57th ASMS Conference on Mass Spectrometry and Allied Topics

May 31 – June 4, 2009
Philadelphia, Pennsylvania

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Title information in the following sections is provided by authors.
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GENERAL INFORMATION

Welcome to the 57th ASMS Conference on Mass Spectrometry and Allied Topics. Conference program activities and exhibit booths are in the Pennsylvania Convention Center. Corporate Member hospitality suites are located in the Marriott Hotel.

SUNDAY TUTORIAL LECTURES. The Tutorial Session is 5:00 – 6:30 pm, Sunday in Exhibit Hall C (level 2).

5:00 pm, **The Art of Communication in the Sciences**
Willard W. Harrison, *University of Florida*

5:45 pm, **Ion Mobility in Mass Spectrometry**
David E. Clemmer, *Indiana University*

PLENARY SESSIONS. The conference opens with a plenary session at 6:45 pm on Sunday in Exhibit Hall C (following the Tutorial Session).

Sunday, 6:45 – 7:00 pm, **Conference Opening**
7:00 – 7:45 pm
Biofuels and Global Climate Change
Jerald L. Schnoor, *University of Iowa*

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

Thursday, 4:45 – 5:30 pm
Fostering Creativity
Richard N. Zare, *Stanford University*

ORAL SESSION LOCATIONS

Session A (MOA, TOA, WOA, ThOA), Ballroom A, mezzanine, take escalator from Grand Hall
Session B (MOB, TOB, WOB, ThOB), Ballroom B, mezzanine, take escalator from Grand Hall.
Session C (MOC, TOC, WOC, ThOC), Room 201, on central corridor leading from Grand Hall, level 2
Session D (MOD, TOD, WOD, ThOD), Room 204, on central corridor leading from Grand Hall, level 2
Session E (MOE, TOE, WOE, ThOE), Exhibit Hall C, level 2
Session F (MOF, TOF, WOF, ThOF), Room 103, street level
Session G (MOG, TOG, WOG, ThOG), Room 113. street level

ORAL PRESENTATIONS. Only LCD computer projectors are used for oral sessions. The ASMS PC computers are running Windows XP and Office 2007.

SPEAKER PREPARATION. Speakers must go to the speaker room at least one day prior to their talks to load presentations on the ASMS computers. The speaker room is Room 303 (take escalator up to level 3). The room is open with a technician present:

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

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

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

POSTER SET-UP. Posters are located in Exhibit Hall AB. Posters must be set up 8:00 - 8:30 am on the day scheduled and removed 7:30 to 8:00 pm. Thursday posters must be removed by 3:30 pm. **Refer to the poster numbers in this final program for board assignments.** Authors are expected to supply pushpins to mount their posters. Poster titles begin on page 41.

POSTER SCHEDULE. The poster sessions are 10:30 am – 2:30 pm, Monday through Thursday. Authors are encouraged to attend their posters as much as possible between 10:30 am and 2:30 pm on their scheduled day. However, authors of odd numbered posters (001, 003, 005, etc.) are required to be present 10:30 – 12:30. Authors of even numbered posters (002, 004, 006, etc.) must be present 12:30 – 2:30 pm. Authors should wear a "presenter badge." Presenter badges are available at the poster supply counter located at the entrance to the poster hall.

WORKSHOPS. Workshops are scheduled 5:45 – 7:00 pm on Monday, Tuesday, and Wednesday. See pages 18 to 20 for schedule. There will be light refreshments offered for those attending workshops. Refreshments are on the street level (100 rooms).

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

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

LUNCH. Concessions are near the Internet café are open in Exhibit Hall AB. Reading Market directly below the Grand Hall of the convention center offers an array of fresh, local options.

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

CONFERENCE PROCEEDINGS. The conference proceedings will be published on DVD after the conference. Members will receive the DVD with their September JASMS.

WEB BROADCASTING OF SESSIONS. Tutorial lectures, plenary sessions, and oral sessions will be web cast. Your last name and the User ID on the back of your name badge must be entered to view presentations. All presentations will be available until August 14. Web casting of presentations does not constitute publication and in no way jeopardizes the rights of authors to publish material that has been presented. To access the presentations, go to www.asms.org.

CORPORATE HOSPITALITY SUITES. See page 14. Hospitality suites may be open 6:00 – 11:30 pm, Monday through Wednesday. Suites are located in the Marriott Hotel. Suite opening hours may vary. ASMS will provide shuttle transportation 6:00 – 10:00 pm, Monday through Wednesday from the Marriott to:
Route 1: Holiday Inn Express, Crowne Plaza, Sofitel
Route 2: Embassy Suites, and Sheraton Hotel

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

SOCIAL ACTVITIES

- **WELCOME MIXER, SUNDAY, 7:45 - 9:30 PM,** *Exhibit Hall AB.* Conference name badge is required.

- **GUEST REGISTRATION.** Guest registration includes Sunday evening mixer and continental breakfast and welcome on Monday, 9:00 – 11:00 am in Room 109 AB. Cost for guest registration: $20.

- **CONFERENCE FINALE, 6:00 - 9:30 PM, THURSDAY**

The conference concludes on Thursday evening, June 4 at the National Constitution Center. The evening includes full access to the exhibits and buffet, plus band and dancing. **Your event ticket specifies the time for your viewing of "Freedom Rising,"** a multimedia production that vividly displays the recurring themes of U.S. history. Tickets are limited to conference registrants and registered guests only. This event is not appropriate for children. Tickets may be purchased until 12 noon on Monday. *Cost: $20 for each conference registrant and registered guest.* Cash bar.

The National Constitution Center is a walk of only 7 blocks along Arch Street. For those wishing to ride, buses begin departing at 5:45 pm. Check ticket for your bus departure time. **Yellow tickets depart at 5:45 pm, green tickets at 6:10, and blue tickets at 6:30 pm.**

CHEMICAL HERITAGE FOUNDATION MUSEUM. The Chemical Heritage Foundation recently opened its new museum. The museum is open to ASMS registrants on Sunday afternoon. ASMS is providing shuttle buses 1:00 – 4:00 pm to/from CHF. Admission and transportation is free but a reservation is required for the bus.

PHILADELPHIA HOSPITALITY. Visit the booth of the Philadelphia Convention and Visitors Bureau in the Exhibit Hall and on the 12th Street Concourse of the convention center. The attendants will assist you with restaurant reservations and tourist information.

CONFERENCE REGULATIONS

- **Name badges** are required for all conference sessions, including the 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** in any session, including posters.
- **The placement of advertising** in the meeting area is strictly prohibited unless approved by ASMS. No signs on easels are permitted.
- **No hardware, terminals, accessories, or any items** for sale may be displayed in any area of the conference, except in corporate exhibit booths and hospitality suites.
- There may be **no organized activities** (even off-site) other than those approved by ASMS during the conference week (5:00 pm on Sunday through 9:00 pm on Thursday).
- **Corporate or institutional logos** may appear only in the title of posters or talks in technical sessions. Logos appearing anywhere else in a poster will be removed or covered by ASMS.

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

Sunday: 7:45 – 9:00 pm
Monday – Wednesday: 8:30 am - 5:00 pm
Thursday: 8:30 am – 2:30 pm

MEDIA EVENTS

Corporate media events are scheduled on Monday in Rooms 108A, 108B or in hospitality suites at the Marriott Hotel. Members of the press and financial institutions are welcome.

COMPANY	SCHEDULE	ROOM
Shimadzu	Monday 10:00 – 11:00 am	108B, Conv. Center
Bruker Daltonics	Monday 11:00 am – 12:00 pm	108A, Conv. Center
Thermo Scientific	Monday 1:00 – 2:00 pm	Salons G-K, 5th fl, Marriott
Agilent	Monday 2:00 – 3:00 pm	Salon H, 5th fl, Marriott
Applied Biosystems	Monday 3:00 – 4:00 pm	Salons B-F, 5th fl, Marriott
Waters Corporation	Monday 4:30 – 5:30 pm	Salon E, 5th fl, Marriott

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HOTELS AND TRANSPORTATION

CONFERENCE HOTELS

1	Courtyard	21 N Juniper Street Tel: 215-496-3200
2	Crowne Plaza	1900 Market Street Tel: 215-561-7500
3	Embassy Suites	1776 Ben Franklin Pwy Tel: 215-561-1776
4	Four Points	1201 Race Street Tel: 215-496-2700
5	Hampton Inn	1301 Race Street Tel: 215-665-9100
6	Hilton Garden Inn	1100 Arch Street Tel: 215-923-0100
7	Holiday Inn Express	1305 Walnut Street Tel: 215-735-9300
8	Loews	1200 Market Street Tel: 215-627-1200
9	Marriott	1201 Market Street Tel: 215-625-2900
10	Ritz Carlton	Ten Avenue of the Arts Tel: 215-523-8000
11	Sheraton	17th & Race Street Tel: 215-448-2000
12	Sofitel	120 S. 17th Street Tel: 215-569-8300

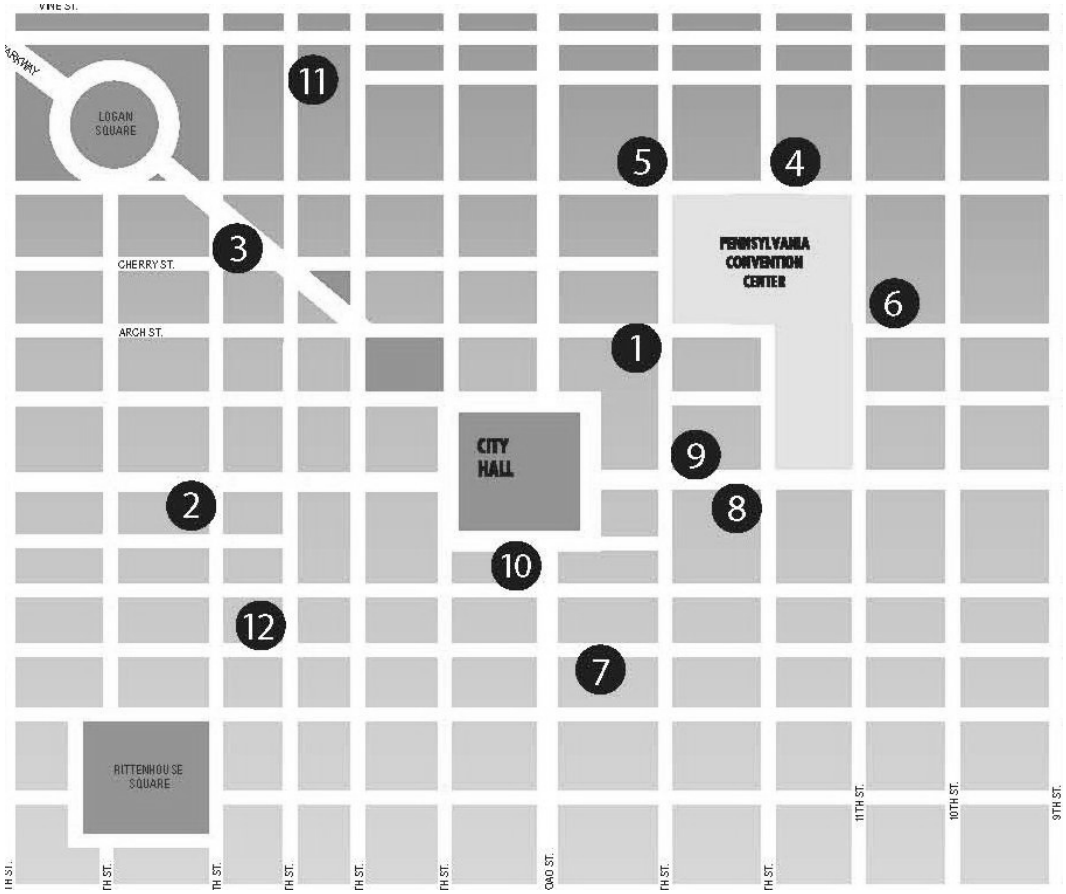
TRANSPORTATION. All hotels are within walking distance of the Pennsylvania Convention Center. ASMS will provide limited shuttle service as follows:

Sunday, 5:00 – 10:00 pm from convention center to:
Route 1: Holiday Inn Express (pm only), Sofitel, Crowne Plaza
Route 2: Embassy Suites, Sheraton

Monday – Thursday, 7:30 – 9:30 am to convention center:
Route 1: From Sofitel and Crowne Plaza to convention center
Route 2: From Sheraton and Embassy Suites to convention center

Monday – Wednesday, 6:00 – 10:00 pm from the Marriott (hospitality suites) to:
Route 1: Holiday Inn Express (pm only), Sofitel, Crowne Plaza
Route 2: Embassy Suites, Sheraton
Last buses depart the Marriott at 10:00 pm.

At the convention center, buses are located along the 12th Street Concourse exit. In the evening at the Marriott Hotel, buses are located at the hotel entrance on 12th Street (next to hotel restaurant).



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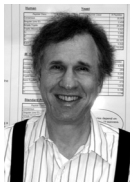

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AWARD FOR A DISTINGUISHED CONTRIBUTION IN MASS SPECTROMETRY

Award Lecture: 4:45 pm, Monday, *Exhibit Hall C*

2009 Recipients: Simon J. Gaskell and Vicki H. Wysocki

In a series of publications beginning in 1992 a group led by **Simon J. Gaskell** and another led by **Vicki H. Wysocki** contributed in parallel to the development of the "Mobile Proton Model." This model unified diverse observations of real-world collision-induced peptide fragmentation so widely used for peptide sequencing and protein inference. Based on fundamental thermodynamic considerations and many observations, this has become the accepted model for understanding peptide fragmentation spectra. The model provides both very specific predictions concerning fragmentation and enables spectra to be interpreted and simulated. It now serves as a foundation both for increased sophistication in database search algorithms, as well as the basis on which many other researchers in the area of peptide mass spectrometry to build more advanced models of fragmentation.

Professor Gaskell is Director of the Michael Barber Centre for Mass Spectrometry and Vice President (Research), University of Manchester.

Vicki Wysocki is Professor with the Department of Chemistry, the Department of Biochemistry and Molecular Biophysics and the BIO5 Institute for Collaborative Research at the University of Arizona.

THE BIEMANN MEDAL

Award Lecture: 4:45 pm, Tuesday, *Exhibit Hall C*

2009 Recipient: Neil L. Kelleher

Top-down proteomics is now a household word among ASMS members, and this is largely due to Neil L. Kelleher, who started top-down analysis and has vigorously promoted this technology starting as a graduate student and continuing today. Unlike the bottom-up approach that starts with protein fragments, top-down proteomics preserves information concerning protein isoforms and the interplay between posttranslational modifications by isolating and fragmenting whole proteins in the gas phase. The analytical software he has developed, ProSight PTM, provides the charge- and isotope-deconvolution needed for top-down proteomics data and is used by over 450 laboratories worldwide. Dr. Kelleher has applied top-down analysis to a number of important biological systems, such as the protein component of human chromatic and determination of the post-translational dynamics of histone H4 through the cell cycle. His laboratory is a major driving force in the extension of tandem mass spectrometry to high mass ions, generating over 130 papers in peer-reviewed journals and already leading to a number of major awards.

Neil Kelleher is Professor of Chemistry at the University of Illinois (Urbana-Champaign).

RON HITES AWARD FOR AN OUTSTANDING RESEARCH PUBLICATION IN *JASMS*

Award Presentation: 4:45 pm, Wednesday, *Exhibit Hall C*

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

The inaugural award is presented to **Dr. Alison E. Ashcroft** for the article *Monitoring Copopulated Conformational States during Protein Folding Events Using Electrospray Ionization-Ion Mobility Spectrometry-Mass Spectrometry*, David P. Smith, Kevin Giles, Robert H. Bateman, Sheena E. Radford, Alison E. Ashcroft, JASMS **2007**, *18,* 2180-2190. Dr Ashcroft is Manager of the Mass Spectrometry Facility in the Astbury Centre for Structural Molecular Biology, Leeds University.

RESEARCH AWARDS

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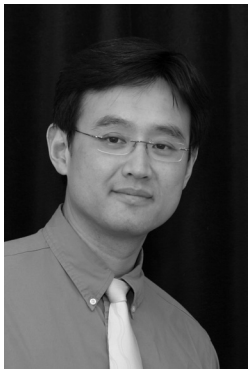

Zheng Ouyang
Purdue University

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Benjamin A. Garcia
Princeton University

CALL FOR 2010 RESEARCH AWARD PROPOSALS

OBJECTIVE To promote academic research by young scientists in mass spectrometry.

ELIGIBILITY Open to academic scientists within four years of joining the tenure track faculty or equivalent in a North American university. Applicants may not have previously received an award under this program.

APPLICATION Applicants should submit **SEVEN** collated sets of the following

1. One-page fiscal proposal and justification
2. List of current research support
3. Three-page proposal, including references, figures, etc.
4. *Curriculum vitae*
5. Two letters of recommendation (may be sent directly to ASMS)

DEADLINE Application materials, including letters of recommendation, must be received in the ASMS office by November 30. Send to:

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

FISCAL The awards of $25,000 each will be made to a university in the name of the selected individual and for the researcher's exclusive use. In accepting this award, the institution will agree not to charge overhead on the funds.

INFORMATION Contact ASMS. Telephone: (505) 989-4517 ● Fax: (505) 989-1073 ● office@asms.org

RICHARD A. SCHAEFFER MEMORIAL FUND

The Richard A. Schaeffer Memorial Fund provides student travel grants of approximately $750 each. Information and applications are available at www.richardschaeffer.org.

Recipients of the 2009 Grants for ASMS Conference Travel

Ryan Dain, *Wichita State University*
Oscar Martinez, Jr, *University of Colorado*
Kevin McAvey, *University of New Orleans*

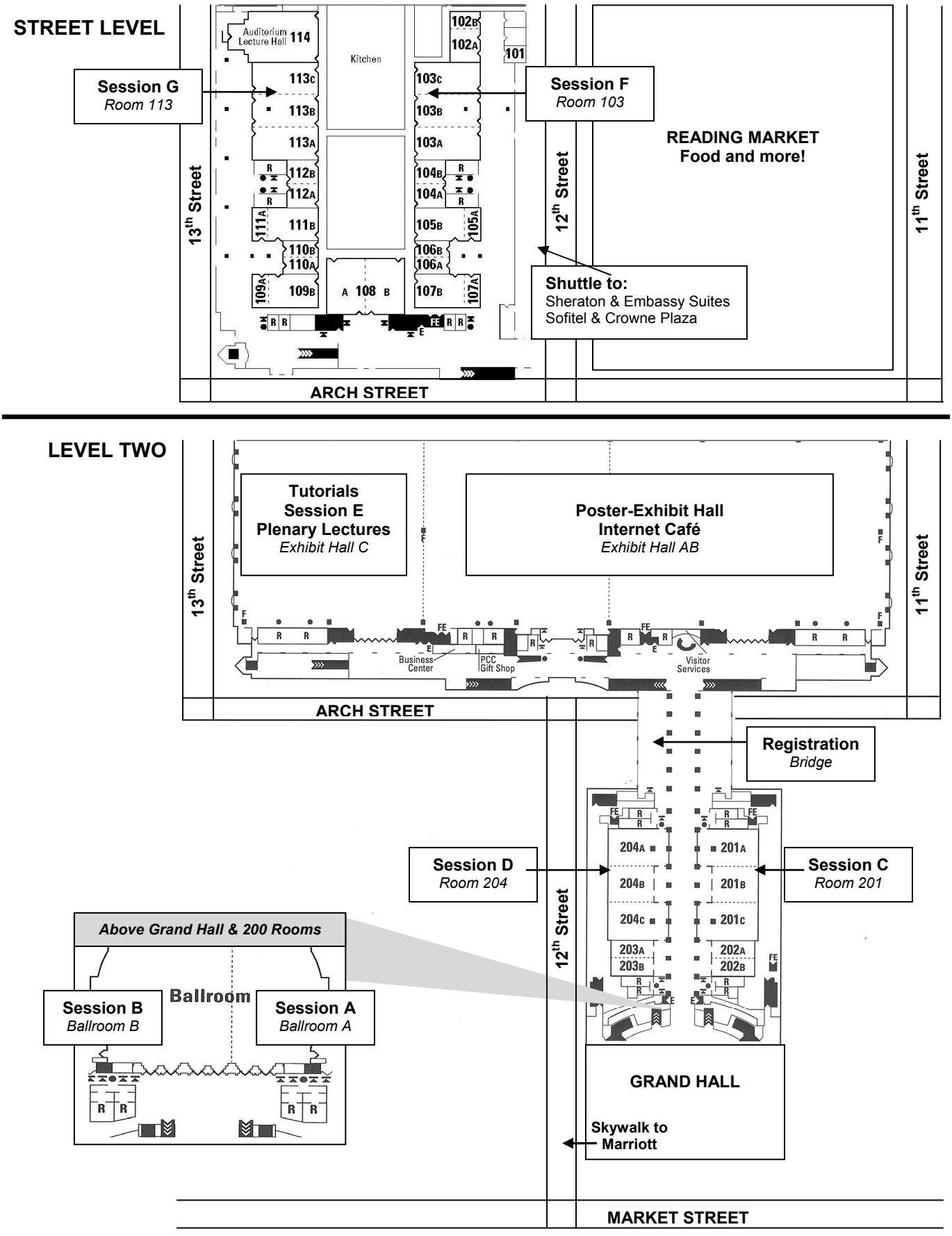
GREATER BOSTON MASS SPECTROMETRY DISCUSSION GROUP (GBMSDG) STUDENT TRAVEL AWARDS

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

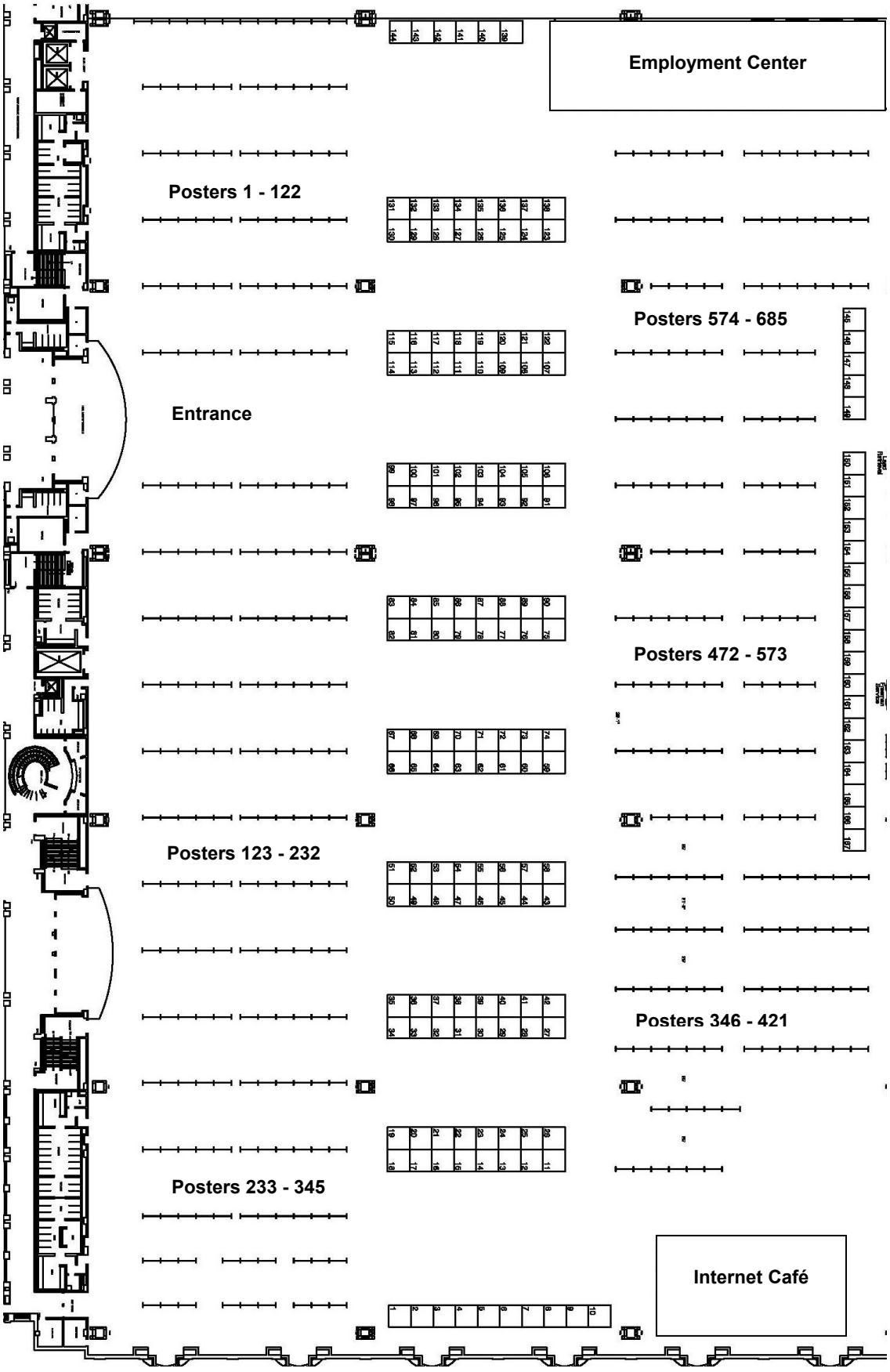
2009 Recipients

Jennifer S. Cobb, *Brandeis University*
Gregory O. Staples, *Boston University School of Medicine*

CONVENTION CENTER FLOOR PLAN



POSTER / EXHIBIT HALL



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Sage-N Research, Inc.	115	
Scientific Instrument Services	82/Poster	
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Shiseido Co., Ltd.		
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Sigma-Aldrich	134	
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Tomtec, Inc	105	
Torion Technologies, Inc.	49/Poster	
Tosoh Bioscience LLC	119/Poster	
UVP, LLC	50	
Varian, Inc.	56/Poster	Franklin 12-13, *4th floor*
VIC Instruments	Poster	
VICI Valco Instruments Co.	146	
VRS	85	
Waters Corporation	83	Salon E, *5th floor*
Wiley-Blackwell	30	
Xenotech LLC	1	
York Bioanalytical Solutions	76	
ZefSci	98	

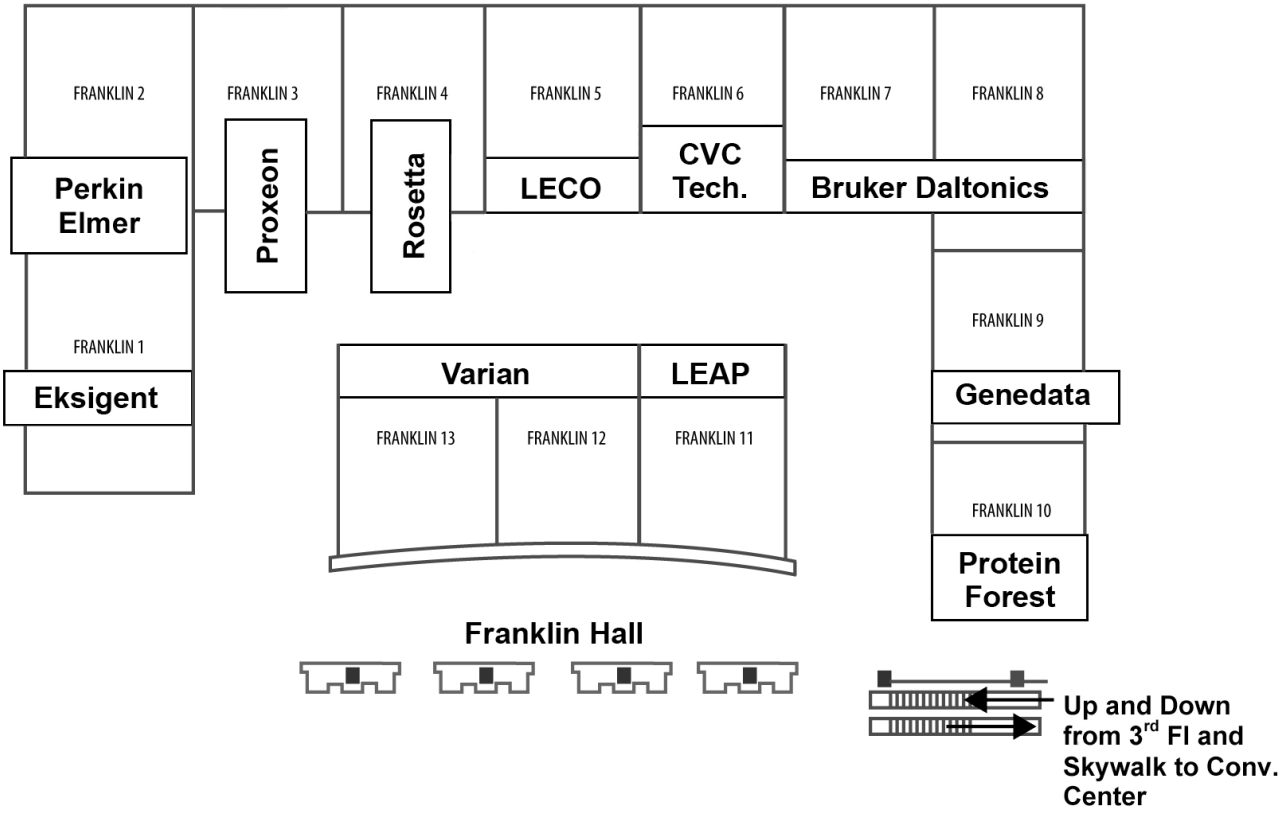
MARRIOTT HOTEL HOSPITALITY SUITES

Hospitality suites may be open 6:00 – 11:30 pm, Monday through Wednesday. Suites are located in the Marriott Hotel. Suite opening hours may vary. ASMS will provide limited shuttle bus transportation from the Marriott as follows:

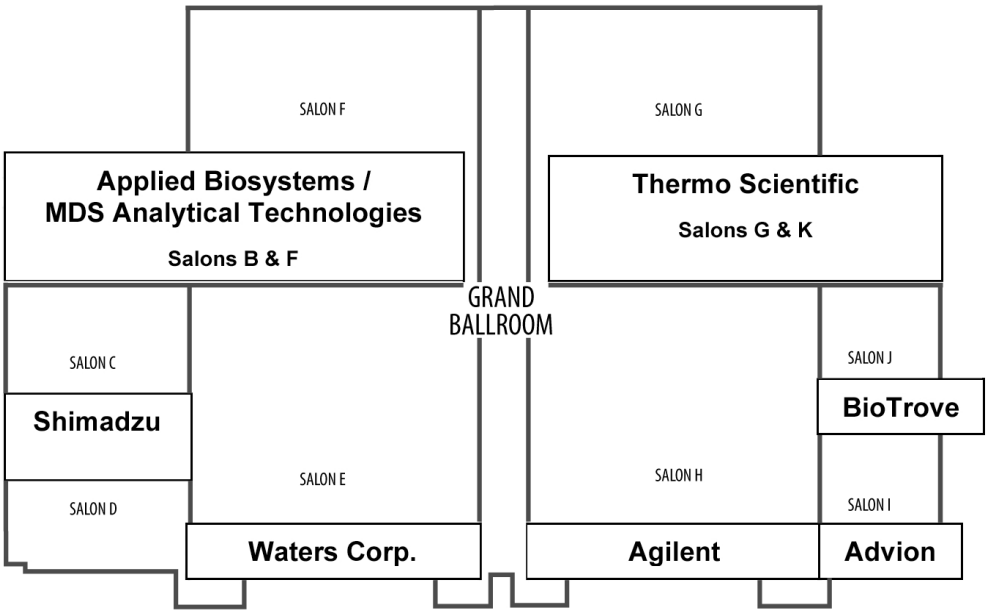
Route 1: Holiday Inn Express, Sofitel, Crowne Plaza
Route 2: Embassy Suites, Sheraton

Last buses depart the Marriott at 10:00 pm.

FOURTH FLOOR, MARRIOTT HOTEL



FIFTH FLOOR, MARRIOTT HOTEL



PROGRAM ACKNOWLEDGEMENTS

Scott A. McLuckey
Vice President for Programs

STUDENT ASSISTANTS

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

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Michelle Reyzer
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Carmen T. Santasania
J. Will Thompson
Yury O. Tsybin
Michael J. Van Stipdonk

CONFERENCE PROGRAM OVERVIEW

SAT	9:00 am - 4:30 pm	***SHORT COURSES***
	2:00 - 5:00 pm	***REGISTRATION***

SUNDAY	9:00 am - 4:30 pm	***SHORT COURSES***
	10:00 am - 8:00 pm	***REGISTRATION***
	5:00 - 6:30 pm	***TUTORIAL LECTURES,*** *Exhibit Hall C* • The Art of Communication in the Sciences; **Willard W. Harrison**, *University of Florida* • Ion Mobility in Mass Spectrometry; **David E. Clemmer**, *Indiana University*
	6:45 - 7:45 pm	***OPENING and PLENARY LECTURE,*** *Exhibit Hall C* Biofuels and Global Climate Change; **Jerald L. Schnoor,** *University of Iowa*
	7:45 - 9:30 pm	***RECEPTION IN THE EXHIBIT HALL,*** *Exhibit Hall AB*

MONDAY	8:30 - 10:30 am	***ORAL SESSIONS*** • MOA: **Mass Spectrometry of Lipids**, *Ballroom A* • MOB: **Chromatography-Mass Spectrometry Approaches to Increase Throughput in Discovery PK Assays**, *Ballroom B* • MOC: **Characterizing Protein-Protein Interactions**, *Room 201* • MOD: **Developments in Ion Mobility Instrumentation and Theory**, *Room 204* • MOE: **Quantitative Bottom Up Proteomics**, *Exhibit Hall C* • MOF: **Fundamentals and Novel Applications of Ion/Molecule Reactions**, *Room 103* • MOG: **Frontiers in Elemental Mass Spectrometry**, *Room 113*
	10:30 am - 2:30 pm	***POSTER SESSION AND EXHIBITS,*** *Exhibit Hall AB*
	2:30 - 4:30 pm	***ORAL SESSIONS*** • MOA: **MS and Accelerator MS for Human Microdosing and Metabolism Studies**, *Ballroom A* • MOB: **Mass Spectrometry and Clinical Applications**, *Ballroom B* • MOC: **Tandem MS of Whole Proteins and Protein Complexes**, *Room 201* • MOD: **Developments in Ion Trapping Instrumentation**, *Room 204* • MOE: **Biomarker Discovery – Proteins**, *Exhibit Hall C* • MOF: **Ion Spectroscopy**, *Room 103* • MOG: **Mass Spectrometry in Environmental Toxicology**, *Room 113*
	4:45 - 5:30 pm	***AWARD LECTURE:*** *Exhibit Hall C* **Recipient of the Award for a Distinguished Contribution in Mass Spectrometry**
	5:45 - 7:00 pm	***WORKSHOPS, see page 18***
	6:00 - 11:30pm	***CORPORATE HOSPITALITY SUITES,*** *Marriott Hotel*

TUESDAY	8:30 - 10:30 am	***ORAL SESSIONS*** • TOA: **Mass Spectrometry and Biofuels**, *Ballroom A* • TOB: **Accurate Mass LC-MS Approaches for Quantification of Drugs and Metabolites**, *Ballroom B* • TOC: **Characterizing Protein-Ligand Interactions with Mass Spectrometry**, *Room 201* • TOD: **Novel Developments in Mass Spectrometry Instrumentation: Ion Sources**, *Room 204* • TOE: **Quantitative Intact Proteomics (QIP)**, *Exhibit Hall C* • TOF: **Gas-Phase Metal Ion Chemistry**, *Room 103* • TOG: **Mass Spectrometry In Homeland Protection,** *Room 113*
	10:30 am - 2:30 pm	***POSTER SESSION AND EXHIBITS,*** *Exhibit Hall AB*
	2:30 - 4:30 pm	***ORAL SESSIONS*** • TOA: **LC-MS Assessment of Human Metabolism in Compliance with MIST Guidance**, *Ballroom A* • TOB: **Small Molecule Biomarkers**, *Ballroom B* • TOC: **Advances in the Characterization of Glycoproteins**, *Room 201* • TOD: **Novel Developments in Mass Spectrometry Instrumentation: Analyzers, Detectors, Tandem Instruments**, *Room 204* • TOE: **The Role of Mass Spectrometry in Understanding Cellular Pathways**, *Exhibit Hall C* • TOF: **Clusters/Complexes/Solvated Ions**, *Room 103* • TOG: **HDX for Protein Structure and Folding**, *Room 113*
	4:45 - 5:30 pm	Research Award Presentations ***AWARD LECTURE,*** *Exhibit Hall C;* **Recipient of the Biemann Medal**
	5:45 - 7:00 pm	***WORKSHOPS, see page 19***
	6:00 - 11:30pm	***CORPORATE HOSPITALITY SUITES,*** *Marriott Hotel*

WEDNESDAY	8:30 - 10:30 am	***ORAL SESSIONS*** • WOA: **Emerging MS Techniques for Drugs and Metabolite Imaging in Tissues**, *Ballroom A* • WOB: **Advances in Metabolomics**, *Ballroom B* • WOC: **Novel Strategies for Gas Phase Ion Structural Characterization**, *Room 201* • WOD: **Applications of Ion Mobility Spectrometry**, *Room 204* • WOE: **New Developments in Bioinformatics**, *Exhibit Hall C* • WOF: **MS of Polymers/Materials I: Structures and Properties**, *Room 103* • WOG: **Compositional Analysis of Petroleum by MS**, *Room 113*
	10:30 am - 2:30 pm	***POSTER SESSION AND EXHIBITS,*** *Exhibit Hall AB*
	2:30 - 4:30 pm	***ORAL SESSIONS*** • WOA: **Polypeptide Ion Fragmentation: Theory and Experiment**, *Ballroom A* • WOB: **Application of Direct/Open Air Ionization Techniques for Quantitation of Drugs**, *Ballroom B* • WOC: **Advances in Proteoglycan and Carbohydrate Analysis**, *Room 201* • WOD: **Developments in Imaging Instrumentation**, *Room 204* • WOE: **Characterization of Membrane Proteins**, *Exhibit Hall C* • WOF: **MS of Polymers/Materials II: HPLC and Ion Mobility Separation**, *Room 103* • WOG: **MS and Emerging Environmental Contaminants**, *Room 113*
	4:45 - 5:30 pm	***ASMS MEETING,*** *Exhibit Hall C*
	5:45 - 7:00 pm	***WORKSHOPS, see page 20***
	6:00 – 11:30 pm	***CORPORATE HOSPITALITY SUITES,*** *Marriott Hotel*

THURSDAY	8:30 - 10:30 am	***ORAL SESSIONS*** • ThOA: **MS of Peptide and Protein Drugs**, *Ballroom A* • ThOB: **Novel LC-MS Techniques for Regulated Bioanalysis of Drugs**, *Ballroom B* • ThOC: **Mass Spectrometry at the Interface between Chemistry and Biology**, *Room 201* • ThOD: **Fundamentals and Instrumentation: Ion/Electron and Ion/Ion Interactions**, *Room 204* • ThOE: **Advances in Global Phosphoproteins**, *Exhibit Hall C* • ThOF: **Nucleic Acid MS**, *Room 103* • ThOG: **Aerosol MS**, *Room 113*
	10:30 am - 2:30 pm	***POSTER SESSION AND EXHIBITS,*** *Exhibit Hall AB*
	2:30 - 4:30 pm	***ORAL SESSIONS*** • ThOA: **Imaging Applications with MS**, *Ballroom A* • ThOB: **ADME Analysis by Laser Desorption and other New MS Techniques**, *Ballroom B* • ThOC: **New Developments in Ionization**, *Room 201* • ThOD: **ETD/ECD/EDD Applications**, *Room 204* • ThOE: **Characterizing PTMs**, *Exhibit Hall C* • ThOF: **Miniaturization of the Mass Spectrometer**, *Room 103* • ThOG: **MS and Nano-Science/Nano-Technology**, *Room 113*
	4:45 - 5:30 pm	***PLENARY LECTURE,*** *Exhibit Hall C* Fostering Creativity; **Richard N. Zare,** *Stanford University*
	6:00 - 9:00 pm	***CONFERENCE CLOSING EVENT,*** *National Constitution Center (Ticket required)*

MONDAY WORKSHOPS, 5:45 – 7:00 PM

Workshops are organized on topics of special interest with a focus on new technology.
There is no additional charge for workshops – they are open to all as a forum for discussion.
There are light refreshments provided on the street level where workshops are located.

Tips and Tricks for the MS Analysis of Nucleic Acids and their Assemblies

DNA/RNA Interest Group

Daniele Fabris and Valerie Gabelica, presiding

Room 108 B

The workshop will cover the practical aspects of MS analysis of nucleic acids by MALDI and ESI. A panel of experts will provide tips on how to overcome the challenges posed by the characterization of covalent and non-covalent adducts and will address questions raised by the audience.

Integrated Quantitative and Qualitative LC-MS Approaches: Revisiting with New Technologies

Drug Metabolism and Pharmacokinetics Interest Group

Lucinda Cohen and Ragu Ramanathan, presiding

Room 113 ABC

Workshop will include a panel discussion on the utility of high resolution and fast scanning mass spectrometer based approaches for integrating quantitative and qualitative LC-MS approaches for assessing DMPK properties. LC-MS approaches to acquire metabolite information early in the discovery program as well as in early clinical studies will be discussed by industry leaders. Time for lively discussion is included. Meeting will open with brief discussion on DMPK Interest Group impact on 2009 conference program and request for suggestions on 2010 session, and workshop topics. New DMPK-IG officers will also be elected at this meeting.

FTMS

FTMS Interest Group

Yury O. Tsybin, presiding

Room 103 ABC

In-depth understanding of ion behavior in traps and induced current generation principles are the basis of recent improvements of high resolution mass spectrometry performance. We will discuss these and other advances in FTMS instrumentation and fundamentals, as well as current limitations, in a workshop format meeting. In addition, last minute hot topics are welcome to the stage in the usual format of short presentation.

Metal Ions in the Gas Phase

Metal Ion Coordination Chemistry Interest Group

Victor Ryzhov, presiding

Room 111 AB

This workshop will encompass various topics involving gas-phase metal ions (bare and coordinated), including challenges in metal ion formation, their reactivity, structure and energetics. Sample topics include:Thermochemistry of metal-ligand binding, structure of metal complexes, metal ion reactivity, role of metal ions in gas-phase catalysis. Discussion will also be held on the advantages of using metal ions to enhance/influence dissociation of biomolecules. Approaches complementary to the experimental mass spectrometry techniques (such as theoretical calculations and ion spectroscopy) will be presented as well.

Glycomics and Glycoproteomics: How Challenging?

Yehia Mechref, presiding

Room 105 AB

Structural characterization of biologically important oligosaccharides has been increasingly emphasized, since it appears that most of the processes in the living cells are associated with different forms of carbohydrate interactions. Glycosylation of proteins and the interactions of glycans and other biomolecular entities touch on many areas of modern biology and medicine. Any alterations in a glycan composition or structure could potentially be either a cause or consequential attributes of the biochemical in balance that is recognized as a "disease". Although the development of different structural tools (the majority of which based on mass spectrometry) has somewhat paved the way to a better understanding of oligosaccharide roles in signaling and regulations between various cells, the inherent difficulties of structural analysis in glycobiology still exist. These difficulties mainly originate from (a) structural complexity of glycoconjugates featuring various forms of branching and other types of isomerism; (b) microheterogeneities at the sites of glycosylation; (c) extensive occurrence of glycosylation in eukaryotic proteins; and (d) distribution of glycosylated proteins in different parts of living cells. This workshop will highlight these challenging aspects and describe the-state-of-the-art approaches and their applications in biology and medicine.

Imaging 101: Getting Started and Getting Better

Imaging MS Interest Group

Michelle Reyzer, presiding

Room 108 A

Imaging mass spectrometry is a rapidly growing technology with many applications, including pharmaceutical and ADME studies, lipidomics, and protein biomarker discovery. This inaugural workshop of the Imaging MS interest group will bring together experienced scientists and anyone who would like to add imaging capabilities to their analytical toolbox. There will be several short (3-5 slides) presentations focusing on helpful hints for obtaining good quality images from various samples, followed by an informal discussion.

Biofuel Production, Storage, and Use: Are We Ready for the Challenge?

Hydrocarbon & Chemical Process Interest Group

Michael T. Cheng, presiding

Room 109 AB

As world demand for energy is increasing, particularly liquid transportation fuels, it is necessary to seek out alternative sources. In addition to petroleum, we will discuss the problems associated with analyses of fuel and intermediates derived from sources such as coal, shale, tar sand, and biomass.

TUESDAY WORKSHOPS, 5:45 – 7:00 PM

Workshops are organized on topics of special interest with a focus on new technology.
There is no additional charge for workshops – they are open to all as a forum for discussion.
There are light refreshments provided on the street level where workshops are located.

Mass Spectrometry Applications in Clinical Diagnostics: From the Bench to the Bedside

Clinical Chemistry Interest Group

Russell Grant and Nigel Clarke, presiding

Room 113 ABC

This interactive workshop will highlight and discuss the 2 different routes from inception of a MS based diagnostic assay to clinical utility. The first route will involve discussion regarding conversion of established clinical biomarkers to MS technologies. Validation criteria and standardization efforts will be discussed. The second route will discuss new biomarker panels with a view towards FDA submissions and the IVDMIA process. Brief presentation vignettes (2-3 slides from 3-4 speakers maximum) from industry and government representatives will be used to initiate discussions.

Identification of Counterfeit Foods and Ingredients by Mass Spectrometry

Flavor, Fragrance and Foodstuff Interest Group

David N. Heller, presiding

Room 107 B

Mass spectrometry plays a variety of roles in the detection of counterfeit food and flavor ingredients. The workshop aims to bring together analysts with an interest in this broad application area, which can include enforcement of product specifications and safety standards, detection of substitutes or contaminants, determining location or species of origin, forensic analysis, or use in regulatory action. The workshop will include examples as well as discussion of recent developments, current needs and concerns. Attendees are invited to share problem-solving techniques and to identify issues

How Hot Is your Mass Spectrometer?

Fundamentals Interest Group

Elaine M. Marzluff, presiding

Room 108 B

Many mass spectrometry experiments assume an energy distribution of ions in a mass spectrometer, but knowing that energy distribution can be quite challenging. In this workshop we will consider what is known about some fundamental ways of knowing the temperature distribution of ions, and results for several types of mass spectrometers and ion sources.

Current Topics in Metabolomics

Metabolomics Interest Group

Eric Milgram and Anders Nordstrom, presiding

Room 103 ABC

A WWW-based survey was conducted in order to determine which metabolomics topics are of the most interest to workshop participants. Survey aspects included where the technique is being applied, the types of instrumentation and software being used, as well as metabolite identification and assignment of biological significance. The data from the survey was used to determine which topics should be covered for this year's workshop. In addition to discussing the results of the survey, there will be interactive discussions based on the survey results.

Advances, Applications, and Limitations of Accurate Mass Measurements

Pharmaceuticals Interest Group

Chris Petucci and Carmen T. Santasania, presiding

Room 105 AB

Recent advances in accurate mass instrumentation have made sub-ppm mass accuracy routinely attainable in drug discovery and development. This workshop will be a panel led discussion to discuss the current applications of accurate mass instrumentation in the pharmaceutical industry. In addition, highlights of a survey to benchmark the current industry practices with accurate mass instrumentation will be discussed.

Polymer Problem Solving Session and Interest Group Meeting

Polymeric Materials Interest Group

Michael J. Polce, presiding

Room 109 AB

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

Challenge in LC-MS/MS Bioanalysis: Ion Suppression, Matrix Effect, Contamination Criteria and Regression Type

Regulated Bioanalysis Interest Group

Fabio Garofolo, presiding

Room 111 AB

As per the input of the numerous interest group members who answered the Feb. 2009 survey, this year workshop will focus on the following 3 most requested "hot topics": *1) Ion suppression and matrix effect: Do we need full or partial validation for the same compound in different species? 2) Contamination Criteria in LC-MS/MS: What criteria are you using? 3) Acceptance of nonlinear calibration models in LC-MS/MS: How much "quadratic" is acceptable?*

The purpose of this workshop is to provide an educational forum to discuss issues and applications associated with the LC-MS/MS Bioanalysis. The scientific debate will be led by three panelists who are recognized international experts in the field. They will introduce each of the above mentioned topics to engage the audience and encourage all to participate in a dynamic and productive discussion. The workshop report will be posted on the ASMS Regulated Bioanalysis Forum

Probing Protein Conformation - What's New?

H/D Exchange and Covalent Labeling Interest Group

John R. Engen and Robert L. Hettich. Presiding

Room 108 A

The latest innovations in labeling strategies for understanding protein conformation and interactions will be discussed. Several hot topics in both H/D exchange and covalent labeling will be covered. The meeting will conclude with a software "free-for-all" where recent advances, challenges and solutions will be shown and explored.

Analytical Laboratory Managers Interest Group Meeting

Richard Kondrat, presiding

Room 110 AB

WEDNESDAY WORKSHOPS, 5:45 – 7:00 PM

Workshops are organized on topics of special interest with a focus on new technology.
There is no additional charge for workshops – they are open to all as a forum for discussion.
There are light refreshments provided on the street level where workshops are located.

Finding Unknowns in the Environment: High Resolution and MS/MS Approaches
Environmental Applications Interest Group
Enrico Davoli, presiding
Room 107 B

High resolution MS is providing an extremely powerful tool for screening and identification of unknowns. Highly accurate data can be now easily obtained from TOF instruments, orbitraps and FT-ICR. Libraries and different types of data mining are available, but a standardized method is still lacking.

MS Applications in Forensics and Homeland Protection
Forensics and Homeland Security Interest Group
Plamen A. Demirev, presiding
Room 108 A

MS approaches for detection and identification of explosives, chemical and biological agents will be discussed. These will include specific methods for ionization, data acquisition and data analysis. Examples of fielded MS instrumentation for homeland protection will be provided.

Instrumental Innovations for Ion Mobility-Mass Spectrometry
Ion Mobility MS Interest Group
John A. McLean, presiding
Room 105 AB

Advances in instrumental arrangements for 2D separations using IM-MS continue to evolve at a rapid rate. A sampling of these include thermostatically controlled separations, different IM pressure regimes, high resolution designs, multiplexed data acquisition capabilities, new ion source designs, and miniaturization, to highlight but a few. Attendant with these advances are unique capabilities and practical limitations. The focus of this workshop will be a discussion of the latest developments in IM-MS instrumentation and theory both in terms of new capabilities and present challenges to be addressed.

Use of the Ion Trap Mass Spectrometer for Undergraduate Research Projects
Ion Trap Mass Spectrometry Interest Group
Heather Desaire, presiding
Room 111 AB

Individuals who use ion traps in undergraduate research programs will discuss their successes and challenges in implementing this research grade device into projects that are appropriate for novice researchers. Please plan to participate by sharing your own experiences or asking questions to others who currently work extensively with undergraduates. This workshop will be especially beneficial for future faculty at predominantly undergraduate institutions as well as any existing researchers who wish to learn more about involving undergraduates in their mass spectrometry research.

Acquisition Strategies for Coupling MS to Ultraperformance/Ultrafast LC
LC/MS & Related Topics Interest Group
J. Will Thompson, presiding
Room 103 ABC

Improved chromatographic performance of ultraperformance or ultrafast liquid chromatography systems is leading to ever-increasing demands on mass spectrometers. Narrow chromatographic peak widths from these systems allows for higher peak capacity for complex sample analysis and faster analysis times for simple mixture separations, often pushing mass spectrometers to their duty cycle limits for quantitative and/or qualitative analyses. This year's LC/MS & Related Topics workshop discussion will focus on data acquisition strategies that are used to best match the duty cycle of mass spectrometers to the chromatography system used.

Challenges in Peptide Fragmentation and Sequencing
Peptide Fragmentation Interest Group
Bela Paizs and Michael J. Van Stipdonk, presiding
Room 113 ABC

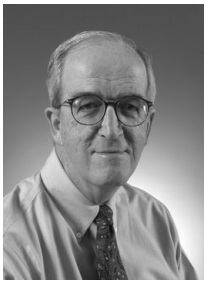
This workshop attempts to bridge the information gap between researchers pursuing fundamental and statistical studies on peptide fragmentation with those bio-informaticians writing peptide sequencing software. Topics like fragmentation mechanisms (both CID and EC/TD), fragment ion structures, sequence scrambling upon CID, and recent advances in database search based and de novo sequencing will be discussed in detail.

Careers in Mass Spectrometry
Young Mass Spectrometrists Interest Group
Connell Cunningham, presiding
Room 108 B

Are there jobs and where do you find them? This workshop will focus on understanding changes within the work environment and how to obtain a job in our current economic environment. We will have a panel of experts from academics, government and industry to answer you questions.

5:00 – 6:30 PM, SUNDAY
TUTORIAL LECTURES
Exhibit Hall C

5:00 pm The Art of Communication in the Sciences



Willard W. Harrison, *University of Florida*

5:45 pm **Ion Mobility in Mass Spectrometry**

David E. Clemmer, *Indiana University*

6:45 – 7:45 PM, SUNDAY
CONFERENCE OPENING AND PLENARY LECTURE
Scott A. McLuckey, presiding
Exhibit Hall C

6:45 pm Welcome to the 57th ASMS Conference on Mass Spectrometry
Gary L. Glish, President, ASMS

7:00 pm **Biofuels and Global Climate Change**

Jerald L. Schnoor, *University of Iowa*

7:45 – 9:30 pm
WELCOME RECEPTION IN THE EXHIBIT HALL
Exhibit Hall AB

8:30 – 10:30 AM, MONDAY MORNING
MASS SPECTROMETRY OF LIPIDS
Gavin E. Reid, presiding
Ballroom A

MOA am 8:30 **New Insights into the Human Lens through Multi-Faceted Lipid Mass Spectrometry**; Jane M. Deeley[1]; Jessica R. Nealon[1]; Roger J.W. Truscott[2]; Stephen J. Blanksby[1]; Todd W. Mitchell[1]; *[1]University of Wollongong, Wollongong, Australia; [2]University of Sydney, Sydney, Australia*

MOA am 8:50 **Automated Lipid Identification and Quantitation by Multidimensional Mass Spectrometry-Based Shotgun Lipidomics**; Kui Yang; Hua Cheng; Richard Gross; Xianlin Han; *Washington University, St. Louis, MO*

MOA am 9:10 **Methodology for the Rapid Determination of Lipids Employing Chip-Based Nano-ESI FT-ICR MS, Accurate Mass, and Infrared Heating**; Larry Lerno; Carlito Lebrilla; *University of California, Davis, CA*

MOA am 9:30 **Identification of a Class of Endogenous Sulfated Glycosphingolipids in NSC11 Glioblastoma Cancer Stem Cells**; Huan He[1,2]; Mark R. Emmett[2]; Carol Nilsson[3]; Alan G. Marshall[2]; Howard Colman[4]; Charles A. Conrad[4]; *[1]Florida State University, Tallahassee, FL; [2]Nat'l High Magnetic Field Lab, Tallahassee, FL; [3]Pfizer, Inc., San Diego, CA; [4]M.D. Anderson Cancer Center, Houston, TX*

MOA am 9:50 **The Comparative Lipidomics of VSV, SFV and their Host Plasma Membrane by Quantitative Shotgun Mass Spectrometry**; Julio L Sampaio[1]; Lucie Kalvodova[2]; Christer Ejsing[1]; Kai Simons[1]; Andrej Shevchenko[1]; *[1]MPI-CBG, Dresden, Germany; [2]Infectious Disease Research Institute, Seattle, Washington*

MOA am 10:10 **From Single Cells to Whole Body Sections: Multiscale Imaging of Phospholipids by MALDI MS**; Pierre Chaurand; Peggi Angel; Richard M. Caprioli; *Vanderbilt University, Nashville, TN*

8:30 – 10:30 AM, MONDAY MORNING
CHROMATOGRAPHY-MASS SPECTROMETRY APPROACHES TO INCREASE THROUGHPUT IN DISCOVERY PK ASSAYS
Yunsheng Hsieh, presiding
Ballroom B

MOB am 8:30 **High Throughput LC-MS in ADME/TOX: Making the Impossible Possible**; Li Di; Edward Kerns; Susan Petusky; Susan Li; Zhen Lin; Guy Carter; *Wyeth Research, Monmouth Jct., NJ*

MOB am 8:50 **Enhancing the Throughput of Discovery PK Using High Resolution Ultrafiltration LC-MS**; Richard B. Van Breemen; *University of Illinois, Chicago, IL*

MOB am 9:10 **Microflow UPLC/MS as a Method to Improve Discovery PK Throughput**; Heather E Skor; David C Gale; Sadayappan V Rahavendran; *Pfizer Global Research & Development, La Jolla, CA*

MOB am 9:30 **Comparison of HPLC-MS/MS and UPLC-MS/MS Performances for Quantification of a Clinical Candidate and its Metabolites in Plasma Utilizing Chemometric Approach**; Margret Thorsteinsdottir[1,2]; Gisli Bragason[2]; Baldur Bragi Sigurdsson[2]; Olafur Þ Magnusson[2];

[1]*University of Iceland, Reykjavik, Iceland;* [2]*deCODE genetics, Reykjavik, Iceland*

MOB am 9:50 **Fast Determination of Metabolic Soft Spots by New LC/MS Technologies: An Effective Approach to Improving PK Proprieties**; Mingshe Zhu; Qian Ruan; Ming Yao; *Bristol-Myers Squibb, Princeton, NJ*

MOB am 10:10 **A Novel and Integrated Platform for Fully Automated High-Throughput LCMSMS Analysis of *in vitro* ADME Samples**; Andreas H. Luippold; Thomas Arnhold; Wolfgang Joerg; Klaus Klinder; Kurt Schumacher; *Boehringer Ingelheim Pharma GmbH & Co KG, Biberach An Der Riss, Germany*

8:30 – 10:30 AM, MONDAY MORNING
CHARACTERIZING PROTEIN-PROTEIN INTERACTIONS
John Klassen, presiding
Room 201

MOC am 8:30 **Investigation of Intact Protein Complexes and Protein-Protein Interactions by Native Ion Mobility and Tandem Mass Spectrometry**; Esther Van Duijn; Arjan Barendregt; Charlotte Uetrecht; Kristina Lorenzen; Rebecca Rose; Glen Shoemaker; Albert J.R. Heck; *Utrecht University, Utrecht, Netherlands*

MOC am 8:50 **Micelles Protect ATP Synthases from Solution to Gas Phase and Reveal Novel Protein Interactions in Membrane Embedded Subunits**; Carol Robinson; Min Zhou; Dijana Matak Vinkovic; Nina Morgner; Shoshanna Isaacson; Neslon Barrera; *University of Cambridge, Cambridge, UK*

MOC am 9:10 **Transient Protein Interactions and Ligand Exchange between Transporters and Receptors: MS Study of Retinoic Acid Delivery to RAR by CRABP**; Virginie Sjoelund; Igor A. Kaltashov; *University of Massachusetts, Amherst, MA*

MOC am 9:30 **Comprehensive Structural Mass Spectrometry for the Identification of Assembly Interactions in an HIV-1 Capsid Mutant Protein**; Lisa Jones[1]; Hao Zhang[1]; Michael L. Gross[1]; Peter Prevelige[2]; [1]*Washington University, St. Louis, MO;* [2]*University of Alabama, Birmingham, AL*

MOC am 9:50 **New Approaches for Efficient Chemical Cross-linking of Proteins and Protein Complexes**; Julian Mintseris; Steven Gygi; *Harvard Medical School, Boston, MA*

MOC am 10:10 **Assembly and stability of native and modified Shiga toxins investigated by ES-MS**; Elena Kitova[1]; George L Mulvey[2]; Tanis Dingle[2]; Thomas P Griener[2]; Glen D Armstrong[2]; John Klassen[1]; [1]*University of Alberta, Edmonton, Canada;* [2]*University of Calgary, Calgary, Alberta*

8:30 – 10:30 AM, MONDAY MORNING
DEVELOPMENTS IN ION MOBILITY INSTRUMENTATION AND THEORY
John A. McLean, presiding
Room 204

MOD am 8:30 **A New High Throughput Ultra-Sensitive and Quantitative NanoLC-IMS-MS Platform**; Richard D. Smith; Erin Baker; Yehia Ibrahim; David Prior; William Danielson; Anuj Shah; Ryan Kelly; Jason Page; Gordon Anderson; Keqi Tang; Mikhail Belov; *Pacific Northwest National Laboratory, Richland, WA*

MOD am 8:50 **Next-Generation Ion Mobility-Mass Spectrometry Instrumentation for the Analysis of Large Protein Assemblies**; Brandon Ruotolo[1]; Kevin Giles[2]; John B Hoyes[2]; Carol Robinson[1]; [1]*University of Cambridge, Cambridge, UK;* [2]*Waters Corporation, Manchester, UK*

MOD am 9:10 **Improving the Accuracy of Experimental and Theoretical Cross-Section Measurements in Travelling Wave Ion Mobility Spectrometry-Mass Spectrometry.**; Tom W. Knapman[1]; Joshua T. Berryman[1]; Victoria L Morton[1]; Iain D G Campuzano[2]; Sarah A. Harris[1]; Peter G Stockley[1]; Alison E. Ashcroft[1]; [1]*Astbury Centre for Structural Molecular Biology, University of Leeds, Leeds UK;* [2]*Waters Corporation, Manchester, UK*

MOD am 9:30 **Deriving a Theoretical Mass Scale from Ion Mobility Measurements**; Stephen Valentine; David E. Clemmer; *Indiana University, Bloomington, IN*

MOD am 9:50 **Separation of Ion Electronic States by Cryogenic Ion Mobility-Mass Spectrometry**; Jody May; David H. Russell; *Texas A&M University, College Station, TX*

MOD am 10:10 **Integrated 'Omics' on the Basis of Structural Separations by Ion Mobility-Mass Spectrometry**; Larissa S. Fenn; Michal Kliman; Thomas J. Kerr; Randi Gant; Ablatt Mahsut; Sophie Zhao; John A. McLean; *Vanderbilt University, Nashville, TN*

8:30 – 10:30 AM, MONDAY MORNING
QUANTITATIVE BOTTOM UP PROTEOMICS
Susan T. Weintraub, presiding
Exhibit Hall C

MOE am 8:30 **Designing, Executing, and Analyzing Quantitative Bottom Up Proteomics Studies for Biological Discovery**; Michael Washburn; *Stowers Institute for Medical Research, Kansas City, MO*

MOE am 8:50 **Quantitative MS Proteomics with $^{14}N/^{15}N$ Metabolic Labelling: Precision, Accuracy and Power**; Matthew Russell; Phil D Charles; Kathryn S Lilley; *University of Cambridge, UK*

MOE am 9:10 **Large-Scale iTRAQ-Based Quantitative Proteomic Comparison of Human ES, iPS, and somatic Cells Using Beam-Type CAD with Ion Trap Mass Analysis**; Douglas H Phanstiel; Justin Brumbaugh; Graeme C Mcalister; Craig D Wenger; Shulan Tian; James A Thomson; Ron Stewart; Joshua J. Coon; *University of Wisconsin, Madison, WI*

MOE am 9:30 **Targeted Quantitative Proteomics Analysis Using a Novel Stable Isotope Tagging System and Tandem Mass Spectrometry**; Wei Yan[1,2]; Jie Luo[1]; Jimmy Eng[1,2]; Ruedi Aebersold[1,3]; Jeff Ranish[1]; [1]*Institute for Systems Biology, Seattle, WA;* [2]*University of Washington, Seattle, WA;* [3]*Swiss Federal Institute of Technology, Zurich, Switzerland*

MOE am 9:50 **Using Differential Proteomics to Drive Targeted Analyses: Understanding Development in the Worm.**; Gregory Finney[1]; Gennifer Merrihew[2]; Brendan Maclean[2]; Michael J. Maccoss[2]; [1]*Univ of Washington, Genome S, Seattle, WA;* [2]*University of Washington, Seattle, WA*

MOE am 10:10 **One-Year Longitudinal Study of the Chicken Plasma Proteome to Identify Biomarkers for Epithelial Ovarian Cancer**; Adam Hawkridge; Rebecca Wysocky; James Petitte; Kenneth Anderson; Paul Mozdziak; Jonathan Horowitz; David C. Muddiman; *North Carolina State University, Raleigh, NC*

8:30 – 10:30 AM, MONDAY MORNING
FUNDAMENTALS AND NOVEL APPLICATIONS OF ION/MOLECULE REACTIONS
Hilkka Kenttamaa, presiding
Room 103

MOF am 8:30 **Gas Phase Reactions of Carbanions with N and O Atoms**; Zhibo Yang; Brian Eichelberger; Oscar Martinez Jr.; Momir Stepanovic; Theodore P. Snow; Veronica M. Bierbaum; *University of Colorado, Boulder, CO*

MOF am 8:50 **Direct Observation of the Reactions of the Phenyl Radical with Dioxygen Using Distonic Ions**; Benjamin B. Kirk; David G Harman; Stephen J Blanksby; *University of Wollongong, Wollongong, Australia*

MOF am 9:10 **Ion Molecule Ghostbusters: Tracking Ephemeral Radical Migration in Peptides and Proteins**; Benjamin Moore[1]; Tony Ly[1]; Stephen J. Blanksby[2]; Ryan R. Julian[1]; *[1]University of California, Riverside, Riverside, CA; [2]University of Wollongong, Wollongong, Nsw, Australia*

MOF am 9:30 **Ion/Molecule Reactions at Atmospheric Pressure with ESSI-MS: Fundamentals and Applications**; David Touboul[1,2]; Matthias Jecklin[2]; Renato Zenobi[2]; *[1]CNRS-ICSN, Gif-sur-yvette, France; [2]ETH Zürich, Zürich, Switzerland*

MOF am 9:50 **Ionization Mechanisms Related to Negative Ion APPI, APCI, and DART**; Charles N. McEwen[1]; Barbara S. Larsen[2]; *[1]Univ. of the Sciences in PA, Philadelphia, PA; [2]The DuPont Company, Wilmington, DE*

MOF am 10:10 **Data Dependent Neutral Gain MS3: Toward Automated Functional Group Identification in Drug Metabolites *via* LC-MS, Ion-Molecule Reactions and CAD**; Steven Habicht; Nelson Vinueza; Hilkka Kenttamaa; *Purdue University, West Lafayette, IN*

8:30 – 10:30 AM, MONDAY MORNING
FRONTIERS IN ELEMENTAL MASS SPECTROMETRY
Sabine Becker, presiding
Room 113

MOG am 08:30 **Bio-Imaging of Metals in the Brain by Laser Ablation Inductively Coupled Plasma Mass Spectrometry (LA-ICP-MS) to Study Neurodegenerative Diseases**; Johanna Sabine Becker; *Forschungszentrum Juelich, Juelich, Germany*

MOG am 8:50 **Cytotoxicity of Arsenic Containing Chemical Warfare Agent Degradation Products with Metallomic Approaches for Metabolite Analysis**; Karolin K. Kroening[1]; Renee N. Easter[1]; Morwena J.V. Solivio[1]; Alvaro Puga[2]; Joseph A. Caruso[1]; *[1]Dept. of Chemistry, UC, Cincinnati, OH; [2]Dept. of Environmental Health, UC, Cincinnati, OH*

MOG am 9:10 **Speciation Analysis of Gadolinium Chelates in Hospital Effluents and Wastewater Treatment Plant Sewage by a Novel HILIC/ICP-MS Method**; Jens Künnemeyer; Lydia Terborg; Björn Meermann; Christine Brauckmann; Uwe Karst; *University of Münster, Münster, Germany*

MOG am 9:30 **Characterization of Selenium Metabolites in Se-enriched Kale via Ion-Pairing Reversed Phase Chromatography with ICPMS and ESI-IT-MS Detection**; Qilin Chan; Scott E. Afton; Joseph A. Caruso; *Department of Chemistry, University of Cincinnati, Cincinnati, OH*

MOG am 9:50 **Elucidating the Role of Metals in Amyotrophic Lateral Sclerosis Using Inline Liquid Chromatography- Inductively Coupled Plasma- Mass Spectrometry**; Lelie Herman[1]; Liba Amir[2]; Pik Chan[3]; Joan Valentine[1]; Julian Whitelegge[3]; *[1]University of California, Los Angeles, Los Angeles, CA; [2]Agilent, Wilmington, DE; [3]University of California, Los Angeles, CA*

MOG am 10:10 **Separation and Quantification of Antisense Oligonucleotides by Hydrophilic Interaction Liquid Chromatography Coupled to ICP-MS.**; Renee N. Easter; Karolin K. Kroening; Patrick A. Limbach; Joseph A. Caruso; *University of Cincinnati, Cincinnati, OH*

10:30 AM – 2:30 PM, MONDAY
POSTER SESSION (See page 41)
Exhibit Hall AB

Authors of odd-numbered posters present 10:30 am – 12:15 pm.
Authors of even-numbered posters present 12:45 – 2:30 pm.
Please do not remove posters before 7:30 pm. Posters must be removed by 8:00 pm.

