China Institute of Technology, Nanchang City, China*
- MP 499 **Development of Mass Spectrometry Imaging Technique towards Two-dimensional Visualization of Green Tea Polyphenol In Tissue Micro-regions;** Yoshinori Fujimura¹; Takatoki Hagihara²; Yoon Hee Kim²; Daichi Yukihira²; Ayumi Yamaguchi²; Daisuke Miura¹; Hiroyuki Wariishi²; Koji Yamada²; Hirofumi Tachibana²; ¹*ICMRN, Kyushu University, Fukuoka, Japan*; ²*Faculty of Agriculture, Kyushu University, Fukuoka, Japan*
- MP 500 **Mass Spectrometric Elucidation of Carotenoids in Chili Red Peppers using ultra High Pressure Comprehensive Two-dimensional Liquid Chromatography;** Marcus Mreyen¹; Francesco Cacciola^{2,3}; Paola Donato^{3,4}; Daniele Giuffrida⁵; Germana Torre³; Paola Dugo^{3,4}; Luigi Mondello^{3,4}; ¹*Shimadzu Europa GmbH, Duisburg, Germany*; ²*Chromaleont S.r.l., Messina, Italy*; ³*Dipartimento Farmacochimico, Messina, Italy*; ⁴*Centro Integrato di Ricerca (C.I.R.), Roma, Italy*; ⁵*Dipartimento di Scienze degli Alimenti e dell'Ambi, Messina, Italy*
- MP 501 **High Resolution ESI-MS Fingerprinting of Royal Jelly;** Alexandra Sawaya¹; Eduardo Morgado Schmidt²; Ildenize Cunha³; Bruna K. Campos⁴; Marcos N Eberlin⁵; ¹*Department of Plant Biology, Institute of Biology, Campinas, Sp, Brazil*; ²*Thomson Mass Spectrometry Laboratory, UNICAMP, Campinas, Brazil*; ³*University of Campinas, Campinas - Sp, Brazil*; ⁴*State University of MIDWEST Paraná, Paraná, Brazil*; ⁵*Thomson Lab UNICAMP, Campinas, Sp, Brazil*
- MP 502 **Quantitative Determination of S-substituted Cysteine Derivatives in Extraction of Garlic by the LTQ-Orbitrap HRMS;** Dae Hyun Kim¹; Jong Ho Lee¹; Dong Sik Jeong¹; Seung Lim Baek¹; Jong Soo Park²; Cheong Tae Kim¹; ¹*Nongshim Co.,Ltd., Seoul, South Korea*; ²*Euro Science, Seoul, South Korea*
- MP 503 **Elemental ICP-MS Based Foodomics in Selenized Yeast Nutritional Supplements;** Evelyn Rampler^{1,2}; Stephan Rose²; Dominik Wiedner²; Anja Ganner²; Thomas Dalik¹; Stephan Hann¹; Gunda Koellensperger¹; ¹*BOKU University, Vienna, Austria*; ²*Biomin Research Center, Tulln, Austria*
- MP 504 **Dieting – A Very Risky Business? Simultaneous Determination of 48 Anti-diabetic and Weight-loss Agents in Herbal and Dietary Supplements;** Salman Azimi¹; Michelle Wood²; Inas Youssef¹; ¹*Supreme Council of Health, Doha, Qatar*; ²*Waters Limited, Manchester, UK*

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- MP 506 **MALDI-TOF/TOF Analysis of Airborne Particulate Matter;** Nick Karellas²; Jerzy Debosz²; Amandine Boudreau¹; Patrick Pribil¹; David Cox¹; Eva Duchoslav¹; Takeo Sakuma¹; ¹*AB SCIEX, Concord, Canada*; ²*Ontario Ministry of the Environment, Etobicoke, ON*
- MP 507 **Profiling Cyanobacterial Toxins in the Red Cedar Watershed Using MALDI-TOF Mass Spectrometry;** Kellen Doerr; Jen Grant; *Univ. Wisconsin- Stout, Menomonie, WI*
- MP 508 **The Polymerization, Characterization and Biodegradation of Fluorotelomer-Based Acrylate Polymers;** Keegan Rankin; *University of Toronto, Toronto, Canada*
- MP 509 **Capillary Electrophoresis Mass Spectrometry Analysis of Naphthenic Acids from Oil Sands;** Cai Tie^{1,2}; Shuai Zhao¹; John V. Headley³; Kerry M. Peru³; David Chen¹; ¹*University of British Columbia, Vancouver, British Columbia*; ²*Peking University, Beijing, China*; ³*Science and Technology Branch, Environment Canada, Saskatoon, Saskatchewan*
- MP 510 **Rapid UHPLC-MS/MS Method for Characterization and Quantification of Quorum Sensing Signalling Molecules in Complex Environmental Samples;** Chuan Hao (Grant) Tan^{1,2}; Kai Shyang Koh²; Yan Zhou¹; Scott A Rice^{2,3}; Staffan Kjelleberg^{2,3}; Wun Jern Ng¹; Peiting Zeng⁴; Zhaoqi Zhan⁴; ¹*Nanyang Environment and Water Research Institute, Nanyang Technological University, Singapore*; ²*Centre on Environmental Life Sciences Engineering, Nanyang Technological University, Singapore*; ³*The Centre for Marine Bio-Innovation, The University of New South Wales, Australia*; ⁴*Customer Support Centre, Shimadzu (Asia Pacific) Pte Ltd, Singapore*
- MP 511 **Tandem Extraction/Liquid Chromatography-Mass Spectrometry Protocol for the Analysis of Acrylamide and Surfactant-related Compounds in Complex Matrix Environmental Water Samples;** Patrick D. Dearmond; Amanda L. DiGoregorio; Tammy L. Jones-Lepp; *US EPA, Las Vegas, NV*
- MP 512 **Evaluating Correlations between Chemical Composition and Toxicological Response of Well Water Sampled from Hydraulic Fracturing Sites in the Barnett Shale;** Doug D. Carlton Jr.¹; Laura R. Hunt¹; Hyppolite Oka¹; Brian E. Fontenot¹; Zachariah L. Hildenbrand¹; Alexandra Robayo-Osorio²; Bryan Bjorndal²; Kevin A. Schug¹; ¹*The University of Texas at Arlington, Arlington, TX*; ²*Assure Controls, Inc., Vista, CA*
- MP 513 **Optimization of Microwave-assisted Extraction Combined with LC-APPI-MS/MS for Determination of Fullerenes in Fish Samples by Experimental Design Methodology;** Hsin-Chang Chen; Wang-Hsien Ding; *National Central University, Taoyuan County, Taiwan*
- MP 514 **Detection of Siloxanes in Landfill gas and Biogas using Selected Ion Flow Tube-Mass Spectrometry (SIFT-MS);** Murray J. Mcewan¹; John Gray²; Vaughan Langford²; ¹*University of Canterbury, Christchurch, New Zealand*; ²*Syft Technologies Ltd, Christchurch, New Zealand*



- MP 515 **Determination of Technetium-99 in Environmental Samples by Flow Injection-ICP-MS;** Hsin-Chieh Wu²; Hung-I Tsai²; Tsuey-Lin Tsai²; Lee-Chung Men²; Shiang-Bin Jong¹; Yu-Chang Tyan¹; ¹*Kaohsiung Medical University, Kaohsiung, Taiwan*; ²*Institute of Nuclear Energy Research, Taoyuan, Taiwan*
- MP 516 **The Unusual Gas-phase Dissociation Behavior of Protonated and Deprotonated Gonyautoxin Epimers;** Dietrich Volmer¹; Felipe Dörr²; Ernani Pinto²; Boris Kovačević³; ¹*Saarland University, Saarbrücken, Germany*; ²*University of Sao Paulo, Sao Paulo, Brazil*; ³*Ruder Bošković Institute, Zagreb, Croatia*
- MP 517 **HPLC-MS/MS Investigation of Halobenzoquinones in Swimming Pools;** Wei Wang; Yuli Zhao; Yichao Qian; Rongfu Huang; Xing-Fang Li; *University of Alberta, Edmonton, Canada*
- MP 518 **Occurrence and Formation of Chloro- and Bromo-Benzoquinones Drinking Water Disinfection Byproducts;** Yuli Zhao; Janna Anichina; Wei Wang; Jessica M. Boyd; Steve E. Hrudey; Xing-Fang Li; *University of Alberta, Edmonton, Canada*
- MP 519 **Detection and Quantitation of Brominated and Chlorinated Hydrocarbons by DART with Linear Ion Trap and Triple Quadrupole Technology;** Mary Blackburn¹; Scott Harrison²; Maria C. Prieto Conaway¹; ¹*Thermo Fisher Scientific, San Jose, CA*; ²*AgResearch Ltd, Palmerston North, New Zealand*
- MP 520 **Reaction Monitoring of Polar Dis-infection By-products using Electrospray Ionization with Condensed Phase - Membrane Introduction Mass Spectrometry (CP-MIMS);** Cameron C. Newhook^{1,3}; Christopher G. Gill^{1,2}; Erik T. Krogh^{1,2}; ¹*Applied Environmental Research Labs (AERL), Nanaimo, BC, Canada*; ²*Vancouver Island University, Nanaimo, BC, Canada*; ³*University of Victoria, Victoria, BC, Canada*
- MP 521 **A Heated Stop-flow Liquid/Membrane/Liquid Interface for the Improved Analysis of Volatile Organics in Water by ESI Mass Spectrometry;** Stephanie Goldfein; Mark E. Bier; *Carnegie Mellon University, Pittsburgh, PA*
- MP 522 **Quantitative Detection of the Surfactant Components of Corexit Oil Dispersant using Large Volume Injection Liquid Chromatography with Tandem Mass Spectrometry;** Benjamin Place; Jennifer Field; *Oregon State University, Corvallis, OR*
- MP 523 **Analysis of Novel and Legacy Fluorosurfactants in Groundwater by Inline Two Dimensional HPLC MS/MS;** Will Backe; Jennifer Field; *Oregon State University, Corvallis, OR*
- MP 524 **Rapid High Sensitivity Tandem LCMS Analysis of Perfluorinated Compounds in Human Sera;** Christopher Stadey¹; John Vukovic¹; Leo YW Yeung²; Scott A Mabury²; ¹*Waters Limited, Mississauga, Canada*; ²*Department of Chemistry, University of Toronto, Toronto, ON*
- MP 525 **Bisphenol-A: Ultra-Sensitive Detection by MRM LC-MS/MS in Human Placentae from the National Children's Study;** Lisabeth Hoffman¹; John Lapek¹; Richard Miller¹; Amber Rinderknecht¹; Luis Ruffolo¹; Christopher Stodgell¹; Cheryl Walker²; SE Pontow²; S Szabo³; Alan Friedman¹; ¹*University of Rochester Medical Center, Webster, NY*; ²*University of California-Davis, Davis, CA*; ³*Wisconsin College of Medicine, Madison, WI*
- MP 526 **Comparison of Extraction and LC/MS/MS Techniques for the Analysis of EPA Method 539 Hormones;** Ralph Hindle; Matthew Noestheden; Don Noot; *Vogon Laboratory Services Ltd., Calgary, Canada*
- MP 527 **Analysis of Trace Amount of 17- β -Estradiol and Its Metabolites in Aqueous Samples using Online-SPE and Accurate MSⁿ Analysis;** Tetsuo Tanigawa; Tairo Ogura; Ichiro Hirano; Junko Iida; *Shimadzu Corporation, Kyoto, Japan*
- MP 528 **Analysis of Phthalate Esters in Environmental Water Samples by Online-SPE-LC Coupled with High-speed Triple Quadrupole Mass Spectrometer;** Yoshiyuki Watabe¹; Tairo Ogura¹; Ichiro Hirano¹; Shoji Nakayama²; ¹*Shimadzu corporation, Kyoto, Japan*; ²*National Institute for Environmental Studies, Ibaraki, Japan*
- ENVIRONMENTAL ANALYSIS: PHARMACEUTICALS, 529 - 549**
- MP 529 **Screening of Unknown Pollutants in Water Sample Using High Resolution and Accurate Mass LC-MS/MS;** Yun Yun Zou; Andre Schreiber; Robert Ellis; *AB SCIEX, Concord, Canada*
- MP 530 **LC/MS Analysis of Pharmaceutical and Personal Care Products in the Environment – Transition from Conventional LC/MS to Micro-Flow LC/MS Method;** Robert Ellis¹; Paul Yang²; Takeo Sakuma¹; Serei Thach²; YunYun Zou¹; Fouad Khalaf¹; ¹*AB SCIEX, Concord, Canada*; ²*Ontario Ministry of the Environment, Toronto, Canada*
- MP 531 **High Sensitivity Quantitation of Pharmaceuticals and Personal Care Products in Water Samples Using Direct Injection LC/MS/MS;** Andre Schreiber¹; Paul Winkler¹; Paul Yang²; ¹*AB SCIEX, Concord, Canada*; ²*Ministry of Environment, Toronto, Canada*
- MP 532 **Multi-component Quantitative Analysis of Pharmaceuticals and Personal Care Products in the Environment by LC-MS/MS with Fast Polarity Switching;** Natsuyo Asano; Kiyomi Arakawa; Shinjiro Fujita; Kazuo Mukaibatake; Ichiro Hirano; *Shimadzu Corporation, Kyoto, Japan*
- MP 533 **A Fully Automated Multiple Injection On-line SPE-LC-MS/MS Method for Analysis of Ultra Trace Level Drug Residues in Water;** Jie Xing¹; Jingming Wu²; Li Feng Zhang²; Peiting Zeng¹; Sandhya Nargund¹; Zhaoqi Zhan¹; ¹*Shimadzu (Asia Pacific) Pte Ltd, Singapore, Singapore*; ²*Water Research Analytical Laboratories, PUB, Waterhub, Singapore*
- MP 534 **Analytical Method and MRM Database Development using Online SPE-LCMSMS for Screening Anti-cancer Drugs and Metabolites in Hospital's Wastewaters and Rivers;** Claude Villard¹; Mikaël Levi²; Thérèse Schembri¹; Stephane Moreau²; Pierre Boissery³; Daniel Lafitte¹; ¹*Aix Marseille Université, Inserm UMR 911 CRO2, Marseille, France*; ²*Shimadzu France, Marnes-La-Vallée, France*; ³*Agence de l'Eau Rhône Méditerranée & Corse, Marseille, France*
- MP 535 **Antineoplastic Drugs as occupational Contaminants: Photocatalytic Degradation of Molecules of Different Stability;** Claudio Medana; Paola Calza; Federica Dal Bello; Claudio Baiocchi; *University of Turin, Torino, Italy*
- MP 536 **Quick Screening of Pharmaceuticals, Personal Hair Products and Pesticides by Direct Sample Analysis in Connecticut's Housatonic River Water;** Avinash Dalmia^{1,2}; Thomas White^{1,2}; Craig M. Whitehouse^{1,2}; ¹*PerkinElmer, Branford, CT*; ²*PerkinElmer, Shelton, CT*
- MP 537 **Targeted Screening of Personal Care Products in Water using UHPLC-TOF-MS and High Throughput Screening Software ;** Sharanya Reddy; Daniel Pentek; Adam J. Patkin; Ali Kettani; Blas A. Cerda; *PerkinElmer Inc, Shelton, CT*



- MP 538 **Detection and Characterization of Pharmaceuticals in NJ Drinking Water using UHPLC and HRMS;** Rebeca Pinhancos; Sara Maass; Dil Ramanathan; *Kean University, Union, NJ*
- MP 539 **Transformation of Citalopram during Water Treatment;** Tina Kosjek; Ester Heath; *Jozef Stefan Institute, Ljubljana, Slovenia*
- MP 540 **Potential Emerging Environmental Contaminants: Benzodiazepine Pharmaceuticals and Their Transformation Products During Water Treatment;** Ester Heath; Tina Kosjek; *Jozef Stefan Institute, Ljubljana, Slovenia*
- MP 541 **Analysis of Streptomycin and Dihydrostreptomycin by LC-MS/MS using ITSP Clean-up and a ZIC-cHILIC HPLC Column;** Bruce Morris; Derek Yang; Richard Schriner; *Hill Laboratories, Hamilton, New Zealand*
- MP 542 **High Resolution LC-MS for Screening and Quantitative Analysis of Antibiotics in Drinking Water using an Orbitrap and Online Sample Preparation;** Jonathan Beck; Charles Yang; Dipankar Ghosh; *Thermo Fisher Scientific, San Jose, CA*
- MP 543 **Analysis of Pharmaceuticals, Steroids and Antibiotics using UHPLC- Orbitrap Mass Spectrometry with Enhanced Sensitivity, Selectivity and Minimal Matrix Effects;** Serei Thach¹; Paul Yang¹; Charles Yang²; Maciej Bromirski³; Jon Wong⁴; Kai Zhang⁴; Dipankar Ghosh²; James Chang²; Kristi D. Akervik²; ¹Ontario Ministry of the Environment, Etobicoke, Canada; ²Thermo Fisher Scientific, San Jose, CA; ³Thermo Fisher Scientific GmbH, Bremen, Germany; ⁴U.S. Food and Drug Administration, College Park, MD
- MP 544 **Residue Patterns of Antibiotics in Leachate from Carcasses;** Mi-Jeong Jeong; Tae Wan Jeon; Young Yeul Kang; Mi-Young Lee; Sun Kyoung Shin; *National Institute of Environmental Research, Incheon, South Korea*
- MP 545 **Analysis of Trimethoprim, Lincomycin and Sulfadoxin using Laser Diode Thermal Desorption Atmospheric Pressure Chemical Ionization Tandem Mass Spectrometry in Manure;** Morgan Sollic¹; Daniel Masse²; David Lapen²; Sébastien Sauvé¹; ¹Université de Montréal, Montréal, Canada; ²Agriculture and Agri-Food Canada, Sherbrooke, Canada
- MP 546 **Traces of Caffeine, Pharmaceuticals and Pesticides in Drinking Water across the Province of Quebec (Canada);** Sébastien Sauvé; *Université de Montreal, Montreal, Canada*
- MP 547 **Online SPE-LC-APCI-MS/MS for the Determination of Steroidal Hormones in Water;** Paul B. Fayad¹; Michèle Prévost²; Sébastien Sauvé¹; ¹Université de Montréal, Montreal, Canada; ²École Polytechnique de Montréal, Montreal, Canada
- MP 548 **Determination of Hormones and Steroids in Iowa Surface Water by LCMSMS;** John Vargo¹; Gabriele Ludewig²; Susanne Flor²; ¹State Hygienic Lab at the University of Iowa, Coralville, IA; ²University of Iowa, College of Public Health, Iowa City, IA
- MP 549 **Investigation on a Novel Pre-charged and Highly Specific Derivatization Reagent for Alkynes - Application to the Trace-level Detection of Ethinylestradiol;** Lucie Loukotkova; Gordon Surratt; Kellie Woodling; Goncalo Gamboa Da Costa; *National Center for Toxicological Research, US FDA, Jefferson, AR*
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- MP 550 **Rapid, Simultaneous Analysis of Organic and Inorganic Substances in Post-Detonation Radiological Debris Using Ambient Ionization Techniques and Mass Spectrometry;** Amanda Quinto; Tiffanie Hargraves; David Glatte; Kenyon Evans-Nguyen; *The University of Tampa, Tampa, FL*
- MP 551 **Gunshot Residue Organic and Inorganic Analysis by Mass Spectrometry;** Nicolas Schwab¹; Eduardo M. Schmidt¹; Clécio F. Klitzke¹; Marcos F. Franco¹; Deleon C. Nascimento¹; Maria I. M. S. Bueno²; Marcos N Eberlin¹; ¹ThoMSon Lab UNICAMP, Campinas, Sp, Brazil; ²UNICAMP. Institute of Chemistry, Campinas, Brazil
- MP 552 **Direct Determination of the Explosives Products on Banknote by Easy Ambient Sonic Spray Ionization Mass Spectrometry (EASI-MS);** Deleon Nascimento Correa; Nicolas Vilczaki Schwab; Clécio Fernando Klitzke; Eduardo Morgado Schmidt; Elias Paulo Tessaro; Marcos Fernando Franco; Jorge Jardim Zacca; Marcos Nogueira Eberlin; *ThoMSon Lab UNICAMP, Campinas, SP, Brazil*
- MP 553 **Mass Spectrometric Identification of Organ-specific Protein Profiles on Projectiles as Forensic Evidence;** Sascha Dammeier¹; Sven Nahnsen²; Jennifer Ott¹; Heinz-Dieter Wehner¹; Frank Wehner¹; ¹University Hospital Tuebingen, Tuebingen, Germany; ²University Tuebingen, Tuebingen, Germany
- MP 554 **Comparative Study of DESI and DART Ionization Sources Coupled with an Orbitrap Mass Spectrometer for Analysis of Explosives on Fabrics;** Cecile Hubert¹; Xavier Machuron-Mandard¹; Jean-Claude Tabet²; ¹CEA/DAM-IDF, Arpajon, France; ²Université Pierre et Marie Curie, Paris, France
- MP 555 **Analysis of Pre and Post Petroleum Combustion Components by DSA(Direct Sample Analysis); A New Ambient Ionization Source;** Gregory T. Winter¹; Joshua A. Wilhide¹; Avinash Dalmia²; Hayley Crowe²; William R. LaCourse¹; ¹UMBC Department of Chemistry and Biochemistry, Baltimore, MD; ²PerkinElmer, Shelton, CT
- MP 556 **Investigation of Flammable Oils for Rapid Identification of Ignitables form Arson Residue with Direct Sample Analysis(DSA)-TOF-MS;** Joshua A. Wilhide¹; Gregory T. Winter¹; Avinash Dalmia²; Hayley Crowe²; William R. LaCourse¹; ¹UMBC Department of Chemistry and Biochemistry, Baltimore, MD; ²PerkinElmer, Shelton, CT
- MP 557 **Application of Paper Spray Ionization for Explosives Analysis;** Chia-Wei Tsai; Richard A. Yost; *University of Florida, Gainesville, FL*
- MP 558 **Key Variables in the Analysis of High Explosives via Orthogonal Acceleration qTOF Mass Spectrometry;** Peter A. Dreifuss; *ATF- Forensics Science Laboratory- Washington, Ammendale, MD*
- MP 559 **LC and GC/MS of Human Decomposition Byproducts Correlated to Canine Evaluations;** Brian Eckenrode¹; Deanna Snyder²; Patricia Caldwell²; Lauryn DeGreeff²; Nishan Dulgerian³; David Cho²; Rex Stockham³; Martin Grime⁴; ¹FBI Counterterrorism and Forensic Science Research, Quantico, VA; ²Oak Ridge Institute for Science and Education, Oak Ridge, TN; ³FBI Evidence Response Team Unit, Quantico, VA; ⁴GSS International, Hampshire, UK
- MP 560 **MALDI/TOF MS for Chemical Analysis of Fingerprint Residues using Conventional Fingerprint Development Methods;** Kimberly Kaplan¹; Mark L. Miller²; Marc A. LeBeau³; ¹ORISE Fellow at CFSRU FBI, Quantico, VA; ²CFSRU, Federal Bureau of Investigation Laboratory,



Quantico, VA; ³Scientific Analysis Section, FBI Laboratory, Quantico, VA

- MP 561 **Integration of MALDI MSI into the Home Office Operational Fingerprint Examination Workflow;** Robert Bradshaw¹; Steve Bleay²; Rosalind Wolstenholme¹; Malcolm Clench¹; Simona Francese¹; ¹Sheffield Hallam University, Sheffield, UK; ²Home Office Science, St Albans, UK
- MP 562 **High Resolution MALDI MS Imaging of Latent Fingerprints Prepared by the Dry-Wet Matrix Application Method;** Leesa Ferguson; Rosalind Wolstenholme; Vikki Carolan; Malcolm Clench; Simona Francese; *Sheffield Hallam University, Sheffield, UK*
- MP 563 **Identification and Attribution Profiling of Chemical Threat Agents - Analysis of Amanita Toxins in Food by LC/MS and LC/MS/MS;** Daniel Jansson; *Swedish Defence Research Agency, Umeå, Sweden*
- MP 564 **High Resolving Power for Discrimination of Co-eluting Compounds with Overlapping Isotopes in Toxicological Blood Screening by LC-TOF-MS;** Martin Josefsson; Markus Roman; *National Board of Forensic Medicine, Linköping, Sweden*
- MP 565 **Mixed-mode Nanogold Extraction Coupled with DART-MS/MS Mass Spectrometry for Forensic Toxicology Analyses;** Kenyon Evans-Nguyen; Jonathan Marks; Margaret Donohoe; Richard Garcia; *University of Tampa, Tampa, FL*
- MP 566 **Forensic/Toxicologic Comparative Screening: An Easy, Fast and Reliable Workflow to Perform Real Forensic/ Toxicologic General Unknown Screening;** Heike Wollersen¹; Axel Besa²; ¹Institute for Forensic Medicine, Gießen, Germany; ²AB Sciex Europe, Darmstadt, Germany
- MP 567 **High performance Liquid Chromatography Tandem Quadrupole-Time of Flight Mass Spectrometry as a Robust Tool for Screening Toxic Compounds in Biosamples;** Tao Bo; Zhengxiang Zhang; Xiaorong Ran; Wei Chen; *Agilent Technologies, Beijing, China*
- MP 568 **Proteomic and Data Analysis Approaches for Microbial Forensics;** Karen L. Wahl; Brian H. Clowers; David S. Wunschel; Christina M. Sorensen; Heather E. Engelmans; Nancy B. Valentine; Helen W. Kreuzer; Kathryn C. Antolick; *Pacific Northwest National Laboratory, Richland, WA*
- MP 569 **A Bulk versus Amino-acid-specific Isotopic Analysis of Human Hair;** Yan An; Glen Jackson; *Ohio University, Athens, OH*
- MP 570 **LC/MS Study of the Occurrence of Caffeine and Theobromine in Hair;** Vicky Li¹; Dean Hildebrand¹; David Hasman²; ¹BCIT, Burnaby, Canada; ²Procyon Research Inc., Vancouver, BC
- MP 571 **Compound Specific Isotope Analysis of Chlorinated Hydrocarbons by Using Gas Chromatograph - Isotope Ratio Mass Spectrometer;** Yi Wang; *Dpra-Zymax Forensics Isotope, Escondido, CA*
- MP 572 **DART MS Analysis of Urushiol Oil (Poison Ivy) in Light Aliphatic Oil (WD-40) Causing Accidental Pediatric Allergic Contact Dermatitis (ACD);** Ronny Robbins; William Lagna; James McCarty MD; Daniel Robbins; *Medallion Industries, Middle River, MD*
- MP 573 **Automated GC/MS Characterization of Ball Point Pen Inks by Differential Analysis and Predictive Modeling;** Brian Hom; Takeshi Serino; Anthony Gray; *Agilent Technologies, San Jose, CA*

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- MP 574 **Cocaine and Cocaine Metabolites in Individual Hair Strains Localized by MALDI LTQ Orbitrap XL Instrumentation;** Frank Musshoff¹; Tabiwang N. Arrey²; Kerstin Strupat²; ¹Institute for Forensic Medicine, Univ. of Bonn, Bonn, Germany; ²Thermo Fisher Scientific (Bremen) GmbH, Bremen, Germany
- MP 575 **Development of a Method for the Detection of Cocaine-N-Oxide in Hair Using Liquid Chromatography-Tandem Mass Spectrometry;** Christine Lundblad¹; Lindsey Crawley¹; Mark Miller²; Madeline Montgomery³; Marc LeBeau⁴; ¹ORISE Fellow in CFSRU, FBI Laboratory, Quantico, VA; ²CFSRU, FBI Laboratory, Quantico, VA; ³Chemistry Unit, FBI Laboratory, Quantico, VA; ⁴Scientific Analysis Section, FBI Laboratory, Quantico, VA
- MP 576 **Detection of GHB and Enantiomeric Metabolites in Urine by LC-MS-MS;** Jessica Chapman¹; Kimberly Kaplan¹; Mark L. Miller¹; Madeline A. Montgomery²; Marc, A. LeBeau³; ¹CFSRU, FBI Laboratory, Quantico, VA; ²Chemistry Unit, FBI Laboratory, Quantico, VA; ³Scientific Analysis Section, FBI Laboratory, Quantico, VA
- MP 577 **Online Extraction of Acidic, Neutral, and Basic Controlled Substances in Urine using Parallel Turbulent Flow Methods and LC-MS/MS;** James F Byrd; Shijun Sheng; Bill Yu; Francois Espourteille; *Thermo Fisher Scientific, Franklin, CA*
- MP 578 **High Throughput Screening of Various Abused Drugs in Urine by Ultra High-performance Liquid Chromatography/ Tandem Mass Spectrometry;** Chung-Yu Chen; Maw-Rong Lee; *National Chung-Hsing University, Taichung, Taiwan*
- MP 579 **High-Throughput LC/MS/MS Method for the Quantitation of Pain Management Drugs in Urine Using Micro Flow LC/MS/MS Analysis (research use only);** Anthony Romanelli¹; April Thomas¹; Albert A. Elia²; John Biello²; Parn Patel³; Steve Hobbs³; ¹AB SCIEX, Framingham, MA; ²Massachusetts State Police Crime Lab, Sudbury, MA; ³Eksigent, Dublin, CA
- MP 580 **GC-MS Method for Simultaneous Determination of Amphetamine Type Stimulants and Cannabinoids in Urine;** Yeongeun Kim¹; Seonyeong Kim¹; Jinyoung Kim²; Woonyong Kwon²; Moonkyo In²; Ki Jung Paeng¹; ¹Yonsei University, Wonju, South Korea; ²Forensic Science Division, Supreme Prosecutors' Of, Seoul, Korea
- MP 581 **Analysis of Methamphetamine and Its Metabolite, Amphetamine by Chiral CESI-MS;** John Hudson; *Beckman Coulter Inc., Regina, Canada*
- MP 582 **High Sensitivity Analysis of THC-COOH and THC in Oral Fluid;** Brent Dawson; Witold Woroniecki; Xiaohong Chen; *AB Sciex, Foster City, CA*
- MP 583 **Femtogram Sensitivity for Difficult Drug Analytes in Oral Fluids Using Dual Ion-Funnel LC/MS/MS;** Peter Stone; *Agilent Technologies, Santa Clara, CA*
- MP 584 **Direct Analyte-Probed Nanoextraction (DAPNe) Coupled to Nanospray Ionization – Mass Spectrometry for Analysis of Illicit Substances;** Kristina Clemons; Rachel Wiley; James Fox; Guido Verbeck; *Univ. of North Texas, Denton, TX*
- MP 585 **A Study of the Influence of Collision Cell Design on the Fragmentation of Cathinones by LCMSMS;** Dominic Aumunn²; Jochen Beyer³; Olaf Drummer³; Paul Wynne¹; ¹Shimadzu, Park Orchards, Australia; ²Universität des Saarlandes, Saarbrücken, Germany; ³Victorian Institute of Forensic Medicine, Melbourne, Australia



- MP 586 **Direct Analysis of Forensic Samples by Laser Ablation Electrospray Tandem Mass Spectrometry (LAESI-MS/MS);** Glen Jackson¹; Trust Razunguzwa²; Brent Reschke²; Matthew Powell²; ¹Ohio University, Athens, OH; ²Protea Biosciences, Inc., Morgantown, WV
- MP 587 **Analysis of Substances of Abuse Using High Resolution Time-of-flight Mass Spectrometry-Enhanced Sensitivity using a Novel Parent-fragment Signal Amplification;** Nick Hall¹; Jeffrey Patrick¹; Erica A. Guice²; Joe Binkley¹; Kevin Siek¹; ¹LECO Corporation, St. Joseph, MI; ²Western Slope Laboratory, LLC, Troy, MI
- MP 588 **Rapid Detection, Quantification and Confirmation of Methcathinone-derived Designer dRugs in Equine Plasma using LC-MS/MS;** Xiaoping Li¹; Cornelius Uboh²; Lawrence Soma¹; Fuyu Guan¹; Youwen You¹; Jinwen Chen¹; ¹University of Pennsylvania School of Vet. Med., Kennett Square, PA; ²West Chester University, West Chester, PA
- MP 589 **Accurate Mass LC-MS/MS Profiling of Methylenone and Related Analogues in Legal Substances;** Christopher L. Pennington¹; Susan Leonard²; Ben Figard³; ¹Rice University Core Mass Spectrometry Facility, Houston, TX; ²Shimadzu Scientific Inst, Marlborough, MA; ³Shimadzu Scientific, Houston, TX
- MP 590 **Screening by LC-MS/MS and Fast Chromatography; An Alternative to Traditional Immunoassay Screening in Clinical and Forensic Laboratories?;** Stefan König; Wolfgang Weinmann; Institut für Rechtsmedizin, Universität Bern, Bern, Switzerland
- MP 591 **Screening Analysis for Drugs of Abuse by LC-MS/MS Enables Fast Polarity Switching MRM Triggered Product Ion Scanning on the Fly;** Keiko Kudo¹; Toshikazu Minohata²; Junko Iida²; Hitoshi Tsuchihashi³; Kiochi Suzuki³; Kei Zaitzu⁴; Noriaki Shima⁴; Munehiro Katagi⁴; Noriaki Ikeda¹; ¹Kyushu University, Fukuoka, Japan; ²Shimadzu Corporation, Kyoto, Japan; ³Osaka Medical Collage, Takatsuki, Japan; ⁴Osaka Prefectural Police, Osaka, Japan
- MP 592 **Difficulties in the GC/ESI-MS Analysis of Pregabalin, A Schedule V Controlled Substance;** O. David Sparkman¹; Elizabeth Gormley²; ¹University of the Pacific, Antioch, CA; ²Michigan State Police, Sterling Heights, MI
- LC-MS SAMPLE PREPARATION I, 593 - 618**
- MP 593 **Development of Online Solid-Phase Extraction Coupled with HPLC-MS for the Analysis of Bisphenol A Leachable from Medical Devices;** Yongsoo Choi; Seungil Cho; Ji Guo; Hoan-My Do Luu; Food and Drug Administration, Silver Spring, MD
- MP 594 **Accurate Mass Screening of Benzotriazoles in River Water and Estuarial Waters using OnlineSPE/LC-High Resolution TOF MS;** Norbert Helle¹; Edward Pfannkoch²; Juergen Wendt³; ¹TeLA GmbH, Bremerhaven, Germany; ²Gerstel, Inc, Baltimore (MD); ³Leco European LSCA Centre, Moenchengladbach, Germany
- MP 595 **Removal of Pharmaceutical Dosing Excipients from Plasma Samples using Mixed-mode Solid Phase Extraction (SPE);** Jonathan Danaceau; Kenneth Fountain; Erin E. Chambers; Waters Corporation, Milford, MA
- MP 596 **Optimizing Immobilized Liquid Extraction of Small Molecules from Biological Samples for Quantification by LC-MS/MS;** Robert Wohleb¹; Ralf Bartl²; Roland Geyer¹; ¹Tecan Trading AG, Maennedorf, Switzerland; ²Tecan Schweiz AG, Maennedorf, Switzerland
- MP 597 **Fast and Clean Sample Preparation with No Dry Down Steps for Peptide Mixture Extraction From Plasma Prior to LC-MS/MS Analysis;** Victor Vandell¹; Lee Williams²; Elena Gairloch¹; ¹Biotage, Charlotte, NC; ²Biotage GB Limited, Cardiff, UK
- MP 598 **Streamlined Method Development Approaches using Supported Liquid Extraction (SLE) prior to LC-MS/MS Analysis;** Lee Williams; Rhys Jones; Helen Lodder; Adam Senior; Geoff Davies; Steve Jordan; Claire Desbrow; Gavin Jones; Biotage GB Limited, Cardiff, UK
- MP 599 **Extraction of Retinol, b-Carotene, a-Tocopherol And Other Liposoluble Vitamins From Complex Matrices Using Supported Liquid Extraction (SLE) with LC-MS/MS Analysis;** Victor Vandell; Elena Gairloch; Biotage, Charlotte, NC
- MP 600 **The Use of Novel Universal Protein A Pipette Tips for Rapid Micro Protein Purification and Extraction;** Eric Niederkofler; Dobrin Nedelkov; Urban Kiernan; David Phillips; Kemmons Tubbs; Thermo Fisher Scientific, Tempe, AZ
- MP 601 **Rapid, Automated Sample Preparation for Peptide Mapping of Proteins;** Scott Fulton; Agilent Technologies, Madison, WI
- MP 602 **Evaluation of Different Porcine and Bovine Trypsins Yield Different Cleavage Results;** Scott Walmsley¹; Paul Rudnick²; Yuxue Liang²; Stephen Stein²; Alexey Nesvizhskii¹; ¹University of Michigan, Ann Arbor, MI; ²National Institute of Standards and Technology, Gaithersburg, MD
- MP 603 **Enhancing Trypsin Digestion using Lys-C and Arg-C Proteases;** Sergei Savelliev¹; Laurie Engel¹; Mike Rosenblatt¹; Richard Jones²; Michael Ford²; Ravi Amunugama²; Dave Allen²; Marjeta Urh¹; ¹Promega Corporation, Madison, WI; ²MS Bioworks, LLC, Ann Arbor, WI
- MP 604 **Improving Sequence Coverage by use of Chymotrypsin Digestion in Proteomic Studies;** Jessica Read; William Low; Jing-Ke Weng; Marianne Bowman; Joseph Noel; Wolfgang Fischer; The Salk Institute, La Jolla, CA
- MP 605 **Improved Identification of High pI-High Charge Peptides on LTQ Velos Orbitrap Using Elevated-Organic Load, Elevated HCD and Xtract function;** Tatiana N. Boronina; Robert N. O'Meally; Robert N. Cole; Johns Hopkins School of Medicine, Baltimore, MD
- MP 606 **Analysis of Hemoglobin Variants using an Automated Sample Preparation Workstation Coupled to LC-MS;** Rachel Lieberman¹; Brian Feild¹; Kevin Meyer²; Nick Herold²; Scott Kuzdzal¹; ¹Shimadzu Scientific instruments, Columbia, MD; ²Perfinity Biosciences, Inc., West Lafayette, IN
- MP 607 **ETD and CAD Dual Tandem Mass Spectrometry Applications for Peptides Eluted Directly from an On-line Trypsin-Immobilized Monolithic;** Kun Cho¹; Hyo Jin Hwang³; Jin Young Kim²; Young Hwan Kim²; Han Bin Oh³; ¹KBSI, Ochang, South Korea; ²Korea Basic Science Institute, Chungbuk, South Korea; ³Sogang Univ. Dept. of Chemistry, Seoul, South Korea
- MP 608 **Characterizing the Impact of Hemolysis on Plasma Proteomic Discovery Workflows;** Nicholas Bateman; Avinash Gadok; Christine Wu; University of Pittsburgh, Pittsburgh, PA
- MP 609 **Garbage In, Garbage Out: How to Optimize Sample Preparation for Mass Spectrometry!;** Robert Lj Graham; Anastasia Kalli; Geoffrey T Smith; Michael J Sweredoski; Sonja Hess; Caltech, Pasadena, CA
- MP 610 **Increasing Proteome Depth with Less Fractionation: A Breast Cancer Proteomic Study using Gel Entrapment Electrophoresis and nano-LC-CHIP-Quadrupole-TOF**



- Mass Spectrometry;** Jeanne Rumsey¹; Petra Erdmann-Gilmore¹; Alan Davis¹; James Malone¹; Robert Kitchens¹; Steven Johnson¹; Jeremy Hoog¹; Sherri Davies¹; Matthew Ellis¹; David Fenyo²; R. Reid Townsend¹; ¹Washington University, St. Louis, MO; ²New York University, New York, NY
- MP 611 **Automated microfluidic Sample Preparation Platform for Proteomics;** Hao Yang; Nicole Hebert; Eksigent, part of AB SCIEX, Dublin, CA
- MP 612 **A Versatile High-Recovery Method for Removing Detergents from Low-concentration Protein or Peptide Samples for Mass Spectrometry Sample Prep and Analysis;** Babu Antharavally; Ryan Bomgarden; John C. Rogers; Thermo Fisher Scientific, Rockford, IL
- MP 613 **TRIZOL extraction Coupled with Filter-aided Sample Preparation Method for Mass Spectrometry Enabling Proteomics Analysis of Dengue Virus-Infected Mosquitoes;** Arti Navare¹; Angela Rasmussen¹; David Purdy¹; Victoria Carter¹; Lisa Jones²; Phil Gafken²; Yan-Jang S. Huang³; Dana Vanlandingham³; Alexei Krasnoselsky¹; Stephen Higgs⁴; Michael Katze¹; ¹University of Washington, Seattle, WA; ²Fred Hutchinson Cancer Research Center, Seattle, WA; ³University of Texas Medical Branch, Galveston, TX; ⁴Kansas State University, Manhattan, KS
- MP 614 **Antigen Retrieval and Protein Characterization of Fixed, Flow-sorted B-cell Subsets;** Katherine J. Heaton¹; Wenzhao Meng²; Eline T. Luning Prak²; Stephen R. Master²; ¹Phoenix S&T, Chester, PA; ²Perelman School of Medicine, Philadelphia, PA
- MP 615 **Ionic Liquid Extraction of homologous Wool Keratin Associated Proteins as an Aid to MS Identification;** S. Deb-Choudhury; S. Clerens; J. E. Plowman; A. Thomas; J. M. Dyer; AgResearch Limited, Christchurch, New Zealand
- MP 616 **Optimization of Sample Preparation for Fish Tissue Proteomics using Adaptive Focused Acoustics Technology;** Jennifer Patterson; Taylor King; Mariola Edelmann; Tibor Pechan; Mississippi State University, Mississippi State, MS
- MP 617 **Towards the Understanding of Hydrostatic Pressure Effects on Proteomic Sample Preparation Methods;** Alexander V. Lazarev¹; Vera S. Gross¹; Greta Carlson¹; Alexander R. Ivanov²; ¹Pressure BioSciences, South Easton, MA; ²Barnett Inst., Northeastern University, Boston, MA
- MP 618 **Launching, Directing, Measuring NanoLiter Droplets Shot Into/Onto Targets Including: Levitated Droplets; Mass Spectrometers; MALDI Plates, Human Beings Using Electric Fields;** Drew Sauter¹; Alexander Scheeline²; ¹Nanoliter, LLC, Henderson, NV; ²University of Illinois, Department of Chemistry, Urbana., IL
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- MP 619 **New Multivariate Analysis Software using 2D Chromatographic Data;** Mitsuhiro Kanazawa¹; Atsushi Ogiwara¹; Tomoyuki Ozawa²; Hirotaka Hisatomi³; Hideya Kawasaki³; Ryuichi Arakawa³; ¹Reifys Inc., Tokyo, Japan; ²Nissan Chemical Industries, Ltd., Chiba, Japan; ³Kansai University, Osaka, Japan
- MP 620 **Profiles not Panels: A General Tool for Visualizing Complete LC/MS Data Sets Demonstrated Using Urinary Steroid Analysis;** Christopher A. Crutchfield¹; Matthew Olson²; Evgenia Gourgari¹; Maria Nesterova¹; Peter S. Backlund¹; Constantine Stratakis¹; Alfred L. Yergey¹; ¹NICHD, National Institutes of Health, Bethesda, MD; ²Johns Hopkins Hospital, Baltimore, MD
- MP 621 **DeepQuanTR: A Software Suite for the Relative Quantification of Proteins Based on LC-MS Data with an Intuitive Graphical User Interface;** Tim Fugmann¹; Danilo Ritz¹; Christoph Roesli²; Dario Neri³; ¹Philochem AG, Otelfingen, Switzerland; ²German Cancer Research Center, Heidelberg, Germany; ³Institute of Pharmaceutical Sciences, ETH Zurich, ETH Zurich, Switzerland
- MP 622 **Intelligent Data Acquisition on the Q Exactive by MaxQuant Real-Time;** Richard Scheltema; Nadin Neuhauser; Jurgen Cox; Matthias Mann; Max Planck Institute for Biochemistry, Martinsried, Munich, Germany
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- MP 627 **Intelligent Mass Spectrometry Control Software Enabling Robust Middle Down and Top Down Proteomics;** Ken Durbin¹; Philip Compton¹; Cong Wu²; Neil L. Kelleher¹; ¹Northwestern University, Evanston, IL; ²University of Illinois, Urbana, IL
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- MP 629 **Internal Energy of Ions in Travelling Wave Ion Mobility Spectrometry: Comparison between Synapt G1 and Synapt G2;** Denis Morsa; Valérie Gabelica; Edwin De Pauw; University of Liege, Liège, Belgium
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- MP 633 **Design and Construction of a Benchtop High Resolution Atmospheric Pressure Resistive Glass Drift Tube Ion Mobility Spectrometer;** Paula Holmes¹; Facundo Fernandez²; Prabha Dwivedi²; Joel Keelor²; Bruce Laprade¹; ¹Photonis USA, Sturbridge, MA; ²Georgia Institute of Technology, Atlanta, GA



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Stockport, UK; ⁴AstraZeneca, Pharmaceutical Development, Macclesfield, UK; ⁵AstraZeneca, DMPK Innovative Medicines, Alderley Park, UK

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MP 656 **Analysis of Drugs of Abuse by Laser Diode Thermal Desorption Coupled with Differential Ion Mobility Spectrometry;** Adrian Taylor¹; Pierre Picard²; Michael J. Y. Jarvis¹; Hesham Ghobarah¹; Jean Lacoursiere²; ¹AB SCIEX, Concord, Canada; ²Phytronix Technologies Inc., Quebec, Canada



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- MP 658 **Differential Mobility Ion Pre-filtration for Metabolic Pathway Flux Analysis**; Richard Kibbey¹; Orlando Yarborough¹; Anthony Romanelli²; Keith Goodman²; Valentina Savath¹; Xiaojian Zhao¹; Rebecca Pongratz¹; ¹*Yale University, New Haven, CT*; ²*AB SCIEX, Framingham, MA*
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- MP 709 **Ion Cloud Model for the Calculation of Space Charge Effects in a Linear Quadrupole Ion Trap;** Nikolay Kononkov¹; Donald J. Douglas²; ¹Ryazan State University, Ryazan, Russian Federation; ²University of British Columbia, Vancouver, BC
- MP 710 **The Use of Dipole DC to Reduce Mass Shifts Caused by Space Charge in a Linear Quadrupole Ion Trap;** Kilyoung Kim; Cong Gao; Donald J. Douglas; University of British Columbia, Vancouver, Canada
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- MP 713 **Design Studies of a High-resolution Multi-reflection Time-of-Flight Mass Analyzer for Nuclear Physics Applications;** Vyacheslav Shchepunov¹; Andreas Piechaczek²; Hubert K. Carter²; Viacheslav Kozlovskiy³; ¹Shimadzu Research Laboratory (Europe) Ltd., Manchester, UK; ²Oak Ridge Associated Universities, Oak Ridge, TN; ³Institute for Energy Problems of Chemical Physics, Chernogolovka, Russian Federation
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- MP 715 **Performance Comparison of the Commercial LTQ Ion Trap Geometry with a Miniaturized Linear Ion Trap for Space Applications;** Ryan M. Danell¹; Friso H.W. Van Amerom²; Veronica Pinnick³; Robert J. Cotter⁴; William Brinckerhoff³; Paul Mahaffy³; ¹Danell Consulting, Inc., Greenville, NC; ²SRI International, St Petersburg, FL; ³NASA GSFC, Greenbelt, MD; ⁴Middle Atlantic MS Laboratory, Baltimore, MD
- NANOMATERIALS, 716 - 729**
- MP 716 **Analysis of Ultraviolet Absorbers in Urine Samples by Functionalized Nanoparticles-assisted Electrospray Mass Spectrometry;** Tzung-Jie Yang; Maw-Rong Lee; National Chung-Hsing University, Taichung, Taiwan
- MP 717 **Determination of Diuretics in Urine using Immobilized-mutiwalled Carbon Nanotubes Hollow Fiber Liquid-Phase Microextraction Combined with Liquid Chromatography-Mass Spectrometry;** Tse-Tsung Ho; Maw-Rong Lee; National Chung-Hsing University, Taichung, Taiwan
- MP 718 **Resistance Changes in Thin Silver Film Biosensors Modified by Reactively Landed Streptavidin;** Joelle Rolfs; Michael Volny; W.T. Elam; František Tureček; University of Washington, Seattle, WA
- MP 719 **A Nanoprobe-based Strategy Combined with HILIC Enrichment for Targeted Glycoprotein Profiling;** Kai-Yi Wang^{1,2}; Ying-Wei Lu³; Chun-Cheng Lin³; Yu-Ju Chen^{2,4}; ¹NSTP, Academia Sinica, Taipei, Taiwan; ²National Taiwan University, Taipei, Taiwan; ³National Tsing Hua University, Hsinchu, Taiwan; ⁴Institute of Chemistry, Academia Sinica, Taipei, Taiwan
- MP 720 **Identification of Nano-bio Interface by Crosslinking Chemistry Coupled with MALDI;** Shang Zeng; Wenwan Zhong; University of California, Riverside, Riverside, CA
- MP 721 **Determination of Glutathione in Plant Extracts by SALDI MS Employing Gold Nanoparticles: Potential and Limitations;** Iva Tomalova¹; Katerina Dadakova¹; Wen-Tsen Chen²; Huan-Tsung Chang²; Jan Preisler¹; ¹Masaryk University, Brno, Czech Republic; ²National Taiwan University, Taipei, Taiwan
- MP 722 **Application of Nanostructure Surface and magnetic Bead to Improve Sensitivity of LDI-TOF Analysis;** Byoungjun Kim; Jieun Jeong; Yunju Cho; Sunghwan Kim; Kyungpook National University, Daegu, South Korea
- MP 723 **Application of MALDI-TOF Mass Spectrometry Characterization in the Development of Nano-porous Metallophthalocyanin Sensor Electrodes;** Siau Gek Ang; Chuan Ming Yap; Guo Qin Xu; Department of Chemistry, NUS, Singapore, Singapore
- MP 724 **Affinity-Surface Assisted Laser Desorption/Ionization Based on Silicon Nanostructures for Enrichment and Mass Spectrometry Detection of Small Compounds;** Yannick Coffinier¹; Nhung Nguyen^{1,2}; Florian Lapiere^{1,2}; Vincent Thomy²; Herve Drobecq³; Oleg Melnyk³; Rabah Boukherroub¹; ¹IRI-CNRS, Villeneuve D'ascq, France; ²IEMN-CNRS, Villeneuve d'Ascq, France; ³IBL-CNRS, Lille, France
- MP 725 **Nano Structured Platinum Nanopatterns for Laser Desorption/Ionization Mass Spectrometry;** Jon Beusse; Kermit K. Murray; Louisiana State University, Baton Rouge, LA
- MP 726 **ESI-MS Identification of Large Silver Cluster Compounds: The Case of Ag₃₂(SG)₁₉;** Jingshu Guo; Santosh Kumar; Michael Bolan; Anil Desiredy; Terry P. Bigioni; Wendell P. Griffith; University of Toledo, Toledo, OH
- MP 727 **Porphyrim-Based Matrices for Laser Desorption/Ionization of Zinc, Cadmium, and Lead Sulfide Quantum Dots;** Seung Koo Shin; Jongcheol Seo; Sung Jun Lim;



Pohang University of Science and Technology, Pohang, South Korea

- MP 728 **Laser Desorption Mass Spectrometry of Semiconducting Nanoclusters**; Ying Zhang¹; Yuanyuan Wang¹; Henry W. Rohrs¹; Paul Kowalski²; William Buhro¹; ¹Washington University, St Louis, MO; ²Bruker Daltonics, Billerica, MA
- MP 729 **Structure and Stability of Molybdenum and Vanadium Polyoxometalate Anions Investigated by Electrospray Mass Spectrometry and Collision Induced Dissociation**; Naila Al Hasan; Grant Johnson; Julia Laskin; Pacific Northwest National Laboratory, Richland, WA

ELEMENTAL ANALYSIS, 730 - 739

- MP 730 **SIMS Investigation of Nitrogen in Tobelite. Constraints from EMPA and Crystal Chemical Charge-Balance**; Luisa Ottoloni¹; Fernando Scordari^{2,3}; Ernesto Mesto^{2,3}; ¹CNR-IGG, Pavia, Italy; ²Università degli Studi di Bari, Bari, Italy; ³Università degli Studi di Bari, Bari, Italy
- MP 731 **Enhanced Catalyst Monitoring using Tandem MS to Track the Fate of Metal Complexes in Chemical Process Streams**; Courtney Sherman; The Dow Chemical Company, Freeport, TX
- MP 732 **Rapid Determination of Lead in Submicroliter Samples of Whole Blood using Diode Laser Thermal Vaporization**; Jan Preisler; Pavla Foltynová; Viktor Kanický; Masaryk University, Brno, Czech Republic
- MP 733 **Quantitative Determination of Cisplatin-protein Interaction in Cell Models by LC-ICP-MS**; Gerrit Hermann¹; Petra Heffeter²; Walter Berger²; Stephan Hann¹; Gunda Koellensperger¹; ¹BOKU - Vienna, Vienna, Austria; ²Medical University - Vienna, Vienna, Austria
- MP 734 **Computer Elucidation of ICP-MS Spectral Data for the Presence, Identification and Software Correction of Interferences for Qualitative and Quantitative Analysis**; Ming Gu; Hongliang (Leo) Xu; Yongdong Wang; Cerno Bioscience, Norwalk, CT
- MP 735 **Protein Quantification by LC-ICP-MS**; Evelyn Rampler; Gerrit Hermann; Stephan Hann; Gunda Koellensperger; BOKU-Vienna, Vienna, Austria
- MP 736 **Absolute Protein Quantification Method using Isotope-dilution ICP/MS for the Development of Certified Reference Material**; Yong-Hyeon Yim¹; Hyun-Seok Lee^{1,2}; Kyoung-Seok Lee¹; Hun-Young So¹; Ji-Seon Jeong¹; Sook-Kyung Kim¹; Sang-Ryool Park¹; Yong-Moon Lee²; ¹KRIS, Daejeon, KOREA; ²College of pharmacy, Chungbuk National University, Chungju, Korea
- MP 737 **A Precise and Accurate Inductively Coupled Plasma - Spectrometry Method for the Determination of Cellular and DNA Platinum Concentrations**; S. Nicholas Potter; Josh Dekeyser; Salem Ogbagabriel; Dan Freeman; Amgen Inc., Seattle, WA
- MP 738 **Neutral and Ion Fractions from Scanning Microprobe MS Near Paschen Minimum Pressures**; Jerry F. Moore; MassThink, Naperville, IL
- MP 739 **Separation and Measurement of Uranium, Plutonium and Neodymium in Simulate Spent Nuclear Fuels by Extraction Chromatography with Isotope Dilution Mass Spectrometry**; Jinying Li^{1,3}; Guoping Xiao²; Lifei Zhao²; Jizong Wu²; Jilong Zhang²; Li Shi¹; ¹China Resources New Energy Group Co., Ltd, Beijing, China; ²China Institute of Atomic Energy, Beijing, China; ³Chinese MS Society, Beijing, China

ION ACTIVATION/DISSOCIATION, 740 - 748

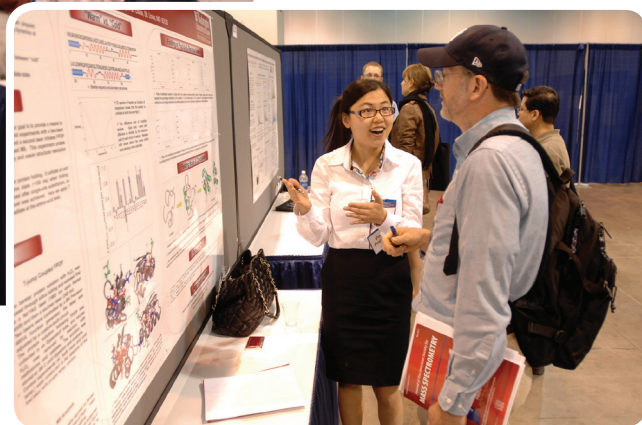
- MP 740 **ECD in an RF-Free Electromagnetostatic Cell on a High Throughput Triple Quadrupole Mass Spectrometer**; Valery G. Voinov; Yu Chu Lin; Douglas F. Barofsky; Oregon State University, Corvallis, OR
- MP 741 **Electron Capture and Electron Transfer Dissociation of Structured Protein-RNA Assemblies**; John B. Mangrum; Matteo Scalabrin; Daniele Fabris; University at Albany, Albany, NY
- MP 742 **193 nm Ultraviolet Photodissociation of O-linked Glycopeptide Cations and Anions**; Byoung Joon Ko¹; Dustin Holden²; Jennifer Brodbelt³; ¹UT-Austin, Austin, TX; ²University of Texas Chemistry, Austin, TX; ³The University of Texas, Austin, TX
- MP 743 **Electrochemistry-Assisted Top-Down Characterization of Disulfide-Containing Proteins**; Yun Zhang¹; Weidong Cui²; Hao Zhang²; Howard Dewald¹; Hao Chen¹; ¹Ohio University, Athens, OH; ²Washington University, St. Louis, MO
- MP 744 **Electrostatic Catalysis in Mass Spectrometry: Fragmentation of Alkali Metal-Cationized β -Amino Acid Ester Derivatives**; Yunfeng Chai; Yuanjiang Pan; Zhejiang University, Hangzhou, China
- MP 745 **Ion Mobility Spectrometry Reveals duplex DNA Dissociation Pathways**; Anastasia Burmistrova; Edwin De Pauw; Valerie Gabelica; University of Liège, Liège, Belgium
- MP 746 **'Activated Ion' Electron Detachment Dissociation of (t)RNA**; Monika Taucher; Kathrin Breuker; University of Innsbruck, Innsbruck, Austria
- MP 747 **Functional Group Interactions During the Decarboxylation of Aliphatic Carboxylic Acid Anions: a Study by MS/MS and DFT Computations**; Robert L. White; J. Stuart Grossert; Dalhousie University, Department of Chemistry, Halifax, Canada
- MP 748 **Structure Identification and Fragmentation Mechanistic Study of a Unique Unknown Degradation Product and its analog in Posaconazole**; Christopher Warme; Gary Martin; Xi Yang; Weidong Tong; Wendy Zhong; Merck, Summit, NJ

ION/MOLECULE, ION/ION, ION/ELECTRON INTERACTIONS, 749 - 766

- MP 749 **Gas Phase Reactions of Atomic Metal Anions**; Paul Michael Mayer; Alex Mungham; Sharon Curtis; Jeffery Butson; University of Ottawa, Ottawa, Canada
- MP 750 **Gas-Phase Chemistry of Polycyclic Aromatic Hydrocarbon Anions**; Nicholas Demarais¹; Zhibo Yang¹; Oscar Martinez Jr.¹; Nadine Wehres¹; Theodore Snow^{2,3}; Veronica Bierbaum^{1,2}; ¹Department of Chemistry and Biochemistry, Boulder, CO; ²Center for Astrophysics and Space Astronomy, Boulder, CO; ³Department of Astrophysical and Planetary Sciences, Boulder, CO
- MP 751 **Intrinsic Reactivity and the α -effect in Elimination Reactions and Competing Mechanisms in the Gas-phase**; Zhibo Yang¹; John Garver¹; Nadine Wehres¹; Charles Nichols¹; Benjamin Worker¹; Scott Gronert²; Veronica M. Bierbaum¹; ¹University of Colorado, Boulder, CO; ²Virginia Commonwealth University, Richmond, VA
- MP 752 **Negative Chemical Ionization for Volatile Halogenated Organic Compounds (VHOC) Analysis in Air and Water**; Clotilde Le Vot; Essyllt Louarn; Joel Lemaire; Hélène Mestdagh; LCP UMR8000 - Université Paris-Sud - CNRS, Orsay, France



- MP 753 **The Formation of Sulfur-Based Radical Cations and Their Gas-Phase Reactivity;** Julie Meyer; Sandra Osburn; Victor Ryzhov; *Northern Illinois University, DeKalb, IL*
- MP 754 **Substituent Effects on meta-Benzynes' Reactivity;** Jinshan Gao¹; Bartłomiej Jankiewicz²; Jennifer Reece³; Michael Yurkovich⁴; John Nash⁵; Hilkka Kenttämää⁶; ¹*Chemistry Department of Purdue University, West Lafayette, IN*; ²*Military University of Technology, Warsaw, Poland*; ³*Max-Planck-Institut fuer Kohlenforschung, Muelheim An Der Ruhr, Germany*; ⁴*Abbott Laboratories, Abbott Park, IL*; ⁵*Department of Chemistry, West Lafayette, IN*; ⁶*Chemistry Department, West Lafayette, IN*
- MP 755 **Ligated Gold Clusters Mediate C- I Bond Activation of Iodobenzene - Size of the Ligand Matters!**; George N. Khairallah¹; Peter Robinson¹; Gabriel da Silva²; Richard A. J. O'hair²; ¹*Bio21 Inst, Uni of Melbourne, Melbourne, Australia*; ²*University of Melbourne, Victoria, Australia*
- MP 756 **Synthesis, Characterization, and Reactivity of Gold Carbenes in the Gas Phase;** Christopher Swift^{1,2}; Scott Gronert^{1,2}; ¹*Virginia Commonwealth University, Richmond, VA*; ²*Virginia Commonwealth University, Richmond, VA*
- MP 757 **Gas Phase Alkene Addition to an Oxidized Ruthenium Thiolate Investigated by Electrospray Ionization Mass Spectrometry;** Mei Lu¹; J. Larry Campbell²; Craig Grapperhaus³; Hao Chen¹; ¹*Ohio University, Athens, OH*; ²*AB SCIEX, Concord, Canada*; ³*University of Louisville, Louisville, KY*
- MP 758 **Palladium Monophosphines are Far More Reactive Than Palladium Bisphosphines towards Oxidative Addition of Aryl Halides;** Krista Vikse²; Scott McIndoe¹; ¹*University of Victoria, Victoria, Canada*; ²*University of Melbourne, Melbourne, Australia*
- MP 759 **Heck Coupling in the Gas Phase: Examination of the Reaction Mechanism by Ion/Molecule Reactions and Mass Spectrometry;** Lukas Fiebig; Hans-Günther Schmalz; Mathias Schäfer; *University of Cologne, Cologne, Germany*
- MP 760 **Study of Ion-induced Water Vapor Uptake by Iodide Salts Using Tandem Parallel Plate Ion Mobility Spectrometry-Mass Spectrometry;** Derek Oberreit; Carlos Larriba Andaluz; Peter McMurry; Chris Hogan; *University of Minnesota, Minneapolis, MN*
- MP 761 **Gas-phase Interactions of Di- and Tri-organotin with Glycine and Cysteine;** Jean-Yves Salpin^{1,2}; Violette Haldys^{1,2}; Jeanine Tortajada^{1,2}; Catarina Correia^{1,2}; Latifa Latrous³; ¹*Université d'Evry Val d'Essonne, Evry, France*; ²*CNRS - UMR 8587, Evry, France*; ³*Faculté des Sciences de Tunis, Tunis, Tunisia*
- MP 762 **Diastereoselective Discrimination of Biologically-Relevant Tripeptides by Zwitterionic Chiral Selectors using Electrospray Ionization-Mass Spectrometry;** Jonathan Bobbitt¹; Li Li¹; Doug Carlton Jr. ¹; Mahwish Yasin¹; Sumit Bhawal¹; Frank W. Foss Jr. ¹; Stefanie Wernisch²; Reinhard Pell²; Wolfgang Lindner²; Kevin Schug¹; ¹*University of Texas at Arlington, Arlington, TX*; ²*Institute for Analytical Chemistry, Vienna, Austria*
- MP 763 **Fitting of ETD Rate Constants for Doubly and Triply Charged Ions in a Linear Ion Trap;** Dirk Nolting; Andreas Wieghaus; *Thermo Fisher Scientific, Bremen, Germany*
- MP 764 **Gas Phase Covalent Modification of Matrix Assisted Laser Desorption Ionization (MALDI) Generated Tryptic Peptides via Ion/Ion reactions;** John R. Stutzman; Scott A. McLuckey; *Purdue University, West Lafayette, IN*
- MP 765 **Disulfide vs. Backbone Bond Cleavage in Electron Capture Dissociation of Proteins;** Barbara Ganisl; Kathrin Breuker; *University of Innsbruck, Innsbruck, Austria*
- MP 766 **Creating an Evanescent Ion/Ion Reaction Region within a Low-pressure Linear Ion Trap;** J. Larry Campbell; James Hager; *AB SCIEX, Concord, Canada*





TUESDAY POSTERS

7:30-8:00 am Set up all Tuesday posters
10:30 am-1:00 pm Odd-numbered posters present
12:00-2:30 pm Even-numbered posters present
7:30-8:00 pm Remove all Tuesday posters

Biomarkers: Quantitative Analysis, Chemical/Isotope

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Biomarkers: Discovery I.....	030 - 059
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Peptidomics.....	088 - 099
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BIOMARKERS: QUANTITATIVE ANALYSIS, CHEMICAL/ISOTOPE LABELING, 001 - 029

- TP 001 **Quantitative Proteomic Analysis of sir2.1 Mutant Strain for the Metabolic Aging of *C. elegans***; Hyoungh-Joo Lee; Hyoe-Jin Joo; Mun-Young Kim; Seul-Ki Jeong; William S. Hancock; Young-Ki Paik; *Yonsei Proteome Research Center, Seoul, South Korea*
- TP 002 **Estimation of Relative Protein Abundance and Statistical Analysis of Proteomic Data from Multiple iTRAQ Experiments**; Ingo Ruczinski; Shelley M Herbrich; Robert N Cole; Kerry Schulze; John Groopman; Keith P West; *Johns Hopkins University, Baltimore, MD*
- TP 003 **Comparisons of 4-plex to 8-plex iTRAQ® Quantitative Measurements of Proteins in Human Plasma**; Gwenael Pottiez; Jayme Wiederin; Howard Fox; Pawel Ciborowski; *University of Nebraska Medical Center, Omaha, NE*
- TP 004 **Proteomic Profiling of Anaplasia in Wilms Tumor**; Erol E. Gulcicek¹; David Grignon²; Philip Faught²; Liang Cheng²; Rong Fan²; ¹*Yale University, New Haven, CT*; ²*Indiana University, Indianapolis, IN*
- TP 005 **The Large-scale Analysis of Protein Expression in Human Ovarian Tumor Samples by LC-MS/MS**; Anthony Possemato; *Cell Signaling Technology, Danvers, MA*
- TP 006 **Comparison of Relative Quantitation Strategies Using Shot Gun Mass Spectrometry**; Eva Borràs¹; Guadalupe Espadas¹; Francesco Mattia Mancuso¹; Tobias Maier²; Henrik Molina³; Cristina Chiva¹; ¹*CRG/UPF Proteomics Unit, Barcelona, Spain*; ²*CRG (Center for Genomic Regulation), Barcelona, Spain*; ³*Rockefeller University, New York, NY*
- TP 007 **Relative Quantification of Metallothionein Isoforms in Human Kidney Cells Using Stable Isotope labeling of Cysteines and MALDI-TOF/TOF Mass Spectrometry**; Aaron Mehus; Wallace Muhonen; Scott H. Garrett; Seema Somji; Mary Ann Sens; Donald A. Sens; John Shabb; *University of North Dakota, Grand Forks, ND*
- TP 008 **Intra-protein Variability Revealed by Absolute Quantification of Plasma Proteins using Dimethyl Labelling**; Devanand M. Pinto; Kenneth Chisholm; Andrew

Leslie; Alejandro Cohen; Rita Kostyleva; *NRC, Halifax, Canada*

- TP 009 **Quantitative Analysis of Serine Protease Using Species-unspecific Isotope Dilution ICP-MS with an Elemental Labeling Strategy**; Xiaowen Yan; Limin Yang; Qiuquan Wang; *Xiamen University, Xiamen, China*
- TP 010 **Quantitative Analysis for Clinical Proteomics by nano LC-nano-ESI-SRM-MS Using Stable Isotope-labeled Iodoacetanilide**; Sadamu Kurono^{1,2}; Yuka Kaneko^{1,2}; Shuji Matsuura¹; Satomi Niwayama³; ¹*Osaka University, Osaka, Japan*; ²*Wako Pure Chemical Industries, Ltd., Osaka, Japan*; ³*Texas Tech University, Lubbock, TX*
- TP 011 **Systematic Identification and Quantification of Post-translational Modifications using ISPTM Approach Coupled with UNiQuant**; Xin Huang; Lin Huang; Hong Peng; Miao Liu; Shi-Jian Ding; *Department of Pathology and Microbiology, UNMC, Omaha, NE*
- TP 012 **Absolute Quantification of Proteins and N-terminal Truncated Proteins Using 12C-/13C-Isotope Densylation Labeling Combined with LC-MS**; Yanan Tang; Liang Li; *University of Alberta, Edmonton, Canada*
- TP 013 **Quantitative Proteomics Reveals a Key Role for RNA Biology During Stress-Induced Sumoylation in Arabidopsis**; Mark Scalf¹; Marcus J. Miller²; Therese C. Rytz²; Richard D. Vierstra²; Lloyd M. Smith¹; ¹*Department of Chemistry, Madison, WI*; ²*Department of Genetics, Madison, WI*
- TP 014 **Quantitative Analysis of Combinatorial Histone PTMs between Mouse Spermatocytes and Round Spermatids Cells**; Kai Zhang¹; Rui Zou¹; Zhiyou Deng²; Minjia Tan²; Yue Chen²; Yingming Zhao²; ¹*Nankai University, Department of Chemistry, Tianjin, China*; ²*University of Chicago, Chicago, IL*
- TP 015 **Determination of Histone Post-Translational Modification Cross-talk by SILAC**; Xiaoyan Guan; Neha Rastogi; Jia You; Mark R. Parthun; Michael A. Freitas; *Ohio State University, Columbus, OH*
- TP 016 **Origins and Formation of Histone Methylation across the Human Cell Cycle**; Barry Zee; Laura-Mae Britton; Daniel Wolle; Benjamin Garcia; *Princeton University, Princeton, NJ*



- TP 017 **Quantitative Analysis of Peptide Citrullination by Means of Skewed Isotope Distribution;** Marlies De Ceuleneer; Katleen Van Steendam; Dieter Deforce; *Faculty of Pharmaceutical Sciences, Ghent, Belgium*
- TP 018 **The First Quantitative Acetylome Analysis In Response to a Regulatory Enzyme Identified 4623 Kac Sites and Diverse Sirt1-regulated Pathways;** Yue Chen; Zhongyi Cheng; Hao Luo; Minjia Tan; Yingming Zhao; *University of Chicago, Chicago, IL*
- TP 019 **Quantitative Proteomics of Pancreatic Cancer Stem Cells;** Lisa Weillnböck; Andrea Loipetzberger; Fritz Aberger; Christian Huber; *University of Salzburg, Salzburg, Austria*
- TP 020 **Development of a Human Cell-free Expression System to Generate Stable Isotope-labeled Protein Standards for Quantitative Mass Spectrometry;** Ryan Bomgardner¹; Derek Baerenwald²; Eric Hommema¹; Scott Peterman³; John C. Rogers ¹; ¹Thermo Fisher Scientific, Rockford, IL; ²University of Iowa, Iowa City, IA; ³ThermoFisher Scientific, Cambridge, MA
- TP 021 **Stable Isotope-labeled Parathyroid Hormone as an Immunocapture and Digestion Efficiency Standard for MS-based Immunoassays;** Ryan Bomgardner¹; Bryan Krastins²; Dobrin Nedelkov³; Mary F Lopez²; John C. Rogers ¹; Paul Haney¹; ¹Thermo Fisher Scientific, Rockford, IL; ²ThermoFisher Scientific, Cambridge, MA; ³ThermoFisherScientific, Tempe, AZ
- TP 022 **Production of Isotope-Labeled Proteins as Internal Standards for Absolute Quantification by Mass Spectrometry;** Martin Gamer; Stefan Uhl; Gerhard Koerting; Andreas Wattenberg; Angelika Lueking; Peter Schulz-Knappe; *Protagen AG, Dortmund, Germany*
- TP 023 **Quantitative Proteomics Studies of the Patient-matched Normal and Non-small Cell Lung Cancer Cell Lines;** Yue Chen ¹; Hua Xu ²; Zhiyou Deng¹; Yingming Zhao¹; ¹University of Chicago, Chicago, IL; ²Case Western Reserve University, Cleveland, OH
- TP 024 **Selective Enrichment of Newly Synthesized Proteins for Quantitative Secretome Analysis;** Katrin Eichelbaum¹; Markus Winter¹; Mauricio Berriel Diaz²; Stephan Herzig²; Jeroen Krijgsveld¹; ¹EMBL, Heidelberg, Germany; ²DKFZ, Heidelberg, Germany
- TP 025 **Absolute and Combinatorial PTM Quantitation by Vapor (Sorption) Induced Crystallization and MALDI-TOF/MS: No Labels, Just Matrix;** Steven Patrie; Michael Roth; Daniel Plymire; William Rounds; Erica Maresh; *University of Texas Southwestern Medical Center, Dallas, TX*
- TP 026 **Development and Validation of an Ion-pair SPE-LC-MS/MS Assay for the Quantification of Collagen type-1 Peptides in Urine as Diabetic Nephropathy Biomarkers.** Udeni Yapa; Guodong Zhang; Zhaosheng Lin; Rick Steenwyk; Elizabeth A. Groeber; *Pfizer Global Research and Development, Groton, CT*
- TP 027 **Quantification of CD95 Death Inducing Signaling Complex (CD95-DISC) Proteins Comparing Orbitrap and QTrap MS Data;** Uwe Warnken¹; Kerstin Kammerer¹; Sebastian Link²; Kolja Schleich¹; Nicolai Fricker¹; Inna Lavrik¹; Martina Schnölzer¹; ¹DKFZ, Heidelberg, Germany; ²DKFZ-ZMBH, Heidelberg, Germany
- TP 028 **High Throughput Top-down Mass Spectrometry for Comprehensive Identification and Quantitation of Microbial Proteins;** Si Wu¹; Sam Payne ¹; Li Cao¹; Nikola Tolić¹; Da Meng¹; Rui Zhao¹; Ron Moore ¹; Erika Zink¹; Xiaowen Liu²; Pavel Pevzner²; Mary Lipton ¹; Ljiljana Pasa-Tolić¹; ¹PNNL, Richland, WA; ²UCSD, La Jolla, CA
- TP 029 **Proteomics Analysis of Host Cell Protein Changes in Response to Dengue Virus Infection of Human Cells;** Subrat Rout; Yashu Liu; Rajeev Vaidyanathan; Dave Anderson; *SRI International, Harrisonburg, VA*
- BIOMARKERS: DISCOVERY I, 030 - 059**
- TP 030 **Neuroproteomics using Tandem-Mass Spectrometry to Study Experimental Spinal Cord Injury;** Ahmed Moghieb; Nansy Deslow; Richard A. Yost; Wang Kevin; *University of Florida, Gainesville, FL*
- TP 031 **A Molecular Examination of Benign and Malignant Melanocytic Tumors;** Jamie Allen¹; Erin Seeley¹; Alireza Sepehr²; Richard M. Caprioli³; ¹Vanderbilt University, Nashville, TN; ²Dept. of Pathology, BIDMC and Harvard University, Boston, MA; ³Vanderbilt Univ Sch of Med, Nashville, TN
- TP 032 **Multiple Approaches to Identify Plasma Proteomic Signatures of Asthma Risk and/or Protection Associated with Early Indoor Dog Exposure;** Timothy Radabaugh^{1,3}; Haili Xu^{1,2}; Zhenqiang Lu^{5,6}; Dean Billheimer^{5,6}; Donata Vercelli^{4,7}; Marilyn Halonen^{2,7}; Serrine S Lau^{1,3}; ¹Southwest Environmental Health Sciences Center, Tucson, AZ; ²Dept. of Pharmacology, College of Medicine, Tucson, AZ; ³Dept. of Pharm/Tox, College of Pharmacy, Tucson, AZ; ⁴Arizona Center for the Biology of Complex Disease, Tucson, AZ; ⁵Statistics Consulting Laboratory, Tucson, AZ; ⁶Dept. of Agricultural and Biosystems Engineering, Tucson, AZ; ⁷Arizona Respiratory Center, Tucson, AZ; ⁸Bio5 Institute, The University of Arizona, Tucson, AZ
- TP 033 **Identification of Diabetic Wound Healing Biomolecular Signatures by UPLC-IM-MS;** Kelly Hines¹; Samir Ashfaq²; Jeffrey Davidson^{3,4}; Susan Opalenik⁴; John McLean¹; ¹Vanderbilt University Department of Chemistry, Nashville, TN; ²Texas A&M College of Medicine, College Station, TX; ³Research Service, VA Tenn. Valley Health Care Sys., Nashville, TN; ⁴Vanderbilt School of Medicine Dept. of Pathology, Nashville, TN
- TP 034 **Biomarker Discovery in Bronchopulmonary Dysplasia (BPD);** Lindsay Schambeau¹; John Benjamin²; Lewis K. Pannell ¹; ¹Mitchell Cancer Institute, Mobile, AL; ²University of South Alabama, Mobile, AL
- TP 035 **Assessment of Variability Sources in Quantitative LC-MS Proteomics Analysis of Human Brain Tissue Samples: Towards a Large-Scale Population Proteomics Study;** Paul D. Piehowski¹; Fang Xie¹; Daniel J. Orton¹; Manuel Ramirez²; Vlad A. Petyuk¹; David G. Camp III¹; Amanda J. Myers²; Richard D. Smith¹; ¹PNNL, Richland, WA; ²University of Miami, Miami, FL
- TP 036 **Mining the Malignant Pleural Effusions Proteome for Novel Candidate Ovarian Cancer Biomarkers;** Valeriy Shevchenko; Dmitry Makarov; Sergey Kovalev; Natalia Arnotskaya; Nonna Pogosyan; Kirill Zhordania; N. N. Blokhin *Russian Cancer Research Center, Moscow, Russian Federation*
- TP 037 **Depletion of Antibodies and Serum-derived Proteins from Pancreatic Juice to Facilitate Detection of Pancreas-specific Proteins;** Jana D. Rocker¹; Carlo Contreras¹; Lee W. Thompson²; Russell E. Brown²; Jack A. DiPalma³; Lewis K. Pannell ¹; ¹Mitchell Cancer Institute, Mobile, AL; ²Mobile Infirmary Medical Center, Mobile, AL; ³University of South Alabama, Mobile, AL
- TP 038 **Mapping Novel Serum Albumin Adducts of the Food-borne Carcinogen 2-Amino-1-methyl-6-phenylimidazo[4,5-b]pyridine by Data-Dependent**



- Tandem Mass Spectrometry;** Lijuan Peng¹; Robert Turesky²; ¹Wadsworth Center, NYS Department of Health, Albany, NY; ²Wadsworth Center, Albany, NY
- TP 039 **Prioritization of Blood-based Candidate Biomarkers for Prediction of Outcome in Lung Cancer;** Haizhen Zhang¹; Chenwei Lin¹; Ping Yan¹; Jeffrey Whiteaker¹; Jacob Kennedy¹; Regine Schoenherr¹; Lik Wee Lee¹; Travis Lorentzen¹; Marc Schlessner²; Georg Wendt³; Khaled Chalabi³; Georges Decker⁴; Olivia Roland⁵; Bruno Domon⁵; Helen Ross⁶; Cheryl Selinsky⁷; Jian Liu⁷; Ashoka Polpitiya⁷; Tony Tegeler⁷; Konstantinos Petritis⁷; Guy Berchem²; Amanda Paulovich¹; ¹Fred Hutchinson Cancer Research Center, Seattle, WA; ²Centre Hospitalier de Luxembourg, Luxembourg, Luxembourg; ³Institut National de Chirurgie cardiaque et de, Luxembourg, Luxembourg; ⁴Clinique Zitha, Luxembourg, Luxembourg; ⁵CRP-Santé, Luxembourg, Luxembourg; ⁶Mayo Clinic, Scottsdale, AZ; ⁷Translational Genomics Research Institute, Phoenix, AZ
- TP 040 **Proteomic Analysis of Drug-resistant, Triple-negative Breast Cancer Stem Cells using Nano-ultra Performance Liquid Chromatography Coupled ESI-Q-TOF Parallel Fragmentation Approach;** Adaikkalam Vellaichamy; Melissa D. Landis; Rangarajan Sreenivasan; Rise K. Matsunami; David A. Engler; Jenny C. Chang; Mauro Ferrari; *The Methodist Hospital Research Institute, Houston, TX*
- TP 041 **Quantitative Proteomic Analysis of Frozen and Archival FFPE Clinical Biopsies: Laser Capture Microdissection Coupled with Label-free Mass Spectrometry;** John Shapiro; Samir Parikh; Owen Branson; Anjali A. Satoskar; Brad Rovin; Michael A. Freitas; *Ohio State University, Columbus, OH*
- TP 042 **Analysis of the Secretome of Human Granulosa Cells following Hormonal Stimulation by Various Gonadotrophins by 2-D-LC-MS/MS;** Tanja Panic¹; Goran Mitulovic¹; Detlef Pietrowski²; Rainer Schmid¹; ¹Medical University of Vienna, KIMCL, Vienna, Austria; ²Medical University of Vienna, Dep. of Gynaecology, Vienna, Austria
- TP 043 **Discovery of Disease Pathways and Biomarkers across a Clinical Cohort of Preeclamptic Human Placentas: UPLC/UPLC Coupled with High-Resolution Accurate-Mass IMS/MS/MS;** Monique Chireau¹; J. Will Thompson²; Brenna Richardson²; Meredith Turner²; L. Kristin Newby¹; Arthur Moseley¹; ¹Duke University School of Medicine, Durham, NC; ²Duke University School of Medicine, Durham, NC
- TP 044 **Identification of plasma biomarkers of chronic drug exposure in a rat model;** Xiaolei Xie¹; Daniel Lopez Ferrer¹; Geun-Cheol Gil¹; Yuliya Karpievitch¹; Bich Nguyen¹; Kenneth Carr²; Howard Schulman¹; Daniel Chelsky³; Sushmita Mimi Roy¹; ¹Caprion Proteomics US LLC, Menlo Park, CA; ²New York University, New York, NY; ³Caprion Proteome Inc., Montreal, Canada
- TP 045 **Novel Histone H1 Post-Translational Modifications for Use as MRM Target Peptides in Breast Cancer Biomarker Development;** Sean Harshman; Sarah Chaney; Michael A. Freitas; *Ohio State University, Columbus, OH*
- TP 046 **A Metabolomic Investigation of a Model of Heart Failure using Targeted Tandem Mass Spectrometry;** James West¹; Abdelaziz Beqqali²; Yigal Pinto²; Julian Griffin¹; ¹University of Cambridge, Cambridge, UK; ²Heart Failure Research Center, Amsterdam, Netherlands
- TP 047 **Identification of Differentially Expressed Proteins in Prostate Carcinoma Tissue Compared to Normal Prostate Tissue by Mass Spectrometry;** Lona
- Zeneyedpour¹; Esther Verhoeff²; Marije Hoogland²; Arno Leenders²; Guido Jenster³; Ellen Schenk³; Chris Bangma³; Christoph Stingl¹; Lennard Dekker¹; Theo Marten Luider¹; ¹Erasmus Medical Center, Department of Neurology, Rotterdam, The Netherlands; ²Erasmus Medical Center, Department of Pathology, Rotterdam, The Netherlands; ³Erasmus Medical Center, Department of Urology, Rotterdam, The Netherlands
- TP 048 **Glycoproteomic Analysis of Malignant Pleural Effusion Fluid and Tumor Cells Identifies Glycosylated Proteins being Produced by Tumor Cells;** Suzanne Miyamoto¹; Renee Ruhaak³; Carol Stroble¹; Lauren Dimapasoc³; David Gandara¹; Ken Yoneda²; Carlito Lebrilla³; ¹UC Davis Cancer Center, Sacramento, CA; ²Pulmonary Medicine, UCDMC, Sacramento, CA; ³University of California, Davis, CA
- TP 049 **Proteomics of Human Lungs with Pulmonary Artery Hypertension;** Zongming Fu; Melanie Nies; Timothy Yen; Avraham Rosenberg; Kun Yan; Pratima Dulloor; John Tra; Jennifer Van Eyk; Allen Everett; *Johns Hopkins University, Baltimore, MD*
- TP 050 **Unambiguous Identification of Surrogate Biomarkers for Duchenne Muscular Dystrophy using SILAC Mouse Model;** Sree Veera Rayavarapu^{1,2}; Ramya Marathi¹; Kristy J. Brown¹; Eric P Hoffman¹; Kanneboyina Nagaraju¹; Yetrib Hathout¹; ¹Children's National Medical Center, Washington, DC; ²The George Washington University, Washington, DC
- TP 051 **Prognostic Protein Markers of Survival in Glioblastoma Multiforme (GBM) Based on Discovery Proteomics;** Giridharan Gokulrangan¹; Jill Barnholtz-Sloan²; Yanwen Chen²; Elizabeth Yohannes¹; Andrew Sloan³; Mark Chance¹; ¹Center for Proteomics and Bioinformatics, CWRU, Cleveland, OH; ²Case Comprehensive Cancer Center, Cleveland, OH; ³Brain Tumor Center, University Hospitals, Cleveland, OH
- TP 052 **Targeted Approaches to Profiling Keratins in Human Tumour Cell Lines;** Sarah Reed¹; Rachael Murray²; Alun Jones³; Lisa Chopin²; ¹AB SCIEX, Keperra, Australia; ²IHBI, Queensland University of Technology, Kelvin Grove, Australia; ³University of Queensland, Brisbane, Australia
- TP 053 **Proteomic Analysis of CSF in a Rat Model of Multiple Sclerosis;** Therese Rosenling²; Theo M. Luider³; Marcel P. Stoop³; Amos Attali⁴; Christin Christin⁵; Frank Suits⁶; Peter Horvatovich¹; Rogier Q. Hintzen³; Tinka Tuinstra⁴; Rainer Bischoff¹; ¹University of Groningen, Groningen, Netherlands; ²Uppsala University, Uppsala, Sweden; ³Erasmus Medical Center, Rotterdam, Netherlands; ⁴Abbott Healthcare Products B.V., Weesp, Netherlands; ⁵Amsterdam Medical Center, Amsterdam, Netherlands; ⁶IBM TJ Watson Research Centre, Yorktown Heights, NY
- TP 054 **Mass Spectrometric Characterization of Human Serum Protein Modification Derived from Myeloperoxidase-catalyzed Oxidation;** Pilsoo Kang; John S. Wishnok; Steven R. Tannenbaum; *MIT, Cambridge, MA*
- TP 055 **The Effect of Ciprofloxacin on the Proteome of a Hypervirulent NAP1 *Clostridium difficile* Measured using iTRAQ and Label-free methods;** Patrick Chong; Tarah Lynch; Stuart McCorrister; Garrett Westmacott; Michael Mulvey; *Public Health Agency of Canada, Winnipeg, Canada*
- TP 056 **Selective Enrichment of Low Molecular Weight Proteins Using Functionalized Magnetic Beads;** David Malmström¹; Bo-Lennart Johansson²; Jean-Luc Maloisel²; Torgny Undin¹; Jonas Bergquist¹; David Ivansson²; Magnus Wetterhall¹; ¹Uppsala University, Uppsala, Sweden; ²GE Healthcare, Uppsala, Sweden



- TP 057 **MALDI MS-based Proteomic Profiling of Prostate Cancer**; Brian Flatley¹; Karen Wilmott²; Peter Malone²; Rainer Cramer¹; ¹University of Reading, Reading, UK; ²Harold Hopkins Department of Urology, Royal Berkshire NHS Foundation Trust Hospital, Reading
- TP 058 **Proteomics of Alzheimer's Disease: Candidate Proteins Identified in Serum as Diagnostic Biomarker for Alzheimer's disease**; Yuh-Shan Su¹; Ming-Hui Yang; Pei-Wen Chiang¹; Yu-Chang Tyan¹; ¹Kaohsiung Medical University, Kaohsiung, Taiwan; ²National Yunlin Univ of Science & Technology, Tainan, Taiwan
- TP 059 **Proteomic Analysis of Potential Breast Cancer Markers in Nipple Discharge by Two-dimensional Nano-LC-ESI-Mass Spectrometry**; Yuka Kaneko^{1,2}; Sadamu Kurono¹; Shuji Matsuura¹; ¹Osaka University Graduate Sch of Medicine, Osaka, Japan; ²Wako Pure Chemical Industries, Ltd., Osaka, Japan
- QUANTITATIVE PROTEOMICS: LABEL-FREE, 060 - 087**
- TP 060 **Biomarker Discovery in Inflammation Bowel Disease (IBD) of Human Colon Tissue by Label Free Quantification**; Na-Young Han; Gachon University, Incheon, South Korea
- TP 061 **Visualizing Proteome Differences from Cystic Fibrosis Patient Bacterial Isolates Collected Different Clinical Periods**; Chunxiang Zheng; Ben Staudinger; Pradeep Singh; Xia Wu; Colin Manoil; James Bruce; University of Washington, Seattle, WA
- TP 062 **Novel Biomarker Candidates of Hepatocellular Carcinoma Revealed by a Quantitative Label-free Proteome Analysis**; Dominik Andre Megger¹; Thilo Bracht¹; Kristin Rosowski¹; Birgit Korte¹; Anna Lenzian¹; Michael Kohl¹; Maike Ahrens¹; Sascha Hagemann²; Helmut E. Meyer¹; Frank Weber²; Christian Stephan¹; Jörg F. Schlaak²; Hideo A. Baba²; Barbara Sitek¹; ¹Ruhr-Universität Bochum, Bochum, Germany; ²Universitätsklinikum Essen, Essen, Germany
- TP 063 **Comparison of Pre-fractionation Approaches for the Bottom-up Proteomic Analysis of Human Cerebrospinal Fluid**; Jerome Vialaret¹; Martial Seveno²; Francois Becher³; Christophe HIRTZ¹; Sylvain Lehmann¹; ¹Labo de biochimie - Plate-forme de protéomique, Montpellier, France; ²Plate-forme de Protéomique Fonctionnelle, IGF, Montpellier, France; ³CEA, Service de Pharmacologie et d'Immunoanalyse, Gif-sur-Yvette, France
- TP 064 **The Correlation of Metabolic Syndrome and Prostate Cancer: A Molecular Based Evidence Approach at the Protein Level**; Theodoros I. Roumeliotis²; Sam Larkin¹; Bashar Zeidan¹; Paul A. Townsend¹; Spiros D. Garbis¹; ¹University of Southampton, Southampton, UK; ²Academy of Athens - Biomedical Research, Athens, Greece
- TP 065 **Biomarker Analysis of Metabolic Disorder Disease in a Mouse Model on an American Diet**; Stephen Whelan²; David H. Perlman¹; Deborah A. Siwik²; Wilson Colucci²; Richard Cohen²; Catherine E. Costello²; Mark E. McComb²; ¹Princeton University, Princeton, NJ; ²Boston University School of Medicine, Boston, MA
- TP 066 **Label free Quantitative Proteomic Analysis of Bronchoalveolar Lavage Liquid from β ENaC-Transgenic and Wild-type Mice**; Rui Cao; Tiffany Wang; Alessandra Livraghi-Butrico; Wanda O'Neal; Mehmet Kesimer; University of North Carolina at Chapel Hill, Chapel Hill, NC
- TP 067 **Identification and Confirmation of Serum Glycoprotein Biomarkers for Detection of Ovarian Cancer**; Jing Wu¹; Xiaolei Xie²; Yashu Liu¹; Jintang He¹; Ronald J. Buckanovich¹; David M. Lubman¹; ¹University of Michigan, Ann Arbor, MI; ²Caprion Proteomics US LLC, Menlo Park, CA
- TP 068 **Label Free Quantification of the Renal Mitochondria Proteome during Metabolic Acidosis using MS/MS Total Ion Current (TIC) and Spectral Counting**; Dana Freund; Norman Curthoys; Jessica Prenni; Colorado State University, Fort Collins, CO
- TP 069 **Quantitative Proteomic Analysis of Gastric Cancer Cells Treated with the Dual MET/Alk Inhibitor PF-02341066**; Zhaojing Meng; Apurva Srivastava; Ming Zhou; Timothy D. Veenstra; SAIC-Frederick, Inc., Frederick, MD
- TP 070 **Application of nanoUPLC@-MS/MS to Detect and Quantify Insulin-like Growth Factor-I Prohibited in Sport**; Filipe Lopes; Drug Control Centre, King's College London, London, UK
- TP 071 **Validation of an Immunoprecipitation and Immunoaffinity LC-MS/MS Assay for Intact Human Insulin**; Kathryn M. Porter; Lian Shan; Gary A. Schultz; Advion Bioanalytical Labs, a Quintiles Company, Ithaca, NY
- TP 072 **Chemically Acetylated Protein as Internal Standard for Label-free Quantitation of Lysine Acetylation**; Yong Chen; Zhongping Lu; Michael N. Sack; Marjan Gucsek; NIH/NHLBI, Bethesda, MD
- TP 073 **An Informatics-Assisted Label-free Quantitation Strategy for High-speed Personalized Proteomic Profiling and Target Protein Verification**; Chia-Feng Tsai¹; Pei-Yi Lin²; Chih-Chiang Tsou³; Yung-Chin Hsiao⁴; Jau-Song Yu⁴; Chia-Li Han²; Pei-Mien Chen²; Yi-Ting Wang⁵; Ting-Yi Sung⁶; Wen-Lian Hsu⁶; Yu-Ju Chen²; ¹National Taiwan University, Taipei, Taiwan; ²Institute of chemistry, Academia Sinica, Taipei, Taiwan; ³University of Michigan, Ann Arbor, MI; ⁴Chang Gung University, Taoyuan, Taiwan; ⁵CBMB, TIGP, Academia Sinica, Taipei, Taiwan; ⁶Institute of Information Science, Academia Sinica, Taipei, Taiwan
- TP 074 **Quantitative Discovery Proteomics. A Comprehensive Approach to Label-free Quantitation**; Giuseppe Infusini¹; Andrew Webb¹; Liz Milla¹; Eugene Kapp¹; Nishma Gupta¹; Jose Villadangos^{1,2}; Liam O'Connor¹; ¹The Walter & Eliza Hall Institute, Parkville, Australia; ²Bio21 institute, University of Melbourne, Melbourne, Australia
- TP 075 **Extensive, Proteome-Level Investigation of the Corticosteroid Pharmacodynamics with 12 Time Points Using a Reproducible and Comprehensive Ion-Current-Based Profiling Strategy**; Eslam Nouri-Nigjeh; Jun Li; Haoying Yu; Siddharth Sukumaran; Debra C. DuBois; Richard R. Almon; William Jusko; Jun Qu; State University of New York at Buffalo, Buffalo, NY
- TP 076 **A Note on Label-Free Quantitation of LC/MS/MS Proteomics Data in Biomarker Discovery**; Ping Yan¹; Shucha Zhang; Haizhen Zhang¹; Jeffrey Whiteaker¹; Jacob Kennedy¹; Chenwei Lin¹; Amanda Paulovich¹; ¹Fred Hutchinson CRC, Seattle, WA; ²UNC Chapel Hill, Kannapolis, NC
- TP 077 **Label-free Protein Quantification of Sodium Butyrate Treated CHO Cells by ESI-UHR-TOF-MS**; Benjamin Mueller¹; Christoph Heinrich¹; Wolfgang Jabs²; Stephanie Kaspar²; Carsten Baessmann²; Thomas Noll¹; Raimund Hoffrogge¹; ¹Bielefeld University, Bielefeld, Germany; ²Bruker Daltonik GmbH, Bremen, Germany
- TP 078 **Novel Quantification Approach Combining Polypeptides as Internal Standards and HR/AM Measurements Performed on a Quadrupole-orbitrap Mass Spectrometer**; Bruno Doman; Elodie Duriez; Stephane Trevisiol; Sebastien Gallien; Luxembourg Clinical Proteomics Center, Strassen, Luxembourg



TUESDAY POSTERS

- TP 079 **Comparison and Applications of Label-free “Absolute” Proteome Quantification Methods on Study of Bacterial Proteome**; Liisa Arike; *Competence Center of Food and Fermentation Technol, Tallinn, Estonia*
- TP 080 **Comprehensive Targeted Quantitative Proteomics – Taking Multiplexed Assays to a New Level**; Christie Hunter; Sean L. Seymour; *AB SCIEX, Foster City, CA*
- TP 081 **Quantitation of Proteomic Data Using Skyline MS1 Filtering and MS/MS^{ALL} with SWATH® Acquisitions in a Single Experiment**; Birgit Schilling¹; Matthew Rardin¹; Christie Hunter²; Anna Zawadzka¹; Steven R. Danielson¹; Michael Cusack¹; Dylan J. Sorensen¹; Sean L. Seymour²; Bradford W. Gibson¹; ¹*Buck Institute for Research on Aging, Novato, CA*; ²*AB SCIEX, Foster City, CA*
- TP 082 **Quantification of Plant Expressed Proteins Using High Resolution LC/MS**; Jeffrey Gilbert; Trent Oman; Debbie Schwedler; John Lawry; Jesse Balcer; Suresh Babu Annangudi Palani; Yelena A. Adelfinskaya; Brian Wendelburg; Barry Schafer; *Dow AgroSciences, Indianapolis, IN*
- TP 083 **A Label-free Quantitative Approach to Monitor Insult by 4-hydroxynonenal on the Liver Mitochondria Proteome**; Shin-Cheng Tzeng; Claudia Maier; *Oregon State University, Corvallis, OR*
- TP 084 **Label-free Quantitative Proteomic Assessment of Stress-responses in *Candida albicans* using Mobility Assisted Data Independent LC-MS**; Rob Beynon¹; Amy Claydon¹; Lee Gethings²; Chris Hughes²; Mette Jacobsen³; Alistair Brown³; James Langridge²; ¹*PFG, University of Liverpool, Liverpool, UK*; ²*Waters Corp, Manchester, UK*; ³*Schhol of Medical Sciences, University of Aberdeen, Aberdeen, UK*
- TP 085 **Optimisation of a Hi3 MS^E Label-free Absolute Quantification Proteomics Strategy: Considerations of Sample Fractionation and Experimental Design**; Stephen W. Holman; Maria Belen Gonzalez-Sanchez; Ronan D. M. O’cualain; Matthew Crampton; Claire E. Evers; *University of Manchester, Manchester, UK*
- TP 086 **Measuring Protein Subunit Stoichiometries by Quantitative Proteomics**; Nalaka Rannulu; Kristina Woodruff; Leonard H. Rome; Rachel R. Ogorzalek Loo; Joseph A. Loo; *University of California Los Angeles, Los Angeles, CA*
- TP 087 **Data-Independent Acquisition (MS^E) with Ion Mobility Provides Efficient Analysis of a Viral Proteome**; Lewis M. Brown¹; David Dunbar²; Deborah Moran²; Ryan M. Colligan¹; Trevor Cross²; ¹*Columbia University, New York, NY*; ²*Cabrini College, Radnor, PA*
- PEPTIDOMICS, 088 - 099**
- TP 088 **Identifying Physiological Protease Substrate Repertoires with PALe¹⁸O-Discovery**; Diana Klingler; Markus Hardt; *Boston Biomedical Research Institute, Watertown, MA*
- TP 089 **Peptidomic Survey of Secreted Peptide Hormones from Enteroendocrine Cells by Differential Mass Spectrometry**; Weixun Wang; Hua V. Lin; Xuemei Zhao; *Merck Research Labs, Rahway, NJ*
- TP 090 **A Rapid Method for Label-free Comparative Neuropeptidomics from Single *Drosophila* *Melanogaster*: Application to the Study of Circadian Rhythm**; Joseph P. Salisbury; Kristin J. Boggio; Jeffrey N. Agar; *Brandeis University, Waltham, MA*
- TP 091 **Investigations of Cysteine Rich Secretory Proteins and their Peptide Mimics in Mammalian Systems**; Catherine A Washburn¹; Allan L Bieber¹; Kemmons A Tubbs²; Douglas E Chandler¹; ¹*Arizona State University, Mesa, AZ*; ²*ThermoFisher Scientific, Tempe, AZ*
- TP 092 **Modern Mass Spectrometry Approaches for the Qualitative and Quantitative Analysis of Novel Biotherapeutics and Biomarkers with High Biological Relevance: Peptides**; Peter D. Verhaert; *Delft University of Technology, Delft, Netherlands*
- TP 093 **Improving Peptide Identification Hit-Rate via Accounting for Chemical Artifacts in Global Proteomics**; Yanbao Yu; Harsha P. Gunawardena; Xian Chen; *School of Medicine, University of North Carolina, Chapel Hill, NC*
- TP 094 **MS⁺ for Simultaneous Sequence Verification and Label-free Quantitation of Crustacean Neuropeptides**; Claire M. Schmerberg; Chenxi Jia; Limei Hui; Nicole Woodards; Lingjun Li; *University of Wisconsin-Madison, Madison, WI*
- TP 095 **Identification of Endogenous Peptides in Human Cerebrospinal Fluid by LC-MALDI-TOF/TOF**; Mikko Hölttä; Henrik Zetterberg; Niklas Mattsson; Kaj Blennow; Johan Gobom; *University of Gothenburg, Gothenburg, Sweden*
- TP 096 **Characterization of Endogenous Peptides in the Basal Ganglia Structures in the Primate Brain (*Macaca Mulatta*)**; Henrik Wadensten; Anna Nilsson; Per Andrén; *Uppsala University, Uppsala, Sweden*
- TP 097 **Mass Spectral Analysis of Crustacean Hyperglycemic Hormone Precursor Related Peptides**; Chenxi Jia; Jingxin Wang; Limei Hui; Claire M. Schmerberg; Hui Ye; Lingjun Li; *University of Wisconsin-Madison, Madison, WI*
- TP 098 **Mass Spectrometric Evaluation of Neuropeptidomic Profiles Upon Heat Stabilization Treatment of Neuroendocrine Tissues in Crustaceans**; Tyler J. Greer; Rob Sturm; Nicole Woodards; Erin Zimmerman; Lingjun Li; *University of Wisconsin-Madison, Madison, WI*
- TP 099 **Human Milk Peptidomics: Monitoring Protein Digestion in Preterm Infants**; Dave Dallas²; Alexandre Panchaud¹; Marc Underwood²; Irma Silva Zolezzi¹; Bruce German²; Michael Affolter¹; ¹*Nestle Research Centre, Lausanne, Switzerland*; ²*University of California at Davis, Davis, CA*
- PEPTIDES: PTM IDENTIFICATION I, 100 - 123**
- TP 100 **Differentiation-specific Whole Proteome, Phosphoproteome, Transcriptome and Histone Modification Profiles during Human Skeletal Myogenesis**; Natarajan Bhanu; Rosalynn Molden; Benjamin Garcia; *Princeton University, Princeton, NJ*
- TP 101 **Characterization of the Mass Spectra of Non-enzymatic Deamidated Peptides by UPLC-MS/MS**; Sharon S. Chen; Michael R. Stamm; Brent Meier; Karen De Jongh; Henrik Andersen; *Zymogenetics/BMS, Seattle, WA*
- TP 102 **Proteome-wide Discovery of Novel Cysteine-methylated Proteins**; Lei Guo; Yinsheng Wang; *University of California, Riverside, Riverside, CA*
- TP 103 **Factors Influencing Phosphate Group Scrambling, and its Effect on Large-scale MS Based Phosphoproteomic Analysis**; Li Cui; Gavin E. Reid; *Michigan State University, East Lansing, MI*
- TP 104 **Global Characterization of the Ubiquitin-Modified Proteome: Monitoring Proteome Fidelity through Quantitative Analysis of Endogenous Ubiquitin Targets**; Eric Bennett^{1,2}; Woong Kim²; Edward L. Huttlin²; Mathew



- Sowa²; Ramin Rad²; John Rush³; Michael Comb³; Wade Harper²; Steven Gygi²; ¹UCSD, La Jolla, CA; ²Harvard Medical School, Boston, MA; ³Cell Signaling Technology, Danvers, MA
- TP 105 **Proteomic Profiling of the Secretome and N-linked Glycosylation Site Mapping of Secretory Proteins in *Aspergillus niger***; Uma Aryal¹; Lu Wang¹; Ziyu Dai²; Matthew Monroe¹; Anil K Shukla¹; Ron Moore¹; David Camp¹; Richard D. Smith¹; Scott Baker²; Weijun Qian¹; ¹Biological Science Div, Pacific Northwest Natl Lab, Richland, WA; ²Energy Process and Material Div, Pacific NW Natl, Richland, WA
- TP 106 **Analysis of Disulfide Shuffling during Enzymatic Deglycosylation and Proteolytic Digestion**; Daniel Clark; Eden Go; Heather Desaire; University of Kansas, Lawrence, KS
- TP 107 **Comprehensive Analysis of Urmylation Events in *Saccharomyces cerevisiae* Offers Insights into Ubiquitin-like Protein Complexity**; Christian Madsen¹; Jon Wriedt Poulsen²; Michael Lund Nielsen³; ¹Center for Protein Research, Copenhagen, Denmark; ²University of Copenhagen, Copenhagen, Denmark; ³NNF CPR, Copenhagen, Denmark
- TP 108 **In vitro Metabolism of Four Representative Peptides in Various Tissues using an Orbitrap Elite and Accurate Mass LC-MS and MS/MS**; Joshua L. Johnson; Amin M. Kamel; Shawn Harriman; Novartis Institutes for BioMedical Research, Cambridge, MA
- TP 109 **Site-specific S-nitrosylation in Mouse Muscle Profiled by Protein- and Peptide-level Enrichment Coupled with LC-MS/MS**; Dian Su; Anil K Shukla; Baowei Chen; Karl Weitz; Therese Clauss; Ron Moore; Matthew Monroe; Samuel O Purvine; Dave Camp; Richard D. Smith; Weijun Qian; PNNL, Richland, WA
- TP 110 **The First Identification of Lysine Malonylation Substrates and Sirt5 as Its Regulatory Enzyme**; Chao Peng; Zhiyou Deng; Zhongyu Xie; Yue Chen; Minjia Tan; Yingming Zhao; University of Chicago, Chicago, IL
- TP 111 **Integrated Positive and Negative Enrichment of N-terminal Peptides Reveals the Complexity of Proteolytic Processing in *Aspergillus niger***; Weijun Qian; Pacific Northwest National Lab, Richland, WA
- TP 112 **Characterization of Citrulline-modified Bovine Myelin Basic Protein by Mass Spectrometry**; Zhicheng Jin; Jennifer Van Eyk; Johns Hopkins University, Baltimore, MD
- TP 113 **High Resolution, High Mass Accuracy Mass Spectrometry Reveals New Posttranslational Modifications of the Human Cystic Fibrosis Transmembrane Conductance Regulator**; Michelle McClure; Landon Wilson; Marjorie Ray; Lawrence DeLucas; Steven M Rowe; Xiaoyun Wu; Qun Dai; Jeong S. Hong; Eric J. Sorscher; John C. Kappes; Stephen Barnes; University of Alabama at Birmingham, Birmingham, AL
- TP 114 **Redox Proteomics to Decipher Cysteine Oxidation Status during Myocardial Ischemia / Reperfusion Injury**; Jana Paulech; Melanie White; Nestor Solis; Kiersten Liddy; Stuart Cordwell; The University of Sydney, Sydney, Australia
- TP 115 **A New O18-labeling Method for Unambiguous Assignment of Asparagine Deamidation Products**; Shunhai Wang; Igor A. Kaltashov; University of Massachusetts, Amherst, MA
- TP 116 **Identification of of 67 New Histone Marks and Lysine Crotonylation as a Novel Type of Histone Mark**; Hao Luo¹; Minjia Tan¹; Sangkyu Lee¹; Fulai Jin²; Jeong Soo Yang¹; Emilie Montellier³; Zhongyi Cheng¹; Qin Zhu⁴; Saadi Khochbin³; Yang Ye⁴; Bing Ren²; Yingming Zhao¹; ¹Ben May Department, University of Chicago, Chicago, IL; ²UCSD, La Jolla, CA; ³Université Joseph Fourier - Grenoble, La Tronche Cedex, France; ⁴Shanghai Institute of Materia Medica, Shanghai, China
- TP 117 **Resveratrol Induces Increased Deacetylation of Apoptotic Proteins via Sirtuin Isoform 5 in HEK293**; Benjamin Fränzel¹; Dirk Wolters²; ¹University of Bochum, Bochum, Germany; ²University Bochum, BMS, Bochum, Germany
- TP 118 **Optimized LC-ETD-MS/MS Setup for the Characterization of Post-translational Modifications of Histone Tails in Embryonic Stem Cells**; Simone Sidoli¹; Veit Schwämmle¹; Thomas A. Hansen¹; Xudong Wu²; Kristian Helin²; Ole N. Jensen¹; ¹University of Southern Denmark, Odense, Denmark; ²BRIC, University of Copenhagen, Copenhagen, Denmark
- TP 119 **Application of Alternating MS and Broad-Band CID Analysis to Lysine Acetylation**; Caroline Evans¹; Duncan L Smith²; Saw Yen Ow¹; Narciso Couto¹; Phillip C Wright¹; ¹University of Sheffield, Sheffield, UK; ²Paterson Institute for Cancer Research, Manchester, UK
- TP 120 **Immunoaffinity Enrichment and Quantitative Profiling of Protein Phosphorylation, Methylation, Acetylation, and Ubiquitination in Receptor Tyrosine Kinase Pathway-addicted Cancer Cell Lines**; Klarisa Rikova; Ailan Guo; Anthony Possemato; Kimberly A. Lee; Daniel E. Mulhern; Sean Beausoleil; Yi Wang; Jian Min Ren; Michael J. Comb; Cell Signaling Technology, Inc., Danvers, MA
- TP 121 **Large Scale Analysis of Synaptic O-GlcNAcylation and Phosphorylation Reveals Complex Interplay between these Post-translational Modifications**; Jonathan C. Trinidad¹; David Barkan¹; Brittany Gullede¹; Agnes Thalhammer²; Andrej Salic¹; Ralf Schoepfer²; Alma Burlingame¹; ¹UCSF, San Francisco, CA; ²University College London, London, UK
- TP 122 **Global Mapping of Histone Modifications through *Plasmodium falciparum* Life Cycle**; Anita Saraf¹; Nadia Ponts²; Serena Cervantes²; D-Won Chung²; Jacques Prudhomme²; Zhihui Wen¹; Mihaela Sardi¹; Joseph Varberg¹; Edwin Smith¹; Ali Shilatifard¹; Michael Washburn¹; Laurence Florens¹; Karine Le Roch²; ¹Stowers Institute for Medical Research, Kansas City, MO; ²University of California Riverside, Riverside, CA
- TP 123 **Mitochondrial Acetylomic Analysis in a Mouse Model of Alcohol-Induced Liver Injury Utilizing SIRT3 Knockout Mice**; Kristofer Fritz¹; James Galligan¹; Matthew Hirschey²; Eric Verdin³; Dennis Petersen¹; ¹University of Colorado Denver, Aurora, CO; ²Duke University, Durham, NC; ³Gladstone Institute of Virology and Immunology, San Francisco, CA
- PROTEOMICS: SAMPLE PREPARATION AND SEPARATIONS, 124 - 158**
- TP 124 **GELFREE-MS Analysis of Microvesicular Proteins Isolated from SK-BR-3 Breast Cancer Cells through Affinity Purification**; Alan A. Doucette¹; Mark Wall¹; Fang Liu¹; Steve Griffiths²; Michelle Caisson²; Scott Lewis³; David Barnette²; Adrian Culf²; ¹Dalhousie University, Halifax, Canada; ²Atlantic Cancer Research Institute, Moncton, Canada; ³New England Peptide, Gardner, MA



- TP 125 **Measuring Proteins Across Developmental Stages of *C. elegans* Using Molecular Weight Fractionation and High-resolution Mass Spectrometry**; Gennifer E. Merrihew; Vagisha Sharma; James R. Hibbard; Michael J. Maccoss; *University of Washington, Seattle, WA*
- TP 126 **Reduction and Alkylation in Proteomics: Cleaner, Faster and More Specific**; Sarah Hanrahan; Marcella Widya; Andrew J Thompson; *Proteomics Facility, Institute of Cancer Research, London, UK*
- TP 127 **A Novel Electrochemical Method for Efficient Reduction of Disulfide Bonds in Peptides and Proteins Prior MS Detection**; Agnieszka Kraj; Hendrik-Jan Brouwer; Nico Reinhoud; Jean-Pierre Chervet; *Antec, Zoeterwoude, Netherlands*
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- TP 219 **Glycan Phenotype from Cancer Cell Surface;** Hyun Joo An¹; Mary Saunders²; Lauren Dimapasoc²; Shuai Wu²; Seung Hyup Jeong¹; Jae Han Kim¹; Kit Lam²; Bum Jin Kim¹; Carlito Lebrilla²; ¹Chungnam National University, Daejeon, South Korea; ²University of California, Davis, CA
- TP 220 **N-linked Glycans of *Trichomonas foetus*;** Edwin M. Motari²; Aparajita Chatterjee²; Liang Han¹; John Haserick²; Catherine E. Costello²; Philip Robbins²; John Samuelson²; ¹Boston University, Boston, MA; ²Boston University School of Medicine, Boston, MA
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- TP 223 **Monitoring of Age-related O-glycosylation in Mouse Skin Tissues Using Mass Spectrometry;** Bum Jin Kim¹; Inae Kang¹; Sureyya Ozcan²; Lauren Dimapasoc²; Ik-Soon Jang³; Jong-Soon Choi³; Hyun Joo An¹; ¹GRAST, Chungnam National University, Daejeon, South Korea; ²University of California, Davis, CA; ³Korea Basic Science Institute, Daejeon, South Korea



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- TP 229 **Negative Ion CID Fragmentation of Non-Reduced and Reduced N-linked Complex and High Mannose Glycans;** Terry Nguyen-Khuong; Arun Everest-Dass; Matthew P Campbell; Nicole H Packer; *Macquarie University, Sydney, Australia*
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- TP 233 **NanoLC/MS/MS Proteomic Analysis of Particle-Protein Corona Formed *in vitro* between Welding Particles and Nasal Lavage Fluid;** Monica Kåredal; Naserin Ali; Christian H Lindh; Bo AG Jönsson; *Occupational Medicine, Lund University, Lund, Sweden*
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¹*University of Iceland, Reykjavik, Iceland*; ²*ArcticMass, Reykjavik, Iceland*

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TP 409 **Comparative Structural Analysis of Triacylglycerols in Commercial DHA Supplements using MALDI-TOF-TOF Tandem MS**; Ayumi Kubo¹; Yoshiyuki Itoh¹; Masahiro Hashimoto¹; Jun Tamara¹; Masaaki Ubukata²; Robert A. DiPasquale²; *¹JEOL Ltd., Tokyo, Japan; ²JEOL USA Inc., Boston, MA*

TP 410 **Krill Oil Glycerophospholipid Profiling by HPLC-High Resolution Mass Spectrometry**; Valeria Giancotti²; Federica Dal Bello¹; Riccardo Aigotti¹; Daniela Gastaldi¹; Claudio Medana¹; Claudio Baiocchi¹; *¹University of Turin, Torino, Italy; ²Università Torino, Torino, Italy*

TP 411 **New Lipid Analysis Tools Using Quadrupole – Orbitrap Instrumentation**; Debbie Schwedler¹; David A. Peake²; Jeffrey Gilbert¹; Josh Flook¹; Brita L. Mcnew¹; Daniel Gachotte¹; Scott Greenwalt¹; Jesse Balcer¹; *¹Dow AgroSciences, Indianapolis, IN; ²Thermo Fisher Scientific, Carmel, IN*

TP 412 **Lipid Identification through MS and MS/MS Analyses Combined with New Database Search Software**; Rainer Paape; Aiko Barsch; Jens Fuchser; Andrea Schneider; Ulrike Anders; Marcus Macht; Detlev Suckau; *Bruker Daltonik GmbH, Bremen, Germany*

TP 413 **Characterizing Blood Disease Markers in Neonates with Cerebrotendinous Xanthomatosis; A Step Toward Newborn Screening for this Neurodegenerative Bile Acid Disorder**; Andrea E DeBarber; Robert D Steiner; *Oregon Health & Science University, Portland, OR*

TP 414 **Direct Analysis of Gangliosides using Thin-layer Chromatography-mass Spectrometer Interfaces**; Hyejung Park; Ying Zhou; Catherine E. Costello; *Boston University School of Medicine, Boston, MA*

TP 415 **Comprehensive Fatty Acid Profiling using a Single Lipidomic Approach**; Giorgis Isaac¹; Amrita Cheema²; Kieran J Neeson¹; Jeff Goshawk¹; Jayne Kirk¹; Andrew Baker¹; Alan Millar¹; Albert J. Fornace Jr.²; Jim Langridge¹; Giuseppe Astarita¹; *¹Waters Corporation, Milford, MA; ²Georgetown University, Washington, D.C.*

TP 416 **Acyl Transfer to Peptides from Lipids Without Enzyme Catalysts: Detection and Characterisation by LC MS/MS**; Robert Dods; John Sanderson; Jackie Mosely; *Durham University, Durham, UK*

TP 417 **Surface Acoustic Wave Nebulization Mass Spectrometry Facilitates Lipid A Analysis**; Sung Hwan Yoon¹; Yue Huang¹; John Edgar¹; Ying Sonia Ting¹; Scott Heron¹; Yu Chieh Kao¹; Christophe Masselon²; Robert K. Ernst³; David

R. Goodlett¹; *¹University of Washington, Seattle, WA; ²CEA Grenoble, Grenoble, France; ³University of Maryland - Baltimore, Baltimore, MD*

TP 418 **Repair of the Yersinia pestis Palmitoyl Transferase (PagP) Restores a Robust LPS Pro-Inflammatory Response**; Jace W. Jones¹; Mark R. Pelletier¹; Iyarit Thaipisuttikul²; Adeline M. Hajjar³; David A. Rasko¹; Aaron Pride⁴; M. Stephen Trent⁴; David R. Goodlett³; Robert K. Ernst¹; *¹University of Maryland, Baltimore, MD; ²Mahidol University, Bangkok, Thailand; ³University of Washington, Seattle, WA; ⁴University of Texas, Austin, TX*

TP 419 **Differentiation of Branched and Unsaturated Lipid Isomers Using Radical Directed Dissociation**; Huong T. Pham¹; Tony Ly²; Adam J Trevitt¹; Todd W Mitchell³; Stephen J Blanksby¹; *¹School of Chemistry, University of Wollongong, Wollongong, AUS; ²College of Life Sciences, University of Dundee, Dundee, UK; ³School of Health Sciences, University of Wollongong, Wollongong, AUS*

TP 420 **Lipid Profiling of Human Plasma using Two Dimensional UPLC-MS**; Jeremy Netto; Stephen Wong; Mark Ritchie; *Waters Pacific Pte Ltd, Singapore, Singapore*

TP 421 **Normal Phase LC-MS-based Method for Analysis of Complex Lipid Extracts**; Elena Sokol¹; Dorota Kotowska²; Johannes Vogt³; Jan Baumgart³; Karsten Kristiansen²; Robert Nitsch³; Christer S. Ejsgang¹; *¹Department of Biochemistry and Molecular Biology, Odense, Denmark; ²Department of Biology, Copenhagen, Denmark; ³Inst. for Microscopical Anatomy and Neurobiology, Mainz, Germany*

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TP 422 **Optical Imaging Meets MS Imaging: Integrating a Dual-Beam Scanning Electron Microscope and a SIMS into One Device for Simultaneous Imaging**; Alexander Laue¹; Albrecht Glasmachers¹; Albrecht Brockhaus¹; Michel Aliman²; *¹University of Wuppertal, Wuppertal, Germany; ²Carl Zeiss NTS GmbH, Oberkochen, Germany*