2:30 – 4:30 PM, MONDAY AFTERNOON
MS AND ACCELERATOR MS FOR HUMAN MICRODOSING AND METABOLISM STUDIES
Graeme Young, presiding
Ballroom A

MOA pm 2:30 **A Review of the State-of-the Art of human Microdosing and Nanotracer Studies - as an Introduction to the Session**; Graeme Young; *GlaxoSmithKline*

MOA pm 2:50 **Absolute Quantitation without Internal Standards: Accelerator Mass Spectrometry and Microtracers for Pharmacokinetics and Metabolite Discovery**; Pete Lohstroh; Brad Keck; Le Vuong; John Vogel; Stephen Dueker; *Vitalea Science, Davis, CA*

MOA pm 3:10 **Quantification and Identification of Metabolites at Microdosing Levels**; Carmai Seto[1]; Takeo Sakuma[1]; Jinsong Ni[2]; Fred Ouyang[2]; Devin Welty[2]; Van Dinh[2]; Gabriella Szekely-klepser[2]; Andrew Acheampong[2]; *[1]MDS Analytical Technologies, Concord, Canada; [2]Allergan Inc., Irvine, CA*

MOA pm 3:30 **Single Instrument AMS and IRMS for Microdose/Microtrace Mass Balance Studies**; Giacomo Jason[1]; Tim Schulz-König[2]; Stephen Dueker[1]; Brad Keck[1]; Hans-Arno Synal[2]; John Vogel[1]; *[1]Vitalea Science, Davis, CA; [2]ETH Zurich, Zurich, Switzerland*

MOA pm 3:50 **Early Investigation of Human Metabolism in Drug Development**; David S. Wagner; Amanda Culp; John Ulrich; Andrea Sefler; Steve Castellino; *GlaxoSmithKline, Rtp, NC*

MOA pm 4:10 **Comprehensive Analysis of (Phosphorylated) Nucleoside Reverse Transcriptase Inhibitors**

and Endogenous Deoxynucleotides in Plasma and PBMCs Using (Ion-Pair) LC-MS/MS; Leon Coulier; Henk Gerritsen; Lars Brull; *TNO Quality of Life, Zeist, Netherlands*

2:30 – 4:30 PM, MONDAY AFTERNOON
MASS SPECTROMETRY AND CLINICAL APPLICATIONS
Ravinder J. Singh, presiding
Ballroom B

MOB pm 2:30 **Dermcidin Identification from Exhaled Air for Lung Cancer Diagnosis**; Wei-chao Chang[1]; Ming-Shyan Huang[2]; Chih-Jen Yang[2]; Wen-Yu Wang[2]; Tsung-Ching Lai[1]; Michael Hsiao[1]; Chung-Hsuan Chen[1]; *[1]The Genomics Research Center, Academia Sinica., Taipei, Taiwan; [2]Kaohsiung Medical University Hospital, Kaohsiung, Taiwan*

MOB pm 2:50 **Large-Scale Proteomic Study of Chronic Kidney Allograft Rejection from Tissue Biopsies**; Aleksey Nakorchevsky[1]; Johannes Hewel[2]; Daniel Salomon[1]; John Yates[1]; *[1]The Scripps Research Institute, La Jolla, CA; [2]University of Toronto, Toronto, ON*

MOB pm 3:10 **Targeted MRM Expression Profiling of 45 Proteins in a Cohort of 60 Cardiovascular Disease Plasma Samples**; Michael A. Kuzyk[1]; Darryl B. Hardie[1]; Gabriela Cohen-Freue[2]; Dominik Domanski[1]; Juncong Yang[1]; John S. Hill[2]; Angela M. Jackson[1]; Christoph H. Borchers[1]; *[1]UVic-Genome BC Proteomics Centre, Victoria, Canada; [2]James Hogg iCAPTURE Centre, Vancouver, Canada*

MOB pm 3:30 **Sensitive Quantification of Circulating Vitamin D Metabolites in Multiple Sclerosis Patients Using Selective SPE coupled to Capillary-LC and Isotope-Dilution MS**; Xiaotao Duan[1,2]; Eunjin Bang[1]; Hao Wang[1,2]; Bianca Weinstock-Guttman[1]; Murali Ramanathan[1]; Jun Qu[1,2]; *[1]University at Buffalo, Amherst, NY; [2]CoE Bioinformatics & Life Sci, Buffalo, NY*

MOB pm 3:50 **Ultra High-Throughput Quantitative LC-MS/MS in a Clinical Diagnostics Laboratory - Breaking the 2000 Samples/System/Day Barrier**; Russell Grant; Brian Rappold; Patricia Holland; *LabCorp, Burlington, NC*

MOB pm 4:10 **Quantitative Human Plasma Protein Biomarker Verification by Multiple Reaction Monitoring: A Multi-site Study of Precision and Reproducibility**; Terri Addona[1]; Susan E. Abbatiello[1]; Birgit Schilling[2]; Steven J. Skates[3]; D. R. Mani[1]; David M Bunk[4]; Clifford H. Spiegelman[5]; Lisa J. Zimmerman[6]; Amy-Joan L. Ham[6]; Hasmik Keshishian[1]; Steven C. Hall[7]; Steven A. Carr[1]; CPTAC Network[8]; *[1]Broad Institute, Cambridge, MA; [2]Buck Institute for Age Research, Novato, CA; [3]Massachusetts General Hospital, Boston, MA; [4]NIST, Gaithersburg, MD; [5]Texas A&M University, College Station, TX; [6]Vanderbilt University, Nashville, TN; [7]UCSF, San Francisco, CA; [8]National Cancer Institute, Bethesda, MD*

2:30 – 4:30 PM, MONDAY AFTERNOON
TANDEM MS OF WHOLE PROTEINS AND PROTEIN COMPLEXES
Kathrin Breuker, presiding
Room 201

MOC pm 2:30 **Revealing the Sites of Ligand and Protein Binding in Protein Complexes by Top-Down Mass Spectrometry**; Sheng Yin; Joseph A. Loo; *UCLA, Los Angeles, CA*

MOC pm 2:50 **A High Throughput Format for Top Down Proteomics Using GELFrEE Coupled to Nanocapillary-LTQ FT ICR MS at >12 Tesla**; Ji Eun Lee[1]; John F. Kellie[1]; John C. Tran[1]; Adaikkalam Vellaichamy[1]; Dorothy Ahlf[1]; Jeremiah D. Tipton[2]; Alan G. Marshall[2,3]; Neil L. Kelleher[1]; *[1]University of Illinois, Urbana, IL; [2]National High Magnetic Field Laboratory, Tallahassee, FL; [3]Florida State University, Tallahassee, FL*

MOC pm 3:10 **High Throughput Quantitative Screening Measuring Intact Proteins by a Novel Rapid Mass Spectrometric Approach**; Kim Alving; Gary Asmussen; Tatiana Gladysheva; James Lillie; Aharon Cohen; Bing Wang; *Genzyme Corporation, Waltham, MA*

MOC pm 3:30 **Probing the Gas-Phase Dissociation Behavior of Model Homodimeric Protein Complexes with Divergent Interfacial Structures**; Eric D. Dodds; Anne E. Blackwell; Christopher M. Jones; Matthew H. J. Cordes; Vicki H. Wysocki; *University of Arizona, Tucson, AZ*

MOC pm 3:50 **Sequence analysis of Intact Disulfide-Rich Mini-Proteins Using a Combined Chemical Derivatization and ETD Strategy**; Beatrix Ueberheide[1]; David Fenyo[1]; Paul F Alewood[2]; Brian Chait[1]; *[1]The Rockefeller University, New York, NY; [2]The University of Queensland, St Lucia, Australia*

MOC pm 4:10 **Top-Down Proteomics with a 14.5 T FT-ICR Mass Spectrometer: Secondary Ion Collection in an External Octopole Ion Trap**; Jeremiah D. Tipton[1]; John F. Kellie[2,3]; Paul M. Thomas[2,3]; Dorothy R. Ahlf[2,3]; Chris L. Hendrickson[1,4]; Neil L. Kelleher[2,3]; Alan G. Marshall[1,4]; *[1]National High Magnetic Field Laboratory, Tallahassee, FL; [2]Department of Chemistry, UI, Urbana-Champaign, IL; [3]Institute for Genomic Biology, UI, Urbana-Champaign, IL; [4]Department of Chemistry, FSU, Tallahassee, FL*

2:30 – 4:30 PM, MONDAY AFTERNOON
DEVELOPMENTS IN ION TRAPPING INSTRUMENTATION
Elaine M. Marzluff, presiding
Room 204

MOD pm 2:30 **A New Tool for High-speed Proteomics: Orbitrap Mass Analyzer Interfaced to a Dual Linear Trap**; Eugen Damoc[1]; Eduard Denisov[1]; Jens Griep-raming[1]; Hartmut Kuipers[1]; Oliver Lange[1]; Alexander Makarov[1]; Philip M Remes[2]; Jae C. Schwartz[2]; Dennis Taylor[2]; Thomas Moehring[1]; Vlad Zabrouskov[2]; *[1]Thermo Fisher Scientific GmbH, Bremen, Germany; [2]Thermo Fisher Scientific, San Jose, CA*

MOD pm 2:50 **Optimized Cell Geometry for Fourier Transform Ion Cyclotron Resonance Mass Spectrometry**; Christopher L. Hendrickson[1,3]; Steven C. Beu[2]; Greg T. Blakney[1]; Nathan

Kaiser[1]; Daniel G. McIntosh[1]; John P. Quinn[1]; Alan G. Marshall[1,3]; *[1]National High Magnetic Field Laboratory, Tallahassee, FL; [2]S C Beu Consulting, Austin, TX; [3]Florida State University, Tallahassee, FL*

MOD pm 3:10 **Femtosecond Laser-Induced Ionization/ Dissociation (fs-LID) of Protonated Biomolecules**; Christine L. Kalcic; Scott A. Smith; Yuanxing Chen; Nelson Winkler; Gavin E. Reid; A. Daniel Jones; Marcos Dantus; *Michigan State University, East Lansing, MI*

MOD pm 3:30 **Miniature Monolithic Rectilinear Ion Traps and Arrays by Stereo-lithography on Printed Circuit Board (SLA-on-PCB)**; Jeff Maas[1]; Scott Smith[2]; Zheng Ouyang[1]; R. Graham Cooks[1]; William Chappell[1]; *[1]Purdue University, W. Lafayette, IN; [2]Michigan State University, East Lansing, MI*

MOD pm 3:50 **Improvements to MS3 Fragmentation Efficiency in a Low Pressure Linear Ion Trap using a Pulsed Valve and Increased Drive Frequency**; Bruce Collings; Matthew A. Romaschin; *MDS Analytical Technologies, Concord, Canada*

MOD pm 4:10 **Electron Ionization Dissociation in a Radio Frequency Linear Ion Trap**; Atim A. Enyenihi; Takashi Baba; Gary L. Glish; *University of North Carolina, Chapel Hill, NC*

2:30 – 4:30 PM, MONDAY AFTERNOON
BIOMARKER DISCOVERY – PROTEINS
Arthur Moseley, presiding
Exhibit Hall C

MOE pm 2:30 **Protein Biomarkers: Translating Discoveries into Tools**; Douglas M. Sheeley; *National Center for Research Resources, Bethesda, MD*

MOE pm 2:50 **An Integrative Biology Approach for Plasma Biomarker Discovery in Idiopathic Pneumonia Syndrome**; Daniela M Schlatzer[1]; Mark R. Chance[1]; Rob M. Ewing[1]; Sergei Ilchenko[1]; Gaurav S.J.B Rana[1]; Kenneth R. Cooke[1,2]; *[1]Case Western Reserve University, Cleveland, OH; [2]University Hospitals, Cleveland, OH*

MOE pm 3:10 **Protein Cartography of the Tissue Microenvironment in Tumor Progression**; Thomas P. Conrads[1,3]; Brian L Hood[1,3]; Melanie Flint[1,3]; Jaqueline M. Jones-Laugner[1,3]; Arash Radfar[2,3]; Rajiv Dhir[2,3]; *[1]Department of Pharmacology & Chemical Biology, Pittsburgh, PA; [2]Department of Pathology, Pittsburgh, PA; [3]University of Pittsburgh Cancer Institute, Pittsburgh, PA*

MOE pm 3:30 **Studying Biological Variation of Plasma Protein Levels in a Twin Sample Set Using Targeted Multiplexed MRM Protein Expression Profiling**; Christie L Hunter[1]; Sean L. Seymour[1]; Veronica Saenz-vash[2]; Marjorie Minkoff[1]; Steven A. Carr[3]; Leigh Anderson[4]; *[1]Applied Biosystems, Foster City, CA; [2]Broad Institute of MIT and H, Cambridge, MA; [3]Broad Institute, Cambridge, MA; [4]Plasma Proteome Institute, Washington, DC*

MOE pm 3:50 **A Case Study for Shifting the Biomarker Discovery Paradigm: Predicting Response to Therapy in Hepatitis C Patients Using Unbiased Proteomics**; J. Will Thompson[1]; Joseph Lucas[2]; Laura G. Dubois[1]; Keyur Patel[3]; Arthur Moseley[1]; Diane Uzarski[3]; Hans Tillman[3]; Robert Califf[3]; Geoff Ginsburg[2]; Jeanette Mccarthy[2]; John McHutchison[3]; *[1]Duke University School of Medicine, Durham, NC; [2]Duke Institute for Genome Sciences & Policy, Durham, NC; [3]Duke Clinical Research Institute, Durham, NC*

MOE pm 4:10 **A Robust Mass Spectrometry-Based Pipeline for Biomarker Discovery and Verification**; Chenwei Lin[1]; Liming Hou[1]; Mary Trute[1]; Jeffrey R. Whiteaker[1]; Alexei Krasnoselsky[1]; Regine M. Schoenherr[1]; Li-Chia Feng[1]; Karen S. Spratt[1]; Sharon Pitteri[1]; Ted Holzman[1]; Ted Whitmore[2]; Philip Gafken[1]; Lisa A. Jones[1]; Jason M. Hogan[1]; Samir Hanash[1]; Christopher J. Kemp[1]; Dan Martin[2]; Martin McIntosh[1]; Peter Nelson[1]; Amanda Paulovich[1]; *[1]Fred Hutchinson Cancer Research Center, Seattle, WA; [2]Institute For System Biology, Seattle, WA*

2:30 – 4:30 PM, MONDAY AFTERNOON
ION SPECTROSCOPY
Valerie Gabelica, presiding
Room 103

MOF pm 2:30 **Overview: Ion Spectroscopy**; Joel H Parks; *Rowland Institute at Harvard, Cambridge, MA*

MOF pm 2:50 **Deprotonation Site Determined by IR Spectroscopy**; Jos Oomens; Jeffrey D. Steill; *FOM Rijnhuizen, Nieuwegein, Netherlands*

MOF pm 3:10 **Photofragmentation Spectroscopy of Protonated Peptides Assisted by Pulsed CO_2 Laser**; Oleg V. Boyarkin; Monia Guidi; Natalia S. Nagornova; Thomas R. Rizzo; *LCPM, EPFL, Lausanne, Switzerland*

MOF pm 3:30 **Infra Red Spectroscopy of Fragment Ions of Protonated Peptides**; Benjamin Bythell[2]; Undine Erlekam[3]; Michael J. Van Stipdonk[1]; Bela Paizs[2]; Philippe Maitre[3]; *[1]Wichita State University, Wichita, KS; [2]DKFZ, Heidelberg, Heidelberg, Germany; [3]Laboratoire de Chimie Physiq, Orsay, France*

MOF pm 3:50 **Energy Dependent VUV Photodetachment Spectroscopy of Polyanions in the Gas Phase Probed by Synchrotron Radiation**; Alexandre Giuliani[1,2]; Debora Scuderi[3]; Joel Lemaire[3]; Christophe Dehon[3]; Roland Thissen[4]; Denis Duflot[5]; Laurent Nahon[1]; Philippe Maitre[3]; *[1]Synchrotron Soleil, Gif-sur-yvette, France; [2]Cepia INRA, Nantes, France; [3]Laboratoire de Chimie Physique, Orsay, FRANCE; [4]Laboratoire de Planétologie de Grenoble, Grenoble, France; [5]Laboratoire de Physique des Lasers, Atomes et Mo, Villeneuve d'Ascq, France*

MOF pm 4:10 **Electronic Action Spectroscopy of the GFP Model Chromophore in a Quadrupole Ion Trap: Electron Photodetachment vs. Photodissociation**; Matthew W. Forbes; Charles S. Yeung; Chloe Yang; Vy M. Dong; Rebecca A. Jockusch; *University of Toronto, Toronto, ON, Canada*

2:30 – 4:30 PM, MONDAY AFTERNOON
MASS SPECTROMETRY IN ENVIRONMENTAL TOXICOLOGY
Xing-Fang Li, presiding
Room 113

MOG pm 2:30 **The Use of Mass Spectrometry to Support Risk Assessment**; Michael G. Bartlett; Yongzhen Liu; Catherine White; Srinivasa Muralidhara; James Bruckner; *University of Georgia, Athens, GA*

MOG pm 2:50 **Mass Spectrometry Studies of Arsenic Metabolism and Toxicity**; Meiling Lu[2]; Zhongwen Wang[3]; Anthony McKnight-Whitford[1]; Jie Liu[1]; Huiming Yan[1]; Xiufen Lu[1]; Chungang Yuan[4]; Hailin Wang[2]; X. Chris Le[1]; *[1]University of Alberta, Edmonton, Canada; [2]Res. Centre for Eco.-Environ, Beijing, China; [3]Health Canada, Ottawa, Canada; [4]North China Electric Power Univesity, Baoding, China*

MOG pm 3:10 **SILAC and Mass-Spectrometry for the Assessment of Effects of Arsenite on the Global Protein Expression in the Human HL-60 Cells**; Lei Xiong; Yinsheng Wang; *University of California, Riverside, CA*

MOG pm 3:30 **Monitoring DNA Damaging Exposure Thresholds for a Foodborne Carcinogen Using LC-MS/MS and DNA Microarrays**; James Glick[1]; Ka Yee Yeung[2]; Helmut Zarbl[3]; Paul Vouros[1]; *[1]Northeastern University, Boston, MA; [2]University of Washington, Seattle, WA; [3]Robert Wood Johnson Medical School, Piscataway, NJ*

MOG pm 3:50 **Proteomic Analysis of a Combined Psychological Stress and 7,12-Dimethylbenz(a)anthracene (DMBA) Exposure Effects of Liver Drug Metabolizing Enzymes**; Melanie Flint[1,2]; Brian L Hood[2,4]; Nicolas A Stewart[3,4]; Mai Sun[2]; Thomas P. Conrads[2,4]; *[1]Dept of Pharmacology & Chemical Biology, Pittsburgh, PA; [2]Clinical Proteomics Facility, Pittsburgh, PA; [3]Center for Clinical Pharmacology, Pittsburgh, PA; [4]University of Pittsburgh, Pittsburgh, PA*

MOG pm 4:10 **Investigation of Pharmaceutical and Personal Care Products in Missouri Natural and Drinking Water Using Liquid Chromatography Tandem Mass Spectrometry**; Yinfa Ma[1]; Chuan Wang[1]; Sanjeewa Gamagedara[1]; Isaac Stayton[1]; Honglan Shi[1]; Craig Adams[3]; Terry Timmons[2]; *[1]Missouri S&T, Rolla, MO; [2]Missouri Department of natural Resources, Jefferson City, MO; [3]University of Kansas, Lawrence, KS*

4:45 – 5:30 PM, MONDAY
AWARD LECTURE
Gary L. Glish, presiding
Exhibit Hall C

4:45 pm **Award for a Distinguished Contribution in Mass Spectrometry**

Simon J. Gaskell
University of Manchester

Vicki H. Wysocki
University of Arizona

5:45 – 7:00 pm
MONDAY WORKSHOPS
See page 18.
There will be light refreshments provided on the lower level where workshops are located.

8:30 – 10:30 AM, TUESDAY MORNING
MASS SPECTROMETRY AND BIOFUELS
Michael R. Sussman, presiding
Ballroom A

TOA am 8:30 **Mass Spectrometry in the World of Bioenergy Research: An Overview**; Mary Lipton; *PNNL, Richland, WA*

TOA am 8:50 **Biodiesel: Profiling, Stability and MS Solutions**; G. John Langley[1]; Julie Herniman[1]; Christianne Wicking[1]; Tom Lynch[2]; *[1]University of Southampton, Southampton, UK; [2]BP Castrol Global Lubricants Technology, Pangbourne, UK*

TOA am 9:10 **Metaproteome Analysis of a Termite Hindgut Microbial Community: Relevant to Biofuel Development**; Kristin E Burnum[1]; Stephen J Callister[1]; Carrie D Nicora[1]; Richard D Smith[1]; Philip Hugenholtz[2]; Falk Warnecke[3]; Rudolf H Scheffrahn[4]; Mary S Lipton[1]; *[1]Pacific Northwest National Laboratory, Richland, WA; [2]DOE Joint Genome Institute, Walnut Creek, CA; [3]Lawrence Berkeley National Laboratory, Berkeley, CA; [4]University of Florida, Gainesville, FL*

TOA am 9:30 **Bio-Char Investigated by Analytical Flash Pyrolysis and GCMS**; Helge Egsgaard[1]; Esben Wilson Bruun[1]; Henrik Hauggaard-Nielsen[1]; Per Ambus[1]; Niels Bech[2]; Norazana Ibrahim[2]; Peter Arendt Jensen[2]; *[1]Biosystem Division; Risoe-DTU, Roskilde, Denmark; [2]Department of Chem. Eng; DTU, Lyngby, Denmark*

TOA am 9:50 **Identification of the Extracellular Cellulolytic Enzymes in Thermophilic Bacteria that Are Important for Microbial Cellulose Degradation to Bioethanol;** Richard J. Giannone[1]; Adriane Lochner[1]; Andrew Dykstra[1,2]; Martin Keller[1]; James G. Elkins[1]; Robert Hettich[1]; *[1]Oak Ridge National Laboratory, Oak Ridge, TN; [2]The University of Tennessee, Knoxville, TN*

TOA am 10:10 **Large Array Scheduled MRM Analysis of Metabolic Pathways Using an Enhanced Scan Rate Hybrid Triple Quadrupole / Linear Ion Trap;** Francesco Pingitore; Sofya Aronova; Miryam Kadkhodayan; Guillaume Cottarel; *Codexis, Inc., Redwood City, CA*

8:30 – 10:30 AM, TUESDAY MORNING
ACCURATE MASS LC-MS APPROACHES FOR CHARACTERIZATION AND QUANTIFICATION OF DRUGS AND METABOLITES
Kathleen Cox, presiding
Ballroom B

TOB am 8:30 **Identification of a Novel CYP1A2-Mediated Bioactivation Pathway of Nimesulide Using LTQ-Orbitrap and Q-Trap Mass Spectrometers**; Li Ma; Qian Ruan; Jinping Gan; W. Griffith Humphreys; Mingshe Zhu; *Bristol-Myers Squibb, Princeton, NJ*

TOB am 8:50 **Combination of Fast Liquid Chromatography and Quadrupole Time-of-Flight for Quantitative Analysis of Pharmaceuticals in Plasma Using Accurate Mass**; Gerard Hopfgartner[1]; J.C. Yves Leblanc[2]; Chantal Grivet[1]; Emmanuel Varesio[1]; *[1]University of Geneva, Geneva, Switzerland; [2]MDS Analytical Technologies, Concord, ON*

TOB am 9:10 **An Integrated Approach to *in vitro* and *in vivo* Metabolite Quantitation Based on High Resolution Full Scan MS Data**; Jonathan L. Josephs[1]; Chiuwa Emily Luk[1]; Mary Grubb[1]; Yanou Yang[1]; Haiying Zhang[1]; Hong Cai[1]; Robert Langish[1]; Petia Shipkova[1]; Mark Sanders[2</SUP; *[1]Bristol-Myers Squibb, Pennington, NJ; [2]Thermo Fisher Scientific, Somerset, NJ*

TOB am 9:30 **High-Resolution Analysis of the Pyridine-3-Sulfonyl Derivatives of 17β-Estadiol and its Metabolites by Orbitrap-Mass Spectrometry;** Jacquelyn R. Cole[1]; Dmitri Zagorevski[2]; David C. Spink[1]; *[1]Wadsworth Center, NYS Department of Health, Albany, NY; [2]Rensselaer Polytechnic Institute, Troy, NY*

TOB am 9:50 **2D Mass Mapping: Novel Data Visualization Method for Complex Peptide Mixtures Analysis**; Konstantin Artemenko[1]; Alexander R. Zubarev[1]; Tatiana Samgina[2]; Albert T. Lebedev[2]; Mikhail Savitski[1]; Roman Zubarev[3]; *[1]Uppsala University, Uppsala, Sweden; [2]Moscow State University, Moscow, Russian Federation; [3]Karolinska Institute, Stockholm, Sweden*

TOB am 10:10 **Method Development for Absolute Quantitation of Insulin Grows Factor Binding Proteins (IGFBP) in Plasma Samples by Capillary LC-MS**; Olaf Boernsen; Denis Herzog; Stephan Charmont; Nelson Guerreiro; Francois Legay; Stephan Bek; *Novartis Pharma AG, Basel, Switzerland*

8:30 – 10:30 AM, TUESDAY MORNING
CHARACTERIZING PROTEIN-LIGAND INTERACTIONS WITH MASS SPECTROMETRY
Michael C. Fitzgerald, presiding
Room 201

TOC am 8:30 **Mass Spectrometry-Based Approaches for Monitoring Protein-Ligand Interactions: An Overview**; Lars Konermann; Jingxi Pan; Brian Boys; *The University of Western Ontario, London, ON, Canada*

TOC am 8:50 **Hydroxyl Radical Footprinting of CCL5-Chondroitin Sulfate Complex Reveals both the Binding Interface and a Ligand-Induced Conformational Change**; Caroline Watson; Fei Yu; James Prestegard; Joshua S. Sharp; *Complex Carbohydrate Research Center/UGA, Athens, GA*

TOC am 9:10 **Ligand Binding and Conformational Flexibility of Ribosomes**; William Running; James P. Reilly; *Indiana University, Bloomington, IN*

TOC am 9:30 **Design and Application of Novel Cross-Linking Reagents for Mapping Protein-Protein Interactions**; Danielle Vellucci; Lan Huang; Scott Rychnovsky; *University of California, Irvine, CA*

TOC am 9:50 **Investigation of VDR Modulator Interactions with the Full Length VDR/RXRα Nuclear Receptor Complex by HDX-MS**; Jun Zhang; Michael Chalmers; Bruce Pascal; Patrick Griffin; *The Scripps Research Institute, Scripps Florida, Jupiter, FL*

TOC am 10:10 **Thermodynamic Analysis of Chaperone-Substrate Complexes**; Ying Xu[1]; Sebastian Schmitt[2]; Liangjie Tang[3]; Ursula Jakob[2]; Michael C. Fitzgerald[1]; *[1]Duke University, Durham, NC; [2]University of Michigan, Ann Arbor, MI; [3]ExSAR Corporation, Monmouth Junction, NJ*

8:30 – 10:30 AM, TUESDAY MORNING
NOVEL DEVELOPMENTS IN MASS SPECTROMETRY INSTRUMENTATION: ION SOURCES
Jennifer Brodbelt, presiding
Room 204

TOD am 8:30 **Infrared Matrix-Assisted Laser Desorption Electrospray Ionization Coupled to FT-ICR Mass Spectrometry**; Kermit K. Murray[1]; Jason S. Sampson[2]; David C. Muddiman[2]; *[1]Louisiana State Univ., Baton Rouge, LA; [2]North Carolina State University, Raleigh, NC*

TOD am 8:50 **Desorption Electrospray/Metastable-Induced Ionization (DEMI): A New Ambient Multimode Ionization Technique;** Leonard Nyadong; Asiri Galhena; Facundo Fernandez; *Georgia Institute of Technology, Atlanta, GA*

TOD am 9:10 **Enhanced Control of Nanophotonic Ion Production by Laser Desorption Ionization from Tailored Nanopost Arrays**; Jessica A. Stolee[1]; Bennett N. Walker[1]; Deanna L. Pickel[2]; Scott Retterer[2]; Akos Vertes[1]; *[1]George Washington University, Washington, DC; [2]Oak Ridge National Laborator, Oak Ridge, TN*

TOD am 9:30 **Implementation of an EI/CI Interface on a Hybrid Orbitrap System for Ultra-High Resolution GC-MS**; Amelia C. Peterson; Graeme C. McAlister; Joshua J. Coon; *University of Wisconsin, Madison, WI*

TOD am 9:50 **Towards Total Ion Utilization: Electrospray Ionization in a Sub-Ambient Pressure Environment for High Sensitivity Mass Spectrometry**; Jason Page; Ioan Marginean; Ryan Kelly; Keqi Tang; Richard D. Smith; *Pacific Northwest National Laboratory, Richland, WA*

TOD am 10:10 **Plasma-based Ambient Desorption/Ionization Mass Spectrometry (ADI-MS): Investigations into Desorption Characteristics and Competitive Ionization**; Jacob T. Shelley; Kevin P. Pfeuffer; Steven J. Ray; Gary M. Hieftje; *Indiana Univeristy, Bloomington, IN*

8:30 – 10:30 AM, TUESDAY MORNING
QUANTITATIVE INTACT PROTEOMICS (QIP)
David B. Friedman, presiding
Exhibit Hall C

TOE am 8:30 **Quantitative Top-Down Proteomics and Systems Biology of Colon Cancer**; Rod Nibbe; Mark Chance; *Case Western Reserve Univers, Cleveland, OH*

TOE am 8:50 **Genetic Inheritance of Proteome Variation in Human Lymphoblastoid Cells**; Megan Rowland; Hauqin Pan; Xinxin Zhang; Phillip Cooley; Nikhil Garge; Benjamin J. Cargile; Maureen K. Bunger; *Research Triangle Institute, Research Triangle Park, NC*

TOE am 9:10 **DIGE/MS and MudPIT: Adaptive Sample Size Re-Estimation to Combine Statistical Power with Depth of Coverage**; W. Hayes Mcdonald; Bing Zhang; Lillian B. Nanney; David B. Friedman; *Vanderbilt University School of Medicine, Nashville, TN*

TOE am 9:30 **Relative Quantitative Analyses of Intact Methylated Yeast Ribosomal Proteins Using Fourier-Transform Mass Spectrometry;** Kristofor Webb; Rebecca Lipson; Julian Whitelegge; Steven Clarke; *University of California Los angeles, Los Angeles, CA*

TOE am 9:50 **A New Realm for Protein Quantitation: Reproducibility and Modification Occupancy Using Label-Free Top Down Mass Spectrometry**; John F. Kellie[1]; Ji Eun Lee[1]; John C. Tran[1]; Dorothy R. Ahlf[1]; Haylee M. Thomas[1]; Adaikkalam Vellaichamy[1]; Jeremiah D. Tipton[2]; Alan G. Marshall[2,3]; Neil L; *[1]University of Illinois, Urbana, IL; [2]National High Magnetic Field Laboratory, Tallahassee, FL; [3]Florida State University, Tallahassee, FL*

TOE am 10:10 **Differential Gel Electrophoresis Examination of Asian Ash Tree Resistance to Emerald Ash Borer Attack Verses North American Ash Tree Susceptibility**; Kari Green-Church; Alexandra Popoval-Butler; Cindy James; Justin GA Whitehill; Nan M Kleinholz; Daniel A. Herms; Pierluigi Bonello; *The Ohio State Universtiy, Columbus, OH*

8:30 – 10:30 AM, TUESDAY MORNING
GAS-PHASE METAL ION CHEMISTRY
Mary T. Rodgers, presiding
Room 103

TOF am 8:30 **Gas-Phase Reactions of Transition Metal Complexes with Diazoacetates: Substituent Effects and the Formation of Novel Organometallic Species;** Scott Gronert; Scott K. Koehn; *Virginia Commonwealth University, Richmond, VA*

TOF am 8:50 **Competition between Cluster Fragmentation, C-C Bond Coupling and C-X Bond Activation in Silver Hexynyl Cluster Cations, [(C4H9CCAg)nAg]+. Size Does Matter!** Richard A. J. O'Hair[1]; Farrah Q Wang[1,2]; George N. Khairallah[1,2]; Craig M Williams[4]; George Koutsantonis[3]; *[1]University of Melbourne, Victoria, Australia; [2]Bio21 Inst,Uni of Melbourne, Melbourne, Australia; [3]University of Western Australia, Perth, Australia; [4]University of Queensland, Brisbane, Australia*

TOF am 9:10 **Hydration Energies and Charge Separation Processes of Group 12 Dications**; Theresa Cooper; Damon R Carl; Peter B. Armentrout; *University of Utah, Department of Chemistry, Salt Lake City, UT*

TOF am 9:30 **Connecting Reduction Energies of Hydrated Metal Ions to Aqueous Solution: The Absolute SHE Potential, and Proton and Electron Solvation Energies**; William A. Donald; Ryan D. Leib; Maria Demireva; Jeremy T. O'Brien; M. Jeannette Aiken; Evan R. Williams; *University of California, Berkeley, CA*

TOF am 9:50 **Origin of Enantio-Selective Reduction of the Ternary Coppered D,L Amino-Acid Complexes under Activation Conditions;** Francoise Fournier; Carlos Afonso; Denis Lesage; Valérie Mancel; Nicole Sellier; Jean-Claude Tabet; *University Paris VI (UPMC), Paris Cedex O5, France*

TOF am 10:10 **Radical Cations of Methionine, α-Methylmethionine and S-Methylcysteine: Generations and Dissociations in the Gas Phase**; Junfang Zhao[1]; Dominic C. M. Ng[2]; Ivan K. Chu[2]; A.C. Hopkinson[1]; K W Michael Siu[1]; *[1]York University, Toronto, Canada; [2]University of Hong Kong, Hongkong, China*

8:30 – 10:30 AM, TUESDAY MORNING
MASS SPECTROMETRY IN HOMELAND PROTECTION
Plamen A. Demirev, presiding
Room 113

TOG am 8:30 **Mass Spectrometry in Biodefense**; Catherine Fenselau; *University of Maryland, College Park, MD*

TOG am 8:50 **Mass Spectrometric Tools to Determine Ricin Sample Processing Methods**; Karen L. Wahl; Helen W. Kreuzer-Martin; Jon H. Wahl; Heather A. Colburn; David S. Wunschel; Brian H. Clowers; *Pacific Northwest National Laboratory, Richland, WA*

TOG am 9:10 **Rapid Detection of Botulinum Neurotoxin in a Spiked Sample through Activity Detection and Proteomics**; Suzanne R. Kalb[1]; Hercules Moura[1]; Theresa J. Smith[2]; Leonard A. Smith[2]; James D. Marks[3]; John R. Barr[1]; *[1]CDC, Atlanta, GA; [2]USAMRIID, Ft. Detrick, MD; [3]University of California at San Francisco, San Francisco, CA*

TOG am 9:30 **Rapid Identification of E. coli O157:H7 by "Top-Down" Proteomics Using MALDI-TOF/TOF Mass Spectrometry**; Clifton K. Fagerquist[1]; Brandon R. Garbus[1]; Katherine E. Williams[2]; Anna H. Bates[1]; Siobhan Boyle[1]; Leslie A. Harden[1]; William G. Miller[1]; Robert E. Mandrell[1</S; *[1]USDA, ARS, Albany, CA; [2]UCSF, Department of Medicine, San Francisco, CA*

TOG am 9:50 **The Use of Affinity Capture Mass Spectrometry for Detection of Biomarker Proteins and Biological Warfare Agents**; Erin Johnson; Walther Ellis; Linda Powers; Vicki Wysocki; *University of Arizona, Tucson, AZ*

TOG am 10:10 **Bioaerosol Detection Using MALDI Ion Mobility and Mass Spectrometry**; Juaneka M. Hayes[1]; Michael P. Tolocka[1]; Kermit K. Murray[1]; Ernest K. Lewis[2]; Thomas Egan[2]; J. Albert Schultz[2]; *[1]Louisiana State University, Baton Rouge, LA; [2]Ionwerks Inc., Houston, TX*

10:30 AM – 2:30 PM, TUESDAY
POSTER SESSION (See page 72)
Exhibit Hall AB

Authors of odd-numbered posters present 10:30 am – 12:15 pm.
Authors of even-numbered posters present 12:45 – 2:30 pm.
Please do not remove posters before 7:30 pm. Posters must be removed by 8:00 pm.

2:30 – 4:30 PM, TUESDAY AFTERNOON
LC-MS ASSESSMENT OF HUMAN METABOLISM IN COMPLIANCE WITH "MIST" GUIDANCE
Chungang Gu and Scott Grimm, presiding
Ballroom A

TOA pm 2:30 **A New Paradigm for Metabolite Profiling and Bioanalysis to Identify and Manage Metabolite Safety Concerns**; Scott W. Grimm; *AstraZeneca Pharmaceuticals, Wilmington, DE*

TOA pm 2:50 **A Methodology for Complete Plasma Metabolite Profiling and Identification with High-Resolution LC/MS to Address MIST Issues in Early Clinical Studies**; Haiying Zhang[1]; Wenying Li[1]; Weiping Zhao[3]; Jonathan L. Josephs[24]; william humphreys[1]; Mingshe Zhu[5]; *[1]Bristol-Myers Squibb R&D, Pennington, NJ; [2]Bristol-Myers Squibb, Princeton, NJ; [3]Bristol Myers Squibb, Princeton, NJ; [4]Bristol-Myers Squibb, Pennington, NJ; [5]Bristol-Myers Squrbb, Princeton, NJ*

TOA pm 3:10 **Metabolite Profiling Challenges in the First-in-Human Study. Identification of Two Novel Metabolites of a Nociceptin Agonist;** Natalia Penner[1]; Swapan K. Chowdhury[2]; *[1]Biogen Idec, Cambridge, MA; [2]Schering-Plough, Kenilworth, NJ*

TOA pm 3:30 **A Review of Accurate Mass LC-MS Applications for Compliance with MIST Guidelines**; Richard Clayton; Brian Morrison; John Kendrick; *Covance Laboratories, Ltd, Harrogate, North Yorkshire, UK*

TOA pm 3:50 **A Retention-Time-Shift-Tolerant Background-Subtraction and Noise-Reduction Algorithm (BgS-NoRA) for Extraction of Drug Metabolites in LC-MS Data**; Peijuan Penny Zhu; Wei Ding; Wei Tong; Anima Ghosal; Kevin Alton; Swapan K. Chowdhury; *Schering-Plough Research Institute, Kenilworth, NJ*

TOA pm 4:10 **Rapid Detection and Characterization of *N*-acetyl-*L*-Cysteine Conjugates in Human Urine Using Polarity Switching of Quadrupole-Linear Ion Trap Mass Spectrometry**; Wenying Jian[1]; Ming Yao[2]; Duxi Zhang[2]; Mingshe Zhu[2]; *[1]Johnson and Johnson, Raritan, NJ; [2]Bristol-Myers Squibb, Princeton, NJ*

2:30 – 4:30 PM, TUESDAY AFTERNOON
SMALL MOLECULE BIOMARKERS
Bradley L. Ackermann, presiding
Ballroom B

TOB pm 2:30 **Exposure and Response Biomarkers of Cigarette Smoke: Implications in Pulmonary Disease Onset and Progression**; Stacy L. Gelhaus; Ian A. Blair; *Univ. of Penn/SOM/Pharmacol, Philadelphia, PA*

TOB pm 2:50 **Understanding the Incorporation of Gemcitabine into DNA and its Application as a Biomarker**; Enaksha R Wickremsinhe[1]; Barry S Lutzke[1]; Angela S Freeman[1]; Susan E Pratt[1]; Angela Bones[1]; Crystal A Dotson-Roberts[1]; Bradley L. Ackermann[1]; Anne H Dantzig[1];; *[1]Eli Lilly and Company, Indianapolis, IN; [2]The Cleveland Clinic, Cleveland, OH*

TOB pm 3:10 **Determining the Compatibility between Processing and Staining Methods for Histological Analysis of Frozen Tissue Specimens and LC-MS Analysis of Hormones**; Jeffrey C. Hanson[2]; Donald Johann[3]; Jaime Rodriguez-Canales[2]; Xia Xu[1]; Josip Blonder[1]; Michael R. Emmert-Buck[2]; Timothy D. Veenstra[1]; *[1]SAIC-Frederick, Inc., Frederick, MD; [2]National Cancer Institute, Bethesda, MD; [3]NIH, Bethesda, MD*

TOB pm 3:30 **Metabolic Biomarkers Discovery**; Vladimir Tolstikov; *UC Davis Genome Center, Davis, CA*

TOB pm 3:50 **High Throughput UFLC-MS/MS Analysis of Urinary Prostanoids before and after Exercise**; Matt Blatnik[1]; Rick Steenwyk[2]; *[1]Pfizer Inc., Groton, CT; [2]Pfizer, Lebanon, CT*

TOB pm 4:10 **Mass Spectrometry Strategies for Lipidome Analysis and the Identification of Lipid Biomarkers of Disease**; Todd A. Lydic; Julia V. Busik; Gavin E. Reid; *Michigan State University, East Lansing, MI*

2:30 – 4:30 PM, TUESDAY AFTERNOON
ADVANCES IN THE CHARACTERIZATION OF GLYCOPROTEINS
Heather Desaire, presiding
Room 201

TOC pm 2:30 **A Lectin Affinity-Based Biomarker Discovery Workflow Targeting Cancer-Specific Glycopeptides in Human Plasma**; Penelope M. Drake[2]; Eric Johansen[2]; Richard Niles[2]; Michael Lerch[2]; Haichuan Liu[2]; Bensheng Li[1]; Simon Allen[2]; Kwanyoung Jung[4]; Steven C. Hall[2]; Birgit Schilling[1]; H. Ewa Witkowska[2]; Susan Fisher[3]; Fred Regnier[4]; Bradford W. Gibson[1] *[1]Buck Inst. for Age Research, Novato, CA; [2]UCSF Mass Spectrometry Core, San Francisco, CA; [3]UC San Francisco, San Francisco, CA; [4]Purdue University, West Lafayette, IN*

TOC pm 2:50 **In-Depth Urinary N-Glycoproteome Profiling in Normal and Prostate Cancer Patient Urine**; Yong Zhou[1]; Laura Knutzen[1]; Hector Ramos[1]; Carey Sheu[1]; Paul Shannon[1]; Hui Zhang[2]; Julian D Watts[1]; Alvin Liu[3]; Ruedi Aebersold[1,4]; *[1]Institute for Systems Biology, Seattle, WA; [2]Johns Hopkins Medical Institutions, Baltimore, MD; [3]University of Washington School of Medicine, Seattle, WA; [4]IMBS, ETH&Faculty of Science, U of Zurich, Switzerland*

TOC pm 3:10 **Glycopeptide Analysis of HIV-1 Envelope Proteins: Influence of Glycosylation on Envelope Immunogenicity**; Eden P. Go[1]; Qing Chang[1]; Hua-Xin Liao[2]; Sutherland Laura[2]; Munir Alam[2]; Barton F. Haynes[2]; Heather Desaire[1]; *[1]University of Kansas, Lawrence, KS; [2]Duke University Medical Center, Durham, NC*

TOC pm 3:30 **Glycomics of the Antibacterial Salivary Agglutinin Protein Using LC-MS**; Niclas G. Karlsson[1]; Samah Issa[1]; Antoon J.M. Ligtenberg[2]; *[1]School of Chemistry, NUI Galway, Galway, Ireland; [2]Department of Oral Biochemistry, Free University, Amsterdam, The Netherlands*

TOC pm 3:50 **Site-Specific Glycosylation of Human Serum Glycoproteins *via* Partition and Quantitation of the N-Glycome-Utility for Disease Biomarker Discovery**; Caroline S. Chu[1]; Ning Tang[2]; John Froehlich[1]; Tony Ferrige[3]; Robert Alecio[4]; Patrick D. Perkins[2]; Kevin Killeen[5]; Keith Waddell[2]; Rudolf Grimm[2]; Helen Chew[6]; Suzanne Miyamoto[6]; Carlito Lebrilla[1]; *[1]UC Davis, Davis, CA; [2]Agilent Technologies, Santa Clara, CA; [3]Positive Probability Limited, Ely, UK; [4]Positive Probability Ltd, Sittingbourne, UK; [5]Agilent Laboratories, Santa Clara, CA; [6]UC Davis Cancer Center, Sacramento, CA*

TOC pm 4:10 **Identification and Quantitation of Phosphorylated and O-GlcNAcylated Proteins Associated with Mitotic Spindles and Midbodies during Cytokinesis (Part B)**; Namrata Udeshi[1]; Zihao Wang[2]; Chad Slawson[2]; Philip Compton[1]; Jeffrey Shabanowitz[1]; Gerald W. Hart[2]; Donald F. Hunt[1]; *[1]University of Virginia, Charlottesville, VA; [2]Johns Hopkins School of Medicine, Baltimore, MD*

2:30 – 4:30 PM, TUESDAY AFTERNOON
NOVEL DEVELOPMENTS IN MASS SPECTROMETRY INSTRUMENTATION: ANALYZERS, DETECTORS, TANDEM INSTRUMENTS
Robert J. Noll, presiding
Room 204

TOD pm 2:30 **A High Mass Resolution, Multiplexed Time-of-Flight Mass Spectrometer**; Robert H. Jackson; Zhongyu Yang; C. Bronson Crothers; David A. Ferris; Stephen A. Lammert; *Stillwater Scientific Instruments, Inc., Orono, ME*

TOD pm 2:50 **Direct Analysis Of Neutrals Using Superconducting Detector in Tandem Mass Spectrometry**; Masataka Ohkubo[1]; Masahiro Ukibe[1]; Shigetomo Shiki[1]; Shigeo Tomita[2]; Shigeo Hayakawa[3]; *[1]National Inst. of Adv. Indust. Sci. Tech. (AIST), Tsukuba, Ibaraki; [2]University of Tsukuba, Tsukuba, Ibaraki; [3]Osaka Prefecture University, Sakai, Osaka*

TOD pm 3:10 **Comparison of As-Built and Simion&#174 Model Results for a Toroidal Ion Trap Mass Spectrometer**; Joseph Oliphant; Edgar Lee; Eric Handberg; *Torion Technologies, Inc., American Fork, UT*

TOD pm 3:30 **Increased Proteome Definition Exploiting Performance Enhancements of a New Linear Ion Trap Mass Spectrometer**; Tonya P. Second; Justin Blethrow; Vlad Zabrouskov; Jae C. Schwartz; *Thermo Fisher Scientific, San Jose, CA*

TOD pm 3:50 **Ion-Ion Interactions in the Orbitrap Mass Analyzer**; Richard H. Perry[1]; Gary Abdiel Salazar[1]; Qizhi Hu[2]; R. Graham Cooks[1]; Robert J. Noll[1]; *[1]Purdue University, West Lafayette, IN; [2]Amgen, Inc., Thousand Oaks, CA*

TOD pm 4:10 **Multiple-Reflection Time-of-Flight Mass Spectrometry of Exotic Nuclei**; Wolfgang R. Plass[1,2]; Timo Dickel[2]; Arno Becker[2]; Ulrich Czok[2]; Hans Geissel[1,2]; Christian Jesch[2]; Wadim Kinsel[1,2]; Martin Petrick[1,2]; Katrin Reinheimer[2</;
[1]GSI, Darmstadt, Germany; [2]Justus-Liebig-Universitaet Giessen, Giessen, Germany; [3]Institute for Analytical Instrumentation, St. Petersburg, Russia

2:30 – 4:30 PM, TUESDAY AFTERNOON
THE ROLE OF MASS SPECTROMETRY IN UNDERSTANDING CELLULAR PATHWAYS
Ileana M. Cristea, presiding
Exhibit Hall C

TOE pm 2:30 **Quantitative Phosphoproteomics Identifies Sites in K-Cl Cotransporters that Regulate Cell Volume and Neuronal Excitation**; Jesse Rinehart[1]; Yelena D. Maksimova[1]; Jessica E. Tanis[1]; Kathy Stone[1]; Junhui Zhang[1]; Mary Risinger[3]; Weijun Pan[1]; Dianqing Wu[1]; Christopher Colangelo<S; *[1]Yale University, New Haven, CT; [2]Howard Hughes Medical Institute, New Haven, CT; [3]University of Cincinnati College of Medicine, Cincinnati, OH*

TOE pm 2:50 **A Targeted Spatial-Temporal Proteomic Approach Reveals New Cellular Pathways Involved in Human Cytomegalovirus Virion Maturation**; Nathaniel J. Moorman; Thomas E. Shenk; Ileana M. Cristea; *Princeton University, Princeton, NJ*

TOE pm 3:10 **Lysine Butyrylation is a Prevalent and Evolutionarily-conserved Posttranslational Modification Pathway**; Zhongyi Cheng; Kai Zhang; Zhihong Zhang; Yue Chen; Minjia Tan; Yingming Zhao; *University of Chicago, Chicago, IL*

TOE pm 3:30 **Mapping Epigenetic Signaling Networks (the Human Epigenome) Using a Combined Proteomic-Genomic Approach**; Gary LeRoy; Nicolas L. Young; Mariana D. Plazas-Mayorca; Benjamin A. Garcia; *Princeton University, Princeton, NJ*

TOE pm 3:50 **Toward Simultaneously Assessing the Activation State of the Kinome including Substrate-Kinase Relationship**; Kazuishi Kubota[1]; Rana Anjum[1]; Yonghao Yu[1]; Adam Feldman[2]; Chin-Lee Wu[2]; John Rush[3]; Judit Villen[1]; Steven Gygi[1]; *[1]Harvard Medical School, Boston, MA; [2]Massachusetts General Hospital, Boston, MA; [3]Cell Signaling Technology, Danvers, MA*

TOE pm 4:10 **Proteomics «Google»-Like Tool for Signaling Pathways**; Roman Zubarev; Konstantin Artemenko; Corina Mayrhofer; Y.M. Eva Fung; *Karolinska Institute, Stockholm, Sweden*

2:30 – 4:30 PM, TUESDAY AFTERNOON
CLUSTERS/COMPLEXES/SOLVATED IONS
Evan R. Williams, presiding
Room 103

TOF pm 2:30 **Characterization of Floppy Systems with Vibrational Spectroscopy: Learning to Live with Anharomic Effects**; Mark Johnson; *Yale University, New Haven, CT*

TOF pm 2:50 **Hydration of Hydrophobic and High Charge State Ions: Transitions from Gas-Phase Structure to Bulk**; James Prell; Jeremy T O'Brien; Evan R. Williams; *University of California, Berkeley, CA*

TOF pm 3:10 **Structures of Hydrated Metalated and Proton-Bound Dimer Adenine by IRMPD Spectroscopy**; Khadijeh Rajabi; Elizabeth Gillis; Travis Fridgen; *Memorial University of NL, St. John's, NF*

TOF pm 3:30 **Gas Phase Hydration of Trapped Peptides: Kinetics**; Xiangguo Shi; Joel H. Parks; *Rowland Institute at Harvard, Cambridge, MA*

TOF pm 3:50 **Chirality: Effects on Folding and Aggregation of Peptides**; Michael T. Bowers; Christian Bleiholder; Nicholas Dupuis; *University of California, Santa Barbara, CA*

TOF pm 4:10 **Influence of Configurational Entropy on the Dissociation Kinetics of Protein-Ligand Complexes in the Gas Phase**; Elena Kitova; John Klassen; *University of Alberta, Edmonton, Canada*

2:30 – 4:30 PM, TUESDAY AFTERNOON
HDX FOR PROTEIN STRUCTURE AND FOLDING
Igor A. Kaltashov, presiding
Room 113

TOG pm 2:30 **Structure of Lipid-Free and Lipid-Bound Human Apolipoprotein A-I by Hydrogen-Deuterium Exchange Analyzed by Mass Spectrometry**; Palaniappan S Chetty[1]; Michael C Phillips[1]; Lund-Katz S[1]; Leland Mayne[1]; David Stranz[2]; Walter Englander[1]; *[1]University of Pennsylvania, Philadelphia, PA; [2]Sierra Analytics, Inc., Modesto, CA*

TOG pm 2:50 **On the Conformation of HIV-1 Nef from Various Viral Strains**; Thomas E. Wales[1]; Lori Emert-Sedlak[2]; Thomas E. Smithgall[2]; John R. Engen[1]; *[1]Northeastern University, Boston, MA; [2]University of Pittsburgh School of Medicine, Pittsburgh, PA*

TOG pm 3:10 **Insight into the Escherichia coli L7/L12 Ribosomal Stalk Complex from Hydrogen Exchange Mass Spectrometry**; Stephanie Deroo[1]; Yuliya Gordiyenko[1]; Carol Robinson[2]; *[1]Cambridge University, Cambridge, UK; [2]University of Cambridge, Cambridge, UK*

TOG pm 3:30 **Conformational and Functional Effect of Posttranslational Modifications on sRAGE Protein by Solution-Phase H/D Exchange FT-ICR Mass Spectrometry**; Hui-Min Zhang[1]; Shaun Mcloughlin[2]; Huan He[1]; Carol Nilsson[3]; Mark R. Emmett[1]; Alan G. Marshall[1]; *[1]Nat'l High Magnetic Field Lab/Florida State Univ., Tallahassee, FL; [2]Abbott Laboratories, Abbott Park, IL; [3]Pfizer, Inc., San Diego, CA*

TOG pm 3:50 **Amyloidogenic beta-2-Microglobulin Transiently Populates a Long-Lived Unfolded State**; Thomas J.d. Jorgensen[1]; Lei Cheng[2]; Anna Jansson[4]; Niels H.H. Heegaard[3]; *[1]University of Southern Denmark, Odense M, Denmark; [2]Dept. Biochemistry & Molecular Biology, Odense M, Denmark; [3]Statens Serum Institut, Copenhagen, Denmark; [4]Sidec AB, Stockholm, Sweden*

TOG pm 4:10 **Examination of Electron-Induced Fragmentation of Intact Protein Ions as a New Tool in Top-Down HDX MS Measurements**; Rinat Abzalimov[1]; Desmond Kaplan[2]; Michael Easterling[2]; Igor A. Kaltashov[1]; *[1]University of Massachusetts, Amherst, MA; [2]Bruker Daltonics, Inc., Billerica, MA*

4:45 – 5:30 PM, TUESDAY
AWARD LECTURE
Gary L. Glish, presiding
Exhibit Hall C

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

4:55 pm **Recipient of the Biemann Medal**

Neil L. Kelleher, *University of Illinois*

5:45 – 7:00 pm
TUESDAY WORKSHOPS
See page 19.
There will be light refreshments provided on the lower level where workshops are located.