TP 423 **Enabling New Applications with Focused Ion Beam Scanning Electron Microscope (FIB-SEM) Equipped with an Add-on Secondary Ion Mass Spectrometer (SIMS)**; Michel Aliman¹; Stefan Meyer¹; Albrecht Glasmachers²; Alexander Laue²; *¹Carl Zeiss NTS GmbH, Oberkochen, Germany; ²University of Wuppertal, Wuppertal, Germany*

TP 424 **A MALDI/C₆₀ SIMS Dual Ion Source Q-TOF Mass Spectrometer for Chemical Imaging: Design and System Characterization**; Eric J Lanni; Peter Nemes; Ta-Hsuan Ong; Jonathan Sweedler; *University of Illinois at Urbana-Champaign, Urbana, IL*

TP 425 **Performance of an Ultrashort Pulse Laser Ablation Time of Flight Mass Spectrometer for Imaging and Depth Profiling**; Yang Cui¹; Jerry F. Moore²; Slobodan Milasinovic¹; Yaoming Liu¹; Robert Gordon¹; Luke Hanley¹; *¹University of Illinois at Chicago, Chicago, IL; ²MassThink LLC, Naperville, IL*

TP 426 **Evaluation of a Novel Laser Ablation Electrospray Ionization Source for the Imaging of Bacteria from High Salt Content Liquid Medium**; Andras Kiss¹; Donald Smith¹; Brent Reschke²; Gregory Boyce²; Callee Walsh²; Matthew Powell²; Ron M.A. Heeren¹; *¹FOM Institute AMOLF, Amsterdam, Netherlands; ²Protea Biosciences, Inc., Morgantown, WV*

TP 427 **MS Imaging of Lipids from Mouse Brain Using LAESI-MS and MALDI-MS**; Brent Reschke; Gregory Boyce; Pamela Williams; Holly Henderson; Matthew Powell; *Protea Biosciences, Inc., Morgantown, WV*



- TP 428 **Active Capillary Plasma Source for Ambient Mass Spectrometry**; Maryia Nudnova; Liang Zhu; Renato Zenobi; *ETH Zurich, Zurich, Switzerland*
- TP 429 **New Insights into the Effects of Variable Raster Speeds and Laser Pulse Repetition Rates in MALDI-MS Imaging**; Rory Steven; Alan Race; Andrew Palmer; Joscelyn Sarsby; Ata Kaban; G. Ed Rainger; Josephine Bunch; *The University of Birmingham, Birmingham, UK*
- TP 430 **High throughput Mass MS Imaging using a Fast Scanning Mirror**; Antonín Bednář¹; Jan Preisler¹; Pavel Kuba¹; Lukáš Ertl¹; Iva Rážová¹; Iva Tomalová¹; Eugene Moskovets²; ¹*Faculty of Science, Masaryk University, Brno, Czech Republic*; ²*MassTech, Inc., Columbia, MD*
- TP 431 **A Multi-component Matrix Sublimation Chamber for MALDI Tissue Imaging**; Yonathan Merid; Kermit K. Murray; *Louisiana State University, Baton Rouge, LA*
- TP 432 **Rapid MALDI Imaging, Sample Preparation, and Sample Analysis for High Throughput Discovery**; William Mounfield¹; Timothy Garrett¹; Stephen J. Hattan²; Marvin Vestal²; ¹*University of Florida, Gainesville, FL*; ²*Virgin Instruments Corp., Sudbury, MA*
- TP 433 **A Novel 'Reticule' Target for Calibration for MALDI Imaging Mass Spectrometry**; Patrick D. Rawhouser; Paul E. Laibinis; Faizan Zubair; Richard M. Caprioli; *Vanderbilt University, Nashville, TN*
- TP 434 **Analysis of Lipids in a Single Cell Using MALDI TOF Mass Spectrometry**; Erik Todd¹; Andre Zavalin¹; Richard M. Caprioli^{1,2}; ¹*Vanderbilt University, Nashville, TN*; ²*Vanderbilt Univ Sch of Med, Nashville, TN*
- TP 435 **Detailed Structural Analysis and Imaging Mass Spectrometry of Lipids Directly on Tissue Specimens Using a MALDI-SpiralTOF-Reflectron TOF Mass Spectrometer**; Robert DiPasquale¹; Shuichi Shimma²; Ayumi Kubo³; Masaaki Ubukata¹; Takaya Satoh³; Michisato Toyoda²; ¹*JEOL USA, Inc., Peabody, MA*; ²*Osaka University, Toyonaka, Japan*; ³*JEOL Ltd., Akishima, Japan*
- TP 436 **High Resolution in Mass and Space: AP-MALDI Imaging Technology for Orbitrap-based Instrumentation**; Bernhard Spengler^{1,3}; Andreas Roempp¹; Sabine Guenther¹; Oliver Schulz¹; Klaus-Peter Hinz¹; Alfons Hester¹; Christian Schinz¹; Christian Lotze¹; Joerg-Ulrich Poetzl¹; Kerstin Strupat²; ¹*Justus Liebig University, Giessen, Germany*; ²*Thermo Fisher Scientific GmbH, Bremen, Germany*; ³*TransMIT GmbH, Giessen, Germany*
- TP 437 **Tissue Imaging at Submicron Spatial Resolution Using Direct Transmission Geometry MALDI MS**; Andre Zavalin¹; Junhai Yang¹; Richard M. Caprioli^{1,2}; ¹*Vanderbilt University, Nashville, TN*; ²*Vanderbilt Univ Sch of Med, Nashville, TN*
- TP 438 **Multi-mass Microscope Mode Imaging Mass Spectrometry: Application of the Pixel Imaging Mass Spectrometry (PlmMS) Sensor**; Benjamin Winter¹; Edward Halford¹; Wei Hao Yuen¹; Jason Lee¹; Craig Slater¹; Jaya John John¹; Andrew Clark²; Jamie P. Crooks²; Renato Turchetta²; Andrei Nomerotski¹; Claire Vallance¹; Mark Brouard¹; ¹*University of Oxford, Oxford, UK*; ²*Rutherford Appleton Laboratory, Didcot, UK*
- TP 439 **A Next-Generation Ultrafast Detector for Imaging Mass Spectrometry: the Pixel Imaging Mass Spectrometry (PlmMS) Sensor**; Jason Lee¹; Edward Wilman¹; Jaya John John¹; Andrew Clark²; Jamie Crooks²; Laura Hill¹; Renato Turchetta²; Mark Brouard¹; Andrei Nomerotski¹; Claire Vallance¹; ¹*University of Oxford, Oxford, UK*; ²*STFC Rutherford Appleton Laboratory, Oxford, UK*
- TP 440 **Massively Enhanced Sensitivity and Dynamic Range for Molecular Imaging by High Dynamic Range (HDR) – MALDI FT-ICR MS**; Jeffrey M. Spraggins¹; Kerri J. Grove¹; D. Shannon Cornett²; Richard M. Caprioli³; ¹*Vanderbilt University, Nashville, TN*; ²*Bruker Daltonics Inc., Fairview, TN*; ³*Vanderbilt Univ Sch of Med, Nashville, TN*
- TP 441 **A Promising Perspective for Pathologies Diagnosis by MALDI In-Source Decay Imaging with a Solarix FTMS System**; David Calligaris; Delphine Debois; Edwin De Pauw; *LSM-GIGA-R, Liège, Belgium*
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- TP 443 **Laser Ablation and Laser Plasma Radiation Ionization for Organic Containing Samples Mass Spectrometry**; Sergey Nikiforov²; Yaroslav Simanovskiy¹; Alexander Grechnikov³; Andrey Pento⁴; Sergey Alimpiev¹; *Advanced Energy Technologies LTD, Moscow, Russian Federation*; ²*STC "Fizpribor" LTD, Moscow, Russian Federation*; ³*GEOKHI RAS, Moscow, Russian Federation*; ⁴*GPI RAS, Moscow, Russian Federation*
- TP 444 **Towards Laser Desorption Ionization/MALDI MS Imaging of Paint-Cross Sections from Works of Art**; Emily O'Neill¹; Julie Arslanoglu²; Richard A. Yost¹; ¹*University of Florida, Gainesville, FL*; ²*The Metropolitan Museum of Art, New York, NY*
- TP 445 **Advanced Mass Spectrometry Imaging (MSI) by Laser Ablation ICP-MS of Toxic Metals in Food**; Johanna Sabine Becker; Bei Wu; Alessandra Sussulini; *Forschungszentrum Juelich, Juelich, Germany*
- TP 446 **Identification of Lipids using Silver Nanoparticles (AgNP) as a Matrix for Laser Desorption/Ionization Imaging**; Ludovic Muller¹; Damon Barbacci²; Jeremy Post¹; Kathrine Baldwin¹; Ernest K. Lewis²; Michael I. McCully²; J. Albert Schultz²; Amina S. Woods¹; ¹*NIH/NIDA-IRP, Baltimore, MD*; ²*Ionwerks, Inc., Houston, TX*
- TP 447 **Semi-transparent NIMS Substrates for Mass Spectrometry Imaging and Optical Microscopy**; Jay G. Forsythe; Michal Kliman; John A. McLean; *Vanderbilt University, Nashville, TN*
- TP 448 **Two-dimensional Graphene as a Matrix for Imaging MALDI Mass Spectrometry**; Joseph Steet; William Friesen; Brian Schultz; Sarbajit Banerjee; Troy Wood; *University at Buffalo, Buffalo, NY*
- TP 449 **A Semi-Automated Monolithic LC-MS Imaging Device for Quantitative Analysis of Complex Neuropeptides**; Zichuan Zhang; Shan Jiang; Lingjun Li; *School of Pharmacy, University of Wisconsin, Madison, WI*
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- TP 451 **The Effect of Matrix Volume and Tissue Section Thickness on MALDI-MS Lipid Imaging**; Kathrine Baldwin; Kun Leng; Jeremy Post; Amina S. Woods; *NIH/NIDA-IRP, Baltimore, MD*
- TP 452 **Sequential MALDI Analysis Provides More Information from a Single Tissue Section**; Josephine Bunch; Andrew Palmer; Rory Steven; Alan Race; *University of Birmingham, Birmingham, UK*



- TP 453 **To Digest or Not to Digest, That's the Question;** Martin Schuerenberg¹; Christine Luebbert¹; Rainer Paape¹; Janine Rattke¹; Axel Walch²; Sandra Rauser²; Michael Becker¹; Detlev Suckau¹; ¹Bruker Daltonics, Bremen, Germany; ²Helmholtz Zentrum München, Institute of Pathology, Neuherberg, GE
- TP 454 **Adapting *in situ* Tryptic Digestion on 3D Cell Cultures to Imaging Mass Spectrometry;** Eric Weaver¹; Amanda B. Hummon¹; ¹Notre Dame, Notre Dame, IN; ²University of Notre Dame, Notre Dame, IN
- TP 455 **Spatially-Directed Protein Identification in MALDI Imaging Experiments by Top-Down Proteomics;** Kevin L. Schey¹; David M. Anderson²; Josh Nicklay³; Amanda Hachey²; Kristie Lindsey Rose¹; ¹Vanderbilt University, Nashville, TN; ²Vanderbilt Medical Center, Nashville, TN; ³Vanderbilt, Nashville, TN
- TP 456 **Sub-Parts-per-Million Mass Accuracy and mDa Visualization of FT-ICR Mass Spectrometry Imaging Data;** Donald Smith¹; Ivo Klinkert¹; Marco Konijnenburg¹; Ljiljana Pasa-Tolic²; Ron M.A. Heeren¹; ¹FOM Institute AMOLF, Amsterdam, Netherlands; ²Pacific NW Nat'l Lab, Richland, WA
- TP 457 **An Interactive Environment for Guided Discovery of Biomarkers in Imaging Mass Spectrometry;** Frank Suits¹; Ákos Végvári²; Thomas Fehniger^{2,3}; Györgi Marko-Varga^{2,4}; Peter Horvatovich^{5,6}; ¹IBM T. J. Watson Research, Yorktown Heights, NY; ²Lund University, Lund, Sweden; ³Tallinn University of Technology, Tallinn, Estonia; ⁴Tokyo Medical University, Tokyo, Japan; ⁵University of Groningen, Groningen, Netherlands; ⁶Netherlands Bioinformatics Centre, Nijmegen, Netherlands
- TP 458 **Histodiagnostic Differentiation of Microstructures on Formalin-fixed Ultra-thin Rat Kidney Tissue by MALDI-TOF Imaging Mass Spectrometry;** Martina Marchetti-Deschmann¹; Sophie Froehlich¹; Benedikt Putz¹; Omar Belgacem²; Alan Barnes³; Helga Schachner⁴; Donscho Kerjaschki⁴; Guenter Allmaier¹; ¹Vienna Univ. of Technology, Vienna, Austria; ²Shimadzu, Kratos, Manchester, UK; ³Shimadzu MS/BU (Overseas), Manchester, UK; ⁴Medical University of Vienna, Vienna, Austria
- TP 459 **Development of a Classification System for Human Gliomas using Histologically Compatible Solvent Systems by DESI-MS Imaging;** Alan K. Jarmusch¹; Livia S Eberlin¹; Isaiah Norton²; Sandro Santagata³; Alexandra J. Golby²; Keith L. Ligon³; Nathalie Y. R. Agar²; R. Graham Cooks¹; ¹Purdue University, Department of Chemistry, West Lafayette, IN; ²Harvard Medical School, Neurosurgery, Boston, MA; ³Harvard Medical School, Pathology, Boston, MA
- TP 460 **Interactive Hyperspectral Approach for Exploring and Interpreting DESI-MS Images of Cancerous and Normal Tissue Sections;** Valentina Pirro¹; Livia S. Eberlin²; Paolo Oliveri³; R. Graham Cooks²; ¹Università degli Studi di Torino, Torino, Italy; ²Department of Chemistry, Purdue University, West Lafayette, IN; ³Università degli Studi di Genova, Genova, Italy
- TP 461 **Exploring Relative Quantitative Estimation of MALDI Imaging Results and Correlation with those from QWBA;** Haiying Zhang; Weiqi Chen; Lifei Wang; Lian Zhou; Jinping Gan; Yue-Zhong Shu; W. Griffith Humphreys; Bristol-myers Squibb, Princeton, NJ
- TP 462 **High Resolution MALDI-Imaging Mass Spectrometry of Retinal Tissue;** David M. Anderson¹; Rosaline Crouch²; Zsolt Ablonczy²; Andrey Zavalin¹; Jeffrey Spraggins¹; Junhai Yang¹; Richard Caprioli¹; Kevin Schey¹; ¹Vanderbilt Medical Center, Nashville, TN; ²Medical University of South Carolina, Charleston, SC
- TP 463 **Comparative MALDI Imaging Analysis of Two Different Lipid Species in Serial Spleen Sections;** Marten Snel; Paul J Trim; Maria Fuller; Lysosomal Diseases Research Unit, SA Pathology, North Adelaide, Australia
- TP 464 **Molecular Imaging of Trace Compounds Embedded on Human Skin by Mass Spectrometry;** Andrea Carra¹; Luigi Falcioni²; Giuseppe Cappelletti²; Enrico Davoli¹; ¹Mario Negri Institute, Milano, Italy; ²Università degli Studi di Milano, Milano, Italy
- TP 465 **Fingerprints: A World Revealed by MALDI MS Imaging;** Simona Francese¹; Robert Bradshaw¹; Leesa Ferguson¹; Rosalind Wolstenholme¹; Malcolm Clench¹; Wei Rao²; Stephen Bleay³; ¹Sheffield Hallam University, Sheffield, UK; ²University of Nottingham, Nottingham, UK; ³CAST, Home Office, St Albans, UK
- TP 466 **MALDI Analysis of Peptide Gel Matrix for Stem Cell Implantation;** Duncan Forster; Adam McMahon; The University of Manchester, Manchester, UK
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- TP 467 **Systematic Analysis of Identification Complexity on Peptides with Multiple Modifications via High-Resolution MS/MS Spectra;** Rui-Xiang Sun; Sheng-Bo Fan; Chao Liu; Si-Min He; *Institute of Computing Technology, CAS, Beijing, China*
- TP 468 **Automated Residue-level Identification of PTMs on Multiply Modified Peptides;** Morten Rasmussen; Simone Sidoli; Ole N. Jensen; Peter Hojrup; University of Southern Denmark, Odense, Denmark
- TP 469 **Towards Reference-Facilitated Validation of Phosphopeptides and Phospholibraries;** V. Suni¹; Alessio Maiolica²; Ruedi Aebersold²; Susumu Y. Imanishi¹; Garry Cortals¹; ¹Turku Centre for Biotechnology, Turku, Finland; ²Institute of Molecular Systems Biology, ETH Zurich, Zurich, Switzerland
- TP 470 **iPRG 2012 Study: Detecting Modified Peptides in a Complex Mixture;** Robert Chalkley¹; Nuno Bandeira²; Matthew Chambers³; Karl R. Clauser⁴; John Cottrell⁵; Eric Deutsch⁶; Eugene Kapp⁷; Henry H. Lam⁸; W. Hayes McDonald³; Thomas Neubert⁹; Rui-Xiang Sun¹⁰; ¹University of California San Francisco, San Francisco, CA; ²University of California, San Diego, La Jolla, CA; ³Vanderbilt University, Nashville, TN; ⁴Broad Institute of MIT and Harvard, Cambridge, MA; ⁵Matrix Science Ltd., London, UK; ⁶Institute for Systems Biology, Seattle, WA; ⁷Ludwig Institute for Cancer Research, Parkville, Australia; ⁸Hong Kong University of Science and Technology, Clear Water Bay, Hong Kong; ⁹Skirball Institute, NYUMC, New York, NY; ¹⁰Institute of Computing Technology, CAS, Beijing, China
- TP 471 **False Discovery and Localization Rates for Blind Search of Post Translational Modifications;** June Snedecor; UCSD, La Jolla, CA
- TP 472 **LuciPHOR: A Phosphorylation-site Localization Algorithm Based on Statistical Rescoring of Peak Intensity and Mass Accuracy Data;** Damian Fermin¹; Hyungwon Choi²; Frank Liu³; Anne-Claude Gingras³; Alexey Nesvizhskii⁴; ¹University of Michigan, Pathology Department, Ann Arbor, MI; ²Saw Swee Hock School of Public Health, Singapore, Singapore; ³Samuel Lunenfeld Research Institute, Mount Sinai H, Toronto, ON; ⁴University of Michigan, Ann Arbor, MI
- TP 473 **PTMProphet: TPP Software for Validation of Modified Site Locations on Post-Translationally Modified Peptides;** David Shteynberg¹; Eric Deutsch¹; Luis



Mendoza¹; Joseph Slagel¹; Henry H. Lam ²; Alexey Nesvizhskii³; Robert Moritz¹; ¹*Institute For Systems Biology, Seattle, WA*; ²*Hong Kong University of Science and Technology, Clear Water Bay, Hong Kong*; ³*University of Michigan, Ann Arbor, MI*

- TP 474 **Streamlining the Process for the Automated Assessment of Post-translational Modifications in Biotherapeutics**; Jennifer F. Nemeth¹; Joe Shambaugh²; Alessio Ceroni²; Jens Hoefkens²; Steven C. Pomerantz¹; ¹*Janssen Research & Development, Radnor, PA*; ²*Genedata, Lexington, MA*

- TP 475 **Wonder 3: A New Computer Algorithm for Identification of Modified Proteins by Utilizing MS3 Multiple Tandem Mass Spectra**; Tomohiro Sakuma¹; Masaya Ono²; Hideya Kuwabara¹; Miho Banno¹; Masahiro Kamita²; Tesshi Yamada²; ¹*Mitsui Knowledge Industry Co., Ltd., Tokyo, Japan*; ²*National Cancer Center Research Institute, Tokyo, Japan*

- TP 476 **Counting Strategies for Differential Characterization of Post-Translational Modifications**; Mark E. McComb¹; Jean L. Spencer¹; Vivek N. Bhatia¹; Stephen A. Whelan¹; Amanuel Kehasse¹; David H. Perlman²; Christian F. Heckendorf¹; Catherine E. Costello¹; ¹*Boston University School of Medicine, Boston, MA*; ²*Princeton University, Princeton, NJ*

- TP 477 **Large Scale Phosphopeptide Validation, Localization and Quantification through Integrated Proteomics Pipeline**; Sung Kyu Robin Park¹; Tao Xu¹; Ji Hyoun Lee¹; Haofei Fang¹; Bryan R. Fonslow²; Jeong Ho Choi²; Jason Bunk¹; John Yates²; ¹*Integrated Proteomics Applications, San Diego, CA*; ²*The Scripps Research Institute, La Jolla, CA*

- TP 478 **Analysis of Post Translational Modifications with AB SCIEX 5600 TripleTOF System**; Cunjie Zhang²; Baozhen Shan¹; ¹*Bioinformatics Solutions Inc., Waterloo, Canada*; ²*Mount Sinai Hospital, Toronto, ON*

- TP 479 **An Automated and Rapid Method for Determining Site-specific Glycan Heterogeneity of Human Proteins using False-Discovery Rates and the Target-Decoy Approach**; John S. Strum¹; Charles C. Nwosu¹; Serenus Hua¹; Carlito B. Lebrilla^{1,2}; ¹*University of California Davis, Chemistry Dept., Davis, CA*; ²*Dept. Biochemistry and Molecular Medicine, Davis, CA*

- TP 480 **An Automated and User-friendly Bioinformatics Workflow for the Characterization of Glycated Proteins**; Florent Gluck^{1,2}; Francesco Finamore²; Maria Ramirez-Boo²; Feliciano Priego-Capote⁴; Denis Hochstrasser^{1,3}; Alexander Scherl^{1,2}; Jean-Charles Sanchez²; ¹*Swiss Center for Applied Human Toxicology, Geneva, Switzerland*; ²*University of Geneva, Geneva, Switzerland*; ³*University Hospital of Geneva, Geneva, Switzerland*; ⁴*University of Córdoba, Córdoba, Spain*

- TP 481 **Fast Multi-blind Modification Search through Tandem Mass Spectrometry**; Seungjin Na¹; Nuno Bandeira²; Eunok Paek¹; ¹*Hanyang University, Seoul, South Korea*; ²*University of California, San Diego, La Jolla, CA*

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- TP 483 **Automated Quality Control of Biopharmaceutical N-/C-Terminal Sequences by Routine Top-Down Mass Spectrometry**; Rainer Paape; Anja Resemann; Lars

Vorwerg; Jens Hoehndorf; Detlev Suckau; Bruker Daltonik GmbH, Bremen, Germany

- TP 484 **Probabilistic E-value Scoring for the Precursor Ion Independent Top-down Algorithm**; Yu Chieh Kao¹; Elizabeth V. Nguyen¹; Muhammed Karim³; Si Wu²; Shawna Hengel²; Ljiljana Pasatolic²; Logan Mackay³; Pat Langridge-Smith³; David R. Goodlett¹; ¹*University of Washington, Seattle, WA*; ²*Pacific Northwest National Laboratory, Richland, WA*; ³*SIRCAMs, University of Edinburgh, Edinburgh, UK*

- TP 485 **An As-confident-as-you-choose Protein Database Search Algorithm**; Zhixin Tian; Dalian Institute of Chemical Physics, CAS, Dalian, China

- TP 486 **ROCS: A Reproducibility Index and Confidence Score for Improved Identification of Specific Protein-Protein Interactions in Affinity-Purification Mass-Spectrometry Data**; Jean-Eudes Dazard; Sudipto Saha; Rob Ewing; Case Western Reserve University, Cleveland, OH

- TP 487 **Separating Protein Mixtures with Minimax Determination in Electrospray Ionization Mass Spectra**; Yao-Hsin Tseng¹; Albert J. R. Heck²; Wen-Ping Peng¹; ¹*National Dong Hwa University, Shoufeng, Hualien, Taiwan*; ²*Utrecht University, Utrecht, The Netherlands*

- TP 488 **Enhanced and Automated Analysis for Intact Protein Data by Peak Modeling Charge Deconvolution Method for Mass Spectrometry**; Xiaoling Wu¹; Linda DeNoyer²; Ning Tang¹; Maitilee Samant¹; Keith Waddell¹; ¹*Agilent Technologies, Santa Clara, CA*; ²*Spectrum Square Associates, Ithaca, NY*

- TP 489 **Development of a Web-based Top-Down Protein Identification Tool**; Christian Heckendorf; Roger Theberge; Catherine E. Costello; Mark E. McComb; Boston University School of Medicine, Boston, MA

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- TP 491 **In vitro Metabolism Studies of Herbal Compound Decursin and Decursinol Angelate in Rodent and Human Liver Microsomes**; Li Li¹; Jinhui Zhang¹; Cheng-Guo Xing²; Cheng Jiang¹; Sung-Hoon Kim³; Ruiwen Zhang¹; Junxuan Lü¹; ¹*Texas Tech Univ. HSC, Amarillo, TX*; ²*University of Minnesota, Minneapolis, Minnesota*; ³*Kyunghee University, Seoul, Republic of Korea*

- TP 492 **Assessing metabolic profiles in chimeric PXB mouse with humanized livers following oral dosing of troglitazone**; Alan Barnes¹; Neil J Loftus¹; Kirsten Hobby¹; Ian Wilson²; Yoshio Morikawa³; ¹*Shimadzu MS/BU, Manchester, UK*; ²*AstraZeneca, Alderley Park, Cheshire, UK*; ³*PhoenixBio Co. Ltd, Higashi-Hiroshima, Japan*

- TP 493 **Rapid Metabolite Identification using a Bench-Top Orbitrap Mass Spectrometer**; Kelly (Wei) Wang¹; Gene Eisenberg²; Kate Comstock³; Jack Cunneff⁴; ¹*Gilead Sciences, Inc, Foster City, CA*; ²*Gilead Sciences, Inc., Foster City, CA*; ³*ThermoFisher Scientific, San Jose, CA*; ⁴*Thermo Fisher, Sunnyvale, CA*

- TP 494 **Utilization of an Accurate Mass Spectrometer Platform to Simultaneously Monitor Parent and Product Formation in a Plasma Stability Assay**; Adam C Amaral;



- Upendra Argikar; Panos Hatsis; Novartis, Cambridge, MA
- TP 495 **Detection and Characterization of Metabolites in Rat Samples using High Resolution Based Non-target Data Processing Methods;** Jian Guo; Scott W. Grimm; AstraZeneca Pharmaceuticals, Waltham, MA
- TP 496 **Identification and Confirmation of the Metabolites for a Novel Beta Agonist Drug in Pig Urine using Liquid Chromatography Mass Spectrometry;** Andong Xiao¹; Yunbo Deng¹; Meiyun Tan¹; Fuhua Chen¹; Xueming Long¹; Jianxi Yi¹; Ting Liu²; Chen Zheng²; Guiping Zhao²; Yongming Xie²; ¹Institute of Veterinary Drug Control, Changsha, Hunan Province, China; ²AB Sciex Company, Shanghai, China
- TP 497 **Mass Spectrometric Study of the Metabolism of Selective Androgen Receptor Modulators (SARMs) in the Fungus *Cunninghamella elegans*;** Mikael Hedeland¹; Axel Rydevik²; Oliver Krug³; Mario Thevis³; Ulf Bondesson⁴; ¹Nat'l Veterinary Institute, Uppsala, Sweden; ²Uppsala University, Uppsala, Sweden; ³German Sport University, Cologne, Germany; ⁴National Veterinary Institute, Uppsala, Sweden
- TP 498 **Comprehensive Metabolite Identification System Using Human Liver S9 Fraction and High Resolution Mass Spectrometer in Drug Discovery;** Shinki Kawaguchi; Eisai Co., Ltd., Tsukuba, Japan
- TP 499 **UPLC/High Resolution Mass Spectrometry combined with Travelling Wave Ion Mobility Separation/MS^E-Techniques for the Analysis of *in vivo* Drug Metabolism Studies;** Stefan Blech; Ralf Laux; Boehringer-Ingelheim Pharma GmbH & Co.KG, Biberach, Germany
- TP 500 **A Mass Spectrometric Study of Bupivacaine Metabolites Found in Fungi and Horse;** Axel Rydevik¹; Ulf Bondesson³; Mikael Hedeland¹; ¹Uppsala University, Uppsala, Sweden; ²Nat'l Veterinary Institute, Uppsala, Sweden; ³National Veterinary Institute, Uppsala, Sweden
- TP 501 **On line HDX for Structural Characterization of *in-vitro* and *in-vivo* Drug Metabolites using Differential Ion Mobility and MS/MS;** Asoka Ranasinghe¹; Ragu Ramanathan¹; Celia D'Arienzo¹; W. Griffith Humphreys¹; Adrienne Tymiak¹; Timothy Olah¹; Yves Le Blanc²; J. Larry Campbell²; ¹Bristol-Myers Squibb, Princeton, NJ; ²AB Sciex, Ontario, Canada
- TP 502 ***In vitro* Metabolite Identification of the Antiemetic Drug Bromopride in Preclinical Species and Human Hepatocytes using HPLC/ESI/FTMS;** Christine Dunne¹; Jennifer Bushee²; Upendra Argikar²; ¹Northeastern University, Boston, MA; ²Novartis, Cambridge, MA
- TP 503 **Application of Hydrogen/Deuterium Exchange (HDX) and Accurate Mass Measurements to Distinguish Between Amide and Nitroso Metabolites;** Kevin Colizza; Mithat Gunduz; Jennifer Bushee; Amin M. Kamel; Nello Mainolfi; Shawn Harriman; Novartis Institutes for BioMedical Research, Cambridge, MA
- TP 504 **A New Mass Spectrometric Approach for Screening of Glyceollins and Their Metabolites;** Syeda S. Quadri¹; Robert E. Stratford²; Richard B. Cole^{1,3}; ¹University of New Orleans, New Orleans, LA; ²Xavier University of Louisiana, New Orleans, LA; ³Univ. P. et M. Curie (Paris 6), Paris Cedex 05, France
- TP 505 **Biotransformation Studies of NVP-ASA404 in Animals and Human Using Exact Mass LC-MS/MS;** Yancy Du; Jimmy Flarakos; James Mangold; Novartis, East Hanover, NJ
- TP 506 **Identification of a Unique Stable Epoxide Metabolite;** Ping Yi; Chad Hadden; Jason Johnson; Kenneth Cassidy; Eli Lilly and Company, Indianapolis, IN
- TP 507 **Unique Biotransformation of An Analog of 4-Phenyl-1,2,3-Thiadiazole-5-Amine to Hippuric Acid in Rats;** Qin Yue; Teresa Mulder; Patrick J. Rudewicz; Cornelis Hop; Harvey Wong; Cyrus Khojasteh; Genentech, South San Francisco, CA
- TP 508 **Biomimetic Cyclization of Substituted N-Aryl-Amino Pyrrolopyrri(mi)dines using Micro-Preparative Electrochemistry/Mass Spectrometry;** Reiner Aichholz¹; Joachim Blanz¹; Thierry Délémonté¹; Jérôme Dayer¹; Werner Gertsch¹; Philippe Ramstein¹; Ernst Gassmann¹; Michael Ritzau¹; Michael Kiffe¹; Christoph Gaul¹; Marc Gerspacher¹; Peter Hauser²; Thomas Roser²; ¹Novartis Institutes of BioMedical Research, Basel, Switzerland; ²University of Basel, Department of Chemistry, Basel, Switzerland
- TP 509 ***In vitro* Mimicry of Metabolism of Xanthohumol by the Electrochemically Assisted Fenton Reaction Combined with LC-MS/MS;** Andries P. Bruins¹; Ulrik Jurva²; Jan F. Stevens³; ¹University of Groningen, Groningen, The Netherlands; ²AstraZeneca Mölndal, Mölndal, Sweden; ³Oregon State University, Corvallis, OR
- TP 510 **Electrochemistry/Liquid Chromatography/Mass Spectrometry as a Tool for the Assessment of Skin Allergens;** Daniel Melles^{1,2}; Raniero Zazzaroni³; Uwe Karst¹; ¹University of Münster, Münster, Germany; ²NRW Graduate School of Chemistry, Münster, Germany; ³Unilever, Bedford, UK
- TP 511 **Reaction of Homopiperazine with Endogenous Formaldehyde. A Carbon Hydrogen Addition Metabolite/Product Identified in Rat Urine and Blood;** Scott Martin¹; Eva Lenz¹; David Temesi¹; Malcolm Clench²; ¹Astrazeneca, Macclesfield, UK; ²Sheffield Hallam University, Sheffield, UK
- TP 512 **Pharmacokinetics and Metabolism of Human 11 β -HSD1 Inhibitor Compound15;** Qiuping Ye; Min Jiang; Tom Wotang Huang; Guifen Xu; Craig Uyeda; Amgen, South San Francisco, CA
- TP 513 **Accurate Mass Determination Supports the Investigation of the Oxidative Metabolism of Drugs by Hyphenated Analytical Techniques;** Uwe Karst²; Helene Faber²; Hannah Simon²; Daniel Melles¹; Sandra Jahn²; Lars Bütter²; ¹University of Münster-Graduate School of Chemistry, Münster, Germany; ²University of Münster, Münster, Germany
- TP 514 **High Energy ¹⁵N Low Mass Ion Precursor Scanning for Monitoring Peptide/Protein Pharmaceutical Metabolism**; Charles B. Reilly; Nicholas A. Williamson; Anthony W. Purcell; The University of Melbourne, Parkville, Australia
- TP 515 **Products of Reactive Metabolites of Thioacetamide are Reliably Revealed in the Liver Protein and Lipid Pools with Isotopic Labeling;** Todd Williams¹; Nadezhda Galeva¹; Diganta Sarma²; Yakov Koen²; Robert Hanzlik²; ¹University of Kansas Mass Spectrometry Laboratory, Lawrence, KS; ²Department of Medicinal Chemistry, Lawrence, KS
- TP 516 **Rapid Quan/Qual Metabolic Stability Analysis with Online Oxidative Metabolism Synthesis;** Tim Stratton¹; Yingying Huang¹; Ian Acworth²; Michael Weber²; ¹Thermo Fisher Scientific, San Jose, CA; ²Thermo Fisher Scientific., Chelmsford, MA
- TP 517 **Use of UHPLC-MS-MS to Assess Possible Inhibition of Human Cytochrome P450 Enzymes by Hops and its Major Prenylated Flavonoids;** Xi Qiu¹; Yang Yuan¹; Dejan



Nikolic¹; Richard B. Van Breemen²; ¹University of Illinois College of Pharmacy, Chicago, IL; ²University of Illinois, Chicago, IL

TP 518 **Optimization of Human Hepatocyte Assay for Human Clearance Prediction**; Min Jiang; Qiuping Ye; Amgen, South San Francisco, CA

TP 519 **Cellular Pharmacology of Purine Dioxolane ProTides in Human Peripheral Lymphocytes and Hepatocytes**; Sijia Tao; Leda Bassit; Mervi Detorio; Raymond Schinazi; Ctr for AIDS Res, Emory Univ. School of Medicine, Atlanta, GA

TP 520 **Evaluation of the Clearance and Metabolic Profile of Low Clearance Compounds using HR-MS and Plated Cryopreserved Human Hepatocytes**; Mary Grubb; Chiuwa Emily Luk; Yue-Zhong Shu; Bristol-Myers Squibb, Pennington, NJ

TP 521 **Decoupling the Pharmacokinetics of pro-drug and Drug in the Same Animal using Stable-labeled Drug, Mouse Serial Micro-sampling and LC-MS/MS**; Carmen L. Fernandez-Metzler; Richard King; PharmaCadence Analytical Services, LLC, Hatfield, PA

TP 522 **A Novel Method for Rapid Discovery and Identification of Drug Metabolites using HPLC-ESI TOF MS**; Chensong Pan; Xinyi Zhang; Bruker Daltonics, Beijing Office, Beijing, China

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TP 524 **Impact Evaluation of the Heme Group due to Hemolyzed Plasma on the Stability of Phenolic Compounds**; Eugénie-Raphaëlle Bérubé; Milton Furtado; Fabio Garofolo; Algorithm Pharma Inc., Laval, Canada

TP 525 **A Cost Effective Approach to Avoid the Use of a Second HPLC Pump to Solve Common Bioanalytical Issues in LC-MS/MS**; Richard Lavallée; Jean-Nicolas Mess; Milton Furtado; Fabio Garofolo; Algorithm Pharma Inc., Laval, Canada

TP 526 **Development and Validation of LC-MS/MS Method for Determination of N-Docosanoylsphingosine and N-Tetracosanoylsphingosine in Human Plasma**; Xuntian Jiang; Hui Jlang; Jean E. Schaffer; Daniel S. Ory; Washington University, St. Louis, MO

TP 527 **LC/MS/MS Quantitation Method for Small Organic Acids as Biomarkers in Preclinical Studies**; Angela Shen; Agilux Laboratories, Worcester, MA

TP 528 **Development and Validation of UPLC-ESI-MS/MS Method for the Quantification of Etonogestrel in Human Serum**; Tiffany Thomas; Kirsten Abildskov; Carolyn Westhoff; Serge Cremers; Columbia University Medical Center, New York, NY

TP 529 **A New Strategy to Effectively Reduce Matrix Effect Caused by Phospholipids in Plasma Samples under HILIC Conditions**; Cynthia Côté; Sylvain Latour; Milton Furtado; Fabio Garofolo; Algorithm Pharma Inc., Laval, Canada

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TP 531 **Impact from Different Collision Energy Potential of the isotope Contribution of Ketoprofen Metabolite on Ketoprofen-D3 Stable-Isotope IS by LC-MS/MS**; Marie-Chantal Tremblay; Georges El-Kadissi; Ana Luca; Fabio Garofolo; Algorithm Pharma Inc., Laval, Canada

TP 532 **Measurement and Optimization of Organic Chemical Reaction Yields by GC-MS with Supersonic Molecular Beams**; Aviv Amirav; Alexander Gordin; Youlia Hagooley; Shlomo Rozen; Bogdan Belgorodsky; Boaz Seemann; Hanit Marom; Michael Gozin; Alexander B. Fialkov; Tel-Aviv University, Tel-Aviv, Israel

TP 533 **Development of Isotope Dilution LC/ESI-MS/MS Analysis of Eighteen Tetrahydrocorticosteroid Sulfates in Human Urine**; Kuniko Mitamura¹; Rika Okihara¹; Maki Hasegawa¹; Mami Kamibayashi¹; Takashi Iida²; Shigeo Ikegawa¹; ¹Kinki University, Higashi-Osaka, Japan; ²Nihon University, Tokyo, Japan

TP 534 **Investigation of Micro-bore UPLC Coupled with Non-traditional Alcoholic Mobile Phase Compositions: Alternative Conditions for Bioanalytical LC/MS/MS**; Jennifer Simeone; Paul Rainville; Sean McCarthy; Robert Plumb; Waters, Milford, MA

TP 535 **A Rapid and Sensitive Method for the Determination of Ecabet Sodium in Human Plasma by Liquid Chromatography-tandem Mass Spectrometry**; Haejong Jang; Seungwoo Kang; Inhee Cho; International Scientific Standard, Chuncheon, South Korea

TP 536 **Analysis of Cyclic Antidepressant Drugs in Human Plasma by UHPLC-APCI Single Quadrupole Mass Spectrometry**; Eugene Davidov; Adam J. Patkin; Sharanya Reddy; Blas A. Cerda; Ali Kettani; PerkinElmer, Shelton, CT

TP 537 **A Validated Assay to Quantitate Serotonin in Newborn Lamb Plasma using Ultra High Performance Liquid Chromatography-tandem Mass Spectrometry (UHPLC-MS/MS)**; András Szeitz^{1,3}; Tuan Ahn Nguyen^{1,2}; K. Wayne Riggs^{1,3}; Dan Rurak^{1,2}; ¹The University of British Columbia, Vancouver, Canada; ²Dept. Obst. Gynecol. Child & Family Res. Inst., Vancouver, B.C., Canada; ³Faculty of Pharmaceutical Sciences, Vancouver, B.C., Canada

TP 538 **LC-MS/MS Analysis of Motesanib in Human Plasma and Bile and Application to Clinical Studies**; Shubhada Kulkarni; Amgen, Thousand Oaks, CA

TP 539 **Quantifying the Zwitterion, Dabigatran, in Human Plasma by HPLC-MS/MS using HILIC Chromatography**; Melanie Anderson; Sheila Breidinger; Rajesh Desai; Eric Woolf; Merck and Co, Inc, West Point, PA

TP 540 **A Quantitative Analytical Method to Measure Tobramycin in Bone Tissue**; Elizabeth Novak²; Teresa Pekol¹; Lawrence Andrade¹; Adam Grenier¹; Kevor TenHuisen²; Joseph Zitelli³; Twana Davisson²; ¹Smithers Pharma, Wareham, MA; ²Stryker Orthopaedics, Mahwah, NJ; ³Zitelli Engineering, River Edge, NJ

TP 541 **A Novel and Ultrasensitive APPI LC-MS/MS Method (0.2 pg/mL) for Determination of Fluticasone Furoate in Human Plasma**; Jing Ke; Weisheng Lin; Harry Zhao; John Lin; Frontage Laboratories, Inc, Malvern, PA

TP 542 **Pregabalin: Development and Validation of an LC-MS/MS Method for Pediatric Studies**; Tanja Alebic-Kolbah; Pfizer Inc., Groton, CT

TP 543 **Orthogonal Array Optimization of Purge-assisted Headspace Solid-phase Microextraction Combined with Gas Chromatography-mass Spectrometry for Determination of Additives in Cosmetics**; Feng-Jie Tsai¹;



Hsiao-Ju Liu¹; Tzung-Jie Yang²; Maw-Rong Lee²; Chung-Yu Chen²; ¹Providence University, Taichung, Taiwan; ²National Chung-Hsing University, Taichung, Taiwan

TP 544 **High-throughput Determination of Neurotransmitters and Neuromodulators in Cerebrospinal Fluid by High Performance Liquid Chromatography Triple Quadrupole Mass Spectrometry**; Jianzhong Li; Tao Bo; Agilent Technologies(China), Beijing, China

TP 545 **A Dual-gradient Chromatography-tandem Mass Spectrometry Assay for Evaluating Hits from HTS for Inhibitors of the Antibacterial Target MurB**; Rong-Fang Gu; Jian Huang; Adam Shapiro; AstraZeneca, Waltham, MA

TP 546 **High-throughput Determination of Chloromequat Chloride and Mepiquat Chloride in Tomato by High Performance Liquid Chromatography Tandem Triple Quadrupole Mass Spectrometry**; Peibin Hu; Tao Bo; Agilent Technologies, Chengdu, China

TP 547 **Determination of Securinine, a Potential Anticancer Agent, in Mouse Plasma by Liquid Chromatography Tandem Mass Spectrometry (LC-MS/MS)**; Simuli L. Wabuyele¹; David Wald²; Yan Xu^{1,3}; ¹Cleveland State University, Cleveland, OH; ²Case Western Reserve University, Cleveland, OH; ³Case Western Reserve Comprehensive Cancer Center, Cleveland, OH

TP 548 **Quantitative Determination of Ultralow Level of Tiotropium Bromide in Human Plasma via HPLC with MS/MS Detection**; Jingduan Chi; Melissa Meyer; Matthew Gray; Nancy Zheng; Sara Clements; Zong-Ping Zhang; PPD Inc, Madison, WI

TP 549 **Decreasing DBS Assay Bias with Pipette Tip Cleanup of Dried Blood Spots**; William Hudson; Agilent Technologies, Lake Forest, CA

TP 550 **Matrix Load Impact on Response Ratio with Stable Label Internal Standards, Leading to Bias in UPLC ESI-MS/MS Quantitation**; Nicholas Cellar¹; James Denison¹; Zhang Jie²; Bindiya Sameem³; ¹Abbott Nutrition, Columbus, OH; ²Abbott Nutrition Research & Development, Singapore; ³Advanced Testing Laboratories, Cincinnati, OH

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TP 552 **Improved Accuracy of Substance Screening in Complex Samples Using a Data-Driven Approach to Measure Instrument Performance**; Ann M. Knolhoff¹; Timothy R. Croley¹; Mark Bayliss²; Joseph Simpkins²; ¹FDA / CFSAN, College Park, MD; ²Virscidian Inc., Raleigh, NC

TP 553 **Quantitation Software for High Throughput / High Resolution Mass Spectrometry of *in-vitro* ADME Samples**; Tom Patterson; Panos Hatsis; Jakal Amin; Novartis Institutes for Biomedical Research, Cambridge, MA

TP 554 **Addressing the Bottlenecks in Compound Identification from High Resolution Accurate Mass Spectrometry Data**; Eva Duchoslav; Lyle Burton; Andre Schreiber; Suma Ramagiri; Ron Bonner; AB Sciex, Concord, Canada

TP 555 **An Interactive Web Application for Viewing Reference Data Derived from NIST SRM1950: Metabolites in Human Plasma**; Niksa Blonder; Lisa E. Kilpatrick;

Mark Lowenthal; Wm. Gary Mallard; Yuri Mirokhin; Karen Phinney; Paul Rudnick; Yamil Simon; Dmitrii V. Tchekhovskoi; William E. Wallace; Xinjian Yan; Stephen E. Stein; NIST, Gaithersburg, MD

TP 556 **Discriminant Analysis of Lipids Versus Peptides Towards Automated Mass Spectral Peak Annotation**; Piotr Dittwald¹; Dirk Valkenburg^{2,3}; Raf Van de Plas⁴; Anna Gambin¹; ¹University of Warsaw, Warszawa, Poland; ²I-Biostat, Hasselt University, Diepenbeek, Belgium; ³VITO, Mol, Belgium; ⁴Vanderbilt University, Nashville, TN

TP 557 **Metabolite Analysis using a Novel Relationship and Database Driven Software Platform Approach for Screening and Understanding Metabolism**; Stephen Mcdonald¹; Mark Wrona¹; David Deans²; Jeff Goshawk²; Debadeep Bhattacharya¹; Joanne Mather¹; Robert Plumb¹; ¹Waters Corporation, Milford, MA; ²Waters, Manchester, UK

TP 558 **Methods for Building High Quality and Comprehensive MS/MS Libraries**; Xiaoyu Yang; Pedatsur Neta; Yamil Simón-Manso; Yuxue Liang; Lisa E. Kilpatrick; Jeri Roth; Maria Lorna A. De Leoz; Wei Mi; Stephen E. Stein; National Institute of Standards and Technology, Gaithersburg, MD

TP 559 **Deriving Confidence Metrics for Automatic Peak Assignment through *n*-dimensional Kendrick Defect or Mass Difference Inference Networks**; David Kilgour¹; C. Logan Mackay²; Pat Langridge-Smith²; Peter B. O'Connor¹; ¹University of Warwick, Coventry, UK; ²SIRCAMS, University of Edinburgh, Edinburgh, UK

TP 560 **Evaluation of Search Algorithms for a Tandem Mass Spectral Library**; Herbert Oberacher¹; Graeme Whitley²; Bernd Berger³; ¹Innsbruck Medical University, Innsbruck, Austria; ²John Wiley & Sons, Hoboken, NJ; ³Wiley-VCH Verlag, Weinheim, Germany

TP 561 **Impact of LC-MS/MS Library Design on Library Performance**; Herbert Oberacher¹; Graeme Whitley²; Bernd Berger³; ¹Innsbruck Medical University, Innsbruck, Austria; ²John Wiley & Sons, Hoboken, NJ; ³Wiley-VCH Verlag, Weinheim, Germany

TP 562 **Novel Type of Spectral Library for the Identification of 'Unknown Unknowns'**; Robert Mistrik¹; Juraj Lutisan¹; Mark Sanders²; Yingying Huang²; Rose Herbold²; Tim Stratton²; ¹HighChem, Ltd., Bratislava, Slovakia; ²Thermo Fisher Scientific, San Jose, CA

TP 563 **Workflow Improvements in the Use and Evaluation of MS Databases**; Lorne Fell¹; Vitaly Lashin²; Jonathon Nielson¹; Graham A. McGibbon¹; ¹ACD/Labs, Toronto, Canada; ²ACD Ltd., Moscow, Russia

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TP 564 **Discovery of Physiologically Relevant Gluten Peptides in Wheat, Barley and Rye Cereal Grains using LC-QTOF-MS**; Jennifer A. Voyksner; Robert D. Voyksner; LCMS Limited, Durham, NC

TP 565 **The Detection of Mustard in Food by LC/MS/MS**; Stephen J. Lock; Keling Dong; AB SCIEX, Warrington, UK

TP 566 **Stability Study of Thaumatin in Beverages using LC/MS**; Li Chen; Richard Hiserodt; International Flavors & Fragrances Inc., Union Beach, NJ

TP 567 **Quantification of Genetically Modified Soya Using Stable Isotope Labeling and MALDI-MS**; Po-Chih Chang; Yen-Peng Ho *; National Dong Hwa University, Hualien, Taiwan

TP 568 **Analysis of Illegal Dyes in Food Matrices using Automated Online Sample Preparation with LC/MS**; Yang



- Shi; Catherine Lafontaine; Francois A. Espourteille; *Thermo Fisher Scientific, Franklin, MA*
- TP 569 **Determination of Clenbuterol in Pork Samples by HPLC-ESI-MS/MS**; Xudong Zhu; Jack Liu; Jerry Wang; *Bonna-Agela Technologies, Tianjin, China*
- TP 570 **Evaluation of a New Ion Source to Improve the Limit of Quantitation for Chloramphenicol on a UHR-TOF**; Karin Wendt; Thomas Zey; Amalia Apalategui; Carsten Baessmann; *Bruker Daltonik GmbH, Bremen, Germany*
- TP 571 **Discovery of a Novel Glucuronide Metabolite of Methyltestosterone in Tilapia Bile by Liquid Chromatography / Quadrupole-time of Flight Mass Spectrometry**; Hiranthi Jayasuriya; Kande Amarasinghe; Pak-Sin Chu; Eric Evans; Renate Reimschuessel; Nicholas Hasbrouck; Chaitali Chattopadhyaya; *U.S. Food and Drug Administration, Laurel, MD*
- TP 572 **Method Development of Multiclass Drug Residues in Eggs Using Modified QuEChERS Extraction and Velos Pro Linear Ion Trap LC-MSⁿ**; Yi Lin; Teresa Cain; Han Paek; Jackie Sram; *FDA PRLSW, Irvine, CA*
- TP 573 **Analysis of Additives in Foods Containing Meats or Milk by Functional Membrane-HPLC- tandem Mass Spectrometer**; Wan Wang; Jingran Zhang; Qunjie Wang; *Bonna-Agela Technologies, Tianjin, China*
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- TP 575 **Screening and Quantification of Animal Drugs in Water with High Resolution Mass Spectrometry**; Thorsten Bernsmann¹; Maciej Bromirski²; Olaf Scheibner²; ¹*CVUA-MEL, Münster, Germany*; ²*Thermo Fisher Scientific GmbH, Bremen, Germany*
- TP 576 **A Rapid and Specific Method for the Detection of Spiked Toxins Into the Food Supply**; Charlie Li¹; Hongxia (Jessica) Wang²; James Chang²; Bahman Moezzi¹; Jack Cunniff²; Mark Sanders²; Jennifer Sutton²; ¹*California Department of Public Health, Richmond, CA*; ²*Thermo Fisher Scientific, San Jose, CA*
- TP 577 **Feasibility of Nano-LCMS with Direct-El as a Tool for Food Safety Applications: Unknown Identification and Quantitation in a Nutritional Drink**; Pierangela Palma¹; Giorgio Famiglini¹; Veronica Termopoli¹; Fabiana Capriotti¹; Nicholas Cellar²; Achille Cappiello¹; ¹*University of Urbino, Urbino, Italy*; ²*Abbott Nutrition, Columbus, OH*
- TP 578 **Advances in Automation of Food-related Analysis and Screening**; Yang Shi; Francois A. Espourteille; *Thermo Fisher Scientific, Franklin, MA*
- TP 579 **Fast GCMS Method for Analysis of Phthalate Esters in Beverages**; Lai Chin Loo¹; Cynthia Melanie Lahey¹; Sheot Harn Chan²; Bau Yi Woo³; Shuichi Kawana⁴; Nicole M. Lock⁵; ¹*Shimadzu (Asia Pacific) Pte Ltd, Singapore, Singapore*; ²*Food Safety Laboratory, Health Science Authority, Singapore, Singapore*; ³*National University of Singapore, Singapore, Singapore*; ⁴*Shimadzu Corporation Japan, Kyoto, Japan*; ⁵*Shimadzu Scientific Instruments, Columbia*
- TP 580 **Analysis of Phthalate Contamination in Citrus Essential Oils by Tandem GC/MS**; Rafael Acosta²; Stephan Baumann¹; Mark Kanning²; Joerg Riener²; ¹*Agilent Technologies, Inc., Santa Clara, CA*; ²*Agilent Technologies, Newark, DE*
- TP 581 **Differentiating Cooking Oil from Gutter Oil by Desorption Corona Beam Ionization Mass Spectrometry**; Sy-chyi Cheng¹; Yu-peng Cheng²; Wen-jian Sun²; Jentaie Shiea¹; ¹*National Sun Yat-Sen Univ., Kaohsiung, Taiwan*; ²*Shimadzu Research Laboratory Co., Shanghai, China*
- TP 582 **Evaluation of the Analysis Methods for Melamine and its Analogues in Processed Foods using a Various of Mass Spectrometry**; Cheong-Tae Kim¹; Jong-Ho Lee¹; Dong-Sik Jeong¹; Dae-Hyun Kim¹; Jong-Soo Park²; ¹*NONGSHIM CO., LTD, Seoul, South Korea*; ²*Euroscience Co., Ltd, Seongnam, South Korea*
- TP 583 **IMS/MS Based Quantification of Fullerenes Spiked into Model Food Matrices**; Philippe Raymond¹; Philippe Venne¹; Marie-Anne Richard¹; Louise Deschênes²; Béatrice Lego²; Sylvianne Paul¹; François St-Gemain²; Akier Assanta Ma²; ¹*Canadian Food Inspection Agency, St-Hyacinthe, Canada*; ²*Agriculture and Agri-food Canada, St-Hyacinthe, Canada*
- TP 584 **A High-Throughput Approach to Multi-Matrix Food Testing Using QuEChERS and Tandem GC/MS**; Melissa Churley¹; Joan Stevens²; ¹*Agilent Technologies, Inc., Santa Clara, CA*; ²*Agilent Technologies, Lake Forest, CA*
- TP 585 **Analysis of Food Packaging Leachates from Microwaved Food Containers using Comprehensive Two-Dimensional Gas Chromatography with Time of Flight Mass Spectrometry**; Cory Fix¹; John R. Heim²; Joe Binkley²; ¹*LECO Corp., Las Vegas, NV*; ²*LECO Corporation, St. Joseph, MI*
- TP 586 **Simple and Sensitive Analysis for Fluoroacetate in Food Using High Mass Accuracy LC/MS**; Travis Falconer; John Roetting; *U.S. FDA Forensic Chemistry Center, Cincinnati, OH*
- TP 587 **Determination of 17 Organotin Compounds in Soft Drinks by Triple Quadrupole GC-MS/MS System**; Wenwen Wang; *Agilent Technologies Co. Ltd, Beijing, China*
- TP 588 **The Detection of Polyphenolics in Food and Drinks by LC-MS**; Stephen J. Lock; *AB SCIEX, Warrington, UK*
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- TP 590 **Increasing Speed of UHPLC-MS Analysis using Single-stage Orbitrap Mass Spectrometer**; Olaf Scheibner; Maciej Bromirski; *Thermo Fisher Scientific, Bremen, Germany*
- TP 591 **LC-MS/MS Analysis of Heterocyclic Amines in Fried Pork Meat**; Laura Ojala; Mervi Rokka; Marika Jestoi; *Finnish Food Safety Authority (Evira), Helsinki, FINLAND*
- TP 592 **Determination of PAHs in Vegetable Oils by On-line Gel Permeation Chromatography-gas Chromatography/ Mass Spectrometry**; Fan Jun; *Shimadzu Global COE, Shanghai, China*
- TP 593 **Tea's Constituents Identification, Geographic Origin Deduction, and Manufacture Process Discrimination by High Resolution Mass Spectrometry**; Zheng-Xiang Zhang; Tao Bo; Wei Chen; Zhi-Xu Zhang; *Agilent Technologies (China), Beijing, China*
- TP 594 **Determination of Lead, Cadmium and Mercury Contamination Level in 2010 Korean Diaries**; Kyung-Su Park¹; Jiyeon Lee¹; Jisuk Jeon¹; Jaehoon Kim¹; Joee Seo¹; Jiyeon Jeong²; Kikyung Jung²; Haejung Yoon²; ¹*KIST, Seoul, South Korea*; ²*KFDA, Chungcheongbuk-do, South Korea*



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- TP 596 **Comparison of Solid Phase Micro-extraction Headspace GC/FID and Headspace GC/MSD for Analysis of Aromatic Solvents in Urine**; Mi-Young Lee; *KOSHA, Incheon, South Korea*
- TP 597 **Analysis of Epichlorohydrin in Drinking Water by Purge and Trap GC/MS**; Thomas Hartlein; Nathan Valentine; Tyler Trent; *Teledyne Tekmar, Mason, OH*
- TP 598 **Validation of the Flowing Afterglow for the Characterization of VOCs in Environmental Samples**; Kathryn Micko; Danielle Gombos; Joseph Grabowski; *University of Pittsburgh, Pittsburgh, PA*
- TP 599 **Advances in Electron Multiplier Detector Design for Improved GC/MS Environmental Analysis**; Ruben Garnica; *PerkinElmer INC, Shelton, CT*
- TP 600 **Parameters to Consider to Adequately Measure hydroxylated-PAHs in Human Urine by Gas Chromatography Coupled to Mass Spectrometry in Tandem (GC/MS/MS)**; Eric Gaudreau; Jean-François Bienvenu; René Bérubé; Éric Daigle; Simon Chouinard; *Institut National de Santé Publique du Québec, Québec, Canada*
- TP 601 **Polycyclic Aromatic Hydrocarbons (PAHs): Characterization of Isomers by Means of Resonance Electron Capture (REC) and Electron Ionization (EI) Mass Spectrometry**; Yury V. Vasil'ev; Susan A. Hatlevig; Douglas F. Barofsky; *Oregon State University, Corvallis, OR*
- TP 602 **Calculation of Electron Affinities, Ionization Potentials, and Reduction and Oxidation Potentials of Large Polycyclic Aromatic Hydrocarbons**; Don Betowski¹; Donald Aue²; ¹US EPA, Las Vegas, NV; ²UCSB, Santa Barbara, CA
- TP 603 **Impact of Animal Manure Separation Technologies on Steroid Hormone Distribution - Consequences for Agricultural Practices**; Martin Hansen¹; Olga Popovic¹; Erland Björklund¹; Kristine A Krogh¹; Lars Stoumann Jensen¹; Carsten S Jacobsen²; Bent Halling-Sørensen¹; ¹University of Copenhagen, Copenhagen, Denmark; ²GEUS, Copenhagen, Denmark
- TP 604 **Comparison of Triglycerides and Fatty Acids Patterns in Burial Leachate and Raw Oils (Animal Fats, Fish Oils, Cooking Oils)**; Tae Wan Jeon; Mi-jeong jeong; Young Yeul Kang; Yong Woo Jung; Sun Kyoung Shin; *National institute of environmental research, incheon, South Korea*
- TP 605 **GCxGC-TOFMS Utilized for Broad-Spectrum Analysis of Endocrine Disruptor Compounds (EDCs) in Urban and Rural Watersheds**; Allen Zhang; John R. Heim; Joe Binkley; *LECO Corporation, St. Joseph, MI*
- TP 606 **What Else is in my Dioxin sample? High Performance Time-of-flight Mass Spectral Analysis of Environmental Samples**; David Alonso²; Eric Reiner¹; Peter Gorst-Allman²; Joe Binkley²; ¹University of Toronto, Toronto, Canada; ²Leco Corporation, St. Joseph, MI
- TP 607 **Identification, Sample Preparation and Testing of Plastics in Imported Children's Toys for Phthalates and Bisphenol A by GCMS**; Patricia Atkins¹; Tom Mancuso¹; Ralph Obenauf¹; Richard Bostwick²; ¹Spex Certiprep, Metuchen, NJ; ²SPEX SamplePrep, Metuchen, NJ

TP 608 **Simultaneous Determination of 15 Phthalates in House Dust Using Solid Phase Extraction and GC/EI-MS/MS**; Ivana Kosarac; Xinghua Fan; Cariton Kubwabo; Fang Wu; Pat Rasmussen; *Health Canada, Ottawa, Canada*

TP 609 **Doubly Charged Ions in the Electron Impact (EI) Mass Spectrum of Tetrabromophthalic anhydride - PHT4**; Colin Moore; Blake Lewis; *Chemtura Corporation, Naugatuck, CT*

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- TP 610 **Online Derivatization of Anthracene with Dodecylamine by Electrochemistry/Electrospray Mass Spectrometry**; Xing Ling; Chuanfan Ding; *Department of Chemistry, Fudan University, Shanghai, China*
- TP 611 **High Throughput Analysis of LAS Anion Surfactant using Ultra-high Speed LC-MS/MS and 1mm Inside Diameter Column**; Keiko Matsumoto¹; Jun Watanabe¹; Manabu Yukiya¹; Junko Iida¹; Itatu Yazawa²; ¹Shimadzu Corporation, Kyoto, Japan; ²Imtakt Corporation, Kyoto, Japan
- TP 612 **Simultaneous Analysis of Anionic, Amphoteric and Non-ionic Surfactant using Ultra-high Speed LC-MS/MS**; Keiko Matsumoto; Jun Watanabe; Junko Iida; *Shimadzu Corporation, Kyoto, Japan*
- TP 613 **Dissolved Organic Matter Effects on Solid Phase Extraction and Tandem Mass Spectrometry Detection of Organic Contaminants in Water**; Samanthi Wickramasekara; Selene Hernández-Ruiz; Leif Abrell; Robert Arnold; Jon Chorover; *University of Arizona, Tucson, AZ*
- TP 614 **Comparative Studies of the Kolyma River and Permafrost DOM using FTICR MS**; Alexey Kononikhin^{2,4}; Ivan Dubinenkov^{1,4}; Igor Popov^{2,4}; David Podgorski³; Michael Kazachkov¹; Amy McKenna³; Alan G. Marshall³; Eugene Nikolaev^{2,4}; Irina Perminova¹; ¹Lomonosov Moscow State University, Moscow, Russia; ²Institute for Energy Problems of Chemical Physics, Moscow, Russia; ³National High Magnetic Field Laboratory, Tallahassee, FL; ⁴Emanuel Institute of Biochemical Physics, Moscow, Russia
- TP 615 **Enhanced Sensitivity and Molecular-level Characterization of Dissolved Organic Matter in ice Cores by Nano-electrospray Ionization Ultrahigh Resolution Mass Spectrometry**; Rachel Sleighter¹; Vanessa Boschi²; Amanda Grannas²; Patrick Hatcher¹; ¹Old Dominion University, Norfolk, VA; ²Villanova University, Villanova, PA
- TP 616 **Snow Fall Provenance: Incorporating a Gas Bench IRMS Laboratory Session Into an Undergraduate Earth's Cryosphere Curriculum**; Gregory S. Rahn; Bruce Wegter; Eugene Domack; *Hamilton College, Clinton, NY*
- TP 617 **Improving Doubly Labeled Water Determinations Through Optimization of IRMS Measurements**; Peter Walter; Manisha Shrestha; *NIH, Bethesda, MD*
- TP 618 **Application of Solid Phase Extraction Cartridge and Large Volume Injection Coupled to Gas Chromatography-Mass Spectrometry for Fast Oil Fingerprinting Analysis**; Chun Yang; Zhendi Wang; Zeyu Yang; Li Yan; Mike Landriault; Bruce Hollebone; Carl Brown; *Environment Canada, Ottawa, Canada*
- TP 619 **The Use of Multivariate Analysis as a Fingerprinting Tool for Membrane Introduction Mass Spectrometry (MIMS) Data from Crude Hydrocarbon Samples**; Morten Martinsen^{1,3}; Nicholas G. Davey^{3,4}; Christian Collin-Hansen⁵; Alf G. Melbye⁶; Erik T. Krogh^{2,3}; Christopher G.



Gill^{2,3}; Øyvind Mikkelsen¹; Rudolf Schmid¹; ¹Norwegian University of Science and Technology, Trondheim, Norway; ²Vancouver Island University, Nanaimo, BC, Canada; ³Appl. Env. Res. Labs. (AERL), Nanaimo, BC, Canada; ⁴University of Victoria, Victoria, BC, Canada; ⁵Statoil ASA, Trondheim, Norway; ⁶Sintef, Trondheim, Norway

- TP 620 **Differentiation of Biogenic and Petrogenic Hydrocarbons by Gas Chromatography-Fourier Transform Ion Cyclotron Resonance Mass Spectrometry**; Vincent Y. Taguchi¹; Karl Jobst^{1,2}; Bryan Chubb³; Taras W. Obal³; Bruce Greenberg⁴; ¹Ontario Ministry of the Environment, Toronto, ON; ²Environment Canada, Burlington, ON; ³Maxxam Analytics International Corporation, Mississauga, ON; ⁴University of Waterloo, Waterloo, ON
- TP 621 **Comparison of Water from Natural Sources and Areas of Oil Sands Activity using APPI FTICR Mass Spectrometry**; Mark P. Barrow¹; John Headley²; Kerry M. Peru²; Brian Fahlman²; Richard Frank³; L. Mark Hewitt³; ¹University of Warwick, Coventry, UK; ²WSTD, Environment Canada, Saskatoon, SK; ³Environment Canada, Burlington, ON
- TP 622 **High Resolution Mass Spectrometry for the Investigation Of Cigarette Smoke Particulate Matter. Comparison between Active and Passive Smoking**; Sébastien Schramm¹; Vincent Carré¹; Jean-Luc Scheffler²; Frédéric Aubriet¹; ¹LCPMC - Université de Lorraine, Metz, France; ²Eurofins/Ascal Laboratory, Forbach, France
- TP 623 **Characterization of Colombian High Boiling Point Heavy Oil Fractions by Laser Desorption Ionization (LDI) FT-ICR-MS**; Andrea Gomez-Escudero¹; Christopher Thompson²; ¹ECOPETROL, Piedecuesta Santander, Colombia; ²Bruker Daltonics Inc., Billerica, MA

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- TP 624 **High Resolution Time-of-Flight Mass Spectrometry for the Identification of Contaminants in Water Samples**; Imma Ferrer; E. Michael Thurman; University of Colorado, Boulder, CO
- TP 625 **High Speed Trace Level Analysis of Environmental Contaminants in River Water Using High Performance Time of Flight Mass Spectrometry**; Jeffrey Patrick; Adrian Pike; Joe Binkley; Kevin Siek; LECO Corporation, St. Joseph, MI
- TP 626 **Non-targeted Analysis of Effluents from Waste Water Treatment Plants using High Resolution MS and Nuclear Magnetic Resonance Spectroscopy**; Markus Godejohann¹; Jean-Daniel Berset²; ¹Bruker Biospin GmbH, Rheinstetten, Germany; ²Water and Soil Protection Laboratory WSPL, Bern, Switzerland
- TP 627 **Quantification of Pesticides at Low ppt Levels in Water Using Direct Aqueous Injection LC/QQQ Mass Spectrometry**; Peter Abrahamsson¹; Neil Cullum²; ¹Agilent technologies, Gothenburg, Sweden; ²Anglian Water, Huntingdon, UK
- TP 628 **Fast and sensitive Determination of Pesticides in Surface Water by Online Preconcentration with Orbitrap Mass Spectrometry**; Jaewon Choi¹; Jiyoung Kim¹; Yuns Kim¹; Charles T. Yang²; Mary Blackburn²; ¹Kwater, Daejeon, South Korea; ²Thermo Fisher Scientific, San Jose, CA
- TP 629 **Simultaneous Determination of Paraquat and Diquat in Environmental Water Samples by HPLC-MS/MS**; Jinyuan Wang; William C. Schnute; Guifeng Jiang; Thermo Fisher Scientific, San Jose, CA

- TP 630 **The Investigation of Wildlife Poisoning in Scotland by Q-ToF Ms using an Atmospheric Pressure Solids Analysis Probe**; George Keenan; SASA, Edinburgh, UK
- TP 631 **Comparisons of Determination of Pyrethroids in Crop and Environmental Sample Matrices by GC and LC/MS/MS**; Audrey Chen; FMC Corp., Ewing, NJ
- TP 632 **A Comprehensive Approach to Pesticide Residue Monitoring, Including Non-target Analysis, for Fruits, Vegetables, and Nuts, Using QuEChERS, LC-MS/MS, and GCxGC-TOFMS**; Rick Lake; Restek Corporation, Bellefonte, PA
- TP 633 **Trading Rules in Targeted/Unknown Multiresidue Pesticides Analysis using UHPLC-Orbitrap and Data Mining Software Enhanced Selectivity, Sensitivity, Efficiency and Data Quality**; Paul Yang¹; Serei Thach¹; Jon Wong²; Kai Zhang²; James Chang³; Dipankar Ghosh³; Charles Yang³; Maciej Bromirski⁴; Kristi D. Akervik³; ¹Ontario Ministry of the Environment, Etobicoke, Canada; ²U.S. Food and Drug Administration, College Park, MD; ³Thermo Fisher Scientific, San Jose, CA; ⁴Thermo Fisher Scientific GmbH, Bremen, Germany
- TP 634 **The Application of LC-UFMSMS to the Analysis of Pesticide Residues in Grain Samples**; Nigel Grieves⁴; Jo Mulders⁴; Bruce Peebles³; Catherine Rawlinson³; Katherine Rousserty³; John Hewetson⁴; Robert Trengove^{2,3}; Paul Wynne¹; ¹Shimadzu, Park Orchards, Australia; ²Murdoch University, Murdoch, Australia; ³Metabolomics Australia, Murdoch University Node, Murdoch, Australia; ⁴Shimadzu Scientific Instruments, Rydalmere, Australia
- TP 635 **Fast Polarity and Mode Switching in an LC-MS/MS Analysis of Heterogeneous Interactions of Pesticides in the Environment**; Heather Gamble¹; Geoff Harris²; Mitesh Patel²; Donald Gamble³; ¹IONICS Mass Spectrometry Group, Inc., Bolton, Canada; ²York University Centre for Atmospheric Chemistry, Toronto, Canada; ³Department of Chemistry, Saint Mary's University, Halifax, Canada
- TP 636 **Analysis of Organochlorine Pesticides (OCPs) present in Ayurvedic Churnas using Multi Dimensional Gas Chromatograph Mass Spectrometer (MDGC/GCMS)**; Deepti Ranadive; Shimadzu Analytical (India), Mumbai, India
- TP 637 **High Throughput LC-MSMS Analysis of Carbendazim in Orange Juice**; William Hedgepeth¹; Jeff Dahl¹; Masatoshi Takahashi²; ¹Shimadzu, Columbia, MD; ²Shimadzu Corporation, Columbia, MD
- TP 638 **A One Step GC-MS Analysis of Medically and Environmentally Important Compounds Dissolved in DMSO**; Kirill Tretyakov; Edward White; Stephen Stein; National Institute of Standards and Technology, Gaithersburg, MD

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- TP 639 **Explosives Trace Detector using Cyclone-type Particle Concentrator**; Yuichiro Hashimoto; Yasutaka Suzuki; Yasuaki Takada; Hisashi Nagano; Masakazu Sugaya; Hideo Kashima; Koichi Terada; Yasunori Doi; Minoru Sakairi; Hitachi, Ltd, Central Research Lab, Kokubunji, Tokyo, Japan
- TP 640 **Characterization of Home-made Explosive Residues on Various Surfaces and in Complex Matrices using Desorption Electrospray Ionization Mass Spectrometry (DESI-MS)**; James Hochrein; Jonell Smith; Sandia National Laboratories, Albuquerque, NM



- TP 641 **Trace Detection of TNT and Black Powder by Neutral Desorption Ion Mobility Spectrometry (ND-IMS) for Portable Applications;** Mingxin Gu¹; Wei Zhou²; Jiang Wang²; Jian Zheng³; Guotian He¹; Eric Handberg²; Huanwen Chen²; ¹Physics and Electrical Engineering, Chongqing Univ, Chongqing, China; ²East China Institute of Tech., Nanchang, China; ³Research Institute of Ministry of Public Security, Shanghai, China
- TP 642 **Determining the Environmental Persistence of Ammonium Nitrate Fuel Oil (ANFO) using GC-MS and IC-CD;** John A. Tokarz III; Joy M. Ginter; Kevin J. Shefcheck; Alex Jestel; Timothy S. Allan; Lisa A. Walden; Stanley A. Ostazeski; *US Army - ECBC, Aberdeen Proving Ground, MD*
- TP 643 **Validation of a Fast, Quantitative GC/MS Screening Method for the Analysis of Chemical Warfare Agents (CWAs);** Thomas Rusek; Kathleen Housman; Austin Swift; Jonathan Oyler; *USAMRICD, Aberdeen Proving Ground, MD*
- TP 644 **Characterization of 14 nerve agent compounds by ESI-MS and ESI-MS² on an ABSciex 4000 QTrap Quadrupole Iontrap;** Kathleen Housman; Thomas Rusek; Austin Swift; Jonathan Oyler; *USAMRICD, Aberdeen Proving Ground, MD*
- TP 645 **Dose Modulation of Cyclosporine to Eliminate Neovascularization of the Cornea From Ocular Exposure to Sulfur Mustard;** Mitchell Meade¹; Pavel Shiyonov¹; Michael Babin²; John Schlager¹; ¹AFRL, Dayton, OH; ²Battelle, Columbus, OH
- TP 646 **Biological Confirmation of Harmful Agents by MassTag PCR;** William A. Harris¹; Mark D. Burton¹; Danielle N. Dickinson¹; Johnny K. Ho¹; Yvette R. Hudson¹; Kristin M. Taylor¹; Michael J. Perry²; Anna Kidney²; Christina T. Egan²; Doug B. Henderson¹; ¹Northrop Grumman, Linthicum, MD; ²NYS DOH - Wadsworth Center, Albany, NY
- TP 647 **The Use of Intact Protein Mass Spectrometry to Determine the Enzymatic Target of Novel Botulinum Neurotoxins Type F;** Suzanne R. Kalb; Jakub Baudys; John R. Barr; *CDC, Atlanta, GA*
- TP 648 **Rapid Quantification of Clostridial Epsilon Toxin by Immuno-purification and Ultra-Performance Liquid Chromatography - Tandem Mass Spectrometry;** Alexandre Seyer¹; François Fenaille¹; Cécile Féraudet-Tarisse¹; Hervé Volland¹; Michel Poppo²; Jean-Claude Tabet³; Christophe Junot¹; François Becher¹; ¹CEA, iBiTec-S, SPI, Gif-Sur-Yvette, France; ²Institut Pasteur, Paris, France; ³Université Pierre et Marie Curie, CNRS UMR 7613, Paris, France
- TP 649 **Development of Mobile Ambient Ionization MS for Homeland Security and Defense;** Mitch Wells; Michael Goodwin; Michael Stump; Miriam Fico; Mark Gildersleeve; Bruce Solomon; *FLIR Mass Spectrometry, West Lafayette, IN*
- TP 650 **Development of a Simplified Sample Collection Device for Onsite GC/MS;** Garth Patterson¹; Aaron Thompson²; Steve Shaull²; ¹FLIR Mass Spectrometry, West Lafayette, IN; ²FLIR Explosives, Stillwater, OK
- LC-MS SAMPLE PREPARATION II, 651 - 670**
- TP 651 **Discovering the Origin of an Interfering Peak Observed in LC-MS/MS Assay of Ketorolac in Rabbit Plasma;** Irwin Loh; Lisa Borbridge; *Allergan, Inc., Irvine, CA*
- TP 652 **Non-Specific Binding in Human Urine: An Effective Method Development Experiment for Detection;** Stacey L. Zeman; Michael Lesslie; Brian T. Hoffman; Daniel Mulvana; *Advion BioServices, Ithaca, NY*
- TP 653 **Hemolysis and Stability of N-desethyloxybutynin in Human Plasma: The Enantiospecific Quantitation of Oxybutynin and N-desethyloxybutynin in Human Plasma by LC-MS-MS;** Melvin Tan¹; Jim Mitchell¹; Erica Greenfield¹; Sarah Chappell²; Edward Wells¹; Michele Malone¹; Steve Unger¹; ¹Worldwide Clinical Trials, Austin, TX; ²Texas A&M Health Science Center, Austin, TX
- TP 654 **The Investigation of Factors Contributing to Immunosuppressant Drugs Response Variability in LC-MS/MS Analysis;** Dayana Argoti; *ThermoFisher Scientific, Franklin, MA*
- TP 655 **A Complete Liquid Handling LC-MS/MS System for the Preparation and Analysis of Immunosuppressants, Testosterone and Cortisol;** Sarah J. Fair; Dayana Argoti; Joseph L. Herman; *ThermoFisher Scientific, Franklin, MA*
- TP 656 **Serum Estrone and Estradiol Quantitation with Automated Online Sample Preparation and a Liquid Chromatography-tandem Mass Spectrometry Method;** Xiang He; Marta Kozak; *ThermoFisher Scientific, San Jose, CA*
- TP 657 **Development of SPME with Liquid Chromatography-Tandem Mass Spectrometry for High Throughput Analysis of Pharmaceutical in Urban Wastewater;** Paul Togunde¹; Erasmus Cudjoe²; Mark Servos³; Janusz Pawliszyn¹; ¹University of Waterloo, Chemistry department, Waterloo, Canada; ²Waterloo University, Chemistry department, Waterloo, Canada; ³Waterloo University, Biology department, Waterloo, Canada
- TP 658 **Application of Bio-SPME for the Enrichment of Illicit Phenethylamine and Cathinone Compounds from Biological Samples;** Craig Aurand¹; Robert Shirey¹; Leonard Sidisky¹; Janusz Pawliszyn²; Yong Chen¹; ¹Sigma Aldrich, Bellefonte, PA; ²University of Waterloo, Waterloo, ON
- TP 659 **A Novel Improvement on Biocompatibility and Reusability of Solid Phase Microextraction Coatings for Direct Extraction from Raw Blood;** Fatemeh Mirnaghi; Pawliszyn Janusz; *University of Waterloo, Waterloo, Canada*
- TP 660 **Determination of Isoprostanes in Human Urines Using Novel Nano-scale Carbon Powder- Hydroxyapatite as Solid Phase Extraction Sorbent by LC-MS/MS;** Hui Ling Lee¹; Chao-Yu Chen¹; Chien-Jen Wang²; Saou-Hsing Liou²; ¹Fu Jen University, New Taipei City, Taiwan; ²National Health Research Institutes, Miaoli County, Taiwan
- TP 661 **Exploring Sample Preparation: Novel Approaches for Targeted LC-MS/MS Analysis of Drug Metabolites in Plasma using Stir Bar Sorptive Extraction;** Mark Silveria¹; David Liesenfeld²; Mimi Swe¹; Mine Palazoglu¹; Oliver Fiehn¹; ¹UC Davis, Davis, CA; ²Technische Universität Kaiserslautern, Kaiserslautern, Germany
- TP 662 **Optimization of Sample Preparation Parameters using a Design-of-Experiment Approach for a New Type of Extraction Plate Enabling Easy Automation;** Michal Svoboda²; Markus Wiggli²; Guy Burssens¹; Roland Geyer¹; ¹Tecan Trading AG, Männedorf, Switzerland; ²Tecan Schweiz AG, Männedorf, Switzerland
- TP 663 **High Throughput Bioanalysis of Lorcaserin in Human Plasma using Salting-out Assisted Liquid/Liquid Extraction (SALLE) and LC-MS/MS;** Michael Ma; Yong Q. Tang; *Arena Pharmaceuticals, San Diego, CA*
- TP 664 **A Qualitative and Quantitative Method for the Analysis of Benzodiazepines in Biological Fluids by SPE/LC/MS;** Eshwar Jagerdeo; Madeline Montgomery; Jason Schaff; Marc LeBeau; *FBI, Quantico, VA*



- TP 665 **Challenges in Developing an Ultra Sensitive Bioanalytical Method for Ethinylestradiol in Human Plasma;** Jessalynn Wheaton; Erin Chambers; Jonathan Danaceau; Kenneth Fountain; *Waters Corporation, Milford, MA*
- TP 666 **Integration of an Automated Sample Preparation Workstation for the Analysis of 25-OH Vitamin D2 and D3 by LC-MS/MS;** Ruth Zhang¹; Michael J. Y. Jarvis²; Li Liu¹; John Snider¹; ¹*Beckman Coulter, Indianapolis, IN*; ²*AB SCIEX, Concord, Canada*
- TP 667 **Evaluation of Signals, Signal Variation, and the Elimination of Suppression Effects in LC-MS/MS Analysis using Plate Based Phospholipid Removal Methods;** Stuart Kushon; Art Dixon; Tivadar Farkas; Michael Rummel; Carl Sanchez; Emmet Welch; Shahana Huq; *Phenomenex, Torrance, CA*
- TP 668 **Comparing the Precision of Automated Vs. Manual Sample Preparation Methods;** Eliot Bizhga; Sheher Mohsin; Andre Szczesniowski; Michael Woodman; *Agilent Technologies, Schaumburg, IL*
- TP 669 **Method Development of Mass Spectrometry-Based Assay for the Quantitation of Free Fraction Compound in Human Plasma using Rapid Equilibrium Dialysis;** Amanda Mattson; Clark Williard; George Scott; Caitlin Weisberg; *Pharmanet USA, Princeton, NJ*
- TP 670 **Drug Quantification in Minute Tumor Biopsy Samples Using LC/MS/MS Analytics;** Susan Chen; Mark G. Qian; *DMPK; Millennium: The Takeda Oncology Company, Cambridge, MA*
- HIGH MASS ACCURACY/HIGH PERFORMANCE MS: INSTRUMENTATION, 671 - 688**
- TP 671 **Analysis of Transient Data from an Orbitrap Mass Spectrometer with Filter Diagonalization Method;** David H. Perlman¹; Eugene Moscovets²; Henry Shwe¹; Saw Kyin¹; ¹*Princeton University, Princeton, NJ*; ²*Mass Tech, Columbia, MD*
- TP 672 **A Python Library for Advanced Signal Processing in Fourier Transform Mass Spectrometry;** Anton N. Kozhinov; Ünige A. Laskay; Luca Fornelli; Konstantin O. Zhurov; Yury O. Tsybin; *Ecole Polytechnique Fédérale de Lausanne, Lausanne, Switzerland*
- TP 673 **Considerations for the Operation of Traps with Deep Wells in FTMS;** Don L. Rempel; Sergio Castro; Michael L. Gross; *Washington University, St Louis, MO*
- TP 674 **Optimization of Quadrupole Injection Parameters for Minimization of Post-Injection Ion Kinetic Energy and Spatial Distribution in External Source FT-ICR MS;** Steve Beu¹; Nathan Kaiser²; Greg T. Blakney²; Chris Hendrickson^{2,3}; Alan G. Marshall^{2,3}; ¹*S C Beu Consulting, Austin, TX*; ²*Ion Cyclotron Resonance Program at NHMFL, Tallahassee, FL*; ³*Department of Chemistry and Biochemistry, FSU, Tallahassee, FL*
- TP 675 **Elimination of Time-of-flight Mass Discrimination in FT-ICR MS;** Nathan Kaiser¹; Joshua Savory¹; John Paul Quinn¹; Steve Beu²; Chris Hendrickson¹; Alan G. Marshall¹; ¹*National High Magnetic Field Laboratory, Tallahassee, FL*; ²*S C Beu Consulting, Austin, TX*
- TP 676 **Artifacts Induced by Selective Blanking of Time-Domain Data in Fourier Transform Mass Spectrometry;** Feng Xian¹; Chris Hendrickson²; Alan G. Marshall²; ¹*Department of chemistry and biochemistry, FSU, Tallahassee, FL*; ²*National High Magnetic Field Laboratory, Tallahassee, FL*
- TP 677 **Improvement in Mass Measurement Accuracy and Resolving Power Using a New Compensated Fourier Transform Ion Cyclotron Resonance Cell;** Magnus Palmblad¹; Jens Fuchser²; Yuri E.M. Van Der Burgt¹; M. Gökhan Baykut²; André M. Deelder¹; ¹*Leiden University Medical Center, Leiden, Netherlands*; ²*Bruker Daltonik GmbH, Bremen, Germany*
- TP 678 **Two-dimensional FT-ICR MS: New Pulse Sequences and Data Processing for Protein and PAMAM Dendrimer Analysis;** Maria van Agthoven¹; Akansha Sehgal⁴; Lionel Chiron²; Marie-Aude Coutouly³; Philippe Pelulessy⁴; Geoffrey Bodenhausen⁴; Marc-André Delsuc^{2,3}; Christian Rolando¹; ¹*Université des Sciences et Technologies de Lille, Villeneuve D'ascq Cedex, France*; ²*IGBMC, Illkirch-Graffenstaden, France*; ³*NMRTEC, Illkirch-Graffenstaden, France*; ⁴*Ecole Normale Supérieure, Paris, France*
- TP 679 **Exploiting the Space-charge Effect for Measuring the Number of Trapped Ions in a FT-ICR Mass Spectrometry;** Pavel Sagulenko¹; Alexander Agapov²; Vladimir Frankevich¹; Mikhail V. Gorshkov²; Renato Zenobi¹; ¹*ETH Zurich, Zurich, Switzerland*; ²*INEPCP RAS, Moscow, Russian Federation*
- TP 680 **Development of a Broadband LN2 Cooling Cryogenic Preamplifier for FTICR MS;** Myoung Choul Choi¹; Stefan Stahl²; Jeong Min Lee¹; Seung Yong Kim¹; Se Gyu Lee¹; Sang Hwan Choi¹; Yeon Suk Choi¹; ¹*Korea Basic Science Institute, Ochang-Myun, South Korea*; ²*Stahl-Electronics.com, Mainz, Germany*
- TP 681 **An Improved Low-Noise Preamplifier Design for Fourier-Transform Ion Cyclotron Resonance Mass Spectrometry ;** Tzu-Yung Lin; Roger J. Green; Peter B. O'Connor; *University of Warwick, Coventry, UK*
- TP 682 **First Use of highly-charged Ions for On-line Isotope Mass Spectroscopy: Improving the Precision of Penning-trap-TOF-ICR by 2 Orders of Magnitude. ;** Jens Dilling; *TRIUMF/ UBC, Vancouver, Canada*
- TP 683 **Development of High Density μ -Cylindrical Ion Trap Array Miniature Mass Spectrometer;** Tianpeng Wu¹; Jing Wang¹; Ashish Chaudhary²; Friso van Amerom²; Tim Short²; ¹*University of South Florida, Tampa, FL*; ²*SRI International, St Petersburg, FL*
- TP 684 **An Electrostatic Linear Ion Trap Mass Spectrometer for Analysis of Small Molecules, Peptides, and Proteins;** Ryan T. Hilger; Robert E. Santini; Scott A. McLuckey; *Purdue University, West Lafayette, IN*
- TP 685 **A Novel Applications-grade, Bench-top GC-quadrupole Orbitrap Mass Spectrometer for High-resolution and High-mass Accuracy GC/MS;** Amelia C. Peterson¹; Dominic M. Colosi¹; Jens Griep-Raming²; Jan-Peter Hauschild²; Scott Quarmby³; Oliver Lange²; Gerhard Jung²; Florian Grosse-Coosmann²; Eduard Denisov²; Dirk Krumwiede²; Alexander Makarov²; Stevan R. Horning²; Michael S. Westphall¹; Joshua J. Coon¹; ¹*University of Wisc. Madison, Madison, WI*; ²*Thermo Fisher Scientific (Bremen) GmbH, Bremen, Germany*; ³*Thermo Fisher Scientific, Austin, TX*
- TP 686 **Small Molecule and Peptide Plasma Binding and Metabolism; A Comparison of the Sciex 5500, LTQ-Orbitrap and Synapt G2-S;** Carolyn Higgins; Robert Solinga; Marco M Kessler; James Wakefield; Wilmin P. Bartolini; Robert Busby; *Ironwood Pharmaceuticals, Cambridge, MA*
- TP 687 **Advance Decision Tree-Driven Mass Spectrometry via Instant Spectral Assignment (inSeq);** Derek Bailey; Christopher Rose; Alex Hebert; Michael S. Westphall; Joshua J. Coon; *University of Wisconsin-Madison, Madison, WI*



TP 688 **Fragmentation of Crosslinked Peptides on a Hybrid LTQ Orbitrap Velos Mass Spectrometer: New Advantages for Confident Peptide Identification;** Elena L. Rudashevskaya; André Müller; Florian P. Breitwieser; Keiryn L. Bennett; *CeMM Research Center for Molecular Medicine, Vienna, Austria*

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TP 689 **Reliable Identification and High-resolution Quantification of Microcystins and Anatoxin-a using Ultra-performance Liquid Chromatography Coupled to a New Quadrupole TOF Instrument;** Soyoun Ahn¹; Jeffrey Morre¹; Ievgen Motorkin²; Claudia Maier¹; ¹*Oregon State University, Corvallis, OR*; ²*Graduate Student, Corvallis, OR*

TP 690 **Fast K2/SPICE Metabolite Quantification using LDTD Combined with High Resolution Mass Spectrometer;** Alex Birsan; Serge Auger; Grégory Blachon; Sarah Demers; Jean Lacoursiere; Pierre Picard; *Phytronix Technologies, Inc., Quebec, Canada*

TP 691 **Fingerprinting of Legal Herbal Highs by Nano-LC-chip-Q/TOF;** Emilia Fornal; *The John Paul II Catholic University of Lublin, Lublin, POLAND*

TP 692 **Lithium Ion Battery Aging Studied by High Resolution Time-of-Flight Mass Spectrometry;** Fumie Kabashima; Kevin Siek; Joe Binkley; *LECO Corporation, St. Joseph, MI*

TP 693 **Mass Spectral Fragmentation Studies of Heterocyclic Compounds using GC High-resolution MS;** Viorica Lopez-Avila; *Agilent Technologies, Santa Clara, CA*

TP 694 **Fast Carbon Mass Isotopomer Analysis using High Resolution / Accurate Mass Exactive Orbitrap LCMS;** Julia Khandurina; Taehoon Yang; *Genomatica, San Diego, CA*

TP 695 **Detection and Characterization of Polyphenolic Compounds and their Metabolites in Human Plasma after Consumption of Grape Seed Extract;** Katarzyna Banaszewski¹; Indika Edirisinghe¹; Tissa Kappagoda²; Britt Burton-Freeman^{1,2}; Jack Cappozzo¹; ¹*IFSH/ ITT, Bedford Park, IL*; ²*University of California Davis, Sacramento, CA*

TP 696 **Development and Applications of a Pesticide Multiresidue Analysis Turn-key System Utilizing UHPLC-Orbitrap MS and Post Data Processing;** James Chang¹; Jon Wong²; Kai Zhang²; Paul Yang^{3,4}; Serei Thach^{3,4}; Charles T. Yang¹; Dipankar Ghosh¹; Maciej Bromirski⁵; Kristi D. Akervik¹; ¹*Thermo Fisher Scientific, San Jose, CA*; ²*U.S. Food and Drug Administration, College Park, MD*; ³*Ontario Ministry of the Environment, Etobicoke, Canada*; ⁴*Ontario Ministry of the Environment, Etobicoke, Canada*; ⁵*Thermo Fisher Scientific GmbH, Bremen, Germany*

TP 697 **Utilization of Rapid LC-MS for Screening and Quantitative Analysis of Pesticides in Food Matrix using an Orbitrap platform;** Dipankar Ghosh^{1,2}; Charles Yang^{1,2}; Leo Wang^{1,2}; Jamie K Humphries^{1,2}; ¹*Thermo Fisher Scientific, San Jose, CA*; ²*Thermo Fisher Scientific, Keller, TX*

TP 698 **Analysis of 25-Hydroxyvitamin D in Serum Using Automated On Line Sample Preparation Technique with High Resolution Benchtop Orbitrap Mass Spectrometer;** Matthew Berube; Joe DiBussolo; Catherine Lafontaine; Yang Shi; Francois A. Espourteille; *Thermo Fisher Scientific, Franklin, MA*

TP 699 **Screening of 300 drugs in Blood Utilizing Second Generation Exactive High Resolution Accurate Mass Spectrometer and ExactFinder Software;** Kristine Van Natta; Xiang He; Marta Kozak; *Thermo Fisher Scientific, San Jose, CA*

TP 700 **Quantitative Analysis of Drugs of Abuse in Urine by UHPLC-TOF Mass Spectrometry;** Sharanya Reddy^{1,2,3}; Sergey Rakov^{1,2,3}; Carl Schwarz^{1,2,3}; Blas A. Cerda^{1,2,3}; ¹*PerkinElmer, Shelton, CT*; ²*PerkinElmer, Branford, CT*; ³*PerkinElmer, Shelton, CT*

TP 701 **Targeted Approaches for Pharmaceutical Stability Studies, Using Accurate Mass Data From a Tandem High Speed Mass Spectrometer;** Stephen Rumbelow¹; Johnnie Brown²; James A. Ferguson²; Jeffrey Miller²; ¹*Croda Inc, New Castle, DE*; ²*ABSCIEX, Framingham, MA*

TP 702 **Drug Discovery PK Analysis using a Quadrupole High Resolution Orbitrap Mass Spectrometer (Q Exactive): An Alternative Approach to Triple Quadrupole;** Hongying Gao; Andre Negahban; *Pfizer, Inc, Groton, CT*

TP 703 **Quantitation of Immunosuppressant Drugs in Blood Utilizing Second Generation Exactive High Resolution Accurate Mass Spectrometer and TraceFinder Software;** Subodh Nimkar¹; Kristine Van Natta¹; Marta Kozak¹; William Clarke²; ¹*Thermo Fisher Scientific, San Jose, CA*; ²*Johns Hopkins Medical Institute, Baltimore, MD*

TP 704 **The Opening of Bioanalytical Space Through Benchtop Accurate Mass Spectrometry: The Analysis of Propofol and its Four Metabolites;** Beijing Tan¹; Yizhong Zhang²; Andre Negahban³; Hongying Gao⁴; Christopher Holliman⁵; ¹*Pfizer, Inc., Groton, CT*; ²*Pfizer Inc., Groton, CT*; ³*Pfizer, Groton, CT*; ⁴*Pfizer, Inc, Groton, CT*; ⁵*Pfizer Inc, Groton, CT*

TP 705 **Analysis of Drug Impurities using Two Dimensional Ion Trapping Technology in Time-of-flight (TOF) Mass Spectrometry;** Sharanya Reddy¹; Sergey Rakov¹; Adam J. Patkin¹; Blas A. Cerda¹; ¹*PerkinElmer, Shelton, CT*; ²*PerkinElmer, Branford, CT*

TP 706 **High-Resolution Mass Spectrometry for Quantitation of Peptides in Drug Discovery Bioanalysis;** Amy Qiu Wang; Bernard Choi; Kevin Bateman; Lucinda Cohen; *PPDM, Merck Research Laboratories, Rahway, NJ*

TP 707 **High Sensitivity Quantitative Analysis of Buspirone in Rat Plasma Using Ion Funnel Q-TOF Technology;** Yugin Dai; Keith Waddell; *Agilent Technologies, Santa Clara, CA*

TP 708 **Serum Protein Quantification using Heavy Stable Isotope Labeled Protein Standards and Targeted High-resolution MS² Scan;** Raghothama Chaerkady¹; Robert O'Meally¹; Lauren Devine¹; Eugene F. Ciccimaro²; Hee Sool Rho¹; Jamie L. Johnson³; Keith P. West³; Robert Cole¹; ¹*Johns Hopkins University School of Medicine, Baltimore, MD*; ²*ThermoFisher Scientific, Somerset, NJ*; ³*Johns Hopkins University School of Public Health, Baltimore, MD*

TP 709 **Enhanced Detection and Identification of Low Abundant Monoclonal Antibody (MAb) Sequence Variants using Orbitrap Elite;** Melissa Alvarez¹; Oleg Borisov²; Lisa Vampola¹; Christopher Yu¹; Victor Ling¹; ¹*Genentech, Inc., So San Francisco, CA*; ²*Amgen, Thousand Oaks, CA*

TP 710 **Mass Spectrometry as a Tool to Uncover a Novel Mechanism of Action for the HCV NS5B Polymerase Non-nucleoside Inhibitor Tegobuvir;** Katherine Brenda¹; Cheryl Lichti²; Randy Vivian¹; Christy Hebner¹; Petra Erdman-Gilmore²; Bin Han¹; Maisoun Sulfab¹; James Tayler¹; James Trenkle¹; John Link¹; Uli Schmitz¹; Kyla Bjornson¹; Steven Bondy¹; Magdeleine Hung¹; Xiaohong Liu¹; Swami Swaminathan¹; Wanchi Fung¹; Johan Neyts³; Roman Sakowicz¹; R. Reid Townsend²; ¹*Gilead Sciences, Inc., Foster City, CA*; ²*Washington University, St. Louis, MO*; ³*Rega Institute, KU, Leuven, Belgium*



AMBIENT IONIZATION: APPLICATIONS I, 711 - 734

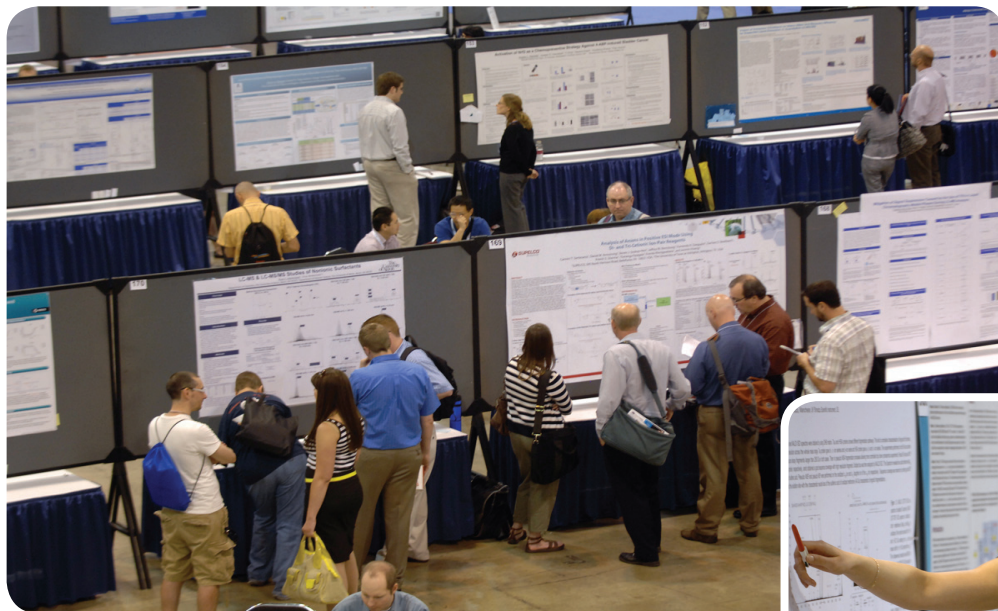
- TP 711 **Atmospheric Pressure Ion-Ion Charge Reduction for the Structural Characterization of Peptides, Multimeric Protein Assemblies and Biotherapeutics;** Iain D G Campuzano; Paul Schnier; *Amgen, Thousand Oaks, CA*
- TP 712 **RPLC Hyphenated to Continuous Flow-Extractive Desorption Electrospray Ionization-Mass Spectrometry for Analysis and Charge Manipulation of Undigested Proteins;** Kevin Schug¹; Samuel Yang¹; Elisa Rice¹; Li Li¹; Aruna Wijeratne; ¹*University of Texas at Arlington, Arlington, TX*; ²*The Department of Cancer and Cell Biology, Cincinnati, OH*
- TP 713 **A New Approach using Nanoflow Solvent Assisted Inlet Ionization for High Throughput Analysis, Surface Analysis, and Liquid Chromatography-Mass Spectrometry;** Beixi Wang; Sarah Trimpin; *Wayne State University, Detroit, MI*
- TP 714 **Detection of Trace Levels of Lead in Aqueous Liquids Using Extractive Electrospray Ionization Tandem Mass Spectrometry;** Xinglei Zhang¹; Chunxiao Liu²; Saijin Xiao¹; Bin Jia¹; Shasha Cui^{1,3}; Jianbo Shi²; Ning Xu¹; Xi Xie⁴; Huanwen Chen¹; Haiwei Gu¹; ¹*East China Institute of Technology, Nanchang, China*; ²*Chinese Academy of Sciences, Beijing, China*; ³*Beijing Entry-Exit Inspection&Quarantine Bureau, Beijing, China*; ⁴*The Administrative Center for China's Agenda 21, Beijing, China*
- TP 715 **Fast Screening of Banned Fungicide Carbendazim in Orange Juice using DSA-TOF;** Avinash Dalmia; lacono Silverio; Craig M. Whitehouse; *PerkinElmer, Shelton, CT*
- TP 716 **Quantitative Analysis of Pesticides in Juice Drinks by Direct Analysis in Real Time (DART®) Mass Spectrometry;** Elizabeth Crawford; Brian Musselman; *IonSense, Inc., Saugus, MA*
- TP 717 **Direct Quantification of Creatinine in Human Urine by using Isotope Dilution Extractive Electrospray Ionization Tandem Mass Spectrometry;** Xue Li¹; Xiaowei Fang²; Zhiqiang Yu³; Guoying Sheng³; Jiamo Fu³; Huanwen Chen²; ¹*Shanghai University, Shanghai, P. R. China*; ²*East China Institute of Technology, Nanchang, P. R. China*; ³*Guangzhou Institute of Geochemistry, Guangzhou, P. R. China*
- TP 718 **The Study of Electrochemical Reactions with Nanospray Desorption Electrospray Ionization-Mass Spectrometry;** Pengyuan Liu^{1,2}; Ingela T Lanekoff¹; Julia Laskin¹; Hao Chen²; ¹*Pacific NW National Laboratory, Richland, WA*; ²*Ohio University, Athens, OH*
- TP 719 **Confined DART Ion Source and Its Applications in Analysis of Volatile Organic Compounds of Citrus Limon and Allium Cepa;** Yue Li; *The University of Maryland, College Park, MD*
- TP 720 **Evaluation of Direct Analysis in Real Time (DART) Mass Spectrometry for Rapid Identification of Adulterated Edible Oils;** Charles C. Liu¹; Peng Wu²; Dazhou Chen³; Wei Chen⁴; Qiang Hu¹; Lili Niu²; Tanxi Cai²; Fuquan Yang²; ¹*ASPEC Technologies Limited, Beijing, China*; ²*Inst Biophysics, Chinese Academy of Sciences, Beijing, China*; ³*National Institute of Metrology, Beijing, China*; ⁴*Agilent Technologies, Beijing, China*
- TP 721 **Capturing All the Major Fleeting Intermediates of a Catalytic Cycle Using Desorption Electrospray Ionization: C-H Functionalization;** Richard H. Perry; Thomas J. Cahill, III; Jennifer L. Roizen; Justin Du Bois*; Richard N. Zare*; *Department of Chemistry, Stanford University, Stanford, CA, 94305*
- TP 722 **On-line Reaction Monitoring Using Ambient Ionization MS;** Xin Yan¹; Guangtao Li¹; Ewa Sokol²; Graham Cooks¹; ¹*Purdue University, West Lafayette, IN*; ²*Rhodes Technologies Inc., Coventry, RI*
- TP 723 **Biological Tissue Analysis Using Needle Biopsy and Direct Spray Ionization Mass Spectrometry;** Jiangjiang Liu; R. Graham Cooks; Zheng Ouyang; *Purdue University, West Lafayette, IN*
- TP 724 **Coupling Desorption Electrospray Ionization with Screen-printed Electrode for Analyzing Antioxidants in Biological Materials;** Hao-Lun Huang; Kuo-Lung Ku; *National Chiayi University, Chiayi City, Taiwan*
- TP 725 **Large Scale Clinical Testing of Rapid Evaporative Ionization Mass Spectrometry-based Intraoperative Tissue Identification;** Laszlo Sasi-Szabo¹; Laura Muirhead²; James Kinross²; Balazs Dezso¹; Julia Balog³; Laszlo Damjanovich¹; Zoltan Takats²; ¹*University of Debrecen, Debrecen, Hungary*; ²*Imperial College London, London, UK*; ³*Medimass Ltd., Budapest, Hungary*
- TP 726 **Application of Probe Electrospray Ionization Mass Spectrometry (PESI-MS) to Native Biological Samples and Cancer Diagnostics;** Mridul Kanti Mandal¹; Lee Chui Chen¹; Kentaro Yoshimura²; Zhan Yu³; Sen Takeda²; Kenzo Hiraoka¹; ¹*University of Yamanashi, Kofu, Japan*; ²*Faculty of Medicine, University of Yamanashi, Chuo, Japan*; ³*Shenyang Normal University, Shenyang, China*
- TP 727 **Liquid Extraction Surface Analysis Yields Lipid Profiles Directly from Intact Cell(s) Printed on 2-D Substrates;** Shane Ellis¹; Cameron Ferris²; Todd W Mitchell¹; Marc in het Panhuis¹; Stephen J Blanksby¹; ¹*University of Wollongong, Wollongong, Australia*; ²*Centre of Excellence for Electromaterials Science, Wollongong, Australia*
- TP 728 **Surface Acoustic Wave Nebulization Mass Spectrometry for Rapid and Sensitive Amino Acid Analysis;** Christophe Masselon¹; Lucas Monkkonen²; Mathilde Louwagie¹; John Edgar²; Christophe Bruley¹; Virginie Brun¹; David R. Goodlett²; ¹*CEA Grenoble, Grenoble, France*; ²*University of Washington, Seattle, WA*
- TP 729 **Continuously Increased Acetonitrile Level Observed in the Exhaled Breath Sample After Smoking;** Ming Li²; Jianhua Ding¹; Haiwei Gu¹; Huanwen Chen¹; Hongmei Li²; ¹*East China Institute of Technology, Nanchang, China*; ²*National Institute of Metrology, Beijing, China*
- TP 730 **Challenges of Real-time Detection of Narcotics in Exhaled Breath by Ambient Mass Spectrometry;** Christian Berchtold¹; Marija Bosilkovska³; Lukas Meier⁴; Youssef Daali³; Bernard Walder³; Renato Zenobi²; ¹*ETH Zürich, Zürich, Switzerland*; ²*ETH Zurich, Zurich, Switzerland*; ³*HUG, Geneva, CH*; ⁴*ETH, Zürich, Switzerland*
- TP 731 **Examining Breath Profiles using Secondary Electrospray Ionization Mass Spectrometry Assisted by an Ion Funnel;** Lukas Meier; Christian Berchtold; Stefan Schmid; Pablo Martinez-Lozano; Renato Zenobi; *ETH, Zürich, Switzerland*
- TP 732 **Nitrosamine Analysis Using a Direct Sample Analysis (DSA) Ion Source interfaced with TOF MS;** Craig M. Whitehouse¹; Shida Shen²; ¹*PerkinElmer, Branford, CT*; ²*PerkinElmer, Inc., Branford, CT*
- TP 733 **A Study of the Ionization Behavior of Several Compound Families in Low Temperature Plasma Ambient Desorption/Ionization High Resolution Mass Spectrometry;** Anastasia Albert; Carsten Engelhard; *University of Muenster, Muenster, Germany*



- TP 734 **Characterization of Aerosols Produced by the Pyrolysis of Cellulose Using Pyrolysis Low Temperature Plasma and Pyrolysis Electrospray Ionization MS/MS**; Sandra Spencer; Molly Le; Michael Tolocka; Gary L. Glush; *Univ. of North Carolina at Chapel Hill, Chapel Hill, NC*
- ION STRUCTURE/ENERGETICS, 735 - 755**
- TP 735 **Characterizing the Fragmentation Energetics of the Products of Gas Phase Ion-Molecule Reactions between H₂S and Cadmium Clusters**; Kaitlin Papson¹; Giel Berden²; Jos Oomens²; Douglas P. Ridge¹; ¹*University of Delaware, Newark, DE*; ²*FOM Rijnhuizen, Nieuwegein, Netherlands*
- TP 736 **Formation, Characterization and Reactivity of Gaseous Adduct of Carbon Dioxide to Magnesium(I), HOMgCO₂**; Héloïse Dossmann (Soldi-Lose)¹; Carlos Afonso^{1,2}; Denis Lesage¹; Jean-Claude Tabet¹; Einar Uggerud³; ¹*Pierre and Marie Curie University (Paris VI), Paris, France*; ²*University of Rouen, Mont Saint Aignan, France*; ³*University of Oslo, Oslo, Norway*
- TP 737 **Chiral Selectivity of Copper(I) Bis-Oxazolines Catalysts in the Gas-Phase**; Mark Davis; *Virginia Commonwealth University, Richmond, VA*
- TP 738 **Gas Phase Studies of Stable Carbenes and Triazoles**; Kai Wang¹; Mu Chen¹; Xiaodong Michael Shi²; Jeehiun Katherine Lee¹; ¹*Rutgers University, New Brunswick, NJ*; ²*West Virginia University, Morgantown, WV*
- TP 739 **Pyridine N-Oxide Nitrene Radical Anion: Zwitterion or Singlet Nitrene?**; Damodar Koirala; Nathan J. Rau; Paul G. Wenthold; *Purdue University, West Lafayette, IN*
- TP 740 **Substituent Dependent Spin-States in Nitrenes: A Ground-State Singlet Aromatic Nitrene**; Nathan J. Rau; Paul G. Wenthold; *Purdue University, West Lafayette, IN*
- TP 741 **Dissociating C₃H₅Br⁺ Ions: Almost All Roads Lead to the Allyl Cation**; Sampada Borkar¹; Balint Sztaray¹; Andras Bodi²; ¹*University of the Pacific, Stockton, CA*; ²*Paul Scherrer Institut, Villigen, Switzerland*
- TP 742 **Gas-phase Acidity Determination of Cyclic Ureas with More than One Acidic Position by the Extended Kinetic Method**; Francisco Javier Gonzalez Alonso¹; Andres Guerrero²; Juan Davalos¹; Gemma C. Gonzalez¹; ¹*Instituto Quimica-Fisica Rocasolano-CSIC, Madrid, Spain*; ²*UC Davis, Chemistry Department, Davis, CA*
- TP 743 **Computational Analysis of Double Bond Migrations and MS³ Fragmentation of Nitrile-Terminated PPI Dendrimer Ions**; William D. Price; Jacob Kilgore; Josh Hendrix; Kristina Gemayel; Simin Falsafi; *Marshall University, Huntington, WV*
- TP 744 **ESI-MS and DFT Studies Leading to a New Understanding of the Formation and Fragmentation Mechanisms of Cationized Triacylglycerols (TAGs)**; J. Stuart Grossert¹; Lisandra Cubero Herrera²; Louis Ramaley¹; Jeremy Melanson²; ¹*Dalhousie U and NRC Inst for Marine Biosciences, Halifax, Canada*; ²*NRC Institute for Marine Biosciences, Halifax, Canada*
- TP 745 **Dissociation of Lignin Dimer Model Compounds: Experimental Insight into Lignin Decomposition Mechanisms using Laser Desorption Vacuum-Ultraviolet (VUV) Postionization**; Theresa E. Hofstetter¹; Suet Yi Liu¹; Gregg Beckham²; Rui Katahira²; Mark Nimlos²; Stephen R. Leone^{1,3}; Musahid Ahmed¹; ¹*Lawrence Berkeley National Lab, Berkeley, CA*; ²*National Renewable Energy Laboratory, Golden, CO*; ³*University of California at Berkeley, Berkeley, CA*
- TP 746 **Comparison of Axial Imidazole Binding Strengths in Co(III), Fe(III) and Mn(III) Porphyrinoid Complexes as Studied by Tandem Mass Spectrometry**; Ektá Mishra¹; Jill L. Worlinsky²; Christian Bruckner²; Victor Ryzhov¹; ¹*Northern Illinois University, Dekalb, IL*; ²*University of Connecticut, Storrs, CT*
- TP 747 **Fragmentation of Xanthene Dyes by Laser Activation and Collision-Induced Dissociation on a High-Resolution Fourier Transform Ion Cyclotron Resonance Mass Spectrometer**; Jonathan Peters; Jürgen Grotemeyer; *Christian-Albrechts-Univ, Kiel, Germany*
- TP 748 **Structures of Bare and Hydrated [M(AminoAcid-H)]⁺ Complexes using Infrared Multiple Photon Dissociation Spectroscopy**; Michael Burt¹; Travis Fridgen²; ¹*Memorial University, St. John's, Canada*; ²*Memorial University of NL, St. John's, NL*
- TP 749 **IRMPD Spectroscopic Study of Solvated [Na(AlaGly)]⁺, [Na(GlyAla)]⁺, [Ca(AlaGly-H)]⁺ and [Ca(GlyAla-H)]⁺ Complexes in the Gas Phase**; Maryam B. Moghaddam; Travis D. Fridgen; *Memorial University of Newfoundland, St. John's, Canada*
- TP 750 **Probing the Conformations of Negatively Charged Peptides via Gas-phase Acidity Measurements and Molecular Modeling**; Jianhua Ren; Jialin Shen; Yuan Tian; Ashish Sawhney; *University of the Pacific, Stockton, CA*
- TP 751 **Wrapping Peptides Around Metal Ions**; Robert C. Dunbar¹; Nicolas Polfer²; Jeffrey Steill⁴; Giel Berden³; Jos Oomens³; ¹*Case Western Reserve Univ, Cleveland, OH*; ²*University of Florida, Gainesville, FL*; ³*FOM Rijnhuizen, Nieuwegein, Netherlands*; ⁴*Sandia National Laboratories, Livermore, CA*
- TP 752 **Kinetic Stability of the Streptavidin-Biotin Complex Enhanced in the Absence of Water**; Lu Deng; Elena Kitova; Glen Shoemaker; John Klassen; *University of Alberta, Edmonton, Canada*
- TP 753 **Characterizing Carbohydrate-Lipid Interactions in the Gas Phase**; Lan Liu; Nian Sun; Li Xia; Yu Bai; Todd Lowary; John Klassen; *University of Alberta, Edmonton, Canada*
- TP 754 **Fragmentation of Ferric and Cupric Yersiniabactin Complexes: An Experimental and Theoretical Study**; Daryl Giblin¹; Kaveri Chaturvedi²; Jeffrey Henderson²; Michael L. Gross¹; ¹*Washington University, St Louis, MO*; ²*Washington University School of Medicine, St. Louis, MO*
- TP 755 **Cross Sectional Analysis of Supramolecular Complexes Between Cucurbit[n]urils and Alkylamines Using FTICR "CRAFTI" Technique**; Fan Yang²; David V. Dearden¹; ¹*Brigham Young University, Provo, UT*; ²*Brigham Young Univ., Provo, UT*
- PEPTIDES: FRAGMENTATION MECHANISMS, 756 - 772**
- TP 756 **Evidence of Sequence Scrambling in [b_x-H]⁺ Ions**; Junfang Zhao; K W Michael Siu; Alan C Hopkinson; *York University, Toronto, Canada*
- TP 757 **Hydrogen Atom Transfer In Radical-Cation Complexes**; Benjamin Bythell¹; Yuan Mao^{1,2}; Bela Paizs³; Chris Hendrickson^{1,2}; Alan G. Marshall^{1,2}; ¹*National High Magnetic Field Laboratory, Tallahassee, FL*; ²*Florida State University, Tallahassee, FL*; ³*DKFZ, Heidelberg, Germany*
- TP 758 **Arginine-Facilitated Isomerization: Radical-Induced Dissociation of Aliphatic Radical Cationic Glycylarginyl(Iso)leucine**; Dominic C.M. Ng¹; Qiang Hao²; Tao Song¹; Quan Quan¹; Chi K. Siu²; Ivan K. Chu^{*1}; ¹*The University of Hong Kong, Hong Kong, China*; ²*City University of Hong Kong, Hong Kong, China*



- TP 759 **Fragmentation of Peptides via Hypervalent Radical in Matrix-Assisted Laser Desorption/Ionization In-Source Decay Mass Spectrometry**; Daiki Asakawa; Nicolas Smargiasso; Edwin De Pauw; *Liege University, Liege, Belgium*
- TP 760 **Experimental and Computational Studies on the C_α-C_γ Bond Cleavage of Tryptophan in the Dissociation of Peptide Radical Cations**; Tao Song¹; Qiang Hao^{1,2}; Chi-Kit Siu²; Julia Laskin³; Ivan K. Chu¹; ¹*The University of Hong Kong, Hong Kong, China*; ²*City University of Hong Kong, Hong Kong, China*; ³*Pacific NW National Laboratory, Richland, WA*
- TP 761 **Gas-Phase Structure and Unimolecular Dissociation of Cysteine Sulfinyl Radical Ions**; Chasity Love; Joseph Francisco; Yu Xia; *Purdue University, Lafayette, IN*
- TP 762 **Mechanistic Examinations on Isomerizations and Dissociations of Phosphorylated Glycylserinyltryptophan (GpSW) Radical Cations**; Quan Quan¹; Ricky, P.W. Kong¹; Tao Song¹; Qiang Hao²; Cheuk-Kuen Lai¹; Chi-Kit Siu²; Ivan K. Chu¹; ¹*The University of Hong Kong, Hong Kong* ²*City University of Hong Kong, Hong Kong*
- TP 763 **Distinguishing Peptide Disulfide Bond Regio-isomers Using Tandem Mass Spectrometry (MSn)**; Kirt Durand; Yu Xia; *Purdue University, West Lafayette, IN*
- TP 764 **The b-ions are the Cool Losers**; Daniel M. Waldera-Lupa¹; Anja Stefanski¹; Helmut E. Meyer²; Kai Stühler¹; ¹*Molecular Proteomics Laboratory, HHU, Düsseldorf, Germany*; ²*Medical Proteom-Center, RUB, Bochum, Germany*
- TP 765 **Ion Mobility and Hydrogen-deuterium Exchange Studies of the Influence of Hydroxyproline Homologues on b₂ Ion Structures**; Matthew Bernier¹; Ashley Gucinski²; Vicki H. Wysocki¹; ¹*University of Arizona, Tucson, AZ*; ²*U.S. FDA, Saint Louis, MO*
- TP 766 **The Role of Lysine ε-Amine Group on the Macrocyclization of b Ions**; Ahmet Emin Atik; Melike Dinc; Talat Yalcin; *IYTE, Urla-Izmir, TURKEY*
- TP 767 **Involvement of Peptide Size, Residue Position, Neighbor Amino Acid, and Side Chain on Macrocyclization of b ions**; Cagdas Tasoglu; Melda Zeynep Guray; Talat Yalcin; *IYTE, Izmir, Turkey*
- TP 768 **Fragmentation of Singly-Protonated, Arginine-Containing, Peptides with a Second Basic Residue: Sequences that Promote Low Energy [b+H₂O] Production**; Elizabeth A. Stemmler; Sarah Luppino; *Bowdoin College, Brunswick, ME*
- TP 769 **Ab initio DFT Study on the Fragmentation Mechanism of Proton Adducts of Phosphorylated Tetrapeptide in Collision-Induced Dissociations**; Takae Takeuchi¹; Erika Sugawara¹; Yuka Kurosaki¹; Tomoko Kimura¹; Shigeki Kajihara²; Hiroko Morinaga²; Shinichi Iwamoto²; Koichi Tanaka²; ¹*Nara Women's University, Nara, Japan*; ²*Shimadzu Corporation, Kyoto, Japan*
- TP 770 **Protonated a₃ Ions; Side-Chain Directed Unusual Peptide Fragments from Triply Charged Lanthanum-Peptide Complexes**; Irine Saminathan; Udo Verkerk; K.W. Michael Siu; Alan Hopkinson; *CRMS, Chemistry, York University, Toronto, Canada*
- TP 771 **ETcaD of Metallated Model Peptides: Easily Interpreted Spectra with Complete Sequence Coverage**; Heather M. Watson; Juliette Commodore; Carolyn J. Cassidy; *University of Alabama, Tuscaloosa, AL*
- TP 772 **Characteristic Peptoid Fragmentations under CID and IRMPD Conditions in Relation to the Conformations of Charged Peptoids**; Bogdan Bogdanov¹; Xiaoning Zhao¹; Yuan Tian¹; Michael Connolly²; Ronald Zuckermann²; Jianhua Ren¹; ¹*University of the Pacific, Stockton, CA*; ²*Lawrence Berkeley National Laboratory, Berkeley, CA*