8:30 – 10:30 AM, WEDNESDAY MORNING
EMERGING MS TECHNIQUES FOR DRUGS AND METABOLITE IMAGING IN TISSUES
Akos Vertes, presiding
Ballroom A

WOA am 8:30 **About Tissues, Compounds and Metabolites**; Markus Stoeckli; Dieter Staab; Brendan Prideaux; *Novartis Institutes for BioMedical Research, Basel, Switzerland*

WOA am 8:50 **Ambient Mass Spectrometric Imaging of Metabolites in Mus Musculus Brain and Arabidopsis Thaliana Leaf by Mid-Infrared Laser Ablation Electrospray Ionization**; Peter Nemes[1]; Ales Svatos[2]; Akos Vertes[1]; *[1]George Washington University, Washington, DC; [2]Max Planck Institute, Jena, Germany*

WOA am 9:10 **High-Field MALDI FTMS for Direct Pre-Clinical Imaging of Drug Distribution and Metabolism**; Katherine A. Kellersberger[1]; Michael L. Easterling[1]; Santosh Kesari[2]; Claire M. Sauvageot[2]; Jeffrey N. Agar[3]; Nathalie Y.R. Agar[4]; *[1]Bruker Daltonics, Inc., Billerica, MA; [2]Dana Farber Cancer Institute, Harvard Med. School, Boston, MA; [3]Brandeis University, Waltham, MA; [4]Harvard Medical School, Neurosurgery, Boston, MA*

WOA am 9:30 **9-Aminoacridine as a Matrix for *in situ* Characterization of Primary Metabolites and Anionic Phospholipids by MALDI Imaging Mass Spectrometry;** Farida Benabdellah[1]; David Touboul[1]; Alain Brunelle[1]; Olivier Laprévote[1,2]; *[1]Mass spectrometry ICSN-CNRS, Gif-sur-yvette, France; [2]Paris-Descartes University, Paris, France*

WOA am 9:50 **Mass Spectrometric Imaging of Plant Metabolites on Various Organs: Comparative Study of Genetically Mutated Arabidopsis vs. Wild Type;** Ji Hyun Jun[1,2]; Zhenjiu Liu[1,2];

Zhihong Song[2,3]; Basil J. Nikolau[2,3]; Edward S. Yeung[1,2]; Young Jin Lee[1,2]; *[1]Department of Chemistry, Iowa State University, Ames, IA; [2]Ames Lab, Ames, IA; [3]Department of Biochemistry, Iowa State University, Ames, IA*

WOA am 10:10 **Spatial Querying of Mass Spectral Imaging Data Allows for Differential Analysis of Neurodegenerative Alterations in Tissue**; Raf Van de Plas; Kristiaan Pelckmans; Thomas Philips; Justin Vijay Louis; Bart De Moor; Etienne Waelkens; *K.U.Leuven, Leuven, Belgium*

8:30 – 10:30 AM, WEDNESDAY MORNING
ADVANCES IN METABOLOMICS
Michael Reily, presiding
Ballroom B

WOB am 8:30 **Metabolic Signatures of Human Drug Response Phenotyping**; Oliver Fiehn[1]; Gert Wohlgemuth[1]; Dinesh Kumar Barupal[1]; Tobias Kind[1]; Rima Kaddurah-Daouk[2]; *[1]UC Davis, Davis, CA; [2]Duke University, Durham, NC*

WOB am 8:50 **UPLC-MS Metabolite Profiling to Investigate the Influence of the Gut Microbiome on Host Metabolism**; Elizabeth J Want[1]; Jonathan Swann[1]; Florian Geier[1]; James Sidaway[2]; Jeremy Nicholson[1]; Elaine Holmes[1]; Ian Wilson[2]; *[1]imperial College, London, UK; [2]Astra Zeneca, Macclesfield, UK*

WOB am 9:10 **Metabonomic Profiling and Metabolite Identification of Bromoethylamine, A Potent Nephrotoxicant**; Petia Shipkova[1]; Serhiy Hnatyshyn[1]; Mark Sanders[2]; Jeff Vassallo[1]; Michael Reily[1]; Don Robertson[1]; Lois Lehman-Mckeeman[1]; *[1]Bristol Myers Squibb, Princeton, NJ; [2]Thermo Fisher Scientific, Somerset, NJ*

WOB am 9:30 **Identification and Quantification of Metabolites in a Human Plasma Standard Reference Material by Multiple Mass Spectrometry Methods**; Nathan G. Dodder; Ruth Barak; Gauthier Eppe; Elizabeth A. McGaw; Stephen E. Stein; Karen W. Phinney; *NIST, Gaithersburg, MD*

WOB am 9:50 **Accurate and Sensitive All-Ions Quantitation Using a New Ultra High Resolution LCMS and its Application to Endogenous Metabolite Profiling**; Mark Sanders[1]; Kevin J. Mchale[1]; Chunang (christine) Gu[2]; Petia Shipkova[3]; *[1]Thermo Fisher Scientific, Somerset, NJ; [2]ThermoFisher Scientific, San Jose, CA; [3]Bristol Myers Squibb, Princeton, NJ*

WOB am 10:10 **High-Resolution, Full-Scan Mass Spectrometry for Quantitative Cellular Metabolomics and Fluxomics**; Michelle F. Clasquin; Wenyun Lu; Eugene Melamud; Joshua D. Rabinowitz; *Princeton University, Princeton University, NJ*

8:30 – 10:30 AM, WEDNESDAY MORNING
NOVEL STRATEGIES FOR GAS PHASE ION STRUCTURAL CHARACTERIZATION
Ryan R. Julian, presiding
Room 201

WOC am 8:30 **Cross Sectional Areas by Fourier Transform Ion Cyclotron Resonance (CRAFTI) Collisional Damping Analysis**; Fan Yang; Jacob Voelkel; David V. Dearden; *Brigham Young University, Provo, UT*

WOC am 8:50 **Phosphopeptide Characterization by Femtosecond Laser-Induced Ionization/Dissociation (fs-LID)**; Gavin E. Reid; Christine L. Kalcic; Scott A. Smith; Marcos Dantus; *Michigan State University, East Lansing, MI*

WOC am 9:10 **Ozone Induced Dissociation in Structure Elucidation**; Huong Pham; Todd W Mitchell; Michael Thomas; Stephen J Blanksby; *University of Wollongong, Wollongong, NSW, Australia*

WOC am 9:30 **Infrared Multiphoton Dissociation of Peptides in a Dual Cell Linear Ion Trap Mass Spectrometer**; Myles Gardner[1]; James Madsen[1]; Suncerae Smith[1]; Aaron Ledvina[2]; Jennifer Brodbelt[1]; *[1]University of Texas - Austin, Austin, TX; [2]UW Madison, Madison, WI*

WOC am 9:50 **Homo- and Hetero-Oligomeric Complexes in the Gas Phase Investigated by Ion Mobility and Tandem Mass Spectrometry**; Elisabetta Boeri Erba; Brandon Ruotolo; Carol Robinson; *University of Cambridge, Department of Chemistry, Cambridge, UK*

WOC am 10:10 **Identification and Inhibition of Gas Phase Rearrangements of Protonated YAGFL Analogs and their Fragments**; Ashley C. Gucinski; Asiri Galhena; Brittany R. Perkins; Arpad Somogyi; Vicki H. Wysocki; *University of Arizona, Tucson, AZ*

8:30 – 10:30 AM, WEDNESDAY MORNING
APPLICATIONS OF ION MOBILITY SPECTROMETRY
Facundo Fernandez, presiding
Room 204

WOD am 8:30 **Application Overview of Ion Mobility Spectrometry Coupled with Mass Spectrometry**; Herbert H. Hill; William F. Siems; Kimberly A. Kaplan; Christina L. Crawford; Eric J. Davis; Roberto Fernandez Maestre; *Washington State University, Pullman, WA*

WOD am 8:50 **Ion Mobility Characterization of Carbohydrate:Protein Conformational Binding**; Julie A. Leary[1]; Raluca Stefanescu[2]; Connie Jen[1]; *[1]UC Davis, Davis, CA; [2]University of Davis, Davis, CA*

WOD am 9:10 **A Shape Selective Study of Conformational Changes in Metal Containing Proteins**; James Scrivens[1]; Frances D L Kondrat[1]; Charlotte Scarff[1]; Claudia A Blindauer[1]; Narinder Sanghera[1]; Gillian R. Hilton[1]; Andrew C Gill[2]; Teresa Pinheiro[1]; Ko; *[1]University of Warwick, Coventry, UK; [2]Roslin Institute, Compton Laboratories, Compton, UK*

WOD am 9:30 **Photofragmentation with VUV Post-Ionization Coupled with Ion-Mobility Mass Spectrometry for Analysis of Peptides and Sulfatides**; Thomas Egan[1]; Ernest K. Lewis[1]; Kelley Waters[1]; Valerie Vaughn[1]; Steve Ulrich[1]; Shelley N. Jackson[2]; J. Albert Schultz[1]; Amina S. Woods[2]; *[1]Ionwerks, Inc., Houston, TX; [2]NIDA-IRP, NIH, Baltimore, MD*

WOD am 9:50 **Ultrafast Field Asymmetric Waveform Ion Mobility Spectrometry/ Mass Spectrometry Analyses at Extreme Electric Fields in Microscopic Multichannel FAIMS Chips**; Alexandre A. Shvartsburg[1]; Keqi Tang[1]; Richard D. Smith[1]; Martin Holden[2]; Andrew Thompson[2]; Martyn Rush[2]; Andrew Koehl[2]; David Ruiz-Alonso[2]; Danielle Touto; *[1]Pacific Northwest National Laboratory, Richland, WA; [2]Owlstone Ltd., Cambridge, UK*

WOD am 10:10 **Observation of Neutral Molecule (Ion-Pair) Evaporation from Ionic Liquid Nanodroplets by Tandem Differential Mobility Analysis-Mass Spectrometry (DMA-MS)**; Christopher J. Hogan; Juan Fernandez de la Mora; *Yale University - Mechanical Engineering, New Haven, CT*

8:30 – 10:30 AM, WEDNESDAY MORNING
NEW DEVELOPMENTS IN BIOINFORMATICS
Pavel Pevzner, presiding
Exhibit Hall C

WOE am 8:30 **A Fast Previewer for Shotgun Proteomics Data**; Marshall W. Bern; *Palo Alto Research Center, Palo Alto, CA*

WOE am 8:50 **A Probabilistic Algorithm for Protein Identification Using a Simple, Realistic Model that Recognizes Degeneracy**; Oliver Serang[1]; Jason Weston[2]; Michael J. Maccoss[1]; William Noble[1]; *[1]University of Washington, Seattle, WA; [2]NEC Research, Princeton, NJ*

WOE am 9:10 **Spectral Profiles: A Novel Representation of Tandem Mass Spectra and its Application for Gapped Peptide Generation**; Sangtae Kim; Nuno Bandeira; Pavel Pevzner; *University of California San Diego, La Jolla, CA*

WOE am 9:30 **Correlation of Database Entries and its Impact on Statistical Analysis in Peptide Identification;** Aleksey Y Ogurtsov; Gelio Alves; Yi-kuo Yu; *National Center for Biotechnology Information, NLM, Bethesda, MD*

WOE am 9:50 **Sequencing Proteins with MS/MS and a Homologous Reference Sequence**; Xiaowen Liu[1]; Yonghua Han[2]; Denis Yuen[3]; Bin Ma[1]; *[1]University of Waterloo, Waterloo, Canada; [2]University of Western Ontario, London, ON; [3]Bioinformatics Solutions, Inc., Waterloo, ON*

WOE am 10:10 **Proteogenomics of the Plague Bacterium, Yersinia Pestis**; Sam Payne; Shih-Ting Huang; Rembert Pieper; *J Craig Venter Institute, Rockville, MD*

8:30 – 10:30 AM, WEDNESDAY MORNING
MS OF POLYMERS/MATERIALS I: STRUCTURES AND PROPERTIES
Chrys Wesdemiotis, presiding
Room 103

WOF am 8:30 **Role of the Adducted Cation in the Release of Nitroxide End-Group of Controlled Synthetic Polymers in Mass Spectrometry**; Michael Mazarin; Marion Girod; Stephane Viel; Trang Phan; Sylvain Marque; Stephane Humbel; Laurence Charles; *University Aix-Marseille I & III, Marseille Cedex 20, France*

WOF am 8:50 **Inconsistencies in the Analysis of Large Polycyclic Aromatic Hydrocarbons by Laser Desorption and Matrix Assisted Laser Desorption/Ionization Time-of-Flight Mass Spectrometry**; Hans Joachim Räder; Anna Cristadoro; Klaus Müllen; *Max PLanck Institute for Polymer Research, Mainz, Germany*

WOF am 9:10 **Isotopically Labeled Nylon Provides Insight into Oxidative and Hydrolytic Degradation Mechanisms**; James Hochrein; Donald Bradley; Michael White; Steven Thornberg; Robert Bernstein; *Sandia National Laboratories, Albuquerque, NM*

WOF am 9:30 **Characterization of rf Plasma-Polymerized Compounds by MALDI Mass Spectrometry**; Lijuan Peng; Gary R. Kinsel; *Southern Illinois University Carbondale, Carbondale, IL*

WOF am 9:50 **Comparison of Electron Transfer Dissociation and Collision-Induced Dissociation Fragmentation of Multiply Charged Polyethers**; Tony Jackson[1]; Gillian R. Hilton[2]; Susan E. Slade[2]; James Scrivens[2]; *[1]AkzoNobel CARG, Songjiang Industrial Estate, China; [2]University of Warwick, Coventry, UK*

WOF am 10:10 **Sample Spot Heterogeneity Investigated by MALDI - Imaging Mass Spectrometry**; Steffen M. Weidner; Jana Falkenhagen; Rolf-Dieter Schulze; Andreas Thuenemann; *Fed.Inst.f.Mat.Research, Berlin, Germany*

8:30 – 10:30 AM, WEDNESDAY MORNING
COMPOSITIONAL ANALYSIS OF PETROLEUM BY MS
Ryan P. Rodgers, presiding
Room 113

WOG am 8:30 **High Resolution MS/MS Techniques for the Investigation of Crude Oils and its Fractions**; Wolfgang Schrader[1]; Saroj Panda[1]; Kishore Sripada[1]; Jan T. Andersson[2]; *[1]Max-Planck Inst Coal Res., Mülheim / Ruhr, Germany; [2]Inst. Inorg. and Analytical Chem, Univ. Muenster, Muenster, Germany*

WOG am 8:50 **Non-Invasive Molecular Characterization of Kerogen and its Insoluble Biopolymer Precursors by Fourier Transform Mass Spectrometry**; Rachel L. Sleighter; Elodie Salmon; Heidi M. Bialk; Patrick G. Hatcher; *Old Dominion University, Norfolk, VA*

WOG am 9:10 **Comprehensive Characterization of Crude Oils by Thermalanalysis Coupled to a Novel Photo-Ionization Mass Spectrometer: Signatures of Vaporized Hydrocarbons and Asphaltene-Pyrolysis**; Robert Geißler[1,2]; Thorsten Streibel[1,2]; Mohammed Saraji[1,2]; Ralf Zimmermann[1,2]; *[1]Universität Rostock, Rostock, Germany; [2]Helmholtz Zentrum München, Oberschleissheim, Germany*

WOG am 9:30 **A Unified Theory of Asphaltene Structure**; Amy Mckenna[1]; Ryan P. Rodgers[1]; Alan G. Marshall[3]; *[1]Natl High Magnetic Field Laboratory, Tallahassee, FL [2]Ion Cyclotron Resonance Prog, Tallahassee, FL*

WOG am 9:50 **Fingerprinting Heteroatom Hydrocarbons Using Ion Mobility – Mass Spectrometry**; Francisco Alberto Fernandez Lima; David H. Russell; *Texas A&M University, College Station, TX*

WOG am 10:10 **High-energy Laser-induced Acoustic Desorption/Fourier Transform Ion Cyclotron Resonance Mass Spectrometric Analysis of Heavy Petroleum Products**; David Pinkston; Vanessa Gallardo; Steven Habicht; Hilkka Kenttamaa; *Purdue University, West Lafayette, IN*

10:30 AM – 2:30 PM, WEDNESDAY
POSTER SESSION (See page 103)
Exhibit Hall AB

Authors of odd-numbered posters present 10:30 am – 12:15 pm.
Authors of even-numbered posters present 12:45 – 2:30 pm.
Please do not remove posters before 7:30 pm. Posters must be removed by 8:00 pm.

2:30 – 4:30 PM, WEDNESDAY AFTERNOON
POLYPEPTIDE ION FRAGMENTATION: THEORY AND EXPERIMENT
Vicki H. Wysocki, presiding
Ballroom A

WOA pm 2:30 **Enhancing ETD by Chemical Modifications that Increase Charge States of Peptides and Proteins**; Brian L. Frey; April Jue; Aaron Ledvina; Joshua J. Coon; Lloyd Smith; *University of Wisconsin, Madison, WI*

WOA pm 2:50 **Structural Motifs that Suppress Peptide Ion Fragmentation after Electron Capture**; Tak-wah Dominic Chan; W. Y. Kelly Chan; *The Chinese Univ. of Hong Kong, Hong Kong Sar, China*

WOA pm 3:10 **Side-Chain Mediated Fragmentation of Peptide Radical Ions Produced in 157 nm Photodissociation**; Liangyi Zhang; James P. Reilly; *Indiana university, Bloomington, IN*

WOA pm 3:30 **Effect of Chain Length on "b" Fragment Structures in Collision-Induced Cissociation of Protonated Peptides**; Xian Chen[1]; Long Yu[1]; Jos Oomens[2]; Jeffrey Steill[2]; David H. Powell[1]; Nicolas Polfer[1]; *[1]University of Florida, Gainesville, FL; [2]FOM Rijnhuizen, Nieuwegein, Netherlands*

WOA pm 3:50 **IRMPD and H/D Exchange Reveals that the HA b_2^+ Ion Is a Mixture of Diketopiperazine and Oxazolone Structures**; Brittany R. Perkins[1]; Sung Hwan Yoon[1]; Julia Chamot-rooke[2]; Arpad Somogyi[1]; Vicki H. Wysocki[1]; *[1]The University of Arizona, Tucson, AZ; [2]CNRS, Palaiseau, France*

WOA pm 4:10 **DFT Modeling of Proton Transfer Reactions for the Formation of $(b_3)^+$ Ions within Alternative Amino Acid Model Tetrapeptides**; Travis Cooper; Michael J. Van Stipdonk; *Wichita State University, Wichita, KS*

2:30 – 4:30 PM, WEDNESDAY AFTERNOON
APPLICATION OF DIRECT/OPEN AIR IONIZATION TECHNIQUES FOR QUANTITATION OF DRUGS
Jing-Tao Wu, presiding
Ballroom B

WOB pm 2:30 **An Overview of Ambient Surface Sampling and Ionization Techniques**; Gary J. Van Berkel; *Oak Ridge National Laboratory, Oak Ridge, TN*

WOB pm 2:50 **Quantitation of Drugs in Biological Matrices by Desorption Electrospray Ionization: Accuracy, Precision, Dynamic Range and Limit of Detection**; Nicholas E. Manicke; Demian R. Ifa; R. Graham Cooks; *Purdue University, West Lafayette, IN*

WOB pm 3:10 **Eliminating Method Development, Sample Preparation and Chromatographic Separations in High-Throughput Bioanalysis Using DART on an Enhanced Resolution Triple-Quadrupole Mass Spectrometer**; Elizabeth Crawford[1]; Brian Musselman[1]; Shaoxia Yu[2]; Jing-Tao Wu[2]; *[1]IonSense, Inc., Saugus, MA; [2]Millennium Pharmaceuticals, Inc., Cambridge, MA*

WOB pm 3:30 **Desorption Electrospray Ionization (DESI) for Direct Quantitation of Xenobiotics from Dried Blood Spots**; Christopher A. Evans[1]; Chester Bowen[1]; Joseph H Kennedy[2]; Justin Wiseman[3]; *[1]GlaxoSmithKline, King of Prussia, PA; [2]Prosolia, Inc, Indianapolis, IN; [3]Prosolia, Inc., Indianapolis, IN*

WOB pm 3:50 **Ambient Surface Sampling Mass Spectrometry Using a Fully Automated Chip-Based Nano-Electrospray System**; Vilmos Kertesz; Gary J. Van Berkel; *Oak Ridge National Laboratory, Oak Ridge, TN*

WOB pm 4:10 **Application of Transmission Mode Desorption Electrospray Ionization (TM-DESI) to the Quantitative Analysis of Drugs**; Joe Chipuk[1]; Jennifer Brodbelt[2]; *[1]University of Texas, Austin, TX; [2]The University of Texas, Austin, TX*

2:30 – 4:30 PM, WEDNESDAY AFTERNOON
ADVANCES IN PROTEOGLYCAN AND CARBOHYDRATE ANALYSIS
Julie A. Leary, presiding
Room 201

WOC pm 2:30 **It's a Sweet World: Glycomic Analysis and Cellular Communication in the Extra- and Intracellular Space**; Carol Nilsson[1]; Huan He[2]; Mark R. Emmett[3]; Alan G. Marshall[4]; Roger A. Kroes[6]; Joseph R. Moskal[6]; Arugadoss Devakumar[1]; Roslyn Dillon[1]; Charles A. Conrad; *[1]Pfizer, Inc., San Diego, CA; [2]Florida State University, Tallahassee, FL; [3]Nat'l High Magnetic Field Lab, Tallahassee, FL; [4]Ion Cyclotron Resonance Prog, Tallahassee, FL; [5]M.D. Anderson Cancer Center*

WOC pm 2:50 **New Perspectives on the Interpretation of Glycosaminoglycan Tandem Mass Spectra**; Nancy Leymarie; Hicham Naimy; Gregory O Staples; Catherine E. Costello; Joseph Zaia; *BU School of Medicine, Boston, MA*

WOC pm 3:10 **Characterization of Heparin-Derived Oligosaccharides using Ion-Pair Reversed-Phase LC/ESI-MS**; Weibin Chen; Catalin Doneanu; John Gebler; *Waters Corporation, Milford, MA*

WOC pm 3:30 **Sequential Enrichment and Structural Analysis of Sulfated N-Glycans through Anion-Exchange Chromatography and MALDI-MS/MS**; Ming Lei; Yehia Mechref; Milos V. Novotny; *Indiana university, Bloomington, IN*

WOC pm 3:50 **Exploring the N-linked Glycome for Early Detection of Epithelial Ovarian Cancer by NanoLC FT-ICR Mass Spectrometry**; Michael S. Bereman[1]; William A. Cliby[2]; David C. Muddiman[1]; *[1]North Carolina State University, Raleigh, NC; [2]Mayo Clinic, Rochester, MN*

WOC pm 4:10 **The Development of Methods towards High Throughput Clinical Glycomics**; Scott R. Kronewitter[1]; Kyle S. Peacock[1]; Maria Lorna de Leoz[1]; Hyun Joo An[1]; Suzanne Miyamoto[2]; Gary S. Leiserowitz[2]; Helen K. Chew[2]; Carlito B. Lebrilla[1]; *[1]UC Davis, Davis, CA; [2]UC Davis Cancer Center, Davis, CA*

2:30 – 4:30 PM, WEDNESDAY AFTERNOON
DEVELOPMENTS IN IMAGING INSTRUMENTATION
Douglas E. Goeringer, presiding
Room 204

WOD pm 2:30 **New Strategies for Imaging Mass Spectrometry Using C60-SIMS and MALDI Probes**; Anthony Carado[1]; Melissa Passarelli[1]; Julie Wingate[2]; Alexandre Loboda[2]; Nick Winograd[1]; *[1]Penn State University, University Park, PA; [2]MDS Analytical Technologies, Concord, ON*

WOD pm 2:50 **High Resolution C-60 SIMS and MALDI Microscopy Using a Delay Line Detector**; Leendert A. Klerk[1]; Andriy Kharchenko[1]; Luke

Macaleese[1]; Nicholas P. Lockyer[2]; John Vickerman[2]; Ron M.A. Heeren[1]; *[1]FOM Institute for Atomic and Molecular Physics, Amsterdam, Netherlands; [2]University of Manchester, Manchester, UK*

WOD pm 3:10 **Digital Imaging Mass Spectrometry with the TimePix**; Casimir Bamberger[1]; Andreas Bamberger[2]; *[1]Scripps Research Institute, La Jolla, CA; [2]Physics Institute, Albert-Ludwigs University, Freiburg i. Br., Germany*

WOD pm 3:30 **Investigation of Nanoscale Chemical Imaging via Tip-Enhanced, Near-Field Desorption/Ionization Mass Spectrometry at Atmospheric Pressure**; James A. Bradshaw; Kent A Meyer; Olga S. Ovchinnikova; Douglas E. Goeringer; *Oak Ridge National Laboratory, Oak Ridge, TN*

WOD pm 3:50 **Laser Induced Material Transfer Combined with MALDI MS for a Sub-cellular Imaging**; Andrey I. Zavalin; Peggi Angel; Richard M. Caprioli; *Vanderbilt University Sch of Med, Nashville, TN*

WOD pm 4:10 **MALDI-Tissue Imaging at High Resolution and Speed: Essential Steps Towards its Applications in Histology**; Soeren-Oliver Deininger; Detlev Suckau; Michael Becker; M. Schuerenberg; *Bruker Daltonik GmbH, Bremen, Germany*

2:30 – 4:30 PM, WEDNESDAY AFTERNOON
CHARACTERIZATION OF MEMBRANE PROTEINS
Christine Wu, presiding
Exhibit Hall C

WOE pm 2:30 **Filter Aided Sample Preparation (FASP) Combines the Advantages of In-Gel and In-Solution Digestion**; Jacek R. Wisniewski; Nagarjuna Nagaraj; Alexandre Zougman; Matthias Mann; *Max-Planck-Institute of Biochemistry, D-82152 Martinsried, Germany*

WOE pm 2:50 **Quantitative Assessment of Enhanced Recovery of Hydrophobic Peptides from Reversed Phase Chromatography at Elevated Temperatures;** Kelli G. Kline; Sarah M. Moore; Christine C. Wu; *University of Colorado School of Medicine, Aurora, CO*

WOE pm 3:10 **Scoring Peptides by their Retention Time: A Method that both Predicts and Incorporates Retention Time into a Peptide-Spectrum Match Scoring Function**; Lukas Käll[1]; Michael J. Maccoss[2]; William Noble[2]; *[1]Stockholm University, Stockholm, Sweden; [2]University of Washington, Seattle, WA*

WOE pm 3:30 **Strategies for MALDI Imaging Mass Spectrometry of Integral Membrane Proteins**; Angus C. Grey[1]; Pierre Chaurand[1]; Richard M. Caprioli[2]; Kevin L. Schey[1]; *[1]Vanderbilt University, Nashville, TN; [2]Vanderbilt Univ Sch of Med, Nashville, TN*

WOE pm 3:50 **The Subunits of a Large Integral Membrane Protein Complex characterized by Top-Down Fourier-Transform Mass Spectrometry**; Julian Whitelegge[1]; Christopher Ryan[1]; Puneet Souda[1]; Sara Bassilian[1]; Kym Faull[1]; Balakumar Thangaraj[2]; Petra Fromme[2]; *[1]University of California LA, Los Angeles, CA; [2]Arizona State University, Tempe, AZ*

WOE pm 4:10 **Mass Spectrometry of Integral Membrane Transporters from Detergent Micelles Reveals their Stoichiometry and Interactions**; Shoshanna C. Isaacson; Nelson P. Barrera; Min Zhou; Dijana Matak-Vinkovic; Carol V. Robinson; *University of Cambridge, Cambridge, UK*

2:30 – 4:30 PM, WEDNESDAY AFTERNOON
MS OF POLYMERS/MATERIALS II:
HPLC AND ION MOBILITY SEPARATION
Chrys Wesdemiotis, presiding
Room 103

WOF pm 2:30 **Polymer Analysis Using GPC, Thermospray Deposition and MALDI-TOF Mass Spectrometry**; Mark Arnould; *Xerox, Webster, NY*

WOF pm 2:50 **Structural Characterization of a Complex Nonionic Surfactant by LC-MS^n**; Nilufer Solak; Chrys Wesdemiotis; *The University of Akron, Akron, OH*

WOF pm 3:10 **Characterization on Poly (*n*-Butyl Acrylate)s by LC/ESI-MS^n**; Junkan Song[1]; Jan W. van Velde[1]; Luc L.T. Vertommen[1]; Ron M.A. Heeren[2]; Oscar F. van den Brink[1]; *[1]Research, Development and Innovation, AkzoNobel, Arnhem, The Netherlands; [2]FOM Inst. Atomic/Molecular Phy, Amsterdam, The Netherlands*

WOF pm 3:30 **Recent Mass Spectrometric Developments and Investigations for Age Determination of Ball Point Ink Entries on Paper**; Dieter Kirsch[1]; Vincent Guillou[1]; Bernhard Spengler[2]; Peter Seiler[1]; Fritz Koehler[1]; *[1]Bundeskriminalamt, Wiesbaden, Germany; [2]Analytical Chemistry, Giessen, Germany*

WOF pm 3:50 **Identification of Poly(p-phenylene terephthalamide) Branching and Metathesis Products**; Anthony P. Gies; David M. Hercules; *Vanderbilt University, Nashville, TN*

WOF pm 4:10 **Ion Mobility Spectrometry-Mass Spectrometry of Star-Branched Poly(ethylene glycols)**; Barbara S. Larsen[2]; Calvin A. Austin[1]; Brian Bohrer[3]; Ellen D. Inutan[1]; Sadish Karunaweera[1]; David E. Clemmer[3]; Sarah Trimpin[1]; *[1]Wayne State University, Detroit, MI; [2]The DuPont Company, Wilmington, DE; [3]Indiana University, Bloomington, IN*

2:30 – 4:30 PM, WEDNESDAY AFTERNOON
MS AND EMERGING ENVIRONMENTAL CONTAMINANTS
Enrico Davoli, presiding
Room 113

WOG pm 2:30 **Emerging Environmental Contaminants: What's New**; Susan Richardson; *US EPA, Athens, GA*

WOG pm 2:50 **Analysis of Illicit Drugs and Metabolites in Wastewater Derived from an Educational Institution;** M. Paul Chiarelli[1]; Sara Castiglioni[2]; Deepika Panawennage[1]; Ettore Zuccato[2]; Enrico Davoli[2]; *[1]Loyola University, Chicago, IL; [2]Mario Negri Institute, Milano, Italy*

WOG pm 3:10 **Liquid Chromatography Accurate Mass Spectrometry Screening Analysis of Pharmaceuticals in Fish Collected from Effluent-Dominated Streams**; Alejandro J. Ramirez[1]; C. Kevin Chambliss[1,3]; Bryan W. Brooks[2]; *[1]Mass Spectrometry Core Facility, Baylor University, Waco, TX; [2]Environmental*

Studies, Baylor University, Waco, TX; [3]Chemistry and Biochemistry, Baylor University, Waco, TX

WOG pm 3:30 **Fast Analysis of Pharmaceuticals in Water following EPA Method 1694: Applications of UHPLC-MS/MS**; Michael Thurman; Imma Ferrer; *University of Colorado, Boulder, CO*

WOG pm 3:50 **LC/MS/MS Characterization of Mechanisms of N-Nitrosodiphenylamine Formation during Water Chloramination Disinfection**; Wenjun Zhou[1,1]; Jessica Boyd[1,2]; Feng Qin[1,2]; Yuli Zhao[1,2]; Xing-fang Li[1,2]; *[1], Edmonton, Canada; [2]University of Alberta, Edmonton, AB*

WOG pm 4:10 **A Novel Technique Utilizing SBSE and DART-TOF for the Analysis of Pharmaceutical and Pesticide Contaminants in Aqueous Media**; Kathleen Brooks Loftin[1]; Timothy P. Griffin[1]; Christian A. Clausen III[2]; Robert B. Cody[3]; A. John Dane[3]; *[1]NASA- Kennedy Space Center, Kennedy Space Center, FL; [2]University of Central Florida, Orlando, FL; [3]JEOL USA, Inc., Peabody, MA*

4:45 – 5:30 PM, WEDNESDAY
ASMS MEETING
Wine and Beer, Awards!!
Exhibit Hall C

5:45 – 7:00 pm
WEDNESDAY WORKSHOPS
See page 20.
There will be light refreshments provided on the lower level where workshops are located.

8:30-10:30, THURSDAY MORNING
MS OF PEPTIDE AND PROTEIN DRUGS
Jason Rouse, presiding
Ballroom A

ThOA am 8:30 **Application of Immunoglobulin Degrading Enzyme IdeS and LC-MS Analysis as Powerful Characterization Method for Therapeutic Antibodies**; Anne Zeck; Joerg Regula; Wilma Dormeyer; Georg Drabner; Hans Rainer Völger; Hans Koll; *Roche Diagnostics GmbH, Penzberg , Germany*

ThOA am 8:50 **Stability of Protein Therapeutics under Near-Physiological Conditions: Conformation and Dynamics of Acid-β-Glucosidase**; Cedric Bobst[1]; John J. Thomas[2]; Paul Salinas[2]; Rinat Abzalimov[1]; Philip J. Savickas[2]; Igor A. Kaltashov[1]; *[1]University of Massachusetts, Amherst , MA; [2]Shire HGT, Cambridge, MA*

ThOA am 9:10 **Application of Fast Liquid Chromatography-UHR Time-of-Flight Mass Spectrometry to the Characterization of Pharmaceutical Grade rBet v 1 Birch Pollen Allergen**; Emmanuel Nony; Emmanuel Godat; Pierrick Lemoine; Thierry Batard; Philippe Moingeon; *Stallergenes, Antony , France*

ThOA am 9:30 **The Development of a Method for the Determination of a Proprietary Domain Antibody Therapeutic Using UPLC-MS/MS**; Matthew Szapacs; Jonathan Kehler; Sharon Boram; David Citerone; *GlaxoSmithKline, Blue Bell , PA*

ThOA am 9:50 **Sequence Elucidation of Unknown Peptide of High Doping Potential by Electrospray Ionization Mass Spectrometry**; Fuyu Guan[1]; Cornelius Uboh[2]; Lawrence R. Soma[1]; Jeffrey Rudy[2]; *[1]University of Pennsylvania, West Chester , PA; [2]PA Equine Toxicology, West Chester, PA*

ThOA am 10:10 **The Challenging Topography of the LC/MS Peptide Map**; Scott Berger; Asish Chakraborty; Weibin Chen; *Waters Corporation, Milford , MA*

8:30-10:30, THURSDAY MORNING
NOVEL LC-MS TECHNIQUES FOR REGULATED BIOANALYSIS OF DRUGS
Steve E. Unger, presiding
Ballroom B

ThOB am 8:30 **HPLC-APPI-MS/MS Used as a Quantification Tool for Plasma Levels Studies of Cholecalciferol, Cinobufagin and Bisphenol-A**; Julien Breault-Turcot[1]; Jean-Francois Levesque[2]; Sebastien Gagne[2]; *[1]Université de Montréal, Montréal, QC; [2]Merck Frosst Canada & Co, Kirkland , Canada*

ThOB am 8:50 **Is the Quantum Vantage Triple Quadrupole Mass Spectrometer Suitable for Regulated Bioanalysis?** Jim Shen; Roger N. Hayes; Jennifer N. Cunliffe; *Schering-Plough Research Institute, Summit , NJ*

ThOB am 9:10 **Combining High Speed Chromatography and Multistream HPLC Systems to Increase Productivity and Efficiency in the Bioanalytical Laboratory;** John Gibbons[1]; Chad Briscoe[2]; Min J. Yang[1]; Adrian Taylor[1]; David Cox[1]; *[1]MDS Analytical Technologies, Concord , Canada; [2]MDS Pharma Services, Lincoln, NE*

ThOB am 9:30 **Quantification of Endogenous Leptin and Recombinant-Methionyl Human Leptin in Clinical Plasma Samples at Low-Nanomolar Levels by Immunocapture / Mass Spectrometry**; Yan Wang; Chris Bellows; Kristine de Dios; Swati Gupta; Joseph S. Heilig; Steven Taylor; *Amylin Pharmaceuticals, Inc., San Diego, CA*

ThOB am 9:50 **Monitoring Age Related Changes of Metabolism of Doxorubicin Using HPLC-LIF-MS/MS**; Joseph B Katzenmeyer; Yaohua Wang; Edgar A. Arriaga; *University of Minnesota, Minneapolis , MN*

ThOB am 10:10 **Analysis of Drug Residues in Milk by On-Line SPE/LC/MS/MS**; Claude Mallet; Claude Mallet; *Waters Corporation, Milford , MA*

8:30-10:30, THURSDAY MORNING
MASS SPECTROMETRY AT THE INTERFACE BETWEEN CHEMISTRY AND BIOLOGY
Pat Griffin, presiding
Room 201

ThOC am 8:30 **Chemical Biology Approaches to Understanding the Regulation of Nuclear Receptors**; Michael J. Chalmers; Scott A. Busby; Ruben Garcia-Ordonez; Monica Istrate; Naresh Kumar; Scott Novick; Bruce D. Pascal; Jun Zhang; Patrick R. Griffin; *The Scripps Research Institute, Jupiter, FL*

ThOC am 8:50 **Probing Drug Mechanism of Action via Cellular Metabolomics: Thymineless Death and Glycineless Stasis**; Yun Kyung (Sophia) Kwon; Joshua Rabinowitz; *Princeton University, Princeton , NJ*

ThOC am 9:10 **Identification of Native Divalent and Trivalent Cross-linked Amino Acids from Left Ventricular Cardiac Collagen**; Forrest S.E. Helfrich; Timothy J. Black; Eric D. Dodds; Qianli Yu; Doug F. Larson; Vicki H. Wysocki; *University of Arizona, Tucson , AZ*

ThOC am 9:30 **FAC-MS Uncovers New Effectors for Old Transcriptional Regulators, Discovery of Novel Transcription Factor Effectors for MetJ**; Ricardo Marti-arbona[1]; Hiro Teshima; Penny Anderson; Pat J. Unkefer; Clifford Unkefer; *Los Alamos National Laboratory, Los Alamos, NM*

ThOC am 9:50 **Substantially Improved Reproducibility and Precision in Quantitative Proteomics Assays by Targeted Data Acquisition**; Frank Fischer; Mikhail Savitski; Gavain Sweetman; Marcus Bantscheff; *Cellzome AG, Heidelberg , Germany*

ThOC am 10:10 **Characterizing the Partitioning between RNA Regulatory Structures in the Moloney Murine Leukemia Virus Using Antisense LNAs**; Arie Hawkins; Daniele Fabris; *U. Maryland Baltimore County, Baltimore, MD*

8:30-10:30, THURSDAY MORNING
FUNDAMENTAL ASPECTS OF ION/ELECTRON AND ION/ION REACTIONS
Kristina Hakansson, presiding
Room 204

ThOD am 8:30 **When Positive and Negative Ions Meet: Energetics, Structure, Mechanisms and More!** Evan R. Williams; William A. Donald; Ryan D. Leib; James S. Prell; *University of California, Berkeley , CA*

ThOD am 8:50 **Electron-Induced Rearrangements in Histidine and Arginine Peptides**; Frantisek Turecek[1]; Jean Wyer[2]; Annelie Ehlerding[2]; Henning Zettergren[2]; Preben Hvelplund[2]; Steen Brondsted Nielsen[2]; Benjamin Bythell[3]; Bela Paizs[3]; *[1]University of Washington, Seattle , WA; [2]University of Aarhus, Aarhus, Denmark; [3]German Cancer Research Institute, Heidelberg, Germany*

ThOD am 9:10 **Uncommon Radical Rearrangements in Electron Capture Dissociation of Peptide Ions**; Cheng Lin[1]; Xiaojuan Li[1]; Nadezda P. Sargaeva[1]; Peter B. O'connor[2]; *[1]Boston University School of Medicine, Boston, MA; [2]University of Warwick, Coventry, UK*

ThOD am 9:30 **Peptide Conformation Selectivity in Electron Capture and Transfer Dissociation**; Yury O. Tsybin; Hisham Ben Hamidane; Aleksey Vorobyev; Matthew Wodrich; Clemence Corminboeuf; *Ecole Polytechnique Federale, Lausanne, Switzerland*

ThOD am 9:50 **Mechanisms of Resonance Electron Capture by Neutral Peptides. Parallel with the ECD/ETD Mechanisms**; Yury V. Vasil'ev; Douglas F. Barofsky; Max L. Deinzer; *Oregon State University, Corvallis , OR*

ThOD am 10:10 **Reverse Electron Transfer Dissociation on Anionic Peptides Using Molecular Radical Cations**; Nicolas Polfer[1]; Malwina Huzarska[1]; Desmond Kaplan[2]; Michael Easterling[2]; *[1]University of Florida, Gainesville , FL; [2]Bruker Daltonics, inc., Billerica, MA*

8:30-10:30, THURSDAY MORNING
ADVANCES IN GLOBAL PHOSPHOPROTEIN ANALYSIS
Carol Nilsson, presiding
Exhibit Hall C

ThOE am 8:30 **Biological Insights from Quantitative Analysis of Phosphorylation-Mediated Signaling Networks**; Forest M White; *MIT, Cambridge , MA*

ThOE am 8:50 **Why Large-Scale Phosphoproteomic Analyses Benefit from the Joint Use of Collision and Electron-Based Fragmentation Methods**; Paul A. Grimsrud; Danielle L. Swaney; Craig D. Wenger; Desiree den Os; Michael R. Sussman; Jean-Michel M. Ane; Joshua J. Coon; *University of Wisconsin, Madison , WI*

ThOE am 9:10 **Large-Scale Proteomic Analyses Reveal that Aurora B is a Master Kinase Regulating the C-phase Cytoskeleton**; Nurhan Ozlu[3]; Flavio Monigatti[3]; Bernhard Renard[2]; Christine Field[1]; Hanno Steen[3]; Timothy Mitchison[1]; Judith Steen[3]; *[1]Harvard Medical School, Boston , MA; [2]University of Heidelberg, Heidelberg, Germany; [3]Harvard Medical School/Children's Hospital Boston, Boston, MA*

ThOE am 9:30 **Tyrosine Phosphorylation Signaling Network Analysis Reveals That Focal Adhesion Kinase is Important during Mouse Embryonic Stem Cell Differentiation**; Yu Lu[1]; Scott Ficarro[2]; Yi Zhang[2]; Manor Askenazi[3]; Jignesh Parikh[2]; Shaojuan Li[2]; C. John Luckey[4]; Jarrod Marto[1]; *[1]Dana-Farber Cancer Institute, Harvard Medical Scho, Boston , MA; [2]Dana-Farber Cancer Institute, Boston, MA; [3]Dana-Farber Cancer Institute and Hebrew University, Boston, MA; [4]Brigham Women's Hospital, Boston, MA*

ThOE am 9:50 **Analysis by Microfluidic LC-MS/MS with Integrated Phosphopeptide Enrichment Reveals Dynamic Human Milk Protein Phosphorylation during Lactation**; John W. Froehlich[1]; Ning Tang[2]; Keith Waddell[2]; Karsten Kraiczek[2]; Martin Vollmer[2]; Tom Van De Goor[2]; Rudolf Grimm[2]; Carlito B. Lebrilla[1]; *[1]University of California, Davis, CA; [2]Agilent Technologies, Santa Clara, CA*

ThOE am 10:10 ***In Vitro* and *In Vivo* Study of Phosphorylated Histidine Containing Peptides by Nano-ESI/nano-HPLC Tandem Mass Spectrometry**; Bryan M. Ham[1]; Feng Yang[2]; Samuel O. Purvine[2]; Rui Zhao[2]; Richard D. Smith[2]; Mary S. Lipton[2]; *[1]Customs & Border Protection, Newark , NJ; [2]Pacific Northwest National Laboratory, Richland, WA*

8:30-10:30, THURSDAY MORNING
NUCLEIC ACID MS
Jeehiun K. Lee, presiding
Room 103

ThOF am 8:30 **Probing the Effects of Sodium Cationization on the Structure and Stability of Nucleic Acids via IRMPD Action Spectroscopy and Theory**; Mary T. Rodgers[1]; B. Scott Fales[1]; Nathaniel O. Fujamade[1]; Nuwan Hallowita[1]; Yuan-wei Nei[1]; Jos Oomens[2]; Jeffrey Steill[2]; *[1]Wayne State University, Detroit , MI; [2]FOM Rijnhuizen, Nieuwegein, Netherlands*

ThOF am 8:50 **IR Spectroscopy of DNA Single Strands, Duplexes and I-Motif to Characterize their Gas Phase Structure;** Frederic Rosu[1]; Valerie

Gabelica[1]; Gilles Gregoire[2]; Charles Desfrancois[2]; Jean-Pierre Schermann[2]; Joel Lemaire[3]; Edwin De Pauw[4]; *[1]University of Liege, Liege , Belgium; [2]UMR 7538 CNRS, Université Paris 13, Paris, France; [3]Laboratoire de Chimie Physique, Orsay, France; [4]Liege University, Liege, Belgium*

ThOF am 9:30 **Determining RNA Modifications Using Fourier Transform Ion Cyclotron Resonance Mass Spectrometry (FT-ICR MS);** Stefan Weidt[1]; Angus Lamond[2]; Pat Langridge-smith[1]; C. Logan Mackay[1]; *[1]University of Edinburgh, Edinburgh , UK; [2]University of Dundee, Dundee, UK*

ThOF am 9:30 **Investigating Higher-Order Structure of Nucleic Acids by IRMPD in FTICR Mass Spectrometry**; Joshua Wilhide; Katherine Kellersberger; Daniele Fabris; *U. Maryland Baltimore County, Baltimore, MD*

ThOF am 9:50 **LC-MS/MS for Assessing the Formation and the Cytotoxic/Mutagenic Properties of the Thymidine Glycol/8-Oxo-2'-Deoxyguanosine Tandem Lesion**; Yong Jiang; Bifeng Yuan; Yuesong Wang; Yinsheng Wang; *University of California, Riverside, CA*

ThOF am 10:10 **Identifying LEF1 IRES Protein Complexes by Mass Spectrometry**; Becky Tsai; Xiaorong Wang; Lan Huang; Marian Waterman; *University of California, Irvine, CA*

8:30-10:30, THURSDAY MORNING
AEROSOL MS
Alla Zelenyuk, presiding
Room 113

ThOG am 8:30 **What Aerosol Mass Spectrometers Tell Us about the Air We Breathe**; Murray V. Johnston; *University of Delaware, Newark , DE*

ThOG am 8:50 **Detection of Aerosol Particles with a Quadrupole Ion Trap Mass Spectrometer**; G. Asher Newsome; Elias P. Rosen; Richard M. Kamens; Tomas Baer; Gary L. Glish; *University of North Carolina, Chapel Hill, NC*

ThOG am 9:10 **Reactive Uptake of Trimethylamine into Ammonium Nitrate Particles Using an IT-TOF Aerosol Mass Spectrometer**; Julie A. Lloyd[1]; Katherine J. Heaton[2]; Murray V. Johnston[3]; *[1]University of the Sciences in Philadelphia, Philadelphia , PA; [2]Phoenix S&T, Chester, PA; [3]University of Delaware, Newark, DE*

ThOG am 9:30 **Two-Step Laser Ionization TOF-Mass Spectrometry for Analysis of Intact Organic Molecules from Individual Aerosol Particles: Detection of Organic Aerosol-Source Tracers**; Matthias Bente[2]; Martin Sklorz[1]; Thorsten Streibel[1,2]; Ralf Zimmermann[1,2]; *[1]Universität Rostock, Rostock, Germany; [2]Helmholtz Zentrum München, Oberschleissheim, Germany*

ThOG am 9:50 **Nanoparticle Atomic Composition from NAMS Spectra**; Christopher A. Zordan; Murray V. Johnston; *University of Delaware, Newark , DE*

ThOG am 10:10 **Miniaturized MS-Based System for Rapid Detection and Identification of Chemical and Biological Warfare Agents and Toxic Industrial Chemicals**; Berk Oktem; Vadym D. Berkout; Andrey N. Vilkov; Thomas D. Saul; Appavu K. Sundaram; Seshu K. Gudlavalleti; Jane Razumovski; Chaminda M. Gamage; Eugene Moskovets; Robert M. Serino; Vladimir M. Doroshenko; *Science and Engineering Serv. Inc., Columbia , MD*

10:30 AM – 2:30 PM, THURSDAY
POSTER SESSION (See page 136)
Exhibit Hall AB

Authors of odd-numbered posters present 10:30 am – 12:15 pm.
Authors of even-numbered posters present 12:45 – 2:30 pm.
Please remove posters by 3:30 pm.

2:30-4:30, THURSDAY AFTERNOON
IMAGING APPLICATIONS WITH MS
Sarah Trimpin, presiding
Ballroom A

ThOA pm 2:30 **Capturing Complex Multi-Natural Product Discussions between Bacteria;** Pieter Dorrestein; *University of California, San Diego, Skaggs school, La Jolla , CA*

ThOA pm 2:50 **Tissue Preparation for the *in situ* MALDI MS Imaging of Proteins, Lipids, and Small Molecules at Cellular Resolution;** Nathalie Y. R. Agar[2]; Paul J. Kowalski[3]; John H. Wong[1]; Kristin J. Boggio[1]; Rebecca M. Lazarus[1]; Jeffrey N. Agar[1]; *[1]Brandeis University, Chemistry, Waltham , MA; [2]Harvard Medical School, Neurosurgery, Boston, MA; [3]Bruker Daltonics, Inc., Billerica, MA*

ThOA pm 3:10 **Total Solvent-Free Analysis Using Mass Spectrometry**; Sarah Trimpin[1]; Ellen D. Inutan[1]; Thushani N. Herath[1]; Emmanuelle Claude[2]; Charles N. Mcewen[3]; Ken Mackie[3]; Michael Walker[4]; *[1]Wayne State University, Detroit, MI; [2]Waters Cooperation, Manchester, UK; [3]Univ. of the Sciences in PA, Philadelphia, PA; [4]Indiana University, Bloomington, IN*

ThOA pm 3:30 **Novel "Tomography" Mass Spectrometry Tissue Imaging Method**; Corina Mayrhofer[1]; Alexander R. Zubarev[1]; Eva Fung[1]; Roman A. Zubarev[2]; *[1]Uppsala University, Uppsala , Sweden; [2]Karolinska Institute, Stockholm, Sweden*

ThOA pm 3:50 **Tissue-less Tissue Imaging: Molecular Printing Using Affinity-Enhanced Chromatographic Surfaces for MALDI TOF/TOF**; Mariana Rusa; Steve Roth; Matthew Hammond; Vanitha Thulasiraman; Enrique Dalmasso; Fiona Plows; *Bio-Rad Laboratories, Inc., Hercules, CA*

ThOA pm 4:10 **Tissue Imaging of Neuropeptides by MALDI Orbitrap MS;** Peter D. Verhaert[1]; Martijn Pinkse[1]; Maria C. Prieto Conaway[2]; *[1]Delft University of Technology, Delft , Netherlands; [2]Thermo Fisher Scientific, San Jose, CA*

2:30-4:30, THURSDAY AFTERNOON
ADME ANALYSIS BY LASER DESORPTION AND OTHER NEW MS TECHNIQUES
Mingshe Zhu, presiding
Ballroom B

ThOB pm 2:30 **Utility of MALDI-MS for ADME Studies**; Walter Korfmacher; *Schering-Plough, Kenilworth, NJ*

ThOB pm 2:50 **Validation and Application of a Method for Quantification of Antidepressants in Plasma Samples Using a MALDI-QqQ system**; Timothy Sangster[1]; Siew Mun Wan[1]; Robert Macneill[1]; Daniel Lebre[2]; Pauline J. Vollmerhaus[2]; Gary Impey[2]; *[1]HLS, East Millstone , NJ; [2]Applied Biosystems/MDS Analytical Technologies, Concord, ON, Canada*

ThOB pm 3:10 **Investigation of Individual Drug and Metabolite Whole-Body Distributions via**

Accurate Mass Imaging MALDI Mass Spectrometry; Sheerin Khatib-Shahidi[1]; Sucharita Dutta[2]; Yingying Huang[2]; Caroline Ding[2]; Maria C. Prieto Conaway[2]; Cornelis Hop[1]; Patrick J. Rudewicz[1]; *[1]Genentech, Inc., South San Francisco, CA; [2]Thermo Fisher Scientific, San Jose, CA*

ThOB pm 3:30 **High Throughput Profiling of Drug Metabolites Using Low Pressure LC/Orbitrap MS: An Alternative Approach to UPLC/MS**; Qian Ruan; Li Ma; Yuan-qing Xia; Mohammed Jemal; William Humphreys; Mingshe Zhu; *Bristol-Myers Squibb, Princeton, NJ*

ThOB pm 3:50 **Combined Multiple Survey Approach for Sulfate Metabolite Identification Studies Using a Hybrid Linear Ion Trap Triple Quadrupole Mass Analyzer**; Shaokun Pang[1]; Loren Olson[2]; Elliott Jones[2]; Rongda Xu[1]; Daniel B. Kassel[1]; *[1]Takeda San Diego, Inc., San Diego, CA; [2]Applied Biosystems, San Jose, CA*

ThOB pm 4:10 **Analysis of *in-vivo* Samples for Metabolite Identification with a Prototype QTof Mass Spectrometer with Enhanced Dynamic Range and Spectral Resolution**; Jose Castro-perez[1]; Kate Yu[1]; John P. Shockcor[1]; Henry Y. Shion[1]; Emma Marsden-edwards[2]; Jason L Wildgoose[2]; Martin Green[2]; John B Hoyes[2]; Alistair Wal; *[1]Waters Corporation, Milford , MA; [2]waters, Manchester, UK; [3]Showa University, Tokyo, Japan*

2:30-4:30, THURSDAY AFTERNOON
NEW DEVELOPMENTS IN IONIZATION
Gary J. Van Berkel, presiding
Room 201

ThOC pm 2:30 **Separations in a Single Droplet: Understanding Surface Effects in Electrospray Ionization**; Kaveh Jorabchi; Lloyd Smith; *University of Wisconsin, Madison , WI*

ThOC pm 2:50 **Charge-State Reduction of Synthetic Polymers by SEC-ESI-MS with Postcolumn Addition of Ionic Surfactants**; Andreas Nasioudis[1]; William F. Joyce[2]; Jan W. van Velde[1]; Oscar F. van den Brink[1]; *[1]AkzoNobel Research, Development & Innovation, Arnhem , Netherlands; [2]AkzoNobel Surface Chemistry LLC, Brewster, NY*

ThOC pm 3:10 **New Reagents for ESI "Supercharging" of Noncovalent Protein Complexes and Denatured Proteins**; Rachel O. Loo; Shirley Lomeli; Sheng Yin; Joseph A. Loo; *UCLA, Los Angeles , CA*

ThOC pm 3:30 **A Simple Method for the Determination of Electrospray Response Factors of Non-Covalent Complexes: Application to DNA G-Quadruplex Binding and Self-Assembly**; Valerie Gabelica[1]; Jussara Amato[2]; Giorgia Oliviero[2]; Frederic Rosu[1]; Edwin De Pauw[1]; *[1]University of Liege, Liège , Belgium; [2]University Federico II, Napoli, Italy*

ThOC pm 3:50 **AC Electrospray: A New Soft Ionization Technique for Mass Spectrometry**; Nishant Chetwani; David Go; Hsueh-Chia Chang; *University of Notre Dame, Notre Dame , IN*

ThOC pm 4:10 **Positron Ionization Mass Spectrometry of Biomolecules**; Panagiotis G Papoulias[1]; Alan Sebastian[4]; Eugene Surdutovich[3]; Kristina Hakansson[2]; Walter E Kauppila[4]; Philip Andrews[2]; *[1]National Resource For Proteo, Ann Arbor , MI; [2]University of Michigan, Ann Arbor, MI; [3]Oakland University, Rochester, MI; [4]Wayne State Universtity, Detroit, MI*

2:30-4:30, THURSDAY AFTERNOON
ETD/ECD/EDD APPLICATIONS
Beatrix Ueberheide, presiding
Room 204

ThOD pm 2:30 **Ion/Ion and Ion/Electron Dissociation Methods: Characteristics and Instrumentation**; John E. P. Syka[1]; James L. Stephenson[2]; *[1]Thermo Fisher Scientific, Charlottesville , VA; [2]Research Triangle Institute, Research Triangle Park, NC*

ThOD pm 2:50 **Reverse Electron Transfer Dissociation (rETD) of Glycosaminoglycan Negative Ions**; Jeremy Wolff[2]; Franklin E. Leach III[1]; Tatiana Laremore[3]; Robert J. Linhardt[3]; Desmond Kaplan[2]; Michael Easterling[2]; Jon Amster[1]; *[1]University of Georgia, Athens , GA; [2]Bruker Daltonics, Billerica, MA; [3]Rensselaer Polytechnic Institute, Troy, NY*

ThOD pm 3:10 **ETD and the Combinatorial Epigenetic Histone Code: High-Throughput Hyper-Modified Peptide Analysis with Novel On-Line LC-MS Coupled to Electron Transfer Dissociation**; Nicolas L. Young; Peter A. DiMaggio; Mariana D. Plazas-Mayorca; Richard C. Baliban; Christodoulos A. Floudas; Benjamin A. Garcia; *Princeton University, Princeton, NJ*

ThOD pm 3:30 **Sequencing of Bis-Arylhydrazone Cross-Linked Peptides by Electron Transfer Dissociation to Assess Protein-Protein Interactions**; Myles Gardner[12]; Jennifer Brodbelt[12]; *[1]The University of Texas, Austin, TX; [2]The University of Texas, Austin, TX*

ThOD pm 3:50 **Electron Capture Dissociation *de novo* Sequencing by C- and Z- Terminal Fragment Discrimination Using Neutral-Radical Reaction**; Takashi Baba[1,2]; Travis Greene[1]; Gary L. Glish[1]; *[1]University of North Carolina, Chapel Hill, NC; [2]Hitachi Ltd., Tokyo, Japan*

ThOD pm 4:10 **The Yeast Proteome Revealed by Electron Transfer Dissociation and a Multiple Protease-Based Shotgun Approach**; Danielle L. Swaney; Joshua J. Coon; *Univerisity of Wisconsin, Madison , WI*

2:30-4:30, THURSDAY AFTERNOON
CHARACTERIZING PTMs
Sonja Hess, presiding
Exhibit Hall C

ThOE pm 2:30 **Characterization of AMPylation on Threonine, Serine, and Tyrosine Using Tandem Mass Spectrometry**; Yan Li; Rowaida Al-Eryani; Haydn L. Ball; *UTSW, Dallas , TX*

ThOE pm 2:50 **Quantification of Histone Modifications upon Suz12 Deletion in Embryonic Stem Cells by High Mass Accuracy LTQ-CID/ETD-Orbitrap Mass Spectrometry**; Hye Ryung Jung[1]; Diego Pasini[2]; Marco Ruijken[3]; Linda Olsson[2]; Kristian Helin[2]; Ole N. Jensen[1]; *[1]University of Southern Denmark, Odense, Denmark; [2]Biotech Research and Innovation Centre (BRIC), Copenhagen, Denmark; [3]MsMetrix, Maarssen, The Netherlands*

ThOE pm 3:10 **Selected Reaction Monitoring (SRM) of Ubiquitin Isopeptide Linkages in Neurodegenerative Disease**; Eric Dammer[1]; Nicholas Seyfried[1]; Ping Xu[1]; Yair M. Gozal[2,3]; Marla Gearing[2]; James J. Lah[2,4]; Allan I. Levey[2,4];

Junmin Peng[1,2]; *[1]Emory University Department of Human Genetics, Atlanta, GA; [2]Center for Neurodegenerative Disease, Atlanta, GA; [3]Graduate Program in Neuroscience, Atlanta, GA; [4]Department of Neurology, Atlanta, GA*

ThOE pm 3:30 **Glycation Isotopic Labelling with 13C6-Reducing Sugars for Quantitative Analysis of Glycated Proteins**; Feliciano Priego-Capote[1]; Alexander Scherl[1]; Yohann Couté[2]; Jean-charles Sanchez[3]; *[1]University of Geneva, Geneva , Switzerland; [2]Biomedical Proteomics Group, Structural Biology an, Geneva, Switzerland; [3]Geneva University, Geneva, Switzerland*

ThOE pm 3:50 **Characterization of *Mycobacterium Tuberculosis* Membrane and Surface Exposed Proteins by Liquid Chromatography Mass Spectrometry-Based Proteomics Techniques**; Christina Bell[1,2]; Mike Sweredoski[1]; Sonja Hess[1]; *[1]Caltech, Pasadena, CA; [2]Johannes Gutenberg-Universität, Mainz, Germany*

ThOE pm 4:10 **Revealing the Unexpected with Multi-Species Comparative Proteomics**; Dumitru Brinza[1]; Mary S. Lipton[2]; Kim K. Hixson[2]; Richard D. Smith[2]; Pavel Pevzner[1]; Nuno Bandeira[3]; *[1]University of California, San Diego, La Jolla , CA; [2]PNNL / Battelle Northwest, Richland, WA; [3]Center for Computational Mass Spectrometry, UCSD, La Jolla, CA*

2:30-4:30, THURSDAY AFTERNOON
MINIATURIZATION OF THE MASS SPECTROMETER
Zheng Ouyang, presiding
Room 103

ThOF pm 2:30 **Miniature Mass Spectrometers: Overview**; R. Graham Cooks; Jason Harper; Nicholas Charipar; Guangming Huang; Liang Gao; Robert J. Noll; Zheng Ouyang; *Purdue University, West Lafayette , IN*

ThOF pm 2:50 **Planar Electrode Ion Traps**; Daniel Austin; Zhiping Zhang; Ying Peng; Brett Hansen; Miao Wang; Milton Lee; Aaron Hawkins; *Brigham Young University, Provo , UT*

ThOF pm 3:10 **Fundamentals of Miniature Quadrupole Mass Filters**; Stephen Taylor[1]; Boris Brkic[1]; Adam Clare[1]; Thomas J Hogan[1]; Neil France[2]; *[1]University of Liverpool, Liverpool, UK; [2]Q-Technologies Ltd, Liverpool, UK*

ThOF pm 3:30 ***In situ* Mass Spectrometry for Marine Applications: Present and Future**; Tim Short[1]; Ryan J. Bell[1,2]; Ashish Chaudhary[1,2]; Friso H. W. Van Amerom[1]; Strawn K. Toler[1]; *[1]SRI International, St Petersburg , FL; [2]University of South Florida, St Petersburg, FL*

ThOF pm 3:50 **Advances in Hand-Portable Gas Chromatography-Toriodal Ion Trap Mass Spectrometry**; Milton L. Lee; *Brigham Young University, Provo , UT*

ThOF pm 4:10 **Development, Characterization and Optimization of a Multiple Source Rectilinear Ion Trap Miniature Mass Spectrometers**; Liang Gao; Jason Harper; Guangming Huang; Sameer Kothari; Nathan Sanders; R. Graham cooks; Zheng Ouyang; *Purdue University, West Lafayette , IN*

2:30-4:30, THURSDAY AFTERNOON
MS AND NANO-SCIENCE/NANO-TECHNOLOGY
Gary Siuzdak, presiding
Room 113

ThOG pm 2:30 **Nanostructure-Initiator Mass Spectrometry (NIMS) Imaging: Direct Analysis of Endogenous and Exogenous Metabolites in Tissues**; Hin-koon Woo; Oscar Yanes; Gary J Patti; Wilasinee Uritboonthai; Junefredo Apon; Gary Siuzdak; *The Scripps Research Institute, La Jolla , CA*

ThOG pm 2:50 **Field Enhanced Optimization of MALDI-TOF-MS Sample Preparation for Peptides Analysis Using Induction Based Fluidics (IBF)**; Julie Harmon; Paul Tate; Kevin J Clifford; Ted Gauthier; *University of South Florida, Tampa , FL*

ThOG pm 3:10 **Microfluidic-Based NanoLC/QQQ for High-Sensitivity Quantification of Pharmaceutical Molecules in Small Volumes of Whole Blood**; Stephan Buckenmaier; Lukas Trojer; *Agilent Technologies, Waldbronn, Germany*

ThOG pm 3:30 **Characterization of Free-Standing Nano-Objects Using Single Impact Cluster-SIMS**; Veronica Pinnick[1]; Stanislav Verkhoturov[1]; Leonid Kaledin[2]; Emile A. Schweikert[1]; *[1]Texas A&M University, College Station , TX; [2]Argonide Corporation, Sanford, FL*

ThOG pm 3:50 **Quantitative Proteomic Analysis of Mouse Lymph Nodes Exposed to Titanium Dioxide Nanoparticles**; Yuan Gao; Neera V. Gopee; Ricky D. Holland; Paul C. Howard; Li-Rong Yu; *National Center for Toxicological Research/FDA, Jefferson, AR*

ThOG pm 4:10 **Multiplexed Tracking of Functionalized Gold Nanoparticles in Biological Systems Using Laser Desorption/Ionization Mass Spectrometry (LDI-MS)**; Zhengjiang Zhu; Oscar R. Miranda; Vincent M. Rotello; Richard Vachet; *University of Massachusetts Amherst, Amherst , MA*

4:45 –5:30 PM, THURSDAY
PLENARY LECTURE
Scott A. McLuckey, presiding
Exhibit Hall C

Fostering Creativity

Richard N. Zare, *Stanford University*

Posters must be set up 8:00 - 8:30 am on the day scheduled and removed 7:30 to 8:00 pm. Authors of odd numbered posters (001, 003, 005, etc.) are required to be present 10:30 – 12:30. Authors of even numbered posters (002, 004, 006, etc.) must be present 12:30 – 2:30 pm.

SPECIAL POSTERS, displayed all week

Special **Commercialization of Mass Spectrometry**; Michael A. Grayson; *Retired, St Charles, MO*

Special **Significant Improvements to the PSI Mass Spectrometer Data File Standard: mzML 1.1**; Matthew Chambers[2]; Lennart Martens[1]; Marc Sturm[3]; Darren Kessner[4]; Fredrik Levander[5]; Jim Shofstahl[6]; Wilfred Tang[7]; Angel D. Pizarro[8]; Luisa Montecchi-Palazzi[1]; Natalie Tasman[9]; Mike Coleman[10]; Puneet Souda[11]; Henning Hermjakob[1]; Pierre-alain Binz[12]; Eric Deutsch[9]; *[1]EMBL-EBI Wellcome Trust Genome Campus, Hinxton, UK; [2]Vanderbilt University, Nashville, TN; [3]Eberhard Karls University, Tuebingen, Germany; [4]Cedars-Sinai Center for Applied Proteomics, Los Angeles, CA; [5]Lund University, Lund, Sweden; [6]Thermo Fisher Scientific, San Jose, CA; [7]Applied Biosystems, Foster City, CA; [8]University of Pennsylvania, Philadelphia, PA; [9]Institute for Systems Biology, Seattle, WA; [10]Stowers Institute, Kansas City, MO; [11]UCLA, Los Angeles, CA; [12]Genebio -Geneva Bioinformatics, Geneva, Switzerland*

Special **PSI Transitions Markup Language (TraML) for Exchange of Selected Reaction Monitoring Transition Lists**; Eric Deutsch[1]; Matthew Chambers[2]; Lennart Martens[3]; Brendan Maclean[4]; Jim Shofstahl[5]; Darren Kessner[6]; Fredrik Levander[7]; Pierre-Alain Binz[8]; Ruedi Aebersold[1,9]; Mi-Youn Brusniak[10]; *[1]Institute for Systems Biolog, Seattle, WA; [2]Vanderbilt University, Nashville, TN; [3]European Bioinformatics Institute, Hinxton, UK; [4]University of Washington, Seattle, WA; [5]Thermo Fisher Scientific, San Jose, CA; [6]Cedars-Sinai Center for A, Los Angeles, CA; [7]Lund University, Lund, Sweden; [8]Genebio -Geneva Bioinformatics, Geneva, Switzerland; [9]Swiss Federal Institute of Technology, Zurich, Switzerland; [10]Institute for Systems Bio, Seattle, WA*

Special **Teaching the Masses. Development of a Mass Spectrometry Tutorial for the Biomedical Researcher**; James A. Kelley[1]; Josip Blonder[2]; Terry L. Sumpter[2]; Timothy D. Veenstra[2]; Lawrence R. Phillips[1]; *[1]National Institutes of Health, Frederick, MD; [2]SAIC-Frederick, Inc., Frederick, MD*

Special ABRF 1 (Mon-Tues) **PRG 2009 Study: Relative Protein Quantification in a Clinical Matrix**; Michael J. Maccoss[2]; Allis S. Chien[1]; David B. Friedman[3]; David Hawke[4]; Jeroen Krijgsveld[5]; Kathryn S. Lilley[6]; Robert E. Settlage[7]; Nicholas E. Sherman[8]; Chris Turck[9]; *[1]Stanford University, Stanford, CA; [2]University of Washington, Seattle, WA; [3]Vanderbilt University School of Medicine, Nashville, TN; [4]UT- M.D. Anderson Cancer Center, Houston, TX; [5]EMBL, Gene Expression Unit, Heidelberg, Germany; [6]University of Cambridge, Cambridge, UK; [7]Virginia Bioinformatics Institute, Blacksburg, VA; [8]University of Virginia, Charlottesville, VA; [9]Max Planck Institute, Munich, Germany*

Special ABRF 2 (Wed-Thurs) **PRG2009 Study: Evaluation of a Quantitative Proteomics Standards by Proteomics Laboratories**; James Farmar[1]; David Arnott[2]; Alexander R. Ivanov[3]; Jeffrey A. Kowalak[4]; William S. Lane[5]; Karl Mechtler[6]; Brett Phinney[7]; Manfred R. Raida[8]; Susan T. Weintraub[9]; *[1]Einstein College of Medicine, Tarrytown, NY; [2]Genentech, Inc., S. San Francisco, CA; [3]Harvard University HSPH, Boston, MA; [4]NIH, Bethesda, MD; [5]Harvard University, Cambridge, MA; [6]IMP Research Institute of Mo, Vienna, Austria; [7]Univeristy of CA, Davis, Davis, CA; [8]Experimental Therapeutics Ce, Singapore, Singapore; [9]University of Texas HSC, San Antonio, TX*

Special 18th IMSC, 2009 Breman, Germany

PROTEOMICS: QUANTITATION TECHNIQUES, 001-032

MP 001 **Towards Robust Quantitative MRM Plasma Analysis Using Nanobore Liquid Chromatography through Improved Nanoelectrospray Performance**; Susan E. Abbatiello[1]; Amanda Berg[2]; Gary Valaskovic[2]; Steven A. Carr[1]; *[1]Broad Institute, Cambridge, MA; [2]New Objective, Inc., Woburn, MA*

MP 002 **Withdrawn**

MP 003 **CaptiveSpray: A New Ionization Technique to Maximizing Speed, Sensitivity, Resolution and Robustness for LCMS Protein Biomarker Quantitation**; Kerry Nugent[1]; Yixin Zhu[1]; Peter Kent[1]; Brett Phinney[2]; Rudy Alvarado[2]; *[1]Michrom Bioresources, Inc., Auburn, CA; [2]Univeristy of CA, Davis, Davis, CA*

MP 004 **Detection and Quantitation of Active Ricin in Food**; Sara C. Mcgrath[1]; David M. Schieltz[1]; Lisa G. Mcwilliams[2]; John R. Barr[1]; *[1]Centers for Disease Control and Prevention, Atlanta, GA; [2]Battelle, Atlanta, GA*

MP 005 **Analyzing More Than 8-Samples with iTRAQ – Exploring the Changes in the Human Serum Proteome during Pregnancy**; Marjan Gucek[1]; Peter Scholl[2,3]; Ingo Ruczinski[2]; John D. Groopman[2]; Keith P. West[2]; Robert N. Cole[1]; *[1]Johns Hopkins School of Medicine, Baltimore, MD; [2]Bloomberg School of Public*

Health, Johns Hopkins, Baltimore, MD; [3]US FDA, College Park, MD

MP 006 **Assessing the Quantitative Dynamic Range of 8-Plex iTRAQ Proteomics Reagents in Simple and Complex Mixture of Proteins**; Saw Yen Ow; Malinda Salim; Josselin Noirel; Phillip C Wright; *The University of Sheffield, Sheffield, UK*

MP 007 **Improved iTRAQ & TMT Quantification on an LTQ Orbitrap Equipped with a New Type of HCD Fragmentation Cell**; Peter Pichler[1]; Thomas Köcher[2]; Johann Holzmann[2]; Michael Schutzbier[2]; Goran Mitulovic[3]; Thomas Moehring[4]; Karl Mechtler[2]; Gustav Ammerer[1,5]; *[1]Christian Doppler Laboratory for Proteome Analysis, Vienna, Austria; [2]IMP, Vienna, Austria; [3]IMBA Inst. of Mol. Biotech., Vienna, Austria; [4]Thermo Fisher Scientific, Bremen, Germany; [5]University of Vienna, Vienna, Austria*

MP 008 **Quantitative Proteomic Analysis and Genome Annotation of *Candida albicans* and *Candida glabrata***; Keshava T.S. Prasad[1]; Kumaran Kandasamy[1,2]; Santosh Renuse[1]; Harsh Pawar[1]; Arivusudar Marimuthu[1]; Raghothama Chaerkady[1,2]; Pradip Kumar Acharya[1]; Akhilesh Pandey[2]; *[1]Institute of Bioinformatics,, Bangalore, India; [2]Johns Hopkins University, Baltimore, MD*

MP 009 **Cross-Sample Analysis of MRM-Based Plasma Protein Expression Measurements Key Component of Developing High Quality MRM Assays**; Sean L. Seymour[1]; Leigh Anderson[2]; Christie L Hunter[1]; *[1]Applied Biosystems, Foster City, CA; [2]Plasma Proteome Institute, Washington, DC*

MP 010 **Generating Neuropeptide Standard Curve in a Single LC-MS Run by N, N-Dimethyl Amino Acids Tandem Mass Tags**; Feng Xiang; Junhua Wang; Lingjun Li; *University of Wisconsin, Madison, WI*

MP 011 **Automated Solid Phase Sequential Isotope Labeling for Protein Quantitation**; Reinout Raijmakers[1,2]; Paul J. Boersema[1,2]; Shabaz Mohammed[1,2]; Albert J.R. Heck[1,2]; *[1]Utrecht University, Utrecht, Netherlands; [2]Netherlands Proteomics Centre, Utrecht, Netherlands*

MP 012 **A Low Cost, Automated Chemical Derivatization Technique for Relative Proteome Quantification**; Andy Lo; Joel H. Weiner; Liang Li; *University of Alberta, Edmonton, Canada*

MP 013 **A New Technique: Double-Stable-Isotope-Coding (DSIC) for Quantitative Proteomics**; Hong Wang; Chee-Hong Wong; Alice Chin; Jacob Kennedy; Qing Zhang; Samir Hanash; *PHS, Fred Hutchinson Cancer, Seattle, WA*

MP 014 **Targeting and Quantifying the Hydrophobic Peptidome Fraction by High Resolution Multiple Selected Reaction Monitoring (H-mSRM)**; Diana Klingler[2]; Peter Sonderegger[2]; Endre Laczko[1]; *[1]Functional Genomics Center ETHZ UHZ, Zurich, Switzerland; [2]Institute of Biochemistry UZH, Zurich, Switzerland*

MP 015 **Transfer of Optimized Acquisition Parameters between Mass Analyzer Types for Improved Protein Identification and Quantification**; Christine Miller; David Horn; Shripad Torvi; Ning Tang; Keith Waddell; *Agilent Technologies, Santa Clara, CA*

MP 016 **Using High Mass Accuracy to Quantify Targeted Proteins**; Amol Prakash[1]; Gene Ciccimaro[2]; Scott Peterman[2]; Taha Rezai[1]; Bryan Krastins[1]; David Sarracino[1]; Mary F Lopez[1]; *[1]ThermoFisher Scientific, Cambridge, MA; [2]Thermo Fisher, New Jersey, NJ*

MP 017 **Evaluating the Performance Factors of a Targeted Label-Free Protein Quantitation Approach on an Ultra-High Resolution API-Qq-TOF**; Wolfgang Jabs; Markus Lubeck; Marina Behrens; Carsten Baessmann; *Bruker Daltonik GmbH, 28359 Bremen, Germany*

MP 018 **Data-Independent Tandem Mass Spectrometry Acquisition for Label-Free Peptide/Protein Quantification**; Alexander Scherl[1]; Jean-charles Sanchez[1]; Judith Nicholson[2]; Ted Hupp[2]; *[1]University of Geneva, Geneva, Switzerland; [2]University of Edinburgh, Edinburgh, UK*

MP 019 **Accurate Label-Free Quantitation of Proteins by UPLC/MSE Using Replicates**; Chong-Feng Xu; Thomas A. Neubert; *NYU Langone Medical Center, New York, NY*

MP 020 **Unexpected Decrease of Internal Standard Signals in Quantitative MALDI-TOF Mass Spectrometry**; Norman H.L. Chiu; Walter B. Wilson; *University of North Carolina at Greensboro, Greensboro, NC*

MP 021 **Evaluation of Label-Free Relative Protein Quantification by Protein Standard Mixtures**; Andrej Vasilj[1]; Andrej Shevchenko[2]; Marc Gentzel[3]; *[1]MPI-Cell Biology and Genetic, Dresden, Germany; [2]MP of Mol Cell Biology, Dresden, Germany; [3]MPI-CBG, Dresden, Germany*

MP 022 **Detection and Quantification of a Novel Plant Pathogen Defense Protein Mannitol Dehydrogenase from LC/MS^{E} Datasets**; Kevin Blackburn; Fang-yi Cheng; John D. Williamson; Michael B. Goshe; *NC State University, Raleigh, NC*

MP 023 **A Label-Free Quantitation Strategy for Personalized Membrane Proteomics Signature in Colorectal Cancer**; Chien-peng Wu[1]; Chia-li Han[1]; Chia-feng Tsai[1]; Chih-wei Chien[2]; Pei-yi Lin[1]; Guei-tian Chen[3]; Err-cheng Chan[3]; Jinn-shiun Chen[4]; Jao-song Yu[3]; Yu-ju Chen[1]; *[1]Institute of Chemistry, Academia Sinica, Taipei, Taiwan; [2]National Tsing Hua University, Hsin Chu, Taiwan; [3]Chang Gung University, Tao Yuan, Taiwan; [4]Chang Gung Memorial Hospital, Tao Yuan, Taiwan*

MP 024 **BDNF-Induced Changes in the Expression of the Translation Machinery In Hippocampal Neurons: Protein Levels and Dendritic mRNA**; Bruno Manadas[1]; Ana Santos[1]; Krisztina Szabadfi[1]; João Gomes[1]; Spiros D. Garbis[2]; Michael Fountoulakis[2]; Carlos B Duarte[1]; *[1]Center for Neuroscience and Cell Biology, Cantanhede, Portugal; [2]B.R.F.A.A., Athens, Greece*

MP 025 **Data-Independent Relative Quantification of Salt Stress-Induced Membrane Protein Abundance Changes in *Arabidopsis thaliana* Using Label-Free GeLC/MS^{E}.**; Uma Kota; Kevin Blackburn; Steven D. Clouse; Michael B. Goshe; *North Carolina State University, Raleigh, NC*

MP 026 **A Rapid Label-Free Proteomics Survey of Immortalization in Cultured Human Breast Epithelial Cells**; Rui Miguel Mamede Branca; Virginia Pearce; Laszlo Prokai; *University of North Texas Health Science Center, Fort Worth, TX*

MP 027 **Development of Robust Label-Free Proteomics for Determination of Changes in UV Induced DNA Damage.**; Bei Zhao; George F. Heine; Jeffrey D. Parvin; Michael A. Freitas; *Ohio State Univ., Columbus, OH*

Posters must be set up 8:00 - 8:30 am on the day scheduled and removed 7:30 to 8:00 pm. Authors of odd numbered posters (001, 003, 005, etc.) are required to be present 10:30 – 12:30. Authors of even numbered posters (002, 004, 006, etc.) must be present 12:30 – 2:30 pm.

MP 028 **Withdrawn**

MP 029 **Validation of RNAi Protein Knockdown Using Targeted Proteomics**; Daniela Tomazela; Gennifer Merrihew; Geoff Findlay; Veronika Glukhova; Frances Mao; Willie Swanson; Ray Monnat Jr; Michael J. Maccoss; *University of Washington, Seattle, WA*

MP 030 **Monitoring Proteomes of Transgenic Peanuts Engineered for Reduced Allergen Content by Using Linear Trap Quadrupole and Triple Quadrupole Mass Spectrometry**; Severin E. Stevenson[1]; Ye Chu[2]; Peggy Ozias-Akins[2]; Jay J. Thelen[1]; *[1]UM Biochem-Proteomics, Columbia, MO; [2]University of Georgia-Tifton, Tifton, GA*

MP 031 **Withdrawn**

MP 032 **Identification of Biomarkers for Diabetic Retinopathy by Multiple Reaction Monitoring**; Kyunggon Kim[1]; Jiyoung Yu[1]; Kyong Soo Park[2]; Hyeong Gon Yu[3]; In-Jin Jang[4]; Youngsoo Kim[1]; *[1]Dept. of Biomedical Sciences, College of Medicine, Seoul Nat'l Univ, Seoul, South Korea; [2]Dept. of Internal Medicine, College of Medicine, Seoul Nat'l Univ, Seoul, South Korea; [3]Dept. of Ophthalmology, College of Medicine, Seoul Nat'l Univ, Seoul, South Korea; [4]Dept. of Pharmacology, College of Medicine, Seoul Nat'l Univ, Seoul, South Korea*

BIOINFORMATICS: QUANTITATION, 033 - 065

MP 033 **Quantitative Analysis Methods in Proteomics**; Ashoka D. Polpitiya; Weijun Qian; Vladislav A Petyuk; Gordon Anderson; Richard D. Smith; *Pacific Northwest National Lab, Richland, WA*

MP 034 **Automatic Computational Protein Co-Regulation Screening for Quantitative Mass Spectrometry Experiments**; Marc Kirchner[1,2]; Bernhard Y Renard[2,3]; Ullrich Koethe[2]; Judith AJ Steen[1]; Hanno Steen[1]; Fred A Hamprecht[2,3]; *[1]Harvard Medical School / Children's Hospital, Boston, MA; [2]University of Heidelberg, Heidelberg, Germany; [3]Children's Hospital Boston, Boston, MA*

MP 035 **Shared Peptides in Mass Spectrometry Based Protein Quantification**; Banu Dost[1]; Nuno Bandeira[2]; Vineet Bafna[3]; *[1]University of California, San Diego, La Jolla, CA; [2]University of California,, La Jolla, CA; [3]Univ. Cal. San Diego, San Diego, CA*

MP 036 **Identifying and Quantifying Isoforms and Homologues**; Johannes PC Vissers[1]; Richard R Sprenger[2]; Lennart Martens[3]; Scott Geromanos[1]; Jim Langridge[1]; *[1]Waters Corporation, Manchester, UK; [2]Department of Medical Biochemistry, AMC, Amsterdam, Netherlands; [3]EMBL European Bioinformatics Institute, Hinxton, UK*

MP 037 **Automated, XIC Based Protein Quantitation of Comparative Low-Resolution 2D/LC Shotgun Experiments within the Elucidator System.**; Eberhard Durr[1]; Peter Askovich[2]; Lori C Stansberry[1]; Mark A Miller[1]; Loren D Schultz[1]; Joseph G Joyce[1]; *[1]Merck & Co, West Point, PA; [2]2 Rosetta Biosoftware, Seattle, WA*

MP 038 **Mathematical Modelling of Dynamic Exclusion to Optimize Protein and Spectral Counts in MudPIT**; Ying Zhang; Zhihui Wen; Laurence Florens; Michael Washburn; *Stowers Institute for Medical Research, Kansas City, MO*

MP 039 **Algorithms for Label-Free Protein Quantification Across Hundreds of LC-MS Data Sets**; Zia Khan; Joshua Bloom; Benjamin Garcia; Mona Singh; Leonid Kruglyak; *Princeton University, Princeton, NJ*

MP 040 **Assessing Reproducibility of Label-Free Proteomics Platforms Using a Large Rat Sera Study: A Comparison of Microspray and Nanospray**; Xiaofeng Guo[1]; Vasant Marur[1]; Neil Russell[1]; Matthew J Sniatynski[1]; Michael Anthanas[2]; Bruce Kristal[1,3]; *[1]Brigham and Women's Hospital, Boston, MA; [2]VAST Scientific, Cambridge, MA; [3]Harvard Medical School, Boston, MA*

MP 041 **Evaluation of Label Free Differential Mass Spectrometry to Detect Low Level Proteins in Unfractionated Complex Mixture**; Sheeno Thyparambil; Shweta S Chavan; Veronica MacLeod; Rick Edmondson; *Univ Arkansas Med Sci., Little Rock, AR*

MP 042 **Peptide Normalization Increases Sensitivity of Label-Free Quantification of Proteins**; Richard LeDuc; Jeffery Hiken; Henry W. Rohrs; Monica Bessler; R. Reid Townsend; *Washington University, St. Louis, MO*

MP 043 **New Algorithm for Label-Free Protein Quantification**; Weiwu Chen[1]; Baozhen Shan[1]; Eric Bonneil[2]; Janine Voyer[1]; Gilles Lajoie[3]; Pierre Thibault[2]; Bin Ma[4]; *[1]Bioinformatics Solutions Inc., Waterloo, ON; [2]Univ.of Montreal, Montreal, QC; [3]University ofWestern Ontario, London, ON; [4]University of Waterloo, Waterloo, Canada*

MP 044 **Novel Label-Free Quantitation Algorithms to Analyze Large Numbers of Proteome/Metabolome Samples**; Ken Aoshima[1,2]; Satoshi Tanaka[1,2]; Tatsuji Nakamura[1,2]; Hideki Watanabe[1]; Khin Than Myint[1,2]; Junro Kuromitsu[1]; Yoshiya Oda[1,2]; *[1]Eisai Co., Ltd, Ibaraki, Japan; [2]CREST, Saitama, Japan*

MP 045 **Evaluation of Relative Quantitation in Proteomics with Label-Free Methods**; Bernd Roschitzki[1,2]; Bertan Gerrits[2]; Christian Panse[2,]; Jonas Grossmann[2,]; Simon Barkow-Oesterreicher[2,]; Ralph Schlapbach[2]; *[1]University of Zurich, Zurich, Switzerland; [2]ETH Zurich FGCZ, Zurich, Switzerland*

MP 046 **Label Free Proteomics: Utilizing the Computational Proteomic Analysis System for Relative Protein Quantitation**; Lewis C Jackson; Mark Lovell; Bert C. Lynn; *University of Kentucky, Lexington, KY*

MP 047 **Identification Of Mosquito Salivary Gland Proteins and Determination of Parasite Infection**; Marcus Macht[1]; Aditya P. Dash[2]; Hebeler Romano[1]; Arun Sharma[2]; *[1]Bruker Daltonics GmbH, Bremen, Germany; [2]National Institute for Malaria Research, New Delhi, India*

MP 048 **Label-Free Differential Analysis: An Iterative Approach to Increased Coverage, Improved Statistics and Results**; Michael Athanas[1]; Michael J. Maccoss[2]; Amol Prakash[3]; Lukas Kall[2]; Daniela Tomazela[2]; Brendan Maclean[2]; Taha Rezai[3]; Bryan Krastins[3]; David Sarracino[3]; Scott Peterman[4]; Mary F Lopez[3]; *[1]VAST Scientific, Cambridge, MA; [2]University of Washington, Seattle, WA; [3]ThermoFisher Scientific, Cambridge, MA; [4]ThermoFisher Scientific, Somerset, NJ*

MP 049 **Comparative Analysis of Paired Samples from Distinct Proteomics Mixtures Using CRAWDAD**; Eric Rynes[1]; Greg L. Finney[1]; Daniela Tomazela[1]; F. Sessions Cole[2]; Aaron Hamvas[2]; Michael J. MacCoss[1]; *[1]Dept. of Genome Sciences, University of Washington,*

Seattle, WA; [2]Dept. of Pediatrics, Washington University, St. Louis, MO

MP 050 **Utilization of High-Accuracy FTICR-MS Data in Protein Quantitation Experiments**; Martin Strohalm[1,2]; Petr Novak[1]; Petr Pompach[1]; Petr Man[1]; Daniel Kavan[1]; Matthias Witt[3]; Pert Dzubak[4]; Marian Hajduch[4]; Vladimir Havlicek[1,4]; *[1]Institute of Microbiology, Prague, Czech Republic; [2]Institute of Chemical Technology, Prague, Czech Republic; [3]Bruker Daltonik GmbH, Bremen, Germany; [4]Palacky University, Olomouc, Czech Republic*

MP 051 **MassComp-Q: A Comprehensive Quantitation Software Tool for Stable Isotope Labeling and Label-Free Quantitative Proteomics**; Chih-Chiang Tsou; Ting-Yi Sung; Wen-Lian Hsu; *Institute of Information Science, Academia Sinica, Taipei, Taiwan*

MP 052 **A Computational Method for Improved Quantitation Accuracy of Differentially 18O/16O Labeled Peptides Exhibiting Variable Rate of 18O Incorporation**; Xiaoying Ye[1]; Brian Luke[1]; Donald Johann[2]; Thorkell Andresson[1]; Timothy D. Veenstra[1]; Josip Blonder[1]; *[1]SAIC-Frederick Inc., Frederick, MD; [2]NIH, Bethesda, MD*

MP 053 **Quantitative Approach to Proteome Analysis of Human Body Fluids Based on AMT Tags and Isotopic Labeling**; Igor Popov[1,2]; Ilya A Agron[2,3]; Alexey Kononikhin[2]; Dmitry Avtonomov[2,3]; Oxana Trifonova[4]; Irina Larina[4]; Eugene Nikolaev[1,2]; *[1]Institute for Energy Problems of Chemical Physics, Moscow, Russia; [2]Emanuel Institute of Biochemical Physics RAS, Moscow, Russia; [3]Ins. for Biomedical Chem. Rus. Acad. Med.Sciences, Moscow, Russia; [4]Institute for Biomedical Problems RAS, Moscow, Russia*

MP 054 **Algorithm for Quantification of Stable Isotope Labeled Peptides**; Yingxin Zhao; Sigmund Haidecher; Ronald Tilton; Larry Denner; Jonathan Starkey; Rovshan Sadygov; *University of Texas, Galveston, TX*

MP 055 **High-Throughput Measurement of Protein Turnover in Plants Using Stable Isotope Labeling Coupled with LC-MS/MS Analysis**; Wen-Ping Chen[1]; Xiao-Yuan Yang[1,4]; Adrian D. Hegeman[1,4]; Aaron K. Rendahl[2]; Sanford Weisberg[2]; Thomas F. McGowan[3]; William M. Gray[4]; Jerry D. Cohen[1]; *[1]Dept. Horticultural Science -U of MN, Saint Paul, MN; [2]School of Statistics - U of MN, Saint Paul, MN; [3]Center for Mass Spectrometry and Proteomics - U of MN, Saint Paul, MN; [4]Dept. Plant Biology - U of Minnesota, Saint Paul, MN*

MP 056 **SILAC Quantification with PEAKS to a Depth of 3000 Proteins from a Double Knockout GSK-3 of Mouse Embryonic Stem Cells**; Chris Hughes[1]; Brad Doble[3]; Lei Xin[2]; Clark Chen[2]; Baozhen Shan[2]; Bin Ma[4]; Gilles Lajoie[1]; *[1]University of Western Ontario, London, ON; [2]Bioinformatic Solutions Inc., Waterloo, ON; [3]McMaster University, Hamilton, ON; [4]University of Waterloo, Waterloo, ON*

MP 057 **Automatic Quantification of 16/18O Labeled LC/MS Data;** Anna Kreshuk[1]; Marc Kirchner[1]; Bernhard Y. Renard[1]; Dominic Winter[2]; Hanno Steen[3]; Judith A. J. Steen[3]; Wolf D. Lehmann[2]; Fred A. Hamprecht[1]; *[1]University of Heidelberg, Heidelberg, Germany; [2]German Cancer Research Center, Heidelberg, Germany; [3]Harvard Medical School/Children's Hospital Boston, Boston, MA*

MP 058 **Quantitation across Multiple iTRAQ Samples Using Scaffold Q+**; Charles E Roberts[1]; Jason Nunes[1]; Brian C. Searle[1]; *[1]Proteome Software, Portland, OR*

MP 059 **Mathematical Modeling and Assessment of Quantitation Following Abundant Protein Depletion Using Hexapeptide Beads and iTRAQ**; John H. Schwacke; Lashanda Waller; Daniel R. Knapp; *Medical University of South Carolina, Charleston, SC*

MP 060 **Improved Technique for Automated Analysis of iTRAQ Data Using LTQ-Orbitrap**; Getiria I. Onsongo; Susan K. Van Riper; Kofi P. Adragni; Ebbing De Jong; Matthew D. Stone; Sricharan Bandhakavi; Baolin Wu; John V. Carlis; Timothy J. Griffin; *University of Minnesota, Minneapolis, MN*

MP 061 **A Bioinformatic Tool for Detailed Interrogation of Multiple iTRAQ Datasets**; Erika P Parkinson[1]; Andrew Garrow[2]; Paul J Skipp[1]; Maja Aleksic[2]; Andrew White[2]; Geraldine Clough[1]; Daniel J Scott[2]; C. David O'Connor[1]; *[1]University of Southampton, Southampton, UK; [2]Safety & Environmental Assurance Centre, Unilever, Sharnbrook, UK*

MP 062 **Templated Proteogenomics: A Novel Method for Monoclonal Antibody Sequencing**; Natalie E Castellana[1]; Victoria Pham[2]; David Arnott[2]; Jennie Lill[2]; Vineet Bafna[1]; *[1]UCSD, La Jolla, CA; [2]Genentech, Inc., S. San Francisco, CA*

MP 063 **Development of a Reliable and Efficient Genome Annotation Pipeline Using Proteomic Mass Spectrometry Data**; Markus Brosch; Tim Hubbard; Jyoti Choudhary; *Wellcome Trust Sanger Instit, Cambridge, UK*

MP 064 **Assigning Proteins Identified from Tissues to Cells Using Publicly Available Gene Chip Data**; Kenneth Parker; *BG-Medicine, Waltham, MA*

MP 065 **Formulation of a MySQL Database and Query Toolset to Extract Complex Metabolic Information from a Natural Microbial Consortia.;** Nathan C. Verberkmoes[1]; Brian Dill[1]; Brian Thomas[2]; Denise Schmoyer[1]; Manesh Shah[1]; Vincent Denef[2]; Paul Wilmes[2]; Patricia Carey[1]; Steve Singer[3]; Korin Wheeler[3]; Michael Thelen[3]; Robert Hettich[1]; *[1]Oak Ridge National Lab, Oak Ridge, TN; [2]University of California, Berkeley, Berkeley, CA; [3]Lawrence Livermore National Laboratory, Livermore, CA*

PROTEOMICS: BIOMARKER DISCOVERY, 066 - 097

MP 066 **Markers of Ovarian Endometrioid Cancer Using a Genetically Engineered Mouse Model and Pathway Analysis**; David M. Lubman; Hyeyeung Kim; Rong Wu; Kathleen Cho; David Misek; *University of Michigan, Ann Arbor, MI*

MP 067 **Protein Composition of Liver Cyst Fluid from the BALB/c-cpk/+ Mouse Model of Autosomal Recessive Polycystic Kidney Disease (ARPKD)**; Xianyin Lai[1]; Bonnie L. Blazer-Yost[1,2]; Vincent H. Gattone II[1]; Monalisa N. Muchatuta[2]; Frank A. Witzmann[1]; *[1]Indiana University School of Medicine, Indianapolis, IN; [2]Indiana University Purdue University at Indianapolis, Indianapolis, IN*

MP 068 **Proteomic Analysis of Differentiation Factors: Retinal Ganglion Cell Line Differentiated by Co-Culture with Non-Pigmented Ciliary Epithelium Cell Secreted Proteins**; Ming-Hui Yang[1]; Shiang-Bin Jong[2]; Jen-Taie Shiea[1]; Yu-Chang Tyan[2]; *[1]National Sun Yat-*

Sen Univ., Kaohsiung, Taiwan; [2]Kaohsiung Medical University, Kaohsiung, Taiwan

MP 069 **Biomarker Discovery by Stable Isotope Labeling of Mouse Models**; Michaela D Filiou; Yaoyang Zhang; Birgit Bisle; Elisabeth Frank; Melanie S Kessler; Boris Hambsch; Stefan Reckow; Katrin Haegler; Giuseppina Maccarrone; Rainer Landgraf; Christoph W Turck; *Max Planck Institute of Psychiatry, Munich, Germany*

MP 070 **Identification of Novel Urinary Biomarkers of Renal Obstruction Using Temporal Quantitative Proteomics**; Ali R. Vaezzadeh[1,2]; Andrew Briscoe[2]; Lee Dicker[3]; Oliver Hoffman[3]; Winston Hyde[3]; Hanno Steen[1,2]; Richard S. Lee[1,2]; *[1]Harvard Medical School, Boston, MA; [2]Children's Hospital Boston, Boston, MA; [3]Harvard School of Public Health, Boston, MA*

MP 071 **Label-Free Quantitative Studies of Pancreatic Cancer Stem Cells**; Lan Dai[1]; David M. Lubman[1]; *[1]University of Michigan, Ann Arbor, MI*

MP 072 **Proteomic analysis of Tumor Necrosis Factor-Alpha Resistant Human Breast Cancer Cells Reveals a MEK5/Erk5-Mediated Epithelial-Mesenchymal Transition Phenotype**; Changhua Zhou[1]; Ashley Nitchke[2]; Wei Xiong[2]; Qiang Zhang[1]; Yan Tang[2]; Michael Bloch[2]; Steven Elliott[2]; Yun Zhu[2]; Lindsey Bazzone[2]; David Yu[2]; Christopher B. Weldon[2]; John A. McLachlan[2]; Rachel Schiff[2]; Babara S. Beckman[2]; Thomas Wiese[1]; Kenneth P. Nephew[2]; Bin Shan[2]; Matthew Burow[2]; Guangdi Wang[1]; *[1]Xavier University of Louisiana, New Orleans, LA; [2]Tulane University School of Medicine, New Orleans, LA*

MP 073 **Withdrawn**

MP 074 **Comparative Proteomic Analysis of Liver Cancer Stem Cells**; Sheng-Ta Tsai[1]; Chia-Ning Shen[1]; Chih-Chiang Tsou[2]; Wan-Yu Mao[1]; Wei-Chao Chang[1]; Wen-Lian Hsu[2]; Chung-Hsuan Chen[1]; *[1]Genomics Research Center, Academia Sinica, Taipei, Taiwan; [2]Institute of Information Science, Academia Sinica, Taipei, Taiwan*

MP 075 **Determining the Origin of Estradiol-Reactive Vitelline Envelope Protein Fragments in Female Rainbow Trout Using MALDI-TOF-MS and MS/MS**; Kimberly Salinas[1]; Sherry Vickery[1]; Candice Lavelle[2]; Michael Hemmer[1]; *[1]U.S. EPA, Gulf Breeze, FL; [2]U.S. EPA-Student Services Contractor, Gulf Breeze, FL*

MP 076 **Analysis of Synovial Lavage and Plasma from Identical Twins to Identify Osteoarthritis Biomarkers;** Haihong Zhou[1]; Joseph Menetski[1]; Hua Lin[2]; Shanhua Lin[2]; Christopher Becker[2]; Xuemei Zhao[1]; Stephen Oakley[3]; Tim Spector[3]; Suzanne Mandala[1]; Ronald Hendrickson[1]; *[1]Merck & Co., Inc., Rahway, NJ; [2]PPD Biomarker Discovery Sciences, Menlo Park, CA; [3]St. Thomas' Hospital, King's College London, London, UK*

MP 077 **Urinary Biomarker for Benign Prostatic Hyperplasia - Discovery Using MALDI-TOF-Based Biostatistics Combined with LC-ESI/MS/MS-Based Stable-Isotope Labeling**; Shu-Hui Chen[1]; Hong-Lin Cheng[1]; Bing-Yuan Ou[1]; Hung-Jen Huang[1]; Nan-Haw Chow[1]; Yen-Wen Chen[2]; *[1]National Cheng Kung University, Tainan, Taiwan; [2]National Central University, Chuang-Li, Taiwan*

MP 078 **Proteomic Analysis to Understanding a Retinoid-Hypersensitive Embryonal Carcinoma Cell Mutant**; Qishan Lin; Jinghua Zhu; Paulette McCormick; *University at Albany, Rensselaer, NY*

MP 079 **Systematic Evaluation of Immobilized pH Gradient-Isoelectric Focusing (IPG-IEF) for Salivary Biomarker Discovery**; Jonathan L. Bundy[1]; Michael Gardner[1]; Megan Rowland[2]; James Stephenson[1]; *[1]Research Triangle Institute, Rtp, NC; [2]RTI International, Cary, NC*

MP 080 **Comparison of Ultrastructure and Protein Composition of Planktonic and Biofilm Stages of Non-Typeable Haemophilus Influenzae**; James Kerwin; Siva Wu; Paul Webster; *House Ear Institute, Los Angeles, CA*

MP 081 **Comparison of Tumour and Normal Endometrial Samples by LC-MS/MS Using an Iterative Exclusion List Approach**; Sebastien Voisin[1]; Leroi Desouza[1]; Olga Krakovska[1]; Alexander D. Romaschin[2]; Terence J Colgan[3]; K W Michael Siu[1]; *[1]York University, Toronto, Canada; [2]St Michael's Hospital, Toronto, Canada; [3]Mt Sinai Hospital, Toronto, Canada*

MP 082 **Urinary Glycoprotein Biomarker Discovery for Human Bladder Cancer Using Multi-Lectin Affinity Chromatography and LC-MS/MS**; Na Yang[1]; Shun Feng[1]; Huy Vuong[1]; Steve Goodison[2]; Charles J. Rosser[2]; Fan Xiang[3]; David M. Lubman[1]; *[1]University of Michigan, Ann Arbor, MI; [2]University of Florida, Jacksonville, FL; [3]Shimadzu Biotech, Pleasanton, CA*

MP 083 **Discovery of G-Quadruplex DNA Binding Proteins Using MALDI-MS and LC/MS**; Yuexi Wang; Linda McGown; *Rensselaer Polytechnic Institute, Troy, NY*

MP 084 **Optimization of Glycopeptide Capture for Biomarker Discovery in Human Plasma and Cerebrospinal Fluid**; Frode Berven[1,2]; Rushdy Ahmad[2]; Rune J Ulvik[1]; Steven A. Carr[2]; *[1]University of Bergen, Bergen, Norway; [2]Broad Institute, Cambridge, MA*

MP 085 **Proteomics and Protein Network Studies of Metastasis in Human Breast Cancer**; Yashu Liu[1]; Jintang He[1]; Xiaolei Xie[1]; Steve Goodison[2]; Fan Xiang[3]; David M. Lubman[1]; *[1]University of Michigan, Ann Arbor, MI; [2]University of Florida, Jacksonville, FL, [3]Shimadzu Biotech, Pleasanton, CA*

MP 086 **Identification of Differentially Spiked Proteins from Un-Depleted and Un-Fractionated Human Plasma**; Jose E. Meza[1]; Steven C. Hall[2]; H. Ewa Witkowska[2]; Susan J. Fisher[2]; *[1]Agilent Technologies, Santa Clara, CA; [2]UCSF MS Core Facility, San Francisco, CA*

MP 087 **Serum Biomarker Discovery of Alzheimer-Related Peptides in Presymptomatic Patients by Means of 2D Protein and Peptide Separation on Monolithic Columns**; Linda IJsselstijn[1]; Deborah Kronenberg[1]; Remco Swart[2]; Peter J. Koudstaal[1]; Peter A. E. Sillevis Smitt[1]; Monique M. B. Breteler[1]; Theo M. Luider[1]; *[1]Erasmus University Medical Center, Rotterdam, The Netherlands; [2]Dionex Benelux B.V., Amsterdam, The Netherlands*

MP 088 **Discovery of Novel Colorectal Cancer Biomarkers in Dissected Colorectal Epithelia and their targeted Verification in Plasma.**; Silvia Surinova[1]; Marta Dziechciarková[2]; Andreas Panagiotidis[1]; Matej Skrovina[3]; Bruno Domon[1]; Marián Hajdúch[2]; Ruedi Aebersold[1,4]; *[1]Institute of Molecular Systems Biology (ETHZ), Zurich, Switzerland; [2]Palacký University and University Hospital, Olomouc, Czech Republic; [3]J.G.Mendel Oncology Centre, Novy Jicin, Czech Republic; [4]Institute for Systems Biology, Seattle, WA*

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MP 089 **Multiplex Longitudinal Proteomic Profiling of Human Sera in the Study of the Pathogenesis of Type-1 Diabetes**; Robert Moulder[1]; Waltteri Hosia[2]; Olli Simell[3]; Riitta Lahesmaa[1]; *[1]Turku Centre for Biotechnology, Turku, Finland; [2]Karolinska Institute, Stockholm, Sweden; [3]Faculty of Medicine, University of Turku, Turku, Finland*

MP 090 **Differential Proteome Profiling Using iTRAQ in Microalbuminuric and Normoalbuminuric Type 2 Diabetic Patients**; Hopil Min[1]; Yeonjung Kim[1]; Yunhyi Ku[2]; Ji Yoon Lee[3]; Kyong Soo Park[2]; Youngsoo Kim[1]; *[1]Dept. of Biomedical Sciences, College of Medicine, Seoul Nat'l Univ, Seoul, South Korea; [2]Dept. of Internal Medicine, College of Medicine, Seoul Nat'l Univ, Seoul, South Korea; [3]National Instrumentation Center for Environmental, Seoul Nat'l Univ, Seoul, South Korea*

MP 091 **Profiling the Post-Translational Modifications of Human Serum Albumin**; Christine Jelinek[1]; Rebekah Gundry[2]; Jessica E. Mott[1]; Robert O'meally[1]; Jennifer Van Eyk[2]; Robert J. Cotter[1]; *[1]Johns Hopkins School of Medicine, Baltimore, MD; [2]Johns Hopkins University, Baltimore, MD*

MP 092 **Identification of *in vitro* Modified Lipoproteins Using MALDI Tandem Mass Spectrometry and a Reduced Proteins Database Approach.**; Omar Belgacem[1]; Helen Montgomery[2]; Matthew Openshaw[1]; Wu Zidian[1]; Sobal Grazyna[3]; Gerald Stubiger[4]; *[1]Shimadzu Biotech, Manchester, UK; [2]Shimadzu, Koichi Tanaka MS Research laboratory, Manchester, UK; [3]Department of Nuclear Medicine, Medical University, Vienna, Austria; [4]Department of Vascular Biology Thrombosis Research, Vienna, Austria*

MP 093 **NanoLC-MS/MS Analysis of Urinary Biomarkers for Chronic Graft-versus-Host Disease**; Michel Boutin[1]; Imran Ahmad[2]; Nathalie Lachapelle[2]; Claude Rondeau[2]; Jean Roy[2]; Pierre Thibault[1]; *[1]IRIC, University of Montreal, Montréal, Canada; [2]Blood and Marrow Transplant Program, HMR, Montréal, Canada*

MP 094 **Identifying Differentially Regulated Proteins as Markers for Colorectal Neoplasia.**; Vikram Palamalai; Jonathan J Harrington; Douglas Mahoney; Ann L Oberg; H. Robert Bergen, Iii; David A Ahlquist; *Mayo Clinic College of Medicine, Rochester, MN*

MP 095 **HIV-Infected Patients with Neurocognitive Impairments: Proteomic Fingerprints of Serum/Plasma and CSF.**; Jayme Wiederin[1]; Fenghai Duan[3]; Wojciech Rozek[2]; Pawel Ciborowski[1]; *[1]University of Nebraska Medical Center, Omaha, NE; [2]National Veterinary Research Instritue, Pulawy, Poland; [3]Brown University, Providence, RI*

MP 096 **Label-Free Proteomic Profiling of D-Serine-Induced Toxicity Biomarkers in Rat Urine**; Lining Qi; John J. Schlager; Pavel Shiyanov; *Wright Patterson Air Force Research Laboratory, Dayton, OH*

MP 097 **Identification of Binding Partners in Eukaryotic Translation Initiation Factors -RNA Binding Protein Complex.;** David Shahbazian; Nahum Sonnenberg; Bernard F. Gibbs; *McGill University, Montreal, Canada*

LIPIDS: STRUCTURAL ANALYSIS, 098 - 112

MP 098 **Comparing the Collisional-Induced Dissociation Spectra of Various Triglyceride Adduct Ions Formed via Electrospray**; Dong Zheng; Jason J. Evans; *University of Massachusetts Boston, Boston, MA*

MP 099 **Discrimination among Geometrical Isomers of Linolenic Acid Methyl Ester Using Low Energy Electron Ionization Mass Spectrometry and Chemometrics**; Diako Ebrahimi Mohammadi; Leila Hejazi; Michael Guilhaus; David B. Hibbert; *The University of New South Wales, Sydney, Australia*

MP 100 **Determination of the Composition of Fatty Acid Mixtures Using GC × FI-MS: A Comprehensive Two-Dimensional Separation Approach**; Leila Hejazi; Diako Ebrahimi; Michael Guilhaus; David B. Hibbert; *The University of New South Wales, Sydney, Australia*

MP 101 **Maximizing the Detection of Complex Hydrophobic Lipids (e.g. triglycerides): Optimizing Ionization Efficiency and Chromatographic Standard Nanoscale Separations.**; David A. Weil; Michael Woodman; *Agilent Technologies, Schaumburg, IL*

MP 102 **Singlet Oxygen Cycloadducts of Hydroperoxy Dienes Fragment to γ-Hydroxy Alkenals; A Reaction that is Promoted by Vitamin E**; Xiaodong Gu; Wujuan Zhang; Jaewoo Choi; Wei Li; Xi Chen; James Laird; Robert G. Salomon; *Case Western Reserve Univ., Cleveland, OH*

MP 103 **Structure Characterization of Glycosphingolipids in Human Milk**; Ying Zhou[1]; David S. Newburg[2]; Catherine E. Costello[1]; *[1]Boston University School of Medicine, Boston, MA; [2]Mass General Hospital Harvard Medical School, Boston, MA*

MP 104 **Chloro-Nitration of Biomembrane Lipids: Arachidonic and Linoleic Acids**; Srinivas Chakravartula; Archana Marathi; Michael Balazy; *New York Medical College, Valhalla, NY*

MP 105 **A New and Universal Product Ion Nomenclature for Low- and High-Energy CID of Sodiated Glycerophospholipid Precursor Ions**; Ernst Pittenauer[1]; Robert Mistrik[2]; Guenter Allmaier[3]; *[1]Vienna University of Technology, Vienna, Austria; [2]HighChem, Ltd., Bratislava, Slovakia; [3]Vienna Univ of Technology, Vienna, Austria*

MP 106 **Analysis of Fatty Acid Methyl Esters Using the High Throughput LDTD Source Coupled to the LTQ Orbitrap Mass Spectrometer**; Josee Champagne[1]; André Vachereau[3]; Sylvain Letarte[2]; Denis Faubert[1]; Pierre Picard[2]; *[1]IRCM, Montreal, Canada; [2]Phytronix Technologies, Inc., Quebec, QC; [3]Dinotech Inc., Roxboro, Canada*

MP 107 **Automated Lipid A Structure Hypotheses Generated by STALA: A Computational Tool to Interpret Lipid A Tandem Mass Spectra**; Ying Sonia Ting[1]; Scott A. Shaffer[1]; Jace W. Jones[1]; Wailap Ng[2]; Robert K. Ernst[3]; David R. Goodlett[1]; *[1]University of Washington, Seattle, WA; [2]National Yang Ming University, Taipei, TAIWAN; [3]University of Maryland, Baltimore, MD*

MP 108 **Regiospecific Analysis of Triacylglycerols Using High Performance Liquid Chromatography/Electrospray Ionization Tandem Mass Spectrometry of Sodiated adduCts**; Lisandra Cubero Herrera[1]; Karen M. Glenn[1]; Michael A. Potvin[2]; Jaroslav A. Kralovec[2]; Jeremy E. Melanson[1]; *[1]NRC Institute for Marine Biosciences, Halifax, Canada; [2]Ocean Nutrition Canada, Halifax, Canada*

MP 109 **Characterization of Cardiolipin Molecular Species by Reversed-Phase Ion Pair High-Performance Liquid Chromatography-Mass Spectrometry**; Charles Hoppel; Paul Minkler; *Case Western Reserve Univ., Cleveland, OH*

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MP 110 **Structure to Function: Characterization of the Phosphorylation Pattern of *Yersinia pestis* Lipid A**; Jace W. Jones[1]; Adeline M Hajjar[1]; Robert K. Ernst[2]; David R. Goodlett[1]; Frantisek Turecek[1]; *[1]University of Washington, Seattle, WA; [2]University of Maryland-Baltimore, Baltimore, MD*

MP 111 **LC MS/IMS/MS of Chondroitin Sulfate Mixtures to Characterize Isomeric Forms**; Roy Martin[1]; Hui Wei[1]; Joshua S. Sharp[2]; *[1]Waters Corporation, Beverly, MA; [2]University of Georgia, Athens, GA*

MP 112 **Fast Sample Preparation for Sensitive Analysis of *Helicobacter pylori* Lipid A: Single Colony Analysis and Discovery of an Unusual Structure**; Jianjun Li; Ping Zhou; Vandana Chandan; Xin Liu; Kenneth H.N. Chan; Eleonora Altman; *National Research Council, Ottawa, Canada*

PROTEOMICS: BIOMARKER ASSAYS, 113 - 130

MP 113 **From Discovery to Validation: Rheumatoid Arthritis Serum Protein Biomarkers by Multiple Reaction Monitoring (MRM)**; Shanhua Lin; Hua Lin; Jing Wang; Ted Jones; Chris Becker; *PPD Biomarker Discovery Sciences, Menlo Park, CA*

MP 114 **Quantification of Preterm Birth Biomarkers by LC-MRM/MS in Human Cervicovaginal Fluid Samples**; Sumit J. Shah; Kenneth H. Yu; Vineet Sangar; Samuel I. Parry; Ian A. Blair; *University of Pennsylvania, Philadelphia, PA*

MP 115 **Simultaneous Analysis of Multiple Cerebrospinal Fluid Biomarkers for Alzheimer's Disease**; Yong Seok Choi; Kelvin H. Lee; *University of Delaware, Newark, DE*

MP 116 **Absolute Quantification of Oxidative Modifications on apoA-I Protein by Stable Isotope Dilution LC-MRM/MS Assays**; Kannan Rangiah; Eugene F. Ciccimaro; Ioannis Parastatidis; Harry Ischiropoulos; Muredach P Reilly; Sumit J Shah; Ian A Blair; *University of Pennsylvania, Philadelphia, PA*

MP 117 **Proteomic Survey of Hydrolytic Enzymes and Their Natural Inhibitors in Infant Stool**; Karine Bagramyan; Teresa Hong; Markus Kalkum; *City of Hope, Duarte, CA*

MP 118 **A Strategy for Rapid Validation of Candidate Cancer Serological Biomarkers Using Label-Free Multiple Reaction Monitoring**; Hsin-Yao Tang; Lynn A. Beer; Huan Wang; Won-A Joo; Tony Chang-Wong; David W. Speicher; *The Wistar Institute, Philadelphia, PA*

MP 119 **MRM for Oral Cancer Biomarker Validation in Saliva: Inherent Challenges, Solutions and Methods Development**; Ebbing De Jong[1]; Hongwei Xie[2]; Getiria I Onsongo[1]; John V Carlis[1]; Nelson L Rhodus[1]; Frank G Ondrey[1]; Tim Griffin[1]; *[1]University of Minnesota, Minneapolis, MN; [2]Waters Corporation, Milford, MA*

MP 120 **iMALDI: A Targeted Proteomics Approach to the Differentiation of EGFR and its Isoforms**; Brinda Shah; Christoph H. Borchers; *UVic Genome BC Proteomics Centre, Victoria, BC*

MP 121 **Verification of Alzheimer's Disease (AD) Progression Markers with Targeted Proteomics**; Weixun Wang; Fanyu Meng; Katie Southwick; Jun Man; Yi Du; Kai Zhou; Nathan Yates; Ronald Hendrickson; *Merck & Co. Inc., Rahway, NJ*

MP 122 **Development of Quality Assurance/Quality Control Specifications for Robust SRM-Based Assays: Increasing Reproducibility from Laboratory to Laboratory**; Scott Peterman[1]; Reiko Kiyonami[1]; Bruno Domon[2]; *[1]ThermoFisher Scientific, San Jose, CA; [2]ETH Zurich, Zurich, Switzerland*

MP 123 **Development of a Multiplexed SRM Assay for Protein Biomarkers of Osteoarthritis**; Michael J. Ford[1]; Bryan Krastins[2]; David Lee[3]; Reuben Gobezie[4]; David Sarracino[2]; Taha Rezai[2]; Amol Parakash[2]; Richard C. Jones[1]; Mary F Lopez[2]; Ruth A. Vanbogelen[1]; Michael R. Pisano[1]; *[1]NextGen Sciences, Ann Arbor, MI; [2]ThermoFisher BRIMS, Cambridge, MA; [3]Harvard Medical School, Boston, MA; [4]Case Western University, Cleveland, OH*

MP 124 **Multiplexed MRM Assay for the Detection of Prostate Cancer.**; Anastasia K. Yocum[1,2]; Rong Zhao[1,2]; Arul M. Chinnaiyan[1,2]; *[1]University of Michigan, Ann Arbor, MI; [2]Michigan Center for Translational Pathology, Ann Arbor, MI*

MP 125 **The Discovery and Evaluation of Candidate Markers of Alzheimer's Disease Using Tandem Mass Tags and SRM Mass Spectrometry**; Darragh O'Brien[1]; Andreas Guentert[2]; Karsten Kuhn[3]; Peter Schulz-knappe[3]; Helen Byers[1]; James Campbell[1]; Simon Lovestone[2]; Malcolm Ward[1]; *[1]Proteome Sciences PLC, London, UK; [2]Institute of Psychiatry, London, UK; [3]Proteome Sciences R&D, Frankfurt/ Main, Germany*

MP 126 **Multiple Reaction Monitoring Cubed (MRM3) : A New Method for Protein Quantification in Crude Serum at Low Nanogram/mL Level**; Fortin Tanguy[1]; Arnaud Salvador[2]; Jean-philippe Charrier[1]; Christof E. Lenz[3]; Florence Bettsworth[1]; Geneviève Choquet-Kastylevsky[1]; Jérôme Lemoine[2]; *[1]BIOMERIEUX, Marcy L'etoile, France; [2]Université de Lyon, Lyon 1, Lyon, France; [3]Applied Biosystems Germany, Darmstadt, Germany*

MP 127 **Application of MRM and mTRAQ™ Labeling to the Verification Process of Candidate Biomarkers Discovered by Cleavable ICAT® Reagent**; Un-Beom Kang[1]; Younghee Ahn[1]; Kyunggon Kim[4]; Jong Won Lee[4]; Yong-Hak Kim[2]; Byunghee Shin[5]; Sanghwa Kim[5]; Joon Kim[3]; Myeong-Hee Yu[2]; Youngsoo Kim[4]; Dong-Young Noh[4]; Cheolju Lee[1]; *[1]Life Sciences Division, KIST, Seoul, South Korea; [2]Functional Proteomics Center, KIST, Seoul, South Korea; [3]Korea University, Seoul, South Korea; [4]College of Medicine, Seoul National University, Seoul, South Korea; [5]Applied Biosystems, Seoul, South Korea*

MP 128 **Isoelectric Point Based Signal Suppression in MALDI-TOF MS to Identify Cancer Biomarkers Including HMGB1 from Human Tissue and Serum**; L.J. Sparvero[1]; Shelly A. Kucherer[2]; Michael E. DeVera[1]; Herbert J. Zeh[1]; Michael T. Lotze[1]; Andrew A. Amoscato[1]; *[1]University of Pittsburgh, Pittsburgh, PA; [2]Carnegie Mellon University, Pittsburgh, PA*

MP 129 **Discovery, Verification and Multi-Technique Assay of a New Serum Protein Biomarker of Ovarian Cancer Tumor Burden**; Paul Russo[1]; Mark M. Ross[1]; Weidong Zhou[1]; Francesco Meani[1]; Lance Liotta[1]; Emanuel Petricoin[1]; Mary Lopez[3]; Taha Rezai[3]; Bin Wei[2]; Jennifer Edwards[2]; Shelley Hoover[2]; Paul Goldsmith[2]; Gregory Alvord[2]; Octavio Quinones[2]; Elizabeth Spehalski[2]; Mark Simpson[2]; *[1]George Mason University, Manassas, VA; [2]National Cancer Institute, Bethesda, MD; [3]Thermo BRIMS, Cambridge, MA*

MP 130 **A LC/MS/MRM Method for Insulin, Glucagon, Amylin Isoforms and GLP-1 Isoforms**; Amy Lu; Albert B Seymour; Ru Wei; *Pfizer RTC, Cambridge, MA*

PROTEOMICS: NEW APPROACHES, 131 - 154

MP 131 **Top-Down Proteomics on a Chromatographic Time Scale Using a Q-TOF MS: Combining MS, MS/MS and Pseudo-MS3 Analyses.**; Robert A. Everley; Judith J. A. Steen; Hanno Steen; *Harvard Medical School/Children's Hospital Boston, Boston, MA*

MP 132 **Application of Agarose Gel Electrophoresis for Top-Down Protein Analysis**; Emiko Yamauchi; Yoshiya Oda; *Eisai Co. Ltd., Tsukuba, Ibaraki, Japan*

MP 133 **Intact Protein Separation Using Alkaline Reversed Phase Chromatography for Proteomics**; Hiroyuki Katayama; Yoshiya Oda; *Eisai Co., Ltd., Tsukuba Ibaraki, Japan*

MP 134 **Investigating the Apoptotic Proteome of Jurkat Cells Using Top Down Proteomics**; Dorothy Ahlf; Haylee Thomas; Neil L. Kelleher; *University of Illinois, Urbana, IL*

MP 135 **Major Advance for 2D Fractionation of Intact Proteins Prior to Liquid Chromatography Coupled to Ion Trap-Fourier Transform Tandem Mass Spectrometry**; John C. Tran; Cong Wu; John Kellie; Ji Eun Lee; Adaikkalam Vellaichamy; Ken Durbin; Adam Catherman; Neil L. Kelleher; *University of Illinois at Urbana-Champaign, Urbana, IL*

MP 136 **Applying Reverse Electron Transfer Dissociation in the Mapping of Post-Translational Modifications in IDE and Tau Related to Alzheimer's Disease**; Malwina A. Huzarska[1]; Michael Easterling[2]; Desmond Kaplan[2]; Malcolm A. Leissring[3]; Nicolas Polfer[1]; *[1]University of Florida, Gainesville, FL; [2]Bruker Daltonics, Inc., Billerica, MA; [3]Mayo Clinic, Jacksonville, FL*

MP 137 **Screening and Identification of Protein Mixture at One Time by Capillary LC/MALDI-TOF with Screening MALDI Plate**; Junho Kim[1]; Jongyeob Jeon[3]; Miyoung Ha[2,3]; Yangsun Kim[2,3]; *[1]Department of Chemistry, Sangji University, Wonju, Korea; [2]Hudson Surface Technology, Inc., Newark, NJ; [3]Applied Surface Technologly, Inc., Suwon, Korea*