WEDNESDAY POSTERS

7:30-8:00 am Set up all Wednesday posters
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 12:00-2:30 pm Even-numbered posters present
 7:30-8:00 pm Remove all Wednesday posters

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BIOMARKERS: QUANTITATIVE ANALYSIS, MRM/SRM, 001 - 034

- WP 001 **Quantitation of Cardiac Troponin in Human Plasma by MRM based LC/MS/MS;** Cheng Zhao¹; Helen Xie; Jeffrey Fishpaugh; Carol Ramsay; *Abbott Laboratories, Abbott Park, IL*
- WP 002 **MRM-based Multiplexed Quantitation of 67 Putative Cardiovascular Disease Biomarkers in Human Plasma;** Dominik Domanski¹; Andrew J Percy¹; Juncong Yang¹; Andrew G Chambers¹; John S Hill²; Gabriela V Cohen-Freue²; Christoph H Borchers¹; ¹*UVic-GBC Proteomics Centre, Victoria, BC*; ²*PROOF Centre of Excellence, Vancouver, Canada*
- WP 003 **Determining Compound Fold Change from LC-MS Experiments.;** Gordana Ivosev¹; Nicolas Bisson⁴; Andrew James³; Stephen A Tate¹; Ron Bonner¹; Lorne Taylor²; Tony Pawson²; ¹*AB Sciex, Concord, Canada*; ²*Samuel Lunenfeld Research Institute, Toronto, CA*; ³*Sanofi-Pastuer, Toronto, CA*; ⁴*Laval University Cancer Research Centre, CHUQ Rese, Québec, CA*
- WP 004 **SRM Quantitation of Low ng/ml Levels of Calcyclin – a Candidate Pre-Eclampsia Marker - in Serum;** Coskun Guzel¹; Amy Bartlett²; Johannes Pc Vissers²; Steegers Eric¹; Theo Marten Luijck¹; Lennard Dekker¹; ¹*Erasmus Medical Center, Rotterdam, Netherlands*; ²*Waters Corporation, Manchester, UK*
- WP 005 **Traceable Standards for use with Multi-Parametric Proteomics Based Platforms;** David Bell¹; Milena Quaglia; Gavin O'Connor; Peter Faulk; *LGC, Middlesex, UK*
- WP 006 **LC/SRM Has Come of Age to Quantitate Proteins: Amyloid β isoforms Measured in Human Cerebrospinal Fluid and Compared to ELISA;** Kwasi Mawuenyega¹; Tom Kasten; Vitaliy Ovod; Kelly Moor; Ling Munsell; Rose Connors; Wendy Sigurdson; Randall Bateman; *Washington University School of Medicine, Saint Louis, MO*
- WP 007 **Peptide-Based Immuno-SRM-MS Quantification of ER and HER2 in Breast Cancer Cell Lines, Fresh Frozen Tissues, and FFPE Tissues;** Regine M. Schoenherr¹; Jeffrey R. Whiteaker; Richard G. Ivey; Lei Zhao; Mary Trute; Jacob Kennedy; Uliana Voytovich; Ping Yan; Chenwei Lin; Amanda G. Paulovich; *Fred Hutchinson Cancer Research Center, Seattle, WA*

- WP 008 **Achieving Higher Sensitivity for LC-SRM MS Quantification of Low Abundance Biomarkers using Advanced ESI Source and Interface Technologies;** Yuqian Gao; Tujin Shi; Ioan Marginean; Weijun Qian; Richard D. Smith; Keqi Tang¹; *Pacific NW National Laboratory, Richland, WA*
- WP 009 **Mass Spectrometry based Quantitative Proteomics to Investigate Plasma Proteome Alterations Associated with Pancreatic Cancer;** Sheng Pan¹; Ru Chen¹; David A Crispin¹; Yasuko Tamura¹; Damon May²; Martin W McIntosh²; Phillip R. Gafken²; David R Goodlett¹; Teresa A. Brentnall¹; ¹*University of Washington, Seattle, WA*; ²*Fred Hutchinson Cancer Research Center, Seattle, WA*
- WP 010 **Quality Control Measures for Routine, High-Throughput Targeted Protein Quantitation using Tandem Capillary Column Separation;** Scott Peterman¹; Sebastien Gallien³; Elodie Duriez³; Amol Prakash²; Andreas Huhmer¹; Evert-Jan Sneekes¹; Remco Swart²; Bruno Domon³; ¹*Thermo Fisher Scientific, Grimes, IA*; ²*ThermoFisher Scientific, Cambridge, MA*; ³*Luxembourg Clinical Proteomics Center, Strassen, Luxembourg*
- WP 011 **Development and Clinical Validation of Alpha-Synuclein Peptides as Parkinson's Disease Diagnostic Biomarkers;** Christine A. Jelinek¹; Liana Rosenthal¹; Yan Jia¹; Kevin W. Meyer²; Ted Dawson¹; Robert J. Cotter¹; ¹*Johns Hopkins School of Medicine, Baltimore, MD*; ²*Perfinity Biosciences, West Lafayette, IN*
- WP 012 **Spatial-Temporal Analysis of Protein Signaling Networks by Scheduled MRM;** Yong Zheng¹; Cunjie Zhang¹; Mohamed Soliman¹; Rick Bagshaw¹; Adrian Pasulescu¹; Lorne Taylor¹; Stephen Tate²; Yue Dai¹; Tony Pawson¹; ¹*Samuel Lunenfeld Research Institute, Toronto, Canada*; ²*AB SCIEX, Toronto, ON*
- WP 013 **Quantitative Targeted Proteomics with a Protein Internalstandard for Analysis of HDL as Carrier of Biomarkers of Cardiovascular Disease.;** Tomas Vaisar¹; Jake Wimberger¹; Jessica Becker¹; Xue Qiao Zhao¹; Moni B. Neradilek²; Andrew Hoofnagle³; Jay W. Heinecke¹; ¹*University of Washington, Seattle, WA*; ²*The Mountain-Whisper-Light Statistical Consulting, Seattle, WA*; ³*Univ of Wash Med Center, Seattle, WA*



- WP 014 **Targeted Proteomic Strategy to Evaluate Bladder Cancer Biomarkers in Urine Samples;** Elodie Duriez¹; Sebastien Gallien¹; Kevin Demeure¹; Markus Fischer²; François Radvanyi³; Magali Court⁵; Yves Allory⁴; Jerome Garin⁵; Bruno Domon¹; ¹Luxembourg clinical proteomics center, Strassen, Luxembourg; ²Entelechon, Regensburg, Germany; ³Équipe Oncologie Moléculaire, Institut Curie, Paris, France; ⁴Equipe de Pathologie, Hôpital H. Mondor, Créteil, France; ⁵DSVLEdY, CEA, Grenoble, France
- WP 015 **Proteome Analysis of Human Wound Fluids; MudPIT-FTMS and MudPIT-SRM as Strategies of Choice for Reliable Biomarker Identification and Validation;** Christoph Krisp^{1,2}; Matthew McKay^{2,3}; Dirk Wolters¹; Mark Molloy^{2,3}; ¹Ruhr University Bochum, Dept Analytical Chemistry, Bochum, Germany; ²Macquarie University, Dept Chemistry & Biomol Sci, Sydney, Australia; ³APAF, Sydney, Australia
- WP 016 **Development of a Multiplexed MRM Assay for the Detection and Quantification of Organ Toxicity Biomarkers during Preclinical Drug Safety Assessment;** Marlene Gharib^{1,2}; Joanna Hunter²; Daniel Chelsky²; Laura McIntosh²; ¹Université de Montréal, Montréal, Canada; ²Caprion, Montréal, Canada
- WP 017 **An LC-MS/MS-Based Method for Quantification of Aβ1-38, Aβ1-40 and Aβ1-42 in CSF of AD Patients and Healthy Controls;** Josef Pannee¹; Erik Portelius¹; Madalina Oppermann²; Alan Atkins²; Henrik Zetterberg¹; Ann Brinkmalm¹; Mary F Lopez³; Lennart Minthon⁴; Oskar Hansson⁴; Kaj Blennow¹; Johan Gobom¹; ¹The Sahlgrenska Academy, University of Gothenburg, Mölndal, Sweden; ²Thermo Scientific, Hemel Hempstead, UK; ³BRIMS, Thermo Fisher Scientific, Cambridge, MA; ⁴Skåne University Hospital, Lund University, Lund, Sweden
- WP 018 **Development of an MRM Assay to Quantitate 60 HDL Attached Proteins in Type 2 Diabetes;** Angela Jackson¹; Hussein Yassine²; Juncong Yang¹; Christina Schall²; Arash Sabesitoofyani²; Craig S. Stump^{2,4}; Derek Smith¹; Peter Reaven⁵; Serrine Lau³; Christoph Borchers¹; ¹UVic Genome BC Proteomics Centre, Victoria, BC; ²Department of Medicine, University of Arizona, Tucson, AZ; ³SW Environmental Health Sciences Centre, AZU, Tucson, AZ; ⁴Southern Arizona VA Health Care Systems, Tucson, AZ; ⁵Phoenix VA Health Care System, Phoenix, AZ
- WP 019 **Distinguishing Protein Isoforms and Proteolytic Processing Events during Validation of Ovarian Cancer Biomarkers using Label-Free Multiple Reaction Monitoring;** Hsin-Yao Tang; Lynn A. Beer; Tony Chang-Wong; David W. Speicher; *The Wistar Institute, Philadelphia, PA*
- WP 020 **Analysis of Amyloid beta Peptides: 1-38, 1-40 and 1-42 in Human CSF using UPLC 2D-Liquid Chromatography-Tandem Mass Spectrometry;** Magdalena Korecka; Teresa Waligorska; John Trojanowski; Leslie Shaw; *University of Pennsylvania, Philadelphia, PA*
- WP 021 **Peptide Derivatization for Ultrathroughput Multiple Reaction Monitoring Mass Spectrometry in Protein Biomarker Validation;** Mary Joan Castillo; Adam McShane; Pamela Ann Diego; Xudong Yao; *University of Connecticut, Storrs, CT*
- WP 022 **Quantitative Measurement of CD4 Receptor Density on Human T Cells using Multiple Reaction Monitoring Mass Spectrometry;** Meiyao Wang^{1,2}; Huajun He¹; Illarion Turko^{1,2}; Lili Wang¹; ¹National Institute of Standards and Technology, Gaithersburg, MD; ²Institute of Bioscience and Biotechnology Research, Rockville, MD
- WP 023 **Protein Biomarker Profiles Discriminate between Sensitizing and Irritating Chemicals in Cell-Based Assays;** Petra Budde²; Stefan Selzer²; Sasa Koncarevic²; Karsten Kuhn²; Hans-Dieter Zucht²; Emma Schofield¹; Malcolm Ward¹; Ian Pike¹; Henrik Johansson³; Malin Lindstedt³; Carl AK Borrebaeck³; Erwin Roggen⁴; ¹Proteome Sciences plc, London, UK; ²Proteome Sciences R&D GmbH & Co. KG, Frankfurt, Germany; ³Lund University, Lund, Sweden; ⁴3Rs Management and Consultancy, Lyngby, Denmark
- WP 024 **Serum Biomarkers Discovery to Predict the Response of Antidepressants using Proteomic Approach;** Ji-Sook Park¹; Hye-In Woo¹; Jeong-Soo Yang¹; Shinn-Won Lim¹; Doh-Kwan Kim^{1,2}; Soo-Youn Lee^{1,2}; ¹Samsung medical center, Seoul, Korea; ²SungKyunKwan University, Seoul, Korea
- WP 025 **Development of a Multiplexed Quantitative Scheduled MRM assay for Alzheimer's Disease Biomarkers in CSF;** Kristin Wildsmith; David Arnott; Surinder Kaur; W. Rodney Mathews; Lee Honigberg; *Genentech, South San Francisco, CA*
- WP 026 **Total Apolipoprotein E and Apolipoprotein E4 Isoform Assay (n=672) by Targeted Mass Spectrometry: a Pilot Assay for Methionine-Containing Proteotypic Peptide;** Romain Simon¹; Marion Girod¹; Catherine Fonbonne¹; Yohann Clément¹; Pierre Lantéri¹; Arnaud Salvador¹; Philippe Amouyel^{2,3}; Jean-Charles Lambert^{2,3}; Jérôme Lemoine¹; ¹ISA, UMR 5280 CNRS, Université de Lyon, Villeurbanne Cedex, France; ²INSERM U744; Institut Pasteur de Lille, Lille, France; ³University of Lille Nord de France, USDL, Lille, France
- WP 027 **Simultaneous Quantitation Method for Incretin and Related Peptides by LC-MS/MS Equipped with Ion Mobility System;** Yasuko Tsukazaki¹; Shin-Ichiro Nitta¹; Naoto Senda¹; Hidenori Kamiguchi²; Yoshinori Satomi²; Tomoaki Sasaki³; Shigeru Yamada³; Tsutomu Nakai⁴; Kunihiko Kohriyama⁴; Kinya Kubo⁵; Yasuhiro Kazuki⁶; Mitsuo Oshimura⁶; ¹Mitsubishi Chemical Medience co., Tsukuba, Japan; ²Takeda, Kanagawa, Japan; ³AB SCIEX Japan, Shinagawa-Ku, Japan; ⁴Shimadzu Corporation, Tokyo, Japan; ⁵Chromosome Engineering Research Center, Yanago, Japan
- WP 028 **Optimization Approaches for Quantitative Immuno-Affinity Enrichment LC-MS/MS Assays: Mouse Chemokine Ligand Biomarker Case Study;** Elisabeth Lonie¹; Hendrik Neubert²; Dawn R. Duffield²; ¹Pfizer, Andover, MA; ²Pfizer Corporation, Andover, MA
- WP 029 **Intra- and Inter-Laboratory Performance of Multiplex Immuno-MRM Assays in a Human Plasma Biomarker Verification Setting;** Jeffrey Whiteaker¹; Eric Kuhn²; Lei Zhao¹; Matthew Pope³; Angela Jackson⁴; Steven J Skates⁵; Leigh Anderson⁶; Terry Pearson³; Steven A. Carr²; Amanda Paulovich¹; ¹Fred Hutchinson Cancer Research Center, Seattle, WA; ²Broad Institute, Cambridge, MA; ³University of Victoria, Victoria, BC; ⁴UVic Genome BC Proteomic centre, Victoria, BC; ⁵Massachusetts General Hospital, Boston, MA; ⁶Plasma Proteome Institute, Washington, DC
- WP 030 **SISCAPA Quantitation of Peptides from Human Plasma Digests using an Ultra-Fast, HPLC-Free MS Platform;** Morteza Razavi¹; Lauren E. Frick^{2,3}; William A. LaMarr^{2,3}; Christine A. Miller^{2,3}; N. Leigh Anderson^{4,5}; Terry W. Pearson^{1,5}; ¹University of Victoria, Victoria, Canada; ²Agilent Technologies, Wakefield, MA; ³Agilent Technologies, Santa Clara, CA; ⁴Plasma Proteome Institute, Rockville, MD; ⁵SISCAPA Assay Technologies, Washington DC



- WP 031 **A Multi Peptide Analysis Method for Lowered Immunity Screening;** Min-Jung Kang¹; Oh-Seung Kwon¹; Hyun Ok Kim²; Byung Hwa Jung¹; ¹KIST, Seoul, South Korea; ²Yonsei University College of Medicine, Seoul, South Korea
- WP 032 **Global Profiling and Quantification of Histones, Histone PTM's and Histone-Modifying Enzymes in Mesenchymal Stem Cells using a Multiplexed SRM Assay;** Bryan Krastins¹; Alejandra Garces¹; Victoria V Lunyak²; Benjamin Blackwell²; David Sarracino¹; Amol Prakash¹; Shadab Ahmad¹; Maryann S Vogelsang¹; Mary F Lopez¹; ¹BRIMS, Thermo Fisher Scientific, Cambridge, MA; ²Buck Institute for Research on Aging, Novato, CA
- WP 033 **Quantitative Proteomics Reveals Biomarker Candidates in Plasma Samples of a Mouse Model for Type 2 Diabetes;** Christine Von Toerne¹; Melanie Kahle²; Alexander Schäfer¹; Martin Hrabec de Angelis²; Susanne Neschen²; Marius Ueffing^{1,3}; Stefanie M. Hauck¹; ¹Helmholtz Center Munich, PROT, Munich/ Neuherberg, Germany; ²Helmholtz Center Munich, IEG, Munich/ Neuherberg, Germany; ³Centre of Ophthalmology, University Medical Centre, Tübingen, Germany
- WP 034 **Innovative Biomarker assay for the Quantitation of D3 Creatinine and Creatinine using LC-MS/MS;** Michael Leonard; William Evans; GlaxoSmithKline, Research Triangle Park, NC
- BIOMARKERS: DISCOVERY II, 035 - 062**
- WP 035 **Biological Clocks: High Throughput Identification of Deterioration Markers and Dating of Museums' Proteinaceous Specimens;** Mehdi Moini; Jessica Karr; Smithsonian Institution, Suitland, MD
- WP 036 **Optimized Protocol to Facilitate Reproducible Identification and Quantification of Endogenous Peptides in Tissue Samples;** Beatrice Orback¹; Henrik Alm²; Kim Kultima³; Mats Borén¹; Birger Scholz²; Marcus Söderquist¹; Karl Sköld¹; ¹Denator, Gothenburg, Sweden; ²Dep of Pharmaceutical Biosciences, Uppsala Univ, Uppsala, Sweden; ³Dep of Medical Sciences Uppsala Uni, Uppsala, Sweden
- WP 037 **Irradiation-Responsive Proteins Discovered in Plasma via a Quantitative Label-Free Shotgun Proteomics LC-MS/MS Approach;** Thomas A. Shaler¹; Hua Lin¹; Sophia Chen¹; Travis Harrison¹; Annalisa D'Andrea¹; Susan J. Knox²; Robert Balog¹; Polly Y. Chang¹; David E. Cooper¹; ¹SRI International, Menlo Park, CA; ²Stanford University, Stanford, CA
- WP 038 **Identification of Biomarkers for Quality of Blood Plasma Sample using Targeted Proteomics and Metabolomics;** Kwang Youl Kim¹; Sang Yun Cho²; Sung-Hyuk Park³; Young-Joo Seo¹; Yong-Hyun Song¹; Hyun-Ju Park¹; Hye-Ryun Kim²; Ji-Young Yun⁴; Do-Sim Park⁴; Jae-Pil Jeon²; BogKee Han²; MoonSuk Nam¹; ¹Inha university Hospital clinical trial center, In-Cheon, South Korea; ²National Biobank of Korea, KNIH, Osong, South Korea; ³College of Pharmacy, Seoul National University, Seoul, South Korea; ⁴College of Medicine, Wonkwang University, Iksan, South Korea
- WP 039 **Investigation of N- Formylkynurenine containing Proteins in Brain Tissue and Cerebrospinal Fluid (CSF) from HIV-Infected Individuals;** Lerna Uzasci¹; Ned Sacktor²; Justin McArthur³; Avindra Nath⁴; Robert Cotter¹; ¹Johns Hopkins University School of Medicine, Baltimore, MD; ²Johns Hopkins Bayview Medical Center, Baltimore, MD; ³Johns Hopkins Hospital, Baltimore, MD; ⁴National Institute of Health, Bethesda, MD
- WP 040 **Modulation of SUMO Proteins by 17 β -estradiol in the Mitochondria of Breast Cancer;** Nicolas A. Stewart¹; Mai Sun²; Melanie S. Flint³; ¹University of Pittsburgh, Pittsburgh, PA; ²University of Pittsburgh Cancer Institute, Pittsburgh, PA; ³Women's Cancer Research Center, Pittsburgh, PA
- WP 041 **Identification and Functional Characterization of Lung Metastasis Proteins by Secretome Analysis;** Maša Alečković; Gary LeRoy; Benjamin Garcia; Yibin Kang; Princeton University, Princeton, NJ
- WP 042 **Exosomal Proteins from Benign and Prostate Cancer Proximal Fluids as Potential Biomarkers;** E. Ellen Jones¹; Stephen Roper¹; Julius Nyalwidhe²; Raymond Lance²; Oliver John Semmes²; Richard R Drake¹; ¹Medical University of South Carolina, Charleston, SC; ²Eastern Virginia Medical School, Norfolk, VA
- WP 043 **The Affintiy - Mass Spectrometry-based Umbilical Cord Blood Proteome Signature Differentiates IUGR from Inconspicuous Neonates;** Manja Wölter¹; Cornelia Koy¹; Claudia Röwer¹; Toralf Reimer²; Werner Rath³; Ulrich Pecks³; Michael O. Glocker¹; ¹Proteome Center Rostock, Rostock, Germany; ²Department of Obstetrics and Gynecology, Rostock, Rostock, Germany; ³Department of Obstetrics and Gynecology, Aachen, Aachen, Germany
- WP 044 **Cell Surface Proteomics-Driven Identification of Pancreatic Ductal Adenocarcinoma Subtypes;** Laura Postolache¹; Christian Eisen^{1,2}; Martin Sprick^{1,2}; Andreas Trumpp^{1,2}; Christoph Roesli^{1,2}; ¹German Cancer Research Center, Heidelberg, Germany; ²HI-STEM, Heidelberg, Germany
- WP 045 **Proteomic Biomarker Analysis of Acetaminophen-induced Hepatotoxicity in Rats;** Yuan Gao; Xi Yang; William Salminen; Li-Rong Yu; National Center for Toxicological Research, FDA, Jefferson, AR
- WP 046 **An iTRAQ method to Assess Variability and Proteome Changes in Large Patient Cohorts: Application to Niemann-Pick Disease, Type C1;** Stephanie M. Cologna¹; Peter S. Backlund¹; Brian C. Searle²; Christopher A. Wassif¹; Peter B. Harrington³; Alfred L. Yergey¹; Forbes D. Porter¹; ¹National Institutes of Health, Bethesda, MD; ²Proteome Software Inc., Portland, OR; ³Ohio University, Athens, OH
- WP 047 **The Temporal Regulation of MAPKK1 and Calpain-1 Induces Cell Death in Ebenfuran III Administered DU-145 Prostate Cancer Cells;** Theodoros Roumeliotis²; Antigoni Manousopoulou-Garbis¹; Spiros D. Garbis¹; ¹University of Southampton, Southampton, UK; ²Academy of Athens - Biomedical Research, Athens, Greece
- WP 048 **Guiding Oral Cancer Salivary Biomarker Discovery via Direct Proteomic Analysis of Oral Lesion Exudates;** Joel Kooren¹; Susan K. Van Riper¹; Pratik Jagtap²; John Carlis¹; Jill Goslinga¹; Patricia Fernandez¹; Tim Griffin¹; Nelson Rhodus¹; ¹University of Minnesota, Minneapolis, MN; ²Minnesota Supercomputing Institute, UMN, Minneapolis, MN
- WP 049 **Chemical Proteomic Identification of Targets for Antibody-Drug Conjugate Based Therapy in Acute Myeloid Leukemia;** Verena Strassberger¹; Tim Fugmann²; Dario Neri^{1,2}; ¹ETH Zurich, IPW, Zurich, Switzerland; ²Philochem AG, Zurich, Switzerland
- WP 050 **Detection of Pancreatic Cancer using MALDI-FTICR-MS Precision Profiles of Human Serum Peptides;** Simone Nicolardi; Berit Velstra; Bert A. Bosing; Bart J. Mertens; Wilma E. Mesker; Rob A.E.M. Tollenaar; Yuri E.M. van der Burgt; André M. Deelder; Leiden University Medical Center, Leiden, Netherlands



- WP 051 **Exploring the Dynamic Range of Label-Free Mass Spectrometric Quantification in Complex Samples;** Stephanie Kaspar¹; Wolfgang Jabs¹; Matthew Willetts²; Carsten Baessmann¹; ¹*Bruker Daltonik GmbH, 28359 Bremen, Germany*; ²*Bruker Daltonics Inc., Billerica, MA*
- WP 052 **Discovery of Active Serum Autoantibodies using Antibody Pull-Down and Mass Spectrometry;** David M. Lubman¹; Yashu Liu²; Jintang He¹; Michael Sabel¹; ¹*University of Michigan, Ann Arbor, MI*; ²*SRI International, Harrisonburg, VA*
- WP 053 **Protein Identification in Biomarker Discovery Studies Based on Profiling of Intact Proteins: Why the Challenge? Lesson Gained from Breast Cancer Tissues;** Pavel Bouchal^{1,2}; Monika Dvorakova^{1,2}; Spiros D. Garbis³; Alexander Scherl⁴; Rudolf Nenutil²; Borivoj Vojtesek²; ¹*Masaryk University, Brno, Czech Republic*; ²*Masaryk Memorial Cancer Institute, Brno, Czech Republic*; ³*University of Southampton, Southampton, UK*; ⁴*University of Geneva, Geneva, Switzerland*
- WP 054 **Instrument-Independent Spectral Library for MS/MS Typing of Biological Agents;** Jane Razumovskaya; Sergey Kurnosenko; Appavu Sundaram; Vladimir M. Doroshenko; *MassTech, Inc., Columbia, MD*
- WP 055 **Characterisation of tau and Phospho-tau Populations within Cerebrospinal Fluid - the Relevance to Alzheimer's Disease Biomarker Development;** Claire Russell; Emma Schofield; Thorsten Prinz; Christopher Löfner; Malcolm Ward; *Proteome Sciences plc, London, UK*
- WP 056 **Responses of the 14-3-3-Binding Phosphoproteome to Insulin/IGF1 and Small Molecule Inhibitors of PI 3-Kinase, mTORC1, and mTORC2;** Silvia Synowsky; Michele Tinti; Carol MacKintosh; *Dundee University, Dundee, UK*
- WP 057 **Profiling of Differentially Expressed Proteins in Diffuse Large B-Cell Lymphomas by Super-SILAC Labeling and Mass Spectrometry;** Martin Stenson¹; Per-Ola Andersson¹; Ulrika Ruetschi²; ¹*Section of Hematology and Coagulation, Gothenburg, Sweden*; ²*Department of Clinical Chemistry, Gothenburg, Sweden*
- WP 058 **Rapid Heat Inactivation of Phosphatases and Kinases is Essential for Reliable Measurement of Phosphorylation States without Interference from Post-Mortem Events;** Katarina Alenas¹; Kim Kultima²; Mats Borén¹; Marcus Söderquist¹; Karl Sköld¹; ¹*Denator AB, Gothenburg, Sweden*; ²*Dept. of Medical Sciences Uppsala Univ, Uppsala, Sweden*
- WP 059 **Non-Invasive Analysis to Evaluate Skin Conditions: Screening of Chemical Modifications in Human Skin Keratins by Mass Spectrometry;** Seon Hwa Lee; Kohei Miyamoto; Takaaki Goto; Tomoyuki Oe; *Tohoku University, Sendai, Japan*
- WP 060 **Proteomics Profiling of Human Glioblastoma U87-MG, LN2308, SNB19 and LN18 Cell Lines;** Vadhiraja B. Bhat^{1,2}; Christine Miller^{1,2}; Vaibhav Chumbalkar³; Michael Gormley⁴; ¹*Agilent Technologies, Wilmington, DE*; ²*Agilent Technologies, Santa Clara, CA*; ³*UT MD Anderson Cancer Center, Houston, TX*; ⁴*Thomas Jefferson University, Philadelphia, PA*
- WP 061 **Comparison of a Protein-Level and Peptide-Level Labeling Strategy for Quantitative Proteomics of Serum Glycoproteins Using Isobaric Tags;** Song Nie; Andy Io; Jianhui Zhu; Jintang He; Jing Wu; David M. Lubman; *Department of Surgery, University of Michigan, Ann Arbor, MI*
- WP 062 **Differential Analysis of Proteins from Caveolin-Rich Lipid Rafts in Primary and Metastatic Colorectal Cancer Clones;** Shirley Arielly²; Matty Ariel¹; Rivka Yehuda¹; Michaela Scigelova²; Galit Yehezkel¹; Isam Khalaila¹; ¹*Ben Gurion University, Beer Sheva, Israel*; ²*Thermo Fisher Scientific, Bremen, Germany*
- SYSTEMS BIOLOGY I, 063 - 085**
- WP 063 **Integrated Transcriptomic and Proteomic Analyses of Radiation Responses in a Reconstituted Human Skin Tissue;** David Stenoien; Shawna Hengel; Brian Linggi; Meng Markillie; Joshua Aldrich; Gayla Orr; Ljiljana Pasatolic; *Pacific Northwest National Laboratory, Richland, WA*
- WP 064 **iTRAQ and 2D-LC/MS/MS Analysis of Host Proteomic Response during *in vitro* Ebola Virus Infection;** Philippe Simon^{1,2}; Charlene Ranadheera^{1,2}; Alex Silaghi^{1,2}; Anders Leung²; Stuart McCorrister³; Garrett R Westmacott³; Darwyn Kobasa^{1,2}; ¹*Medical Microbiology dept - University of Manitoba, Winnipeg, Canada*; ²*Special Pathogens, Public Health Agency of Canada, Winnipeg, MB*; ³*Mass-Spec Proteomics - Public Health Agency Canada, Winnipeg, MB*
- WP 065 **Dynamics of Protein Phosphatase PP1 Interactions Across the Cell Cycle;** Brett Larsen¹; Nicole St-Denis¹; Zhen-Yuan Lin¹; Stephen A Tate²; Ron Bonner²; Anne-Claude Gingras¹; ¹*Samuel Lunenfeld Research Institute, Mount Sinai H, Toronto, ON*; ²*AB SCIEX, Concord, ON*
- WP 066 **Metaproteomics Reveals Time-Dependent Functional Shifts in Human and Microbial Proteins in the Premature Infant Gut Microbiome;** Robert Hettich¹; Jacque Young¹; Brandon Brooks²; Nathan C. Verberkmoes¹; Chongle Pan¹; Ryan Mueller²; Brian Thomas²; Jillian Banfield²; Michael Morowitz³; ¹*Oak Ridge National Laboratory, Oak Ridge, TN*; ²*University of California-Berkeley, Berkeley, CA*; ³*University of Pittsburgh, Pittsburgh, PA*
- WP 067 **Combined Proteomic and Genomic Analysis of Global Protein Turnover;** Josh Elias; Izumi Hinkson; *Stanford University, Stanford, CA*
- WP 068 **Proteomic Analysis of the Mitochondrial Signaling Response to Cardiac Ischemia;** John Sanders; Josh Elias; *Stanford University, Stanford, CA*
- WP 069 **Dynamic Changes in Protein Abundance and Phosphorylation in Yeast in Response to Environmental Stress;** William Edelman; Danielle Swaney; Judit Villen; *University of Washington, Seattle, WA*
- WP 070 **A Self-Sustaining Feedback Loop that Regulates Proteome Diversity and Supports Self-renewal in Pluripotent Stem Cells;** Yu Lu^{1,2}; C. John Luckey³; Jarrod A. Marto^{1,2}; ¹*Harvard Medical School, Boston, MA*; ²*Dana-Farber Cancer Institute, Boston, MA*; ³*Brigham and Women's Hospital, Boston, MA*
- WP 071 **Quantitative Proteomics in Combination with Immunomics Reveals Morphine-Produced Immunosuppressive Effects at the Protein and Cellular Levels in Non-human Primates;** Joseph Brown¹; Gabriel Ortiz²; Thomas Angel¹; Jon Jacobs¹; Marina Gritsenko¹; Eric Chan³; Anil K Shukla¹; Joseph McCune²; Therese Clauss¹; Richard D. Smith¹; ¹*PNNL, Richland, WA*; ²*UCSF, San Francisco, CA*; ³*UW, Seattle, WA*
- WP 072 **Quantitative Mitochondrial Phosphoproteomics provides Mechanistic Insight into the Regulation of Ketogenesis in Type 2 Diabetes;** Joshua J. Carson; Paul A. Grimsrud; Shane L. Hubler; Alex Hebert; Michael S. Westphall; Mark P. Keller; Brian S. Yandell; Alan D. Attie; David J. Pagliarini; Joshua J. Coon; *University of Wisconsin-Madison, Madison, WI*



WP 073 **Large Scale Analysis of RNA and Protein Expression Variation through the Cell Cycle;** Tony Ly¹; Adam Shlien²; Yasmeen Ahmad¹; Michael Stratton²; Angus Lamond¹; ¹Wellcome Trust Centre for Gene Regulation and Expr, Dundee, UK; ²Wellcome Trust Sanger Institute, Cambridge, UK

WP 074 **Global Proteome, Phosphoproteome and Acetylome Dynamics in the Cell Cycle of Fission Yeast;** Alejandro Carpy Gutierrez Cirlos¹; Karsten Krug¹; Sabine Graf²; André Koch²; Silke Hauf²; Boris Macek¹; ¹Proteome Center Tuebingen, University of Tuebingen, Tübingen, Germany; ²Friedrich Miescher Laboratory, Max Planck Society, Tuebingen, Germany

WP 075 **Towards a Combinatorial Analysis of Post-Translational Modifications in the NF- κ B System;** Francesco Lanucara; Connie Lam; Michael White; Claire Eysers; University of Manchester, Manchester, UK

WP 076 **Combining Multiple Quantitative Proteomics Strategies to Identify Targets of the Anaphase Promoting Complex and to Elucidate the Mechanism of Degradation;** Sasha Singh^{1,2}; Dominic Winter^{1,3}; Marc Kirchner¹; Amit Tzur⁵; Marc Kirschner⁴; Hanno Steen¹; Judith Steen¹; ¹Harvard Medical School/Children's Hospital Boston, Boston, MA; ²Brigham and Women's Hospital, Boston, MA; ³IBMB Bonn, Bonn, Germany; ⁴Harvard Medical School, Boston, MA; ⁵Bar Ilan University, Ramat-Gan, Israel

WP 077 **Single-shot, High Resolution and In-Depth Quantification Platform for Mammalian Cell Proteomes Enables Rapid Systems Analysis of ER Stress;** Nagarjuna Nagaraj; Marta Murgia; Annette Michalski; Juergen Cox; Matthias Mann; MaxPlanck Institute for Biochemistry, Munich, Germany

WP 078 **Measuring the Cellular Effects of Ionizing Radiation Exposure and Radioprotector Treatment in Immune Cells using Quantitative Proteomics;** Jonathan Erde; A. Jimmy Ytterberg; Shareef A. Nahas; Yelena Rivina; Robert H. Schiestl; Richard A. Gatti; Joseph A. Loo; University of California-Los Angeles, Los Angeles, CA

WP 079 **Using Selective Reaction Monitoring (SRM) Mass Spectrometry to Unmask Regulatory Feedback Loops Controlling Adipogenesis;** Robert Ahrends; Byung Ouk Park; Kyle Kovary; Ellen Abell; Mary N. F. Teruel; Chemical and Systems Biology, Stanford, CA

WP 080 **Systematic Analysis of Histone Modification Readout using Chromatin Affinity Purification and SILAC MS;** Miroslav Nikolov¹; Florian Wagner²; Alexandra Stuetzer¹; Kerstin Mosch¹; Wolfgang Fischle¹; Henning Urlaub^{1,3}; ¹MPI for Biophysical Chemistry, Goettingen, Germany; ²Technion IIT, Department of Biology, Haifa, Israel; ³University Medical Center, Goettingen, Germany

WP 081 **Onco-ProteoGenomics: Alliance of Proteomics, Next-Generation Sequencing and Comprehensive Database Search for Identification of Onco-Peptides;** Mohamed Helmy^{1,2}; Naoyuki Sugiyama¹; Masaru Tomita¹; Yasushi Ishihama^{1,3}; ¹Institute for Advanced Biosciences, Keio University, Tsuruoka, Japan; ²Grad. Sch. of Media and Governance, Keio University, Kanagawa, Japan; ³Grad. Sch. of Pharmaceutical Sciences, Kyoto Univ., Kyoto, Japan

WP 082 **Extremely Long-Lived Nuclear Pore Proteins in the Rat Brain;** Jeffrey Savas¹; Brandon H. Toyama²; Martin W. Hetzer²; John Yates¹; ¹The Scripps Research Institute, La Jolla, CA; ²Salk Institute for Biological Studies, La Jolla, CA

WP 083 **A Quantitative Proteomic Panorama of Cellular Reprogramming;** Jenny Hansson¹; Sonja Reiland¹; Jose Polo^{2,3}; Konrad Hochedlinger³; Jeroen Krijgsvel¹; ¹EMBL,

Heidelberg, Germany; ²Monash University, Clayton, Australia; ³Harvard Stem Cell Institute, Boston, MA

WP 084 **Joint Analysis and Mapping of Metabolomics and Transcriptomics Changes onto Biological Pathways;** Syed Salman Lateef; Sudha Rajagopalan; Siji Joseph; Nilanjan Guha; Yugandhar Reddy; Agilent Technologies, Bangalore, India

WP 085 **The Search for Novel Combinatorial Therapeutics using Quantitative Pathway Analysis: Elucidating the Mechanism of Cancer Cell Apoptosis upon Arginine Deprivation;** Mohammad Pirmoradian-Najafabadi; Harshavardhan Budamgunta; Ayman Osman; Roman Zubarev; David Good; Karolinska Institutet, Stockholm, Sweden

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WP 087 **Global Investigation of Interleukin-1 β Signaling in Primary β -cells using Quantitative Phosphoproteomics;** Kasper Engholm-Keller¹; Joachim Størling²; Flemming Pociot²; Thomas Mandrup-Poulsen³; Martin R. Larsen¹; ¹University of Southern Denmark, Odense, Denmark; ²Glostrup Hospital, Glostrup, Denmark; ³University of Copenhagen, Copenhagen, Denmark

WP 088 **Phosphoproteomics to Elucidate Cell Signaling Activated by Ischemic Preconditioning in Rat Myocardium;** Kiersten Liddy¹; Melanie White¹; Benjamin Parker²; Nestor Solis³; Jana Paulech³; Brett Hambly²; Stuart Cordwell³; ¹University of Sydney, Sydney, Australia; ²Discipline of Pathology, School of Medical Scienc, Sydney, Australia; ³The University of Sydney, Sydney, Australia

WP 089 **Identification and Quantification of Site-Specific Substrates for Mitotic Kinases using Targeted Mass Spectrometry;** Alessio Maiolica¹; Franz Herzog¹; Fabrizio Villa²; Erwin Schoof³; Umut Toprak¹; Christopher Barnes¹; Rune Linding³; Ruedi Aebersold¹; ¹Institute of Molecular Systems Biology, ETH, Zurich, Switzerland; ²European Institute of Oncology, Milan, Italy; ³Technical University of Denmark, Lyngby, Denmark

WP 090 **Quantitative Phosphoproteomics of RIPK3 Signaling in 3T3 Cells;** Haiyan Tan; Andrew Oberst; Zhiping Wu; Ashutosh Mishra; Yanji Xu; Xusheng Wang; Douglas Green; Junmin Peng; St.Jude Children's Research Hospital, Memphis, TN

WP 091 **Quantitative Phosphoproteomic Analysis of ERK Feedback Regulation in T Cell Receptor Signaling;** Ynes Helou; Vinh Nguyen; Samantha Beik; Norris Hung; Arthur Salomon; Brown University, Providence, RI

WP 092 **Quantitative Phosphoproteomics Analysis of Altered Kinase Signaling in Response to a Select Agent Toxin;** Kristie Lindsey Rose; Salisha Hill; Christine M. Fennessey; Susan E. Ivie; Mark S. McClain; Vanderbilt University, Nashville, TN

WP 093 **Quantitative Phosphoproteome Analysis of Apoptotic Human Cell Cultures using SILAC Combined with Complementary ESI-MS Techniques;** Benjamin Mueller¹; Wolfgang Jabs²; Carsten Baessmann²; Stephanie Kaspar²;



Karsten Niehaus¹; Thomas Noll¹; Raimund Hoffrogge¹;
¹Bielefeld University, Bielefeld, Germany; ²Bruker Daltonik GmbH, Bremen, Germany

WP 094 **Quantitative Analysis of Human Plasma Phosphoproteome using Isotopic Labelling and High Resolution Mass Spectrometry**; Montserrat Carrascal; Vanessa Casas; Marina Gay; Oscar Gallardo; Joaquin Abian; CSIC/UAB Proteomics Laboratory, IIBB-CSIC, Barcelona, SPAIN

WP 095 **Comprehensive Quantitative Profiling of the Mouse Kinome using Data Independent LC MS - MS/MSALL with SWATH® Acquisition**; Jeffrey C. Silva¹; Matthew P. Stokes¹; Charles L. Farnsworth¹; Xiaoying Jia¹; Christie Hunter²; ¹Cell Signaling Technology, Danvers, MA; ²AB SCIEX, Foster City, CA

WP 096 **Quantitative Analysis of ADP Receptor Activation of Human Platelets**; Florian Beck¹; Joerg Geiger²; Oliver Kohlbacher³; René Zahedi¹; Albert Sickmann¹; ¹Leibniz Institut für analytische Wissenschaften, Dortmund, Germany; ²Institut für Klinische Biochemie und Pathobio, Würzburg, Germany; ³Universität Tübingen, Tübingen, Germany

WP 097 **Quantitative Analysis of Urinary Osteopontin Phosphorylation Level in Healthy Volunteers**; Alexey Kononikhin^{1,3}; Natalya Starodubtseva^{1,3}; Ludmila Pastushkova²; Igor Popov^{1,3}; Maria Indeykina^{1,3}; Olga Valeeva²; Irina Larina²; Eugene Nikolaev^{1,3}; ¹Emanuel Institute of Biochemical Physics, Moscow, Russia; ²Institute of Biomedical Problems, Moscow, Russia; ³Institute for Energy Problems of Chemical Physics, Moscow, Russia

WP 098 **How HIV Reprograms Cells - Quantitative Phosphoproteomics during HIV Entry**; Jason A. Wojcechowskyj³; Jessica Y. Lee¹; Maria Lasasoa¹; Shane T. Jensen²; Robert W. Doms³; Steven H. Seeholzer¹; ¹Children's Hospital of Philadelphia Research Inst., Philadelphia, PA; ²The Wharton School, University of Pennsylvania, Philadelphia, PA; ³Department of Microbiology, Univ. of Pennsylvania, Philadelphia, PA

WP 099 **A Sensitive Label-Free Quantitation Approach for Personalized Phosphoproteomics Profiling of Cancer Tissues**; Yi Ting Wang^{1,2}; Hsin-Yi Wu³; Pei-Yi Lin³; Chia-Feng Tsai⁴; Sung-Liang Yu⁵; Szu-Hua Pan⁶; Pan-Chyr Yang^{7,8}; Yu-Ju Chen^{1,3}; ¹CBMB, TIGP and Ins. of Chemistry, Academia Sinica, Taipei, Taiwan; ²Ins. of biochemical science, Taipei, Taiwan; ³Ins. of Chemistry, Academia Sinica, Taipei, Taiwan; ⁴Chemistry, National Taiwan University, Taipei, Taiwan; ⁵CLSMB, College of Medicine, NTU, Taipei, Taiwan; ⁶GICM, College of Medicine, NTU, Taipei, Taiwan; ⁷Ins. of Biomedical Science, Academia Sinica, Taipei, Taiwan; ⁸internal medicine, College of Medicine, NTU, Taipei, Taiwan

WP 100 **Quantitative Global and Phosphoproteomics Analysis of Dengue Virus Infection in Human Hepatic Cells**; David Purdy; Angela Rasmussen; Alejandro Wolf-Yadlin; Arti Navare; Theresa Vertigan; Alexei Krasnoselsky; Michael Katze; University of Washington, Seattle, WA

WP 101 **MRM-Based Quantitative Analysis of Phosphosignaling Proteins with Response to Anti-IGF1R Antibody Drug Treatment**; Byoung-Kyu Cho¹; MinJueng Kang¹; Hwang-Phill Kim²; Tae-You Kim^{1,2}; Eugene C Yi¹; ¹WCU Seoul National University, Seoul, South Korea; ²Cancer Research Institute, Seoul National Univ., Seoul, South Korea

WP 102 **Quantitative Phosphoproteomics to Investigate Signal Cascades Initiated with Myocardial Ischemia**; Melanie

White; Alistair Edwards; Benjamin Parker; Stuart Cordwell; The University of Sydney, The University Of Sydney, Australia

WP 103 **FRAT1, Besides its Role in Canonical Wnt Signaling, Activates c-Src kinase**; Siyuan Su¹; Xiaomin Lou¹; Ju Zhang¹; Jia Zhang²; Ningzhi Xu³; Siqi Liu¹; ¹Beijing Institute of Genomics, CAS, Beijing, China; ²Beijing Protein Innovation, Beijing, China; ³Cancer Institute and Cancer Hospital, CAMS, Beijing, China

WP 104 **Characterization of Down-Stream Signalling Cascades of the Ror Receptor Tyrosin Kinase, CAM-1 using RNAi combined with Quantitative Proteomics and Phosphoproteomics**; Sheila Lefoli Maibom-Thomsen; Julius Fredens; Nils Færgeman; Martin R. Larsen; Univ. Southern Denmark, Odense, Denmark

WP 105 **High Resolution Identification of Phosphorylated Peptides from a Low Microgram Starting Material using Optimized Sample Preparation Strategies**; Melanie Schulz¹; Kasper Engholm-Keller¹; Alistair Edwards¹; Knut Kotarsky²; William Agace²; Martin R. Larsen¹; ¹University of Southern Denmark, Odense, Denmark; ²Lund University, Lund, Sweden

WP 106 **Heat stabilization preserves phosphorylation on signaling proteins**; Karl Sköld¹; Christian Kelstrup²; Anna Secher²; Mats Borén¹; Kim Kultima³; Jesper Olsen²; ¹Denator AB, Uppsala, Sweden; ²NNF Center for Protein Research, Uni of Copenhagen, Copenhagen, Denmark; ³Dep of Medical Sciences Uppsala Uni, Uppsala, Sweden

WP 107 **Phosphorylated Peptide Analysis using High Resolution Accurate Mass for Lead Discovery Screening**; David Brant; Nicholas Duczak, Jr; Francois A. Espourteille; Thermo Fisher Scientific, San Jose, CA

WP 108 **Library Assisted eXtracted Ion Chromatogram (LAXIC) for Quantitative Phosphoproteomics**; Liang Xue¹; Lianshui Wang²; Huiming Zhang¹; Pengcheng Wang¹; Predrag Radivojac²; Haixu Tang²; Jiankang Zhu¹; Randy Arnold²; Andy Tao¹; ¹Purdue University, West Lafayette, IN; ²Indiana University, Bloomington, IN

WP 109 **Assay Development for Detection and Quantification of Phosphorylation Stoichiometry by Selected Reaction Monitoring and Label-Free Based Mass Spectrometry**; Mark J. Raftery; Ling Zhong; Bioanalytical Mass Spectrometry, Sydney, Australia

WP 110 **Development of a New 5-Plex SILAC Approach to Explore Time-Dependent Drug Perturbations of the Her Phosphotyrosine Signaling Network**; Manuel Tzouros; David Avila; Sabrina Golling; Jens Lamerz; Gonzalo Duran Pacheco; Marco Berrera; Martin Ebeling; Angélique Augustin; Hanno Langen; F. Hoffmann-La Roche, Ltd., Basel, Switzerland

WP 111 **PTMScan Direct Identification and Quantification of Peptides from Critical Signaling Proteins using Immunoaffinity Purification and LC-MS/MS: Reagent Development and Application**; Matthew P. Stokes; Jeffrey C. Silva; Kimberly A. Lee; Charles L. Farnsworth; Hongbo Gu; Xiaoying Jia; Roberto D. Polakiewicz; Michael J. Comb; Cell Signaling Technology, Danvers, MA

WP 112 **A Useful Phosphopeptide Extraction Method in gel-based Quantitative Analysis**; Je-Hyun Baek¹; Inhee Mook Jung²; Eugene C. Yi¹; ¹Seoul National University (WCU, Dept. of MMBS), Seoul, South Korea; ²Seoul National University (Dept. of BBS), Seoul, South Korea



WP 113 **A Strategy for Simultaneous Quantitation of the Proteome, Phosphoproteome and Sialome Applied to a Transgenic Mice Model of Alzheimer's Disease;** Pernille Sine Lassen; Melanie Schulz; Alicia Babcock; Bente Finsen; Marint Røssel Larsen; *University of Southern Denmark, Odense M, Denmark*

WP 114 **Isotope-Free, Chromatography-Free Quantitative MALDI Mass Spectrometric Methods for Single and Multi-Site Phosphorylation Analysis without Calibration Curves;** Hsin-Pin Ho; Kay Han; Rinku Prithiani; Emmanuel J. Chang; *The City University of New York, New York, NY*

WP 115 **Applying Multiplexed Quantitation Strategy to Phosphor-Tyrosine Time-Course Analysis via Peptide Immuno-Precipitation;** Taylor Ma; Kebin Yu; *Genentech, Inc, South San Francisco, CA*

WP 116 **Label-free Quantitative Phosphoproteomics Analysis of Insulin-Stimulated Phosphorylation in L6 Myotubes;** Dan Jun Ma; Xiangmin Zhang; Michael Caruso; Zhengping Yi; *Wayne State University, Detroit, MI*

WP 117 **Quantitative Proteomic and Phosphoproteomic Analysis of a Human Neuroblastoma Cell-Line under Hypoxic Stress using 2-D Chromatography and Nano-ESI-QqTOF Mass Spectrometry;** Jinal Patel¹; William G. Willmore^{1,2}; Jeffrey C. Smith¹; *Carleton University, Department of Chemistry, Ottawa, Canada; Carleton University, Department of Biology, Ottawa, Canada*

WP 118 **Highly Sensitive Determination of a Phosphopeptide Therapeutic in Human Plasma by LC-MS/MS;** Eric W. Ma; Moucun Yuan; William Mylott Jr; Bruce Hidy; Rand Jenkins; *PPD, Richmond, VA*

WP 119 **Comprehensive Quantitative Comparison of the Membrane Proteome and PTM-ome of Human Embryonic Stem Cells and Neural Stem Cells;** Marcella N. Melo-Braga¹; Melanie Schulz¹; Lene Jakobsen¹; Andrzej Swistowski²; Qiuyue Liu²; Giuseppe Palmisano¹; Kasper Engholm-Keller¹; Xianmin Zeng²; Martin R. Larsen¹; *University of Southern Denmark, Odense, DK; Buck Institute for Age Research, Novato, CA*

WP 120 **Altered Phosphorylation and Ubiquitination in the DNA Damage Response Network following MEK and PI3K Dual Inhibition;** Daisy Bustos; Klaus Hoefflich; Corey Bakalarski; Jocelyn Chan; Qinghua Song; William F Forrest; Taner Dogan; Kebin Yu; Marcia Belvin; Lori Friedman; Donald S Kirkpatrick; *Genentech, Inc., South San Francisco, CA*

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WP 122 **Absolute Quantification of Low Level Transcription Factors using QconCAT Technology Coupled to Isobaric Tagging;** Michael Walker¹; Richard Unwin^{1,2}; Andrew Williamson¹; Claire Evers¹; dung-fang Lee³; Ana Sevilla³; Ihor Lemischka³; Anthony Whetton¹; *University of Manchester, Manchester, UK; Central Manchester University Hospitals NHS Foundation, Manchester, UK; Mount Sinai School of Medicine, New York, NY*

WP 123 **QconCAT Protein Quantitation of Human Lysosomal Proteins in Whole Cell Extracts using LC-MS/MS;** Haiyan Zheng¹; Dhruv Patel¹; David Sleat¹; Peter Lobel¹; Yanan Yang²; Wayne Heacock³; Bo Wang³; *UMDNJ-Robert Wood Johnson Medical School, Piscataway, NJ; Agilent*

Technologies, Inc, Santa Clara, CA; Agilent Technologies, Newtown, PA

WP 124 **Acid-catalyzed ¹⁸O-labeling – A New Tool for Peptide and Protein Quantitation;** Andreas Schlosser¹; Erik Haaf²; *Rudolf Virchow Center, Wuerzburg, Germany; Center for Biological Systems Analysis (ZBSA), Freiburg, Germany*

WP 125 **Quantitative Proteomic Analysis of Reprogramming of Induced Pluripotent Stem Cells and Neural Progenitor Cells from Different Somatic Cells;** Shi-Jian Ding; *Univ of Nebraska Med Center, Omaha, NE*

WP 126 **Comparison of the Different Quantitative Approaches Applied to Characterize Acetylation of CheY, a Response Regulator in Chemotaxis of *Escherichia coli*;** Tevie Mehlman¹; Bassem Ziadeh¹; Gabriel Simon²; Atim Atte Enyenihi³; Milana Fraiberg⁴; Michael Eisenbach⁴; Roman Zubarev³; Alla Shainskaya¹; *Biol MS Facility, Weizmann Institute of Science, Rehovot, Israel; Washington University in St. Louis, St. Louis, MO; Molecular Biometry Lab, Karolinska Institutet, Stockholm, Sweden; BiolChem Department, Weizmann Institute of Science, Rehovot, IL*

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WP 128 **Quantitative Proteomics Analysis of Protein S-Nitrosylation using Sixplex iodoTMT for Labeling and Enrichment;** Zhe Qu¹; Fanjun Meng¹; Ryan Bomgarden²; John C. Rogers²; Rosa Viner³; Zelong Gu¹; *University of Missouri, Columbia, MO; ThermoFisher Scientific, Rockford, IL; Thermo Fisher Scientific, San Jose, CA*

WP 129 **Qualitative Analysis by SWATH LCMS;** Ron Bonner; Lyle Burton; Gordana Ivosev; Adam Lau; Stephen Tate; *AB SCIEX, Concord, Canada*

WP 130 **Global Phosphorylation Mapping using 193 nm Ultraviolet Photodissociation of Peptide Anions;** Michelle Robinson; Jennifer Brodbelt; *University of Texas at Austin, Austin, TX*

WP 131 **p53 Post-Translational Modification in the Context of Adenoviral Infection;** Caroline DeHart¹; Jasdave S. Chahal¹; Henry Shwe^{1,2}; Saw Kyin^{1,2}; David H. Perlman^{1,2}; S. J. Flint¹; *Dept. of Molecular Biology, Princeton University, Princeton, NJ; Princeton MS Center, Princeton University, Princeton, NJ*

WP 132 **Determination of Core Fucosylation in Glycopeptides of Monoclonal Antibodies;** Anja Resemann¹; Ulrike Schweiger-Hufnagel¹; Daniel Kolarich²; Shannon Cornett³; Detlev Suckau¹; *Bruker Daltonik GmbH, Bremen, Germany; Max Planck Institute of Colloids and Interfaces, Berlin, Germany; Bruker Daltonics Inc., Billerica, MA*

WP 133 **Screening Method for Isopeptides from Small Ubiquitin-Related Modifier-Conjugated Proteins by Ion Mobility Mass Spectrometry;** Quentin Dumont; Wendell P. Griffith; *University of Toledo, Toledo, OH*

WP 134 **Peptide Sequence Alchemy: Converting Phosphoserine and Phosphothreonine into Cysteine for PTM Identification;** Benjamin Moore; Ryan R. Julian; *University of California, Riverside, Riverside, CA*

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- WP 136 **Extensive Analysis of Macropeptides by FT-ICR Mass Spectrometry**; Larry Lerno; Andres Guerrero; Carlito Lebrilla; *UC Davis Chemistry, Davis, CA*
- WP 137 **Characterization of the Effect of RNAi Knock-Down of Arginyltransferase in *Drosophila melanogaster* and *Caenorhabditis elegans*, using Quantitative Proteomics**; Ulrik Beich-Frandsen Øe¹; Kasper Engholm-Keller¹; Julius Fredens¹; Nils J. Færgeman¹; Kim Rewitz²; Martin Røssel Larsen¹; ¹*Department for Biochemistry and Molecular Biology, Odense, Denmark*; ²*Roskilde University, Roskilde, Denmark, Roskilde, Denmark*
- WP 138 **Diet-Induced Perturbation of the Rat Liver Mitochondrial Acetylome Studied by Quantitative (iTRAQ) LC-MS/MS**; Ileana R Leon; Veit Schwämmle; Giuseppe Palmisano; Steffen Bak; Richard Sprenger; Adelina Rogowska-Wrzęsinska; Ole N. Jensen; *University of Southern Denmark, Odense M, Denmark*
- WP 139 **Mass Spectrometric Strategy to Identify and to Differentiate Non-Phosphorylated from Phosphorylated Peptides**; Narciso Couto²; Caroline Evans²; Saw Yen Ow²; Duncan L Smith¹; Phillip C Wright²; ¹*Paterson Institute for Cancer Research, Manchester, UK*; ²*University of Sheffield, Sheffield, UK*
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- WP 141 **GlycoProductFinder: A Tool for Identification and Validation of Spectra from Glycopeptides**; Paolo Nanni¹; Christian Panse¹; Peter M. Gehrig¹; Jonas Grossmann¹; Bertran Gerrits²; Ralph Schlapbach¹; ¹*Functional Genomics Center (UZH/ETHZ), Zurich, Switzerland*; ²*Novartis Pharma, Basel, Switzerland*
- WP 142 **Application of CESI-MS for the Analysis of Site-specific Core Histone Modifications**; Bettina Sarg; Klaus Faserl; Leopold Kremser; Herbert H. Lindner; *Div. of Clin. Biochemistry, Biocenter Innsbruck, Innsbruck, Austria*
- WP 143 **Analysis of the SPRG's PTM Peptide Standard using Sheathless Capillary Electrophoresis Electrospray Mass Spectrometry (CESI-MS)**; Herbert H. Lindner¹; Klaus Faserl¹; Marcia Santos²; Bettina Sarg¹; ¹*Innsbruck Medical University, Biocenter, Innsbruck, Austria*; ²*Beckman Coulter Inc, Brea, CA*
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- WP 146 **Analysis of DNA Damage Induced SUMOylation in Yeast by Mass Spectrometry**; Miguel Esteras; Luis Aragon; Ambrosius Snijders; *MRC Clinical Sciences Centre, London, UK*
- WP 147 **Identification of Novel ErbB2 Posttranslational Modifications and their Regulation during Internalization**; Jason M. Held; Jessica B. Behring; Tara Srinivasan; Gary K. Scott; Bradford W. Gibson; Christopher C. Benz; *Buck Institute for Research on Aging, Novato, CA*
- WP 148 **Relative Quantification of Palmitoyl Peptides using Hydrophobic Alkyl Tags**; Yuhuan Ji; Dagmar J. F. Haeussler; Richard A. Cohen; Catherine E. Costello; Markus M. Bachschmid; Cheng Lin; *Boston University School of Medicine, Boston, MA*
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- WP 150 **Trypsin Inhibition: Sometimes the Simplest Things That are Assumed to Work, Don't**; Lynn Spruce; Amy J. Gleichman; Hua Ding; Charles R. Kinzie; David R. Lynch; Steven H. Seeholzer; *Children's Hospital of Philadelphia Research Inst., Philadelphia, PA*
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- WP 154 **Chemical Proteomics Identifies Molecular Target of Quercetin in its Anti-Cancer Effects in PC-3 Cells**; Lu-Ping Chow; Chia-Chen Ko; Yun-Ju Chen; *Institute of Biochemistry & Molecular Biology, Taipei, Taiwan*
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- WP 156 **Automating Chemical Proteomics to Facilitate Drug Target Characterization**; Mary Shannon Duggan; Jeff Olson; Hua Tang; Paul Richardson; Violeta Marin; Shaun McLoughlin; *Abbott Labs, Abbott Park, IL*
- WP 157 **Study of Optimal Extraction Conditions for Effective Inhibitor Affinity Capture Target Identification**; Hua Tang; Mary Shannon Duggan; Scott Warder; Paul Richardson; Violeta Marin; Shaun McLoughlin; *Abbott Laboratories, Abbott Park, IL*
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- WP 159 **Exploring Nucleotide-Binding Proteins in Human Cell Proteome with an Affinity-Labeled Nucleotide Probe;** Yongsheng Xiao; Yinsheng Wang; *University of California, Riverside, Riverside, CA*
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- WP 163 **A Fast and Efficient Method for AP-MS of Large Protein Families;** Jon Wriedt Poulsen¹; Christian Toft Madsen¹; Michael Lund Nielsen²; ¹University of Copenhagen, Copenhagen, Denmark; ²NNF CPR, Copenhagen, Denmark
- WP 164 **Quantitative Proteomics and Phosphoproteomics of Calcium-Calmodulin Dependend and Calcium-Calmodulin Independent Protein Complexes in Mouse Brain at Different Developmental Stages;** Katarzyna Kulej¹; Giuseppe Palmisano¹; Lene Jakobsen¹; Melanie Schulz¹; Alistair Edwards¹; Phillip J. Robinson²; Martin R. Larsen¹; ¹University of Southern Denmark, Odense, Denmark; ²CMRI, Westmead, Sydney, Australia
- WP 165 **In-Depth Transcription Factor Profiling using a Concatenated Tandem Array of Transcription Factor Response Elements;** Chen Ding^{1,2}; Wanlin Liu¹; Dong Li¹; Beom-Jun Kim²; Yi Wang²; Mingwei Liu¹; Lei Song¹; Liang Qi¹; Anna Malovannaya²; Jun Qin^{1,2}; ¹Beijing Proteome Research Center, Beijing, China; ²Baylor College of Medicine, Houston, TX
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- WP 168 **Pulse-Chase SILAC Detects Global, Simultaneous Differential Changes in Protein Degradation and Synthesis affecting Proteostasis and Cell Signaling upon Hsp90 Inhibition;** Ivo Fierro-Monti¹; Celine Hernandez¹; Pablo Echeverría²; Patrice Waridel¹; Alexandra Potts-Xenarios¹; Didier Picard²; Manfredo Quadroni¹; ¹UNIL-CIG, Lausanne, CH; ²University of Geneva, Geneva, Switzerland
- WP 169 **A Panoramic View on Protein Synthesis and Degradation;** Christian Troetschel¹; Stefan Albaum²; Daniel Wolff¹; Simon Schröder²; Alexander Goesmann²; Tim W. Nattkemper²; Ansgar Poetsch¹; ¹Ruhr University Bochum, Bochum, Germany; ²CeBiTec, Bielefeld, Germany
- WP 170 **Characterising Rapid Protein Turnover Using SILAC-MS;** Mark Larence; Kathryn Kirkwood; Tony Ly; Angus Lamond; *Wellcome Trust Centre for GRE, Dundee, UK*
- WP 171 **Global Assessment of Protein Turnover in C. elegans;** Krishna Vukoti; Hua Xu; John Feng; Masaru Miyagi; *Case Western Reserve Univ., Cleveland, OH*
- WP 172 **Quantitation of Membrane Protein Turnover Using Ultrathroughput Multiple Reaction Monitoring (UMRM) Mass Spectrometry.;** Adam Mcshane; Mary Joan Castillo; Bekim Bajrami; Pamela Ann Diego; Xudong Yao; *University of Connecticut, Storrs, CT*
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WP 351 **Optimizing the Workflow for Non-Targeted Lipidomics: Insights from Lipoprotein Analysis in Heart Failure Patients;** Anik Forest¹; Bertrand Bouchard¹; Alain Lesimple¹; Caroline Daneault¹; Sarah Cherkaoui²; David Rhinds¹;

Jean-Claude Tardif¹; Christine Des Rosiers¹; ¹Montreal Heart Institute, Montréal, Canada; ²Université de Montréal, Montréal, Canada

WP 352 **MALDI-IT-TOF-MS/MS Analysis of Cuticular Lipids from *Anopheles gambiae* Mosquitoes;** Sheheli Islam¹; Hui Fan¹; Brian Feild²; Kevin Schug¹; Jaroslaw Krzywinski³; ¹University of Texas at Arlington, Arlington, TX; ²Shimadzu, Columbia, MD; ³Vector Group, Liverpool School of Tropical Medicine, Liverpool, UK

WP 353 **sCID Normal Phase LCMS Phospholipidomic Analysis of Plasma and Brain Regions from a Mouse Model of Traumatic Brain Injury;** James E. Evans; Laila Abdullah; Jon Reed; Robert Pelot; Benoit Mouzon; Scott Ferguson; Myles Mullan; Olubunmi Ojo; Michael Mullan; Fiona Crawford; *Roskamp Institute, Sarasota, FL*

WP 354 **Characterizing Human Insulin Resistance via Plasma Metabolic Profiling using Ion Mobility Measurements from UPLC/TOF;** Tukiet T. Lam¹; Giorgis Isaac²; Cosimo Giannini¹; Kate Yu²; Giuseppe Astarita²; Mary LoPresti¹; Edward Z. Voss¹; Kathrin Wilczak¹; James Langridge²; Sonia Caprio¹; Raimund I. Herzog¹; ¹Yale University, New Haven, CT; ²Waters Corporation, Milford, MA

WP 355 **Development of a Spectral Interconversion Algorithm for Desorption Ionization Techniques;** Ottmar Golf; Matthias Walther-Schmidt; Zoltan Takats; *Justus-Liebig-Universität Giessen, Giessen, Germany*

WP 356 **Lipid Profiling of Serum Samples from Calcific Coronary Artery Disease Patients using UPLC/TOF-HDMSE and Multivariate Data Analysis;** Giorgis Isaac¹; Vorkas Panagiotis²; Elizabeth Want²; Keith Fadgen¹; Stephen McDonald¹; Ulf Naslund³; Anders Holmgren⁴; Michael Henein⁴; Allan Millar¹; Elaine Holmes²; John Shockcor¹; Jeremy Nicholson²; James Langridge¹; ¹Waters Corporation, Milford, MA; ²Faculty of Medicine, Imperial College, London, UK; ³Umea University, Umea, Sweden; ⁴Heart Centre, Umea University, Umea, Sweden

WP 357 **Quantitative and Qualitative Profiling of Oxylinp in Various Bio-Fluids using Novel State-of-the-Art Mass Spectrometry. What have we Learned?** Katrin Strassburg²; Annemarie Huijbrechts³; Kirsten Kortekaas⁵; Jan Lindeman⁵; Theresa Pedersen⁴; Faisa Guled^{1,2}; Erik Kalkhoven³; Thomas Hankemeier^{1,2}; John Newman⁴; Rob J. Vreeken^{1,2}; ¹Netherlands Metabolomics Centre/Leiden University, Leiden, Netherlands; ²LACDR/Leiden University, Leiden, Netherlands; ³UMCU, Utrecht, Netherlands; ⁴USDA-ARS Western Human Nutrition Research Center, Davis, CA; ⁵LUMC, Leiden, Netherlands

WP 358 **Multi-Dimensional Lipidomics Analysis using HILIC with Ion Mobility MS;** Giuseppe Astarita¹; Giorgis Isaac¹; Marc V. Gorenstein¹; John P. Shockcor¹; Mark Ritchie²; Jim Langridge¹; ¹Waters Corporation, Milford, MA; ²Waters Pacific Pte Ltd, Singapore, Singapore

WP 359 **Analysis of Novel Lipids used for Chemical Signaling by Flies using Microfluidic Nano ESI-MS;** Stephen Wong¹; Jacqueline Chin^{2,3}; Joanne Yew^{2,3}; Mark Ritchie¹; ¹Waters Pacific Pte Ltd, Singapore, Singapore; ²Temasek Life Sciences Laboratory, Singapore, Singapore; ³National University of Singapore, Singapore, Singapore

WP 360 **Rapid and Sensitive LC-ESI-MS and LC-ESI-MS/MS of a Mixture of Bovine Gangliosides.;** Aldo Garcia; Jorge Chavez; Yehia Mechref; *Texas Tech University, Lubbock, TX*



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- WP 361 **Simultaneously Quantifying Cancer Biomarkers on FFPE Tissue using Stable-Isotope-Label Based Mass Spectrometry Imaging (SILMSI);** Hong Wang; Brian Kelly; Jan Froehlich; Rui Hong; Karl Garsha; Chris Bieniarz; *Ventana Medical Systems, Oro Valley, AZ*
- WP 362 **Enabling Disease Prognosis with Mass Spectrometry... Towards Predicting Metastasis of Sarcomas;** Erin H. Seeley¹; Nichole M. Lareau²; Ginger E. Holt¹; Richard M. Caprioli¹; ¹*Vanderbilt Univ Sch of Med, Nashville, TN*; ²*Vanderbilt University, Nashville, TN*
- WP 363 **Imaging Mass Spectrometry to Distinguish Cholangiocarcinoma from Pancreatic Cancer;** Kristina Schwamborn¹; Anna Melissa Schlitter¹; Irene Esposito¹; Richard M. Caprioli²; ¹*Technische Universität München, Munich, Germany*; ²*Vanderbilt Univ Sch of Med, Nashville, TN*
- WP 364 **Glomerular Alterations Induced by Diabetic Nephropathy Revealed Using High Spatial Resolution MALDI Imaging Mass Spectrometry;** Kerri J. Grove¹; Paul A. Voziyan²; Jeffrey M. Spraggins¹; Roberto M. Vanacore²; Raymond C. Harris²; Billy G. Hudson²; Richard M. Caprioli²; ¹*Vanderbilt University, Nashville, TN*; ²*Vanderbilt Univ Sch of Med, Nashville, TN*
- WP 365 **Molecular Phenotyping of Migraine using Imaging Mass Spectrometry;** Emrys A Jones; Reinald Shyti; René van Zeijl; André Deelder; Arn van den Maagdenberg; Liam McDonnell; *Leiden University Medical Center, Leiden, Netherlands*
- WP 366 **MALDI TOF-TOF Imaging of Myelin Basic Protein in Traumatic Brain Injury;** Manasi Mangaonkar; Kevin K. W. Wang; Richard A. Yost; David H. Powell; *University of Florida, Gainesville, FL*
- WP 367 **Imaging Mass Spectrometry Reveals that the Cyanobacterial Neurotoxin BMAA induces Neurodegeneration and Astrogliosis in the Hippocampal CA1 Region;** Oskar Karlsson; Jörg Hanrieder; Jonas Bergquist; Eva Brittebo; Malin Andersson; *Uppsala University, Uppsala, Sweden*
- WP 368 **Top Down by MALDI in Source Decay a New Approach for Glioma Analysis;** Rima ait-belkacem; david calligaris; claude villard; caroline berenguer; therese schembri; l'houcine ouafik; Daniel Lafitte; *AIX Marseille Universite, Marseille, France*
- WP 369 **MALDI Imaging of Post Mortem Human Spinal Cord Reveals Disease Specific Protein Patterns for Amyotrophic Lateral Sclerosis;** Jorg Hanrieder^{1,2}; Malin Andersson²; Jonas Bergquist²; ¹*Chalmers Tech. University, Gothenburg, Sweden*; ²*Uppsala University, Uppsala, Sweden*
- WP 370 **Building the MALDI Imaging Protein Biomarker List from the Bottom Up;** Stefan Maier¹; Benjamin Balluff²; Mareike Elsner²; Stephan Meding²; Cedrik Schöne²; Axel Walch²; Bernhard Kuster¹; ¹*TU Muenchen, Freising, Germany*; ²*HMGU, Muenchen, Germany*
- WP 371 **Evaluation of Overexpressed Cannabinoid 1 Receptor in Liver Fibrosis Tissues via Detecting AM251 by MALDI-TOF MS in vitro;** Jungshan Chang; Chun-Chia Cheng; Fu-Der Mai; *Taipei Medical University, Taipei, Taiwan*
- WP 372 **Real Time Lipidomic Profiling using Desorption Ionization with Ion Mobility Separation;** Jordan Krechmer²; Giorgis Isaac¹; Joseph Tice²; Kieran J Neeson¹; Alan Millar¹; Michael P. Balogh¹; Jim Langridge¹; Giuseppe Astarita¹; ¹*Waters Corporation, Milford, MA*; ²*IonSense, Inc., Saugus, MA*
- WP 373 **Desorption Electrospray Ionization Imaging Mass Spectrometry Identifies Lipid Species Regulated by the c-MYC Oncogene;** Ali Ismail¹; Richard Perry¹; Emelyn Shroff²; Tahera Zabuawala²; David Bellovin²; Dean Felsher²; Richard Zare¹; ¹*Department of Chemistry, Stanford University, Stanford, CA*; ²*School of Medicine, Stanford University, Stanford, CA*
- WP 374 **Intrasurgical Diagnosis of Human Brain Cancers by DESI-MS Imaging Using a Comprehensive Brain Cancer Lipid Based Classifier;** Livia S. Eberlin¹; Isaiah Norton²; Sandro Santagata³; Xiaohui Liu²; Alan Jarmusch¹; Jennifer L. Ide²; Daniel A. Orringer²; Alexandra J. Golby²; Keith L. Ligon³; R. Graham Cooks¹; Nathalie Y. R. Agar²; ¹*Purdue University, Department of Chemistry, West Lafayette, IN*; ²*Harvard Medical School, Neurosurgery, Boston, MA*; ³*Harvard Medical School, Pathology, Boston, MA*
- WP 375 **MALDI Mass Spectrometric Imaging Reveals Differential Lipid Metabolism in Cancer;** David Pirman; David Menter; Ekem Efu; Peiying Yang; *University of Texas MD Anderson Cancer Center, Houston, TX*
- WP 376 **MALDI Mass Spectrometry Imaging Analysis of Lipid alterations in experimental Parkinson's disease;** Cecilia Eriksson^{1,2}; Per Svenningsson³; Nicoletta Schintu³; Mitsutoshi Setou²; Per Andrén¹; ¹*Uppsala University, Uppsala, Sweden*; ²*Hamamatsu University School of Medicine, Hamamatsu, Japan*; ³*Karolinska Institute, Solna, Sweden*
- WP 377 **Imaging mass spectrometry investigation of human and Mouse Brain with Alzheimer's Neuropathology;** Jade Laveaux Charbonneau; *University of Montreal, Montreal, Canada*
- WP 378 **MALDI Mass Spectrometry Imaging of Lipids in the Ischemic Rat Brain after in situ Desalting;** Hay-Yan J. Wang¹; Hsuan-Wen Wu¹; Ping-Ju Tsai²; Cheng Bin Liu^{1,3}; ¹*National Sun Yat-Sen University, Kaohsiung, Taiwan*; ²*Department of Surgery, Yuan's General Hospital, Kaohsiung, Taiwan*; ³*Dept. Ob-Gyn, Veterans General Hospital-Kaohsiung, Kaohsiung, Taiwan*
- WP 379 **Mass Spectrometric Imaging of Brain Proteins following Neonatal Exposure to an NMDA Antagonist and Ethanol;** Hui Ye¹; Rakesh Mandal²; Chen Chen¹; Chrysanthi Ikonomidou²; Lingjun Li¹; ¹*School of Pharmacy, University of Wisconsin, Madison, WI*; ²*Department of Neurology, University of Wisconsin, Madison, WI*
- WP 380 **Secondary Ion Mass Spectrometry Reveals a Different Composition and Distribution of Molecules in Human Normal and Osteoarthritic Cartilage;** Berta Cillero Pastor¹; Gert Eijkel¹; Andras Kiss¹; Francisco J Blanco²; Ron M. A. Heeren¹; ¹*FOM Institute AMOLF, Amsterdam, The Netherlands*; ²*Osteoarticular and Aging Research Lab. INIBIC, A Coruña, Spain*
- WP 381 **MALDI and SIMS Imaging with Multivariate Data Analysis Applied to a Rat Coronary Artery Ligation Model;** Robert F. Menger¹; Andras Kiss²; Gert B. Eikel²; Dhanalakshmi S. Anbukumar³; John A. Bowden³; David A. Ford³; Ron M.A. Heeren²; Richard A. Yost¹; ¹*University of Florida, Gainesville, FL*; ²*FOM Institute for Atomic and Molecular Physics, Amsterdam, Netherlands*; ³*Saint Louis University, St Louis, MO*
- WP 382 **Metabolic Characterisation of Tumour-Tumour Microenvironment Interactions in Human Colorectal Cancer using MALDI Mass Spectrometry Imaging;** Henry Shion⁴; Panagiotis A. Vorkas¹; Reza Mirnezami^{1,2}; Matthew R. Lewis¹; James Kinross^{1,2}; Olivier Cloarec¹; Konstantina Spagou¹; Elizabeth J. Want¹; Robert Goldin³; Nigel Murray³; Gemma Wood³; Elaine Holmes³; Ara Darzi²; Alan



Millar⁴; Jeremy K. Nicholson¹; ¹Imperial College London, Biomolecular Medicine, London, UK; ²Imperial College London, Biosurgery and Surgical, London, UK; ³Imperial College London, Histopathology, London, UK; ⁴Waters Corp., Metabolic Profiling, Milford, MA

- WP 383 **Classification and Segmentation for Molecular Histology of Phenotypical Regions of NASH Human Liver Disease Tissue from MALDI Mass Spectrometry Images**; Andrew Palmer; Rian Griffiths; Alan Race; Rory Steven; Iain Styles; Patricia Lalor; Josephine Bunch; University of Birmingham, Birmingham, UK

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- WP 384 **A Technical Development for Detecting High Mass Proteins in Microscope-mode MALDI Imaging Mass Spectrometry**; Masahiro Hayashi¹; Yuto Yanagihara¹; Yasuhide Naito²; ¹Hamamatsu Photonics K.K., Iwata, Japan; ²GPI, Hamamatsu, Japan

- WP 385 **Routine Detection of Proteins Up To 80 kDa in Biological Tissues Using MALDI Imaging MS**; David G. Rizzo¹; Richard M. Caprioli^{1,2}; ¹Vanderbilt University, Nashville, TN; ²Vanderbilt Univ Sch of Med, Nashville, TN

- WP 386 **Proteomic Profiling of Pig Spinal Cord by MALDI-MS imaging**; Masaya Ikegawa; Kyoto Prefectural University of Medicine, Kyoto, Japan

- WP 387 **MALDI MS Analysis of Mouse Renal Extracellular Matrix**; Megan M. Gessel¹; Kerri Grove¹; Roberto Vanacore¹; Paul Voziyan¹; Dale Abrahamson²; Raymond C. Harris¹; Billy G. Hudson¹; Richard M. Caprioli¹; ¹Vanderbilt University, Nashville, TN; ²University of Kansas, Kansas City, KS

- WP 388 **Profiling of Ganglioside Distributions in Cornea by MALDI Mass Spectrometry**; Yuntao Zhang; Gary W. Conrad; Kansas State University, Manhattan, KS

- WP 389 **MALDI-MSI Analysis of Protein and Lipid Deposition on ex vivo Contact Lenses before and after Cleaning with Commercial Solutions**; Michelle Friedman; University of Rochester, Rochester, NY

- WP 390 **Tissue Imaging of Negative Ions of Lipids in a MALDI-Ion Mobility-oTOF Mass Spectrometer**; Damon Barbacci¹; Shelley N Jackson²; Kathrine Baldwin²; Jeremy Post²; Ludovic Muller²; Thomas Egan¹; Ernest K. Lewis¹; Michael I. McCully¹; J. Albert Schultz¹; Amina S. Woods²; ¹Ionwerks, Inc., Houston, TX; ²NIDA IRP, NIH, Baltimore, MD

- WP 391 **High Definition Ion Mobility MALDI Imaging for the Visualisation and Identification of Proteins Directly from On-Tissue Tryptically Digested Sections**; Emmanuelle Claude; Kieran J Neeson; Mark W Towers; Johannes Pc Vissers; Jim Langridge; Waters corporation, Manchester, UK

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- WP 392 **MALDI MS Imaging Quantification of Endogenous Neuropeptides Directly in Brain Tissue Sections using Isotope Labeled Normalization and Novel Software**; Patrik Kallback; Mohammadreza Shariatgorji; Anna Nilsson; Per E. Andren; Uppsala University, Uppsala, Sweden

- WP 393 **On-Tissue Protein Identification from MALDI Imaging Data via Spectral Library Search**; Jocelyne Bruand¹; Jusal Quanic²; Maxence Wisztorski²; Céline Meriaux²; Michel Salzet²; Isabelle Fournier²; Eduardo Macagno¹; Vineet Bafna¹; ¹University of California, San Diego, La Jolla, CA; ²FABMS, Université Lille 1, Villeneuve d'Ascq, France

- WP 394 **Digging Deeper into Mass Spectral Imaging Data through the Hierarchical Application of Principal Component Analysis**; Yousef El Aalamat^{1,4}; Nico Verbeeck^{1,4}; Evelyne Lerut³; Johannes Berkens³; Bart De Moor^{1,4}; Etienne Waelkens^{2,4}; Raf Van de Plas⁵; ¹KU Leuven, ESAT-SCD/IBBT Future Health Dept., Leuven, BE; ²KU Leuven, Dept. of Molecular Cell Biology, Leuven, BE; ³UZ Leuven, Translational Cell & Tissue Research, Leuven, BE; ⁴KU Leuven, ProMeta, Leuven, BE; ⁵Vanderbilt University, MS Research center, Nashville, TN

- WP 395 **Automated Discovery of Differential Patterns Between Tissues in Mass Spectral Imaging Data Using Group Independent Component Analysis (GICA)**; Nico Verbeeck^{1,3}; Yousef El Aalamat^{1,3}; Bart De Moor^{1,3}; Etienne Waelkens^{2,3}; Raf Van de Plas⁴; ¹KU Leuven, ESAT-SCD/IBBT Future Health Dept., Leuven, Belgium; ²KU Leuven, Molecular Cell Biology, Leuven, Belgium; ³KU Leuven, ProMeta, Leuven, Belgium; ⁴Vanderbilt University, Nashville, TN

- WP 396 **Automated Tissue State Assignment for High Resolution MALDI-FTMS Imaging Data**; Paul Speir¹; Soeren-Oliver Deininger²; Jens Fuchser²; Katherine Kellersberger¹; Shannon Cornett¹; Sheerin K. Shahidi-Latham³; Michael Becker²; Rainer Paape²; ¹Bruker Daltonics, Inc., Billerica, MA; ²Bruker Daltonik GmbH, Bremen, Germany; ³Genentech, San Francisco, CA

- WP 397 **Fast Image Processing Software Suite Development for High Resolution Mass Spectrometry Imaging**; Dongsheng Li; Guang Lin; Jian Yin; Kerstin Kleese-Van Dam; James Carson; Ellen Liu; Katrina Hui; Yan Shi; Jenny Liu; Eric Stephan; Julia Laskin; Pacific Northwest National Lab, Richland, WA

- WP 398 **High Speed Data Processing for Imaging MS-Based Molecular Histology using Graphical Processing Units**; Emrys A Jones¹; René van Zeijl¹; Per E. Andren²; Lex Wolters³; André Deelder¹; Liam McDonnell¹; ¹Leiden University Medical Center, Leiden, Netherlands; ²Uppsala University, Uppsala, Sweden; ³Leiden Institute of Advanced Computer Science, Leiden, NL

- WP 399 **Image Fusion: A New Multi-modality Paradigm Towards Exploring Molecular Structure in Tissue**; Raf Van de Plas; Junhai Yang; Richard M. Caprioli; Vanderbilt University, Nashville, TN

- WP 400 **Software for 3D MALDI Imaging Data: Visualization and 3D Spatial Segmentation**; Dennis Trede^{1,2}; Stefan Schifferl^{1,2}; Michael Becker³; Stefan Wirtz⁴; Jan Strehlow⁴; Jan Hendrik Kobarg²; Klaus Steinhorst¹; Michaela Aichler⁵; Stefan Heldmann⁴; Axel Walch⁵; Herbert Thiele^{1,2}; Peter Maass^{1,2}; Theodore Alexandrov^{1,2}; ¹Steinbeis Innovation Center SCILS, Bremen, Germany; ²University of Bremen, Bremen, Germany; ³Bruker Daltonik GmbH, Bremen, Germany; ⁴Fraunhofer MEVIS, Bremen, Germany; ⁵Helmholtz Center Munich, Munich, Germany

- WP 401 **ImaStation Accelerates Integration and Treatment of Quantitative MSI Data**; Fabien Pamelard; Gregory Hamm; David Bonnel; Raphael Legouffe; Jonathan Stauber; ImaBiotech, MS Imaging Department, Lille, France

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- WP 402 **A Suite of Metrics and Tools for Automatic, Post-Acquisition Quality Control of LC-MS Measurements**; Sven Nahnsen¹; Lucia Espona²; Sara Nasso³; Oliver Kohlbacher¹; Lennart Martens⁴; ¹University of Tuebingen, Tuebingen, Germany; ²ETH Zurich, Zurich, CH; ³University of Zurich, Zurich, CH; ⁴University of Gent, Gent, Belgium



- WP 403 **An Alignment Algorithm for Comprehensive Two-dimensional Gas Chromatography-Mass Spectrometry;** Yufeng Jane Tseng; Ching-hua Kuo; Tze-Feng Tian; *National Taiwan University, Taipei, Taiwan*
- WP 404 **Small, Standardized Protein Database Provides Rapid and Statistically Significant Peptide Identifications for Targeted Searches using Percolator;** Amol Prakash¹; Shadab Ahmad¹; David Sarracino¹; Bryan Krastins¹; Jennifer Sutton¹; Michael Athanas¹; Maryann Vogelsang¹; Alejandra Garces¹; MingMing Ning²; Mary F Lopez¹; ¹BRIMS, Thermo Fisher Scientific, Cambridge, MA; ²Massachusetts General Hospital, Boston, MA
- WP 405 **Two Workflows to Support Automated Class Prediction with Complex Samples;** David Peterson; Norton Kitagawa; Takeshi Serino; Anthony Gray; *Agilent Technologies, Santa Clara, CA*
- WP 406 **Building Compound Quality Workflows in Hit Identification and Lead Optimization;** Timothy Dunne; Holly McKeith; Travis Mathewson; C.K. Chan; Gonzales Rosalia; *Pfizer, Groton, CT*
- WP 407 **Panorama: A repository of targeted proteomics assays for Skyline;** Vagisha Sharma¹; Brendan MacLean¹; Josh Eckels²; Andrew B. Stergachis¹; Jacob D. Jaffe³; Michael J. MacCoss¹; ¹University of Washington, Seattle, WA; ²LabKey Corp., Seattle, WA; ³The Broad Institute, Cambridge, MA
- WP 408 **The ProteoSAFe Platform for High-Performance Discovery Proteomics;** Jeremy Carver; To-Ju Huang; Claudiu Farcas; Nuno Bandeira; *University of California, San Diego, La Jolla, CA*
- WP 409 **The Integrated and Universal Data Management and Signal Processing Platform for MS-Based Quantitative and Qualitative Proteomics Research;** Wei-Hung Chang²; Chi-Ying Lee¹; Chih-Yu Lin¹; Wei-Yun Chen¹; Yet-Ran Chen¹; ¹Academia Sinica, Taipei, Taiwan; ²Institute of Bioscience and Biotechnology, NTOU, Keelung, Taiwan
- WP 410 **The PRoteomics IDentifications (PRIDE) Database Facilitates the Storing, Sharing and reuse of MS Proteomics Data;** Rui Wang; Antonio Fabregat; Daniel Rios; David Ovelheiro; Joseph M Foster; Richard G Côté; Johannes Griss; Yasset Perez-Riverol; Attila Csordas; Florian Reisinger; Juan Antonio Vizcaino; Henning Hermjakob; *EMBL European Bioinformatics Institute, Cambridge, UK*
- WP 411 **Quantification of Changes in Protein Expression between Chicken Dark and White Meat by PMF, and following LC-MSMS;** Kenneth Parker; Stephen J. Hattan; Marvin Vestal; *Virgin Instruments Corp., Sudbury, MA*
- WP 412 **Maltcms and Maui - an OpenSource software framework and User Interface for High-Throughput Metabolomics;** Nils Hoffmann; Mathias Wilhelm; Kai Stadermann; Jens Stoye; *Bielefeld University, Bielefeld, Germany*
- WP 413 **Compression Methods for Multi-dimensional Mass Spectrometry Data;** Keith Richardson; Richard Denny; Darrell Williams; Stephen Platt; *Waters Corporation, Manchester, UK*
- WP 414 **Using HDF5 for Space- and Time-Efficient, mzML-Compliant Data Storage In Mass Spectrometry;** Mathias Wilhelm¹; Marc Kirchner^{1,2}; Judith A Steen^{1,2}; Hanno Steen^{1,2}; ¹Children's Hospital Boston, Boston, MA; ²Harvard Medical School, Boston, MA
- WP 415 **Cost-Effective Expandable Data Storage Infrastructure for Mass Spectrometry;** Jonathan Hilmer; Pete Masse; Brian Bothner; *Department of Chemistry, Montana State University, Bozeman, MT*
- WP 416 **Cloud CPFP – A Flexible Cloud Data Analysis Pipeline for Core Proteomics Facilities;** David Trudgian; Hamid Mirzaei; *UT Southwestern, Dallas, TX*
- WP 417 **Analysis of Large LC-MS/MS Datasets using Amazon Web Services and the Trans-Proteomic Pipeline;** Joseph Slagel¹; Eric Deutsch¹; Luis Mendoza¹; David Shteynberg¹; Stine Bislev³; Rommel Mathias²; Richard J. Simpson²; Codrea Marius Cosmin³; Emøke Bendixen³; Robert Moritz¹; ¹Institute for Systems Biology, Seattle, WA; ²LaTrobe University, Victoria, Australia; ³Aarhus Universitet, Aarhus, Denmark
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- WP 418 **Cross Species Search for Accurate and Sensitive Peptide Identification with FDR Validation;** Wei Wu Chen¹; Denis Yuen¹; Dan Maloney¹; Bin Ma²; ¹Bioinformatics Solutions, Inc., Waterloo, ON; ²University of Waterloo, Waterloo, Canada
- WP 419 **Global Proteome Profiling of the NCI-60 Cell Line Panel using Label-Free Quantitative Mass Spectrometry;** Amin Moghaddas Gholami; Zhixiang Wu; Hannes Hahne; Bernhard Kuster; *Technische Universität München, Freising, Germany*
- WP 420 **Characterization of Metabolite Correlation Profile of Escherichia coli in Dynamic Context;** Daichi Yukihira¹; Daisuke Miura²; Yoshinori Fujimura²; Hiroyuki Wariishi¹; ¹Kyushu University, Fukuoka, Japan; ²ICMRN, Kyushu University, Fukuoka, Japan
- WP 421 **Comparative Bioinformatic Analysis of Proteome and Transcriptome Derived from a Single Cell Type.;** Martin Damsbo; Erik Nielsen; Jacob Pøder; Christian Ravnborg Ingrell; Alexandre Podtelejnikov; *Thermo Fisher Scientific, Odense, Denmark*
- WP 422 **Exploring a Synthetic Proteome: Global Analysis of Non-Genetically Encoded Amino Acid Incorporation across the E. coli Proteome;** Hans Rudolf Aerni; Patrick O'Donoghue; Svetlana Rogulina; Mark Shifman; Jesse Rinehart; *Yale University, New Haven, CT*
- WP 423 **Using the Software Program "Topograph" to Measure Proteome-Wide Protein Half Lives and Label-Free Quantification.;** Nicholas Shulman; Edward J. Hsieh; Michael J. MacCoss; *University of Washington, Seattle, WA*
- WP 424 **Compartment Modeling for Mammalian Protein Turnover Studies by Stable Isotope Metabolic Labeling;** Shenheng Guan¹; John C. Price²; Sina Ghaemmaghami¹; Stanley B. Prusiner¹; A.L. Burlingame¹; ¹University of California, San Francisco, CA; ²Kinemed, Berkeley, CA
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- WP 425 **Characterization of Disulfide Linkage and Isomerization in Human G-CSF: Comparison of Traditional Methods with ETD-based Technologies;** Jingjie Mo; Guodong Chen; Adrienne Tymiak; *BMS, Princeton, NJ*
- WP 426 **Structural Characterization of Rabbit Antibodies;** Kai Zhang; Jonathan Fitchett; Bryan E. Jones; *Lilly Biotechnology Center, San Diego, CA*
- WP 427 **A Characterization Study of IgG Glycation using Mass Spectrometry;** Yonghui Wang; Michael Lewis; Janssen Research & Development, LLC, Radnor, PA
- WP 428 **Micro-scale LC-MS Characterization of Low-Level Antibody Charge Variants Isolated by Free Flow Electrophoresis;** Charlene X. Li; Brian Hosken; Louise Basa; Boyan Zhang; *Genentech Inc., South San Francisco, CA*



- WP 429 **Gold(I) Phosphine Coordination to *de novo* Designed Peptides**; [Lee A Gethings](#)¹; Jon P Williams¹; Mark W Towers¹; Emmanuelle Claude¹; Gemma Bullen²; Anna F.A Peacock²; ¹Waters, Manchester, UK; ²University of Birmingham, Birmingham, UK
- WP 430 **Mass Spectrometric Profiling of Glycoconjugates and their Role in the Production of Monoclonal Antibodies**; Celine Raymond¹; [Erika Lattova](#)²; Helene Perreault²; Yves Durocher¹; ¹National Research Council, Montreal, Canada; ²University of Manitoba, Winnipeg, Canada
- WP 431 **Mass Spectrometric Detection of Glycine to Glutamic Acid Misincorporation within a Recombinant Protein Expressed by *Escherichia coli* Cells**; [Yunping Huang](#); Brian O'Mara; Matthew Conover; Richard Ludwig; Jinmei Fu; Li Tao; Michael Grace; Reb Russell; BMS, Pennington, NJ
- WP 432 **Analysis of Correlation between Activity and Oxidation on an Anti Staphylococcal Therapeutic Protein using LC/MS Technology**; [Ravindra Gudihal](#)¹; Sundaram Palaniswamy¹; Umamaheshwari S²; Suneel Basingi²; Ning Tang³; ¹Agilent Technologies India Pvt. Ltd, Bangalore, India; ²Gangagen Biotechnologies Pvt Ltd, Bangalore, India; ³Agilent Technologies, Santa Clara, CA
- WP 433 **MALDI-TOF In-Source Decay (ISD) for Characterization of Biotherapeutic Protein Conjugates**; [Ben Bolanos](#)¹; Ryan Preston²; Moorthy Palanki²; ¹Pfizer Global R & D, San Diego, CA; ²Pfizer / CovX, San Diego, CA
- WP 434 **Higher-Order Structural Characterization of an IgG2 Monoclonal Antibody by Disulfide Mapping and Hydrogen Deuterium Exchange Mass Spectrometry**; Joomi Ahn¹; [Stephane Houel](#)¹; Asish Chakraborty¹; Ying-Qing Yu¹; Justin Sperry²; ¹Waters Corp, Milford, MA; ²Pfizer, Chesterfield, MO
- WP 435 **Routine Peptide Map Characterization of Therapeutic Monoclonal Antibodies via LC/MS: Identification and Origin of Low-level Acetaldehyde-Modified Peptides**; [Andrew Saati](#)¹; Olga Friese²; Himakshi Patel¹; Daniel Boisvert¹; Lisa Marzilli¹; Jason Rouse¹; ¹Pfizer, Andover, MA; ²Pfizer Inc., St. Louis, MO
- WP 436 **Direct Analysis of Cell Culture Samples by Two-Dimensional LC/MS to Support Biopharmaceutical Process Development**; [Tyler D Carlage](#); Li Zang; Andrew Weiskopf; Biogen Idec, Cambridge, MA
- WP 437 **Parallel Monoclonal Antibody Disulfide Bond Assignment and Sequence Confirmation by LC-MS/MS Peptide Mapping**; [Xian Huang](#); Anita Colvin; M. Byron Kneller; CMC Biologics, Inc., Seattle, WA
- WP 438 **Development of a Simple LC-HRMS-based Disulfide Mapping Assay Applied to Biopharmaceuticals**; [Lieza M. Danan-Leon](#); Robert J. Duff; Jon S. Kauffman; Lancaster Laboratories, Inc., Lancaster, PA
- WP 439 **Top-down Structural Analysis of an Intact Monoclonal Antibody by Electron Capture Dissociation Fourier Transform Ion Cyclotron Resonance Mass Spectrometry**; [Yuan Mao](#)¹; Santosh G. Valeja¹; Jason C. Rouse²; Christopher L. Hendrickson^{1,3}; Alan G. Marshall^{1,3}; ¹Florida State University, Tallahassee, FL; ²Pfizer, Inc., Andover, MA; ³National High Magnetic Field Laboratory, Tallahassee, FL
- WP 440 **Electron Transfer Dissociation differentiates the Isobaric Deamidation Products Aspartate and Isoaspartate.**; [Ralf Hartmer](#)¹; Laura Main²; Laxmi Adhikary³; Anand Khedkar³; Harish Iyer³; Raju Mukherjee³; ¹Bruker Daltonik, Bremen, Germany; ²Bruker Daltonics, Coventry, UK; ³Biocon Limited, Bangalore, India
- WP 441 **Towards the Application of Protein Glycoprofiling as a Means of Detecting Illicit Distribution and/or Counterfeiting of Biopharmaceuticals**; [Colin G. Barry](#); Renee N. Easter; FDA, Cincinnati, OH
- WP 442 **Disulfide Mapping of Novel Peptides from Venomous Marine Snails of the Terebridae using LC-QTOF**; [Prachi Anand](#)¹; Vadiraja B. Bhat²; Alexander Grigoryan¹; Beatrix Ueberheide³; Brian Chait⁴; Mandè Holford¹; ¹CUNY-Hunter College, New York, NY; ²Agilent Technologies, Wilmington, DE; ³New York University, New York, NY; ⁴The Rockefeller University, New York, NY
- WP 443 **Monoclonal Antibody N-Glycan Identification using MS/MS Library Search**; [Ning Tang](#); Shuai Wu; Keith Waddell; Agilent Technologies, Santa Clara, CA
- WP 444 **Detection and Quantification of Low Level Tyrosine to Phenylalanine Misincorporation in Recombinant Protein Therapeutics**; [Christopher Yu](#); Jennifer Wang; Betty Chan; David Michels; Melissa Alvarez; Amy Shen; Lauren Feeney; Michael Laird; Victor Ling; Genentech, South San Francisco, CA
- WP 445 **Characterization of Labile Post-Translational Modifications in Recombinant Factor IX by Liquid Chromatography Electron-Transfer Dissociation Tandem Mass Spectrometry using m-Nitrobenzyl Alcohol**; [Qi Lu](#); Adam R Mezo; Biognde Idec Hemophilia, Waltham, MA
- WP 446 **Deconstruction of Modification of Heme in Myeloperoxidase by Multistage Mass Spectrometry (MSⁿ)**; Kieran Geoghegan; Alison Varghese; [Xidong Feng](#); Andrew Bessire; James Conboy; Roger Ruggeri; Kay Ahn; Samantha Spath; Sergey Filippov; Philip Carpino; Cristiano Guimarães; Felix Vajdos; Pfizer Worldwide Research, Groton, CT 06340
- WP 447 **Top-down Characterization of Monoclonal Antibody Therapeutics via a 12T SolariX hybrid Qq-Fourier Transform Ion Cyclotron Resonance (FTICR) Mass Spectrometer**; [Lisa Marzilli](#)¹; Christopher Thompson²; Katherine Kellersberger²; Daniel Haq¹; Andrew Saati¹; Michael Easterling²; Brian Stall²; Victor Fursey²; Jason Rouse¹; ¹Pfizer, Inc., Andover, MA; ²Bruker Daltonics, Inc., Billerica, MA
- WP 448 **Large Scale Identification and Quantification of Amino-Acid Substitutions in Recombinant Proteins Expressed in Starved Mammalian Cells**; [Pavel V. Bondarenko](#)¹; Da Ren¹; Mathew Jerums¹; Shun Luo¹; Amanda Kano¹; Henry Lin¹; Roman Zubarev²; Atim Atte Enyenihi²; Yaroslav Lyutvinskiy²; Rohini Deshpande¹; Joseph Phillips¹; Zhongqi Zhang¹; ¹Amgen, Inc., Thousand Oaks, CA; ²Karolinska Institute, Stockholm, Sweden
- WP 449 **Development of Quantitative Methods for the Analysis of Protein Therapeutics using Intact and Tandem Mass Spectrometry**; [Ashley C. Gucinski](#); Michael T. Boyne II; FDA, Division of Pharmaceutical Analysis, St. Louis, MO
- WP 450 **Evaluating Multiplex Fragmentation and Ion Mobility Separations to Improve the Quality of Rapid LCMS Peptide Mapping Analyses for Biotherapeutic Proteins.**; [Scott Berger](#); Henry Shion; St John Skilton; Weibin Chen; Waters Corporation, Milford, MA
- WP 451 **Applying Complementary LCMS Methodologies to Identify Critical Quality Attribute Differences between Innovator and Candidate Biosimilar Versions of Rituximab**; [Vera Ivleva](#); Ying Qing Yu; Hongwei xie; Scott Berger; Weibin Chen; Waters Corporation, Milford, MA
- WP 452 **Profiling the Glycoforms of Intact or Subunit of highly-Glycosylated Biosimilars using a Quadrupole Time-**



of-Flight Mass Spectrometer and Chromatographic Separations; Asish Chakraborty; Jeff Mazzeo; St John Skilton; Weibin Chen; *Waters Corporation, Milford, MA*

- WP 453 **Monitoring Native Arylsulfatase A Association States by Nanoelectrospray Mass Spectrometry;** Rinat Abzalimov¹; Cedric Bobst¹; Paul Salinas²; Philip J. Savickas²; John J. Thomas²; Igor A. Kaltashov¹; ¹*University of Massachusetts, Amherst, MA*; ²*Shire HGT, Lexington, MA*
- WP 454 **Characterization of Charge Heterogeneity of an ECD-Fc Fusion Protein using Orthogonal Fractionation Workflows: OFFGEL and SAX Chromatography;** Timothy Keefe; *Acceleron Pharma, Cambridge, MA*
- WP 455 **Development of Mass Spectrometric and Informatics Workflows for Comprehensive Characterization of Recombinant Monoclonal Antibodies and Fusion Proteins;** Hongwei Xie; *KBI Biopharma, Durham, NC*

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- WP 456 **A Comparison of Nominal Mass and High-Resolution Technologies for the Generation of Simultaneous Quantitative and Qualitative Metabolism Data;** Angus Nedderman; Mark Savage; Michelle Gleave; Julian Haynes; *Unilabs York Bioanalytical Solutions, Sandwich, UK*
- WP 457 **High-Throughput Quantitative and Qualitative Analysis of Microsomal Incubations by Cocktail Analysis with an UPLC-QTOF System;** Beate Reder-Hilz; Gisela Backfisch; Loic Laplanche; Jens Sydor; Michael Schulz; *Abbott GmbH CoKG, Ludwigshafen, Germany*
- WP 458 **Metabolic Stability Screening Workflow using a Second Generation High Resolution Accurate Mass Benchtop Instrument;** Hai-Ling Sun¹; Daniel Soohoo¹; Kelly (Wei) Wang¹; Kate Comstock²; Jack Cunliffe²; ¹*Gilead Sciences, Foster City, CA*; ²*ThermoFisher Scientific, San Jose, CA*
- WP 459 **Effective Screening Methods and Use of Qualitative and Quantitative LC/MS/MS to Minimize Aldehyde Oxidase Mediated Metabolism in Drug Discovery Programs;** Richard Schneider¹; Sharan Bagal²; Loretta Cox¹; Jian Lin¹; Christine Orozco¹; ¹*Pfizer Global R&D, Groton, CT*; ²*WW Med. Chem., Pfizer Global R&D, Cambridge, UK*
- WP 460 **Simultaneous Qualitative and Quantitative Workflow: Semi-Automation of CYP Reaction Phenotyping using QToF-MS Accurate Mass Data and Mass-MetaSite;** Andreas Brink¹; Axel Pähler¹; Kirsten Eickhoff¹; Fabien Fontaine^{2,3}; Ismael Zamora²; ¹*F.Hoffmann-La Roche, Basel, Switzerland*; ²*Lead Molecular Design, Sant Cugat del Valles, Spain*; ³*Molecular Discovery, Perugia, Italy*
- WP 461 **Simultaneous Quantitative and Qualitative Measurements for Primary Metabolism Investigations using a Quadrupole-Time-of-Flight Mass Spectrometer;** Sandy Yates¹; Carsten Baessmann²; Don S. Richards³; Mark E. Savage⁴; Angus N. R. Nedderman⁴; ¹*Bruker Daltonics Inc, Fremont, CA*; ²*Bruker Daltonik GmbH, Bremen, Germany*; ³*Bruker UK Ltd, Coventry, UK*; ⁴*Unilabs Bioanalytical Solutions, Sandwich, UK*
- WP 462 **Application of Microfluidics MS for Qualitative and Quantitative Analysis of Plasma Produced from a Single Micro Litre of Whole Blood.;** Richard T. Gallagher¹; Kristin Samuelsson¹; Leonard Dillon²; David Douce²; ¹*AstraZeneca, Macclesfield, UK*; ²*Waters, Manchester, UK*
- WP 463 **Determining the Pharmacokinetics And Metabolic Fate of a Novel Anti-Cancer Compound Using LC/MS/MS with Comprehensive Data Collection.;** Joanne Mather¹; Sarah Booth²; Gareth Booth³; Mark Wrona¹; Robert Plumb⁴; Ignatius Kass¹; Ian Wilson⁵; ¹*Waters Corporation USA,*

Milford, MA; ²*Salford University, Salford, UK*; ³*Waters Corporation, Manchester, UK*; ⁴*Imperial College, London, UK*; ⁵*AstraZeneca, Macclesfield, UK*

- WP 464 **Data Dependent HRMS to Evaluate Clearance, Metabolic Stability and the Potential for Drug-Drug Interactions in Drug Development;** Carlo Sensenhauser¹; Kevin Cook²; Rose Herbold²; Shannon Dallas¹; Heng-Keang Lim¹; ¹*Janssen Pharmaceuticals R&D, Raritan, NJ*; ²*Thermo Fisher Scientific, San Jose, CA*
- WP 465 **Repurposing FDA Approved Drugs: Primaquine and its Metabolites as Anticancer Therapeutics;** Samantha Mahmoud; Dil Ramanathan; *Kean University, Bound Brook, NJ*
- WP 466 **Application of Capillary LC-ESI-MS for High Sensitivity Drug Metabolism Studies;** Heng-Keang Lim; Jose Silva; *Drug Metabolism Sciences, Janssen Pharma R&D, Raritan, NJ*
- WP 467 **Identification of Glutathione Conjugates by Liquid Chromatography-High Resolution Time-of-Flight MS and High Performance Fragment Ion Analysis ;** Michael Voelker¹; Matthias Unger¹; Norbert Helle²; Juergen Wendt³; ¹*Institute of Pharmacy and Food Chemistry, Julius Maximilians-University Wuerzburg, Wuerzburg, Germany*; ²*TeLA GmbH, Bremerhaven, Germany*; ³*LECO European LSCA Centre, Moenchengladbach, Germany*
- WP 468 **Identification of a Novel Glutathione Conjugate using Molecular Imprinted Polymer (MIP) Purification Technology, HPLC/ESI/MS/MS and 1H NMR;** Amin M. Kamel; Kevin Colizza; Mithat Gunduz; Bing Wang; Shawn Harriman; *Novartis Institutes for BioMedical Research, Cambridge, MA*
- WP 469 **A Novel Quaternary Ammonium Group-Containing Trapping Reagent for Reactive Metabolite Screening Assay;** Natalia Penner¹; Xiaoqing Liu²; Chandra Prakash¹; ¹*Biogen Idec, Cambridge, MA*; ²*University of Pennsylvania, Philadelphia, PA*
- WP 470 **Optimized Reactive Metabolite Trapping Assays: Reduced Cost and Increased throughput using High Resolution Mass Spectrometer, Isotopes and Data Mining Software;** Chenghong Zhang¹; Jane Kenny¹; Marco Ruijken²; Cornelis Hop¹; Cyrus Khojasteh¹; ¹*Genentech, South San Francisco, CA*; ²*MsMetrix, Maarssen, Netherlands*
- WP 471 **Application of In-Source Fragment Ion Filtering in Drug Metabolite Profiling and Identification by High-Resolution Mass Spectrometry;** Li-Quan Wang; Xinping Fang; Jinn Wu; *XenoBiotic Laboratories, Inc, Plainsboro, NJ*
- WP 472 **Non-Targeted Identification of Novel Buspirone Metabolites using a Spectral Similarity Score Derived from Common Fragment Ion and Neutral Loss Species;** Kirsten Hobby; Alan Barnes; Neil J Loftus; *Shimadzu MS/BU, Manchester, UK*
- WP 473 **MsXelerator: A Software Platform for Drug Metabolite Detection and Identification using High-Resolution Mass Spectrometry and Post-Acquisition Data Mining;** Marco Ruijken; *MsMetrix, Maarssen, Netherlands*
- WP 474 **Data Processing with Automated Structure Assignment for Metabolite Identification;** Graham A. McGibbon¹; Vitaly Lashin²; Lorne Fell¹; Alexey Aminov²; ¹*ACD/Labs, Toronto, Canada*; ²*ACD Ltd., Moscow, Russia*
- WP 475 **Metabolite Prediction in the iHumite Workflow for First-in-Man and Preclinical Coverage Studies;** Peter L. Jacobs^{1,2}; Lars Ridder³; Marco Ruijken⁴; William D. van Dongen²; ¹*MSam, Oss, Netherlands*; ²*TNO Triskelion BV, Zeist, Netherlands*; ³*Netherlands eScience*



Center, Amsterdam, Netherlands; ⁴MsMetrix, Maarssen, Netherlands

- WP 476 **Elucidation of Definitive Structures of Degradation Products and Metabolites by Integrated LC/MS/SPE/ NMR Approach in Drug Discovery.**; Vladimir Capka; Jian Guo; James Atherton; Camil Joubran; Ying Liu; AstraZeneca Pharmaceuticals, Waltham, MA
- WP 477 **Identification of Tiagabine Degradation Products using LC-ESI/MSⁿ and UPLC-ESI/HR-MS**; Marie Hubert-Roux¹; Mohamed Skiba²; Abdussalam Sughrir²; Malika Lahiani-Skiba²; Fabienne Olivier-Chanu³; Vincent Levacher¹; Catherine Lange¹; Carlos Afonso¹; ¹University of Rouen - UMR CNRS 6014 Cobra, Mont-Saint-Aignan, France; ²University of Rouen- CNRS-UMR 5007, Rouen, France; ³Arkema CERDATO, Serquigny, France
- WP 478 **Identification of Degradation Products of Sildenafil Citrate by Thermally Assisted Easy Ambient Sonic-Spray Ionization Mass Spectrometry**; Phellipe Amaral^{1,2}; Marcos Franco²; Marcelo Trevisan³; Jerusa S. Garcia³; Nelci F. Höehr¹; Marcos N. Eberlin²; ¹Departament of Clinical Pathology, FCM - Unicamp, Campinas, SP-Brazil; ²Thomson Mass Spectrometry Laboratory, IQ-Unicamp, Campinas, SP - Brazil; ³Institute of Chemistry, Federal University of Alfenas, Alfenas, MG - Brazil
- WP 479 **Analytical Methodologies for Identification and Characterisation of Melanotan II in Illicit Market Samples**; Torben Breindahl³; Andreas Kimergaard²; Allan Stensballe¹; Tue Bennike⁴; ¹Aalborg University, Aalborg, Denmark; ²Aarhus University, Aarhus, Denmark; ³Sygehus Vendsyssel, Hjørring, Denmark; ⁴PhD Student at Aalborg University, Aalborg, Denmark

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- WP 480 **Quantification of Estrogen Receptor Ligands (PPT and DPN) in Rat Serum using UPLC-ES/MS/MS: Application in Pharmacokinetic Study**; Estatira Sepehr; Mona Churchwell; Nathan C. Twaddle; Kellie Woodling; Daniel R. Doerge; National Center for Toxicological Research, US FDA, Jefferson, AR
- WP 481 **An *in vitro/in vivo* Cellular Transport Study of Resveratrol and Icaritin using Multiple MS/MS Techniques**; Damien A. Narcisse¹; Adriana Soto¹; Kathleen McCutcheon²; John Finley¹; ¹LSU Food Science, Baton Rouge, LA; ²LSU Human Ecology, Baton Rouge, LA
- WP 482 **Quantification of Valproyl-1-O-Acyl Glucuronide in Cell Culture Medium using Ultra High Performance Liquid Chromatography with Tandem Mass Spectrometry**; Jayakumar Surendradas; Andras Szeitz; Thomas Chang; Frank S. Abbott; The University of British Columbia, Vancouver, Canada
- WP 483 **UHPLC-ESI-HRMS Quantitation of Metabolites without using Reference Standards-Impact of Mobile Phase Composition on MS Response**; Sumithra Katragadda; Dil Ramanathan; Kean University, Iselin, NJ
- WP 484 **Simultaneous Determination of Tasimelteon, M9, M11, M12, M13, and M14 in Human Plasma by UPLC-MS/MS and its Applications**; Hongkun Liang¹; Ravi Pandrapragada²; Angel Tseng¹; Crystal Nguyen¹; Yuan-Shek Chen¹; David J Quirico³; Yongdong Zhu¹; Kumar Ramu¹; ¹QPS, LLC., Newark, DE; ²Vanda Pharmaceuticals, Rockville, MD; ³QPS, LLC, Newark, DE
- WP 485 **Determination of Diltiazem and its Metabolites Desmethyl Diltiazem and Desacetyl Diltiazem in Human Plasma by LC-MS/MS**; Jerry Cao; Robert Yuan; Jamie Zhao; Kumar Ramu; QPS, LLC, Newark, DE
- WP 486 **LC-MS-Based Method for the Quantitation of the Stichodactyla Toxin Peptide ShK-186 in Preclinical Studies**; Yongxin Zhu; Celia J. Darienzo; Jenny Xie; Lyndon A. M. Cornelius; Adrienne Tymiak; Timothy V. Olah; Bristol-Myers Squibb Company, Princeton, NJ
- WP 487 **Simultaneous Determination of Ethinyl estradiol, Norgestimate and 17-Desacetyl Norgestimate at 2/5 pg/mL level in Human Plasma by LC-MS/MS**; Jing Ke; Kelly Lam; Weisheng Lin; Harry Zhao; John Lin; Frontage Laboratories, Inc, Malvern, PA
- WP 488 **Detection of Drug Metabolism Heterogeneity in Primary Human Hepatocytes by Live Single-cell Mass Spectrometry**; Naohiro Tsuyama¹; Yasufumi Fukano²; Hajime Mizuno¹; Takanori Harada¹; Sachiko Date³; Tsutomu Masujima^{1,3}; ¹Hiroshima Univ. Grad. Sch. Biomed. Sci, Hiroshima, Japan; ²Santen Pharmaceutical, Ikoma, Japan; ³RIKEN QBiC, Osaka, Japan
- WP 489 **Determination of Ceftiofur Metabolite Desfuroylceftiofur Cysteine Disulfide in Bovine Plasma by LC-MS/MS**; Shixia Feng; Philip Kijak; Oscar Chiesa; Elizabeth Smith; FDA, Laurel, MD
- WP 490 **Supercritical Fluid Chromatography /Tandem Mass Spectrometric Method for the Determination of MK-8998 and Two Metabolites in Human Plasma**; Cynthia M. Chavez-Eng¹; Lida Liu^{2,3}; Marvin Constanzer^{2,3}; Eric Woolf¹; Kevin Bateman¹; ¹Merck & Co., West Point, PA; ²None, West Point, PA; ³None, West Point, PA
- WP 491 **Quantification of Cotinine and Other Downstream Metabolites in Rat Brain Tissue and Plasma Samples by LC-MS/MS**; Pei Li; University of Georgia, Athens, GA
- WP 492 **A Validated Enantioselective Assay for the Simultaneous Quantitation of Fluoxetine Urine Metabolites using Liquid Chromatography with Tandem Mass Spectrometry (LC/MS/MS)**; Timothy Chow; Andras Szeitz; Dan Rurak; Wayne Riggs; The University of British Columbia, Vancouver, BC
- WP 493 **Proposed Plasma Micro-Sampling Device for Implementation in Pre-Clinical Studies**; Chester L Bowen¹; Molly Karlinsey¹; Hermes Licea Perez¹; Jim Kenney²; Joe Siple²; ¹GlaxoSmithKline, King Of Prussia, PA; ²Drummond Scientific, Broomall, PA
- WP 494 **Consequence of U-Shape Retention Profile of Phospholipids on Reversed-Phase Columns used in LC-MS/MS Bioanalysis**; Yuan-Qing Xia¹; Mohammed Jemal²; ¹AB Sciex, Framingham, MA; ²Bristol-Myers Squibb, Princeton, NJ
- WP 495 **Stable-Isotope Dilution (SID) High-Resolution Mass Spectrometry (HRMS) Quantitative Analysis of Drug Metabolites (DMs) in Human Plasma without DM Standards**; Jim Vrbanac; Allen Hilgers; Tyson Dubnicka; Franklin B Shilliday; James Sams; David Humphries; Richard Slauter; Roger N. Hayes; MPI Research, Mattawan, MI
- WP 496 **Characterization and Quantification of the Glucuronide Metabolite of ON 013100, a Mitotic Inhibitor, in Human Colon Cancer Cells by LC/MS/MS**; Sool Yeon Cho¹; Steve C. Cosenza¹; Venkat Pallala²; Gayatri Panda¹; M.V. Ramana Reddy¹; E. Premkumar Reddy¹; John Roboz¹; ¹Mt. Sinai School of Medicine, New York, NY; ²Onconova Therapeutics, Inc., Newtown, PA
- WP 497 **Validation of an Automated Method for Quantitation of S-Citalopram and S-Desmethyl Citalopram in Human Plasma using Chiral Separation via LC/ESI/MS/MS**; Lavanya Arivelu; Kevin Carleton; Clark Williard; George Scott; Pharmanet USA, Princeton, NJ