MP 138 **A New Approach for Accurate Mass Top-Down Sequencing of Intact Proteins/Toxins Using High Resolution Ion-Trap TOF Mass Spectrometry**; Christopher Nixon[1]; Jesse Hines[2]; Timothy R. Croley[1]; *[1]Commonwealth of Virginia, DCLS, Richmond, VA; [2]Shimadzu Scientific Instruments, Research Triangle Park, NC*

MP 139 **Top-Down PIITA Analysis and Bottom-Up PAcIFIC Analysis of Alpha Synuclein Isoforms**; Shu-Hua Chen; Jianpeng Zhang; Elizabeth Nguyen; Alexandre Panchaud; Yihsuan Tsai; Scott A. Shaffer; Jing Zhang; David R. Goodlett; *University of Washington, Seattle, WA*

MP 140 **Unifying Fluorescence Microscopy and Mass Spectrometry for Studying Protein Complexes in Cells**; Changhui Deng; Andrew Krutchinsky; *UCSF, San Francisco, CA*

MP 141 **In-Depth, Comprehensive Mapping of the Human Seminal Plasma Proteome by a Novel, Iterative LC-MS/MS/Database Search Workflow**; Claire Dauly[1]; Antoine D. Rolland[2]; Martin Hornshaw[1]; Régis Lavigne[3]; Charles G. Pineau[2,3]; *[1]Thermo Fisher Scientific, Courtaboeuf Cedex, France; [2]Inserm U625, Rennes, France; [3]Proteomics Core Facility OUEST-genopole®, Rennes, France*

MP 142 **MALDI TOF/TOF Data Acquisition Strategy that Minimizes MS/MS Acquisition Time While Maintaining High Quality Data and Increasing Depth of Coverage.**; Kathleen Lewis[1]; Aaron Booy[2]; Sean L. Seymour[1]; Christie L Hunter[1]; *[1]Applied Biosystems, Oakland, CA; [2]MDS Analytical Technologies, Concord, ON*

MP 143 **Comparison and Evaluation of Different Acquisition Parameters in LTQ-FT and LTQ-Orbitrap Mass Spectrometers to Improve Protein Identification Rates**; Anastasia Kalli[1]; Geoffrey Smith[1]; John Lloyd[2]; Sonja Hess[1]; *[1]CalTech, Pasadena, CA; [2]NIH/NIDDK, Germantown, MD*

MP 144 **A Data-Dependent Method to Increase Protein Coverage of Cell Lysates without Additional Instrument Time**; Michael J. Huddleston; Roland S. Annan; *GlaxoSmithKline, King of Prussia, PA*

MP 145 **Comparison of Gas Phase Fraction, Precursor Ion Exclusion and On-Line SCX Separation on Limited Amount Proteome Samples Analysis**; Wei Chen; *University of British Columbia, Vancouver, Canada*

MP 146 **Generating Products of All Ions Using a High Speed and High Sensitivity Experimental Trap-TOF.**; Stephen A Tate[1]; Nic Bloomfield[2]; Igor Chernushevich[3]; Alexandre Loboda[3]; *[1]MDS Sciex, Concord, Canada; [2]MDS Analytical Tech- Sciex, Concord, ON; [3]MDS Analytical Technologies, Concord, ON*

MP 147 **Improved Sampling of complex Mixtures Using Data-Independent Acquisition on an Ion Trap Mass Spectrometer Equipped with an Ion Funnel**; Jesse D. Canterbury; Scott A. Shaffer; Gennifer E. Merrihew; David R. Goodlett; Michael J. Maccoss; *University of Washington, Seattle, WA*

MP 148 **Using High Resolution Ion Maps as an Alternative to Low Resolution MRM for Validating Proteins in Complex Matrices**; Scott Geromanos; Marc V. Gorenstein; Jim Langridge; *Waters Corporation, Milford, MA*

MP 149 **Data-Independent (PAcIFIC) Direct Infusion Tandem Mass Spectrometry: A Time Advantaged Peptide Identification Strategy Using an Electrodynamic Ion Funnel**; Scott A. Shaffer; Shuhua Chen; Alexandre Panchaud; Jesse D. Canterbury; Jing Zhang; Michael J. Maccoss; David R. Goodlett; *University of Washington, Seattle, WA*

MP 150 **Workflow for Maximizing Proteome Coverage Using CID and ETD**; Martin Zeller; Bernard Delanghe; Torsten Ueckert; Thomas Moehring; *Thermo Fisher Scientific, Bremen, Germany*

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MP 225 **Changes in the Mitochondrial Lipidome as a Function of Alzheimer's Disease Progression**; Michael D. Timmons; Melissa Bradley; Jianquan Wang; Mark A. Lovell; Bert C. Lynn; *Univ. of Kentucky, Lexington, KY*

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MP 228 **Mycobacterium Tuberculosis Cytochrome-P450 CYP125 is Important for Host Cholesterol Degradation and Biosynthesis of Lipid Virulence Factors**; Hugues Hugues Ouellet; Shenheng Guan; Eric D. Chow; Jonathan B. Johnston; A.l. Burlingame; Jeffery Cox; Paul R. Ortiz de Montellano; *University of California, San Francisco, CA*

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MP 231 **Liquid Microphase Extraction and Controlled Emitter Tip Chemistry-Coupled to Nanospray Mass Spectrometry for Direct Lipid Analysis**; Patrick J. Horn; Anna K. Behrendt; Kent D. Chapman; Guido F. Verbeck; *University of North Texas, Denton, TX*

MP 232 **Improved Identification of Glycerophospholipids Using a Linear Ion Trap Mass Spectrometer (LTQ) with Pulsed Q Collision Induced Dissociation (PQD)**; Tanxi Cai; Jing Li; Peng Xue; Zhengsheng Xie; Ziyou Cui; Linan Shi; Junjie Hou; Xiulan Chen; Peng Wu; Fuquan Yang; *Institute of Biophysics, CAS, Beijing, China*

MP 233 **Mass Spectrometry Approaches to Lipid Profiling in Biological Matrices**; Joelle Onorato; Petia Shipkova; Michael Reily; David Wang-Iverson; *Bristol-Myers Squibb, Princeton, NJ*

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MP 235 **Analysis of whole Lipid Extracts Using On-Line High Resolution LC-MS;** Catharina Crone[1]; Eric Genin[2]; Helmut Muenster[1]; *[1]Thermo Fisher Scientific, Bremen, Germany; [2]ThermoFisher Scientific, Courtaboeuf, France*

MP 236 **Analysis of Ganglioside Distribution in Mammalian Brain Tissue by Direct Profiling and Micro-Extraction Studies Using MALDI-TOF/MS.**; Benoit Colsch; Alice Delvolve; Shelley N Jackson; Amina S. Woods; *NIDA-IRP, NIH, Baltimore, MD*

MP 237 **Comparing Global and Targeted Lipid and Fatty Acid Shotgun Profiling of Brain Tissue Extracts by NanoESI-Infusion.**; Gary Impey[2]; Brigitte Simons[1]; Eva Duchoslav[1]; Kaisa Koisten[3]; Kim Ekroos[3]; *[1]MDS Analytical Technologies, Concord, Canada; [2]Applied Biosystems, Concord, ON; [3]Zora Biosciences, Espoo, Finland*

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MP 239 **Lipidomic Profiling in Human Plasma Utilizing Orbitrap Mass Spectrometer: Improved Quantification and Identification with High Resolution and Accurate Mass Measurements**; Xiang He; Ted Jones; Sophia Chen; Praveen Kumar; Thomas A. Shaler; Hua Lin; Chris Becker; *PPD Biomarker Discovery Sciences, LLC, Menlo Park, CA*

MP 240 **A Software Tool for Species Unrestricted, Instrument –Independent Interpretation of Shotgun Lipidomics Data**; Ronny Herzog[1]; Dominik Schwudke[1,2]; Andrej Shevchenko[3]; *[1]Max Planck Institute CBG, Dresden, Germany; [2]National Centre for Biological Sciences, Tata Inst, Bangalore / Bengaluru, India; [3]MP of Mol Cell Biology, Dresden, Germany*

MP 241 **An LC-EIMS Method for a Rapid Profiling of Free Fatty Acids in Biological Fluids.**; Achille Cappiello; Giorgio Famiglini; Pierangela Palma; Elisabetta Pierini; Veronica Termopoli; Helga Trufelli; *University of Urbino, Urbino, Italy*

MP 242 **Mass Defects in Lipidomics; Strategies for Exploiting High Resolution Mass Spectra from Human Lipid Profiles**; Albert Koulman[1]; Dietrich Volmer[2]; *[1]MRC-HNR, Cambridge, UK; [2]Medical Research Council, Cambridge, UK*

MP 243 **Derivatization for Lipidomics in Very Low Biofluid Sample Volumes: Analysis of Free Fatty Acids, Neutral and Polar Lipids by UHPLC-FTMS**; Ivana Bobeldijk-Pastorova; Raymond Ramaker; Leon Coulier; Elwin Verheij; *TNO Quality of Life, Zeist, Netherlands*

MP 244 **A Merging of Proteomics and Lipidomics: Mass Spectrometric Approaches to Profiling Mammary and Liver Cytoplasmic Lipid Droplets**; Brittany D.M. Hodges; Julie A. Weisz; Christine C. Wu; *University of Colorado School of Medicine, Aurora, CO*

MP 245 **Analysis of Cellular Lipids Using Normal Phase Liquid Chromatography with APPI and ESI Mass Spectrometry**; Anita Brinker; Diana R Johnson; Joseph Dixon; *Rutgers University, New Brunswick, NJ*

MP 246 **A New LC /APCI-MS Method for the Separation and Mass Spectrometric Analysis of Neutral Sphingolipids and Cholesterol**; Hany Farwanah[1]; Jennifer Wirtz[1]; Thomas Kolter[1]; Klaus Raith[2]; Reinhard H. H. Neubert[3]; Konrad Sandhoff[1]; *[1]Universität-Bonn, Bonn, Germany; [2]Landesamt für Verbraucherschutz, Magdeburg, Germany; [3]Universität Halle-Wittenberg, Halle / Saale, Germany*

Posters must be set up 8:00 - 8:30 am on the day scheduled and removed 7:30 to 8:00 pm. Authors of odd numbered posters (001, 003, 005, etc.) are required to be present 10:30 – 12:30. Authors of even numbered posters (002, 004, 006, etc.) must be present 12:30 – 2:30 pm.

MP 247 **Analysis of Phosphatidylcholines in Human Plasma by 2D-LC Coupled with FT-ICR-MS and MS/MS**; Qiaohong He; Liang Li; *University of Alberta, Edmonton, Canada*

MP 248 **Reverse-Phase LC/MS Method for Phosphoinositide Analysis in Cancer Cell Lines.**; Arugadoss Devakumar; Roslyn Dillon; Michael Greig; Shubha Bagrodia; *Pfizer Global R & D, San Diego, CA*

MP 249 **Automated On-Column Lipid Extraction and Fractionation for Clinical Lipidomics**; Kai Schuhmann[1]; Dominik Schwudke[2]; Ronny Herzog[1]; Martin Sibum[3]; Andrea Kohn[3]; Stefan R. Bornstein[4]; Andrej Shevchenko[1]; *[1]Max Planck Institute CBG, Dresden, Germany; [2]National Centre for Biological Sciences, Tata Inst, Bangalore / Bengaluru, India; [3]Spark Holland Inc.,, Emmen, Netherlands; [4]Department of Internal Medicine III, TU Dresden, Dresden, Germany*

MP 250 **Withdrawn**

MP 251 **Phospholipid Analysis by Femtosecond Laser-Induced Ionization/Dissociation Mass Spectrometry (fs-LID MS)**; Scott A. Smith; Christine L. Kalcic; Marcos Dantus; Gavin E. Reid; *Michigan State University, East Lansing, MI*

MP 252 **Accelerating Lipid Profiling of Human Samples for Biomarker Discovery Using UFLC-IT-TOF**; Simon Ashton[1]; Neil J Loftus[1]; Chris Titman[1]; Albert Koulman[2]; *[1]Shimadzu, Manchester, UK; [2]MRC Human Nutrition Research, Cambridge, UK*

MP 253 **UPLC/TOF MS Metabolomic Approach for Profiling Fatty Acid Content in Eggs of Marine Ornamental Species**; John P. Shockcor[1]; Kate Yu[1]; Stephen O'Shea[2]; Jose Castro-perez[1]; Nancy Breen[2]; Michael P. Balogh[1]; *[1]Waters Corporation, Milford, MA; [2]Roger Williams University, Bristol, Rhode Island*

MP 254 **High-Throughput Analysis of (Dihydro)Ceramides and 2-Hydroxyacyl (Dihydro)Ceramides in Biological Materials Using Flow Injection Analysis Coupled with ESI-MS/MS**; Hai Pham Tuan; Diane Butz; Therese Koal; *BIOCRATES Life Sciences AG, Innsbruck, Austria*

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MP 255 **An AccQ-Tag Assay for Amino Acid Quantitation in Complex Samples Using UPLC-ESI-MS/MS and PDA Detection**; Jenny M. Armenta[1]; Diego F. Cortes[1]; Kenneth Blakeslee[2]; Vladimir Shulaev[1]; *[1]Virginia Bioinformatics Institute, Blacksburg, VA; [2]Waters Corporation, Columbia, Maryland*

MP 256 **Analysis of Purine and Pyrimidine Bases, Nucleosides, and Nucleotides in Protein Hydrolysates**; Damon Barbacci; *BD, Sparks, MD*

MP 257 **Fast Throughput Liquid Chromatography/Tandem Mass Spectrometry Method for Quantification of Tricarboxylic Acid and High Energy Intermediates**; Stephen Barnes[1]; Antonio Piras[1,2]; D. Ray Moore[1]; *[1]University of Alabama at Birmingham, Birmingham, AL; [2]University of Cagliari, Cagliari, Sardinia, Italy*

MP 258 **Rugged and Reproducible LC/MS/MS Method to Analyze Citalopram and its Metabolites in Human Plasma Using Automated Liquid-Liquid Extraction**; Yousef Basir; Wence Tong; *Covance Bioanalytical, Indianapolis, IN*

MP 259 ***o,o'*-Dityrosine as an Index of Free Radical Activity in Ageing and Inflammatory Diseases**; Martin P Bucknall[1]; Anne Poljak[1]; Michael J Davies[2]; Alicia J Jenkins[3]; Perminder Sachdev[1]; Justyna M Czarna Bahl[4]; George A Smythe[1]; *[1]UNSW, Sydney, Australia; [2]The Heart Research Institute, Sydney, Australia; [3]University of Melbourne, Melbourne, Australia; [4]Statens Serum Institute, Kopenhagen, Denmark*

MP 260 **Quantitative Analysis of Fatty Acids and Eicosanoids in Physiological Samples by LC/MS/MS Using Isotope Coded Tags**; Scott B. Daniels; Marjorie Minkoff; Sasi Pillai; Subhakar Dey; Brian Williamson; Babu Purkayastha; *Applied Biosystems, Framingham, MA*

MP 261 **Systematic and Expanded Investigation of High and Unexpected Positive Deviation for QC Samples during GLP Incurred Samples Analysis by LC-MS/MS**; Georges El-Kadissi; Mireille Nohra; Natasha Savoie; Ericka Franco; Véronik Gill; Milton Furtado; Chantal Menard; Mary Carbone; Fabio Garofolo; *Algorithme Pharma Inc., Laval (Montreal), Quebec, Canada*

MP 262 **Development of a New Assay for Evaluating KDO-8-P synthase Inhibitors Using Weak Anion Exchange LC and ESI-MS Detection;** Rong-Fang Gu; Gejing Deng; Elaina Zverina; *AstraZeneca, Waltham, MA*

MP 263 **Measurement of Vitamin B12 in Beverages by Liquid Chromatography Tandem Mass Spectrometry (LC/MS/MS)**; Min Huang; Doug Winters; *Covance, Food and Drug Analysis, Madison, WI*

MP 264 **Metabolic Flux Analysis of the Co-Fermentation of Glucose and Xylose by S. Cerevisiae 424A(LNH-ST) Using Isotope Labeling and LC-SIM-MS**; Amber Jannasch; Elizabeth Casey; Miroslav Sedlak; Wenchu Yang; Nathan S. Mosier; Nancy Ho; Jiri Adamec; *Purdue University, West Lafayette, IN*

MP 265 **Quantitation of Mercapturic Acid Conjugates of 4-Hydroxynonenal and 4-Oxononenal Metabolites in Smokers and Non-Smokers by Electrospray LC-MS/MS**; Heather Kuiper; Brandi Langsdorf; Fred Stevens; *Oregon State University, Corvallis, OR*

MP 266 **Quantification of N-Terminal Valine Ethylation in Human Hemoglobin by Isotope Dilution nanoLC-Nanospray Ionization Tandem Mass Spectrometry**; Wen-peng Lin; Yen-Bor Lee; Hauh-Jyun Candy Chen; *National/ Chung-Cheng University, Chia-yi, Taiwan*

MP 267 **LC/MS/MS Analyses of Collagen from Meat Extract.**; Anna Sylvia Ferrari Marques[1]; Helio Martins-Junior[1]; Jose Luiz Costa[1]; Takeo Sakuma[2]; Daniel Lebre[3]; Robert Ellis[2]; Eladia Almeida[4]; Wison Silva[4]; *[1]Applied Biosystems Inc., Sao Paulo, Brazil; [2]MDS Analytical Technologies, Concord, ON; [3]Applied Biosystems/MDS Sciex, Concord, ON; [4]Bertin Ltda., Lins, SP, Brazil*

MP 268 **Quantification of Clarithromycin in Serum, Bronchoalveolar Lavage Fluid and Lung Tissue Using LC/MS-MS: Influence of Dose Escalation on Mycoplasma Pneumoniae**; Claudia Meek[1,3]; Seth Rutherford[1]; Robert Hardy[2]; Claudia Tagliabue[2,4]; Richard Leff[1,2]; *[1]Texas Tech University Health Sciences Center, Dallas, TX; [2]University of Texas Southwestern Medical Center, Dallas, TX; [3]Children's Medical Center, Dallas, TX; [4]Fondazione IRCCS Policlinico, Mangiagalli e Regina, Milano, Italy*

MP 269 **Endogenous Steroid Profiling of Equine Serum Using Turbulent Flow Chromatography with Tandem Mass**

Spectrometry; Benjamin C Moeller[1]; Scott Stanley[1]; *[1]University of California - Davis, Davis, CA*

MP 270 **UHPLC-MS/MS Quantitation of Malonyl Coenzyme A in Mammalian Tissue**; Russell Pickford[1]; Donna Wilks[2]; Elaine Preston[2]; Michael M. Swarbrick[2]; *[1]University of New South Wales, Sydney, Australia; [2]Garvan Institute of Medical Research, Sydney, Australia*

MP 271 **Profiling of Phase-1 Metabolites of Lipid Peroxidation Products in Human THP-1 Monocytes by Electrospray LC/MSMS**; Ralph Reed[1]; Cristobal L. Miranda[1]; Heather Kuiper[1]; Brandi L. Langsdorf[2]; Fred Stevens[1]; *[1]Oregon State University, Corvallis, OR; [2]Linus Pauling Institute, Corvallis, OR*

MP 272 **Establishing a Definitive Method for the Determination of the Anandamide and 2-Arachidonoyl Glycerol in Human Plasma**; Gary A. Schultz[1]; Barry R. Jones[1]; Barry S. Lutzke[2]; Dale A. Campbell[1]; Bradley L. Ackermann[2]; *[1]Advion BioServices, Inc., Ithaca, NY; [2]Eli Lilly & Company, Indianapolis, IN*

MP 273 **Quantitation of Fatty Acids in Breath by Secondary Electrospray Ionization Mass Spectrometry**; Pablo Martinez-Lozano Sinues; *National Research Council, Segrate (MI), Italy*

MP 274 **Development and Validation of a Liquid Chromatography-Tandem Mass Spectrometry for the Simultaneous Determination of B Group Vitamins in Infant Formula**; Joon Hyuk Suh; Byung Kyu Lee; Jeong-Rok Youm; Sang Beom Han; *College of Pharmacy, Chung-Ang University, Seoul, South Korea*

MP 275 **A Simple, Fast LC-MS/MS Method to Assess Glutamate Quantitation in Microdialysate;** Dao M. Tran; Licong Jiang; *Vertex Pharmaceuticals Inc., San Diego, CA*

MP 276 **Isotope Dilution - Matrix-Assisted Laser Desorption Ionization-Time of Flight Mass Spectrometry for the Determination of Serum Thyroid Hormones**; Ming-Hui Yang[1]; Yuh-Shan Su[2]; Shiang-Bin Jong[2]; Yu-Chang Tyan[2]; *[1]National Sun Yat-Sen University, Kaohsiung, Taiwan; [2]Kaohsiung Medical University, Kaohsiung, Taiwan*

MP 277 **Quantification of the cellular Glutathione/Glutathione Disulfide Content by Fast Liquid Chromatography/Mass Spectrometry Analysis.**; Shin-cheng Tzeng; Claudia Maier; *Oregon State University, Corvallis, OR*

MP 278 **Formation and Biological Activity of 15-Oxo-Eicosatetraenoic Acid, a Novel 15-Lipoxygenase-Derived Arachidonic Acid Metabolite**; Cong Wei; Sumit Shah; Ian A. Blair; *Center for Cancer Pharmacology, University of Penn, Philadelphia, PA*

MP 279 **Bioanalytical Methods for Monitoring Relative Changes of Oxylipins from Mouse Plasma**; Richard L. Wong; Baomin Xin; Jing Yang; Timothy Olah; *Bristol-Myers Squibb Company, Lawrenceville, NJ*

MP 280 **A Sensitive and Rugged Method To Measure Endogenous Levels of S-Adenosylmethionine (SAM) and S-Adenosylhomocysteine (SAH) in Biological Samples Using LC-MS/MS**; Suzie Yeh; Sang Na; Rena Zhang; William Bart Emary; *Merck & Co., Inc., West Point, PA*

MP 281 **Quantitative Analysis of 8-oxo-dG in Human Urine Using Negative Ion Electrospray LC-MS-MS**; Yang Yuan; Long Yuan; Richard B. Van Breemen; *University of Illinois, Chicago, IL*

MP 282 **Simultaneous Determination of 2-Arachidonoylglycerol, 1-Arachidonoylglycerol and Arachidonic acid in Mouse Brain Tissue and Cerebellar Membranes using Liquid Chromatography/Tandem Mass Spectrometry**; Mei-Yi Zhang[1]; Ying Gao[2]; Natasha Kagan[1]; Edward Kerns[1]; Tarek Samad[2]; Pranab K Chanda[2]; *[1]Chemical and Screening Sciences, Wyeth Research, Princeton, NJ; [2]Neuroscience Discovery Research, Wyeth Research, Princeton, NJ*

PROTEOMICS: PTM DETERMINATION (METHOD DEVELOPMENT), 283 - 303

MP 283 **On the Labelling of Peptide Fragmented Mass Spectra in Proteomic Studies**; Bertran Gerrits[1]; Christian Panse[1]; Bernd Bodenmiller[2]; Ralph Schlapbach[1]; *[1]Functional Genomics Center, Zurich, Switzerland; [2]ETH Zürich, Zurich, Switzerland*

MP 284 **Structure Elucidation of Disulfide Bonds in a Rhamnose-Binding Lectin from Salmon Eggs**; Liang Zhao[1]; Ruben T. Almaraz[2]; Fan Xiang[3]; Jerry L. Hedrick[2]; Andreas H. Franz[1]; *[1]University of the Pacific, Stockton, CA; [2]University of California Davis, Davis, CA; [3]Shimadzu Biotech, Pleasanton, CA*

MP 285 **Top-Down ECD Mass Spectrometry of Calmodulin Deamidation**; Chunxiang Yao[1]; Nadezda P. Sargaeva[1]; Weidong Cui[1]; Xiaojuan Li[1]; Tzu-yung Lin[1]; Konstantin Aizikov[1]; Cheng Lin[1]; Peter B. O'connor[2]; *[1]Boston University Sch Med, Boston, MA; [2]University of Warwick, Coventry, UK*

MP 286 **An Integrated Bottom-Up and Top-Down Characterization of Metalloproteins and Protein Molecular Forms in the Extracellular Fraction of Extremophilic Microbial Communities**; Brian K. Erickson[1]; Steven Singer[2]; Korin Wheeler[2]; Nathan C. Verberkmoes[3]; Manesh Shah[3]; Michael Thelen[2]; Jill Banfield[4]; Robert Hettich[3]; *[1]University of Tennessee - Oak Ridge National Lab, Knoxville, TN; [2]Lawrence Livermore National Laboratory, Livermore, CA; [3]Oak Ridge Nat'l Lab, Oak Ridge, TN; [4]University of California - Berkeley, Berkeley, CA*

MP 287 **Top-Down Proteomics Analysis of 2DE Separated Protein Isoforms Using Gel Protein Recovery System and ESI FT-ICR MS**; Christopher Bolcato[1]; John Cardamone[1]; Manimalha Balasubramani[1]; Matthew Powell[2]; Trust Razunguzwa[2]; Reid Asbury[2]; *[1]University of Pittsburgh, Pittsburgh, PA; [2]Protea Biosciences, Morgantown, WV*

MP 288 **Variant and PTM Characterization of Human Hemoglobins by Mass Spectrometry and Bioinformatics Approaches**; Lei Li; Vivek N. Bhatia; Weiwei Tong; David H. Perlman; Catherine E. Costello; Mark E. McComb; *Boston University School of Medicine, Boston, MA*

MP 289 **A Mixed-Integer Linear Optimization Framework for the Identification and Quantification of Highly Modified Proteins via Electron Transfer Dissociation Tandem MS**; Peter A. DiMaggio; Nicolas L. Young; Richard C. Baliban; Benjamin A. Garcia; Christodoulos A. Floudas; *Princeton University, Princeton, NJ*

MP 290 **Characterization of Protein Isoforms Using Tandem MS of Intact and On-Line Digested Proteins from a Single Intact Protein HPLC Separation**; Errol W.

Robinson; Zhixin Tian; Nikola Tolić; Daniel López Ferrer; Konstantinos Petritis; Joshua N. Adkins; Richard D. Smith; Ljiljana Paša-Tolić; *Pacific Northwest National Laboratory, Richland, WA*

MP 291 **Protein LC-MS with On-Line Fraction Collection, Enzymatic Digestion and Rapid Infusion MS/MS: An Automated Analysis Workflow for Complex Proteomic Samples**; Geoffrey S. Rule[2]; Daniel Eikel[1]; Brigitte Simons[3]; Simon J. Prosser[4]; *[1]AdvionBioSystems, Ithaca, NY; [2]Advion BioSystems, Salt Lake City, UT; [3]MDS Analytical Technologies, Concord, ON; [4]Advion BioSciences, Inc., Ithaca, NY*

MP 292 **Application of an Intact Protein Separation Space for PTM Characterization**; Mark E. McComb; David H. Perlman; Wantao Ying; Giuseppe Infusini; Vivek N. Bhatia; Weiwei Tong; Catherine E. Costello; *Boston University School of Medicine, Boston, MA*

MP 293 **Systematic Screening of non-Phosphorylation Post-Translational Modifications in Yeast Kinases by Mass Spectrometry and PTMap**; Kai Zhang; Yue Chen; Jeong Soo Yang; Yingming Zhao; *University of Chicago, Chicago, IL*

MP 294 **Microwave-Assisted Acid Hydrolysis Combined with LC-ESI QqTOF MS for Mapping Complete Protein Sequences and Characterizing PTMs**; Nan Wang; Liang Li; *University of Alberta, Edmonton, Alberta, Canada*

MP 295 **PTM Finder Based on PEAKS De Novo Sequencing Result**; Lei Xin[1]; Baozhen Shan[2]; Gilles Lajoie[3]; Bin Ma[4]; *[1]CS Dept. of The University of Western Ontario, London, Canada; [2]Bioinformatics Solutions Inc., Waterloo, ON; [3]University ofWestern Ontario, London, ON; [4]University of Waterloo, Waterloo, ON*

MP 296 **Reversible Amine Capture for Selective Detection of Protein N-Termini by Mass Spectrometry**; Juni T Samos[1]; Joseph A. Loo[2]; Rachel O. Loo[2]; *[1]University of California, Los Angeles, Los Angeles, CA; [2]UCLA, Los Angeles, CA*

MP 297 **Characterizing Protein Post-Translational Modifications in Cellulose-Degrading Bacteria by a Combined CAD and ETD Approach**; Andrew B. Dykstra[1,2]; Richard J. Giannone[2]; Adriane Lochner[2]; Kelsey D. Cook[1]; Robert L. Hettich[2]; *[1]University of Tennessee, Knoxville, TN; [2]Oak Ridge National Laboratory, Oak Ridge, TN*

MP 298 **Non-Radioactive Targeting of Multiple Classes of Protein Posttranslational Modifications (PTMs) with Click Chemistry**; Xiao-Dong Qian; Courtenay Hart; Tamara Nyberg; Brian Agnew; *Invitrogen Corporation, Eugene, OR*

MP 299 **An Unbiased Tale of *in vitro* Modifications: In-Depth Analysis of Artifacts Caused by Proteomics Sample Preparation**; Michael L. Nielsen; Juergen Cox; Jesper V. Olsen; Matthias Mann; *Max-Planck-Institute for Biochemistry, Martinsried (near Munich), Germany*

MP 300 **Determination of Phosphorylation & O-GlcNAcylation Sites on Tensin 1 Via CAD & ETD Implemented on a Chromatographic Time Scale**; Jeremy L. Balsbaugh; Emily H. Hall; Philip D. Compton; Jeffrey Shabanowitz; David L. Brautigan; Donald F. Hunt; *Univ. of Virginia, Charlottesville, VA*

MP 301 **Development of Mass Spectrometric Tools for the Cellular Characterization of Protein Prenylation**; Jiao Song; Andrew Placzek; Gibbs Richard; *MCMP Purdue University, W Lafayette, IN*

MP 302 **Protein Identification and Post-Translational Modification Analysis with High Sequence Coverage Using a Dual-Enzyme and Dual-Activation Strategy**; Hao Wang[1]; Jin cao[1]; Robert Straubinger[1]; Xiaotao Duan[1]; John Aletta[2]; Laurie Read[1]; Jun Qu[1]; *[1]University at Buffalo, Amherst, NY; [2]CH3 Inc, Amherst, NY*

MP 303 **Proteome-Wide Quantitative Comparison of Growth Factor Responses in Human Cell Lines**; Jesper V. Olsen; Chunaram Choudhary; Juergen Cox; Matthias Mann; *Max-Planck-Institute for Biochemistry, Martinsried, Germany*

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MP 304 **Neutral radical Induced Analyte Ion Transformation Processes in Atmospheric Pressure Photoionization (APPI) and Near-VUV Atmospheric Pressure Laser Ionization (VUV APLI)**; Hendrik Kersten[1]; Matthias Lorenz[1]; Valerie Funcke[1]; Klaus J. Brockmann[1]; Thorsten Benter[1]; Rob O'brien[2]; *[1]University of Wuppertal Dep. of Phys. Chem, Wuppertal, Germany; [2]ORCAC @ UBC Okanagan, Kelowna, BC*

MP 305 **A Sensitive Method for the Analysis of Neurosteroids by HPLC-MS-APPI (Atmospheric Pressure Photoionization)**; Farooq Azam; Andre Negahban; Steve E. Unger; *Wyeth Pharmaceuticals, Collegeville, PA*

MP 306 **Methylation of Dihydrotestosterone and Implications for Quantitative Analysis**; Fred Bjorn Lih[1]; Mark A. Titus[2]; James L. Mohler[2]; Kenneth B. Tomer[1]; *[1]NIEHS/NIH, Rtp, NC; [2]Roswell Park Cancer Institute, Buffalo, NY*

MP 307 **Quantification of Organic Nitrates in Rat Plasma by LC-MS/MS Using Atmospheric Pressure Photo Ionization and Electrospray Sources**; Haiping Wang[1]; Zhongzhou (Andrea) Shen[2]; Shiyao Xu[1]; Lucinda Cohen[1]; Stella Vincent[1]; Gino M. Salituro[1]; *[1]Merck Research Laboratory, Rahway, NJ; [2]Pfizer, La Jolla, San Diego, CA*

MP 308 **Design Modifications Enabling Performance Comparison between the Original and Current Generation Commercially Available Atmospheric Pressure Photoionization (APPI) Sources**; Ross McCulloch[1]; Damon Robb[1]; Michael Blades[2]; *[1]University of British Columbia, Vancouver, Canada; [2]University of British Columb, Vancouver, BC*

MP 309 **Comparison of Atmospheric Pressure Photoionization and Atmospheric Pressure Chemical Ionization Mass Spectrometry for the Analysis of Retinoids**; Sean M Backus[1]; Mark Hewitt[1]; Suzanne P. Batchelor[1]; Keith Solomon[2]; *[1]Environment Canada, Burlington, ON; [2]University of Guelph, Guelph, Canada*

MP 310 **UPLC-APPI-MS/MS for High Sensitivity and High Throughput Analysis of US EPA Sixteen Priority Pollutants Polynuclear Aromatic Hydrocarbons**; Sheng-Suan (Victor) Cai[1]; Jack A. Syage[1]; Karl A. Hanold[1]; Michael P. Balogh[2]; *[1]Syagen Technology, Inc., Tustin, CA; [2]Waters Corporation, Milford, MA*

MP 311 **Ion Losses at the Entrance of a Field-Free Conductance Tube into Vacuum**; Ross C. Willoughby[1]; Edward Sheehan[2]; David Fries[3]; *[1]Chem-Space Associates, Pittsburgh, PA; [2]Chem-Space*

Associates, Inc., Pittsburgh, PA; [3]University of South Florida, St Petersburg, FL

MP 312 **Coupling Atmospheric Pressure Optics with Field-Free Ionization Sources**; Ross C. Willoughby[1]; Edward Sheehan[1]; David Fries[2]; *[1]Chem-Space Associates, Pittsburgh, PA; [2]U South Florida, St Petersburg, FL*

MP 313 **Imaging of Surfaces under the Effects of Desorption Electrospray Ionization**; Michael Wood; Devin Busby; Paul B. Farnsworth; *Brigham Young Univ., Provo, UT*

MP 314 **Obtaining DESI Using the ASAP Probe on an Orbitrap Exactive**; Andrew Harron; Julie Lloyd; Charles N. McEwen; *Univ. of the Sciences in PA, Philadelphia, PA*

MP 315 **DEEP and DEEPER-MS: Direct Extractive Electrospray Probes for Electrophoretic Recovery and *in vivo* Metabolite Analysis**; Mariam S ElNaggar; Richard A. Mathies; Evan R. Williams; *University of California, Berkeley, CA*

MP 316 **Real-Time Chemical Weapon Agent Monitoring with a Modified Commercial Atmospheric Pressure Chemical Ionization Direct Inlet Mass Spectrometer**; Charles A. Fancher; Nathan A. Hagan; Doan-Trang Vu; *JHU Applied Physics Lab, Laurel, MD*

MP 317 **Electrohydrodynamic Charge Separation for Improving Analyte Ionization in the Array of Micromachined UltraSonic Electrospray (AMUSE) Ion Source**; Thomas P. Forbes[1]; R. Brent Dixon[2]; David C. Muddiman[2]; F. Levent Degertekin[1]; Andrei G. Fedorov[1]; *[1]Georgia Institute of Technology, Atlanta, GA; [2]North Carolina State University, Raleigh, NC*

MP 318 **APCI Sensitivity Improvements on a Z-Spray Source**; Steve Bajic; *Waters Corporation, Manchester, UK*

MP 319 **Systematic DIA Measurements for APLI Method Development**; Matthias Lorenz; WalterWissdorf; Hendrik Kersten; Sonja Klee; Klaus J. Brockmann; Thorsten Benter; *University of Wuppertal, Wuppertal, Germany*

MP 320 **Using Laser-Induced Acoustic Desorption/Electrospray Ionization Mass Spectrometry to Directly Characterize Organic Compounds Separated on Thin-Layer Chromatography Plate**; Sy-Chyi Cheng; Chih-Chiang Chou; Jentaie Shiea; *National Sun Yat-Sen Univ., Kaohsiung, Taiwan*

MP 321 **Ultrasound-Assisted Spray Ionization Mass Spectrometry for the Analysis of Biomolecules in Solution**; Chung-Yi Chen; Jia-Yi Lin; Jen-Yi Chen; Yu-Chie Chen; *National Chiao Tung University, Hsinchu, Taiwan*

MP 322 **Real-Time Monitoring of Reactions by Probe Electrospray Ionization Using Solid Needle**; Zhan Yu; Lee Chuin Chen; Yutaka Hashimoto; Hajime Ito; Rikiya Iwata; Kenzo Hiraoka; *University of Yamanashi, Kofu, Yamanashi*

MP 323 **Breath Pattern Recognition in a Control Group by Secondary Electrospray Ionization Mass Spectrometry**; Pablo Martinez-Lozano Sinues[1]; Lorenzo Zingaro[2]; Alessandro Finiguerra[2]; Italia Bongarzone[3]; Rosaria Orlandi[3]; Simone Cristoni[2]; *[1]National Research Council, Segrate (MI), Italy; [2]ISB srl, Milan, Italy; [3]National Cancer Institute Foundation, Milan, Italy*

MP 324 **Preventing Electrolysis of Analytes in Electrospray Ionization Mass Spectrometry Using a Redox Polymer Coated Emitter**; Emese Peintler-Krivan; Vilmos Kertesz; Gary J. Van Berkel; *Oak Ridge National Laboratory, Oak Ridge, TN*

MP 325 **Measuring Relative Electrospray Ionization Efficiency Versus the Electrolyte Counter Ion Type and Concentration Using a Membrane Electrospray Probe**; Craig M. Whitehouse; Thomas White; Shida Shen; *Analytica of Branford, Inc., Branford, CT*

MP 326 **Ionization Competitors Extend the Upper Linear Dynamic Range of Electrospray Ionization Mass Spectrometry;** Bilal Bazzi; *UTA, Arlington, TX*

MP 327 **Evaluation of a New Electrospray Ion Source and Interface Combination for Ruggedness and Sensitive in LC-MS/MS**; George Scott[1]; Charles Jolliffe[2]; *[1]Ionics Mass Spectrometry Group, Bolton, ON; [2]IONICS Mass Spec Group, Inc., Bolton, ON*

MP 328 **An Electrospray Ion Source with Heated Auxiliary Vortex Gas**; August Specht; Mingda Wang; Joe Saba; Bethany Erickson; Ken Newton; *Varian Inc., Walnut Creek, CA*

MP 329 **A Versatile Charge Reduced Electrospray Interface for Flowing Systems**; Kouame Adou; Murray V. Johnston; *University of Delaware, Newark, DE*

MP 330 **Minimization of Atmospheric Background Contaminants in Nanoelectrospray: Identification and Optimization**; Ben Ngo; Gary Valaskovic; *New Objective, Inc., Woburn, MA*

MP 331 **ESI Technology with Thermal Gradient Focusing - Theoretical and Practical Aspects**; Alex Mordehai; *Agilent Technologies, Santa Clara, CA*

MP 332 **Bridging the Micro-Flow LC and Nano-Flow ESI: An Emitter Array Ion Source for Sensitive and Quantitative LC-MS Analyses**; Keqi Tang; Jason Page; Ryan Kelly; Ioan Marginean; Erin Baker; Richard D. Smith; *Pacific Northwest National Laboratory, Richland, WA*

MP 333 **Performance of the Electrospray Ion Source during Reversed-Phase LC-MS Analyses**; Ioan Marginean; Ryan Kelly; Ronald Moore; David Prior; Brian L LaMarche; Keqi Tang; Richard D. Smith; *Pacific Northwest National Laboratory, Richland, WA*

MP 334 **Regime Changes in Nanoelectrospray Ionization Sources**; Jelena Lusic; Jacob Jones; Peter Nemes; Akos Vertes; *George Washington University, Washington, DC*

MP 335 **Characterization of Nano-Electrospray Ionization Directly from Glass Microfluidic Devices for Low Flow Rate Liquid Separation Applications**; Andrew G Chambers; J. Scott Mellors; J. Michael Ramsey; *The University of North Carolina, Chapel Hill, NC*

MP 336 **Development of a Novel Ion Source for Electrospray and APCI Using Flow Entrainment of Ions**; Joshua Ye; Serguei Savtchenko; *Ionics Mass Spectrometry Gro, Bolton, Canada*

MP 337 **Application of LDTD-APCI-MS to Support Plasma Protein Binding Study in Drug Discovery**; Beijing Tan; Thomas Mcdonald; Christopher Holliman; Rick Steenwyk; *Pfizer, Inc., Groton, CT*

MP 338 **On-Line HPLC with H/D Exchange in Liquid Electrospray-Assisted Laser Desorption Ionization Mass Spectrometry for The Analysis of Protein Mixture**; Yi-Tzu Cho[1]; Jingyueh Jeng[2]; Jentaie Shiea[1];

[1]National Sun Yat-Sen Univ., Kaohsiung, Taiwan; [2]Chia-Nan Univ. of Pharmacy and Science, Tainan, Taiwan

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MP 339 **The Determination of Citric Acid in Human Urine by LC/MS/MS**; Ying Li; Gene Ray; Moo-young Kim; Yansheng Liu; Dari Dadgar; *AAI Pharma, Shawnee, KS*

MP 340 **Withdrawn**

MP 341 **Quantitative Analysis Using LC-MS-MS of PGE2, PGE3 and PGD2 in Chicken Ovarian Tissue as Markers of Ovarian Cancer Risk**; Rui Yu[1,2]; Hongmei Cao[1,2]; Yan Zhuge[1,3]; Jo Ann J. Lagman[1,3]; Kristine Ansenberger[1,3]; Cassandra J. Richards[1,3]; Dale B. Hales[1,3]; Richard B. van Breemen[1,2]; *[1]University of Illinois at Chicago, Chicago, IL; [2]Dept. of Medicinal Chemistry and Pharmacognosy, Chicago, IL; [3]Department of Physiology and Biophysics, Chicago, IL*

MP 342 **Quantitation of Risperidone and 9-Hydroxyrisperidone in Human Plasma by Liquid Chromatography and Tandem Mass Spectrometry**; Dunmin Mao; Gina de Boer; Hong Zhang; Rong Yi; Winnie Lui; Amara Pinnawala; Irene Popov; *Cantest, Burnaby, Canada*

MP 343 **A Direct LC/MS/MS Method to Determine the Amount of Ciclopirox Penetrated Across Human Nail Plate *in in vitro* Penetration Studies**; Wei Bu; Xiaoqing Fan; Holly Sexton; Irwin Heyman; *Anacor Pharmaceuticals, Palo Alto, CA*

MP 344 **Method Development and Validation of a Turbo Ion Spray LC/MS/MS Method for Capecitabine and Four Major Metabolites in Human Plasma**; Stacey L. Zeman; Sarah Burke; Michael Pennell; Jay E. Belke; Jamison J. Williams; *Advion BioSciences, Inc, Ithaca, NY*

MP 345 **Structural Determination of the By-Products Obtained in Acetylation of Cysteine and Cysteine-Conjugated Metabolites by LC/MS/MS**; Li-quan Wang; Zheming Gu; *XenoBiotic Laboratories, Inc, Plainsboro, NJ*

MP 346 **Quantitative Profiling of Free Estrogens and Their Conjugates in Biological Fluids by HPLC-Tandem Mass Dpectrometry**; Feng Qin; Yuli Zhao; Wenjun Zhou; Xing-Fang Li; *University of Alberta, Edmonton, Canada*

MP 347 **The Study for the Simultaneous Identification of PDE5 Inhibitors and Methyltestosterone with HPLC-ESI Ion Trap Mass Spectrometry.**; Xiaodong Li; Yajun Zhang; *National Institute for the Control of Pharmaceutic, Beijing, China*

MP 348 **Analytical Challenges in the Development and Validation of Column Switching UPLC-MS/MS Methods for the Quantitation of Corticosteroids**; James Creegan[2]; Grace O'Maille[1]; Tianyi Zhang[2]; Rand G. Jenkins[2]; Bruce J. Hidy[2]; Gen Matsuo[1]; Xiaolu Tao[1]; Sudhakar Pai[1]; *[1]Akros Pharma Inc., Princeton, NJ; [2]PPD, Inc., Richmond, VA*

MP 349 **Fast Liquid Chromatography Separation and Multiple Reaction Monitoring Mass Spectrometric Detection of Catecholamines**; Loubna A Hammad[1]; Matthew Neely[2]; Bob Bridge[2]; Yehia Mechref[1]; *[1]Indiana University Biochem Ctr, Bloomington, IN; [2]Dionex Corporation, Bannockburn, IL*

MP 350 **Use of LC/MS to Detect and Identify a Labile Intermediate in the Study of Oxazoline Pro-drug Hydrolysis**; Rong-sheng Yang[1]; Larry Heimark[2]; Rebecca Osterman[1]; Tze-Ming Chan[1]; Birendra Pramanik[3]; *[1]Schering-Plough Research Institute, Kenilworth, NJ; [2]Retired, Bloomfield, NJ; [3]Schering-Plough Research, Kenilworth, NJ*

MP 351 **Validated LC-MS/MS Method for Determination of Alverine and its Hydroxy Metabolite in Human Plasma with Application to a Bioequivalence Study**; Mr. Noel Gomes; Mr Ashutosh Pudage; *Accutest Research Labs, India, Navi Mumbai, India*

MP 352 **Application of a Validated HPLC-ESI-MS Method to Evaluate Degradation of Ziconotide;** Jhoana A. Mendoza; John R. Eyler; *University of Florida, Gainesville, FL*

MP 353 **A High Sensitive and High Throughput LC/MS/MS Method for Determination of Budesonide in Rat Gastrointestinal Tract**; Xiaodong Zhu; *Covance Laboratories, Madison, WI*

MP 354 **Simultaneous Determination of Nucleotide Mono-, Di-, and Triphosphates in Rat Liver Using LC-MS/MS**; Donghui Bao; Phillip A. Furman; Michael J. Sofia; *Pharmasset, Princeton, NJ*

MP 355 **An LC-MS/MS Method for the Quantitation of IDX184 and Its Nucleoside Metabolite in Human Plasma (EDTA)**; Ginny B. James; Jonathan O. Rathe; Chris J. Kafonek; Alan M. Dzerk; Curtis E. Sheldon; Chad J. Briscoe; *MDS Pharma Services, Lincoln, NE*

MP 356 **Development of an LC-MS/MS Method for Measurement of Deuterium Incorporation into DNA**; Jin Wu[1]; Randall Purves[1]; Martine Lamarche[1]; Diane Ethier[1]; Yves Boie[1]; Mark P. Keller[2]; Mary E. Rabaglia[2]; Alan D. Attie[2]; Denis Normandin[1]; Simon Wong[1]; Kevin P. Bateman[1]; *[1]Merck Frosst Canada, Kirkland, Canada; [2]University of Wisconsin-Madison, Madison, WI*

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MP 357 **Dual Porous CE Capillary for Sample Preconcentration and CE/ESI-MS Analysis**; Mehdi Moini[1]; Damaso Rosas[1]; Bret See[2]; *[1]Texas State University, San Marcos, TX; [2]University of Texas, Austin, TX*

MP 358 **Novel Approaches to Developing LC/MS/MS Bioanalytical Methods for Liposomal Encapsulations**; Roger Demers; A. Lynn McGrath; Scott Kepfler; Daria L Wentzel; *Tandem Labs, West Trenton, NJ*

MP 359 **Dried Blood Spots Assays for Determination of Various Drugs in Whole Blood by LC-MS/MS**; Xiaorong Liang[1]; Glenn Hanson[1]; Tom Addison[1]; Julie Tollefson[1]; Kevin Jones[1]; David M. Bakes[2]; Lee Goodwin[2]; Phillip Turpin[2]; *[1]Covance, Madison, WI; [2]Covance Laboratories Ltd, Harrogate, UK*

MP 360 **Evaluate and Solve an Unusual differential Recovery Problem in Bioanalysis of a Boron-Containing Compound in Mouse Blood**; Ji Zhang; Michael Johnson; Cindy Xia; Mark Qian; *Millennium :The Takeda Oncology Company, Cambridge, MA*

MP 361 **Multi-Class Antibiotic Screening of Honey Using Dual On-line Extraction Columns in Tandem**; Catherine Lafontaine; Yang Shi; Francois A. Espourteille; *Thermo Fisher Scientific, Franklin, MA*

MP 362 **C18-Functionalized Magnetic Nanoparticles as Extraction Sorbent Combined with LC-MS for Analysis of Benzophenones in Urine Sample**; Tzung-Jie Yang; Pei-Cheng Wang; Maw-rong Lee; *National Chung-Hsing University, Taichung, Taiwan*

MP 363 **Determination of Nimetazepam and Metabolites in Urine by LC-APCI/MS/MS**; Chun-Hung Wang; Ren-Jye Lee; Maw-Rong Lee; *National Chung-Hsing University, Taichung, Taiwan*

MP 364 **Use of Fusarate as a Highly-Sensitive Derivative in Liquid Chromatography-Electrospray Ionization Tandem Mass Spectrometric Quantification of Hydroxysteroids**; Kouwa Yamashita; Keiko Yamazaki; Madoka Takahashi; Mitsuteru Numazawa; *Tohoku Pharmaceutical University, Sendai, Japan*

MP 365 **Sensitivity Enhancement in UPLC/MS/MS for Simultaneous Measurement of Plasma Epinephrine and Norepinephrine Using Reductive Amination Labeling**; Chengjie Ji; Justin Walton; Elizabeth A. Groeber; Christopher Lepsy; *Pfizer Inc, Groton, CT*

MP 366 **Development of a Rugged LC-MS/MS Method for Risedronate in Human Plasma Using Trimethylsilyl Diazomethane as Derivatization Reagent**; Mei Li; Nicki Hughes; *Biovail Contract Research, Toronto, Canada*

MP 367 **MS Friendly SALLE as An Optimal Sample Preparation Technique in LC-MS Determination of Simvastatin and Simvastatin Acid in Plasma**; Ramona Rodila; Eric Gage; Jun C. Zhang; Huaiqin Wu; Tawakol El-Shourbagy; *Abbott Laboratories, Abbott Park, IL*

MP 368 **Developing Whole Blood Bioanalytical Method to Analyze ABE-578 with a Mass Spectrometer Friendly Salt Assisted Liquid/Liquid Extraction (SALLE)**; Jacob Lee; Leimin Fan; Huaiqin Wu; Tawakol El-Shourbagy; *Abbott Labs, Abbott Park, IL*

MP 369 **Analysis of Highly Hydrophilic Compounds in Biological Matrices with LC/MS/MS Normal Phase LLE for Sample Preparation;** Kristopher King; Chris Tran; Guangyu Zhao; Ling Morgan; *Tandem Labs, Woburn, MA*

MP 370 **Comparison of Liquid-Liquid Extraction (LLE) and Supported Liquid Extraction (SLE):- Equivalent Limits of Quantitation with Smaller Sample Volumes.**; Lee Williams; Helen Lodder; Rhys Jones; Steve Jordan; Claire Desbrow; Gary Dowthwaite; Joanna Caulfield; Richard Calverley; *Biotage GB Limited, Cardiff, UK*

MP 371 **Comparison of SLE and SPE Sample Preparation for the Determination of Ibuprofen in Plasma**; Yu Zhou; Amber Awad; Teresa Pekol; *Synomics Pharma, Wareham, MA*

MP 372 **Extraction of Melamine from Various Matrices Using Resin-Based Mixed-Mode Cation Exchange SPE and Analysis with LC-MS/MS.**; Lee Williams[1]; Elena Gairloch[2]; Rhys Jones[1]; Helen Lodder[1]; Steve Jordan[1]; Richard Calverley[1]; Claire Desbrow[1]; Steve Plant[1]; Gary Dowthwaite[1]; Joanna Caulfield[1]; *[1]Biotage GB Limited, Cardiff, UK; [2]Biotage, Charlottesville, VA*

MP 373 **A New Online SPE/LC/MS/MS Method for Screening Perfluorinated Compounds (PFCs) in Waste Water**; Fredrick D. Foster[1]; Meike Baden[2]; Norbert Helle[2]; Juergen Wendt[3]; *[1]Gerstel GmbH & Co KG, Mülheim an der Ruhr, Germany; [2]TeLA GmBH, Bremerhaven, Germany; [3]Agilent Technologies, Waldbronn, Germany*

MP 374 **Human Plasma Renin Activity Assay with On-Line Solid Phase Extraction and LC/MS/MS Detection**; Kheng B. Lim[1]; Daniel B. Kassel[1]; *[1]Takeda San Diego, Inc., San Diego, CA*

MP 375 **Improved Extraction for the Quantitation of Plasma Total F2-Isoprostanes**; Alan W. Taylor; Maret G. Traber; *Oregon State University, Corvallis, OR*

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MP 376 **Determination of Metoprolol Enantiomers in Human Plasma by Liquid Chromatography with Tandem Mass Spectrometry Using Cellobiohydrolase Chiral Stationary Phase**; Xi Chen; Hongliang Jiang; Xiang-yu Jiang; *Covance Laboratories Inc., Madison, WI*

MP 377 **A Chiral LC-MS/MS Method for the Separation and Quantitation of Lorcaserin and Its S-Enantiomer**; Michael Ma; WeiChao Chen; Yong Q. Tang; *Arena Pharmaceuticals, San Diego, CA*

MP 378 **Use of Normal Phase Chromatography to Enhance LC/MS/MS Separation of Fluvastatin Stereoisomers**; Nicolas Jean; Chantal Gravel; Sylvain Lachance; Ann Levesque; Robert Masse; *Anapharm, Québec, Canada*

MP 379 **Chiral LC-MS/MS Analysis with Polysaccharide Based Stationary Phases Using Novel Mobile Phases in RP Elution Mode for Stereoisomeric Pharmaceutical Compounds**; Liming Peng; Tivadar Farkas; Swapna Jayapalan; *Phenomenex, Inc., Torrance, CA*

MP 380 **Charge-State-Dependent Enantioselective Discrimination of Leucine Enantiomers by Antimony(III)-D/L-Tartrate Elucidated by ESI-MS, Computational Modeling and 1H-NMR.**; Aruna B. Wijeratne[1]; Jose Gracia[2]; Daniel W. Armstrong[1]; Kevin A. Schug[1]; *[1]University of Texas at Arlington, Arlington, TX; [2]Schuit Inst. of Catalysis, Eindhoven University, Eindhoven, Netherlands*

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MP 381 **Detection of Signal Peptides Presented by HLA-A*0201 in TAP Competent Cells using Nanospray MS3 on a Linear Ion Trap**; Bruce B. Reinhold[1]; Song Ye[2]; Ellis Reinherz[1]; *[1]Dana Farber Cancer Institute, Boston, MA; [2]Applied Biosystems, Framingham, MA*

MP 382 **Evaluating the Antigenicity of Cancer Therapeutic Immunotoxins Using MS-Based Epitope Mapping**; James G. Smedley, III[1]; Johanna Hansen[2]; Masanori Onda[2]; Ira Pastan[2]; Kenneth B. Tomer[1]; *[1]NIEHS, Research Triangle Park, NC; [2]NCI, Bethesda, MD*

MP 383 **The Effect of Interferon-gamma on the Proteome and the MHC-Peptidome of Human Carcinoma Cells**; Elena Milner[1]; Eilon Barnea[1]; Ilan Beer[2]; Arie Admon[1]; *[1]Technion - Israel Institute of Tech, Haifa, Israel; [2]IBM Research Laboratory, Haifa, Israel*

MP 384 **Identification of Novel MHC Class I Presented Epitopes in Lung Cancer by Mass Spectrometry**; Punit Shah; Vivekananda Shetty; Thamby Gomathinayagam; Zacharie Nickens; Ramilla Philip; *Immunotope, Inc., Doylestown, PA*

MP 385 **MS Analysis of the MHC II Peptide Repertoire of Cell-Based Cancer Vaccines in the Presence or Absence of Invariant Chain.**; Olesya Chornoguz; Alexei Gapeev; Suzanne Ostrand-Rosenberg; *UMBC, Baltimore, MD*

MP 386 **Utilizing Secreted MHC Molecules (sHLA) to Investigate the Phospho-Immuno-Peptidome of Breast Cancer**; Andrew Norris[1]; A. Michelle English[1]; Jie Qian[1]; Oriana E. Hawkins[2]; Victor H. Engelhard[1]; Jeffrey Shabanowitz[1]; William Hildebrand[2]; Donald F.