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- WP 498 **Stability and Intramolecular Migration of a Major Human Acyl Glucuronide Metabolite of a Selective Adenosine-1 Receptor Antagonist, Tonapofylline;** Ping Li; Liyu Yang; Lewis Klunk; liang-shang Gan; *Biogen Idec, Cambridge, MA*
- WP 499 **Quantification of Sedoheptulose 7-Phosphate in Bacterial Cell Extracts by Liquid Chromatography-Mass Spectrometry;** Ludmila Alexandrova¹; Jing-Hung Wang²; Allis Chien¹; A Martin²; ¹*Vincent Coates Foundation Mass Spectrometry Lab, Stanford, CA*; ²*Department of Microbiology and Immunology, Stanford, CA*
- WP 500 **Quantitative Analysis of BI 10773 (Empagliflozin) in Human Plasma by Automated 96-well Solid Supported Liquid Extraction and LC/MS/MS;** Yan Mao; Bailuo Ren; Lois Rowland; Jeffrey Duggan; *Boehringer Ingelheim Pharmaceuticals Inc., Ridgefield, CT*
- WP 501 **Validation of a Bioanalytical ICP-MS Method for the Quantitative Determination of Lithium in Human Whole Blood;** Joseph Pavl¹; Jennifer Monahan¹; Gowri Mahendraratnam¹; Shikha Barman²; ¹*Toxikon, Bedford, MA*; ²*Follica, Waltham, MA*
- WP 502 **Evaluating Weak Anion eXchange Solid Phase Extraction of Acyl-Coenzyme-As from Plants with UPLC – MRM Quantification;** Stephen J. Ambrose; Qiang Li; Zou Jitao; Randy W. Purves; *National Research Council, Saskatoon, Canada*
- WP 503 **Quantitative Analysis of Hydrazine and Acetylhydrazine using Chemical Derivatization and HPLC-MS/MS;** Derek Laine¹; Chad Christianson¹; Kevin L. Harbol²; Shane Needham¹; ¹*Alturas Analytics, Moscow, ID*; ²*Omeros Corporation, Bothell, WA*
- WP 504 **Ultra Low Limit of Detection for Estradiol in Human Plasma by LCMSMS;** Nicolas Jean; Isabelle M. Levesque; Marie-Josée Marcoux; Sylvain Lachance; Sofi Gagnon-Carignan; Nadine Boudreau; Ann Lévesque; *PharmaNet Canada, Québec, Canada*
- WP 505 **Twenty-Fold Assay Sensitivity Improvement for the LC-MS/MS Bioanalysis of Dapagliflozin in Human Plasma;** Jane Liu; Sophia (Xiaohui) Xu; Guowen Liu; Anne F. Aubry; Bruce Stouffer; Mark E. Arnold; Qin C. Ji; *Bristol-Myers Squibb Co., Princeton, NJ*
- WP 506 **Fast and Quick UHPLC/MS analysis of Melamine and Its Analogues from Powdered Infant Milk;** Daniel Tran; *Agilent Technologies, Lake Forest, Ca, CA*
- WP 507 **Automated Assay for the Determination of Oxymorphone and 6-OH-Oxymorphone in Human Plasma by LCMSMS;** Geneviève Emond; Marie-Claude Théberge; Sylvain Lachance; Nadine Boudreau; Ann Lévesque; *PharmaNet Canada, Québec, Canada*
- WP 508 **A Highly Sensitive Method for the Quantitation of Naloxone, Buprenorphine and Norbuprenorphine in Human Plasma by High-pH LC-MS/MS;** Nancy Zheng; Jennifer Keller; Angela Johnson; Jingduan Chi; Zong-Ping Zhang; *PPD Inc, Middleton, WI*
- WP 509 **A Rapid and Sensitive LC-MS Method for the Quantification of a Neuroprotective Thiazolidinedione Ligand, NL-1, in Mouse Serum;** Kiran Pedada¹; Xiang Zhou¹; Harini Jogiraju¹; Richard Carroll²; Werner Geldenhuys²; Li Lin²; David Anderson¹; ¹*Cleveland State University, Cleveland, OH*; ²*Northeast Ohio Medical University, Rootstown, OH*
- WP 510 **Development of a Highly Sensitive LC-MS/MS Method for Determination of NGP1-01 in Mouse Serum;** Harini Jogiraju¹; Xiang Zhou¹; Werner Geldenhuys²; Cornelis Van der Schyf²; Samuel Crish²; David Anderson¹; ¹*Cleveland State University, Cleveland, OH*; ²*Northeast Ohio Medical University, Rootstown, OH*
- WP 511 **Development of a Sensitive Method for Quantitation of 6-hydroximino-4-aza-A-homo-cholest-3-one in Mouse Plasma using LC-MS/MS;** Chun Zeng; Xiang Zhou; Aimin Zhou; *Cleveland State University, Cleveland, OH*
- WP 512 **Sensitive Detection and Quantification of Hydrogen Sulfide as a Gasotransmitter by Combining Monobromobimane-Based Derivatization to Triple Quadrupole LC/MS/MS;** Hishiki Takako¹; Tsuyoshi Nakanishi²; Makoto Suematsu¹; ¹*School of medicine, Keio University, Tokyo, Japan*; ²*Shimadzu Corporation, Kyoto, Japan*
- WP 513 **Quantitation of Antifungal Drugs in Human Plasma by Liquid Chromatography-Mass Spectrometry;** Katerina Sadilkova; Barbara Busby; Rhona M. Jack; *Seattle Children's Hospital, Seattle, WA*
- WP 514 **Development and Validation of a Liquid Chromatography-Tandem Mass Spectrometric Method for the Quantification of KM-023 in Human Plasma;** Jin Hee Noh; Seo Hyun Yoon; Kyung-Sang Yu; In-Jin Jang; Joo-Youn Cho; *Seoul National University, Seoul, South Korea*
- WP 515 **Quantitation of Melatonin and N-Acetylserotonin in Human Plasma by Nanoflow LC-MS/MS and Electrospray LC-MS/MS;** Melissa D. Carter; M. Wade Calcutt; Beth A. Malow; Kristie Lindsey Rose; David L. Hachey; *Vanderbilt University, Nashville, TN*
- WP 516 **Amino Acid Analysis in Human Plasma by aTRAQ-coupled LC-MS/MS;** Mi-Ryung Chun¹; Jeong-Soo Yang¹; Hyo-Young Kim³; Han-Soon Kwon³; hye-In Woo¹; Shinn-Won Lim¹; Doh-Kwan Kim^{1,2}; Soo-Youn Lee^{1,2}; ¹*Samsung medical center, seoul, Korea*; ²*Sungkyunkwan University, seoul, Korea*; ³*Agilent technologies Korea, seoul, Korea*
- WP 517 **Determination of Ketosteroids in Meat Trough Derivatization Chemistry and Liquid Chromatography Tandem Mass spectrometry;** Fabio Mazzotti¹; Leonardo Di Donna¹; Domenico Taverna¹; Hicham Benabdelkamel^{1,2}; Anna Napoli¹; Donatella Aiello¹; Giovanni Sindona¹; ¹*Dipartimento di Chimica Università della Calabria, Arcavacata Di Rende, Italy*; ²*Obesity Research Center, CM, KSU, Riyadh, Saudi Arabia*
- WP 518 **SymDAQ Derivatization for profiling of Monoamines and Amino Acids in Microdialysate, Plasma and Cerebrospinal Fluid by LC-MS/MS;** Corry Hofland¹; Theo Klein²; Thomas Cremers^{1,3}; ¹*Brains On-Line BV, Groningen, Netherlands*; ²*University of British Columbia, Vancouver, Canada*; ³*University of Groningen, Groningen, Netherlands*
- WP 519 **Assay of Flavanones in Commercial Beverages by UHPLC-ESI-MS/MS and Isotope Dilution Methods;** Domenico Taverna; Leonardo Di Donna; Fabio Mazzotti; Anna Maria Napoli; Giovanni Sindona; *Department of Chemistry Università della Calabria, Arcavacata Di Rende, Italy*
- WP 520 **Comparison of Liquid Chromatography-Tandem Mass Spectrometry to Liquid Chromatography-Fluorescence Detection for the determination of Duloxetine in Human Plasma;** Joon Hyuk Suh¹; Jong Hwa Kim²; Hee Joo Lee²; Kyung Hyun Kim¹; Seul Gi Lee¹; Jeong-Rok Youm¹; Sang Beom Han¹; ¹*Chung-Ang University, Seoul, South Korea*; ²*BioCore Co., Ltd, Seoul, South Korea*



- WP 521 **Matrix Effects on Electro Spray Ionization of Drug Compounds in Plasma Samples due to the Bile Acid Taurocholic Acid;** Anders O Olsson; Maria Jelvestam; *AstraZeneca R&D, Mölndal, Sweden*
- WP 522 **A Novel LC-MS/MS Method for the Ultra-Sensitive Detection of 1 α ,25(OH) $_2$ -Vitamin D3 in Serum Samples;** Adam Latawiec; Michael Jarvis; Bruno Casetta; *AB SCIEX, Concord, Canada*
- WP 523 **Simultaneous Trace Level Quantification of Ticagrelor and Two of its Major Metabolites in Mouse Blood using Scheduled MRM in LC/MSMS;** Anders J Lundqvist; Angela Hillemyr; *AstraZeneca R&D Mölndal, Mölndal, Sweden*
- WP 524 **An Analytical Method for the Determination of Testosterone and Epi-Testosterone by Liquid Chromatography-Tandem Mass Spectrometry;** Adam Latawiec; Evelyn McClure; *AB SCIEX, Concord, Canada*
- WP 525 **Evaluation of Resolution/Scan Speed Limitations for Quantitation of Small Molecules by UHPLC-HRMS on the Q-Exactive Platform;** Allysen Meymaris¹; Richard Lelacheur¹; Patrick Bennett²; Kevin Cook²; Xin Zhang¹; ¹*Agilux Labs, Worcester, MA*; ²*Thermo Fisher, San Jose, CA*
- WP 526 **The Measurement of Nucleoside Reverse Transcriptase Inhibitor (NRTI) Antiretroviral Drugs by LC-MS/MS;** Yun Yun Zou; Michael J. Y. Jarvis; Jeffery Rivera; *AB SCIEX, Concord, Canada*
- WP 527 **An LC/MS/MS Method for the Sub-ppm Level Quantification of the Genotoxic Impurity 2-Hydroxypyridine N-oxide as its Dansyl Derivative;** Wei Ding; Yande Huang; Scott A Miller; Mark S. Bolgar; *Bristol-Myers Squibb, New Brunswick, NJ*
- SMALL MOLECULES: QUALITATIVE ANALYSIS, 528 - 561**
- WP 528 **Liquid Chromatography-Mass Spectrometric Characterization of Sulfation of Glutathione Conjugated Bile Acids by a Rat Liver Cytosolic Fraction;** Shigeo Ikegawa¹; Naohiro Hori¹; Takashi Iida²; Alan F Hofmann³; Kuniko Mitamura¹; ¹*Kinki University, Higashi-Osaka, Japan*; ²*Nihon University, Tokyo, Japan*; ³*University of California, San Diego, CA*
- WP 529 **Mass Spectrometry Analysis of Organic Compounds from Ancient Mayan Vessels from the Jay I. Kislak Collection;** Dmitri Zagorevski¹; Jennifer Loughmiller-Newman²; ¹*Rensselaer Polytechnic Institute, Troy, NY*; ²*University at Albany, Albany, NY*
- WP 530 **Enhancing the Productivity of Pharmaceutical Workflows using the Single Quadrupole Mass Spectrometer;** Srividya Kailasam¹; Craig Love²; ¹*Agilent Technologies (India) Pvt. Ltd., Bangalore, India*; ²*Agilent Technologies, Inc., Santa Clara, United States*
- WP 531 **Ultra High Speed Scanning enables to Characterize Small Molecule Impurities Down to 0.01%;** Mohan Kasi; Saravanan Susbramanyam; Govindarajan Chandramohan; venkat manohar; Arvind Thyagarajan; *IICMS, Chennai, India*
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- WP 533 **Automatic Dilution Factor Determination for Quadrupole LC/MS and Its Application to Open Access Formula ID in Drug Discovery;** Hongliang (Leo) Xu¹; Ming Gu¹; Yongdong Wang¹; Sharon Tentarelli²; ¹*Cerno Bioscience, Norwalk, CT*; ²*AstraZeneca, Waltham, MA*
- WP 534 **Structural Elucidation of Small Drug Molecules using Q-TOF, LTQ-Orbitrap and GC-ESI-MS with Supersonic Molecular Beams (SMB);** Lena von Sydow¹; Anja Ekdahl¹; Marie Tysk Rönqvist²; Carina Leandersson¹; Aviv Amirav³; ¹*AstraZeneca R&D Mölndal, Mölndal, Sweden*; ²*AstraZeneca R&D Södertälje, Södertälje, Sweden*; ³*Tel-Aviv University, Tel-Aviv, Israel*
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- WP 546 **Elucidation of Novel Degradation Product in Isoproterenol Drug Product Formulation utilizing Multiple Stage MS, High Resolution MS, and UV Spectroscopy;** Sam Molesworth; Dannel Bowen; Todd Schwier; Samantha Leidner; *Hospira, Inc., Lake Forest, IL*
- WP 547 **Improving Assay Sensitivity with Quaternary Amine Derivatives of Bisphosphonates;** Xiaodong Zhu; Michael P Sullivan; Ravi Orugunty; Jingguo Hou; Melvin Tan; Gregory Poch; Thomas Horuath; Jing Zhou; Edward Wells; Steve E. Unger; *Worldwide Clinical Trials DDS, Austin, TX*
- WP 548 **New Insights on the Fragmentation of Protonated Amino Acids involved in Ammonia Metabolism in *Aedes aegypti* Mosquitoes;** Xin Ma; Shai Dagan; Arpad Somogyi; Vicki H. Wysocki; Patricia Y. Scaraffia; *University of Arizona, Tucson, AZ*
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- WP 564 **Getting to the Next Level: Pesticide Residue Analysis in Grains at the sub ppb Level using GC/QQQ/MS for Routine Analysis;** Bruce Peebles^{1,2}; Katherine Roussety^{1,2}; Steve Schachterle³; Patrick Jeanville³; Kefei Wang³; Christopher Kellogg³; Robert Trengove^{1,2}; ¹*Murdoch University, Perth, Australia*; ²*Metabolomics Australia, Murdoch University Node, Perth, Australia*; ³*Bruker Chemical and Applied Markets, Fremont, CA*
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- WP 576 **Qualitative and Quantitative Analysis of Multi-Residue in Food Samples by High Performance Liquid Chromatography Tandem Quadrupole Time-of-Flight Mass Spectrometry;** Xiaorong Ran; Wei Chen; Tao Bo; *Agilent Technologies (China), Beijing, China*
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- WP 584 **Short Validation of a Multi-Mycotoxin UHPLC-MS/MS Screening Method for the Quantitation and Identification of Mycotoxins in Nuts;** Elisabeth Varga¹; Thomas Glauner²; Rainer Schuhmacher¹; Rudolf Krksa¹; Franz Berthiller¹; Michael Sulyok¹; ¹*CD Laboratory for Mycotoxin Metabolism, IFA Tulln, Tulln, Austria*; ²*Agilent Technologies GmbH, Waldbronn, Germany*
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Francis²; Danielle Bassanese²; Neil Barnett²; Harald Ritchie³; Xavier Conlan²; Andrew Shalliker¹; ¹University of Western Sydney, North Parramatta, Australia; ²Deakin University, Geelong, Vic, Australia; ³ThermoFisher Scientific, Runcorn, UK

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WP 631 **Real Time Pharmaceutical Reaction Monitoring by on Mobility-Mass Spectrometry**; Kristyn Roscioli¹; Xing Zhang¹; Shelly Li²; Gilles Goetz²; Guilong Cheng²; Zhongli Zhang³; William Siems¹; Herbert Hill¹; ¹WSU, Pullman, WA; ²Pfizer Global R&D, Groton Laboratories, Pfizer Inc, Groton, CT; ³Irvine Pharmaceutical Services, Irvine, CA

WP 632 **Product Ion Mobility as a Promising Tool for Assignment of Positional Isomers of Drug Metabolites**; Filip Cuyckens¹; Carola Wassvik²; Russell Mortishire-Smith³; Gary Tresadern²; Iain Campuzano⁴; Jan Claereboudt⁴; ¹Drug Metabolism & Pharmacokinetics, Janssen R&D, Beerse, Belgium; ²Research Informatics, Janssen R&D, Toledo, Spain; ³ADME-Tox, Janssen R&D, Beerse, Belgium; ⁴Waters (MS Technology Centre), Manchester, UK

WP 633 **Coupling Liquid and Gas-Phase Separations for Comprehensive and Quantitative Analysis of Visceral Fat Proteins in Rats of Differing Aerobic Capacity**; Joanne B. Connolly¹; Lauren G. Koch³; Steven L. Britton³; Jatin G. Burniston²; ¹Waters Corporation, Manchester, UK; ²Liverpool John Moore's University, Liverpool, UK; ³University of Michigan, Ann Arbor, MI

WP 634 **Profiling of Highly Complex Citrus Juice Samples using UPLC® Ion Mobility Time of Flight Mass Spectrometry**; Michael McCullagh¹; Antonietta Gledhill¹; Kieran J. Neeson¹; Ramesh P. Rao¹; Kenneth Rosnack²; ¹Waters Corp, Manchester, UK; ²Waters Corporation, Milford, MA

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WP 636 **Metabolomic Analyses of Plasma of Obese Zucker fa/fa Rats using a Synapt G2 Platform**; Jeffrey Morré; Samantha Wickramasekara; Jay Kirkwood; Fereshteh Zandkarimi; Leecole Legette; Fred Stevens; Claudia Maier; Oregon State University, Corvallis, OR

WP 637 **Imaging of Molecule Surface Distributions using Electrospray Assisted Laser Desorption Ionization Coupled to an Ambient Pressure Ion Mobility Spectrometer**; Cheng-Hui Yuan¹; Hermann Wollnik¹; Gary Eiceman¹; Pu Wei¹; Jentaie Shiea²; ¹New Mexico State University, Las Cruces, NM; ²National Sun Yat-Sen Univ., Kaohsiung, Taiwan

WP 638 **Enhanced Data Independent Analysis of lipids using Ion Mobility-TOFMS to Unravel Quantitative and Qualitative Information from Human Plasma**; Vinit Shah; Jose Castro-Perez; David McLaren; Kithsiri Herath; Stephen Previs; Thomas Roddy; Merck Research Laboratories, Rahway, NJ

WP 639 **Direct Injection of Urine for LC/MS Analyses without Sample Preparation**; Stephen Davila; Diana Torres Olague; Alexander Tarassov; Hermann Wollnik; Gary Eiceman; New Mexico State University, Las Cruces, NM

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WP 641 **Thermally Assisted Direct Analysis in Real Time Ionization Ion Mobility Spectrometer (IMS)**; Joseph Tice¹; Jordan Krechmer¹; Mike Festa¹; Brian Musselman¹; Paula Holmes²; Bruce Laprade²; ¹IonSense, Inc., Saugus, MA; ²Photonis USA, Inc., Sturbridge, MA

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- WP 644 **Increasing Peak Capacity to Characterize Complex Samples: UPLC Separation Coupled with Ion Mobility Mass Spectrometry (IM-MS);** Antonietta Gledhill¹; Michael McCullagh²; Kieran J Neeson¹; Cíntia Pereira³; Janete Yariwake³; ¹*Waters Corporation, Manchester, UK*; ²*Waters, Manchester, UK*; ³*Universidade de São Paulo, Caixa, Brazil*
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- WP 684 **Analysis of Surfaces Prepared by Ion Soft Landing Using *in-situ* Methods;** Michael Wlekinski; Jobin Cyriac; Guangtao Li; R. Graham Cooks; Purdue University, West Lafayette, IN
- WP 685 **Mobile-Solar Autonomous Underwater Sampler (SAUS): Extending the Radius of Lab Based Mass Spectrometry;** David Fries¹; Brian P. Gregson¹; Geran Barton¹; Gary Hendrick¹; Sandra Pettit²; Abdul Malik³; ¹University of South Florida College of Marine Scie, St. Petersburg, FL; ²University of South Florida, College of Engineerin, Tampa, FL; ³University of South Florida, Department of Chemist, Tampa, FL
- WP 686 **An Efficient Pressure Reduction Interface Based on a Miniature Quadrupole Ion Guide;** Albrecht Glasmachers¹; Alexander Laue¹; Albrecht Brockhaus¹; Michel Aliman²; ¹University of Wuppertal, Wuppertal, Germany; ²Carl Zeiss NTS GmbH, Oberkochen, Germany
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- WP 701 **Multiplexing of MS/MS Spectra on a Quadrupole Orbitrap Mass Spectrometer**; Gabriele Stoeck; Nadin Neuhauser; Richard Scheltema; Annette Michalski; Matthias Mann; *MPI for Biochemistry, Martinsried, Germany*
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- WP 716 **Schlieren Imaging of Gas Fluid Dynamics at the DART Ion Source-Mass Spectrometer Interface.**; Matthew Curtis¹; Joel Keelor²; Facundo Fernandez²; O. David Sparkman¹; Patrick R. Jones¹; ¹University of the Pacific, Stockton, CA; ²Georgia Institute of Technology, Atlanta, GA



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WP 726 **Development of a Soft Ionization Technique in Nonpolar Liquid with Lithium Tetrakis(3,5-bis(trifluoromethyl)-phenyl)Borate**; Atsushi Takamizawa^{1,2}; Takashi Korenaga²; Naoto Niizuma²; ¹*Japan Science and Technology Agency (JST), Saitama, Japan*; ²*Tokyo Metropolitan University, Hachioji, Japan*

WP 727 **Thermodynamic and Ion Mobility Studies of Electrospray Sources**; Ross C. Willoughby¹; James Buchner²; Edward Sheehan¹; ¹*Chem-Space Associates, Inc., Pittsburgh, PA*; ²*MultiPhase Solutions, Inc., Allison Park, PA*

WP 728 **Development and Characterization of a Vertical Plate, Fixed Geometry DESI Ion Source**; Brian C. Laughlin; Joseph H Kennedy; Justin Wiseman; *Prosolia, Inc., Indianapolis, IN*

WP 729 **An Automated Liquid Micro-Junction Surface Sampling Probe (LMJ-SSP) Platform**; Justin Wiseman¹; Brian C. Laughlin¹; Gary J. Van Berkel²; ¹*Prosolia, Inc., Indianapolis, IN*; ²*Oak Ridge National Laboratory, Oak Ridge, TN*

WP 730 **Thermal Desorption Electrospray Ionization Mass Spectrometry for Efficiently Characterizing Small Chemical Compounds in Liquids and Solids**; Min-Zong

Huang; Chih-Chiang Chou; Te-Lin Liu; Jentaie Shiea; *National Sun Yat-Sen Univ., Kaohsiung , Taiwan*

WP 731 **Direct Characterization of Drugs in Whole Blood by Thin Layer Chromatography Spray (TLCspray) Ionization Mass Spectrometry**; Tzu-Yang Su; Sy-Chyi Cheng; Jentaie Shiea; *National Sun Yat-Sen Univ., Kaohsiung , Taiwan*

WP 732 **Implementation of Multiple Enzymes Digestion in a Multiplexed Channel Microfluidic Proteomics Reactor to Increase Protein Sequence Coverage**; Rui Chen; Cheng-kang Chiang; Daniel Figeys; *University of Ottawa, Ottawa, Canada*

WP 733 **Laser Ablation Sample Transfer for On-line ESI-MS**; Sung-Gun Park; Kermit K. Murray; *Louisiana State University, Baton Rouge, LA*

WP 734 **Laser Ablation Sampling for Microfluidic Devices**; Chinthaka Seneviratne; Kermit K. Murray; *Louisiana State University, Baton Rouge, LA*

WP 735 **Simultaneous Ionization of Non-polar and Polar Compounds by Laser Ablation Electrospray Ionization with Heated Gas Jet**; Anu Vaikkinen¹; Bindesh Shrestha²; Akos Vertes²; Risto Kostainen¹; Tiina J Kauppila¹; ¹*University of Helsinki, Helsinki, Finland*; ²*George Washington University, Washington, DC*

WP 736 **Development of Air Flow Assisted Ionization Imaging Mass Spectrometric Method and Its Applications in Biological Tissue Imaging**; Jiuming He¹; Jingjing He¹; Zhigang Luo¹; Yi Chen²; Fei Tang²; Xiaohao Wang²; Zeper Abliz¹; ¹*Institute of Materia Medica, CAMS, Beijing, China*; ²*Tsinghua University, Beijing, China*

WP 737 **TLC/Plasma Assisted Multi-wavelength Laser Desorption Ionization Mass Spectrometry for Facile Separation and Selective Identification of Low Molecular Weight Compounds**; Jialing Zhang; Zhigui Zhou; Yu Bai; Huwei Liu; *College of Chemistry, Peking University, Beijing, China*

WP 738 **Atmospheric Pressure Visible-Wavelength MALDI-MS and MALDI-MS/MS**; Dragan Isailovic; Zhen Sun; Raymond West; Eric Finsden; *The University of Toledo, Toledo, OH*

WP 739 **Direct Characterization of Volume Samples by Internal Extractive Electrospray Ionization Mass Spectrometry**; Feiyan Yan; Haiwei Gu; Ning Xu; Huanwen Chen; *East China Institute of Technology, Nanchang, China*

WP 740 **Mass Spectrometry Analysis of Volatile Organic Compounds and Peptides by Thermal Ionization under Ambient Conditions**; Evgenii Kukaev^{1,2}; Alexey Kononikhin^{1,2}; Igor Popov^{1,2}; Stanislav Pekov¹; Oleg Kharybin¹; Konstantin Nagornov³; Vladimir Kapustin³; Eugene Nikolaev^{1,2}; ¹*Institute for Energy Problems of Chemical Physics, Moscow, Russian Federation*; ²*Emanuel Institute of Biochemical Physics, Moscow, Russian Federation*; ³*Inst of Radio-engineering Electr. and Automation, Moscow, Russian Federation*

WP 741 **Performance Characteristics of an AP MALDI ion Source Applied to Second Generation Exactive Mass Spectrometer**; Maciej Bromirski; Olaf Scheibner; Tabiwang N.Arrey; Kerstin Strupat; *Thermo Fisher Scientific GmbH, Bremen, Germany*

WP 742 **Direct Detection of Explosives, Pharmaceuticals, and Flavor Compounds by Plasma Ionization on a Modified Atmospheric-Pressure Source Designed for Electrospray Ionization**; Freneil B. Jariwala; Athula B. Attygalle; *Stevens Institute of Technology, Hoboken, NJ*



IONIZATION MECHANISMS, 743 - 756

- WP 743 **On the Generation and Identification of Novel Ions of $\text{La O}_{2n+2} \text{H}_{n+5}^+$ and $\text{La O}_{2n+3} \text{H}_{n+7}^+$** ; Xianglei Kong; *Nankai University, Tianjin, China*
- WP 744 **Characterization of Primary Reactions of Matrix-Assisted Laser Desorption/Ionization**; YinHung Lai¹; ChiaChen Wang¹; ShengHsian Lin²; YuanTseh Lee¹; YiSheng Wang¹; ¹Genomics Research Center, Academia Sinica, Taipei, Taiwan; ²Department of Chemistry, National Chiao Tung Univ., Hsinchu, Taiwan
- WP 745 **An Investigation of Mechanisms occurring in Paper Spray Ionization Mass Spectrometry**; Wejdan Alsaggaf; Rob O'Brien; *IK. Barber School of Arts and Science, UBC Okanagan, Kelowna, B.C. V1V 1V7, Canada*
- WP 746 **The use of Carbon Disulfide as a New Dopant in Atmospheric Pressure Photo Ionization (APPI) Mass Spectrometry**; Faezeh Dousty¹; Rob O'Brien¹; Thorsten Benter²; ¹University of British Columbia Okanagan, Kelowna, Canada; ²University of Wuppertal, Wuppertal, Germany
- WP 747 **The Mechanism of Ion Formation in a Direct Sample Analysis (DSA) Ionization Source**; Shida Shen¹; Sharanya Reddy²; Craig M. Whitehouse²; ¹PerkinElmer, Inc., Branford, CT; ²PerkinElmer, Shelton, CT
- WP 748 **Pressure-and Laser Fluence-Dependence of the Ablation Dynamics of Ionic Liquid Matrices investigated by Fast-Flash Imaging**; Nils Hellwig; Tassilo Muskat; Jürgen Grotemeyer; *Inst. f. Phys. Chem der CAU zu Kiel, Kiel, Germany*
- WP 749 **Internal Energy Investigations of Inlet Ionization**; Madeline Fenner; *University of the Sciences, Philadelphia, PA*
- WP 750 **Proposed Fragmentation Mechanisms for Lorcaserin and Similar Substituted Benzazepines**; Walter Gwathney; Matthew Cerny; Jay Xu; *Arena Pharmaceuticals, San Diego, CA*
- WP 751 **Absolute Total Electron Impact Ionization Cross-Sections of Organic and Biological Molecules**; James N. Bull¹; Peter W. Harland²; Claire Vallance¹; ¹University of Oxford, Oxford, UK; ²University of Canterbury, Christchurch, New Zealand
- WP 752 **Postsources Decay of Peptide Ions Produced by Laser Desorption/Ionization on Flat Surfaces**; Sang Yun Han; Shin Hye Kim; Aera Lee; Jae Yong Song; *KRISS, Daejeon, South Korea*
- WP 753 **Investigating Effects on Charge-State Distributions for Protein Analysis in Novel-Ionization Techniques**; Diana L. Sardelis; Charles N. McEwen; Catherine Bentzley; *University of the Sciences, Philadelphia, PA*
- WP 754 **Charge Delocalization by Solvation and the Supercharging of Denatured Proteins**; Andre Venter; Kevin Douglass; *Western Michigan University, Kalamazoo, MI*
- WP 755 **Supercharging and Subcharging Proteins and Protein Complexes to Explore Electrospray Ionization**; Rachel O. Loo; Rajeswari Lakshmanan; Jiang Zhang; Joseph A. Loo; *UCLA, Los Angeles, CA*
- WP 756 **Theoretical and Experimental Characterization of Solvent-Free Atmospheric Pressure Chemical Ionization Applied to LTQD-MS/MS Analysis**; Pierre Picard¹; Serge Auger¹; Grégory Blachon¹; E. Real Paquin²; ¹Phytionix Technologies, Inc., Quebec, Canada; ²Université Laval, Québec, Canada

PEPTIDES: ION ACTIVATION/ASSOCIATION STRATEGIES, 757 - 768

- WP 757 **In-Source Decay Characterization of Isoaspartate and β -peptides**; Xiang Yu¹; Nadezda P. Sargaeva¹; Christopher Thompson²; Catherine E. Costello¹; Cheng Lin¹; ¹Boston University School of Medicine, Boston, MA; ²Bruker Daltonics Inc., Billerica, MA
- WP 758 **Atmospheric Pressure Electron Capture Dissociation (AP-ECD): Further Development and Evaluation for Localization of Labile Post-Translational Modifications on Sulfopeptides and Glycopeptides**; Davin Carter¹; Jason Rogalski¹; Damon Robb²; Michael Blades²; Juergen Kast^{1,2}; ¹University of B.C. - Biomedical Research Centre, Vancouver, Canada; ²University of B.C. - Chemistry, Vancouver, Canada
- WP 759 **Tyrosine Selective Back-bone Cleavage in Peptide Anions upon Negative Electron transfer Dissociation and Ultraviolet Photodissociation**; Jared B. Shaw; Jennifer S. Brodbelt; *The University of Texas, Austin, TX*
- WP 760 **Atmospheric Pressure Radical Induced Oxidative Cleavage of Disulfide Bond in Peptides using a Low-Pressure Mercury Lamp**; Craig Stinson; Yu Xia; *Purdue University, West Lafayette, IN*
- WP 761 **Using RDD to Investigate the Role of Metal Ions and Methionine in Radical Sequestration in Amyloid Beta Peptides**; Omar Hamdy; Ryan Julian; *UC-Riverside, Riverside, CA*
- WP 762 **Laser-Induced Dissociation of Singly Cationic Peptides at 193nm with a Modified Triple Quadrupole Linear Ion Trap Mass Spectrometer**; Cheuk K. Lai¹; Dominic C. M. Ng¹; Qiang Hao²; Ringo H. F. Pang¹; Collin K. L. Mui¹; Allan S. C. Cheung¹; Ivan K. Chu¹; ¹The University of Hong Kong, Hong Kong; ²City University of Hong Kong, Hong Kong
- WP 763 **Enhancing the Sequence Informative Fragmentation through Alkali Metal Cationization of Model Cyclic Peptides by Various Dissociation Methods**; Nathanael F. Zinnel; Kevin L. Kmiec; David H. Russell; *Texas A&M University, College Station, TX*
- WP 764 **Comparison of Peptide Fragmentation using ETD and HCD on Lys-C Generated Peptides**; Karl R. Clauser; Namrata D. Udeshi; Steven A. Carr; *Broad Institute of MIT and Harvard, Cambridge, MA*
- WP 765 **The Benefits of HCD and ETD for Routine Peptide identification on an Orbitrap Velos**; Christian Frese; A.F. Maarten Altelaar; Albert J.R. Heck; Shabaz Mohammed; *Utrecht University, Utrecht, Netherlands*
- WP 766 **Probing Fragmentation Characteristics of Cyclic Peptides with Integrated Tandem Mass Spectrometry Approaches**; Takemichi Nakamura; Yayoi Hongo; Hiroyuki Koshino; *RIKEN, Wako, Japan*
- WP 767 **Attachment of Chromophores at the N-terminus of Peptides for Selective UV Photodissociation and de novo Sequencing**; Scott Robotham; Jennifer Brodbelt; *The University of Texas, Austin, TX*
- WP 768 **Data Independent IRMPD LC/FT-ICR MS/MS for Selective Detection of Phosphopantetheinylated Peptides from Natural Product Biosynthetic Pathways**; Wendi A. Hale¹; Yilun Li²; Eli B. Eisman³; David H. Sherman³; Kristina Hakansson¹; ¹University of Michigan, Ann Arbor, MI; ²Peking University, Beijing, China; ³Life Sciences Institute, University of Michigan, Ann Arbor, MI



THURSDAY POSTERS

7:30-8:00 am Set up all Thursday posters
10:30 am-1:00 pm Odd-numbered posters present
12:00-2:30 pm Even-numbered posters present
2:30-3:00 pm Remove all Thursday posters

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BIOMARKERS: SMALL MOLECULE QUANTITATIVE ANALYSIS, 001 - 029

- ThP 001 **LC-MS Method for Determining Neuroprostanes in Rat Brain Extracts**; Gary D. Byrd¹; Thierry Durand²; Camille Oger²; Jean-Marie Galano²; ¹Targacept, Winston-Salem, NC; ²Institut des Biomolécules Max Mousseron (IBMM), Montpellier, France
- ThP 002 **Improving the Limits of Quantitation for Aldosterone in Serum by LC-MS/MS using an Ultra-Sensitive Tandem Mass Spectrometer**; Michael J. Y. Jarvis; John Gibbons; AB SCIEX, Concord, Canada
- ThP 003 **Mass Spectrometric Analysis of mercapturic Acids Formed by Acrylate Exposure**; Christian Lindh; Moosa Faniband; Occupational and Environmental Medicine, Lund, Sweden
- ThP 004 **LC/MS/MS Quantification of Kynurenine Metabolites Implicated in Neurological Disorders**; David P. Budac; Anna Lee; Suresh Babu Poda; Dekun Song; Gennady Smagin; Mark J. Hayward; Lundbeck Research USA, Paramus, NJ
- ThP 005 **A Comprehensive Approach to Disease Biomarker Discovery**; Xiang Zhang¹; Xue Shi¹; Li Zhang²; Xiaoli Wei¹; Irina Kirpich¹; Imhoi Koo¹; Kevin Siek²; Jeffrey Patrick²; Joe Binkley²; Seongho Kim¹; Wenke Feng¹; Craig McClain¹; ¹University of Louisville, Louisville, KY; ²LECO Corporation, St. Joseph, MI
- ThP 006 **Dimethylarginine Quantitation by MS/MS: Comparison of Hydrophilic Interaction and Pentafluorophenyl Liquid Chromatography Columns**; Alan W. Taylor¹; Linda E. Sousse²; Daniel L. Traber²; Maret G. Traber¹; ¹Oregon State University, Corvallis, OR; ²University of Texas Medical Branch, Galveston, TX
- ThP 007 **Quantitative Analysis of Dried Blood Spots for Assessment of Vitamin B-12 Status using Liquid Chromatography – Tandem Mass Spectrometry**; Theresa Schroder; Yvonne Lamers; University of British Columbia, Vancouver, Canada
- ThP 008 **A Direct Comparison of Surrogate Matrix and Surrogate Analyte Approaches to Quantitation of Endogenous Amino Acids in Plasma by LC/MS/MS**; Barry R. Jones¹; Johnson Zhang¹; Gary A. Schultz¹; James A. Eckstein²; Bradley L. Ackermann²; ¹Advion Bioanalytical Labs, a Quintiles Company, Ithaca, NY; ²Eli Lilly & Company, Indianapolis, IN

- ThP 009 **LC/MS/MS Quantitation of L-Glutamic Acid in Human Plasma: A Direct Comparison of the Surrogate Matrix and Surrogate Analyte Approaches**; Paul L. Milligan¹; Jennifer M. Cox¹; Barry R. Jones²; Gary A. Schultz²; Bradley L. Ackermann¹; ¹Eli Lilly and Company, Indianapolis, IN; ²Advion Bioanalytical Labs, a Quintiles Company, Ithaca, NY
- ThP 010 **Quantitative Biomarker Analysis of Total, Reduced, and Oxidized Glutathione in Erythrocytes from Autistic Children, Matched Controls using EPA Method 6800**; Timothy Fahrenholz¹; Hm Skip Kingston¹; Matt Pamuku²; Hemasudha Chatragadda¹; Yosip Vargas¹; Duygu Tamer¹; Scott Faber, M.D.³; John Kern¹; ¹Duquesne University, Pittsburgh, PA; ²Applied Isotope Technologies, Pittsburgh, PA; ³The Children's Institute, Pittsburgh, PA
- ThP 011 **Comparison of UHPLC-MS-MS and LC-MS-MS for the Determination of Multiple Prostanoids in Biological Samples**; Rui Yu¹; Guiqing Zhao²; John W. Christman²; Lei Xiao²; Richard B. van Breemen¹; ¹College of Pharmacy, University of Illinois, Chicago, IL; ²College of Medicine, University of Illinois, Chicago, IL
- ThP 012 **Biomonitoring of Exposure Markers in Whole Blood and Plasma, Including Metals and Pesticides, in the North of England**; Robert Jefferson¹; David B Henderson¹; Margaret Knight¹; Clair Roper¹; Stephen P Rushton²; Alasdair P Blain²; Michael Dunn¹; Peter G Blain¹; ¹Medical Toxicology Centre, Newcastle, UK; ²Institute for Research on Environment and Sustain, Newcastle, UK
- ThP 013 **Isoprostane Profiles and Neurodegenerative Disease**; Michael Dunn; Chris M Morris; Margaret Knight; Peter Tennant; Peter G Blain; Medical Toxicology Centre, Newcastle University, Newcastle, UK
- ThP 014 **Inhibitory Effect of Triamcinolone Acetonide on Synthesis of Eicosanoids in the Equine using LC-MRM/MS**; Dipti Mangal¹; Cornelius Uboh²; Lawrence R. Soma¹; ¹University of Pennsylvania, West Chester, PA; ²West Chester University, West Chester, PA
- ThP 015 **Method Development for Quantification of the Polar Metabolite tele-MIAA used to monitor Histamine Release**; Johan Kolmert^{1,2}; Benita Forngren²; Anders Nordström¹; Johan Lindberg²; ¹Umeå University, Umeå, Sweden; ²AstraZeneca R&D, Global Safety Assessment, Södertälje, Sweden



- ThP 016 **High-throughput UPLC-MRM Assay of 18 Eicosanoids Reveals Negative and Positive Biomarkers for Atherosclerotic Disease**; Cexiong Fu; Brian Rago; Elizabeth A. Groeber; *Pfizer, Inc, Groton, CT*
- ThP 017 **Quantitative Analysis of cGMP in Rat Urine, Plasma and Blood by LC/MS/MS and Its Use as Biomarker for Compound Selection**; Kristina Gueneva-Boucheva; Akalushi Muthukumarana; Ryan Fryer; Steven Pullen; *Boehringer Ingelheim, Ridgefield, CT*
- ThP 018 **Simultaneous Determination of Endogenous Histamine and Its Metabolites in Human Blood and Urine using HILIC/MS/MS**; Guodong Zhang; Udeni Yapa; Yanhua Zhang; Parya Nouri; Elizabeth Groeber; Rick Steenwyk; *Pfizer Inc., Groton, CT*
- ThP 019 **Sensitive Biomarkers Quantitation in Biological Fluids by LC-SRM/MS**; Chantal Grivet¹; Eliane Kuehn¹; Neil J Loftus²; Alan Barnes²; Emmanuel Varesio¹; Gerard Hopfgartner¹; ¹University of Geneva, Geneva, Switzerland; ²Shimadzu MS/BU, Manchester, UK
- ThP 020 **A High-throughput 2D-LC-MS/MS Method to Determine Ethylenethiourea by Direct Injection of Hydrolysed Urine**; Eva Ekman; Christian Lindh; *Department of Laboratory Medicine, Lund University, Lund, Sweden*
- ThP 021 **LC-MS/MS Quantification of Free Desmosines in Plasma**; Tasso Miliotis¹; Sven Kjellström²; ¹AstraZeneca R&D Molndal, Molndal, Sweden; ²Biochemistry and Structural Biology, Lund, Sweden
- ThP 022 **A Promising Biomarker for Chronic Obstructive Pulmonary Disease**; Shuren Ma¹; Jiangtao He²; Yong Lin³; Gerard Turino¹; ¹Roosevelt Hospital, New York, NY; ²Columbia University, New York, NY; ³St.Luke/Roosevelt Hospital Center, New York, NY
- ThP 023 **Simultaneous Quantitation of Eight Endogenous Mineralocorticoid and Glucocorticoid Biomarkers in Monkey Plasma by UPLC-MS/MS**; Ming Wang; Kara Pearson; *Merck & Co., West Point, PA*
- ThP 024 **Neurotransmitter Analysis in the Striatum Tissues from Animal Brain: UPLC-MS/MS Method Validation and Application to Animal Models of Parkinson's Disease**; Changyu Quang¹; Brett D. Dunbar¹; Carina Witters-Teulings¹; Nichole R. Myers¹; William C. Nethero¹; Melissa J. Beck¹; Michael D. Schlosser¹; Kuldip D. Dave²; ¹WIL Research, Ashland, OH; ²The Michael J. Fox Foundation, New York, NY
- ThP 025 **Advances in Steroid Panel Analysis using LC-MSMS**; Ken Lewis¹; Lisa St.John-Williams¹; Changtong Hao²; Sha Joshua Ye²; ¹OpAns, LLC, Durham, NC; ²Ionics Mass Spectrometry Group, Inc, Bolton, Canada
- ThP 026 **Determination of Endogenous Biomarker (Melatonin) at Sub Picogram Levels in Human Plasma**; Mohammed Abrar; Milan Patel; *Unilabs York Bioanalytical Solutions, York, UK*
- ThP 027 **Proteomic Analysis of Anti-viral Hemorrhagic Septicemia Virus Signaling in Fathead Minnow Cells Transfected with F-type lectin-3 via Down-regulation of HSC70**; Se-Yeong Cho¹; Joseph Kwon²; Jong-Oh Kim³; Seong-Hwa Park²; Sang-Mu Ko³; Myung-Joo Oh³; Sung-Ju Jung³; Duwoon Kim¹; ¹Dept. Food Sci & Tech Chonnam National University, Gwangju, South Korea; ²Korea Basic Science Institute, Gwangju, South Korea; ³Dept. Aqualife Med Chonnam National University, Yeosu, South Korea
- ThP 028 **A Novel Internal Standard and Chromatographic Approach for Globotriaosylceramide (Gb3, GL-3, CTH) in Multiple Matrices as Biomarkers for Fabry disease**; Sabrina Forni; *Bylor Research Institute, Dallas, TX*
- ThP 029 **Isotope Dilution Applications in Clinical Mass Spectrometry**; Jie Chen¹; Michael J. Bennett^{1,2}; ¹Children's Hospital of Philadelphia, Philadelphia, PA; ²University of Pennsylvania, Philadelphia, PA
- BIOMARKERS: DISCOVERY III, 030 - 053**
- ThP 030 **Quantitative Plasma Proteomics of Chronic Graft versus Host Disease using Isotopic Labeling and LC-MS/MS on an Orbitrap Elite Mass Spectrometer**; Andy Lo¹; Qing Zhang²; Philip Gafken²; Daniel Couriel¹; Sophie Paczesny¹; David M. Lubman¹; ¹University of Michigan, Ann Arbor, MI; ²Fred Hutchinson Cancer Research Center, Seattle, WA
- ThP 031 **Preclinical Metabolomics Discovery and Evaluation of Candidate Hepatotoxicity Biomarkers**; Jinchun Sun¹; Yosuke Ando²; Xi Yang¹; Laura Schnackenberg¹; Lisa Pence¹; William Salminen¹; Donna Mendrick¹; Richard Beger¹; James Greenhaw¹; ¹NCTR / USFDA, Jefferson, AR; ²Daiichi Sankyo Co., Tokyo, Japan
- ThP 032 **Use of Mass Spectrometry-based Profiling to Evaluate the Response of Cells to Biopolymer Surfaces: Protein Expression on Hyaluronic Acid-Modified Surface**; Ming-Hui Yang; Yu-Chang Tyan¹; Tze-Wen Chung²; Yuh-Shan Su¹; ¹Kaohsiung Medical University, Kaohsiung, Taiwan; ²National Yunlin Univ of Science & Technology, Tainan, Taiwan
- ThP 033 **A Versatile Enrichment Tool for Bacterial Glycomics and Glycoproteomics: A Cationic Cysteine Hydrazide-functionalized Resin**; Kyoung-Soon Jang; Roger R. Nani; Sergiy Levin; Sarah E. Reisman; William M. Clemons; *Caltech, Pasadena, CA*
- ThP 034 **A Multiplexed Sample Preparation Method for N-Glycans to Allow Biomarker Studies on Larger Cohorts**; Lauren M. Dimapasoc¹; L. Renee Ruhaak¹; Carlito B. Lebrilla¹; Carol Stroble²; Suzanne Miyamoto²; ¹University of California, Davis, CA; ²UC Davis Cancer Center, Sacramento, CA
- ThP 035 **Sensitive and Specific Glycan Biomarkers in Lung Cancer**; Chanyoung Han¹; Gun Wook Park¹; Inae Kang¹; Bum Jin Kim¹; Seunghyup Jeong¹; Myung Jin Oh¹; Seung Won Lee³; Jong Shin Yoo¹; Jae-Han Kim²; Hyun Joo An¹; ¹GRAST, Chungnam National University, Daejeon, South Korea; ²Chungnam National University, Daejeon, South Korea; ³Chonnam National University Medical School, Gwangju, South Korea
- ThP 036 **Serum Metabolite Profiling Reveals Lipid Biomarker and Change Trends in Colorectal Cancer**; Fang Li; Zhili Li; *IBMS, CAMS&PUMC, Beijing, China*
- ThP 037 **Development of a High-Throughput and High-Specific Assay for *in vitro* Glutaminase Isoform C Inhibition Using RapidFire/MS (TOF) System**; Yi Tao¹; Yue Song²; Peter Rye²; Chuanqi Zheng²; Qiongqun Pan¹; Yi Li¹; Junwei Meng¹; Yi Gao¹; Bin Zhou²; Stefan Gross³; Wei Tang¹; Alicia Du¹; ¹Chempartner Co., Shanghai, China; ²Agilent Co., Shanghai, China; ³Agios Co., Boston, MA
- ThP 038 **Sex-based Serum Lipids May be Useful Biomarkers to Evaluate the Progress of Lung Cancer**; Yumei Guo; Zhili Li; *Institute of Basic Medical Sciences, CAMS&PUMC, Beijing, China*
- ThP 039 **Protein Enrichment Reveals Low Abundant N-glycan Markers**; Cynthia Williams¹; L. Renee Ruhaak¹; Hyun Joo An²; Carlito B. Lebrilla¹; ¹UC Davis, Davis, CA; ²Chungnam National University, Daejeon, Korea
- ThP 040 **Identification of Sulfiredoxin-peroxiredoxin Complex and Phosphokinase Signaling Modulation in Promoting Lung Cancer Progression**; Qiou Wei²; Hong Jiang³; Zhen Xiao¹; Alyson Baker²; Matthew R. Young²; Timothy



D. Veenstra¹; Nancy H. Colburn²; ¹SAIC-Frederick, Inc., Frederick, MD; ²Laboratory of Cancer Prevention, NCI, Frederick, MD; ³Laboratory of Molecular Cell Biology, NCI, Frederick, MD

ThP 041 **Evaluation of Targeted Proteomic Approaches on a Q-TOF System**; Stephanie Kaspar; Wolfgang Jabs; Carsten Baessmann; Bruker Daltonik GmbH, Bremen, Germany

ThP 042 **Improving Quantitative Nanospray LC-MS/MS Workflows through Voltage Control**; Gary Valaskovic¹; Amanda Berg¹; Mike S. Lee²; ¹New Objective, Inc., Woburn, MA; ²Milestone Development Services, Newtown, PA

ThP 043 **Fast Screening of Amino Acids Disorders Using Paper Spray Mass Spectrometry**; Qian Yang; He Wang; R. Graham Cooks; Zheng Ouyang; Purdue University, West Lafayette, IN

ThP 044 **Droplet-Scale Extraction and Quantification of Breast Cancer Tissue Biomarkers by Digital Microfluidics and LC-MS**; Johannes A Hewel^{1,2}; Michael Watson¹; Nelson Lafreniere¹; Sara Anis-Abdulwahab¹; Aaron Wheeler^{1,2}; ¹Department of Chemistry, University of Toronto, Toronto, Canada; ²Donnelly Centre, University of Toronto, Toronto, Canada

ThP 045 **Comparative Proteomics of CD133-positive Liver Cancer Stem Cells**; Sheng-Ta Tsai¹; Chih-Chiang Tsou²; Wan-Yu Mao¹; Wei-Chao Chang¹; Wen-Lian Hsu²; Chia-Ning Shen¹; Chung-Hsuan Chen¹; ¹Genomics Research Center, Academia Sinica, Taipei, Taiwan; ²Institute of Information Science, Academia Sinica, Taipei, Taiwan

ThP 046 **A Method for Analysis of the Low-Molecular-Weight Proteomes of Tissues for Possible Use in Biomarker Discovery**; Matthew JP Ellsworth¹; MeiHwa Tanielle Bench Alvarez²; Dipti Jigar Shah²; Craig D Thulin¹; Steven W Graves²; ¹Utah Valley University, Orem, UT; ²Brigham Young University, Provo, UT

ThP 047 **Comparative Proteomic Analysis from Arabica and Robusta Coffee Species at Peptide and Protein Levels**; Laure F. Marvin-Guy; Marie-Claude Courtet-Compondu; Lorraine Merminod; Robert Mansourian; Irma Silva Zolezzi; Nestlé Research Center, Nestec Ltd., Lausanne 26, Switzerland

ThP 048 **Using Elastin Degraded Peptides as Potential Biomarkers for Chronic Obstructive Pulmonary Disease (COPD)**; Jiangtao He¹; Shuren Ma²; Gerard Turino¹; Yong Lin³; ¹Columbia University, New York, NY; ²Roosevelt Hospital, New York, NY; ³St.Luke/Roosevelt Hospital Center, New York, NY

ThP 049 **The Application of Mass Spectrometry to the Analysis of Protein Composition in Exhaled Breath Condensate of Pneumo-oncological Diseased Persons**; Guzel Kireeva¹; Anna Ryabokon¹; Alexey Kononikhin²; Vladimir Bagrov³; Igor Popov¹; Eldar Anaev⁴; Oleg Pikin³; Sergey Varfolomeev¹; Eugene Nikolaev²; ¹IBCP RAS, Moscow, Russian Federation; ²Inst for Energy Problems, Moscow, Russian Federation; ³Moscow P.A. Gertsen Research Institute of Oncology, Moscow, Russian Federation; ⁴Research Institute of Pulmonology, Moscow, Russian Federation

ThP 050 **Targeted Strategy for the Selective Identification of Secreted Breast Tumor Proteins in Plasma Using Mouse Xenograft Models.**; Nicholas Bateman¹; Michael Lewis²; Christine Wu¹; ¹University of Pittsburgh, Pittsburgh, PA; ²Baylor College of Medicine, Houston, TX

ThP 051 **Proteomics-based Sepsis Biomarker Discovery Study in non-Human Plasma using a Two-Pass Workflow**;

Maryann S Vogelsang¹; David A Sarracino¹; Janin Schulte²; Bryan Krastins¹; Michael Athanas³; Amol Prakash¹; Alejandra Garces¹; Gouri Vadali^{1,3}; Shadab Ahmad¹; Gaiane Demirdjian²; Jennifer Sutton¹; Heinz Redl⁴; Joachim Struck²; Bruno Darbouret²; Mary F Lopez¹; ¹BRIMS, Thermo Fisher Scientific, Cambridge, MA; ²Thermo Scientific Biomarkers, Hennigsdorf, Germany; ³VAST Scientific, Cambridge, MA; ⁴Ludwig Boltzmann Institute, Vienna, Austria

ThP 052 **The Application of Targeted Quantification of Cell Signalling to the Discovery of Disease Associated Markers using Fresh Frozen Human Tissue**; Iolanda Vendrell¹; Bart Vanhaesebroeck²; Pedro Cutillas²; Neil Torbett¹; ¹Activomics Ltd., London, UK; ²Barts Cancer Institute, QMUL, London, UK

ThP 053 **Discovery and Identification of Radiation-Exposure Biomarker Candidates**; Matthew Hammond; Fiona Plows; Steve Roth; Bio-Rad Laboratories, Inc., Hercules, CA

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ThP 054 **Temporal Characterisation of the Mouse Brain PTMome**; Alistair V.G. Edwards¹; Melanie Schulz¹; Kasper Engholm-Keller¹; Katarzyna Kulej¹; Henrik Saxtorph²; Martin R. Larsen¹; ¹University of Southern Denmark, Odense, Denmark; ²Odense University Hospital, Odense, Denmark

ThP 055 **Sphingosine-1-Phosphate Mediated Chemotaxis of Osteoclast Precursors Investigated using Targeted Proteomics via Mass Spectrometry**; Nathan Manes¹; Eunkyung An¹; Virginie Sjoelund¹; Jing Sun¹; Masaru Ishii²; Martin Meier-Schellersheim¹; Ronald Germain¹; Aleksandra Nita-Lazar¹; ¹National Institutes of Health, Bethesda, MD; ²Osaka University, Osaka, Japan

ThP 056 **Systems Biology Approach to Understand the Formation and Function of Osteoclasts**; Eunkyung An¹; Manikandan Narayanan¹; Sung Kyu Park²; Ronald Germain¹; Aleksandra Nita-Lazar¹; ¹NIH/NIAID/LSB, Bethesda, MD; ²The Scripps Research Institute, La Jolla, CA

ThP 057 **Investigation of Hepatic Insulin Resistance using an Integrated Shotgun/Targeted Quantitative Proteomic Strategies**; Yibo Wu¹; Eduard Sabido¹; Camille Terfve²; Thomas Porstmann¹; Julio Saez-Rodriguez²; Markus Stoffel¹; Ruedi Aebersold¹; ¹IMSB, ETH Zurich, Zurich, Switzerland; ²EBI, Cambridge, UK

ThP 058 **Systematic Characterization of Lysine Succinylation Pathway and Quantification of Lysine Succinylation Substrates in Response to Sirt5**; Zhonyu Xie; Hao Luo; Minjia Tan; Zhongyi Cheng; Yingming Zhao; University of Chicago, Chicago, IL

ThP 059 **PCP-SILAC Combined with Size Exclusion Chromatography Unravels the Temporal Interactome Changes Following Epidermal Growth Factor Stimulation**; Anders Kristensen; Joerg Gspöner; Leonard Foster; University of British Columbia, Vancouver, Canada

ThP 060 **Deep (Phospho)proteomic Profiling with Label-Free Quantification Reveals Critical Gene Products missed by Transcriptomics in Human Embryonic Stem Cells and Derivatives**; Ilyas Singec; Junjie Hou; Laurence M. Brill; Sanford-Burnham Medical Research Institute, La Jolla, CA

ThP 061 **A Network Organization of the Huntingtin Proteomic Interactome in Mammalian Brain as it Relates to Huntington's Disease**; Erin Greiner¹; Dyna I. Shirasaki¹; Pinmanee Boontheung¹; Giovanni Coppola²; X. William Yang²; Joseph A. Loo¹; ¹UCLA, Department of Chemistry



and Biochemistry, Los Angeles, CA; ²UCLA, Semel Institute, Los Angeles, CA

- ThP 062 **Mass Spectrometry Revealed Metabolic Alteration in HeLa cells with Knocked-down Expression of CALM by siRNA**; Kangling Zhang; Loma Linda University, Loma Linda, CA
- ThP 063 **A High Resolution Structural and Proteomics Atlas of the Developing Rice Leaf**; Giulia Friso; Mingshu Huang; Yukari Asakura; Robert Turgeon; Lalit Ponnala; Qi Sun; Klaas J. Van Wijk; Cornell University, Ithaca, NY
- ThP 064 **Protein Dynamics in Acute Autophagy by Quantitative SILAC-based Proteomics**; Robin Mathew²; Henry Shwe¹; Saw Kyin¹; Eileen White²; David H. Perlman¹; ¹Dept. of Molecular Biology, Princeton University, Princeton, NJ; ²The Cancer Institute of New Jersey, New Brunswick, NJ
- ThP 065 **Investigating the Bacterial Proteome of M. tuberculosis using a Combined Discovery and Targeted Proteomics Approach**; Paul Drogaris¹; Elena Marazzo¹; Louiza Marouche¹; Rene Allard¹; Yiyong Zhou¹; Julie Piquenot¹; Joanna Hunter¹; James Galagan²; Gary Schoolnik³; Daniel Chelsky¹; ¹Caprion Proteomics, Montréal, Canada; ²Department of Microbiology, Boston, MA; ³Department of Medicine, Stanford, CA
- ThP 066 **Proteomic Comparison of Substrate-bound Proteins Across Seven Caldicellulosiruptor Species Provides Insight into Organism Attachment and Cellulose Hydrolysis**; Richard J. Giannone^{1,3}; Sara E. Blumer-Schuetz^{2,3}; Patricia K. Lankford^{1,3}; Robert M. Kelly^{2,3}; Robert Hettich^{1,3}; ¹Oak Ridge National Laboratory, Oak Ridge, TN; ²North Carolina State University, Raleigh, NC; ³BioEnergy Science Center, Oak Ridge, TN
- ThP 067 **Defining a Bacterial Virulence Kinase-host Interaction that Manipulates Host Actin-remodeling**; Koshi Imami; Amit Bhavsar; Nat Brown; Brett Finlay; Leonard Foster; University of British Columbia, Vancouver, Canada
- ThP 068 **Quantitative Analysis of Androgen Receptor Transcriptional Complexes using Directed Mass Spectrometry**; Jordy Hsiao; Harryl Martinez; Michael Wright; University of Iowa, Iowa City, IA
- ThP 069 **Comparative Study of Vesicular Stomatitis Virus N1 and M51R Infection Protein Translation by Relative and Absolute Quantification**; Gregory Potts; John Yin; Joshua J. Coon; Univ of Wisconsin-Madison, Madison, WI
- ThP 070 **Influence of Biofilm Lifestyle on Protein Expression of Bacillus cereus ATCC**; Esther Karunakaran; Caroline Evans; Josselin Noirel; Catherine Biggs; The University of Sheffield, Sheffield, UK
- ThP 071 **Combination of Tolfenamic Acid and Cisplatin – Implications in Ovarian Cancer Therapy**; Umesh T. Sankpal¹; Susan B. Ingersoll²; Vadiraja B. Bhat³; Chris M. Lee¹; Hasina C. McGann²; Moez Khan¹; Sarfraz Ahmad²; Robert W. Holloway²; Riyaz Basha¹; ¹MD Anderson Cancer Center Orlando, Orlando, FL; ²Florida Hospital Cancer Institute, Orlando, FL; ³Agilent Technologies, Wilmington, DE
- ThP 072 **A Qualitative and Quantitative Proteomics Study of Host-pathogen Interaction Network of Shigella flexneri Infection of Human Cells**; Asa Wahlander¹; Paolo Nanni¹; Claudia Fortes¹; Christian Trachsel¹; Nicole Freed²; Simon Barkow-Oesterreicher¹; Christian Panse¹; Jonas Grossmann¹; Petra Tien²; Dirk Bumann²; Ralph Schlapbach¹; ¹Functional Genomics Center Zurich, UZH/ETHZ, Zurich, Switzerland; ²Infection Biology Biozentrum, University Basel, Basel, Switzerland
- ThP 073 **Proteomic Profiling of the Chromatin-Associated Proteome upon Knock Down of P63**; Casimir Bamberger; Sandra Pankow; John Yates; The Scripps Research Institute, La Jolla, CA
- ThP 074 **Characterizing a Dynamic Host-Pathogen Interactome with PP-SILAC**; Lyda Brown; Anders Kristensen; Leonard Foster; University of British Columbia, Vancouver, BC
- ThP 075 **Shotgun Proteomic Comparison of the Accessory Gland Protein Content of Drosophila Species Related to Their Post-mating Behavior**; Jean Pierre Le Caer¹; Gaëlle Claisse²; Dominique Joly²; Paul Millares¹; ¹Centre de Recherche de Gif, ICSN, CNRS, Gif sur Yvette, France; ²Centre de Recherche de Gif, LEGS, CNRS, Gif sur Yvette, France
- ThP 076 **Potential Therapeutic Targets for Basal Breast Cancer Identified via Quantitative Pathway Analysis of Five Tumor Cell Line Proteomes**; Atim Atte Enyenihi; Thérèse Hemström; Roman Zubarev; Karolinska Institutet, Stockholm, Sweden
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- ThP 078 **Identification and Characterization of Endogenous Shed Inducible Co-Stimulator Ligand (ICOSL) from Mouse, Human and Active Systemic Lupus Erythematosus Patient Sera**; Eric Sousa; Matt Whitters; Deborah Luxenberg; Jill Wright; Paul Wu; Laura Lin; Kyriaki Dunussi-Joannopoulos; Neil Wolfman; Tao He; Pfizer, Cambridge, MA
- ThP 079 **Identification of Osteopontin as Novel Autoantigen in Autoimmune Uveitis by Direct Autoantibody-Antigen Pulldown Combined with Label-Free Quantitative Mass Spectrometry**; Juliane Merl^{1,2}; Cornelia A. Deeg³; Margarete E. Swadzba³; Stefanie M. Hauck¹; Marius Ueffing^{1,4}; ¹Helmholtz Center Munich, PROT, Munich / Neuherberg, Germany; ²TU Munich, Department of Neurology, Munich, Germany; ³LMU Munich, Institute of Animal Physiology, Munich, Germany; ⁴Centre of Ophthalmology, University Medical Centre, Tuebingen, Germany
- ThP 080 **Quantitative Proteomic Analysis of Platelet Releasate Using Different Stimuli**; Arash Khosrovi-Eghbal; Juergen Kast; University of British Columbia, Vancouver, Canada
- ThP 081 **Quantitative Proteomic Analyses of Monocyte Organelles Reveal Subcellular Relocation of Mitochondria Associated Membranes which Dampens NLR4 and NLRP3 Inflammation Activation**; Yuan Fang; Leonard Foster; University of British Columbia, Vancouver, BC
- ThP 082 **Clonality Characterization of Epitope-specific Antibodies against Topoisomerase IIa from Colorectal Carcinoma Patients using Mass Spectrometric Proteome Analysis**; Cornelia Koy¹; Felix Steinbeck²; Annika Jahnke³; Peter Lorenz²; Hans-Jürgen Thiesen²; Michael Linnebacher³; Michael O. Glocker¹; ¹Proteome Center Rostock, Rostock, Germany; ²Institute of Immunology, Rostock, Germany; ³Department of General Surgery, Rostock, Germany
- ThP 083 **Proteomic Analysis of Human Macrophage Protein Responses after Exposure to Aspergillus fumigatus or Chitin Particles**; Karina Vega; Karine Bagramyan; Diana Diaz-Arevalo; Teresa B. Hong; Markus Kalkum; City of Hope, Duarte, CA



- ThP 084 **Characterizing a Unique Pattern of Somatic Hypermutation in Multiple Sclerosis Patients by Superficially Porous Capillary Reversed-phase Liquid Chromatography Mass Spectrometry**; William H. Rounds; Steven M. Patrie; Ann J. Ligoeki; Michael J. Roth; Junmei Zhang; Daniel A. Plymire; Erica M. Maresh; Nancy L. Monson; *University of Texas Southwestern Medical Center, Dallas, TX*
- ThP 085 **Proteomics at the Center of Molecular Nutrition**; Martin Kussmann^{1,2}; ¹*Nestle Inst. Health Sciences, Lausanne, Switzerland*; ²*Aarhus University, Aarhus, Denmark*
- ThP 086 **Investigating the Intrinsic Defense Roles of HIN200 Proteins AIM2 and IFI16 by Constructing Functional Interaction Networks**; Benjamin Diner; Tuo Li; John Fuesler; Ileana M. Cristea; *Princeton University, Princeton, NJ*
- ThP 087 **Acetylation Modulates Cellular Distribution and DNA Sensing Ability of Interferon-inducible Protein IFI16**; Tuo Li; Benjamin Diner; Jin Chen; Ileana M. Cristea; *Princeton University, Princeton, NJ*
- ThP 088 **Analysis of Temporally-resolved Phagosomal Proteomes in Response to Differential Macrophage Receptor Ligand Engagement using a Dimethyl Labelling Approach**; Brian Dill¹; Marek Gierliński²; Matthias Trost¹; ¹*MRC Protein Phosphorylation Unit, Univ. of Dundee, Dundee, UK*; ²*Data Analysis Group, Univ. of Dundee, Dundee, UK*
- ThP 089 **Epitope Identification of Alpha-synuclein with Anti-synuclein Antibodies by Proteolytic Excision- and Online Biosensor- Mass Spectrometry**; Camelia Vlad^{1,2}; Stefan Slamnoiuc²; Mihaela Stumbaum^{1,2}; Markus Perpeet¹; Bastian Hengerer³; Michael Przybylski²; ¹*SAW Instruments GmbH, Bonn, Germany*; ²*University of Konstanz, Konstanz, Germany*; ³*Boehringer Ingelheim Pharma GmbH & Co. KG, Biberach, Germany*

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- ThP 090 **A Simple, Cost Effective, and Robust Technique to Increase nanoLC-MS/MS Data Quality for Quantitative Proteomic Applications**; Chris Adams; Anna Okumu; Allis S. Chien; *Stanford University, Stanford, CA*
- ThP 091 **Quantitative Proteomics Reveals Novel Functions of Osteoclast-associated Receptor in STAT Signaling and Cell Adhesion of Endothelial Cells**; Claudia Goettsch²; Stefanie Kliemt¹; Kathrin Sinnigen²; Martin von Bergen¹; Lorenz C. Hofbauer²; Stefan Kalkhof¹; ¹*Helmholtz-Centre UFZ, Leipzig, Germany*; ²*Technical University, Dresden, Germany*
- ThP 092 **Evaluation of SILAC Strategy Applied to *D. melanogaster* in vivo**; Ying-Che Chang; Suh-Yuen Liang; Tsung-Hsien Pu; Tzu-Ching Meng; Kay-Hooi Khoo; Guang-Chao Chen; *Academia Sinica, Taipei, Taiwan*
- ThP 093 **Isotope Effects in Quantitative Bottom-up Proteomics Based on Stable Isotope Labeled Proteins**; Anna Konopka¹; Martin Boehm¹; Marion Rohmer²; Dominic Baeumlisberger²; Michael Karas²; Wolf D. Lehmann¹; ¹*German Cancer Research Center, Heidelberg, Germany*; ²*University Frankfurt, Heidelberg, Germany*
- ThP 094 **Studying TGF- β induced Epithelial to Mesenchymal Transition (EMT) using a Quantitative Mass Spectrometric Approach**; Rochelle C J D'souza¹; Anna M Korhonen²; Kirti Sharma¹; Nagarjuna Nagaraj¹; Chuna Ram Choudhary³; Peter ten Dijke²; Matthias Mann¹; ¹*Max Planck Institute of Biochemistry, Martinsried, Germany*; ²*Leiden University Medical Centre, Leiden, The Netherlands*; ³*Novo-Nordisk Foundation for Protein Research, Copenhagen, Denmark*
- ThP 095 **Stable Isotope Labeling with Amino Acids in *Drosophila melanogaster* for Quantifying Proteins and Their Ubiquitin Conjugates**; Xiaohua Xing; Chengpu zhang; Ning Li; Linhui Zhai; Ping Xu; *State Key Laboratory of Proteomics, Beijing Proteo, Changping District, China*
- ThP 096 **Extension of the SILAC-PreEST Based Absolute Quantification Strategy to Arbitrary Organisms**; Marlis Zeiler; Nils Kulak; Christoph Schaab; Matthias Mann; *Max-Planck-Institute of Biochemistry, Munich, Germany*
- ThP 097 **A Temporal Proteomic Analysis of BDNF Signaling in Primary Cortical Neurons using SILAC**; Guan Zhang; Pawel Sadowski; Katrin Deinhardt; Moses Chao; Thomas Neubert; *New York University, New York, NY*
- ThP 098 **SILAC Strategy to Identify Modulators of Huntingtin Turnover**; Steven R. Danielson; Bridget Yates; Robert Hughes; Bradford W. Gibson; *Buck Institute for Research on Aging, Novato, CA*
- ThP 099 **Qualitative and Quantitative Proteomic Analyses Using High-resolution, High-accuracy Mass Spectrometry and Comparison of IP2 and Sorcerer**; Wenhong Zhu; Elizabeth Rico-Bautista; Joel Ramirez; Dieter Wolf; *Sanford-Burnham Medical Research Institute, La Jolla, CA*
- ThP 100 **Maximizing Results in Label-based Quantitative Proteomics**; M. Violet Lee; Anna E. Larson; Justin Brumbaugh; Douglas H. Phanstiel; Michael S. Westphall; Joshua J. Coon; *University of Wisconsin, Madison, WI*
- ThP 101 **How to Maximize Quantitative Accuracy and Precision with Isobaric Tags: Case Studies in Quantitative Proteomics**; Catherine Vincent¹; Alex Hebert¹; Anna Larson¹; Shane L Hubler¹; Paul Grimsrud¹; Michael S. Westphall¹; Joshua J. Coon¹; ¹*University of Wisconsin, Madison, WI, Madison, WI*
- ThP 102 **Optimization of Liquid Chromatography and Q Exactive Mass Spectrometer for Protein Identification and TMT Quantitation**; Anthony A High; Vishwajeeth R Pagala; Xusheng Wang; Yanji Xu; Ashutosh Mishra; Kiran Kodali; Kanisha Kavdia; Junmin Peng; *St. Jude Children's Research Hospital, Memphis, TN*
- ThP 103 **Quantitative Protease Cleavage Site Profiling using Tandem-mass-tag Labeling and LC-MALDI-TOF/TOF MS/MS Analysis**; Andreas Tholey; Thomas Jakoby; Bart HJ van den Berg; *University Kiel, Institut. f. Experimental Medicine., Kiel, Germany*
- ThP 104 **High-throughput Comprehensive Multiplexed Quantitative Proteomics of Yeast Deubiquitinases: Demonstrating a Multiple Frequency Notch Improvement in the LC-MS2/MS3 Method**; Lily Ting; Graeme McAlister; Wilhelm Haas; Steven Gygi; *Harvard Medical School, Boston, MA*
- ThP 105 **Activity Dependent Protein Degradation in the Brain**; Ry Tweedie-Cullen¹; Dominic Winter; Ruchi Chauhan¹; Judith Steen³; ¹*Harvard Medical School, Boston, MA*; ²*IBMB Bonn, Bonn, Germany*; ³*Harvard Medical School, CHB, Boston, MA*
- ThP 106 **Isotopic Label and Label-free Proteomics for the Analysis of the Imipenem Response of *Stenotrophomonas maltophilia***; Laurence Van Oudenhove; Bart Devreese; *Ghent University, Ghent, Belgium*
- ThP 107 **Accurate Quantification of Chemoproteomics Samples using Isobaric Mass Tagging**; Nico Zinn¹; Mikhail Savitski¹; Gavain M. Sweetman¹; Toby Mathieson¹; Fiona



Pachl²; Bernhard Küster²; Marcus Bantscheff¹; ¹Cellzome AG, Heidelberg, Germany; ²Technische Universität München, Freising, Germany

- ThP 108 **Optimizing Multiplexed Quantitative Profiling of Ubiquitination Events: Tandem Mass Tags Coupled with Immunoaffinity Enrichment**; Lilian Phu; Daisy Bustos; Corey E Bakalarski; Anita Izrael-Tomasevic; Joy Tea; Eugene Varfolomeev; Qinghua Song; William F Forrest; Kebin Yu; Baris Bingol; Domagoj Vucic; Donald S Kirkpatrick; *Genentech, Inc., South San Francisco, CA*
- ThP 109 **Systematic Study of the Applicability of cystMT to the Determination of Abundance Ratios of Cysteine-containing Peptides on a Proteome-wide Scale**; Sebastian Wiese; Sven Zapf; Ida Suppanz; Bettina Warscheid; *University of Freiburg, Freiburg, Germany*
- ThP 110 **Iodoacetyl Tandem Mass Tags for Cysteine Peptide Modification, Enrichment and Quantitation**; Ryan Bomgarden¹; Rosa Viner³; Karsten Kuhn²; Ian Pike²; John C. Rogers¹; ¹Thermo Fisher Scientific, Rockford, IL; ²Proteome Sciences, Frankfurt Am Main, Germany; ³ThermoFisher Scientific, San Jose, CA
- ThP 111 **Ultra-high Intra Spectrum Mass Accuracy Enables Unambiguous Identification of Fragment Reporter Ions in Isobaric Multiplexed Quantitative Proteomics**; Fiona Pachl¹; Kurt Fellenberg^{1,2}; Corinna Wagner^{1,3}; Hannes Hahne¹; Bernhard Küster¹; ¹Technische Universität München, Freising, Germany; ²Ruhr Universität Bochum, Bochum, Germany; ³Deutsches Krebsforschungszentrum, Heidelberg, Germany
- ThP 112 **Increasing throughput in Kinase Inhibition Assays: 54-plex Quantitation in a Single MS Run**; Robert A. Everley¹; Ryan C. Kunz¹; Fiona E. Mcallister¹; Karsten Kuhn²; John C. Rogers³; Ian Pike²; Steven P. Gygi¹; ¹Harvard Medical School, Boston, MA; ²Proteome Sciences, Frankfurt Am Main, Germany; ³Thermo Fisher Scientific, Rockford, IL
- ThP 113 **Quantitative Proteomics Time Course Study in Chlamydomonas reinhardtii under Nitrogen Starvation Reveals Interaction between Nitrogen Nutrition and Various Metabolic Processes**; Hongxia Wang¹; Rahul Deshpande²; Jeong-Jin Park³; Mahmoud Gargouri³; David Gang³; Yair Shachar-Hill²; Leslie Hicks¹; ¹Donald Danforth Plant Science Center, St. Louis, MO; ²Michigan State University, East Lansing, MI; ³Washington State University, Pullman, WA
- ThP 114 **Redox-sensing Thiol Protein Characterization and Quantification using ICAT/iTRAQ to Investigate Oxidative-stress Regulation in Plants**; Zhenjiu Liu; Sophie Alvarez; Leslie M. Hicks; *Danforth Center, St. Louis, MO*
- ThP 115 **Quantitative Proteomic Analysis of GCF to Observe Oral Disease Progression and Treatment: From Health through to Severe Periodontitis**; Andrew Creese¹; Melissa Grant¹; Marcelo Aspiras²; Marko de Jager²; Helen Cooper¹; Iain Chapple¹; ¹University of Birmingham, Birmingham, UK; ²Philips Oral Healthcare, Bothell
- ThP 116 **Quantitative Proteomic Analysis of Liver Mitochondria from High Fat Diet Diabetic Mice**; Yurong Guo¹; Yuliang Ma; Zhouxin Shen; Manjula Darshi; Steven Briggs; Susan Taylor; *University of California, San Diego, San Diego, CA*
- ThP 117 **Precursor Isolation Purity And Ratio Compression in Quantitative Proteomics using Isobaric Tags**; Guanghui Wang; Marjan Gucek; *NIH, Potomac, MD*
- ThP 118 **An Optimized Vented MudPit Protocol for Complex Protein Samples Labeled with 4- or 8-plex iTRAQ**; Cristian Ruse; Samantha Peacock; Keith Rivera; Benjamin Weindorf; Alana Lelo; Gyula Bencze; Darryl J Pappin; *Cold Spring Harbor Laboratory, Cold Spring Harbor, NY*
- ThP 119 **Performance of Isobaric and Isotopic Labeling in Quantitative Plant Proteomics**; Fabio CS Nogueira¹; Giuseppe Palmisano²; Veit Schwämmle²; Francisco AP Campos³; Martin R Larsen²; Gilberto B Domont¹; Peter Roepstorff²; ¹Univ Federal Do Rio De Janeiro, Rio De Janeiro, Br; ²University of Southern Denmark, Odense, Dk; ³Universidade Federal do Ceara, Fortaleza, Br
- ThP 120 **Quantification of Proteins Adsorbed to Surface Modified and Non-Modified Microdialysis Membranes using on-Surface Enzymatic Digestion (oSED) iTRAQ-MALDI-TOF/TOF MS**; Andreas Dahlin; Klas Hjort; Lars Hillered; Marcus Sjödin; Jonas Bergquist; Magnus Wetterhall; *Uppsala University, Uppsala, Sweden*
- ThP 121 **Global Visualization of Thermotoga petrophila Pathway Regulation using iTRAQ and a Simple Graphical Interface**; Peter D. McQueen¹; Vic Spicer¹; Peyman Ezzati¹; Umesh Ramachandran¹; Kesen Ma²; Richard Sparling¹; David Levin¹; Oleg Krokhin¹; John Wilkins¹; ¹University of Manitoba, Winnipeg, Canada; ²University of Waterloo, Waterloo, Canada
- ThP 122 **Identifying Redox Changes and Thiol Modifications in the Cystinotic Proteome**; Ilya Gertsman; Majid Ghassemian; Bruce Barshop; *University of California, San Diego, CA*
- ThP 123 **A Quantitative Mass Spectrometry-based Proteomic and Phosphoproteomic Analysis of VSV-infected K562 cells**; Matthew Huebsch¹; Michel Dumontier²; Harold Atkins³; Jeffrey Smith¹; ¹Carleton University, Department of Chemistry, Ottawa, Canada; ²Carleton University, School of Computer Science, Ottawa, Canada; ³Ottawa Hospital Research Institute, Ottawa, Canada
- ThP 124 **Protein Quantification Based on Amino Acid Analysis, Isotope Dilution and High-resolution Mass Spectrometry**; Mathilde Louwagie; Sylvie Kieffer-Jaquinod; Yohann Coute; Michel Jaquinod; Alain Dupuis; Jérôme Garin; Christophe Bruley; Virginie Brun; *CEA, Grenoble, France*
- ThP 125 **Evaluating Accuracy and Linear Range in Protein Quantification of Complex Samples by Label Free and Isobaric Labelling Methods**; Annsofi Sandberg; Rui M. Branca; Janne Lehtiö; Jenny Forshed; *Karolinska Institutet and Scilifelab Stockholm, Stockholm, Sweden*
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- ThP 128 **An In-depth Proteome for the Human Sperm**; Gaigai Wang^{1,2}; Yueshuai Guo^{1,2}; Tao Zhou^{1,2}; Jing Wang^{1,2}; Xuejiang Guo^{1,2}; Zuomin Zhou^{1,2}; Jiahao Sha^{1,2}; ¹State Key Laboratory of Reproductive Medicine, Nanjing, China; ²Nanjing Medical University, Nanjing, China
- ThP 129 **Advancing CSF Biomarker Discovery: A Systematic Study of Analytical and Pre-analytical Variables in Discovery Profiling of Different Types of Dementia**; Daniel Lopez Ferrer¹; Geun-Cheol Gil¹; Xiaolei Xie¹; Bich Nguyen¹; Yuliya Karpievitch¹; Howard Schulman¹; Daniel Chelsky²; Sushmita Mimi Roy¹; ¹Caprion Proteomics US



LLC, Menlo Park, CA; ²Caprion Proteomics Inc., Montreal, Canada

- ThP 130 **Label-free Quantitative Mass Spectrometry for Differential Analysis of Human Monocyte Secretomes;** Marc Gentzel¹; Michael Groessl¹; Hella Luksch²; Angela Rösen-Wolff²; Andrej Shevchenko¹; ¹MPI-CBG, Dresden, Germany; ²University Medical Center Carl Gustav Carus, Dresden, Germany
- ThP 131 **Interrogating the Effect of a miRNA Cluster on the Colon Cancer Transcriptome and Proteome;** Kerry Bauer; Amanda Hummon; University of Notre Dame, Notre Dame, IN
- ThP 132 **Quantification of the Potency of a New Anti-Viral Inhibitor to Influenza using Proteomics Methods;** Zainab Nasser; Kevin Downard; University of Sydney, Sydney, Australia
- ThP 133 **High Sensitivity Measurement of Thyroglobulin in Serum in Presence of Anti-Thyroglobulin Autoantibodies;** Mark M. Kushnir^{1,2}; Alan L. Rockwood^{1,2}; William L. Roberts^{1,2}; Andrew Hoofnagle³; A. Wayne Meikle^{1,2}; ¹ARUP Laboratories, Inc., Salt Lake City, UT; ²University of Utah, Salt Lake City, UT; ³Univ of Wash Med Center, Seattle, WA
- ThP 134 **Label-free Quantitative Proteomics and N-glycoproteomics Analysis of KRAS-activated Human Bronchial Epithelial Cells;** Putty-Reddy Sudhir¹; Chein-Hung Chen¹; Madireddy Pavana Kumari¹; Mei-Jung Wang²; Chih-Chiang Tsou³; Ting-Yi Sung³; Jeou-Yuan Chen²; Chung-Hsuan Chen¹; ¹Genomics Research Center, Academia Sinica, Taipei, Taiwan; ²Institute of Biomedical Sciences, Academia Sinica, Taipei, Taiwan; ³Institute of Information Science, Academia Sinica, Taipei, Taiwan
- ThP 135 **Identification of Novel HIV-invasion-markers by Comparing Long-term-non-progressor vs. Normal-progressors among HIV-infected Patients using Comprehensive and Reproducible Ion-current-based Proteomic Expression Profiling;** Xiaosheng Jiang; Jun Li; Jun Qu; SUNY-Buffalo, Buffalo, NY
- ThP 136 **Biomarker Discovery in Chronic Obstructive Pulmonary Disease: Comparative Proteome Analysis of Bronchoalveolar-lavage-fluid using a Comprehensive and Reproducible Ion-current-based Method;** Chengjian Tu¹; Jun Li²; Jun Qu¹; ¹University at Buffalo, Amherst, NY; ²University at Buffalo SUNY, Buffalo, NY
- ThP 137 **Monitoring Dynamic Changes in the Cancer Proteome – Identification of Treatment Response and Intercellular Protein Transfer in Retinoblastoma;** Susan Lee; Robert Fanter; Narine Harutyunyan²; A Linn Murphree; Children's Hospital Los Angeles / USC, Los Angeles, CA
- ThP 138 **Noninvasive Proteomic Biomarkers of Clinically Significant Kidney Obstruction;** John Froehlich; Andrew Briscoe; Hanno Steen; Richard Lee; Harvard Medical School/Children's Hospital Boston, Boston, MA
- ThP 139 **Translational Research using Configurable LC-MRM Quantification of Pathway-Driven Panels of Cancer Biomarkers;** Elizabeth Remily-Wood; Yi Chen; Yun Xiang; Y. Ann Chen; Kim Paraiso; Eirik Haarberg; Keiran Smalley; William Dalton; Kenneth Shain; Erin Siegel; David Shibata; John Koomen; H. Lee Moffitt Cancer Center, Tampa, FL
- ThP 140 **Investigation of endothelin-1 Contribution to Pulmonary Arterial Hypertension by Proteomic Mass Spectrometry;** Chunxiang Yao; Jun Yu; Polgar Peter; Mark E. McComb; Catherine E. Costello; Boston University School of Medicine, Boston, MA
- ThP 141 **Technical Validation of a Multiplexed Mass Spectrometric Assay to Differentiate Adeno/Squamous Carcinoma in Non-small Cell Lung Cancer;** Wei-Li Liao; Sheeno Thyparambil; Kathleen Bengali; Joe Abdo; Marlene M. Darfler; David Krizman; Todd Hembrough; Jon Burrows; Expression Pathology Inc., Rockville, MD
- ThP 142 **Pharmacoproteomic Study of the Effects of Different Concentrations of Sunitinib, a Multi-targeted Receptor Tyrosine Kinase Inhibitor, using Triple SILAC;** Robert Lj. Graham; Michael J Sweredoski; Sonja Hess; CalTech, Pasadena, CA
- ThP 143 **Comprehensive Proteomic Analyses of the Effects of a Novel Mutation in the ErbB2 Receptor Tyrosine Kinase on Breast Cancer Metastasis;** Jane O'Hara; Juergen Kast; University of British Columbia, Vancouver, Canada
- ThP 144 **Development of a Multiplexed iMALDI Assay for Complete Analysis of the Renin-Angiotensin-Aldosterone System for Use in the Clinic;** Alexander Camenzind¹; Jennifer Reid¹; D. Randal Mason¹; Ulrike Leurs¹; Ashley Power¹; Daniel Holmes²; Christoph Borchers¹; Carol E. Parker¹; ¹UVic GBC Proteomics Centre, Victoria, Canada; ²UBC Department of Pathology and Laboratory Med, Vancouver, Canada
- ThP 145 **Development and Evaluation of a Urine-Based Lyme Disease Assay by Nanoparticle Capture / Multiple Reaction Monitoring-Mass Spectrometry;** Paul Russo; Davide Tamburro; Claudia Fredolini; Temple Douglas; Lance Liotta; Emanuel Petricoin; Alessandra Luchini; George Mason University, Manassas, VA
- ThP 146 **Temperature-dependent Instability of the cTnI Subunit of Troponin characterized by Tryptic Peptide Mapping;** Hans Dalebout; Christa M. Cobbaert; Nico Smit; Yuri E.M. van der Burgt; André M. Deelder; Leiden University Medical Center, Leiden, Netherlands
- ThP 147 **Quantitative Proteomic Analysis Revealed the Cellular Pathways that are Perturbed in Human Skin Fibroblast Cells upon Treatment with Arsenite;** Fan Zhang; Yinsheng Wang; UC Riverside, Riverside, CA
- ThP 148 **Diagnostic Value of Mass Spectrometric Derived Protein Levels in Biopsy Tissue and Plasma from Patients Suffering from Dilated Cardiomyopathy (DCM);** Elke Hammer¹; Michelle Goritzka¹; Martin Feig¹; Sabine Ameling¹; Lars Herda¹; Heyo Kroemer¹; Karin Klingel²; Stephan Felix¹; Uwe Völker¹; ¹University Medicine Greifswald, Greifswald, Germany; ²University Hospital Tübingen, Tübingen, Germany
- ThP 149 **Identification of Protein Biomarkers in Dry Eye Disease in Post-Menopausal Women Using LC-MS/MS and Label Free Quantitative Proteomics;** Kari Green¹; Alexandra Popova-Butler¹; Kelly Nichols²; ¹The Ohio State University, Columbus, OH; ²University of Houston, Houston, TX
- ThP 150 **Hemoglobin Variant Analysis Using MALDI-reISD;** Roger Theberge¹; Mark McComb¹; Sergei Dikler²; Catherine E Costello¹; ¹Boston University, Boston, MA; ²Bruker Daltonics, Billerica, MA
- ThP 151 **Biomarker Discovery of Bladder Cancer by Integration of the Cancer Cell Secretome and Urine Proteome;** Yi-Ting Chen¹; Cheng-Han Tsai¹; Tsung-Shih Lin¹; Chih-Ching Wu¹; Chien-Lun Chen²; Jau-Song Yu¹; ¹Chang Gung University, Taoyuan, Taiwan; ²Chang Gung Memorial Hospital, Taoyuan, Taiwan
- ThP 152 **Comparative Analysis of the Global Proteome of Naïve and IL-2 Stimulated Human NK Cells;** Di Ma¹; Weifeng Cao²; Arvinder Kapur³; Cameron Scarlett¹;



Manish Patankar³; Lingjun Li^{1,2}; ¹*School of Pharmacy, UW-Madison, Madison, WI*; ²*Department of Chemistry, University of Wisconsin, Madison, WI*; ³*Department of Obstetrics and Gynecology, UW-Madison, Madison, WI*

- ThP 153 **Comparative Proteomic Profiling of two *Chlamydia trachomatis* serovar D Life Cycle Stages using Label Free Shotgun Proteomics**; Eberhard Durr; Rachel Markley; Jodie Field; Lori Stansberry; Melissa Wooters; Robin Kaufhold; Jon Heinrichs; Jeffrey Smith; Joseph Joyce; Merck & Co, West Point, PA
- ThP 154 **Comparative Proteomic Profiling of Human Lung Adenocarcinoma Cells (CL 1-0) Expressing miR-372**; Yu-Min Juang; Jeremy J. W. Chen; Chien-Chen Lai; National Chung Hsing University, Taichung, Taiwan
- ThP 155 **Multiplexed LC-MS/MS SRM Assay for Parathyroid Hormone (PTH) and Variants: Correlation with Current Clinical Immunoassay Methods**; Bryan Krastins¹; Mary F. Lopez¹; Amol Prakash¹; David Sarracino¹; Dobrin Nedelkov¹; David Barnidge²; Randall Nelson³; Paul E. Oran³; Linda M Benson⁴; H. Robert Bergen, III⁴; Jolaine Twentyman⁴; Ravinder J. Singh⁴; Andrew Hoofnagle⁵; ¹*Thermo Fisher Scientific, Cambridge, MA*; ²*Mayo Clinic / DLMP, Rochester, MN*; ³*Arizona State University, Tempe, AZ*; ⁴*Mayo Clinic, Rochester, MN*; ⁵*Univ of Wash Med Center, Seattle, WA*
- ThP 156 **Alteration of Post-translational Modifications of Myosin in the *Drosophila* Model of Fragile X Mental Retardation**; Jong Bok Seo¹; Hee Jung Choi²; Soo Young Kim¹; Young Ho Koh²; ¹*Korea Basic Science Institute, Seoul, South Korea*; ²*Ilson Institute of Life Science, Hallym University, Anyang, South Korea*

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- ThP 158 **Release of Intact Membrane Proteins from Detergent Micelles under Vacuum: Combining Experimental and *in silico* Collision-induced Dissociation**; Felipe Montenegro¹; Mario Barrera¹; Sheila Wang²; Jorge Cantero¹; Shoshanna Isaacson²; Carol Robinson²; Nelson Barrera¹; ¹*P. Univ. Catolica de Chile, Santiago, Chile*; ²*University of Oxford, Oxford, UK*
- ThP 159 **Characterization of Membrane-proteins by Interfacing nanoLC nESI- and Maldi MS/MS Analysis: Maximizing the Information Obtainable in a Single LC-MS Experiment**; Julian D. Langer¹; Frank Porbeck²; Mark Allen²; ¹*Max-Planck-Institute of Biophysics, Frankfurt, Germany*; ²*Advion Biosciences Ltd, Harlow, UK*
- ThP 160 **Normalization of Immunoprecipitated Proteins Using Targeted SRM Assays for Immunoglobulin Proteins.**; Sarah Moore^{1,2}; Christine Wu¹; ¹*University of Pittsburgh, Pittsburgh, PA*; ²*University of Colorado, Denver, Denver, CO*
- ThP 161 **Deciphering the Spatial Distribution of the Lens Membrane Protein AQP0 Modifications: MALDI Imaging and Quantitative Morphology-Directed Capture/LC-MS**; Jamie L. Wenke¹; David B. Friedman²; Kevin L. Schey¹; ¹*Vanderbilt University, Nashville, TN*; ²*Vanderbilt University School of Medicine, Nashville, TN*
- ThP 162 **A Chemical Proteomics Study for the Mechanism of Breast Cancer Cells Resistant to Trastuzumab Treatment**; Yohei Mukai^{1,2}; Danilo Ritz³; Dario Neri¹; Tim Fugmann³; ¹*ETH Zürich, Zürich, Switzerland*; ²*Osaka University, Osaka, Japan*; ³*Philochem AG, Otelfingen, Switzerland*
- ThP 163 **Probing Respiratory Epithelial Cell and Ciliary Membrane Protein Components through Biotin Affinity Tagging and LC/MS/MS Analysis**; Kevin Blackburn¹; Justyne Hammond¹; Lawrence Ostrowski²; Michael Goshe¹; ¹*North Carolina State University, Raleigh, NC*; ²*University of North Carolina, Chapel Hill, NC*
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- ThP 165 **Mass Spectrometric Investigation of Nanodiscs and the Application to Intact Membrane Protein Complexes**; Hao Zhang¹; Michael T. Marty²; Weidong Cui¹; Stephen G. Sligar²; Robert E. Blankenship¹; Michael L. Gross¹; ¹*Washington University, St. Louis, MO*; ²*University of Illinois, Urbana, IL*
- ThP 166 **A Proteomics Approach to Analyzing Native Protein Complexes in Rat Liver Mitochondrial Contact Sites**; Kwangwon Lee; Janos Kerner; Charles Hoppel; Case Western Reserve University, Cleveland, OH
- ThP 167 **Quantitative Proteomic Profiling of Dynamic Protein Palmitoylation**; Brent Martin; University of Michigan, Ann Arbor, MI
- ThP 168 **Absolute Quantification of Receptor Guanylyl Cyclase in *Arbacia punctulata* Sperm using Selected Reaction Monitoring (SRM)**; Tanja Bojarzyn¹; Ansgar Poetsch¹; Timo Struener²; Magdalena Sznajka²; Christian Troetschel¹; ¹*Ruhr University Bochum, Bochum, Germany*; ²*Center of Advanced European Studies and Research, Bonn, Germany*
- ThP 169 **SIRPL: Construction of a Stable Isotope-labeled Recombinant Protein Library for the Absolute Quantitative Analysis of Mouse Membrane Proteome**; Nobuaki Takemori¹; Ayako Takemori¹; Kazuhiro Matsuoka²; Natsuki Matsushita¹; Hiroyuki Takeda³; Tatsuya Sawasaki³; Yaeta Endo³; Shigeki Higashiyama¹; ¹*Proteo-Medicine Res. Ctr, Ehime University, Toon City, Japan*; ²*Nagoya Medical Center, Nagoya, Japan*; ³*Cell-Free Sci. & Tech. Res. Ctr, Ehime University, Matsuyama, Japan*
- ThP 170 **Ubiquitously Localized Proteins on Cell Wall/Surface of Fungal Pathogen *Candida albicans* Profiled by Metabolic ¹⁵N labeling and LC-MS/MS**; Arjun Sharma¹; Jim Cutler^{1,3}; Yang Cai^{1,2}; ¹*The Research Institute for Children, New Orleans, New Orleans, LA*; ²*Department of Chemistry, University of New Orleans, New Orleans, LA*; ³*Department of Pediatrics, LSUHSC, New Orleans, LA*
- ThP 171 **Mitochondrial Architecture Revealed by High Resolution Mass Spectrometry Based Protein Correlation Profiling**; Dirk M. Walther; Max Harner; Christian Koerner; Walter Neupert; Matthias Mann; Max Planck Institute of Biochemistry, D Martinsried, Germany
- ThP 172 **Top Down Proteomics of Soluble and Integral Membrane Proteins from Human Mitochondria**; Adam Catherman; Ken Durbin; Mingxi Li; Dorothy Ahlf; John C. Tran; Bryan Early; Paul Thomas; Neil L. Kelleher; Northwestern University, Evanston, IL
- ThP 173 **Exploring Mechanisms for Red Cell Damage during Storage by Proteomic Analysis of Methionine Oxidation**; Grady Blacken^{1,2}; Thomas Jordan¹; Yi Wang¹; Xiaoyun Fu¹; ²*Puget Sound Blood Center, Seattle, WA*; ²*Department of Medicine, University of Washington, Seattle, WA*
- ThP 174 **Extracting Disease Information Out of the Brain**; Ganna Shevchenko¹; Kim Kultima¹; Sravani Musunuri¹; Kina Höglund²; Lars I. Andersson²; Jonas Bergquist¹; Magnus Wetterhall¹; ¹*Uppsala University, Uppsala, Sweden*; ²*Translational Science, AstraZeneca R&D, Södertälje, Sweden*



ThP 175 **Manipulating the ERAD Pathway to Restore Epilepsy-Associated GABA_A Receptor Function;** Tingwei Mu; Yajuan (Megan) Wang; *Case Western Reserve University, Cleveland, OH*

ThP 176 **Differential Expression Profiling of Cell Surface Antigens of CSC-like Cells Derived from Human Breast Cancer Cell Lines;** MinJueng Kang; Kyeong-seob Lee; Chan Young Kim; Hayeon Caitlyn Oak; Eugene C. Yi; *WCU Seoul National University, Seoul, South Korea*

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ThP 178 **Chemical Crosslinking Strategy using a Mass Defect Labeled Crosslinker;** Melissa Stoudemayer¹; Evgeniy Petrotchenko²; Christoph Borchers²; Jason Serpa³; Jon Amster¹; ¹*University of Georgia, Athens, GA*; ²*UVic-GBC Proteomics Centre, Victoria, BC*; ³*University of Victoria – Genome British Columbia P, Victoria, BC*

ThP 179 **Investigation of hIAPP Oligomerization in Model Membrane Systems Using Electrospray Ionization Ion Mobility Mass Spectrometry;** Shin Jung C. Lee; Hugh Kim; *POSTECH, Dept of Chemistry, Pohang, South Korea*

ThP 180 **Hydrogen-Bonding Characteristics of Aβ(1-40) Oligomers Studied by Top-Down Electron Capture Dissociation HDX-MS;** Lars Konermann¹; Jingxi Pan²; Christoph Borchers³; Jun Han⁴; ¹*Univ. of Western Ontario, London, Canada*; ²*University of Victoria - Genome BC Proteomics Cent, Victoria, BC*; ³*UVic-GBC Proteomics Centre, Victoria, BC*; ⁴*University of Victoria-Genome BC Proteomics Centre, Victoria, BC*

ThP 181 **H/DX-Mass Spectrometry of Amyloid beta Aβ(1-42) Peptide Oligomers;** Ying Zhang; Anuj Sharma; Liviu Mirica; Michael Gross; *Washington University in St. Louis, St. Louis, MO*

ThP 182 **Autoproteolytic Fragments of the Intrinsically Disordered Parkinson Protein α-Synuclein Might be a Key to the Elucidation of Its Oligomerization-Aggregation Mechanism;** Kathrin Lindner; *Analyt Chem and Biopolymer Structure Analysis, Konstanz, Germany*

ThP 183 **Probing the Conformational and Aggregation Properties of the PolyQ Protein Ataxin-3;** Charlotte A. Scarff; Alessandro Sicorello; Sheena E. Radford; Alison E. Ashcroft; *University of Leeds, Leeds, UK*

ThP 184 **Structural Characterisation of Oligomeric Intermediates on Pathway to Amyloid Formation;** Aneika C. Leney; Charlotte A. Scarff; Sheena E. Radford; Alison E. Ashcroft; *University of Leeds, Leeds, UK*

ThP 185 **Transition Metal-binding Sites in β-2-microglobulin and Their Influence on Its Aggregation using MCO-MS and SEC-MS;** Jia Dong¹; Vanessa Leah Mendoza²; Richard W. Vachet¹; ¹*University of Massachusetts Amherst, Amherst, MA*; ²*Boston University School of Medicine, Boston, MA*

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ThP 187 **Investigating the Mechanism of Substrate Binding of Prolyl Oligopeptidase Family Enzymes by Means of Shape Selective Mass Spectrometry;** Matthew J. Edgeworth; Dean Rea; Vilmos Fulop; James H. Scrivens; *University of Warwick, Coventry, UK*

ThP 188 **The Metamorphic Protein Lymphotactin Undressed by IM-MS and Top Down ECD;** Sophie Harvey¹; Albert Konijnenberg¹; David Clarke¹; Robert Tyler²; Brian Volkman²; Perdita Barran¹; ¹*The University of Edinburgh, Edinburgh, UK*; ²*Medical College of Wisconsin, Milwaukee, WI*

ThP 189 **Host-Guest Chemistry in the Gas Phase: Investigation of the Charge shifts and Protein Conformation Dynamics using Cucurbit[6]uril;** Hugh I. Kim; Sung Woo Heo; Jong Wha Lee; Jae Yoon Ko; *POSTECH, Dept of Chemistry, Pohang, South Korea*

ThP 190 **Influence of Charge State of Precursor Ions on Collision-Induced Dissociation of Carbonic Anhydrase 2;** Yoshiaki Nabuchi¹; Kenji Hirose²; Mitsuo Takayama¹; ¹*Yokohama City University, Yokohama, Japan*; ²*Nihon Waters K.K., Osaka, Japan*

ThP 191 **On the Correlation between Charge States and Drift Times of Protein Conformational States in Ion Mobility – Mass Spectrometry Experiments;** Frederik Lermite¹; Dirk Valkenburg²; Frank Sobott¹; ¹*University of Antwerp, Antwerpen, Belgium*; ²*VITO, Mol, Belgium*

ThP 192 **Protein Conformational Evolution after Electrospray Ionization: Unfolding and New Folding Pathways in Native Ubiquitin;** Fred W. McLafferty¹; Owen Skinner¹; Sergio Castro¹; Kathrin Breuer²; ¹*Cornell University, Ithaca, NY*; ²*University of Innsbruck, Innsbruck, Austria*

ThP 193 **Structural Dynamics Analysis of GAPDH for Functional Regulation by Hydrogen/Deuterium Exchange Coupled with Mass Spectrometry;** Tatsuya Yamamoto^{1,2}; Yasuaki Kabe^{1,2}; Makoto Suematsu^{1,2}; ¹*Keio University, Tokyo, Japan*; ²*Japan Science and Technology Agency (JST), Tokyo, Japan*

ThP 194 **Protein Structure Analysis using H/D Exchange and MALDI In-Source Decay;** Suresh Annangudi; David McCaskill; Jianquan Li; Jesse Balcer; Paul Graupner; Steve Evans; Jeffrey Gilbert; *Dow AgroSciences LLC, Indianapolis, IN*

ThP 195 **Probing Conformation of Integral Membrane Protein Phosphatidylserine Synthase 2 by Chemical Crosslinking and Mass Spectrometry;** Bill Huang; Atsuko Kimura; Hee-Yong Kim; *NIAAA/NIH, Rockville, MD*

ThP 196 **Characterization of AICL Lectin Conformation by Chemical Cross-linking and High Resolution Mass Spectrometry;** Martin Conka^{1,2}; Daniel Rozbesky^{1,2}; Karel Bezouska^{1,2}; Petr Novak^{1,2}; ¹*Faculty of Science, Charles University, Prague, Czech Republic*; ²*Institute of Microbiology, Prague 4, Czech Republic*

ThP 197 **Structural Analysis of Diabetes Mellitus-associated Insulin Mutants by Hydroxyl-radical Footprinting and Molecular Modeling;** Janna Kiselar; Manish Datt; Nelson Phillips; Mark Chance; Michael Weiss; *Case Western Reserve Univ, Cleveland, OH*

ThP 198 **Oxidation Induced Conformational Changes in Calcineurin Studied by “Fixed Charge” Chemical Derivatization and Data Dependent Multistage Tandem Mass Spectrometry;** Xiao Zhou¹; Caitlin Mester¹; Paul Stemmer²; Gavin E. Reid¹; ¹*Michigan State University, East Lansing, MI*; ²*Wayne State University, Detroit, MI*

ThP 199 **Real-time Monitoring of Transglutaminase Dynamics in Solution using Kinetic Capillary Electrophoresis – Mass**



Spectrometry; Gleb Mironov; Christopher M. Clouthier; Victor Okhonin; Maxim Berezovski; *University of Ottawa, Ottawa, Canada*

- ThP 200 **Action-FRET: Probing Local Conformation of Molecules and Molecular Complexes in the Gas Phase**; Luke MacAleese¹; Fabien Chiro²; Léa Bazus²; Franck Bertorelle¹; Rodolphe Antoine¹; Jérôme Lemoine²; Philippe Dugourd¹; ¹LASIM - CNRS / Université de Lyon, Villeurbanne, France; ²LSA - CNRS / Université de Lyon, Villeurbanne, France

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- ThP 202 **Negative Electron Transfer Followed by Collision-Induced Dissociation (NET-CID): An Efficient Method for Generating Consistent Fragmentation Patterns of Heavily Modified Oligonucleotides**; Yang Gao; Scott A. Mcluckey; *Purdue University, Lafayette, IN*
- ThP 203 **Creating Unique Mass Signatures for the Identification of microRNA**; Norman H. L. Chiu¹; Dickson Wambua¹; Soo-Yeon Kim¹; Tia Tate²; Madelaine Dubin³; ¹The University of North Carolina at Greensboro, Greensboro, NC; ²North Carolina Agricultural and Technical State Un, Greensboro, NC; ³American Hebrew Academy, Greensboro, NC
- ThP 204 **Mass Spectrometry-Based Identification and Characterization of microRNA**; Majlinda Kullolli¹; Emily Knouf²; Muneesh Tewari²; Sharon Pitteri¹; ¹Stanford University School of Medicine, Palo Alto, CA; ²Fred Hutchinson Cancer Research Center, Seattle, WA
- ThP 205 **Self Reporting RNA probes – A New Design for Small Mass Tags**; G. John Langley; Jo-Anne Riley; Julie Herniman; *University of Southampton, Southampton, UK*
- ThP 206 **Identification of tRNA Sequence Isomers by Isotope Labeling and LC-MS/MS**; Siwei Li; Patrick A. Limbach; *University of Cincinnati, Cincinnati, OH*
- ThP 207 **Identification of Isoaccepting Transfer Ribonucleic Acids (tRNAs) by a Multiple Reaction Monitoring (MRM) Assay**; Collin Wetzel; Patrick A. Limbach; *University of Cincinnati, Cincinnati, OH*
- ThP 208 **Identification of Intracellular siRNA Metabolites by LC-MS**; A. Cary McGinnis; Michael G. Bartlett; *University of Georgia, Athens, GA*
- ThP 209 **Kinetic Study for the Products of Dicer Cleaved Oligonucleotides by Liquid Chromatography/Mass Spectrometry**; Kaisheng Jiao; Shuhao Zhu; Aftab Rashid; Bob Brown; *Dicerna Pharmaceuticals, Watertown, MA*
- ThP 210 **Simultaneous Qualitative and Quantitative Analysis of Large Oligonucleotides by High Resolution MRM.**; Tom Knapman¹; Vicki Gallant¹; Christie Hunter²; Martyn Hemsley³; ¹AB SCIEX UK, Warrington, UK; ²AB SCIEX, Foster City, CA; ³Covance, Harrogate, UK
- ThP 211 **Quantification of RNA Oligonucleotides in Human Plasma by Ion-pairing LC-MS/MS and LC-HR-MS**; Huachuan Cao; Douglas Fast; *Covance Laboratories, Madison, WI*
- ThP 212 **Improved Strategy for Detection of Native and Artificial RNA-modifications from Ribonucleotides, Dinucleotides using Nanobore ion-pair-reagent LC Coupled to Negative ESI-MS**; Florian Richter¹; Daniel Kemp²; Gerhard Mittler¹; ¹Max Planck Institute of Immunobiology & Epigenetics, Freiburg, Germany; ²Dep of Biochem & Microbiol, University of Victoria, Victoria, British Columbia, Canada
- ThP 213 **Role of ion-pairing Agents during the Electrospray Desorption of Oligonucleotides**; Buyun Chen; Michael G. Bartlett; *University of Georgia, Athens, GA*
- ThP 214 **Quantification of a Phosphorothioate Oligonucleotide and its 3'n-1 Metabolite using liquid-liquid Extraction and uHPLC-MS/MS**; Buyun Chen; Michael G. Bartlett; *University of Georgia, Athens, GA*
- ThP 215 **Toward Rapid Transcriptome-wide Analysis of Ribonucleotide Modifications by High-Resolution Mass Spectrometry**; Ryan Quinn; Rebecca Rose; Jaclyn Sayre; Daniele Fabris; *The RNA Institute, SUNY Albany, Albany, NY*
- ThP 216 **Mass Spectrometry-based Characterization of RNAs in Functional Cellular Ribonucleoprotein Complexes**; Masato Taoka¹; Aiko Takeuchi¹; Takashi Shimura¹; Hiroshi Nakayama²; Yuko Nobe¹; Yoshio Yamauchi¹; Toshiaki Isobe¹; ¹Department of Chemistry, Tokyo Metropolitan Univ., Tokyo, Japan; ²RIKEN, Wako, Japan
- ThP 217 **Software Platform for Analyzing Post-transcriptional Modifications and Metabolites of Ribonucleic Acids using Liquid Chromatography – Tandem Mass Spectrometry Data**; Hiroshi Nakayama^{1,2}; Masato Taoka³; Yuko Nobe^{2,3}; Yoshio Yamauchi³; Toshiaki Isobe^{2,3}; ¹RIKEN Advanced Science Institute, Wako, Japan; ²CREST, JST, Tokyo, Japan; ³Tokyo Metropolitan University, Tokyo, Japan
- ThP 218 **Separation and Sequencing of Isomeric Oligonucleotide Adducts using ion-pair Reversed Phase LC-ESI-MS/MS and GenoMass software**; Vaneet Sharma; James Glick; Paul Vouros; *Northeastern University, Boston, MA*
- ThP 219 **Automated Tandem Mass Spectral Sequencing of Oligonucleotides**; Florian Pitterl; Herbert Oberacher; *Innsbruck Medical University, Innsbruck, Austria*
- ThP 220 **De novo Sequencing of RNA by Bottom-Up High Resolution MALDI SpiralTOF Mass Spectrometry**; Dickson Wambua¹; Norman H. L. Chiu¹; Robert B. Cody²; Masaaki Ubukata²; John Dane²; ¹University of North Carolina at Greensboro, Greensboro, North Carolina; ²JEOL USA, Inc., Peabody, MA
- ThP 221 **Mass Spectrometric Analysis of Sugar Modified Nucleic Acid Analogues**; Silvan R. Stucki¹; Adrien Nyakas²; Stefan Schuerch¹; ¹University of Bern, Bern, Switzerland; ²UVic Genome Proteomics Centre, Victoria, BC
- ThP 222 **Theoretical and Mass Spectrometric Studies of 3-Methyladenine DNA Glycosylase II (Alka) Substrates**; Anna Michelson; Mu Chen; Kai Wang; Aaron Petronico; Jeehiun K. Lee; *Rutgers University, Piscataway, NJ*
- ThP 223 **Characterization of Oxidative DNA-Protein Crosslinking at Guanine by Mass Spectrometry**; Larry Sallans; Morwena J. Solivio; Dessalegn B. Nemera; Stephen F. Macha; Edward J. Merino; *University of Cincinnati, Cincinnati, OH*
- ThP 224 **Photodissociation and Hybrid MS/MS Techniques for the Characterization of Cross-linked Oligonucleotides**; Julia AponTE; Zhe Xu; Jennifer Brodbelt; *University of Texas Austin, Austin, TX*
- ThP 225 **Mass Spectrometric Study of the Influence of Stereochemistry and Epigenetic Modifications on DNA Damage**; Allison S. Danell; Eli G. Hvastkovs; *East Carolina University, Greenville, NC*
- ThP 226 **Insights into Nucleic Acids Oxidation by Electrochemistry/Liquid Chromatography/Mass Spectrometry**; Robert Erb¹; Sabine Plattner¹; Martin



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Eysberg²; Jean-Pierre Chervet²; Herbert Oberacher¹;
¹Innsbruck Medical University, Innsbruck, Austria; ²Antec,
Zouterwoude, The Netherlands

- ThP 227 **DNA Repair Pathways of Cisplatin Based DNA Modifications**; Matthias Ziehe¹; Jürgen Thomale²; Michael W. Linscheid¹; ¹Humboldt-Universität zu Berlin, Berlin, Germany; ²Institute of Cell Biology, University Hospital, Essen, Germany
- ThP 228 **Analysis of 5-methylcytosine Oxidation Products in CG Containing Oligonucleotides by LC-MS/MS**; Guru S. Madugundu; Francois Samson-Thibault; Jean Cadet; J. Richard Wagner; Université de Sherbrooke, Sherbrooke, Canada
- ThP 229 **Mass Spectrometry-based Assays for Examining the Repair of Bulky DNA Lesions Induced by Reactive Oxygen Species**; Jin Wang; Changjun You; Yinsheng Wang; University of California, Riverside, CA
- ThP 230 **4-aminobiphenyl DNA Adducts of Urothelial Cells from Smokers as Biomarkers of Bladder Cancer Risk: Optimization of Sample Preparation and nanoLC-ESI-MS/MS**; Joshua J. Kleane¹; Samantha J. Sokup²; Kaila J. Norton³; James Glick¹; Richard J. O'Connor³; Paul Vouros¹; ¹Northeastern University, Boston, MA; ²Novartis Institutes for Biomedical Research, Cambridge, MA; ³Roswell Park Cancer Institute, Buffalo, NY
- ThP 231 **Characterization of Apolipoprotein C3 LNA/DNA Impurities and Degradation Products by LC/MS/MS**; Olga Friesse¹; Justin Sperry¹; Liji Joseph¹; James Carroll¹; Jason Rouse²; ¹Pfizer, Inc., St. Louis, MO; ²Pfizer, Andover, MA
- ThP 232 **Functional Preconcentration Tip for DNA Adducts Analysis by using LC-ESI-MS/MS**; Hiroya Murakami¹; Mio Koguchi¹; Rieko Kawamura¹; Yukihiro Esaka^{1,2}; Bunji Uno^{1,2}; Yasushi Ishihama³; ¹Gifu Pharm. Univ., Gifu, Japan; ²Gifu Univ., Gifu, Japan; ³Kyoto Univ., Kyoto, Japan
- ThP 233 **Optimization of Experimental Conditions for the Ion Mobility-MS Analysis of Progressively Larger RNAs in Negative Ion Mode**; Jennifer Lippens; Maria Basanta Sanchez; Papa Nii Asare-Okai; Daniele Fabris; *The RNA Institute, University at Albany, Albany, NY*

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- ThP 234 **Validation Including Westgard's Criteria and Proficiency Tests of the Stero/DQ® Kit on Different MS Platforms for LC-MS/MS Steroid Hormone-Quantification**; Hai Pham Tuan; Diane Schmiederer; Doreen Kirchberg; Angelika Kania; Cornelia Roehring; Therese Koal; *BIOCRATES Life Sciences AG, Innsbruck, Austria*
- ThP 235 **High-throughput Steroid Hormones Analysis with Stero/DQ® Kit by using Ultra High Pressure LC (UHPLC-ESI-MS/MS) and Positive Pressure SPE Processor**; Hai Pham Tuan; Therese Koal; *BIOCRATES Life Sciences AG, Innsbruck, Austria*
- ThP 236 **Multiplatform Metabolomics: Xanthohumol Mitigates Markers of Type 2 Diabetes in Zucker Fatty (fa/fa) Rats**; Jay Kirkwood^{1,2}; Leecole Legette^{1,2}; Cristobal L. Miranda^{1,2}; Gerd Bobe^{1,3}; Jan F. Stevens^{1,2}; ¹Linus Pauling Institute, Oregon State University, Corvallis, OR; ²College of Pharmacy, Oregon State University, Corvallis, OR; ³Animal Sciences, Oregon State University, Corvallis, OR
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ThP 432 **Detection of Hemoglobin Variants from Dried Blood Spots using a flow-through Device Coupled Online to ESI-TOF-MS;** Jonathan Wilson¹; Robert J. Seward¹; Dhvani Shah¹; Catherine Stacey¹; Lena Knecht²; ¹PerkinElmer, Waltham, MA; ²Spark Holland B.V., Emmen, Netherlands

ThP 421 **Method Development for the Determination of Methylmalonic Acid in Human Serum or Plasma Using Isotope-Dilution Liquid Chromatography/Tandem Mass Spectrometry;** Susan Tai; *NIST, Gaithersburg, MD*

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ThP 422 **An LC-MS/MS Method for Plasma Organic Acids in the Diagnosis of Mitochondrial Disorders;** David W. Johnson; *SA Pathology/Women's and Children's Hospital, N Adelaide Sa, Australia*

ThP 434 **Determination of 25-Hydroxyvitamin D2 and D3 using Tandem Mass Spectrometry (LC-MS/MS) for Diagnostics in Human Serum: A Comparative Study;** Sung Hyun Hong^{1,2}; Sung-Eun Cho¹; Gwi-Young Oh¹; Ki-Sook Yoo¹; Hyung-Gun Kim²; Young Ho Yoon¹; ¹Eone Reference Laboratory, Seoul, South Korea; ²Department of Pharmacology, Dankook University, Chungnam-Do, South Korea

ThP 423 **Quantitative Amino Acid Analysis in Plasma and Urine using HILIC Coupled to Second Generation Exactive High Resolution Mass Spectrometer;** Huques Henry¹; Bertrand Rochat¹; Alexandre Béguin¹; Clothilde Roux¹; Olivier Boulat¹; Sarah Robinson¹; Maciej Bromirski²; ¹University of Lausanne, Lausanne, Switzerland; ²Thermo Fisher Scientific, Bremen, Germany

ThP 435 **Evaluating the Quantitation of Vitamin D in Biological Matrix Using Accurate Mass Coupled with Tandem Mass Spectrometer Confirmation ;** Catherine Lafontaine; Yang Shi; Matthew Berube; Francois A. Espourteille; *Thermo Fisher Scientific, Franklin, MA*

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ThP 436 **A High Throughput SPE-HPLC-MS/MS Method for Vitamin D Screening;** Xuejun Zang; Krishna Malia; Igor Gavin; Anil Oroskar; Asha Oroskar; *Orochem Technologies Inc, Lombard, IL*

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ThP 437 **Comparison of Full Scan MS2 and MS3 Linear Ion Trap Approaches for Quantitation of Vitamin D;** Julie Horner; Marta Kozak; Subodh Nimkar; August Specht; *Thermo Fisher Scientific, San Jose, CA*

ThP 426 **Toward Neonatal Diagnosis of Metachromatic Leukodystrophy: Tandem Mass Spectrometry Determination of Sulfatide Isoforms in Dried Blood Spots;** Mariana Barcenas¹; Zdenek Spacil²; Frantisek Turecek¹; C. Ronald Scott³; Michael Gelb^{1,4}; ¹Department of Chemistry, University of Washington, Seattle, WA;

ThP 438 **A Sensitive and Interference-free Liquid Chromatography Tandem Mass Spectrometry Method for Measuring Plasma Metanephrines;** Chao Yuan¹;



- Jessica Gabler¹; Witold Woroniecki²; Hua-Fen Liu²; Sihe Wang¹; ¹Cleveland Clinic, Cleveland, OH; ²AB Sciex, Foster City, CA
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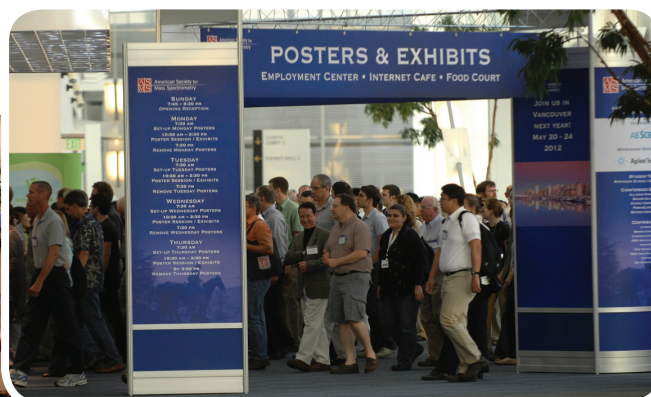
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