Hunt[1]; *[1]University of Virginia, Charlottesville, VA; [2]University of Oklahoma, Oklahoma City, OK*

MP 387 **Quantitative Proteomic Analysis Using SILAC Reveals Compartment-Specific Interactions of T-Cell Specific Ligand (TULA/STS-2)**; Therese Collingwood[1,2]; Alexander Tsygankov[1]; Roland S. Annan[1,2]; *[1]Temple University School of Medicine, Phila, PA; [2]GlaxoSmithKline, King of Prussia, PA*

MP 388 **Profiling of Real-Time and Dynamic Changes of MyD88 Interactions for Mediating Innate Immune Response by Using iTRAQ and SILAC**; Sun Yong Jeong; Yanbao Yu; Xian Chen; *University of North Carolina, Chapel Hill, NC*

MP 389 **Organelle Membrane Proteomics Reveals New Insights on Phagosome Maturation Mediated by Mycobacterial Lipoglycans**; Wenqing Shui[2]; Chris Petzold[1]; Alyssa Redding[1]; Austin Pitcher[2]; Leslie Sheu[3]; Tsung-yen Hsieh[3]; Jay D. Keasling[1,4]; Carolyn R. Bertozzi[2,3]; *[1]Lawrence Berkeley National Lab, Berkeley, CA; [2]Department of Chemistry, UC Berkeley, Berkeley, CA; [3]Department of Molecular & Cell Biology, UC Berkey, Berkeley, CA; [4]Department of Chemical Engineering, UC Berkeley, Berkeley, CA*

MP 390 **Quantitative Phosphoproteomics: Deciphering the Essential Role of Gab2 in Mast Cell Signaling.**; Lulu Cao[1]; Kebing Yu[1]; Vinh Nguyen[2]; Arthur Salomon[2]; *[1]Brown University Chemistry Department, Providence, RI; [2]Brown University MCB Department, Providence, RI*

MP 391 **The Use of Mass Spectrometry in Immunoassay Development for Nonclinical and Clinical Studies**; Ola M. Saad; Jakub Baudys; Keyang Xu; Luna Liu; Cecilia Leddy; Surinder Kaur; *Genentech, Inc., South San Francisco, CA*

MP 392 **Multiplex Analysis of Food Allergens Using Immunoprecipitation and Mass Spectrometry**; Kevin J. Shefcheck[1]; Jinxi Li[2]; Catherine Fenselau[2]; John H. Callahan[1]; Steve Musser[1]; *[1]FDA/CFSAN, College Park, MD; [2]University of Maryland, College Park, MD*

MP 393 **High Throughput Bioinformatic and Proteomic Platform to Identify Viral Virulence Genes and Their Cellular Targets;** Refugio Martinez; *VLST Corporartion, Seattle, WA*

MP 394 **Antibody-Antigen Binding Affinity Measurement Using HD Exchange and Dilution Strategy**; Tingting Tu[1]; Don L. Rempel[1]; Alina Petre[2]; Michael Przybylski[2]; Michael L. Gross[1]; *[1]Washington University in St. Louis, Saint Louis, MO; [2]University of Konstanz, Konstanz, Germany*

MP 395 **A Temporal Analysis of the Bovine Innate Immune Response: The Identification and Characterization of Antimicrobial Peptides by Mass Spectrometry**; Jeffrey A. DeGrasse[1]; Jamie L. Boehmer[2]; Kevin J. Shefcheck[1]; Jeffrey L. Ward[2]; John H. Callahan[1]; *[1]FDA/CFSAN, College Park, MD; [2]FDA/CVM, Laurel, MD*

MP 396 **Relative Quantification of Differentially Expressed Proteins in Bovine Milk during Coliform Mastitis Using Spectral Count Data**; Jamie L. Boehmer[1]; Jeffrey L. Ward[1]; Douglas D. Bannerman[2]; Kevin J. Shefcheck[3]; Melinda A. Mcfarland[3]; John H. Callahan[3]; *[1]FDA Center for Veterinary Medicine, Laurel, MD; [2]Department of Veterans Affairs, Washington, DC; [3]FDA/CFSAN, College Park, MD*

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MP 397 **Evaluation of QTOF Technology for the Quantitation of Drugs in Plasma**; Julie Marr[1]; Walter Korfmacher[2]; Fangbiao Li[2]; Yunsheng Hsieh[2]; Bob Walker[1]; Jim Lau[1]; *[1]Agilent Technologies, Mississauga, Canada; [2]Schering-Plough, Kenilworth, NJ*

MP 398 **Quantitation of Analytes with a QTOF Versus a QQQ Instrument. How Big is the Penalty for Qualitative Information?;** Sian L Avery; Angela Hayes; Frederique Urban; Florence I. Raynaud; *The Institute of Cancer Research, Sutton, UK*

MP 399 **The Potential for High Resolution Mass Analyzers for Quantification in Pharmaceutical Bioanalysis**; Panos Hatsis; Wilmin P. Bartolini; Robert Busby; *Ironwood Pharmaceuticals, Cambridge, MA*

MP 400 **Screening and Semi-Quantitative Analysis for Pharmaceutical Drug Metabolites in Urine Samples**; Yoshifumi Kogure; Masahiro Maeda; Yoshiyuki Ishii; *Agilent Technologies, Hachioji, Japan*

MP 401 **Development of a Quantitative Chiral HPLC/MS Method to Investigate Secondary Alcohol Epimerization Process Using LC/ Ion Trap FT-MS**; Hong Cai; Chiuwa Emily Luk; Xiang-Yang Ye; Jun Dai; Bogdan Sleczka; Angela K. Goodenough; Jonathan L. Josephs; *Bristol-Myers Squibb, Pennington, NJ*

MP 402 **Super-Critical Fluid Chromatography (SFC) with Tandem Mass Spectrometry (MS/MS) to Evaluate the Disposition of Individual Stereo-Isomers of Drugs**; Qing Ping Han; Xu Zhang; David P. Budac; Mark J. Hayward; Silke Miller; *Lundbeck Research USA, Paramus, NJ*

MP 403 **Determination of Resveratrol and its Metabolites in Rat Fetus and Pup Tissues by UPLC-MS/MS**; Melanie A. Rehder Silinski[1]; Franz K. Thomas[1]; James C. Blake[1]; Reshan E. Fernando[1]; Richard Daw[1]; Timothy R. Fennell[1]; Brian F. Thomas[1]; Bradley J. Collins[2]; *[1]RTI International, Research Triangle Park, NC; [2]NIEHS/National Toxicology Program, Research Triangle Park, NC*

MP 404 **Withdrawn**

MP 405 **Determination of Clozapine and its Two Metabolites in Rat Plasma and Brain Tissue Using Ultra-Performance Liquid Chromatography/Tandem Mass Spectrometry**; Feng Liang[1]; Alvin V. Terry[2]; Michael G. Bartlett[1]; *[1]University of Georgia, Athens, GA; [2]Medical College of Georgia, Augusta, GA*

MP 406 **Metabolic Stability Study Using Cassette Analysis and Polarity Switching in an Ultra High Performance Liquid Chromatography (UHPLC)-Triple Quadrupole System**; Anabel Fandino[1]; Edgar Naegele[1]; Stephan Buckenmaier[2]; Bernd Glatz[1]; *[1]Agilent Technologies, Santa Clara, CA; [2]Agilent, Waldbronn, Germany*

MP 407 **Quantitative Open Access LC-MS/MS Using QuickQuan and QuickCalc Software.**; John G. Swales; Gary Wilkinson; *Astrazeneca, Macclesfield, UK*

MP 408 **Rapid Method Development and Evaluation for Bioanalysis in Drug Discovery**; Hongying Gao; Max Tella; Brian Rago; Steven Hansel; Christopher Holliman; *Pfizer Inc, Groton, CT*

MP 409 **LDTD-MS/MS Analysis of Eicosanoids and Other Mediators of Inflammation**; Pierre Picard[3]; Serge Picard[2]; Nicolas Flamand[4]; Katherine Boulay[2]; E. Real Paquin[1]; Pierre Borgeat[2]; *[1]Universite Laval, Quebec,*

Canada; [2]Centre de Recherche en Rhumatologie et Immunologie, Québec, Canada; [3]Phytronix Technologies, Inc., Quebec, QC; [4]Centre de Recherche de l'hôpital Laval, Québec, Canada

MP 410 **Determination of Acetylsalicylic Acid and Salicylic Acid in Human Plasma BY LC/MS/MS**; Hongkun Liang; Mojdeh Vahid; Yongdong Zhu; Jamie Zhao; Kristen Singleton; Preeta Bissessar; Yuan-Shek Chen; Kumar Ramu; *Quest Pharmaceutical Service, Newark, DE*

MP 411 **Quantitation of Free Quercetin in Human Whole Blood by HPLC-MS/MS**; Yuwen Zhao; Lina Tang; Jamie Zhao; Yuan-shek Chen; Kumar Ramu; *QPS, LLC, Newark, DE*

MP 412 **Simultaneous Quantification of Paclitaxel and Metabolites in Human Plasma by Liquid Chromatography-Tandem Mass Spectrometry (LC-MS/MS);** Seul Oh; Hwa Suk Kim; Jun-hwa Shim; Hyang-Hee Yang; Won-Seok Nam; Seon-Jeong Kim; Seo Hyun Yoon; Kyung-Sang Yu; In-Jin Jang; *Seoul National University, Seoul, South Korea*

MP 413 **Validation of a Method for the Determination of Lapatinib in Human Plasma by LC-MS/MS**; Robb Harman; Hongkun Liang; Yongdong Zhu; Yuan-shek Chen; Kumar Ramu; *QPS, LLC, Newark, DE*

MP 414 **Quantitative LC-MS/MS Determination of Melphalan in Human Plasma**; Jared Callan; Hongli Wang; Yuwen Zhao; Jamie Zhao; Yuan-Shek Chen; Kumar Ramu; *QPS, LLC, Newark, DE*

MP 415 **Determination of 6-Benzylthioinosine in Human and Mouse Plasma by LC-ESI-MS/MS**; Lan Li; *Cleveland State University, Cleveland, OH*

MP 416 **Simulataneous Quantiation of Methotrexate and its Metabolite 7-Hydroxymethotrexate in Human Plasma by LC/MS/MS Combined with Solid Phase Extraction**; Xiaoping Ao; Jamie Zhao; Lina Tang; Hsun-Wen Chou; Yuan-shek Chen; Kumar Ramu; *QPS, LLC, Newark, DE*

MP 417 **Quantitative Determination Of Temozolomide In Human Plasma By LC/MS/MS**; Hongkun Liang; Bashir A. Mansoori; Crystal Nguyen; Robert Harman; Yongdong Zhu; Kumar Ramu; *QPS, LLC, Newark, DE*

MP 418 **Determination of Moxifloxacin used as Positive Controls for QT Prolongation in Human Plasma by LC-MS/MS**; Lina Tang; Yuwen Zhao; Kristen Singleton; Jerry Cao; Jamie Zhao; Yongdong Zhu; Yuan-shek Chen; Kumar Ramu; *QPS, LLC, Newark, DE*

MP 419 **Quantification of Doxorubicinol with the Presence of Excessive Doxorubicin in Human Plasma by Column Switching and LC-MS/MS Techniques**; Moo-young Kim; Yansheng Liu; Ying Li; Sarah Swenson; Gene Ray; Dari Dadgar; *AAI Pharma, Shawnee, KS*

MP 420 **Determination of Capsaicin and in Human Plasma by LC-MS/MS Following 96-Well Liquid-Liquid Extraction**; Changyu Quang; Xiaodong Zhu; Tom Addison; John Banach; Xiang-yu Jiang; Kevin Jones; *Covance Bioanalytical Servic, Madison, WI*

MP 421 **Quantitative HPLC-ESI-MS/MS Analysis of bis-N7-Guanine Cross-Links in White Blood Cells of Cancer Patients Receiving Cyclophosphamide Therapy**; Bhaskar Malayappan; Natalia Tretyakova; *University of Minnesota, Minneapolis, MN*

MP 422 **Optimization of On-Line Coupling of Weak Anion-Exchange and Ion-Pair HPLC Systems for Robust and Sensitive MS/MS Detection of Nucleotide Triphosphates**; Zsuzsanna Kuklenyik; Angela Holder; Ae S. Youngpairoj; Mian-er Cong; Qi Zheng; Gerardo Garcia-Lerma; Walid Heneine; James L. Pirkle; John R. Barr; *Centers for Disease Control and Prevention, Atlanta, GA*

MP 423 **Determination of Ibandronate (a Complex Biophosphonate) in Human Plasma by LC/MS/MS**; Kristen Singleton; Jasper X. Chu; Jared Callan; Preeta Bissessar; Yuan-shek Chen; Kumar Ramu; *QPS, LLC, Newark, DE*

MP 424 **On-Line Sample Enrichment, Cleanup, and Phospholipids Removal Using Protein Precipitation for Microdosing Bioanalysis**; Fumin Li; John Zulkoski; Wes Brown; Xiangyu Jiang; Tom Addison; Jacob Maguigad; Kevin Jones; *Covance Inc., Waunakee, WI*

MP 425 **Effect of Storage and Freeze / Thaw Cycles on Plasma Enzyme Activity, Phospholipids and pH in EDTA Human Plasma**; Steven T. Wu[1]; Zheng Ouyang[1]; Mohammed Jemal[1]; *[1]Bristol-Myers Squibb, Princeton, NJ*

MP 426 **Comparison of Three MS/MS Techniques for Monitoring Plasma Phospholipids and Effect of Mobile Phase Composition on Phospholipids Elution**; Yuan-qing Xia; Mohammed Jemal; *Bristol-Myers Squibb Company, Princeton, NJ*

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MP 427 **An Alternative Screening Strategy for Drug Discover Using Accurate Mass**; Mark Szewc; Josef Ruzicka; Mark Sanders; *Thermo Fisher Scientific, Somerset, NJ*

MP 428 **Application of an LC-Orbitrap Approach to Complete Metabolite Identification in 2 Injections**; Austin Li[2]; Xiang-yu Jiang[1]; Jon Denissen[1]; *[1]Covance, Waunakee, WI; [2]Covance Laboratory, Inc., Sun Prairie, WI*

MP 429 **Comparison of Three High-Throughput Methods for the Simultaneous Measurement of Metabolic Stability and Identification of Metabolites**; Alek N. Dooley; Alexandre Wang; Hua-fen Liu; Elliott Jones; Loren Olson; *Applied Biosystems, Foster City, CA*

MP 430 **An Approach towards Rapid and Definitive Identification of *N*-Oxidised drug Metabolites Using Structurally Dependent Dissociation Pathways and Extracted Ion Chromatograms**; Stephen Holman[1]; Patricia Wright[2]; G. John Langley[1]; *[1]University of Southampton, Southampton, UK; [2]Pfizer Global Research and Development, Sandwich, UK*

MP 431 **Live Single Cell Drug Metabolism of Tamoxifen Analyzed by Nano ESI Mass Spectrometry**; Sachiko Date; Hajime Mizuno; Naohiro Tsuyama; Takanori Harada; Tsutomu Masujima; *Hiroshima Univ. BioMed., Hiroshima-shi, Japan*

MP 432 **Characterization of CVT-3619 Metabolites in Rat Urine and Bile after IV Administration**; Claire Bramwell-German; Nevena Mollova; Lakshmi Bajpai; Eve-Irene Lepist; Kwan Leung; *CV Therapeutics, Palo Alto, CA*

MP 433 **Pooled-Stream LC/MS/MS: Technical Considerations for Processing Parallel LC Streams with ESI-MS/MS Detection**; John Janiszewski[1]; David Gale[1]; Heather Skor[2]; Sadayappan Rahavendran[3]; *[1]Pfizer Inc., Groton, CT; [2]Pfizer, Inc., San Diego, CA; [3]Pfizer Global R&D, San Diego, CA*

Posters must be set up 8:00 - 8:30 am on the day scheduled and removed 7:30 to 8:00 pm. Authors of odd numbered posters (001, 003, 005, etc.) are required to be present 10:30 – 12:30. Authors of even numbered posters (002, 004, 006, etc.) must be present 12:30 – 2:30 pm.

MP 434 **The Versatility of Parallel HPLC, Data Acquisition and Processing Workflows for Enhanced LC/MS/MS Throughput in Early Drug Discovery**; Veronica Zelesky; Richard Schneider; John Janiszewski; *Pfizer Inc., Groton, CT*

MP 435 **Automation of Integrated LC –MS/MS Peak Quality Assurance and Analytical Run Quality Control**; Susan Crathern[4]; Kristin Geddes[1]; Lyle Burton[2]; Richard King[3]; *[1]Merck and Co, Inc, West Point, PA; [2]MDS Analytical Tech, Sciex, Concord, ON; [3]PharmaCadence Analytical, Quakertown, PA; [4]Merck and Co., West Point, PA*

MP 436 **A High Throughput Screening Method for Determining Plasma Protein Binding Using a Six Sigma Approach.**; Matthew Zrada; Kenneth D. Anderson; Chris Kochansky; Ryan Norcross; *Merck and Co., Inc., West Point, PA*

MP 437 **Application of the BioTrove RapidFire™ Ultra-Fast Online SPE-MS/MS System for Compound-Specific Analysis of *in-vitro* ADME Samples**; Anthony Paiva; Andrew Wagner; Xianmei Cai; Ying Li; Janet kolb; John Herbst; Charlie Conway; Harold Weller; Wilson Shou; *Bristol-Myers Squibb, Wallingford, CT*

MP 438 **Evaluation of Accurate Mass TOF-MS for use in High Throughput CYP450 Inhibition Screening**; William A. Lamarr; Michelle V. Romm; Nikunj Parikh; Lauren E. Frick; Can "Jon" Ozbal; *BioTrove, Inc., Woburn, MA*

MP 439 **A Database of Observed Molecular Weight Changes during Drug Metabolism**; Bill Fitch; Bo Wen; Ludmila Alexandrova; *Roche Palo Alto, Palo Alto, CA*

MP 440 **Quantitative and Qualitative Analysis of Endogenous and Exogenous Metabolites Using Polarity Switching on a Hybrid Quadrupole Linear Ion Trap.**; Renee Huang; Loren Olson; *Applied Biosystems, San Jose, CA*

MP 441 **Real Time Neutral Loss IDA Trigger on High Performance QqTOF System System and Associated Post-Acquisition Processing Tools**; J.C. Yves Leblanc[1]; Nic Bloomfield[2]; Eva Duchoslav[1]; *[1]MDS Analytical Technologies, Concord, On, Canada; [2]MDS Analytical Tech- Sciex, Concord, ON*

MP 442 **High Throughput Identification of Irinotecan Metabolites in Tissue Homogenates Using MSn and a 10 Hz cycle Time Linear iIon Trap**; Maria C. Prieto Conaway[1]; Julie Horner[1]; Yingying Huang[1]; Shousong Cao[2]; Farukh Durrani[2]; Youcef Rustum[2]; Ping Wang[2]; Khin Marlar[2]; A. Latif Kazim[2]; Julian Phillips[1]; *[1]Thermo Fisher Scientific, San Jose, CA; [2]Roswell Park Cancer Institute, Buffalo, NY*

MP 443 **Detection and Structure Characterization of GSH Adducts with One Injection Methodology**; Hua-fen Liu[1]; Yanling Yu[2]; Houfu Lui[2]; Yongming Xie[1]; Jiehui Hu[1]; Zong-ping Zhang[2]; *[1]Applied Biosystems, Foster City, CA; [2]GSK, Shanghai, China*

MP 444 **Evaluating Short Dwell and Pause Times for Quantitation of Multiple Co-Eluting Analytes Utilizing Fast Chromatography**; Scott A. Cassidy; Anthony J. Romanelli; Loren Y. Olson; *Applied Biosystems, Framingham, MA*

MP 445 **High Throughput Liquid Chromatography/Tandem Mass Spectrometry Method for Quantification of Isoflavones, Their Metabolites and Other Phytoestrogens**; Jeevan Prasain[1]; Ray Moore[1]; Alireza Arabshahi[1]; Gail Greendale[2]; Stephen Barnes[1]; *[1]University of Alabama at Birmingham, Birmingham, AL; [2]University of California, Los Angeles, CA*

MP 446 **Balancing High Throughput and Mass Spectrometric Sensitivity with a New 2mm ID Silica-Monolith C18 Column**; Terrell J Mathews; *Phenomenex, Torrance, CA*

MP 447 **High Sensitive and High Throughput Analysis of Diltiazem Metabolites Using LC/TOF-MS**; Naohiro Kuriyama[1]; Noriko Shoji[1]; Chie Yokoyama[1]; Jun Watanabe[2]; Haruo Hosoda[2]; Joji Seta[2]; Noriyuki Iwasaki[2]; *[1]YMC Co., Ltd., Komatsu, Japan; [2]Bruker Daltonics K. K., Yokohama, Japan*

MP 448 **Performance Advantages Using Micro-LC Columns Packed with Sub-3 µm Particles in LC/MS/MS.**; David Neyer; Remco Van Soest; Steve Hobbs; *Eksigent Technologies, Dublin, CA*

MP 449 **Streamlining High-Throughput Drug and Metabolite Method Development Using Thermal Gradient Focusing ESI**; Craig Love; Alex Mordehai; *Agilent Technologies, Santa Clara, CA*

MP 450 **Rapid Screening of Opiate and Benzodiazepine Drugs in Biological Fluids Using Electrophoretic Fractionation and MALDI Linear Ion Trap Mass Spectrometry**; Lisa Manier[1]; Richard M. Caprioli[2]; *[1]Vanderbilt University, Nashville, TN; [2]Vanderbilt Univ Sch of Med, Nashville, TN*

MP 451 **Improving the Success Rate Using of "Trap and Elute" Chromatography for High-Throughput LC/MS/MS Bioanalysis**; Hui Zhang; John Janiszewski; Richard Schneider; *Pfizer Inc., Groton, CT*

MP 452 **Drug Metabolite Identification with UPLC-MS Assisted by High Resolution Reconstructed Radiochromatography**; Manfred Zell; Christophe Husser; *F. Hoffmann-La Roche Ltd, Basel, Switzerland*

MP 453 **Withdrawn**

PEPTIDES: QUANTITATION – METHODS, 454 - 477

MP 454 **Identification and Relative Quantitation of peptides in Complex Un-Fractionated Serum Matrices Using MALDI LTQ Orbitrap XL**; Rosa Viner[1]; Iman Mohtashemi[1]; Elizabeth R. Remily[2]; John Koomen[2]; *[1]ThermoFisher Scientific, San Jose, CA; [2]H. Lee Moffitt Cancer Center, Tampa, FL*

MP 455 **High Resolution and High Mass Accuracy LC-MS for Hepcidin Quantitation in Human Serum**; Hongyan Li[1]; Mark J Rose[1]; Bradley J. Hart[2]; Seema Sharma[2]; Christopher A James[1]; *[1]Amgen Inc, Thousand Oaks, CA; [2]Thermo Scientific, San Jose, CA*

MP 456 **High Throughput Protein Quantitation Using Multiple Reaction Monitoring**; Ning Tang; Christine Miller; Keith Waddell; *Agilent Technologies, Santa Clara, CA*

MP 457 **Quantification of Total Peptide Amount by an Optimized LC-UV Method for Assessing Sample Integrity during Proteome Sample Preparation**; Yanan Tang; Nan Wang; Lu Chen; Andy Lo; Liang Li; *University of Alberta, Edmonton, Canada*

MP 458 **An New Gradient LC-MS/MS System Establishment Optimized for Polypeptide Quantification**; Ryoya Goda; Hiroshi Masumoto; Kenichi Sudo; Nobuhiro Kobayashi; Osamu Okazaki; *Daiichi Sankyo Co., Ltd., Shinagawa-ku, Tokyo, Japan*

MP 459 **Improving Fragmentation Efficiency of TMT Labeled Peptides Using Stepped Higher Energy Collisional Dissociation**; Lihua Jiang; Terry Zhang;

Rosa Viner; Allen Zhang; Vlad Zabrouskov; Mark Sanders; *ThermoFisher Scientific, San Jose, CA*

MP 460 **Amino Acid Analysis of Peptides Using Isobaric-Tagged Isotope Dilution LC-MS/MS**; Adrian R Woolfitt[1]; Maria I Solano[1]; Tracie Williams[2]; James L Pirkle[1]; John R. Barr[1]; *[1]CDC, Atlanta, GA; [2]Centers for Disease Control and Prevention, Atlanta, GA*

MP 461 **Withdrawn**

MP 462 **Dial-In Precision of Peptide Ratio Determination Down to the Low Percent Range**; Johannes Graumann[1]; Juergen Cox[1]; Yong Zhang[2]; Matthias Mann[1]; *[1]Max-Planck-Institute of Biochemistry, Martinsried, Germany; [2]Beijing Institute of Genomics, Beijing, China*

MP 463 **A Sensitive Method for Quantitating Peptides on a New Orbitrap Mass Spectrometer;** Jie Qian; Gene Ciccimaro; Mark Szewc; *Thermo Scientific, Somerset, NJ*

MP 464 **Development of a Novel Immunoaffinity Capture-Based LC-MS/MS Method for Quantitation of Adrenomedullin in Human Plasma**; Stone D.-h. Shi[1]; Hendrik Neubert[2]; Simon Bergqvist[1]; Ian T James[2]; Michael Greig[1]; Eugenia Kraynov[1]; *[1]Pfizer Global R&D- La Jolla, San Diego, CA; [2]Pfizer Corporation, Sandwich, Kent, UK*

MP 465 **Bioanalysis of Peptides Using On-Line Two-Dimensional Liquid Chromatography**; Ang Liu[2]; Chad E Wujcik[3]; Joseph A Tweed[1]; *[1]Pfizer Inc.,, Groton, CT; [2]Univ. of Illinois at Chicago, Chicago, IL; [3]Monsanto, St. Louis, MO*

MP 466 **HILIC Chromatography is a Superior Alternative to SCX/RP for Peptide Purification.**; Joseph Caruso; Paul Stemmer; *Wayne State University, Detroit, MI*

MP 467 **Quantification of Ion Suppression on Peptides in Complex Mixtures by Electrospray Ionization Mass Spectrometry**; Vincent A. Fusaro; Susan E. Abbatiello; Jacob D. Jaffe; Karl R. Clauser; Steven A. Carr; *Broad Institute of MIT and Harvard, Cambridge, MA*

MP 468 **Preparative Electrophoresis of Peptides and Small Molecules for Quantitative LC/MS/MS Analysis.**; Nghia Chiem; Jay Harkins; Peter Osucha; Chuck Witkowski; Jeremy L. Norris; *Protein Discovery, Inc., Knoxville, TN*

MP 469 **Understanding Hydrophobicity and Limits of Detection for Biologically Relevant Peptides Using the ALiPHAT Method and Electrospray Ionization**; D. Keith Williams, Jr.; Ibrahim D. Bori; Pauline Ondachi; Daniel L. Comins; Jerry L. Whitten; David C. Muddiman; *North Carolina State Univ., Raleigh, NC*

MP 470 **Development of an Air Amplifier Assisted Protein-Cleavage Isotope Dilution Mass Spectrometry Method for Prostate Specific Antigen in the Nano-Flow Regime**; R. Brent Dixon; D. Keith Williams, Jr.; Alex Sohn; Jack R. Edwards; Thomas A. Dow; David C. Muddiman; *North Carolina State Univ., Raleigh, NC*

MP 471 **Rapid MRM Assay Development Strategies - Intelligent Software and Acquisition Strategies for Highest Productivity**; Sahana Mollah; Matthew Champion; Christie L Hunter; *Applied Biosystems, Foster City, CA*

MP 472 **Mixed Mode LCMS Methods to Reduce Variability of Response in Highly Selective, Sensitive Bioanalyses for Peptide Therapeutics in Human Plasma**; Erin E. Chambers; *Waters Corporation, Milford, MA*

MP 473 **Using Targeted Charge Separation to Improve Detection Limits in Therapeutic Peptide Quantitation**; J.c. Yves Leblanc[1]; Changtong Hao[2]; J. Larry Campbell[3]; K W Michael Siu[2]; *[1]MDS Analytical Technologies, Concord, On, Canada; [2]York University, Toronto, ON; [3]MDS Analytical Tech, Sciex, Concord, ON*

MP 474 **Highly Sensitive Peptidomics Profiling of Native Plasma Samples by Efficient Tandem Mass Tag Labeling Avoiding Bias and Proteolytic Artifacts**; Hans-Dieter Zucht; Petra Budde; Christian Baumann; Sasa Koncarevic; Karsten Kuhn; Thorsten Prinz; Peter Schulz-Knappe; *Proteome Sciences, Frankfurt, Germany*

MP 475 **Fundamental Studies on the Electrophoretic Enrichment of Peptides in Clinical Samples for Quantification Using nanoLC-MS/MS.**; Gary Valaskovic[2]; Mike S. Lee[1]; Chuck Witkowski[3]; Jeremy L. Norris[3]; *[1]Milestone Development Services, Newtown, PA; [2]New Objective, Inc., Woburn, MA; [3]Protein Discovery, Inc., Knoxville, TN*

MP 476 **PQD Ion Trap MS Based Quantitation of Complex Cellular Extracts**; Maria Iuliana Lazar; Ina Hoeschele; Jenny Armenta; *Virginia Bioinformatics Institute, Blacksburg, VA*

MP 477 **Robust and Automated Evaluation of MRM Signals in Quantitative Mass Spectrometry: Detecting Interferences in Peptide Quantitation**; D. R. Mani[1]; Susan E. Abbatiello[2]; Michael Burgess[2]; Hasmik Keshishian[3]; Eric Kuhn[2]; Steven A. Carr[2]; *[1]Broad Institute of MIT, Cambridge, MA; [2]Broad Institute, Cambridge, MA; [3]Broad Institute of MIT and Harvard, Cambridge, MA*

CARBOHYDRATE / OLIGOSACCHARIDES, 478 - 499

MP 478 **Correlation Between Glycan Biomarkers of Human Breast Cancer and a Mouse Model of Metastatic Breast Cancer**; Maria Lorna A. de Leoz[1]; Lawrence J. T. Young[1]; Hyun Joo An[1]; Scott R. Kronewitter[1]; Suzanne Miyamoto[2]; Helen K. Chew[2]; Alexander D. Borowsky[1]; Carlito B. Lebrilla[1]; *[1]University of California, Davis, CA; [2]UC Davis Cancer Center, Sacramento, CA*

MP 479 **The *Caenorhabditis elegans* Bacterial Resistant *bus-2* Mutant Reveals a New Class of *O*-glycans and is Deficient in Core-I like *O*-glycans.**; Elizabeth Palaima[1]; Nancy Leymarie[1]; Jonathan Hodgkin[2]; John F Cipollo[1]; Catherine E. Costello[1]; *[1]Boston University School of Medicine, Boston, MA; [2]Univ. of Oxford, Oxford, UK*

MP 480 **A Strategy for Glycomic Characterization of Mucins in Human Pancreatic Juice Using Supported Molecular Matrix Electrophoresis and MALDI-TOF MS**; Yu-ki Matsuno[1]; Weijie Dong[1]; Takuro Saito[2]; Mitsukazu Gotoh[2]; Hisashi Narimatsu[1]; Akihiko Kameyama[1]; *[1]Research Center for Medical Glycoscience, AIST, Tsukuba, Japan; [2]Fukushima Medical University, Fukushima, Japan*

MP 481 **Profiling Reduced and Permethylated Glycans Derived from Human Blood Serum as Potential Cancer Biomarkers by Chip-Based Reversed-Phase Liquid Chromatography-Mass Spectrometry**; William R Alley; Yehia Mechref; Milos V Novotny; *Indiana University, Bloomington, IN*

MP 482 **Monitoring α2-3- and α2-6-sialylation of Human Serum and Granulocyte Gangliosides by nano-HPLC/ESI-QTOF Mass Spectrometry**; Stephan

Kirsch[1]; Jamal Souady[1]; Johannes Müthing[2]; Jasna Peter-Katalinic[1]; Laura Bindila[1]; *[1]Institute of Medical Physics and Biophysics, Münster, Germany; [2]Institute of Hygiene, Münster, Germany*

MP 483 **Comparative Mapping of Drosophila Melanogaster Glycome in the Aging Process through Quantitative Permethylation and Stable-Isotope Labeling**; Zhiyu Li; David E. Clemmer; *Indiana Univ., Bloomington, IN*

MP 484 **N-Glycome Analysis of Membrane Proteins from Intestinal Epithelial Cells**; Milady R. Niñonuevo; Khatereh Motamedchaboki; Caroline Nissan; Lars Bode; *Burnham Institute for Medical Research, La Jolla, CA*

MP 485 **Quantitative Analysis of High Mannose and Sialylated Glycans as Markers for Cancer**; Hyun Joo An[1]; Maria Lorna De Leoz[1]; Scott Kronewitter[1]; Kyle S. Peacock[1]; Jaehan Kim[1]; Jay V. Solnick[1]; Suzanne Miyamoto[2]; Carlito B. Lebrilla[1]; *[1]University of California, Davis, CA; [2]UC Davis Cancer Center, Sacramento, CA*

MP 486 **A Highly Sensitive Method for the Analysis of O-Linked Oligosaccharides**; John A. Goetz[1,2]; Milos V. Novotny[1,2]; Yehia Mechref[1,2]; *[1]Indiana University Dept. of Chemistry, Bloomington, IN; [2]National Center for Glycomics and Glycoproteomics, Bloomington, IN*

MP 487 **Determination of Linkages of Oligosaccharides Using Closed-Ring 8-aminopyrene-1,3,6-trisulfonate Labeling/Negative Ion Trap Mass Spectrometry.**; Sue-Ting Chen; Guor-Rong Her; *National Taiwan University, Taipei, Taiwan*

MP 488 **Alterations in the Glycomics of Major and Minor Proteins Fractionated from the Serum of Hepatocellular Carcinoma Patients**; Pilsoo Kang[1]; Milan Madera[1]; William R Alley[1]; Radoslav Goldman[2]; Yehia Mechref[1]; Milos V Novotny[1]; *[1]Indiana University, Bloomington, IN; [2]Georgetown Univ., Washington, DC*

MP 489 **The Effects of Various Ionizing Species on the Detection and Fragmentation of Oligosaccharides**; Scott Harrison[1,2]; Geoff A Lane[1]; Mary Blackburn[3]; Karl Fraser[1]; Silas Villas-Boas[2]; Susanne Rasmussen[1]; *[1]AgReasearch, Palmerston North, New Zealand; [2]Auckland University, Auckland, New Zealand; [3]Thermo Fisher Scientific, Beverly Hills, MI*

MP 490 **A Combination of Proteomic and Glycomic Characterization of Prostate-Specific Antigen Using Chip-Based MALDI-MS**; Yan Li[1]; Lori J. Sokoll[1]; Brian J. Field[2]; Daniel W. Chan[1]; Hui Zhang[1]; *[1]Johns Hopkins University, Baltimore, MD; [2]Shimadzu Scientific Instruments, Inc., Columbia, MD*

MP 491 **MALDI and ESI of Oligosaccharides and Their Glycopeptides Conjugates**; Yu-Ling Chang[1]; Sylvain Liao[2]; Wen-Bin Yang[2]; Yuan-Chuan Lee[3]; Chung-Hsuan Chen[1,2]; *[1]Department of Chemistry,National Taiwan University, Taipei, Taiwan; [2]Genomics Research Center, Academia Sinica., Taipei, Taiwan; [3]Department of Biology, Johns Hopkins University, Baltimore, MD*

MP 492 **A Mass Spectrometry Based Glycomic Approach for Identification of Carbohydrate Dependant Virulence Factors Using Caenorhabditis Elegans as a Surrogate Host**; Md Mizanur Rahman[1]; Jonathan Hodgkin[2]; John F Cipollo[1]; *[1]Food and Drug Administration/CBER, Bethesda, MMD; [2]University of Oxford, Oxford, UK*

MP 493 **Electron Detachment Dissociation of Chloride-Adducted Oligosaccharides**; James R. Kornacki; Julie Adamson; Kristina Hakansson; *University of Michigan, Ann Arbor, MI*

MP 494 **Isomer Characterization of N-Linked Glycans from Chicken Ovalbumin by Ion Trap MS**; Jenny Jiao; Hailong Zhang; Vernon N. Reinhold; *The Glycomics Center, University of New Hampshire, Durham, NH*

MP 495 **Characterization of N-Linked Glycans on Glycophorins by Sequential Mass Spectrometry**; David Ashline[1]; Ewa Jaskiewicz[2]; Vernon N. Reinhold[1]; *[1]University of New Hampshire, Lee, NH; [2]Ludwik Hirszfeld Inst. of Imm. and Exp. Therapy, Wroclaw, Poland*

MP 496 **Hexose Rearrangements upon Fragmentation of N-Glycopeptides and Reductively Aminated N-Glycans**; Manfred Wuhrer; André M. Deelder; *Leiden University Medical Center, Leiden, The Netherlands*

MP 497 **Ion-Electron Reactions of Sialylated N-Linked Glycans Released from Glycoproteins**; Wen Zhou; Kristina Hakansson; *University of Michigan, Ann Arbor, MI*

MP 498 **Production and Fragmentation of Negative Ions from Neutral *N*-Linked Glycans Ionized by MALDI Mass Spectrometry for Rapid Structural Identification**; David J. Harvey[1]; Paula Domann[2]; Daniel Spencer[3]; Ian Edwards[4]; Rachel L. Martin[4]; *[1]University of Oxford, Oxford, UK; [2]LGC Ltd., Teddington, UK; [3]Ludger Ltd, Abingdon, UK; [4]Shimadzu Biotech, Manchester, UK*

MP 499 **Characterization of Glycan Structures by Low and High Energy CID**; Steven L. Cohen; Steven H. Seeholzer; *The Children's Hospital of Philadelphia, Philadelphia, PA*

PEPTIDES: GENERAL, 500 - 516

MP 500 **Arginine Effect in Photodissociation of Charge Tagged Peptides**; Yi He; James P. Reilly; *Indiana University, Bloomington, IN*

MP 501 **Hypochlorous Acid Modifies N-Terminal Disulfide-Bonded Cysteine: Identification of Reaction Pathway by LC-ESI-MS/MS**; Yi Wang[1]; Grady Blacken[1]; Xiaoyun Fu[1,2]; *[1]Puget Sound Blood Center, Seattle, WA; [2]Department of Medicine, University of Washington, Seattle, WA*

MP 502 **Characterization of Methionine Oxidation in a Parathyroid Hormone Formulation Using LC/TOF MS and LC/MS/MS**; Charles Pan; Joseph Valente; Rosario LoBrutto; Jenifer Pickett; Micheal Motto; *Novartis, East Hanover, NJ*

MP 503 **Analysis of Large Peptides by MALDI Using a Linear Quadrupole Ion Trap with Mass Range Extension**; Daniel P. Magparangalan[1]; Timothy J. Garrett[1]; Dieter M. Drexler[2]; Richard A. Yost[1]; *[1]University of Florida, Gainesville, FL; [2]Bristol-Myers Squibb, Wallingford, CT*

MP 504 **Optimized Condition to Capture Peptides (Bradykinin and Buccalin) for Efficient Fractionation of a Peptide/Protein Mixture**; Ven Ney Wong; Gary R. Kinsel; Daniel Dyer; *Southern Illinois University Carbondale, Carbondale, IL*

MP 505 **Online Analysis of Metal-Binding Peptides Using an Ion-Selective Membrane Probe Coupled to ESI-MS TOF**; Juan Astorga-Wells[1,2]; Thomas White[3]; Craig M. Whitehouse[3]; Thorleif Lavold[2]; Hans Jörnvall[1]; *[1]Karolinska Institutet, Stockholm, Sweden; [2]Biomotif AB, Danderyd, Sweden; [3]Analytica of Branford, Branford, CT*

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MP 506 **Selective Extraction and Fractionation of Peptides from Multi-Protein Digests Using Polymeric and Dendrimeric Reverse Micelles for MS Analysis**; Andrea Gomez-Escudero; Malar Azagarsamy; Sankaran Thayumanavan; Richard W. Vachet; *University of Massachusetts, Amherst, MA*

MP 507 **Structural Elucidation of Isocyanate-Peptide Adducts Using Tandem Mass Spectrometry**; Justin M. Hettick; Tinashe B. Ruwona; Paul D. Siegel; *NIOSH, Morgantown, WV*

MP 508 **Intrinsic Gas Phase Reactivity Trends of a, b and y Peptide Ions: Effects of Size and Shape.**; Patrícia Verardi Abdelnur[1]; Livia S Eberlin[2]; Marcos N Eberlin[3]; *[1]ThoMSon-Unicamp, Campinas, Brazil; [2]Purdue University, West Lafayette, IN; [3]ThoMSon Lab UNICAMP, Campinas, Sp, Brazil*

MP 509 **Protein/Peptide Labeling Using Novel Acid-Cleavable "Fluorous" Affinity Tags**; Jiang Qian[1,2]; Richard B. Cole[2]; 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*

MP 510 **Optimization of On-Target Performic Acid Oxidation Method for MALDI Deposited Samples**; Brad J. Williams; William K. Russell; David H. Russell; *Texas A&M University, College Station, TX*

MP 511 **Conjugation of Glutathione with Oxidized Ascorbate: Structural Analysis of an Adduct and its Detection in Cells**; J. Richard Wagner; Peggy Regulus; Jean-Francois Desilets; Klaus Klarskov; *Université de Sherbrooke, Sherbrooke, Canada*

MP 512 **Mass Spectrometry Study of the Oxidative Modifications in Glycated Insulin**; Sofia Guedes; Rui Vitorino; Francisco Amado; Pedro Domingues; *University of Aveiro, Aveiro, Portugal*

MP 513 **Mass Spectrometric Study of the Truncation of Stromal Cell-Derived Factor-1 (SDF-1) by Proteolytic Enzymes in Patients with Myeloproliferative Diseases**; Sool Yeon Cho[1]; Mingjiang Xu[1]; Pratibha Singh[2]; Jonathan Hoggatt[2]; Louis M. Pelus[2]; Ronald Hoffman[1]; John Roboz[1]; *[1]Mount Sinai School of Medicine, New York, NY; [2]Indiana University College of Medicine, Indianapolis, IN*

MP 514 **Substitution of Acetone for Acetonitrile in the LC/MS Analysis of Peptides by Positive ESI**; David D. Weis; *University of Kansas, Lawrence, KS*

MP 515 **Stopped-Flow Biochemical Kinetics Analyzed by Hadamard Transform Time-of-Flight Mass Spectrometry**; Matthew Robbins; Griffin Barbula; Richard Zare; *Stanford University, Stanford, CA*

MP 516 **Permethylation of Peptides on Chromatographic Media**; James Farmar; Heinz Nika; Fa-yun Che; Louis Weiss; Ruth Hogue Angeletti; *Einstein College of Medicine, Bronx, NY*

REACTIVE METABOLITES, 517 - 535

MP 517 **High Throughput Screening GSH Adducts Using Hybrid Linear Ion Trap Systems Coupling with Fast Chromatography at Clinically Relevant Dose Concentration**; Elliott Jones[1]; Claire Bramwell-German[1]; Hesham Ghobarah[2]; Hua-fen Liu[1]; *[1]Applied Biosystems, Foster City, CA; [2]Applied Biosystems / MDS Sciex, Concord, ON*

MP 518 **An Analytical Strategy to Study *in vivo* Metabolism of Fipexide Using QqQ_{LIT} and QqTOF Capabilities**; David Tonoli[1]; Emmanuel Varesio[1]; Hans H. Maurer[2]; Gerard Hopfgartner[1]; *[1]University of Geneva, Geneve, Switzerland; [2]University of Saarland, Homburg, Germany*

MP 519 **MP Mediated Amine-Activation of Reduced Nimesulide : Identification of Metabolites by LC-MS**; Min Yang; Mahendra Chordia; Fengping Li; Timothy L Macdonald; *University of Virginia, Charlottesville, VA*

MP 520 **Improved Detection of Reactive Drug Metabolites with Bromine-Containing Glutathione Analog Using Mass Defect and Isotope Pattern Matching**; André LeBlanc; Tze Chieh Shiao; René Roy; Lekha Sleno; *UQAM, Montreal, Canada*

MP 521 **Inexpensive Stable Isotope Labelling Approaches Combined with Mass Spectrometry to Screen and Characterize Reactive Drug Metabolites**; Klaus Klarskov; Daniel Defoy; Witold Neugebauer; Ibrahim Hasibu; *University de Sherbrooke, Sherbrooke, Canada*

MP 522 **Generation and Identification of Reactive Metabolites Using On-Line Liquid Chromatography/ Electrochemistry/Mass Spectrometry;** Sandra Jahn; Anne Baumann; Wiebke Lohmann; Björn Meermann; Uwe Karst; *University of Münster, Münster, Germany*

MP 523 **Advantages in Utilizing Smaller Thiols to Trap Reactive Intermediates and Elucidate the Site(s) of Adduct Formation**; Wing W Lam; *Johnson and Johnson Pharmaceutical Research and De, Raritan, NJ*

MP 524 **Withdrawn**

MP 525 **Trapping and Detecting Reactive Cyanide Intermediates without Toxic KCN Addition Using UPLC/QToF MSE**; Don Laudicina; Liping Jin; Ajay Madan; Kayvon Jalali; *Neurocrine Biosciences, San Diego, CA*

MP 526 **Monitoring the Biodistribution and Bioactivity of Anticancer Drugs by MRM-ESI Mass Spectrometry**; Qiyu Qiu; Anne-Laure Larroque; Marcos DiFalco; Line Roy; Bertrand J. Jean-Claude; Bernard F. Gibbs; *McGill University, Montreal, Canada*

MP 527 **Elucidation of a Novel Bioactivation Pathway of 3,4-Unsubstituted Isoxazole by Mass Spectrometry**; Jian Yu; Maria Ribadeneira; *Astrazenaca, Wilmington, DE*

MP 528 **The Alternate Metabolism of Abacavir and its Role in Immune-Mediated Hypersensitivity Reactions in HIV Infected Individuals**; Jeremy Netto[1,3]; Niamh Keane[2,3]; Ian Mullaney[3]; David Nolan[2,3]; Simon Mallal[2,3]; Robert Trengove[1,3]; *[1]Separation Science and Metabolomics Laboratory, Perth, Australia; [2]Royal Perth Hospital, Perth, Australia; [3]Murdoch University, Perth, Australia*

MP 529 **Reactive Metabolite Trapping and Metabolite Identification Using Multiple Reagents and Specific Survey Scans on a Rapid Scanning Linear Ion Trap**; James A. Ferguson[1]; Stanley Rosenberg[1]; Jenny Moshin[1]; LaHoma Easterwood[2]; Sai Y. Chang[3]; *[1]Applied Biosystems, Framingham, MA; [2]CellzDirect, Austin, TX; [3]MSMS Science LLC, Sedona, AZ*

MP 530 **Analysis of Glutathione and Cysteinylglycine Conjugates of (+/-)-anti-7,8-dihydroxy-9,10-epoxy-7,8,9,10-tetrahydro-B[a]P by Liquid Chromatography/ Tandem Mass Spectrometry**; Dipti Mangal[1,2]; Clementina Mesaros[1,2]; Trevor M. Penning[1,2]; Ian A. Blair[1,2]; *[1]center For Cancer Pharmacolo, Philadelphia, PA; [2]Centers of Excellence in Environmental Toxicology, Philadelphia, PA*

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MP 531 **Synthesis, Characterization and Identification of Cysteinyl Adduct of 15-Oxo Eicosatetraenoic Acid in Smoker's Urine**; Jasbir S Arora; Ian A. Blair; *University of Pennsylvania, Philadelphia, PA*

MP 532 **A Novel Differential Analysis Algorithm for Low/High Resolution LC/MS Data: Applied to the Detection of Drug Metabolites and GSH-trapped Adducts**; Marco Ruijken; *MsMetrix, Maarssen, Netherlands*

MP 533 **Profiling of Glutathione Conjugates of Electrophilic Metabolites in Plant Responses to Stress Using LC/TOF and Multiplexed CID**; Xiaoli Gao; Abraham J. K. Koo; Jiangyin Bao; Gregg A. Howe; A. Daniel Jones; *Michigan State Unviersity, East Lansing, MI*

MP 534 **Novel AccQ•Tag UPLC/MS Method for High-Throughput Analysis of Amino Acids and Glutathione in Normal and HME-Transformed Human Mammary Epithelial Cell**; Diego F. Cortes[1]; Jenny M. Armenta[1]; Suzy Torty[2]; Steven Akman[2]; Vladimir Shulaev[1]; *[1]Virginia Bioinformatics Institute, Blacksburg, VA; [2]Wake Forest Universty, Winston-Salem, NC*

MP 535 **Metabolism and Export of Lipid Peroxidation Products as Assayed in Human Monocytic THP-1 Cells Using Electrospray LC-MS/MS**; Brandi L. Langsdorf; Cristobal Miranda; Heather Kuiper; Ralph Reed; Fred Stevens; *Oregon State Univ., Corvallis, OR*

IN VITRO METABOLITE IDENTFICATION, 536 - 548

MP 536 **Application of UV Photodissociation on a QqTOF Enabling Generation and Recording of Unique Fragment Ions on LC Time Scale.**; J.c. Yves Leblanc[1]; Changtong Hao[2]; Chris Lock[1]; Alexandre Loboda[1]; Min J. Yang[1]; K W Michael Siu[2]; Bruce Thomson[1]; *[1]MDS Analytical Technologies, Concord, On, Canada; [2]York University, Toronto, ON*

MP 537 **An *in vitro* Investigation of the Reduction Potential of a Benzothiophene Sulfoxide Metabolite in Liver Microsomes, Cytosol, and Hepatocytes**; Robert M. Iannucci; Carlo Sensenhauser; Shannon Dallas; Waqas Alam; Anthony Streeter; Kao Mark; Jose Silva; Heng-keang Lim; *Johnson and Johnson PRD, Raritan, NJ*

MP 538 **Formula Determination and Relative Quantitation from Overlapping Ion Signals;** Yongdong Wang; Ming Gu; *Cerno Bioscience, Danbury, CT*

MP 539 **Proteomic Investigation of Microbial Transformation of a Roxarsone, a Chicken Feed Additive.**; Partha Basu[1]; Vadiraja Bhat[2]; Peter Chovanec[1]; Stolz John[1]; *[1]Duquesne University, Pittsburgh, PA; [2]Agilent Technologies, Wilmington, DE*

MP 540 **Statistical Differentiation of Xenobiotic Metabolism between Fresh and Cryo-Preserved Hepatocytes Using LC-MS-MS/MS Data from Fast Efficient Tandem Hybrid Instrumentation**; Johnie Brown[1]; Jeffrey Miller[1]; James A. Ferguson[1]; James Hill[2]; *[1]Applied Biosystems, Framingham, MA; [2]CellzDirect, Austin, TX*

MP 541 **Metabolism of Nω-Methylserotonin, a Serotonergic Constituent from Black Cohosh, in Human Liver Microsomes and Intestinal Caco-2 cells**; Dejan Nikolic; Soyoun Ahn; Jinghu Li; Richard B. van Breemen; *University of Illinois College of Pharmacy, Chicago, IL*

MP 542 **Investigation of Lycopene Metabolism and Degradation Products by LC-MS-MS and Stable Isotope Labeling**; Jeff Dahl[1]; Richard B. Van Breemen[2]; *[1]Jeff Dahl, Chicago, IL; [2]University of Illinois, Chicago, IL*

MP 543 **Characterization of *in vitro* Metabolites of Troleandomycin, a Metabolism-Dependent Inhibitor of CYP3A4, by UPLC™ QTOF Mass Spectrometry**; Joanna Barbara; Phyllis Yerino; David Buckley; Mark Horrigan; Paul Toren; Andrew Parkinson; *XenoTech, Lenexa, KS*

MP 544 **Combining Electrochemistry with LC/MS – EC/LC/MS a Powerful Analytical Technique**; Jean-pierre Chervet[1]; Martin Eysberg[1]; Uwe Karst[2]; *[1]Antec Leyden BV, Zoeterwoude, Netherlands; [2]University of Münster, Münster, Germany*

MP 545 **Ultra-Trace Metabolite Identification Using UPLC/FTMS Combined With Chip-Based Nano-LC Separations.**; Jesse L. Balcer; Jeffrey R. Gilbert; David G. Mccaskill; Gerrit J. Deboer; Brian M. Wendelberg; *Dow AgroSciences, Indianapolis, IN*

MP 546 **Characterization of the P450-Isozyme(s) Responsible For the Formation of 5-OH-CP-448,187 and N-oxide-CP-448,187 in Human Liver Microsomes by HPLC/ESI/MS/MS**; Amin M. Kamel[1]; Wendy Wang[1]; Kevin Colizza[2]; *[1]Pfizer, Inc., Groton, CT; [2]Pfizer, Groton, CT*

MP 547 **Identification of *in vitro* Metabolites of the Potent 5-HT1D Receptor Antagonist CP-448,187 by Using HPLC/RAM/ESI/MS/MS**; Kevin Colizza[2]; Wendy Wang[1]; Amin M. Kamel[1]; *[1]Pfizer, Inc., Groton, CT; [2]Pfizer, Groton, CT*

MP 548 **Characterization of *in vivo* Metabolites of the Potent 5-HT1D Receptor Antagonist, CP-448,187 in Mouse by HPLC/RAM/ESI/MS/MS**; Wendy Wang[1]; Kevin Colizza[2]; Amin M. Kamel[1]; *[1]Pfizer, Inc., Groton, CT; [2]Pfizer, Groton, CT*

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MP 550 **Screening of Agrochemicals in Foodstuffs and Water Using Low Temperature Plasma (LTP) Ambient Mass Spectrometry**; Joshua S Wiley[1]; Juan F Garcia-Reyes[1,2]; Jason Harper[1]; Nicholas Charipar[1]; Zheng Ouyang[1]; R. Graham Cooks[1]; *[1]Purdue University, West Lafayette, IN; [2]University of Jaen, Jaen, Spain*

MP 551 **High-Performance Liquid Chromatography Electrospray Ionization Fourier Transform Ion Cyclotron Resonance Mass Spectrometry of Citrus Extracts: Characterization and Comparisons**; Mark R Crosswhite; *Florida State University, Tallahassee, FL*

MP 552 **MALDI-TOF/TOF Analysis of Sugar Beet Pectin-Protein Complex**; Alberto Nuñez; Marshall L. Fishman; Laurie Fortis; Hoa K. Chau; *USDA-ARS-ERRC, Wyndmoor, PA*

MP 553 **A MALDI Gel Imaging Approach to Improve 2DE Spatial Representation of Highly Homologous Wool Keratin Proteins**; Dr. Santanu Deb-choudhury; S. Clerens; J. E. Plowman; K. Y. Yong; C. D. Cornellison; A. J. Hancock; H. Koehn; A. Thomas; J. M. Dyer; *AgResearch Limited, Christchurch, New Zealand*

MP 554 **Mass Spectrometry Identification of Plant Host Proteins that Interact with Secreted Bean Rust Pathogen Proteins**; Ruiqiang Chen[1,2]; Mark L. Tucker[1];

Caren Chang[2]; Bret Cooper[1]; *[1]USDA-ARS, Beltsville, MD; [2]CBMG, Univ. of Maryland, College Park, MD*

MP 555 **Determination of Coccidiostats in Feed and Animal Produce by LC-MS**; Pavel Metalnikov; Olga Nasyrova; Boris Krapivkin; Alexander Komarov; Alexander Panin; *The All-Russia State Centre for Quality and Standa, Moscow, Russian Federation*

MP 556 **Solid Phase Extraction Combined with Liquid Chromatography–Mass Spectrometry for Pharmacokinetics Study of Enrofloxacin and Metabolites in Fish.**; Wei-Hsun Wang[1]; Tzung-Jie Yang[1]; Chi-Chung Chou[1]; Shao-Kuang Chang[2]; Maw-Rong Lee[1]; *[1]National Chung Hsing University, Taichung, Taiwan; [2]National Taiwan University, Taipei, Taiwan*

MP 557 **Rapid Trace Analysis of Chloramphenicol in Honey Using Molecularly Imprinted Polymer(MIP) LDTD-APCI-MS/MS**; Grégory Blachon[1]; Pierre Picard[2]; E. Real Paquin[1]; *[1]Université Laval, Québec, Canada; [2]Phytronix Technologies, Inc., Quebec, QC*

MP 558 **Using Solid Phase Micro Extraction with Direct Analysis in Real Time Mass Spectrometry to Monitor Fruit Ripening**; A. John Dane; Robert B. Cody; *JEOL USA, Inc., Peabody, MA*

MP 559 **LC/MS/MS Analysis of Aflatoxins from Peanut Butter Using a Novel Two-Stage SPE Clean-Up Process**; Sky Countryman; *Phenomenex, Torrance, CA*

MP 560 **Comparing GC/MS/MS to GC/MS Methods for the Analysis of Pesticide Residues in Fruits and Vegetables**; Philip L. Wylie; Chin-kai Meng; *Agilent Technologies, Wilmington, DE*

MP 561 **HPLC-MS Analysis of Pheromone Glucoconjugates in Oral Secretions of Male Anastrepha Fruit Flies**; Scott Niemann[1]; Spencer S. Walse[2]; *[1]CSS Analytical Company, Inc., Shawnee, KS; [2]United States Department of Agriculture-Agricultur, Parlier, CA*

MP 562 **In Vino Veritas – Simultaneous LC/MS/MS Analysis of Quality Determining Compounds in Wine without Sample Preparation;** Stefanie Wirtz[1]; Volker Heidger[1]; Juergen Wendt[2]; *[1]Institut Heidger, Kesten, Germany; [2]Agilent Technologies, Waldbronn, Germany*

MP 563 **Fast Analysis of Flonicamid and Its Metabolites in Agricultural Foods by RPLC-MS/MS**; Andre Szczesniewski[1]; Elizabeth Culbert[2]; Richard Barry[1]; Vince Herbert[2]; Matt Hengel[3]; *[1]Agilent Technologies, Santa Clara, CA; [2]Washington State University-Tri-Cities, Richland, WA; [3]University of California at Davis, Davis, CA*

MP 564 **Simultaneous Analysis of 14 Mycotoxins, and 150 Pesticides in Crude Extracts of Grains by LC/MS/MS**; Juergen Kunze[2]; Andrea Voller[2]; Hermann Schmalstieg[2]; Ingrid Bujara[2]; Kristin Von Czapiewski[1]; Birgit Schlutt[1]; Andre Schreiber[3]; *[1]Applied Biosystems part of Life Technologies, Darmstadt, Germany; [2]SGS, Hamburg, Germany; [3]Applied Biosystems, Concord, ON*

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MP 566 **Is Liquid UV-MALDI a Real Alternative to Solid State UV-MALDI?** Mark W Towers; Kieran Rollin; Ali Tiss; Rainer Cramer; *University of Reading, Reading, UK*

MP 567 **High Sensitivity α-cyano-4-Chlorocinnamic Acid Liquid Matrices for UV-MALDI MS**; Mark W Towers; Rainer Cramer; *The University of Reading, Reading, UK*

MP 568 **Concentration and *in-situ* Detection of Peptides Using MALDI Ionic Liquid Matrices**; Siao-huei Yang; Cing-Hong Cai; Yen-Peng Ho; *National Dong Hwa University, Hualien, Taiwan*

MP 569 **High Versatility and Quantitative Capability at Femtomol Level of the Liquid Matrix 3-Aminoquinoline/CHCA in MALDI Mass Spectrometry**; Yuko Fukuyama; Kaoru Kaneshiro; Kenichi Taniguchi; Sadanori Sekiya; Shinichi Iwamoto; Koichi Tanaka; *Shimadzu Corporation, Kyoto, Japan*

MP 570 **Alternative CHCA-Based Matrices for the Low Molecular Weight Compounds Analysis by UV-MALDI-MS**; Tiffany Porta; Chantal Grivet; Emmanuel Varesio; Gerard Hopfgartner; *School of Pharmaceutical Sciences, Geneva, Switzerland*

MP 571 **New 3D MALDI Plates Composed of Layered, Photo-Etched, Stainless Steel, Sheets.**; Joe Fitzpatrick; Stephen J. Hattan; Kevin Hayden; Marvin Vestal; *Virgin Instruments Corporation, Sudbury, MA*

MP 572 **LC-NALDI: Using Matrix-Free Nanostructured Targets for Peptide Fractionation and Analysis**; Sergei Dikler; Paul Kowalski; *Bruker Daltonics Inc., Billerica, MA*

MP 573 **Nanoparticle-Induced Fragmentation for Structure Determination of Carbohydrates by MALDI-TOF MS**; Rofe-Amor Obena[2]; Mei-chun Tseng[1]; Ying-Wei Lu[3]; Po-Chiao Lin[3]; Chun-Cheng Lin[3]; Yu-Ju Chen[1]; *[1]Institute of Chemistry, Academia Sinica, Taipei, Taiwan; [2]University of the Philippines-Diliman, Quezon City, Philippines; [3]National Tsing Hua University, Hsinchu, Taiwan*

MP 574 **Inhibitor Encapsulated Nanoparticles for Rapid Fucosidase Identification and Binding-Eptiopes Mapping**; Han-Tsung Huang[2]; Mei-Chun Tseng[2]; Wei Hsu[1,2]; Po-Chiao Lin[2]; Ching-Wen Ho[4]; Chun-Cheng Lin[3]; Chun-Hung Lin[4]; Yu-Ju Chen[2]; *[1]Department of Chemistry, NCU, Taoyuan, Taiwan; [2]Institute of Chemistry, Academia Sinica, Taipei, Taiwan; [3]Insititue of Chemistry, NTHU, Hsinchu, Taiwan; [4]IBC, Academia Sinica, Taipei, Taiwan*

MP 575 **Study of Surface-Assisted Laser Desorption/Ionization Mass Spectrometry using Metal Sulfide Particles as a Matrix;** Akemi Ryoda; Tsuyoshi Yoshioka; Shuji Kagawa; *Mitsubishi Chemical Group, Science & Technology, Yokohama, Japan*

MP 576 **Electric Field Enhanced MALDI Sample Preparation via Induction Based Fluidics**; Drew Sauter; *Nanoliter, LLC, Henderson, NV*

MP 577 **The Design and Preparation of an Adequate Sample Cell Suitable for Solvent-free Multi-Sample MALDI Analysis.**; John Sami Maarouf; Alexandru Cernat; Calvin A. Austin; Sarah Trimpin; *Wayne State University, Detroit, MI*

MP 578 **Solvent-Free MALDI Analysis Avoids Sample Loss and *in vitro* Oxidation of Peptides and Lipids**; Ellen D. Inutan; Thushani N. Herath; Sarah Trimpin; *Wayne State University, Detroit, MI*

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MP 580 **On-Line Nano Aerosol Sample Deposition for MALDI Mass Spectrometry**; Yuqian Gao; Murray V. Johnston; *University of Delaware, Newark, DE*

MP 581 **An Improved Calibrant System for MALDI-TOF MS Characterization of Peptides, Proteins, and Synthetic Polymers**; Scott M. Grayson; *Tulane University, New Orleans, LA*

MP 582 **Reverse Thin Layer Method for Enhanced Ion Yields of Oligosaccharides in Matrix-Assisted Laser Desorption/Ionization**; Takashi Nishikaze; Junko Amano; *The Noguchi Institute, Itabashi, JAPAN*

MP 583 **Investigating MALDI Signal Enhancement of Peptides after Selective Extraction by Polymeric Reverse Micelles**; Nadnudda Rodthongkum; Yangbin Chen; Sankaran Thayumanavan; Richard Vachet; *University of Massachusett, Amherst, MA*

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MP 585 **Tandem Mass Spectrometry and High Resolution/Accurate Mass Analysis of Metal-Cluster Ions of Pigments from Painted Works of Art**; Michael P. Napolitano[1]; Ping-Chung Kuo[2]; Julie Arslanoglu[3]; Richard A. Yost[1]; *[1]University of Florida, Gainesville, FL; [2]National Formosa University, Yunlin, Taiwan; [3]The Metropolitan Museum of Art, New York, NY*

MP 586 **MALDI-DITMS/MS for High Mass, High Sensitivity and High Resolution Measurement**; Koichi Tanaka; Sadanori Sekiya; Shinichi Iwamoto; *Shimadzu Corporation, Kyoto, Japan*

MP 587 **The Solvent-Matrix Effect of Lipidomics Using an array Plate for MALDI-QIT-TOF-MS**; Evelyn H. Kim[1]; Yangsun Kim[2]; David M. Lubman[1]; *[1]University of Michigan, Ann Arbor, MI; [2]Hudson Surface Technology, Newark, NJ*

MP 588 **LC-MALDI with an Ion Trap - Orbitrap Hybrid Instrumentation: Decoupled Method Setup**; Kerstin Strupat[1]; Huy Bui[2]; Rosa Viner[2]; Justin Blethrow[2]; Yue Xuan[1]; Viatcheslav V. Kovtoun[2]; George Stafford[2]; *[1]Thermo Fisher Scientific (Bremen) GmbH, Bremen, Germany; [2]Thermo Fisher Scientific, San Jose, CA*

MP 589 **Studying Multiple Cupperated Peptides Using MALDI-TOF Mass Spectrometry**; Zhaoxiang Wu; David H. Russell; *Texas A&M University, College Station, TX*

MP 590 **Laser Desorption/Tandem Mass Spectrometry of Doubly Cationized, Singly Charged Ions Found in Painted Works of Art**; Ping-Chung Kuo[1]; Michael P. Napolitano[2]; Vivian E. Cornélio[3]; Julie Arslanoglu[4]; Richard A. Yost[2]; *[1]National Formosa University, Yunlin, Taiwan; [2]University of Florida, Gainesville, FL; [3]Federal University of São Carlos, São Carlos, SP Brazil; [4]The Metropolitan Museum of Art, New York, NY*

MP 591 **Screening for Microbial Protein Over-Expression in Complex Matrix, Using MALDI-LTQ-Orbitrap**; Thomas Moehring[1]; Kerstin Strupat[1]; Michiel Akeroyd[2]; Rob van der Hoeven[2]; *[1]Thermo Fisher Scientific, Bremen, Germany; [2]DSM Food Specialties B.V, Delft, The Netherlands*

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MP 593 **Balancing the MRM Transition of Small Molecules, Substrate/Product Conversion for Enhances Label-Free Enzyme Inhibitor Screening**; Rakesh Rathore[1]; Jay Corr[2]; Kenneth D. Greis[1]; *[1]University of Cincinnati, Cincinnati, OH; [2]MDS Analytical Technologies, Concord, ON*

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MP 595 **Deciphering Human Cardiac Troponin Modifications for Understanding and Diagnosis of Heart Failure: A Top-Down Mass Spectrometry-Based Disease Proteomics Approach;** Jiang Zhang[1]; Moltu Guy[1]; Qingge Xu[1]; M Shahriar Salamat[1]; Ken H. Young[1]; Jeffery W. Walker[1,2]; Ying Ge[1]; *[1]University of Wisconsin-Madison, Madison, WI; [2]University of Arizona, Tucson, AZ*

MP 596 **Top-Down Protein Identification in Sera from Colorectal Cancer Patients Using 15 Tesla FTICR-MS**; Simone Nicolardi[1]; Yuri E.M. Van Der Burgt[1]; Hans Dalebout[1]; Wilma E. Mesker[1]; Marco R. Bladergroen[1]; Remco Swart[2]; Jens Fuchser[3]; Magnus Palmblad[1]; Rob A. Tollenaar[1]; André M. Deelder[1]; *[1]Leiden University Medical Ce, Leiden, Netherlands; [2]Dionex, Amsterdam, the Netherlands; [3]Bruker Daltonik GmbH, Bremen, Germany*

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MP 600 **Proteome Analysis of Superior Temporal Gyrus in Schizophrenics and Non-Human Primates Treated with Anti-Psychotics Demonstrate Disease and Drug Specific Changes**; Nilesh Tannu[1]; Shixin Sun[2]; Richard Pintal[2]; Steven E Arnold[3]; Scott E. Hemby[1]; *[1]Wake Forest University School of Medicine, Winston Salem,*

NC; [2]Applied Biosystems, Framingham, MA; [3]University of Pennsylvania School of Medicine, Philadelphia, PA

MP 601 **Using Stable Isotopes and Tandem MS to Study the Metabolism of CNS-Derived Apolipoprotein E Isoforms**; Kristin R Wildsmith; Wendy C Sigurdson; Randall J Bateman; *Washington Univ., St. Louis, MO*

MP 602 **iTRAQ 8plex Analysis of a Membrane Enriched Sub-Proteome from Post-Mortem Brain in Schizophrenia and Control Subjects.**; Jane A English[1]; Bruno Manadas[2]; David R Cotter[3]; Michael J Dunn[1]; *[1]UCD Conway Institute, University College Dublin,, Dublin, Ireland; [2]Center for Neuroscience and Cell Biology, Cantanhede, Portugal; [3]Royal College of Surgeons, Dublin, Ireland*

MP 603 **Characterization of Proteins in Cerebrospinal Fluid of Patients with HIV-Associated Neurocognitive Disorder using iTRAQ and Mass Spectrometry**; Dawn Chen[1]; Caroline F Anderson[1]; Robert J. Cotter[2]; Ned Sacktor[1]; Justin McArthur[1]; Avindra Nath[1]; *[1]Department of Neurology, Johns Hopkins University, Baltimore, MD; [2]Middle Atlantic MS Laboratory, Baltimore, MD*

MP 604 **Proteomic Alterations in Response to *in vitro* Treatment with Velcade, Doxorubicin, and Dexamethasone in Multiple Myeloma Using 8-plex iTRAQ**; Dominik Dytfeld[2]; Madhu Prasad[2]; Vadiraja B. Bhat[3]; Rong Zhao[2]; Alexey I. Nesvizhskii[2]; Andrzej J. Jakubowiak[2]; Arun Sreekumar[1]; *[1]Medical College of Georgia, Augusta, GA; [2]University of Michigan, Ann Arbor, MI; [3]Agilent Technologies, Wilmington, DE*

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MP 606 **Unambiguous Detection and Quantitation of Full-length Thioredoxin (TRX) and Truncated Thioredoxin (TRX80) in Complex Samples by MALDI**; Susan C Follstaedt[1]; David R Graham[1]; Keling Dong[2]; Marjorie S Minkoff[2]; M. Christine Zink[1]; Christie L Hunter[2]; *[1]Johns Hopkins, Baltimore, MD; [2]Applied Biosystems, Foster City, CA*

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MP 608 **Development of Quantitative Mass Spectrometry Assays for Cellular Pathways: Elucidating Drug Resistance in Multiple Myeloma**; Yun Xiang; Lori Hazlehurst; John Koomen; *H. Lee Moffitt Cancer Center, Tampa, FL*

MP 609 **Proteomic Workflow for Discovery of Serum Carrier Protein-Bound Biomarker Candidates of Alcohol Abuse Using Liquid Chromatography - Tandem Mass Spectrometry**; Heather N. Ringham; Xianyin Lai; David W. Crabb; Suthat Liangpunsakul; Frank Witzmann; *Indiana University School of Medicine, Indianapolis, IN*

MP 610 **Rapid Proteomics Approach for the Identification of Peptide Hydrazide Adducts by Atmospheric Pressure MALDI MS/MS**; Seshu Gudlavalleti[1,1]; Sudha Chennasamudram[2]; Jane Razumovskaya[1,1]; Appavu Sundaram[1,1]; Vladimir M. Doroshenko[1,1]; *[1]Science and Engineering Serv, Columbia, MD; [2]Center for Biologics Evaluation and Research (FDA), Bethesda, MD*

MP 611 **Interest of a MALDI-FTICR Mass Spectrometry Approach for Identification of Protein Targets involved in Photodynamic Therapy**; David Da Silva[1]; Thierry Wasselin[2]; Benoît Maunit[1]; Vincent Carre[1]; Lina Bezdetnaya[3]; Jean Francois Muller[1]; *[1]LSMCL Université Paul Verlaine, Metz, France; [2]LSMBO, Strasbourg, France; [3]CRAN-CAV, Nancy, France*

MP 612 **Sample Preparation and Instrumental Protocols for Improved Reflectron and LIFT Detection of Ions Up to 10 kDa**; Christine Bunai[1]; Julius Nyalwidhe[2]; Lisa H. Cazares[2]; Dennis Manos[1]; William E. Cooke[1]; Dariya Malyarenko[1]; *[1]College of William and Mary, Williamsburg, VA; [2]Eastern Virginia Medical Sch, Norfolk, VA*

MP 613 **Proteomic Analysis of FFPE Amyloid Plaques Using Laser Microdissection and Nano-Flow LC-MS/MS**; Jason D Theis; Jeff D Gamez; Julie A Vrana; Karen L Grogg; Ahmet Dogan; *Mayo Clinic, Rochester, MN*

MP 614 **Mining the Archival Formalin-Fixed Proteome: Method Optimisation and Validation of an Efficient Label-Free Quantitative Shotgun Proteomic Strategy**; Niroshini Nirmalan[1]; Christopher Hughes[2]; Therese McKenna[2]; Jianhe Peng[1]; James Langridge[2]; Patricia Harnden[1]; Peter Selby[1]; Rosamonde E. Banks[1]; *[1]University of Leeds, Leeds, UK; [2]Waters Corporation, Manchester, UK*

MP 615 **Rapid Detection of Proteins in Complex Mixtures by Extractive Electrospray Ionization Mass Spectrometry**; Shuiping Yang[1]; Huanwen Chen[1,2]; Jianqiang Li[1]; Bin Hu[1]; Xie Zhang[1]; Yufen Zhou[1]; Lili Zhang[2]; *[1]East China Institute of Technology, Fuzhou, P. R. China; [2]Jilin University, Changchun, P. R. China*

MP 616 **Development of a Breast Cancer Tissue Specific AMT Database: A New Tool for Biomarker Discovery**; Arzu Umar[1]; Heather M. Mottaz[2]; Samuel O. Purvine[2]; Anita M. Trapman-Jansen[1]; Astrie Thakoursingh[1]; Theo M. Luider[3]; John A. Foekens[1]; Ljiljana Pasa-tolic[2]; *[1]Erasmus MC, Medical Oncology, Rotterdam, Netherlands; [2]Pacific Northwest National Laboratory - Battelle, Richland, WA; [3]Erasmus MC, Neuro-oncology, Rotterdam, Netherlands*

MP 617 **Approaching Solid Tumor Heterogeneity by Tissue Proteomics Using Laser Capture Microdissection and Biological Mass Spectrometry**; Donald Johann[1]; Jaime Rodriquez-Canales[1]; Sumana Mukherjee[1]; Darue A. Prieto[2]; Jeffrey Hanson[1]; Michael Emmert-Buck[1]; Timothy D. Veenstra[3]; Josip Blonder[3]; *[1]NIH, Bethesda, MD; [2]NIC-Frederick (SAIC), Frederick, MD; [3]SAIC-Frederick, Inc., Frederick, MD*

MP 618 **Statistical Significance in MS-Based Label-Free Protein Quantification Analysis Applied in Clinical Research**; Daniel C. Chamrad[1]; Barbara Sitek[2]; Sebastian Link[2]; Christian Stephan[2]; Katharina Podwojski[2]; Kai Stühler[2]; Martin Blueggel[1]; Korte Birgit[2]; Helmut E. Meyer[2]; *[1]Protagen AG, Dortmund, Germany; [2]Ruhr-University Bochum, Dortmund, Germany*

MP 619 **Optimized Two-Dimensional Chromatographic Methods for Peptide Biomarker Discovery and**

Validation in Clinical Samples; Keith Fadgen[1]; Martha Stapels[1]; Jim Langridge[1]; J. Will Thompson[2]; Arthur Moseley[2]; *[1]Waters Corporation, Milford, MA; [2]Duke University School of Medicine, Durham, NC*

MP 620 **Application of Peptide Library-Based Affinity-Chromatography to Analysis of Saliva Proteome**; Zhiguo Zheng[2]; Nagarajan Chandramouli[1]; Weimin Mao[2]; Zhiqiang Ling[2]; Qing Fang[1]; Daniel Malamud[3]; Haiteng Deng[1,3]; *[1]The Rockefeller University, New York, NY; [2]Zhejiang Cancer Research Institute, Hangzhou, China; [3]New York University, New York, NY*

MP 621 **Labeling of Plasma Glutathione and Ophthalmate from 2H-Enriched Body Water: A Noninvasive Probe of the Redox Status of the Liver**; Rajan S. Kombu[1]; Guofang Zhang[1]; John J. Mieyal[1]; Vernon E. Anderson[1]; Joanne K. Kelleher[2]; Juan R. Sanabria[1]; Henri Brunengraber[1]; *[1]Case Western Reserve University, Cleveland, OH; [2]Massachusetts Institute of Technology, Cambridge, MA*

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MP 622 **Ion Conformation Changes in the Ion Trap / Drift Cell Interface on the Microsecond Timescale**; Gregg Schieffer[1]; Qin Zhao[1]; Derrick L. Morast[1]; Ethan R. Badman[2]; R. Sam Houk[1]; *[1]Iowa State University, Ames, IA; [2]Hoffmann-La Roche Inc., Nutley, NJ*

MP 623 **Discrimination of Steroidal Glycoside Isomers by Collisionally Activated Dissociation of Transition Metal Complexes**; Xiaoji Cao; *Zhejiang university of Technology, Hangzhou, China*

MP 624 **The Thermochemical Studies of Protonated Amine-Crown Ether Complexes: Extension of the Kinetic Method.**; Michael Zickus; Sara Koepke; Kevin Chong; Victor Ryzhov; *Northern Illinois University, Dekalb, IL*

MP 625 **Multi-Pass UV-Photodissociation Implemented on a Hybrid QqTOF Mass Spectrometer for LC Analysis**; Changtong Hao[1]; J.C. Yves Le Blanc[2]; Alexandre Loboda[2]; Bruce Thomson[1,2]; K W Michael Siu[1]; *[1]CRMS, York University, Toronto, Canada; [2]MDS Analytical Technologies, Concord, ON, Canada*

MP 626 **Infrared Multiphoton Dissociation of DNA Anions and Cations in a Dual-Cell Linear Ion Trap**; Suncerae Smith[1]; Myles Gardner[1]; James Madsen[1]; Aaron Ledvina[2]; Jennifer Brodbelt[1]; *[1]University of Texas - Austin, Austin, TX; [2]UW Madison, Madison, WI*

MP 627 **UV Photodissociation of Carboxy-Modified Peptides**; Byoung Joon Ko[1]; Jennifer Brodbelt[2]; *[1]UT-Austin, Austin, TX; [2]The University of Texas, Austin, TX*

MP 628 **Top-Down Protein Fragmentation by Infrared Multiphoton Dissociation in a Dual Cell Linear Ion Trap**; James Madsen[1]; Myles Gardner[1]; Suncerae Smith[1]; Aaron Ledvina[2]; Jennifer Brodbelt[1]; *[1]Univ. of Texas, Austin, TX; [2]UW Madison, Madison, WI*

MP 629 **Mass-Analyzed-Threshold-Ionization: A Versatile Method for the stUdy of the Structure of Halogenated Aromatic Compounds and Noble Gas Clusters.**; Jurgen Grotemeyer; Frank Witte; *Christian-Albrechts-Univ, Kiel, Germany*

MP 630 **Protonated Tryptophan Radicals in the Gas Phase**; Joshua A Gregersen; Frantisek Turecek; *University of Washington, Seattle, WA*

MP 631 **Metastable Atom-Activated Dissociation (MAD) within a Quadrupole Ion Trap Mass Spectrometry (QIT-MS).**; Shannon Cook; Glen Jackson; *Ohio University, Athens, OH*

MP 632 **Comparison of Metastable Atom-Activation Dissociation (MAD), ETD and CAD of Peptides and Modified Peptides**; Carolyn M. Zimmermann[1]; Shannon Cook[1]; Glen Jackson[1]; Ralf Hoffmann[2]; *[1]Ohio University, Athens, OH; [2]Universität Leipzig, Leipzig, Germany*

MP 633 **Study by FTICRMS and SORI–CID, ECD and IRMP FTICRMS^n of Cluster Ions Produced by Electrosprayed $KBrO_3$ Solutions**; Frédéric Aubriet; *LSMCL Université Paul Verlaine, Metz, France*

MP 634 **Higher Efficiency Protein Tandem Mass Spectrometry Using Multiple Correlated Harmonic Excitation Fields- (multi-CHEF)-ECD-FTICR-MS**; N Murat Karabacak[1]; Qi Wang[1]; Michael Easterling[2]; Jeffrey Agar[1]; *[1]Brandeis University, Waltham, MA; [2]Bruker Daltonics, Inc., Billerica, MA*

MP 635 **Investigation into the Use of Lys-N Combined with Electron Transfer Dissociation on a Quadrupole Time-of-Flight Mass Spectrometer for Peptide Sequencing**; Jim Langridge[1]; Jeff Brown[2]; Shabaz Mohammed[3]; Nadia Taouatas[3]; Iain D G Campuzano[1]; Albert J.R. Heck[3]; *[1]Waters Corporation, Manchester, UK; [2]Waters Micromass MS Technologies, Manchester, UK; [3]Utrecht University, Utrecht, Netherlands*

MP 636 **Radio Frequency-Free Electromagnetostatic Cell for ECD, CID and Combined ECD/CID Mass Spectrometry**; Valery Voinov[1,2]; Joseph S Beckman[1]; Max L. Deinzer[1]; Douglas F. Barofsky[1]; *[1]OSU, Corvallis, OR; [2]PIBOC, RAS, Vladivostok, Russia*

MP 637 **Activated Ion ECD in Radio Frequency Ion Trap for Precise *de novo* Peptide Sequencing**; Hiroyuki Satake; Akihito Kaneko; Naomi Manri; Atsumu Hirabayashi; Takeshi Sakamoto; *Central Research Laboratory, Hitachi Ltd., Tokyo, Japan*

MP 638 **Probing ECD Charge Reduced Ions Using ECD and CID (ECD/ECD and ECD/CID)**; Daniel A Thomas; Takashi Baba; Gary L. Glish; *University of North Carolina, Chapel Hill, NC*

MP 639 **IR Activated Ion-Electron Capture Dissociation in an rf Ion Trap**; Natalie Thompson[1]; Jared Bushey[2]; Takashi Baba[1]; Gary L. Glish[1]; *[1]University of North Carolina, Chapel Hill, NC; [2]Agilent Technologies, Wilmington, DE*

MP 640 **Gas-Phase Ion-Electron Reactions and Vibrational Activation of Electrosprayed Intact Proteins in Negative Ion Mode**; Hangtian Song; Kristina Hakansson; *University of Michigan, Ann Arbor, MI*

MP 641 **Electron Transfer Dissociation of Intact Protein Complexes**; Shaynah Browne[1]; Jonathan Wilson[2]; Desmond Kaplan[2]; Richard Vachet[1]; *[1]University of Massachusetts, Amherst, MA; [2]Bruker Daltonics, Inc., Billerica, MA*

MP 642 **Enhanced Electron Transfer Dissociation Efficiency through Fixed Charge Derivatization of Peptides**; Lisa A Vasicek[1]; Jennifer Brodbelt[1]; *[1]University of Texas, Austin, TX*

MP 643 **From Molecular Structure to Thermodynamics: Amino Acid Property Role in Activated Ion Electron Capture Dissociation of Peptides**; Aleksey Vorobyev; Hisham Ben Hamidane; Yury O. Tsybin; *Ecole Polytechnique Federale, Lausanne, Switzerland*

MP 644 **Effect of Charge state and Size on the Fragmentation of Oligonucleotides under EDD : Role of Radical site**;

Viet hung Nguyen; Carlos Afonso; Jean-Claude Tabet; *Université Paris 6, Paris, France*

ELEMENTAL ANALYSIS AND ISOTOPE RATIO MS, 645 - 652

MP 645 **Ultra-Trace Measurements of Lead-210 in Natural Occurring Radioactive Materials by ICP-MS**; Khalid A. Al-saad[1]; Mohamed Amr[1]; Nagwa Zahran[2]; Abdul-Fattah Helal[2]; *[1]Qatar University, Doha, Qatar; [2]Atomic Energy Authority, Cairo, Egypt*

MP 646 **Analytical Strategies for Lanthanum Speciation in Human Serum by Liquid Chromatography Coupled to ICP-MS, ESI-Q-TOF-MS and QIT-MS**; Lidia Siemieniako[2]; Josephine Bunch[1]; Alan G. Cox[2]; Cameron W. Mcleod[2]; *[1]University of Birmingham, Birmingham, UK; [2]University of Sheffield, Sheffield, UK*

MP 647 **Chemical Speciation of Bismuth by Gas Chromatography Coupled with High-Resolution ICP-MS;** Jerzy Mierzwa; *University of Central Florida, Orlando, FL*

MP 648 **Application of Cluster SIMS for the Analysis of Nanomaterials;** Sidhartharaja Rajagopalachary; Stanislav Verhoturov; Chih-Hao Hsia; Dong Hee Son; Emile A. Schweikert; *Texas A&M University, College Station, TX*

MP 649 **Effect of External Energy on Isotope Abundances of 1-2-4-Triazole and 2-Methyl Imidazole.**; Harish K. Shettigar[1]; Rama Mohan R. Tallapragada[2]; *[1]Adjunct Scientist,MGV's Pharmacy College, Mumbai, India; [2]Retired Professor - I.I.T.Bombay, Mumbai, India*

MP 650 **Effect of External Energy on Isotope Abundances of 2-Chloroacetamide, 2-4-Dichloro Phenol And Resorcinol**; Archana Bulbule[1]; Rama Mohan R. Tallapragada[2]; *[1]Adjunct Scientist,MGV's Pharmacy College, Mumbai, India; [2]Retired Professor-I.I.T.Bombay, Mumbai, India*

MP 651 **Effect of External Energy on Isotope Abundances of 2,6-Diaminopyridine, 4- Methoxyphenol and 2,4-Dichlorophenol**; Mahendra K. Trivedi[1]; Rama Mohan R. Tallapragada[2]; *[1]Adjunct Scientist,M. G. Vidyamandir's Pharmacy Col, Mumbai, India; [2]Retired Professor,I.I.T.Bombay, Mumbai, India*

MP 652 **Change in Isotope Abundance and Crystal Characteristics of Acrylamide, P-Anisidine and Butylated Hydroxytoulene Treated with External Energy**; Shrikant A. Patil[1]; Rama Mohan R. Tallapragada[2]; *[1]Adjunct Scientist,MGV's Pharmacy College,Nashik, Mumbai, India; [2]Retired Professor-I.I.T.Bombay, Mumbai, India*

GC/MS, 653 - 672

MP 653 **The Use of Low-Pressure Positive Chemical Ionization GC/MS for the Characterization of Fatty Acid Methyl Esters (FAME)**; Gail A Harkey[1]; Douglas Cameron[2]; James Chang[1]; *[1]Thermo Fisher Scientific, Schaumburg, IL; [2]Montana Tech, Butte, MT*

MP 654 **Comparison of Alternative GC/MS Carrier Gases**; William D. Goodman; Andy N. Tipler; Adam J. Patkin; *PerkinElmer, Inc, Shelton, CT*

MP 655 **Introducing a New Advanced Data Processing Software for Mass Spectrometry Using Spectral Deconvolution and Chemomteric Data Analysis**; Gerhard Horner; Nick Bukowski; Gareth Roberts; *ALMSCO International, Bridgend, UK*

MP 656 **High Speed Quantitative GC/MS-MS Data Acquisition**; Bill Russ; Thomas P Doherty; Jeffrey Kernan; Randy Roushall; Nora Gee; Jim Foote; Knute Kresie; Congshi Huang; Harry Bunting; *Agilent Technologies, Santa Clara, CA*

MP 657 **Unique *para*-Effect in Electron Ionization Mass Spectra of Di(perfluoroacyl) Derivatives of Bifunctional Aminobenzenes**; Kirill Tretyakov[1]; Roman Borisov[2]; Nino Todua[1]; Stephen Stein[1]; Vladimir Zaikin[2]; *[1]National Institute of Standards and Technology, Gaithersburg, MD; [2]Topchiev Institute of Petrochemical Synthesis RAS, Moscow, Russia*

MP 658 **Enhanced Sensitivity for Biomarker Characterization in Crude Oil by GC-SRM**; J. Michael Moldowan[1]; David A. Zinniker[1]; Melissa Churley[2]; Harry Prest[2]; Matthew S. Klee[4]; Celso Blatt[3]; *[1]Stanford University, Stanford, CA; [2]Agilent Technologies, Santa Clara, CA; [3]Agilent Technologies Brazil, Sao Paulo, Brazil; [4]Agilent Technologies Office, Wilmington, DE*

MP 659 **Applications of TG-MS and TG-GC/MS to Polymers**; Kevin Menard; William Goodman; *PerkinElmer LAS, Shelton, CT*

MP 660 **Investigation of Hazardous, Volatile Hydrocarbons in Commercial Beverages**; Sarah J Saylor[1]; Catherine Bentzley[1]; *[1]University of the Sciences in Philadelphia, Philadelphia, PA*

MP 661 **Fragmentation of Isomers of 4-keto C10H20O as a Means of Understanding EI Behavior for Purposes of Structural Elucidation of Unknowns**; O. David Sparkman; Matthew Curtis; Monika Kaur; Jianhua Ren; Patrick R. Jones; *University of the Pacific, Antioch, CA*

MP 662 **Using Comprehensive Gas Chromatographic Retention Index Collection to Aid Compound Identification from GC/MS Data**; Valeri I Babushok[2]; Stephen E. Stein[2]; Igor Zenkevich[3]; Peter Linstrom[2]; O. David Sparkman[1]; *[1]University of the Pacific, Antioch, CA; [2]NIST, Gaithersburg, MD; [3]Chemical Research Institute of St. Petersburg Sta, St. Petersburg, Russia*

MP 663 **Devleopment and Validation of a GC/MS Method to Detect Sulfonic Acid Esters in Mesylate Salt Drug Substances and Drug Products**; Alina Domin-Turza; Samantha Leidner; Esther Hwang; Paul M. Bigwarfe Jr.; *Hospira, Inc., Lake Forest, IL*

MP 664 **Sensitivity Comparison of Electron and Negative Chemical Ionizations for Derivatized Aldehydes**; Josef Beranek; Alena Kubatova; *University of North Dakota, Chemistry Department, Grand Forks, ND*

MP 665 **A Sensitive and Specific Methodology for Furfural Determination in a Pharmaceutical Product Using Headspace GC/MS and GC/FID**; Yieng-hau Han; Jennifer Jakubowski; Zhong Li; Qingxi Wang; *Merck Co., West Point, PA*

MP 666 **Applying Headspace Trap Technology to the GC/MS Analysis of Volatiles in Children's Products**; William D. Goodman; Adam J. Patkin; Andrew N. Tipler; *PerkinElmer, Inc, Shelton, CT*

MP 667 **Relative Area Quantitation of Natural Product Compounds Using GC/MS and Deconvolution Algorithms**; Michelle Lee; Albert Robbat; *Tufts University, Medford, MA*

MP 668 **Mass Spectra of Polyethylene Glycols, Glycol Acids, and Derivatives by GC-MS**; Yufang Zheng; Yuxue

Liang; Edward White V; Stephen E. Stein; *NIST, Gaithersburg, MD*

MP 669 **Withdrawn**

MP 670 **Confident Unknown Identification of SVOC Compounds by Combining NIST Library Search with Elemental Composition Determination**; Jianping Chen[1]; O. David Sparkman[2]; Ming Gu[3]; *[1]Connecticut State Department of Environmental, Windsor, CT; [2]University of the Pacific, Antioch, CA; [3]Cerno Bioscience, Yardley, PA*

MP 671 **The Measurement of Native Compounds in a Candidate Urine Standard Reference Material (SRM 3671 Smokers' Urine) by Gas Chromatography/Mass Spectrometry**; Bruce A. Benner, Jr.; Lane C. Sander; *NIST, Gaithersburg, MD*

MP 672 **Using a Novel Heartcut Device for Multidimensional GC to Reveal Small Peaks Otherwise Obscured by Large Peaks in Mass Chromatograms**; Andrew Tipler[1]; William D. Goodman[3]; Adam J. Patkin[2]; *[1]PerkinElmer Inc., Trumbull, CT; [2]PerkinElmer, Inc, Shelton, CT; [3]PerkinElmer, Shelton, CT*

Posters must be set up 8:00 - 8:30 am on the day scheduled and removed 7:30 to 8:00 pm. Authors of odd numbered posters (001, 003, 005, etc.) are required to be present 10:30 – 12:30. Authors of even numbered posters (002, 004, 006, etc.) must be present 12:30 – 2:30 pm.

PROTEOMICS: QUANTITATION TECHNIQUES, 001 - 037

TP 001 **Inferring Physically Adjacent Interactions of Yeast Proteins from Fabricated Quantitative Profiles Generated by Free Flow Electrophoresis**; Zhi-bin Ning; Qing-run Li; Rong-xia Li; Rong Zeng; *Shanghai Institutes for Biological Sciences, Shanghai, China*

TP 002 **Application of Guanidination Chemistry for Protein Identification and Quantitation by LC-ESI MS/MS and LC-MALDI MS**; Michael Harder[1]; Vic Spicer[1]; John P. Cortens[2]; Werner Ens[1]; Kenneth G. Standing[1]; John A. Wilkins[1]; Oleg V. Krokhin[1]; *[1]University of Manitoba, Winnipeg, Canada; [2]Manitoba Centre for Proteomics and Systems Biology, Winnipeg, Canada*

TP 003 **Top-Down Quantitation and Characterization of Reductive Alkylation-Modified Proteins**; Zhiguo Zheng[2]; Weiming Wang[1]; Yong Liang[1]; Joseph Fernandez[1]; Haiteng Deng[1]; *[1]The Rockefeller University, New York, NY; [2]Zhejiang Cancer Research Institute, Hangzhou, China*

TP 004 **DiART (Deuterium isobaric Amine Reactive Tag) Reagents for Quantitative Proteomics**; Shuwei Li; *Center for Advanced Research in Biotechnology, Rockville, MD*

TP 005 **Trypsin-Catalyzed 18O-Monolabeling of Peptide Fragments for Quantitative Proteomics**; Masaru Mori[1]; Kohei Abe[1,2]; Hiroaki Yamaguchi[1,2]; Junichi Goto[2]; Miki Shimada[1,2]; Nariyasu Mano[1,2]; *[1]Tohoku University, Sendai, Japan; [2]Tohoku University Hospital, Sendai, Japan*

TP 006 **An Attempt to Quantitative Analysis for Clinical Proteomics by Liquid Chromatography/ESI-Ion Trap MS Using Stable Isotope-Labeled Small Organic Molecules**; Sadamu Kurono[1,2]; Yuka Kaneko[1,2]; Takeshi Ueda[3]; Masayuki Maruoka[3]; Hanjoung Cho[4]; Satomi Niwayama[4]; *[1]Osaka University Graduate Schl, Osaka, Japan; [2]Wako Pure Chemical Industries, Ltd., Osaka, Japan; [3]Chiba Cancer Center, Chiba, Japan; [4]Texas Tech University, Lubbock, TX*

TP 007 **Variable Mass H/D-Isotope Dipeptide Tags for Simultaneous Peptide Sequencing and Protein Quantitation**; Seung Koo Shin; Jongcheol Seo; Min-Soo Suh; Hye-Joo Yoon; *POSTECH, Pohang, South Korea*

TP 008 **Title: Solid-Phase SCX Column Digestion Coupled with iTRAQ™ Labeling of Immuno-Precipitated, Low-Abundant Proteins**; Vivian Nguyen[1]; Andrew James[1]; Kelly Williton[1]; Anna Yue Dai[1]; Brett Larsen[1]; Tony Pawson[1]; Claus Jorgensen[1]; Karen Colwill[1]; Tony Pawson[1,2]; *[1]Samuel Lunenfeld Research Institute, Toronto, Canada; [2]University of Toronto, Toronto, Canada*

TP 009 **Comparison of SCX and OGE Fractionation Approaches in Quantitative Shotgun Analysis of iTRAQ Labeled Arabidopsis Plant Extracts**; Yong Yang[1]; Xiangjun Zhou[2]; Li Li[1,2]; Sheng Zhang[2]; Theodore W Thannhauser[1]; *[1]USDA-ARS at Cornell University, Ithaca, NY; [2]Cornell University, Ithaca, NY*

TP 010 **siRNA-Mediated Target Silencing and Quantitative Proteomics Using iTRAQ Reagent Chemistry**; Albina Abdrakhmanova[1]; Rita Schlichting[1]; Christie L. Hunter[3]; Christof Lenz[2]; Birte Sönnichsen[1]; Christophe J. Echeverri[1]; Dietmar Waidelich[2]; Cornelia Weiss-Haljiti[1]; Matthias Glueckmann[2]; Volker Kruft[2]; *[1]Cenix BioScience GmbH, Dresden, Germany; [2]Applied Biosystems Germany, Darmstadt, Germany; [3]Applied Biosystems, Foster City, CA.*

TP 011 **Compatibility of Various Sample Handling Methods with Amine-based Isotope Labeling Reactions in Quantitative Proteomics**; Lu Chen; Andy Lo; Yanan Tang; Liang Li; *University of Alberta, Edmonton, Canada*

TP 012 **Towards the Validation of an Absolute Quantification Method using LC-MS/MS for IGF-1 and IGFBP-3**; Stéphanie Kirsch; Joelle Widart; Edwin De Pauw; *University of Liege, Liege, Belgium*

TP 013 **Problems Encountered in Absolute Quantification and Stoichiometry Determination of Protein Complexes**; Johann Holzmann[1]; Mathias Madalinski[1]; Robert Kurzbauer[1]; Peter Pichler[1]; Michael Schutzbier[1]; Otto Hudecz[1]; Lukas A Huber[2]; Karl Mechtler[1]; *[1]IMP, Vienna, Austria; [2]Biocenter, Innsbruck, Austria*

TP 014 **Optimization of Digestion Parameters for Protein Quantification**; Jessica Norrgran; Tracie L. Williams; Adrian R Woolfitt; Maria L. Solano; James L. Pirkle; John R. Barr; *CDC, Atlanta, GA*

TP 015 **Comparison of Peptide Fractionation by Basic pH Reversed Phase vs. SCX for Verification of Protein Biomarker Candidates in Plasma;** Michael Burgess[1]; Hasmik Keshishian[1]; Veronica Saenz-vash[2]; Terri Addona[1]; Steven A. Carr[1]; *[1]Broad Institute, Cambridge, MA; [2]Novartis Institutes for BioMedical Research, Cambridge, MA*

TP 016 **Rapid Method Development for Protein Quantiation Using MRM with Isotopically Labeled Protein as a Global Internal Standard**; Bryan Prazen[1]; Jayson A. Falkner[2]; Philip Mayer[3]; Tomas Vaisar[3]; *[1]Insilicos, Seattle, WA; [2]Single Organism Software Inc, Beaverton, OR; [3]University of Washington, Seattle, WA*

TP 017 **Identification of Differentially Expressed Proteins In Transgenic Mouse Models of Psoriasis Using Label Free Analyses**; Kathleen C. Lundberg; Chao Yuan; Julie Wolfram; Nicole Ward; Mark Chance; *Case Western Reserve Univ., Cleveland, OH*

TP 018 **What Is A Better Approach to Quantifying Endogenous Molecules: Using A Labeled Compound, Surrogate Matrix, or Non-Labeled Compound?;** Bob Xiong; Kojo Abdul-Hadi; Patrick Bennett; Lily Li; *Tandem Labs, A LabCorp Company, Woburn, MA*

TP 019 **Development of a Novel Solid-Phase Isotope-Coded Cysteinyl Label to Study Protein Abundance During Marek's Disease Virus (MDV) Infection;** Mialy F. Ramaroson; Hsiao-Ching S. Liu; Michael B. Goshe; *NC State University, Raleigh, NC*

TP 020 **Investigation of Mitochondrial Protein Changes in Response to RNA Interference Knock-down of Mitochondrial Superoxide Dismutase (SOD2) in Drosophila melanogaster**; David C. Simpson; Ian Martin; Mike Grotewiel; Scott Gronert; *Virginia Commonwealth University, Richmond, VA*

TP 021 **Quantitative Proteomics to Investigate Hypoxia in Renal Carcinoma Cells**; Wendy D. Haffey; Olga Mikhaylova; Maria F. Czyzyk-krzeska; Kenneth D. Greis; *University of Cincinnati, Cincinnati, OH*

TP 022 **Differential Isotopic Labeling of Interfibrillary Mitochondrial Thiol Proteins**; Jing Wang; Claudia Maier; *Oregon State University, Corvallis, OR*

TP 023 **OxMRM: Further Developments to Quantify Oxidation of Endogenous Redox-Sensitive Cysteines Using Multiple Reaction Monitoring**; Jason Held; Steven R. Danielson; Judy Campisi; Chris Benz; Bradford W. Gibson; *Buck Institute for Age Research, Novato, CA*

TP 024 **Deciphering the Phosphorylation "Bar Code" of the &beta2 Adrenergic Receptor and Monitoring its Dynamics**; Kunhong Xiao[1]; Kelly Nobles[1]; Kazuishi Kubota[2]; Judit Villen[2]; Wilhelm Haas[2]; Bo Zhai[2]; Xue Li[2]; Jinpeng Sun[1]; Makoto Hara[1]; Seungkirl Ahn[1]; Erin Whalen[1]; Sudha Shenoy[1]; Steven Gygi[2]; Robert Lefkowitz[1]; *[1]Duke University Medical Cent, Durham, NC; [2]Harvard Medical School, Boston, MA*

TP 025 **Quantitative Mouse Tissue Phosphoproteomics: Adapting a Chemical Labeling Strategy (Reductive Dimethylation: ReDi) to a Phosphoproteomics Pipeline;** Joshua T. Wilson-Grady; Jan Seebacher; Steven Gygi; *Dept. of Cell Biology, Harvard Medical School, Boston, MA*

TP 026 **Quantifying Cell Cycle-Dependent Changes in Posttranslational Modifications and Interacting Network of the Yeast 26S Proteasome**; Robyn Kaake[1]; Peter Kaiser[1]; Lan Huang[2]; *[1]Univ. of California, Irvine, Irvine, CA; [2]University of California, Irvine, CA*

TP 027 **Determination of ChIP Antibody Specificity for Histone H3 Modifications by SILAC and a Specialized Search Engine**; Jacob D. Jaffe[1]; Emily Rudomin[2]; Karl R. Clauser[3]; Steven A. Carr[2]; *[1]The Broad Institute of Harvard, Cambridge, MA; [2]Broad Institute, Cambridge, MA; [3]Broad Institute of MIT and Har, Cambridge, MA*

TP 028 **Characterization of Non-Canonical Polyubiquitin Chains by Quantitative Mass Spectrometry**; Lilian Phu; Anita Izrael-Tomasevic; Domagoj Vucic; Ivan Bosanac; Sarah Hymowitz; David Arnott; Donald S Kirkpatrick; *Genentech, Inc., South San Francisco, CA*

TP 029 **Development of Scheduled Multiple Reaction Monitoring (sMRM) Methods for Relative Quantification of Proteins Involved in ShcA-Mediated Signalling Network**; Cunjie Zhang[1]; Yong Zhang[1]; Lorne E B Taylor[1]; Andrew James[1]; Stephen A Tate[2]; Tony Pawson[1]; *[1]SLRI, Mt. Sinai, Toronto, ON; [2]MDS Sciex, Toronto, ON*

TP 030 **Absolute Quantitation of Phosphorylation Dynamics in the Analysis of Human Breast Cancer Signaling Pathways Using Multiple Reaction Monitoring Mass Spectrometry**; Dominik Domanski; Michael Kuzyk; Leanne B Ohlund; Tyra Cross; Christoph Borchers; *UVic-GBC Proteomics Centre, Victoria, BC*

TP 031 **Relative Quantitation of Differential Phosphorylation Patterns in the Activation Loop of Cell Cycle Checkpoint Protein Chk-2**; Michael D. Ward; Cindy Guo; Julius Nyalwidhe; Jessica Tiedebohl; Oliver John Semmes; *Eastern Virginia Medical School, Norfolk, VA*

TP 032 **Label-Free Relative Quantification of Control/Treated IMAC Enriched C Elegans Proteins Using an Alternative Scanning LCMS Approach**; Joanne B Connolly[1]; Holger Husi[2]; Fiona McAllister[2]; M W Walkinshaw[2]; V J Butler[3]; A P Page[3]; Perdita E Barran[2]; *[1]Waters, Manchester, UK; [2]The University of Edinburgh, Edinburgh, UK; [3]University of Glasgow, Glasgow, UK*

TP 033 **Quantitative Proteomic Approaches for the Determination of Serum Proteome and Phosphoproteome in Patients with Benign Prostate Hyperplasia and Prostate Cancer**; Theodoros Roumeliotis[1]; Nicolaie Eugen Damoc[2]; Michaela Scigelova[2]; Thomas Moehring[2]; Martin Hornshaw[2]; Spiros D. Garbis[1]; *[1]Academy of Athens, Athens, Greece; [2]Thermo Fisher Scientific, Bremen, Germany*

TP 034 **Label-Free Quantification Approach on Enriched Phosphopeptides**; Xiaolei Xie[1]; Shun Feng[1]; Huy Vuong[1]; Yashu Liu[1]; Steve Goodison[2]; David M. Lubman[1]; *[1]University of Michigan, Ann Arbor, MI; [2]University of Florida, Jacksonville, FL*

TP 035 **A Simple Label-free LC-MS/MS Strategy Towards Comprehensive Phosphoproteomics View that Depict the Mechanisms of Cancer Cell Invasion**; Yi Ting Wang[1]; Chia-feng Tsai[2]; Tzu-Chan Hong[3]; Chih-chiang Tsou[4]; Pei-yi Lin[6]; Tse-Ming Hong[5]; Pan-Chyr Yang[3,5]; Ting-yi Sung[4]; Wen-Lian Hsu[4]; Yu-Ju Chen[6,7]; *[1]Department of Applied Chemistry National, Chia-Yi University, Chiayi, Taiwan; [2]National Taiwan Normal University, Taipei, Taiwan; [3]School of Medicine, National Taiwan University, Taipei, Taiwan; [4]Inst. Info Sci, Acad. Sinica, Nankang, TAIWAN; [5]Institute of Biomedical Science, Academia sinica, Taipei, Taiwan; [6]Institute of chemistry and Genomics Research Cente, Academia Sinica, Taipei, Taiwan; [7]National Core Facilities for Proteomics Research, National Science Council, Taipei, Taiwan*

TP 036 **Simplified Method for Quantifying Phosphopeptides from In-Gel Digestions Using 8-Plex iTRAQ Reagents**; Tatiana N. Boronina; Chen Qiu; Daniel J. Leahy; Robert N. Cole; *Johns Hopkins School of Medicine, Baltimore, MD*

TP 037 **Comparison of Protein Identification and Quantification between PQD/LTQ and Hybrid Triple**

Quadrupole/Linear Ion Trap; Wells Wu[1]; Guanghui Wang[1]; Eric M. Billings[1]; Panthip Rattanasinganchan[2]; Paul A. Insel[3]; Rong-Fong Shen[4]; *[1]NIH, Bethesda, MD; [2]Huachiew Chalermprakiet University, Thailand, Thailand; [3]Department of Pharmacology, UC San Diego, La Jolla, CA; [4]NIH, NIA, Baltimore, MD*

BIOINFORMATICS, 038 - 071

TP 038 **The Effects of Mass Accuracy on the Statistical Validation of Peptide Identifications from MS/MS Data**; Ron Orlando[1]; George Zohrabyan[1]; Art Nuccio[1]; James Atwood[2]; Brent Weatherly[2]; *[1]University of Georgia, Athens, GA; [2]BioInquire, LLC, Athens, GA*

TP 039 **Simulating an LC-MS Analysis of a Virtual Proteome: Does Mass Resolution Matter?** Marc V. Gorenstein; Scott Geromanos; Dan Golick; Jim Langridge; *Waters Corporation, Milford, MA*

TP 040 **Peptide Database Search Strategies to Improve Peptide Identifications Using High Resolution Mass Spectrometry**; Edward J. Hsieh; Michael R. Hoopmann; Brendan Maclean; Michael J. Maccoss; *University of Washington, Seattle, WA*

TP 041 **Orthogonal Criteria for Validation of MS/MS Based Peptide Identifications in Shotgun Proteomics**; Anton A. Goloborodko[1]; Corina Mayerhofer[2]; Alexander R. Zubarev[2]; Irina A. Tarasova[1]; Alexander V. Gorshkov[3]; Roman A. Zubarev[2]; Mikhail V. Gorshkov[1]; *[1]Institute of Energy Problems of Chemical Physics, Moscow, Russian Federation; [2]Uppsala University, Uppsala, Sweden; [3]N.N. Semenov's Institute of Chemical Physics, Moscow, Russian Federation*

TP 042 **Using NISTMSQC to Monitor Changes in the Proteolytic Products of Human Serum Albumin During Tryptic Digestion**; Lisa E. Kilpatrick[1]; Yuri Mirokhin[2]; Jeri Roth[2]; Paul Rudnick[2]; Stephen E. Stein[2]; *[1]NIST, Hollings Marine Lab, Charleston, SC; [2]NIST, Gaithersburg, MD*

TP 043 **Unbiased Statistical Analysis for Multi-Stage Proteomic Search Strategies**; Logan J Everett; Charlene Bierl; Stephen R Master; *University of Pennsylvania, Philadelphia, PA*

TP 044 **Quality of Database Matches for MS/MS Spectra Can Be Computed Analytically**; Andrey Gorin; Nikita Arnold; Robert M. Day; Tamah Fridman; *Oak Ridge National Laboratory, Oak Ridge, TN*

TP 045 **Assessment of Peptide-Spectrum Matches Without Using a Decoy Database**; Yong Li; Predrag Radivojac; Randy J. Arnold; Haixu Tang; *Indiana University, Bloomington, IN*

TP 046 **Local Target-Decoy: A Simple and Effective Validation Method for Shotgun Proteomics Using High Resolution Mass Spectrometry**; Jong Wha Joanne Joo[1]; Seungjin Na[2]; Je-hyun Baek[1]; Cheolju Lee[1]; Eunok Paek[2]; *[1]Korea Institute of Science and Technology, Seoul, Rep. of Korea; [2]Univ. of Seoul, Seoul, Rep. of Korea*

TP 047 **Improved peptide identification using implicit properties learned from transduction support vector machines**; Michael J Sweredoski; Sonja Hess; *Caltech, Pasadena, CA*

TP 048 **Finding Peptides with Confidence**; Shane L Hubler; Graeme Mcalister; Joshua J. Coon; Gheorghe Craciun; *Univ of Wisconsin-Madison, Madison, WI*

TP 049 **Evaluation of Consensus Method Performance in Peptide Identification of Two Known Protein Data Sets**; Tamanna Sultana; Rick Jordan; James Lyons-Weiler; *University of Pittsburgh, Pittsburgh, PA*

TP 050 **Novel Probability-Based Consensus Scoring Improves Identification Rates in Tandem Mass Spectrometry-Based Peptide Identification**; Sven Nahnsen[1,2]; Andreas Bertsch[2]; Alfred Nordheim[1]; Oliver Kohlbacher[2]; *[1]Proteome Center, University of Tuebingen, Tuebingen, Germany; [2]Center of Bioinformatics, University of Tuebingen, Tuebingen, Germany*

TP 051 **Analysis of Large-Scale Shotgun Proteomic Datasets Containing Multiple Replicates;** Damian Fermin[1]; Hyungwon Choi[1]; Alexey Nesvizhskii[2]; *[1]University of Michigan, Pathology Department, Ann Arbor, MI; [2]University of Michigan, Ann Arbor, MI*

TP 052 **Identifying Proteins Directly from Tandem Mass Spectra**; Marina Spivak[1]; Jason Weston[1]; Michael J. MacCoss[2]; William Stafford Noble[2]; *[1]NEC, Princeton, NJ; [2]UW, Seattle, WA*

TP 053 **Peptide Identification with Direct Computation of the Significance Level of the Results**; Jan Eriksson[1]; David Fenyo[2]; *[1]Swedish University of Agricultural Sciences, Uppsala, Sweden; [2]The Rockefeller University, New York, NY*

TP 054 **Computational Analysis of Unassigned High Quality Spectra from Human T Leukemic Cells**; Kang Ning; Alexey Nesvizhskii; *University of Michigan, Ann Arbor, MI*

TP 055 **Improving Confidence in Spectrum Mill's Sequence/Spectrum Matching Using a Refined Peptide MS/MS Fragmentation Model**; Karl R. Clauser; Steven A. Carr; *Broad Institute of MIT and Harvard, Cambridge, MA*

TP 056 **A Computer Model for Predicting CID Spectra of Glycopeptides**; Zhongqi Zhang[1]; Bhavana Shah[2]; *[1]Amgen, Inc., Thousand Oaks, CA; [2]Amgen Inc.,, Thousand Oaks, CA*

TP 057 **Withdrawn**

TP 058 **Improving Tandem Mass Spectra Identification Rate Based on Calibrating the Masses and Charges of Precursors by Continuous MS Scans**; Zuofei Yuan[1,2]; Haipeng Wang[1,2]; Yan Fu[1,2]; Hao Chi[1,2]; You Li[1,2]; Liyun Xiu[1,2]; Wenping Wang[1,2]; Chao Liu[1,2]; Leheng Wang[1,2]; Ruixiang Sun[1,2]; Simin He[1,2]; *[1]Institute of Computing Technology, CAS, Beijing, China; [2]Key Lab of Intelligent Information Processing, CAS, Beijing, China*

TP 059 **Processing Extreme ESI Data Using a New Peak Modelling Method**; Jenny Albanese[1]; Tony Ferrige[2]; Stuart Ray[2]; Song Ye[3]; Robert Alecio[2]; *[1]Applied Biosytems, South Lake Tahoe, CA; [2]Positive Probability Limited, Isleham, Cambs, UK; [3]Applied Biosystems, Framingham, MA*

TP 060 **Non-Empirical Approach for Isotopic Distribution Deconvolution in Mass Spectra of Complex Organic Compounds**; Ilya A Agron[1,2]; Dmitriy M. Avtonomov[1,2]; Eugene Nikolaev[1,3]; *[1]Institute for Energy Problems of Chemical Physics, Moscow, Russian Federation; [2]The Institute of Biomedical Chemistry, Moscow, Russia; [3]Emanuel Institute of Biochemical Physics, Moscow, Russia*

TP 061 **Memory Efficient Calculation of the Isotopic Mass States of a Molecule**; Long Li; Pengyu Hong; Jeffrey Agar; *Brandeis University, Waltham, MA*

Posters must be set up 8:00 - 8:30 am on the day scheduled and removed 7:30 to 8:00 pm. Authors of odd numbered posters (001, 003, 005, etc.) are required to be present 10:30 – 12:30. Authors of even numbered posters (002, 004, 006, etc.) must be present 12:30 – 2:30 pm.

TP 062 **Combining High Resolution Separation Techniques and High Frequency Acquisition to Improve the Deconvolution of Information from FragALL Experiments;** Gordana Ivosev; Ron Bonner; J.c. Yves Leblanc; Nic Bloomfield; Stephen A Tate; *MDS Analytical Technologies, Concord, On, ON*

TP 063 **The Need for Speed: An Evaluation of Automated Charge State Deconvolution of LC/MS Data**; Timothy R. Croley[1]; Denis Andrzejewski[2]; John H. Callahan[3]; Steve Musser[4]; Tracie Williams[5]; *[1]Commonwealth of Virginia, Richmond, VA; [2]US Food & Drug Administration, College Park, MD; [3]FDA/CFSAN, College Park, MD; [4]US FDA, College Park, MD; [5]Centers for Disease Control and Prevention, Atlanta, GA*

TP 064 **Statistical Approach for High Throughput Analysis of Ultra-High Resolution Mass Spectra of Plant Extracts**; Dong Wan Lim; Kyu Hwan Park; Jang Mi Jin; Jong Shin Yoo; Hyun Sik Kim; *Korea Basic Science Institute (KBSI), Seoul, South Korea*

TP 065 **On the Usage of the Information About the Number of Carbon Atoms in Peptides for Protein Identification**; Dmitriy M. Avtonomov[1,2]; Ilya A Agron[1,2]; Eugene Nikolaev[1,3]; *[1]Institute for Energy Problems of Chemical Physics, Moscow, Russian Federation; [2]Institute of Biomedical Chemistry, Moscow, Russia; [3]Emanuel Institute of Biochemical Physics, Moscow, Russia*

TP 066 **Metabolic Labeling Validation of Peptide MS/MS Spectral Library and Development of a New Spectral Matching Algorithm for Protein Identification**; Mingguo Xu; Liang Li; *University of Alberta, Edmonton, Canada*

TP 067 **The Development of a Summarization and Visualization Method for MSn Information Based on Social Network Analysis**; Shinichi Yamaguchi; *Shimadzu Corporation, Kyoto, Japan*

TP 068 **On the Application of a New MALDI/MS NIST Library to Cancer Disease Diagnosis**; Simone Cristoni[1]; Sinues Pablo[2]; Luigi Rossi Bernardi[3]; *[1]ISB srl, Milan, Italy; [2]National Council for Research ITB - CNR, Milan, Italy; [3]Multimedica Lab, Milan, Italy*

TP 069 **Merged Spectrum for Metabolite Identification in MassBank**; Hisayuki Horai[1]; Masanori Arita[2]; Yoshito Nihei[1]; Takaaki Nishioka[1]; *[1]IAB, Keio Univ. & BIRD, Tsuruoka, Japan; [2]University of Tokyo, Kashiwa, Japan*

TP 070 **Cluster Analysis for Q-TOF MS/MS Data**; Xiaoyu Yang; Pedatsur Neta; Yamil Simon; Stephen Stein; *NIST, Gaithersburg, MD*

TP 071 **A Systematic Investigation on the Improvement in Sensitivity of Spectral Library Searching over Sequence Database Searching in Proteomics**; Xin Zhang; Wenguang Shao; Henry H. Lam; *Hong Kong University of Science and Technology, Clear Water Bay, Hong Kong*

PROTEOMICS: BIOMARKER DISCOVERY, 072 - 103

TP 072 **Comparative Proteomic Analysis of Normal and Malignant Breast Epithelial Cells Using Laser Capture Microdissection/ LC-MS/ and Label-Free Quantification**; Sangwon Cha[1]; Elizabeth Ann Richardson[2]; Dipak A Thakur[1]; Tomas Rejtar[1]; Shiaw-lin Wu[1]; Dennis C. Sgroi[2]; Barry L. Karger[1]; *[1]Barnett Institute, Northeastern University, Boston, MA; [2]Massachusetts General Hospital, Boston, MA*

TP 073 **Cell Surface and Secreted Protein Profiles of Human Thyroid Cancer Cell Lines Reveal Distinct Glycoprotein Patterns**; Ten-yang Yen[1]; Arthur Arcinas[1]; Nicole Haste[1]; Angela Castanieto[1]; Bruce Macher[1]; Electron Kebebew[2]; *[1]San Francisco State University, San Francisco, CA; [2]University of California at San Francisco, San Francisco, CA*

TP 074 **Reproducibility and Repeatability in Proteomic Analyses by LC-MS/MS**; David L. Tabb[1]; Lorenzo Vega-Montoto[2]; Asokan Mulayath Variyath[2]; Amy-Joan L. Ham[1]; David M. Bunk[3]; Lisa E. Kilpatrick[4]; Paul Rudnick[3]; Dean D. Billheimer[5]; Amanda Paulovich[6]; Daniel C. Liebler[1]; Cliff Spiegelman[2]; Clinical Proteomic Technology Assessment for Cancer Network[7]; *[1]Vanderbilt University, Nashville, TN; [2]Texas A&M University, College Station, TX; [3]National Institute of Standards and Technology, Gaithersburg, MD; [4]NIST, Hollings Marine Laboratory, Charleston, SC; [5]University of Arizona, Tucson, AZ; [6]Fred Hutchinson Cancer Research Center, Seattle, WA; [7]National Cancer Institute, Bethesda, MD*

TP 075 **The Search for a Chitin Pattern Recognition Receptor**; Karina Vega; Diana Diaz Arevalo; Teresa Hong; Karine Bagramyan; Markus Kalkum; *City of Hope, Duarte, CA*

TP 076 **Secretory Proteome Analysis Identifies New Markers for Detection of High Risk Papillomavirus-Positive Cervical Cancer**; Tapas Manna; Rajeev Samant; Lewis Pannell; *Mitchell Cancer Institute, Univ of South Alabama, Mobile, AL*

TP 077 **Proteomic Profiling of Maternal Plasma in First and Third Trimester by Combinatorial Peptide Affinity Chromatography and SELDI-TOF Mass Spectrometry**; Mike Hartenstine; Danielle Ippolito; Peter Napolitano; *Madigan Army Medical Center, Tacoma, WA*

TP 078 **Finding Preeclampsia Biomarkers in Chorion Villus Biopsies by Mass Spectrometry;** Coskun Güzel; Eric A.P. Steegers; Joke A. Polak-Knook; Robert-Jan J.H. Galjaard; Pieter Derkx; Theo M. Luider; *Erasmus MC, Rotterdam, Netherlands*

TP 079 **Label-Free Quantitation of Proteins by Liquid Chromatography-Multiple Reaction Monitoring Mass Spectrometry in Human Tissues**; Haixia Zhang[1]; Qinfeng Liu[2]; Dean D. Billheimer[3]; Robbert J.C. Slebos[1]; Daniel C. Liebler[1]; *[1]Vanderbilt University, Nashville, TN; [2]Campbell University, Buies Creek, NC; [3]University of Arizona, Tucson, Arizona*

TP 080 **MALDI-TOF MS is Perspective Method for Profiling Biomarkers Bound to Albumine to Detection Lung Cancer**; Valeriy Shevchenko; Natalia Arnotskaya; Elena Alekseeva; Elena Isaeva; Bakhrom Akhmedov; Irina Zborovskaya; Boris Polotskii; *N. N. Blokhin Russian Cancer Research Center, Moscow, Russian Federation*

TP 081 **A Label-free Approach to Quantitate Novel Ectopic and Intrauterine Pregnancy Serum Biomarkers**; Lynn A. Beer[1]; Kurt T. Barnhart[2]; David W. Speicher[3]; *[1]The Wistar Institute, Philadelphia, PA; [2]University of Pennsylvania, Philadelphia, PA; [3]Wistar Institute, Philadelphia, PA*

TP 082 **Rapid Differential Mass Spectrometry (dMS) for Biomarker Discovery**; Yi Du; Matthew Mazur; Nathan Yates; Ronald Hendrickson; *Merck Research Laboratories, Rahway, NJ*

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TP 083 **Analysis of Human Pancreatic Tissue and Plasma Peptidome Reveals Potential Biomarkers for Pancreatic Cancer**; Kwasi Antwi[1]; Galen Hostetter[2]; Michael J. Demeure[2]; G. Anton Decker[3]; Yvette Ruiz[1]; Tim Sielaff[5]; Larry Koep[4]; Paul Hanavan[1]; Douglas Lake[1]; *[1]School of Life Sciences, Arizona State University, Tempe, AZ; [2]Translational Genomics Research Institute, Phoenix, AZ; [3]Mayo Clinic Scottsdale, Scottsdale, AZ; [4]Banner Good Samaritan Medical Center, Phoenix, AZ; [5]Virginia Piper Cancer Center, Rochester, MN*

TP 084 **Discovery of Protein Biomarkers for Identification of Bacterial Isolates from Indoor Air;** Jennifer Intelicato-Young; Karen Fox; Alvin Fox; *University of South Carolina, Columbia, SC*

TP 085 **Proteomic Analyses of Pancreatic Cyst Fluids**; Bhavinkumar B. Patel; Eileen Ke; Tiffany Liu; Xin-Ming Li; Oleh Haluszka; John P. Hoffman; Hormoz Ehya; Nancy A. Young; James C. Watson; David Weinberg; Minhhuyen T. Nguyen; Steven J. Cohen; Neal J. Meropol; Samuel Litwin; Jeffrey L. Tokar; Anthony T. Yeung; *Fox Chase Cancer Center, Philadelphia, PA*

TP 086 **Identification and Quantification of Potential Bladder Cancer Biomarkers in Urine by Isotope Labeling and Mass Spectrometry**; YI-TING CHEN[1]; Hsiao-Wei CHEN[1]; Ting Chung[1]; Chih-Ching Wu[1]; Jau-Song Yu[1]; Meng-Chieh CHEN[1]; Chien-Lun CHEN[2]; *[1]Chang Gung University, TAOYUAN, TAIWAN; [2]Chang Gung Memorial Hospital, Taoyuan, TAIWAN*

TP 087 **Proteome Analysis and Evaluation of *Bacillus amyloliquefaciens* and *Bacillus subtilis* Secretomes**; Maria Claret B. Lauan[1]; Ilyn Lyzette D Santos[2]; Sun Min Park[2]; Jinkyu Lim[1]; *[1]Kyungpook University, Daegu, South Korea; [2]Kyungpook National University, Daegu, SOUTH KOREA*

TP 088 **Exploring Biomarkers in Rat Urine for α-Naphthylisothiocyanate Induced Cholestasis**; Jianzhong Chen[1,3]; Rhonda L. Pitsch[1]; Nicholas J. DelRaso[2]; Kari Green-church[3]; John J. Schlager[2]; Pavel Shiyanov[1]; *[1]Henry M. Jackson Foundation/Air Force Research Lab, Dayton, OH; [2]Air Force Research Lab, Dayton, OH; [3]The Ohio State Universtiy, Columbus, OH*

TP 089 **Novel Strategies in Peptidomics for Osteoarthritis Biomarker Discovery**; Jurre Kamphorst[1,3]; Rob van der Heijden[1]; Jeroen DeGroot[2]; Theo Reijmers[1]; Ubbo Tjaden[1]; Jan Van Der Greef[1,2]; Thomas Hankemeier[1,3]; *[1]Division of Analytical Biosciences, LACDR, Leiden, The Netherlands; [2]TNO Quality of Life, Zeist, The Netherlands; [3]Centre for Medical Systems Biology, Leiden, The Netherlands*

TP 090 **Selection and Validation of Liver Cancer Biomarker Candidates from Human Plasma Proteome**; Ju Yeon Lee[1]; Jin young Kim[1]; Jeong Hwa Lee[1]; Gun Wook Park[1]; Kyung-Hoon Kwon[1]; Young Ki Paik[2]; Jong Shin Yoo[1]; *[1]Korea Basic Science Institute, Deajeon, South Korea; [2]Yonsei Proteome Research Center,Yonsei University, Seoul, South Korea*

TP 091 **Global Phospho-Proteomics Screens to Define 14-3-3 Protein Targets of Specific Cell Signalling Pathways**; Silvia Synowsky; Sandra Crowther; Carol MacKintosh; *Medical Research Council-PPU, Dundee, UK*

TP 092 **The SILAC Zebrafish Project**; Ann Westman-Brinkmalm[1]; Alexandra Abramsson[1]; Chen Gang[2]; Malin E Andersson[1]; Gunnar Brinkmalm[1]; Josef Pannee[1]; Mikael K Gustavsson[1]; Kaj Blennow[1]; Ulla Rüetschi[1]; Hermann Heumann[2]; Henrik Zetterberg[1]; *[1]University of Gothenburg, Molndal, Sweden; [2]Silantes, Martinsried, Germany*

TP 093 ***In vivo* Characterization of Endogeneous Neuropeptides and -Proteins on a Chromatographic Time-scale Using Nanoflow LC/FTICR-MS/MS**; Gunnar Brinkmalm; Erik Portelius; Annika Öhrfelt; Henrik Zetterberg; Ann Westman-Brinkmalm; Kaj Blennow; *University of Gothenburg, Molndal, Sweden*

TP 094 **Quantitative MALDI-FT-ICR Analysis of Cerebrospinal Fluid of Relapsing Remitting and Primary Progressive Multiple Sclerosis Patients**; Marcel P Stoop; Mark K Titulaer; Peter C Burgers; Christoph Stingl; Peter A E Sillevis Smitt; Rogier Q Hintzen; Theo M Luider; *ErasmusMC, Rotterdam, Netherlands*

TP 095 **Diagnosis of Prenatal Disorders – the Search for Biomarkers in Maternal Human Plasma Using a Robust Analytical Approach**; Susan E. Slade[1]; Konstantinos Thalassinos[1]; Nisha Patel[1]; Joanne B. Connolly[2]; Chris Hughes[2]; Jim Langridge[3]; Steve Thornton[1]; Kypros Nicolaides[4]; James Scrivens[1]; *[1]University of Warwick, Coventry, UK; [2]Waters, Manchester, UK; [3]Waters Corporation, Manchester, UK; [4]King's College Hospital, London, UK*

TP 096 **ProteoMiner™ Treatment Combined to Mass Spectrometry Analysis for Biomarker Discovery: Evaluation on Human Plasma**; Damien Lavigne[1]; Jean Pierre Le Caer[2]; Olivier Meilhac[3]; Jeannette Fareh[1]; Luc Guerrier[4]; Thibaut Léger[3]; Jean Baptiste Michel[3]; Egisto Boschetti[4]; Olivier Laprévote[2,5]; *[1]Sysdiag, Montpellier, France; [2]CNRS-ICSN, Gif Sur Yvette, France; [3]Inserm U698, Paris, France; [4]Bio-Rad, Gif sur Yvette, France; [5]Paris Descartes University, Paris, France*

TP 097 **Protein Expression in Human Female Parotid Saliva is Age Specific**; Kiran S Ambatipudi[1]; Bingwen Lu[2]; John Yates[2]; James E Melvin[1]; *[1]University of Rochester, Rochester, NY; [2]The Scripps Research Institute, La Jolla, CA*

TP 098 **Proteolytic Peptides as Potential Biomarkers for α-Thalassemia with Stop Codon Mutations**; Duangmanee Sanmun[1]; Jing Y. Chia[1]; Robin Philp[2]; Bin Li[1]; Thongperm Munkongdee[3]; Saovaros Svasti[3]; Pranee Winichagoon[3]; Suthat Fuchareon[3]; Hai Y. Law[4]; Angeline Lai[4]; Ivy Ng[4]; Kai Tang[1]; *[1]Nanyang Technological University, Singapore, Singapore; [2]Agilent Technologies Singapore Pte Ltd, Singapore, Singapore; [3]Mahidol University, Puttamonthon, Thailand; [4]KK Women's and Children's Hospital, Singapore, Singapore*

TP 099 **Identification of Potential Biomarkers in Low Molecular Weight Human Serum Fraction for Hepatocellular Carcinoma Detection Using Proteomic Strategies**; Yanming An; Christopher Loffredo; Habtom Ressom; Radoslav Goldman; *Georgetown University Hospital, Washington, DC*

TP 100 **Quantitative Proteomic Analysis of Parental and adh1 Mutant Isolates of Candida albicans in Mature Phase Biofilm;** Ali A. Lattif[2,3]; Pranab K. Mukherjee[2,3]; Elizabeth Yohannes[1,3]; Hong Zhao[1,3]; Mark Chance[1,3]; Mahmoud A. Ghannoum[2,3]; *[1]Center for Proteomics, Cleveland, OH; [2]Center for Medical Mycology, Dept. of*

Dermatology, Cleveland, OH; [3]Case Western Reserve University, Cleveland, OH

TP 101 **Lectins Based Identification of Cancer Associated Glycoproteins in Cancer Patient Plasma**; Qiang Gao; Dawn Watson; Catherine P Riley; Wonryeon Cho; Jiri Adamec; Fred E Regnier; *Purdue University, West Lafayette, IN*

TP 102 **Proteomic Analysis of Co-Regulators in a Novel Prostate Cancer Progression Line**; John Lapek; Michael Moses; Katherine Marshall; Kevin Welle; Lauren Jensen; Karin Williams; William Ricke; Alan Friedman; *University of Rochester Medical Center, Rochester, NY*

TP 103 **Discovery of Biomarkers in Patients with Visceral Leishermaniasis**; Manfred Fussi; Brian J. Ward; Momar Ndao; Christine Straccini; Bernard F. Gibbs; *McGill University, Montreal, Canada*

METABOLOMICS, 104 - 120

TP 104 **Quantitative Phosphorus Metabolomics Using Nano-Flow Liquid Chromatography-Tandem Mass Spectrometry and Culture-Derived Comprehensive Global Internal Standards**; Taisuke Uehara[1,2]; Akira Yokoi[1]; Ken Aoshima[1,2]; Satoshi Tanaka[1,2]; Tadashi Kadowaki[1]; Masayuki Tanaka[1]; Yoshiya Oda[1,2]; *[1]Eisai, Tsukuba, JAPAN; [2]CREST, Saitama, Japan*

TP 105 **Metabolomics of Soybean Root Hairs Inoculated with *Bradyrhizobium japonicum***; Zhentian Lei[1]; Laurent Brechenmacher[2]; Seth Findley[2]; Marc Libault[2]; Gary Stacey[2]; Lloyd W. Sumner[1]; *[1]The Samuel Roberts Noble Foundation, Ardmore, OK; [2]University of Missouri, Columbia, MO*

TP 106 **Oxidative Metabolism Drives Stem Cell Differentiation**; Oscar Yanes; Julie Clark; Diana Wong; Paul H Benton; Sunia Trauger; Caroline Desponts; Sheng Ding; Gary Siuzdak; *The Scripps Research Institute, La Jolla, CA*

TP 107 **Differential ^{13}C-/^{12}C-Isotope Dansylation Labeling and Fast LC FT-ICR MS for Quantitative Metabolome Analysis**; Kevin Guo; Liang Li; *University of Alberta, Edmonton, Canada*

TP 108 **Evaluation of the Cellodextrin Profiles of the Enzymatic Digests of Switchgrass**; Bruce A. Tomkins; Gary J. Van Berkel; Timothy J. Tschaplinski; Nancy L. Engle; *Oak Ridge National Laboratory, Oak Ridge, TN*

TP 109 **Identification of Biomarkers in Biofluids: Introduction of a Comprehensive Analytical Strategy Based on LC-MS(/MS) and Candidate Confirmation Tools**; Rayane Mohamed[1]; Emmanuel Varesio[1]; Ron Bonner[2]; Gerard Hopfgartner[1]; *[1]University of Geneva, Geneva, Switzerland; [2]MDS Analytical Tec, Sciex, Concord, ON*

TP 110 **A generic Calibration Method to Improve Data Precision and Accuracy in Label Free Metabolomics, a First Step Towards Quantitative Metabolomics:**; Elwin Verheij; Frans van der Kloet; Renger Jellema; Ivana Bobeldijk; *TNO Quality of Life, Zeist, Netherlands*

TP 111 **Application of Supercritical Fluid Technologies to Profiling of Various Lipophilic Metabolites**; Takeshi Bamba; Atsuki Matsubara; Eiichiro Fukusaki; *Graduate School of Engineering, Osaka University, Suita, Osaka, Japan*

TP 112 **A Novel Method for Robust LC/MS-TOF Analysis of Hydrophilic Metabolite Classes by Aqueous Normal Phase on a Silica Hydride-Based Column**; Joseph J. Pesek[1]; Maria Matyska[1]; William Ciccone[2]; Steven M. Fischer[3]; Theodore R. Sana[3]; *[1]San Jose State University, San Jose, CA; [2]Microsolv Technologies, Eatontown, NJ; [3]Agilent Technologies, Santa Clara, CA*

TP 113 **LC/MS-TOF Analysis of Metabolites in Plasmodium Falciparum-Infected Red Blood Cells (RBCs) Exposed to the Cell Membrane Permeabilization Agent Streptolysin O**; Theodore R. Sana[1]; Steven M. Fischer[1]; William L. Gosnell[2]; Abby Collier[2]; Sandra Chang[2]; *[1]Agilent Technologies, Santa Clara, CA; [2]John A. Burns School of Medicine, Honolulu, HI*

TP 114 **Metabolic Profiling of a Single Live Cells by Laser Ablation Electrospray Ionization Mass Spectrometry**; Bindesh Shrestha; Akos Vertes; *George Washington University, Washington,*

TP 115 **Toward Simultaneous Determination of Ionic Metabolites by Capillary Electrophoresis-Mass Spectrometry**; Yoshiaki Ohashi[1]; Takushi Ooga[1]; Hajime Sato[1]; Atsushi Nagashima[1]; Masaru Tomita[1,2]; Tomoyoshi Soga[1,2]; *[1]Human Metabolome Technologies, Inc., Tsuruoka, Japan; [2]Institute for Advanced Biosciences,Keio University, Tsuruoka, Japan*

TP 116 **Pathway Identification by ^{13}C Metabolomics Using Liquid Chromatography High-Resolution Mass Spectrometry: Elucidation of the Ethylmalonyl-CoA Pathway for Glyoxylate Regeneration**; Patrick Kiefer[1]; Rémi Peyraud[1]; Philipp Christen[1]; Jean-Charles Portais[2]; Julia A. Vorholt[1]; *[1]Swiss Federal Institute of Technology, Zurich, Switzerland; [2]LISBP, INSA, Toulouse, France*

TP 117 **Study of Metabolites Including α-Tomatine by Femtosecond Laser-Induced Ionization/Dissociation (fs-LID)**; Nelson S. Winkler; Christine L. Kalcic; A. Daniel Jones; Marcos Dantus; *Michigan State University, East Lansing, MI*

TP 118 **Biomarker Discovery in Diabetic Nephropathy by Targeted Metabolomics;** Ulrika Lundin; Klaus M. Weinberger; *Biocrates Life Sciences AG, Innsbruck, Austria*

TP 119 **Improving the Analytical Strategies for LC-MS of Polar Metabolites**; Thomas Hankemeier[1,2]; Toshi Mikami[1]; Miguel Rojas[1,2]; Rob Vreeken[1,2]; Theo Reijmers[1,2]; *[1]Leiden University, Leiden, Netherlands; [2]Netherlands Metabolomics Centre, Leiden, The Netherlands*

TP 120 **Optimisation of a Method for Metabolomic Analysis of Tissue Culture and Plasma Using a UHPLC/QTOF System**; Florence Raynaud[1]; Rupinder Pandher[1]; Celine Ducruix[1]; Edgar Naegele[2]; *[1]The Institute of Cancer Research, Sutton, UK; [2]Agilent Technologies, Waldbronn, Germany*

PROTEOMICS: NEW APPROACHES, 121 - 149

TP 121 **Microwave Assisted Chemical and Enzymatic Proteolysis for Mass Spectrometric Identification of Protein Variants**; Asif Alam[1,2]; Yuanzhong Yang[2]; Reinhard I. Boysen[2]; Donald K. Bowden[3]; Milton T. W. Hearn[2]; *[1]Biochemistry & Molecular Biology, Monash University, Vic, Australia; [2]ARC Special Research Centre for Green Chemistry, Monash University, Vic, Australia; [3]Thalassaemia Service, Monash Medical Centre, Clayton, Victoria, Australia*

TP 122 **Lys-N: A novel Protease Ideal, in Combination with SCX and ETD, for Proteomics;** Nadia Taouatas; A.F. Maarten Altelaar; Madalina M. Drugan; Andreas O.

Helbig; Albert J.R. Heck; Shabaz Mohammed; *Utrecht University, Utrecht, Netherlands*

TP 123 **Proteome Analysis by an On-Target Digestion MALDI- FTICR Approach**; Chunyan Li[1]; Peng Zhao[1]; Lance Wells[2]; Jon Amster[1]; *[1]University of Georgia, Athens, GA; [2]CCRC/UGA, Athens, GA*

TP 124 **On-Substrate Labeling of Peptides Using Cleavable Fluorous Labels Immobilized on Fluorous Silica Support**; Manoj Pal[1,2]; Bruhaspathy Miriyala[2]; Marvin S. Yu[2]; Eric C. Peters[1]; *[1]GNF (Novartis), San Diego, CA; [2]Fluorous Technologies Inc., Pittsburgh, PA*

TP 125 **Ultra-Rapid Pressure Digestion and Label-Free Quantitative Proteomics of *Yersiniae* Infected Mice Tissues**; Kim K. Hixson[1]; Daniel Lopez Ferrer[1]; Matthew Bender[2]; Patricia L. Worsham[3]; Karl K. Weitz[1]; Nate Lawrence[4]; Amy Rasley[5]; Therese W. Clauss[1]; Ljiljana Pasa-tolic[1]; Richard D. Smith[1]; Mary S. Lipton[1]; *[1]Pacific Northwest National Lab, Richland, WA; [2]NBACC, Washington, DC; [3]USAMRIID, Frederick, MD; [4]Pressure Biosciences, Inc., South Easton, MA; [5]Lawrence Livermore National Lab, Livermore, CA*

TP 126 **Use of Proteinase K to Improve Resolution in Hydrogen/Deuterium Exchange Mass Spectrometry**; John Venable; Linda Okach; William Scuba; Ansgar Brock; *Genomics Institute for the Novartis Research Found, San Diego, CA*

TP 127 **A Comparison of Proteolytic Digestion Techniques on Different Sample Formats**; Tommy K. Cheung; Teerapat Rosajjakul; David Arnott; Qui Phung; *Genentech, Inc., South San Francisco, CA*

TP 128 **Optimization of Microwave-Assisted Proteolysis for Highly Efficient and More Comprehensive Protein Profiling**; Yi Huang[1,2]; Fang Xu[1,3]; Sun Yong Jeong[1]; Yanbao Yu[1,2]; Xian Chen[1]; *[1]University of North Carolina, Chapel Hill, NC; [2]Fudan University, Shanghai, China; [3]Jiaotong University, Shanghai, China*

TP 129 **Proteomics Under Pressure: Rapid Extraction and Digestion in a Single Tube;** Alexander V. Lazarev[1]; Emily Freeman[2]; Vera S. Gross[1]; Greta Carlson[1]; Edmund Ting[1]; Alexander R. Ivanov[2]; *[1]Pressure BioSciences, Woburn, MA; [2]Harvard School of Public Health, Boston, MA*

TP 130 **'Genome Free' Proteomics; *de novo* Sequence Analysis by a Combination of LysN Protein Digestion and Electron Transfer Dissociation**; A.F. Maarten Altelaar[1,2]; Madalina M. Drugan[1,2]; Nadia Taouatas[1,2]; Nikolai Mischerikow[1,2]; Bas van Breukelen[1,2]; Shabaz Mohammed[1,2]; Albert J.R. Heck[1,2]; *[1]Utrecht University, Utrecht, Netherlands; [2]Netherlands Proteomics Centre, Utrecht, The Netherlands*

TP 131 **An Efficient On-pellet-Digestion Procedure Coupled to Extensive Nano-LC Separation/ Orbitrap for Comprehensive and Large-scale Profiling of Swine Heart Mitochondrial Proteome**; Jun Qu[1,2]; John Canty[1,2]; Rebecca Young[1,2]; Xiaotao Duan[1,2]; Robert Straubinger[1,2]; *[1]University at Buffalo, SUNY, Amherst, NY; [2]New York State Center of Excellence, Buffalo, NY*

TP 132 **High-Pressure Assisted In-Gel Tryptic Digest: Qualitative and Quantitative Aspects;** Michail Alterman[1]; Melkamu Getie-Kebtie[1]; Alexander Lazarev[2]; Vera S. Gross[3]; *[1]FDA, CBER, Rockville, MD; [2]Pressure Biosciences, Inc, Woburn, MA; [3]Pressure BioSciences, Woburn, MA*

TP 133 **A Novel Target Peptide Quantification Method: Multiple Products Monitoring (MpM)**; Je-Hyun Baek[1]; Hokeun Kim[1]; Byunghee Shin[1]; Sun Young Ahn[2]; Youngmi Kim Pak[2]; Myeong-Hee Yu*[1]; *[1]FPC at KIST, Seoul, South Korea; [2]Kyung Hee University, Seoul, South Korea*

TP 134 **Quantitative Cell Surface Proteome Profiling of the Human Pathogen Staphylococcus aureus ΔsigB Using the Biotinylation Approach**; Kristina Hempel; Andreas W. Otto; Michael Hecker; Dörte Becher; *University of Greifswald, Greifswald, Germany*

TP 135 **Determination of the Number of Apolipoprotein Molecules in Reconstituted High Density Lipoprotein Complexes Using MALDI-MS**; R.A. Gangani D. Silva[2]; John B. Massey[3]; Henry Pownall[3]; Mattew R. Tubb[2]; Jamie Morris[2]; Larry Sallans[1]; Stephen F. Macha[1]; *[1]University of Cincinnati, Department of Chemistry, Cincinnati, OH; [2]Department of Pathology and Laboratory Medicine, University of Cincinnati, OH; [3]Department of Medicine, Baylor College of Medicine, Huston, TX*

TP 136 **Determination of Cancer Biomarkers Using Targeted MS Analysis of Isotope-Labeled Formalin-Fixed Paraffin-Embedded Tissue Samples**; Leroi V. Desouza[1]; Marlene M. Darfler[2]; David B. Krizman[3]; Casimir Eitner[4]; Alexander D. Romaschin[5]; Terence J. Colgan[6]; K W Michael Siu[1]; *[1]York University, Toronto, Canada; [2]Expression Pathology Inc., Gaithersburg, MD; [3]Expression Pathology Incorporated, Gaithersburg, MD; [4]Expression Pathology, Inc., Gaithersburg, MD; [5]St Michael's Hospital, Toronto, Canada; [6]Mt. Sinai Hospital, Toronto, Canada*

TP 137 **Withdrawn**

TP 138 **Novel High-Throughput SRM (/MRM) Based Proteomic Strategy**; Bruno Domon[1]; Paola Picotti[1]; Nathalie Selevsek[1]; Reiko Kiyonami[2]; Alan E. Schoen[2]; Amol Prakash[2]; Scott Peterman[2]; Andreas F Huhmer[2]; Ruedi Aebersold[1]; *[1]ETH Zurich, Zurich, Switzerland; [2]ThermoFisher Scientific, San Jose, CA*

TP 139 **Quantitative Proteomic Analysis of Syk-Interacting Protein Complexes Using Novel Labeling Reagents and a Single-Chain Anti-GFP Antibody**; Jacob A. Galan[1,3]; Leela L. Paris[2,3]; Hua-Jie Zhang[1,3]; Robert L. Geahlen[2,3]; W. Andy Tao[1,3]; *[1]Dept of Biochemistry, Purdue University, West Lafayette, IN; [2]Dept of Medicinal Chemistry, Purdue University, West Lafayette, IN; [3]Purdue Cancer Center, West Lafayette, IN*

TP 140 **PAcIFIC: How to Quantify Deeper Into the Proteomics Ocean**; Alexandre Panchaud; Scott A. Shaffer; David R. Goodlett; *University of Washington, Seattle, WA*

TP 141 **Rapid, Near Proteome-Wide Quantitative Analysis of Aneuploid Budding Yeast;** Noah E. Dephoure[1]; Eduardo M. Torres[2]; Judit Villen[1]; Angelika Amon[2]; Steven Gygi[1]; *[1]Harvard Medical School, Boston, MA; [2]Howard Hughes Medical Institute, MIT, Cambridge, MA*

TP 142 **Subunit Stoichiometry and Absolute Quantification of Protein Complexes Using an Integrated Bottom Up Approach**; Lan Huang[1]; Yingying Yang[1]; Yimeng Dou[2]; Jenny Wu[2]; Lei Fang[1]; Rick Lathrop[1,2]; Wes Hatfield[1,2]; Ruslan Aphasizhev[1]; Xiaojie Qi[1]; Suzanne

Sandmeyer[1]; [1]*University of California, Irvine, CA;* [2]*CODA Genomics, Inc, Laguna Hills, CA*

TP 143 **Chemoproteomics Technology for Target Protein Profiling and its Applications for Drug Discovery**; Hua Tang; Scott Warder; Paul Richardson; Robert Hubbard; Michael Michaelides; Todd Hansen; Shaun Mcloughlin; *Abbott laboratories, Abbott Park, IL*

TP 144 **Functionalized Nano-chemical Probes for Resolving Protein Complexes Related to Estrogen Action Using MS-Based Quantitative Proteomics**; Pai-Chiao Cheng; Hsiang-Kai Chang; Shu-Hui Chen; *National Cheng Kung University, Tainan, Taiwan*

TP 145 **CCMS – A Unique Technology Enabling Improved In-Depth Proteomic Analysis and Drug Development Through Functional Isolation of Sub-Proteomes**; Mirko Glinski[1]; Thomas Lenz[1]; Yan Luo[1]; Peter Poot[2]; Christian Blex[1]; Olivia Baessler[1]; Jenny J. Fischer[1]; Christian Dalhoff[1]; Michael Hueben[2]; Elmar Weinhold[2]; Mathias Dreger[1]; Michael Sefkow[1]; Hubert Koester[1]; [1]*caprotec bioanalytics GmbH, Berlin, Germany;* [2]*RWTH Aachen, Aachen, Germany*

TP 146 **Identification of HuD Specific Antibodies Related to Paraneoplastic Neurological Syndrome by Advanced Mass Spectrometry;** Lennard Dekker; Peter Maat; Eric Brouwer; Theo Luider; Peter Sillevis Smitt; *Erasmus Medical Center, Rotterdam, Netherlands*

TP 147 **Deciphering the Dynamic Structure and Function of the 26S Proteasome Complex Upon Oxidative Stress**; Xiaorong Wang; Lan Huang; *University of California, Irvine, CA*

TP 148 **Dissection of the MAPK Signal Cascades Using *in vivo* Profiling Endogenous Interactions with Knock-out (iPEIK) in Mammalian Cells**; Ling Xie; linhong Jing; Yu Yanbao; Kazuhiro Nakamura; Gary L Johnson; Xian Chen; *University of North Carolina, Chapel Hill, NC*

TP 149 **Identification of a Viral Protein that Inhibits Insulin Receptor Activation – a Slow, Deliberate, Massively Serial Analysis of Viral Interactomes**; Richard S. Johnson; Refugio Martinez; Stefan Ponko; Steve Wiley; Kaykas Ajamete; *VLST Corp, Seattle, WA*

SMALL SCALE SEPARATIONS, 150 - 173

TP 150 **Top Down Proteomics Using Online Polymer Reversed Phase (PLRP) Nanocapillary-LC Coupled Fourier Transform Mass Spectrometry**; Adaikkalam Vellaichamy[1]; John Kellie[1]; John C. Tran[1]; Ji Eun Lee[1]; Jaeyun Sung[1]; Nathan D. Price[1]; Gary Valaskovic[2]; Neil L. Kelleher[1]; [1]*Universtiy of Illinois, Urbana, IL;* [2]*New Objective, Inc., Woburn, MA*

TP 151 **Comparison of Chromatographic Media for Nano ESI LC-MS/MS: Applications to Biomarker Discovery**; Michael Gardner[1]; Megan Rowland[2]; Jonathan L. Bundy[1]; James Stephenson[1]; Gary Valaskovic[3]; Mike S. Lee[4]; [1]*Research Triangle Institute, Rtp, NC;* [2]*RTI International, Cary, NC;* [3]*New Objective, Inc., Woburn, MA;* [4]*Milestone Development Services, Newtown, PA*

TP 152 **High Resolution Dual Nano-LC/MS Source for Increasing Sample Throughput of Gradient LC Methods**; Arthur J. Fogiel; Arthur J. Fogiel Jr; Sau Lan Tang Staats; Katherine Heaton; Lee Heineman; *Phoenix S & T, Inc, Chester, PA*

TP 153 **Optimal Approach for Multiplexed NanoLC-MS**; Sau Lan Tang Staats; Arthur Fogiel; Andris Suna; Arthur Fogiel, Jr; Katherine Heaton; *Phoenix S & T, Inc, Chester, PA*

TP 154 **Automated 2D Peptide Separation on a 1D Nano-LC-MS System**; Paul Taylor[2]; Peter Nielsen[3]; Morten B Trelle[3]; Ole Hørning[3]; Michael Barrett Andersen[3]; Ole Vorm[3]; Michael Moran[2]; Thomas Kislinger[1]; [1]*University of Toronto, Toronto, ON;* [2]*Hospital for Sick Children, Toronto, ON;* [3]*Proxeon, Odense, Denmark*

TP 155 **An Investigation into the Reproducibility of LC-MS Analysis of Complex Peptide Mixtures Using Formalin-Fixed Paraffin-Embedded (FFPE) Tissue;** Chris Hughes[1]; Thérèse Mckenna[1]; Jim Langridge[1]; Niroshini Nirmalan[2]; Rosamonde Banks[2]; [1]*Waters Manchester UK, Manchester, UK;* [2]*University of Leeds, Leeds, UK*

TP 156 **Ruggedness of Nanobore LCMS for Qualitative and Quantitative Biomarker Analysis Using an Automated Emitter Positioning and Rinsing System**; Amanda Berg; Carla Marshall-Waggett; Gary Valaskovic; *New Objective, Inc., Woburn, MA*

TP 157 **Improved Throughput for Clinical Proteomics Using a Dual Channel NanoLC-Nanospray Source**; Cheryl F. Lichti[1]; Ben Ngo[2]; Marjorie A. Case[1]; R. Reid Townsend[1]; Gary A. Valaskovic[2]; [1]*Washington University School of Medicine, St. Louis, MO;* [2]*New Objective, Inc., Woburn, MA*

TP 158 **Reduced Carry-Over, Fast Nanoflow LC/MS Using a Parallel Analysis / Wash Approach**; Tom Van De Goor; Lukas Trojer; Hans-Georg Weissgerber; *Agilent Technologies, Waldbronn, Germany*

TP 159 **Increased Peak Capacity for Nano HPLC Separation of Peptides by Using Long Packed Columns**; Goran Mitulovic[1]; Sebastiaan Eeltink[3]; Remco Swart[3]; Mark van Gils[2]; Karl Mechtler[4]; [1]*IMBA Inst. of Mol. Biotech., Vienna, Austria;* [2]*Dionex, Sunnyvale, CA;* [3]*Dionex Benelux, Amsterdam, The Netherlands;* [4]*IMP Research Institute of Mo, Vienna, AUSTRIA*

TP 160 **Comparison of Conventional, Sub-2-um, and Superficially Porous (Fused-Core) Particles for Long and Short Gradient Nanobore LC/MS**; Robert Moody[1]; Gary Valaskovic[2]; Mike S. Lee[3]; [1]*MAC-MOD Analytical, Chadds Ford, PA;* [2]*New Objective, Inc., Woburn, MA;* [3]*Milestone Development Services, Newtown, PA*

TP 161 **Temperature Control Effects in Packed Emitter Nanobore LC-MS/MS for Protein Digest Analysis**; Mike S. Lee[1]; Lee Sawdey[2]; Amanda Berg[2]; Gary Valaskovic[2]; [1]*Milestone Development Services, Newtown, PA;* [2]*New Objective, Inc., Woburn, MA*

TP 162 **The Effect of Chromatographic Resolution on Peptide Identification;** Remco Van Soest; David Neyer; J. Bryce Young; *Eksigent Technologies, Dublin, CA*

TP 163 **Withdrawn**

TP 164 **High Voltage Programming for Optimum MS/MS Sensitivity of Neuropeptides**; David P. Budac[1]; Mark J. Hayward[2]; Arthur Fogiel[3]; [1]*Lundbeck Research US, Paramus, NJ;* [2]*Lundbeck Research USA, Stockton, NJ;* [3]*Phoenix S&T, Chester, PA*

TP 165 **Nano LCMS with Simultaneous Low Volume Fractionation Followed by Low Flow Infusion for the Analyses of Complex Proteomic Samples**; Reinaldo Almeida[2]; Leonie F. Waanders[1]; Peter Bandila[1]; Mark Allen[2]; Matthias Mann[1]; [1]*Max Planck Institute for*

Biochemistry, D Martinsried, Germany; [2]Advion Biosciences Ltd, Norwich, Norfolk, UK

TP 166 **EWOD Digital Microfluidic Platform for Protein Capture and Analysis**; Adam A. Stokes; Yifan Li; William Parkes; David J Clarke; Pat Langridge Smith; Anthony J. Walton; C. Logan Mackay; *University of Edinburgh, Edinburgh, UK*

TP 167 **Gangliosides Analysis by Capillary Electrophoresis/Electrospray Ionization/Mass Spectrometry Using Nonvolatile Borate Buffer**; Ju-Li Huang; Yun-Hung Hsueh; Guor-Rong Her; *National Taiwan University, Taipei, Taiwan*

TP 168 **Comprehensive LC-CE-MS with Capillary Chromatography Coupled to a Microfabricated Device with Integrated Lossless Sample Transfer, Electrophoretic Separation, and Electrospray Ionization**; J. Scott Mellors; J. Michael Ramsey; *University of North Carolina, Chapel Hill, NC*

TP 169 **Step Elution SPE Multichannel CE-MS: A High Throughput Two-dimensional Separation Approach for Protein Analysis**; Wei-Han Lee; Guor-rong Her; *National Taiwan University, Taipei, Taiwan*

TP 170 **Reversed Phase Monolithic Column Array Devices for Analysis of Peptide Mixtures**; Jian Liu; Daniel Higbee; Michael Schilling; Ranu Nayak; Daniel R. Knapp; *Medical University of SC, Charleston, SC*

TP 171 **High Capacity Separations for Complex Proteomic Mixtures Using Multiple Microfluidic Chip Columns in Series**; J. Bryce Young; David Wyrick; Erika Lin; Remco van Soest; Nicole Hebert; *Eksigent Technologies, Dublin, CA*

TP 172 **Profiling Stress-Induced Neuropeptidomic Changes with Capillary Electrophoresis-Mass Spectrometry and Stable Isotopic Labeling Technique**; Junhua Wang; Feng Xiang; Yuzhuo Zhang; Zichuan Zhang; Lingjun Li; *UW-Madison, Madison, WI*

TP 173 **Application and Evaluation of Porous Tip CE-MS Interface Design to Narrow Bore (~5 µm) CE Capillaries**; Mehdi Moini[1]; Michelle Hentz[1]; Emily Chen[2]; *[1]Texas State University, San Marcos, TX; [2]University of Texas at Austin, Austin, TX*

IMAGING MS: INSTRUMENTATION AND METHOD DEVELOPMENT, 174 - 202

TP 174 **Principal Component Analysis (PCA) Applied to MALDI-MS Images, Unsupervised Data Interrogation Directing Peptide Selection from Trypsin-Digested Tissue Sections**; Emrys A Jones[1]; Adam McMahon[1]; Alex Henderson[1]; Herve Boutin[1]; Emmanuel Raptakis[2]; Patricia Price[1]; *[1]University of Manchester, Manchester, UK; [2]Kratos Analytical, Manchester, UK*

TP 175 **Locating Spatially-Localized Molecules in MALDI-Images**; Jocelyne Bruand[1]; Maxence Wisztorski[2]; Isabelle Fournier[3]; Michel Salzet[4]; Eduardo R. Macagno[1]; Vineet Bafna[5]; *[1]UCSD, La Jolla, CA; [2]University of Lille 1, Villeneuve D'ascq, France; [3]University of Lille 1, FRE-C, Villeneuve D'ascq Cedex, France; [4]FRE-CNRS 2933, University, Villeneuve D'ascq Cedex, France; [5]Univ. Cal. San Diego, San Diego, CA*

TP 176 **Imaging mzML (imzML) – a Common Data Format for Imaging Mass Spectrometry**; Andreas Roempp[1]; Thorsten Schramm[1]; Ivo Klinkert[2]; Alfons Hester[1]; Jean-Pierre Both[3]; Marc Brulet[4]; Alain Brunelle[4]; Olivier Laprevote[4,5]; Ron M.A. Heeren[2]; Markus Stoeckli[6]; Bernhard Spengler[1]; *[1]Justuts Liebig University, Giessen, Germany; [2]FOM Inst. Atomic/Molecular Physics, Amsterdam, Netherlands; [3]CEA, Saclay, France; [4]ICSN - CNRS, Gif Sur Yvette, France; [5]Paris-Descartes University, Paris, France; [6]Novartis Institutes for BioMedical Research, Basel, Switzerland*

TP 177 **Automated Classification and Grading of Tumors in Mass Spectrometric Images Using Postprocessed Random Forests**; Michael Hanselmann[1]; Ullrich Köthe[1]; Marc Kirchner[1]; Bernhard Y. Renard[1]; Erika R. Amstalden[2]; Kristine Glunde[3]; Ron M.A. Heeren[2]; Fred A. Hamprecht[1]; *[1]University of Heidelberg, Heidelberg, Germany; [2]FOM Inst. Atomic/Molecular Phy, Amsterdam, Netherlands; [3]Johns Hopkins University SOM, Baltimore, MD*

TP 178 **MALDI Imaging: Interpretation of Gastric Cancer MALDI Images by Hierarchical Clustering**; Arndt Asperger[1]; Sören-Oliver Deininger[1]; Matthias Ebert[2]; Michael Becker[1]; Arne Fütterer[1]; Christoph Röcken[3]; *[1]Bruker Daltonik GmbH, Bremen, Germany; [2]Department of Medicine II, Technical University, Munich, Germany; [3]Institute of Pathology, Charité Univ. Medicin, Berlin, Germany*

TP 179 **A Novel Statistical Approach to the Interpretation of Complete MALDI Mass Spectrometry Imaging Datasets;** Emmanuelle Claude[1]; Pr. Chen[2]; Keith Richardson[1]; Thérèse Mckenna[1]; Jim Langridge[1]; *[1]Waters corporation, Manchester, UK; [2]Academia Sinica, Taipei, Taiwan*

TP 180 **Withdrawn**

TP 181 **3D Imaging Mass Spectrometry...Putting Humpty-Dumpty Together Again**; Erin H. Seeley; Tuhin K. Sinha; Zhengyu Yang; Richard M. Caprioli; *Vanderbilt University, Nashville, TN*

TP 182 **Imaging Mass Spectrometry in Prostate Cancer - Looking Beyond Histology**; Kristina Schwamborn[1]; Reid Groseclose[1]; Peter Wild[2]; Richard M. Caprioli[1]; *[1]Vanderbilt University, Nashville, TN; [2]Institute of Surgical Pathology, Zurich, Switzerland*

TP 183 **On-tissue Chemical Derivatization for the Analysis of Drugs by MALDI Imaging MS**; Almary Chacon; Irene Zagol-Ikapitte; Venkataraman Amarnath; John A. Oates; Olivier Boutaud; Richard M. Caprioli; *Vanderbilt University, Nashville, TN*

TP 184 **Tissue Imaging Using Simultaneous Chemical Derivatization and Desorption Electrospray Ionization**; Chunping Wu; Demian R. Ifa; Nicholas Manicke; R. Graham Cooks; *Purdue University, West Lafayette, IN*

TP 185 **Developments in Instrumentation for Atmospheric Pressure, Nanoscale Chemical Imaging via Tip-Enhanced, Near-Field Desorption/Ionization Mass Spectrometry**; Douglas E. Goeringer; James A. Bradshaw; Kent A. Meyer; Olga S. Ovchinnikova; *Oak Ridge National Laboratory, Oak Ridge, TN*

TP 186 **Towards Nanoscale Molecular Analysis and Chemical Imaging at Atmospheric Pressure by Near Field Laser Ablation Mass Spectrometry: Current Challenges**; Liang Zhu; Gerardo Gamez; Thomas A. Schmitz; Renato Zenobi; *Swiss Federal Institute of Technology, Zurich, Switzerland*

TP 187 **Profiling and Imaging Mass Spectrometry by Probe Electrospray Ionization Using Solid Needle**; Lee

Chuin Chen; Zhan Yu; Rikiya Iwata; Hajime Ito; Yutaka Hashimoto; Sen Takeda; Kenzo Hiraoka; *University of Yamanashi, Kofu, Japan*

TP 188 **Development of a Prototype Mass Spectrometer for MS Imaging Using a High Spatial/Temporal Resolution Ion Detector**; Masahiro Hayashi[1,2]; Yasuhide Naito[1]; *[1]GPI, Hamamatsu, Japan; [2]Hamamatsu Photonics K.K., Hamamatsu, Japan*

TP 189 **Quantitative Evaluation of Sensitivity for Microscopic AP-MALDI-MS Imaging in Direct Tissue Analysis**; Takahiro Harada[1]; Kazuteru Takahashi[1]; Kiyoshi Ogawa[1]; Yoshikazu Yoshida[1]; Yuki Sugiura[2]; Takahiro Hayasaka[3]; Mitsutoshi Setou[3]; *[1]Shimadzu Corporation, Soraku-gun, Japan; [2]Tokyo Institute of Technology, Yokohama, Japan; [3]Hamamatsu University School of Medicine, Hamamatsu, Japan*

TP 190 **Full Integration of Lab-Made DESI-MS Imaging Ion Source into Commercial MALDI-FTICR-MS Imaging System**; Michael Volny[1]; Martin Strohalm[1]; Veronika Vidova[1,2]; Gary Kruppa[1]; Jaroslav Pol[1,3]; Petr Novak[1]; Vaclav Kobliha[1]; Karel Lemr[1,2]; Vladimir Havlicek[1,2]; *[1]Institute of Microbiology, Prague 4, Czech Republic; [2]Palacky University, Olomouc, Czech Republic; [3]university of Helsinki, Helsinki, Finland*

TP 191 **Tissue Imaging by 5 kHz High-Performance MALDI-TOF**; Christina Vestal[1]; Kenneth Parker[1]; Kevin Hayden[1]; George Mills[1]; Marvin Vestal[1]; Shannon Cornett[2]; Richard M. Caprioli[3]; *[1]Virgin Instruments Corp., Sudbury, MA; [2]Vanderbilt University, Nashville, TN; [3]Vanderbilt Univ Sch of Med, Nashville, TN*

TP 192 **Development of New Microscopic Micro-MALDI-Q-FTICR-MS Instrument**; Katsutoshi Takahashi; *Nat'l Institute Advan. Indus. Sci Tech, Tokyo, Japan*

TP 193 **Measuring Lipid and Peptide Collision Cross Sections Directly from Tissue Using Imaging MALDI Travelling-Wave IM-MS**; Whitney B. Ridenour[1]; Michal Kliman[2]; John A. McLean[2]; Richard M. Caprioli[1]; *[1]Vanderbilt University Medical Center, Nashville, TN; [2]Vanderbilt University, Nashville, TN*

TP 194 **Atmospheric Pressure UV and IR MALDI Imaging Mass Spectrometry for Peptides, Carbohydrates and Small Molecules**; Berk Oktem; Thomas D. Saul; Vladimir M. Doroshenko; *MassTech Inc., Columbia, MD*

TP 195 **Enhanced MALDI FTMS Imaging of Drug Metabolism and Targeted Lipids with Gold and Silver Nanoparticle Matrices**; Katherine A. Kellersberger[1]; Claire M. Sauvageot[2]; Santosh Kesari[2]; Steven Oldenburg[3]; Michael L. Easterling[1]; Matt Spencer[3]; Paul Speir[1]; Nathalie Y.R. Agar[4]; *[1]Bruker Daltonics, Inc., Billerica, MA; [2]Dana Farber Cancer Institute, Harvard Med. School, Boston, MA; [3]Nanocomposix Inc., San Diego, CA; [4]Harvard Medical School, Neurosurgery, Boston, MA*

TP 196 **Sub-Cellular Imaging of Neuronal Cells Cultured on Silicon Using Secondary Ion Mass Spectrometry**; Kevin Tucker; Zhen Li; Ann Knolhoff; Stanislav Rubakhin; Jonathan Sweedler; *University of Illinois, Urbana, IL*

TP 197 **A MALDI Matrix Deposition Method for Imaging Mass Spectrometry using Low Volatile Solvent**; Mi Young Ha[2,3]; Eun-il Park[2]; Sehwan Moon[2]; OkPyo Zee[3]; Yangsun Kim[1,2]; *[1]Hudson surface Technology, Inc., Newark, NJ; [2]Applied Surface Technologly, Inc., Suwon, Korea; [3]Colleage of Pharmacy, Sungkyunkwan University, Suwon, Korea*

TP 198 **Targeting of Hypoxia-Related Proteins in AQ4N Treated Solid Tumour Xenografts by MALDI-Ion Mobility Separation- Mass Spectrometry Imaging**; Marie Claude Djidja[1]; Emmanuelle Claude[2]; Paul M. Loadman[3]; Chris W. Sutton[3]; Vikki Carolan[1]; Malcolm Clench[1]; *[1]Sheffield Hallam University, Sheffield, UK; [2]Waters corporation, Manchester, UK; [3]Institute of Cancer Therapeutics, Bradford, UK*

TP 199 **3-Dimensional Reconstruction of Breast Tumor Xenografts with Combined Mass Spectrometry Imaging and Magnetic Resonance Spectroscopic Imaging**; Erika R. Amstalden Van Hove[1]; Tiffany R. Greenwood[2]; Ivo Klinkert[1]; Kamila Czornak[1]; Ron M.A. Heeren[1]; Kristine Glunde[2]; *[1]FOM Inst. Atomic/Molecular Phy, Amsterdam, Netherlands; [2]Johns Hopkins University SOM, Baltimore, MD*

TP 200 **Improved On-Tissue Protein Identification in MALDI Imaging Mass Spectrometry (MSI) Using the Metalloendopeptidase Lys-N**; Kamila Czornak[1]; Luke MaCaleese[1]; Shabaz Mohammed[2,3]; Albert J.R. Heck[2,3]; Ron M.A. Heeren[1]; A.F. Maarten Altelaar[2,3]; *[1]FOM-Institute for Atomic and Molecular Physics, Amsterdam, The Netherlands; [2]Utrecht University, Utrecht, The Netherlands; [3]Netherlands Proteomics Centre, Utrecht, The Netherlands*

TP 201 **Automated Sample Handling for High Throughput Imaging Mass Spectrometry**; Liam Mcdonnell; Hans Dalebout; Alexandra van Remoortere; René J.M. van Zeijl; André M. Deelder; *LUMC, Leiden, Netherlands*

TP 202 **Animal Tissue Slicing: A Critical Step for Successful MALDI-MS Imaging**; Fangbiao Li[1]; Walter Korfmacher[2]; Yunsheng Hsieh[2]; *[1]Schering-Plough Research Institute, Kenilworth, NJ; [2]Schering-Plough, Kenilworth, NJ*

ION MOBILITY, 203 - 236

TP 203 **Enhance Sensitivity for Comprehensive Phosphoproteomics Analyses Using High Field Asymmetric Waveform Ion Mobility Spectrometry and Electron Transfer Dissociation**; Tara L Muratore-Schroeder[1]; Eric Bonneil[1]; Gaëlle Bridon[1]; Julian Saba[2]; Brenda Kessler[2]; Pierre Thibault[1]; *[1]Universite de Montréal, Montréal, QC; [2]Thermo Fisher Scientific, San Jose, CA*

TP 204 **Towards intracellular Analysis by Laser Desorption-Ion Mobility-oTOFMS**; J. Albert Schultz[1]; Thomas Egan[1]; Ernest K. Lewis[1]; Kelley Waters[1]; Valerie Vaughn[1]; Valeriy Raznikov[2]; Jerry F. Moore[3]; Amina S. Woods[4]; *[1]Ionwerks, Inc., Houston, TX; [2]Russian Academy of Science, Chernogolovka, Russia; [3]MassThink LLC, Naperville, IL; [4]NIDA-IRP, NIH, Baltimore, MD*

TP 205 **Vacuum Ultra Violet Post-Ionization Combined with Ion-Mobility for the Characterization and Application of Functionalized Nanomaterials as MALDI Matrices;** Ernest K. Lewis[1]; Thomas Egan[1]; Kelley Waters[1]; Sandy Yates[2]; Jerry F. Moore[3]; Carter Kittrell[4]; Steven R. Ripley[4]; K. Steven Ho[4]; Virginia Womack[1]; Robert H. Hauge[4]; Valery N. Khabashesku[5]; Amina S. Woods[6]; J. Albert Schultz[1]; *[1]Ionwerks, Inc., Houston, TX; [2]Bruker Daltonics, Fremont, CA; [3]MassThink LLC, Naperville, IL; [4]Rice University,*

Houston, TX; [5]University of Houston, Houston, TX; [6]NIDA IRP, NIH, Baltimore, MD

TP 206 **Detailed Kinetic Studies of Solution-Phase Protein Unfolding by Time-Resolved ESI and IMS/MS Using a DMA QTOF**; John Van Nostrand[1]; Tamanna Rob[1]; Bruce Thomson[1,2]; Derek Wilson[1]; K W Michael Siu[1]; *[1]York University - CRMS, Toronto, Canada; [2]MDS Analytical Technologies, Concord, ON*

TP 207 **Combining Microfluidic Cell Trapping with Real Time Monitoring of Biomolecular Exudates by Ion Mobility-Mass Spectrometry**; Jeffrey Enders; Sevugarajan Sundarapandian; Kevin Seale; John P. Wikswo; John A. McLean; *Vanderbilt University, Nashville, TN*

TP 208 **Design of a Spherical FAIMS Cell**; Marilyn Prieto; Richard A. Yost; *University of Florida, Gainesville, FL*

TP 209 **Study on Factors Affecting Separation and Detection of Explosives by High-Field Asymmetric Waveform Ion Mobility Spectrometry (FAIMS) / Mass Spectrometry**; Alex C. Wu; Richard A. Yost; *University of Florida, Gainesville, FL*

TP 210 **A Software Tool for Processing Visualising, and Manipulating Multi Dimensional IMS-MS and LC-IMS-MS Data;** Martin Green; Kieran Neeson; Keith Richardson; Marc V. Gorenstein; Kevin Giles; *Waters Corporation, Manchester, UK*

TP 211 **Optimization of Ion Injection into a Planar FAIMS Cell**; Leonard Rorrer; Richard A. Yost; *University of Florida, Gainesville, FL*

TP 212 **Characterization of a Novel Ion Mobility-Tandem Mass Spectrometry Approach**; Yehia Ibrahim; Mikhail Belov; David Prior; William Danielson III; Richard D. Smith; *Pacific Northwest National Laboratory, Richland, WA*

TP 213 **A New Unified Data Format for Ion Mobility-Time-of-Flight Mass Spectrometry**; William F. Danielson; Yan Shi; Anoop M. Mayampurath; Brian H. Clowers; Nathaniel Beagley; Anuj R. Shah; Gordon A. Anderson; Richard D. Smith; *Pacific Northwest National Laboratory, Richland, WA*

TP 214 **Comparison of Square and Sinusoidal Waveforms on a Miniaturized FAIMS Planar Cell for Explosives Detection**; Chia-wei Tsai[1]; Marilyn Prieto[1]; Ilya Kaminsky[2]; Robert Ferran[2]; Said Boumsellek[2]; Richard A. Yost[1]; *[1]University of Florida, Gainesville, FL; [2]Implant Sciences Corporation, San Diego, CA*

TP 215 **Evidence for Promotion of H/D Exchange During Transitions between Conformations of the [M+11H]$^{11+}$ State of Ubiquitin**; Brian C. Bohrer; Natalya Atlasevich; David E. Clemmer; *Indiana University, Bloomington, IN*

TP 216 **The Interaction of Metal Counter Ions with Heparin Octasaccharides: An Ion Mobility / Mass Spectrometry Study**; You Jin Seo; Matthew R. Schenauer; Julie A. Leary; *UC Davis, Davis, CA*

TP 217 **Ion Mobility Spectrometry for determining binding, bridging and the formation of Non-Covalent Complexes**; Bruce Andrien; Rekha Patel; Christine Nowak; Adam W. Lucka; *Alexion Pharmaceuticals, Chesire, CT*

TP 218 **Data Analysis Pipeline for LC-IMS-MS Based Proteomics**; Gordon Anderson; Anuj Shah; Erin Baker; Ashoka D. Polpitiya; Nikola Tolić; Anoop M. Mayampurath; Brian H. Clowers; Rui Zhao; Mikhail Belov; Richard D. Smith; *Pacific Northwest National Laboratory, West Richland, WA*

TP 219 **Conformation Analysis of Carbonic Anhydrase2 Using Ion Mobility and Collision-Induced Dissociation Combined with Electrospray Ionization**; Yoshiaki Nabuchi[1]; Kenji Hirose[2]; Mitsuo Takayama[1]; *[1]Yokohama City University, Yokohama, Kanagawa, Japan; [2]Nihon Waters K.K., Osaka, Japan*

TP 220 **A Comparison of Travelling Wave and Drift Tube Ion Mobility Separations in a Novel rf Confined Helical Geometry Ion Guide;** Steven D Pringle; John B Hoyes; David Langridge; Tony Gilbert; *Waters Corporation, Manchester, UK*

TP 221 **Travelling Wave Ion Mobility Mass Spectrometry-based Conformational Studies of Prion Protein - Comparison of Recombinant Truncated Mouse and Syrian Hamster;** Gillian R. Hilton[1]; Konstantinos Thalassinos[1]; Narinder Sanghera[1]; Susan E. Slade[1]; Teresa J. T. Pinheiro[1]; James Scrivens[2]; *[1]University of Warwick, Coventry, UK; [2]Univ of Warwick, Coventry, UK*

TP 222 **Coupling Direct Analysis in Real Time to Atmospheric Pressure Drift Tube Ion Mobility Spectrometry for Gaseous, Solid and Liquid Sample Analysis;** Glenn A Harris[1]; Mark Kwasnik[2]; Facundo Fernandez[3]; *[1]Georgia Institute of Technol, Atlanta, GA; [2]Georgia Tech, Atlanta, GA; [3]Georgia Institute of Technology, Atlanta, GA*

TP 223 **Evaluating Gas Phase Structure of Oligosaccharide by Positive/Negative MALDI-IM-TOFMS**; Pei-Jing Pai; Kent J. Gillig; Liuxi Chen; Lei Tao; David H. Russell; *Texas A&M University, College Station, TX*

TP 224 **Computational Methods for Analyzing Liquid Chromatography Ion Mobility Spectrometry Mass Spectrometry Data**; Anoop M. Mayampurath[1]; Hyejin Yoon[1]; Stephen Valentine[2]; Ruwan Kurulugama[1]; Manolo D. Plasencia[1]; David E. Clemmer[1]; Haixu Tang[1]; *[1]Indiana University, Bloomington, IN; [2]Predictive Physiology and Medicine, Inc., Bloomington, IN*

TP 225 **Exploring Electrostatic Interactions in the Denatured States of Proteins by Positive/Negative MALDI-IM-TOF**; Liuxi Chen; Lei Tao; Kent Gillig; David H. Russell; *Texas A&M University, College Station, TX*

TP 226 **An Electrospray Ion Funnel Interface for Ion Mobility-Mass Spectrometry**; Junho Jeon; Jody May; Kent Gillig; David H. Russell; *Texas A&M University, College Station, TX*

TP 227 **Enhancements to the Ion Mobility Performance of a Travelling Wave Separation Device**; Kevin Giles; Tony Gilbert; Martin Green; Garry Scott; *Waters Corporation, Manchester, UK*

TP 228 **Gas Phase Stability of Protein-Ligand Complexes: Unfolding and Dissociation Pathways Studied by Electrospray Ionisation-Ion Mobility-Mass Spectrometry;** Jonathan Hopper; *Univeristy of Nottingham, Nottingham, UK*

TP 229 **Metals in Medicine: Ion Mobility Derived Gas Phase Atomic Radii**; Iain D G Campuzano[1]; Keith Richardson[1]; Kevin Giles[1]; Jonathan P. Williams[3]; Alison E. Ashcroft[2]; Tom Knapman[2]; Tijana Bugarcic[3]; Abraha Habtemariam[3]; Mark Rodger[3]; Peter Sadler[3]; *[1]Waters Corporation, Manchester, UK; [2]University of Leeds, Leeds, UK; [3]Univ. of Warwick, Coventry, UK*

Posters must be set up 8:00 - 8:30 am on the day scheduled and removed 7:30 to 8:00 pm. Authors of odd numbered posters (001, 003, 005, etc.) are required to be present 10:30 – 12:30. Authors of even numbered posters (002, 004, 006, etc.) must be present 12:30 – 2:30 pm.

TP 230 **Multiply Charged Ionic Liquid Nanodroplets as Mobility Standards for Tandem Ion Mobility – Mass Spectrometry**; Christopher J. Hogan; Juan Fernandez de la Mora; *Yale University - Mechanical Engineering, New Haven, CT*

TP 231 **Ion Mobility Spectrometry for Rapid Direct Analysis of Swabs for Pharmaceutical Manufacturing Equipment Cleaning Verification**; Mark A. Strege; *Eli Lilly and Company, Indianapolis, IN*

TP 232 **On-Line Chromatography/ Dynamically Multiplexed Ion Mobility/Time-of-Flight Mass Spectrometry for High Throughput Proteomics**; Mikhail Belov; Yehia Ibrahim; David Prior; William F. Danielson; Erin Baker; Rui Zhao; Daniel Lopez-Ferrer; Brianne O Petritis; Richard D. Smith; *Pacific Northwest National Laboratory, Richland, WA*

TP 233 **Compensation Voltage and Experimental Conditions Standardization in FAIMS**; Alexander Aksenov; Alexander Aksenov; *LGC Limited, Teddington, UK*

TP 234 **Fundamentals of Ion/Ion Interactions in Ion Mobility Spectrometry**; Aleksey V. Tolmachev; Brian H. Clowers; Mikhail E. Belov; Richard D. Smith; *Pacific Northwest National Lab, Richland, WA*

TP 235 **Characterisation of Oligomers during Amyloid Fibril Formation Using Electrospray Ionisation – Travelling Wave Ion Mobility Spectrometry – Mass Spectrometry (ESI-TWIMS-MS)**; Alison E. Ashcroft; David Smith; Tom W. Knapman; Joshua T. Berryman; Sheena E. Radford; *Astbury Centre for Structural Molecular Biology, University of Leeds, Leeds, UK*

TP 236 **Separation and Characterization of Copolymers by Ion Mobility Mass Spectrometry**; Chrys Wesdemiotis[1]; Nilufer Solak[1]; Andrew Baker[2]; *[1]The University of Akron, Akron, OH; [2]Waters, Inc., Pleasanton, CA*

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TP 237 ***In Vitro* Stability of GLP-1 in Human Serum and Plasma**; Jizu Yi; Yan-Qiu Song; David Craft; *BD Diagnostics, Franklin Lakes, NJ*

TP 238 **Neonatal Diagnosis of Mucopolysaccharidosis II (Hunter Syndrome) Using Dried Bloodspots for Enzymatic Assay by Tandem Mass Spectrometry**; Brian J. Wolfe; Sophie Blanchard; C. Ronald Scott; Michael Gelb; Frantisek Turecek; *University of Washington, Seattle, WA*

TP 239 **A Cross-validated Quantitative MALDI-TOF Assay for the Rapid Analysis of Hepcidin in Biofluids**; Damon Anderson[1]; Udo Roth[2]; Christoph Menzel[2]; Matthew Heeney[1]; Mark Fleming[1]; Hanno Steen[1]; *[1]Harvard Medical School/Children's Hospital Boston, Boston, MA; [2]qiagen GmbH, Hilden, Germany*

TP 240 **Simulation of the Oxidative Metabolism of Caspase Binding Radioligands (CBRs) by Online Electrochemistry-HPLC-MS**; Anne Baumann[1]; Andreas Faust[2]; Klaus Kopka[2]; Uwe Karst[1]; *[1]University Münster, Inst. of Inorg. & Anal. Chem., Münster, Germany; [2]University Hospital Münster, Nuclear Medicine, Münster, Germany*

TP 241 **Speciesanalysis of Cisplatinum Complexes in the Human Body**; Christine Brauckmann; Björn Meermann; Uwe Karst; *University of Muenster, Münster, Germany*

TP 242 **MALDI-TOF Mass Spectrometry Based Identification of Clinically Important Microorganisms**; Steven K. Drake; Lindsay G. Stevenson; Nayana Patel; Patrick R. Murray; *National Institute of Health, Bethesda, MD*

TP 243 **Application of Electrospray Ionisation for Analysis of Mice Liver – a Bioprospection Issue**; Maria Francesca Riccio Fonseca[1,2]; Luciane Carla Alberici[1]; Rosana Maria Alberici[2]; Helena C F de Oliveira[3]; Rodrigo Catharino[1]; Aníbal Eugênio Vercesi[1]; Marcos N Eberlin[2]; *[1]Departamento de Patologia Clínica - UNICAMP, Campinas, Brazil; [2]ThoMSon Lab UNICAMP, Campinas, Sp, Brazil; [3]Depto Fisiologia e Biofísica – IB – UNICAMP, Campinas, Brazil*

TP 244 **LC-MS Measurement of Alpha-Ketoglutarate Levels in Blood as an Indicator of Human Health**; William E. Holmes[1]; Andrew S. Mcdaniel[1]; Stefan Pierzynowski[2]; Randal K. Buddington[3]; *[1]Mississippi State University, Mississippi State, MS; [2]Lunds Universitet, Lund, Sweden; [3]University of Memphis, Memphis, TN*

TP 245 **Determination of the Enzyme Activity of 3-Methyl-Crotonyl CoA Carboxilase by Liquid Chromatography-Mass Spectrometry**; Eszter Javorszky; Laszlo Szonyi; Zoltan Takats; *Semmelweis University, Budapest, Hungary*

TP 246 **Novel ATP7B Peptide Quantitation in Dried Blood Spots by LC-MS/MS for Newborn Screening of Wilson Disease**; Sandra Kerfoot[1]; Sihoun Hahn[1,2]; *[1]Seattle Childrens Research Institute, Seattle, WA; [2]University of Washington School of Medicine, Seattle, WA*

TP 247 **Analysis of Urinary Nucleosides as Potential Tumor Markers in Human Colorectal Cancer by LC/MS/MS**; Chien-chen Lai[1]; Wei-Yi Hsu[2]; Fuu-Jen Tsai[2]; *[1]National Chung Hsing University, Taichung, Taiwan; [2]China Medical University Hospital, Taichung, Taiwan*

TP 248 **Characterization of Pathogenic Bacteria from Clinical Samples by Combining Functional Nanoparticle-Based Capture with MALDI MS Analysis**; Ya-Shiuan Lin[1]; Wei-Jen Chen[1]; Te-Lung Tsai[2]; Yu-Chie Chen[1]; *[1]National Chiao Tung University, Hsinchu, Taiwan; [2]Hsinchu Mackay Memorial Hospital, Hsinchu, Taiwan*

TP 249 **A System Biology Approach for Identification of Biomarker Candidates for IgAN and TBMN via Proteomic Profiling of Human Urinary Exosomes**; Pyong-gon Moon[1]; Jeong-Eun Lee[1]; Sungyong You[2]; In-San Kim[1]; Tae-Hwan Kwon[1]; Chan-Duck Kim[1]; Sun-Hee Park[1]; Daehee Daehee[2]; Yong-Lim Kim[1]; Moon-chang Baek[1]; *[1]Kyungpook Nat'l Univ., Deagu, South Korea; [2]POSTECH, Pohang, South Korea*

TP 250 **Cholesterol and Dehydrocholesterols Analysis from Patients with the Smith-Lemli-Opitz Syndrome by Atmospheric Pressure Thermal Desorption Chemical Ionization Mass Spectrometry (APTDCI-MS)**; Giuseppe Paglia[1]; Oceania D'Apolito[1]; Antonio Dello Russo[2]; Gaetano Corso[1]; *[1]Dept. Biomedical Sciences, Foggia, Italy; [2]Dept of Biochemistry & Medical Biothecnology, Napoli, Italy*

TP 251 **A New Approach for Acute Clinical Toxicology Based on Ion Trap MSMS Library Search**; Roman Mylonas[1]; Yann Mauron[1]; Alexandre Masselot[2]; Olivier Philippe[2]; Pierre-Alain Binz[1,2]; Veronique Viette[3,4]; Marc Fathi[3]; Denis F Hochstrasser[3,5]; Frederique Lisacek[1]; Sebastian Goetz[6]; Birgit Schneider[6]; Jens Vagts[6]; Carsten Baessmann[6]; *[1]Swiss Institute of*

Bioinformatics, Geneva, Switzerland; [2]Geneva Bioinformatics (GeneBio), Geneva, Switzerland; [3]Geneva University Hospital, Geneva, Switzerland; [4]ADMed Fundation, La Chaux-de-Fonds, Switzerland; [5]Swiss Center for Applied Humen Toxicology, Geneva, Switzerland; [6]Bruker Daltonik GmbH, Bremen, Germany

TP 252 **Selective Detection of Polyethylene Glycol Based Laxatives in Children Stool**; Martin Sadilek[1]; Kenneth Feldman[2,3]; Karen F. Murray[2,3]; Melissa Young[3]; Suzan Mazor[2,3]; *[1]University of Washington, Department of Chemistry, Seattle, WA; [2]University of Washinngton, School of Medicine, Seattle, WA; [3]Seattle Children's, Seattle, WA*

TP 253 **Precise Determination of Glomerular Filtration Rate by Iothalamate Clearance Using LC-MS/MS**; Jesse C. Seegmiller; Bradley E. Burns; John C. Lieske; Timothy S. Larson; *Mayo Clinic, Rochester, MN*

TP 254 **Speciation Analysis of Gd-Based MRI Contrast Agents in Human Body Fluids**; Lena Telgmann[1]; Jens Kuennemeyer[1]; Faruk Tokmak[2]; Uwe Karst[1]; *[1]University of Münster, Muenster, Germany; [2]University of Bochum, Bochum, Germany*

TP 255 **Mass Spectrometry in Sports Drug Testing: Characterization and Detection of RYCALs – Endurance-Enhancing Ryanodine-Calstabin-Complex Stabilizers**; Mario Thevis[1]; Simon Beuck[1]; Andreas Thomas[1]; Maxie Kohler[1]; Mathias Schäfer[2]; Wilhelm Schänzer[1]; *[1]German Sport University, Cologne, Germany; [2]University of Cologne, Cologne, Germany*

TP 256 **Quantitation of Hepcidin in Body Fluids for Diagnosis and Monitoring of Iron Disorders**; Melvin CL Gay[1]; Debbie Trinder[2,3]; John K Olynyk[2,3]; Ian Mullaney[1]; Robert Trengove[1]; *[1]Murdoch University, Murdoch, Australia; [2]Western Australain Institue for Medical Research, Perth, Australia; [3]University of Western Australia, Perth, Australia*

TP 257 **A Sensitive Proteomics Approach for the Determination of Carbohydrate Deficient Transferrin in Serum by Isotope Dilution Tandem Mass Spectrometry;** Coleman T Turgeon; H. Robert Bergen, III; Linda M Benson; Mark J Magera; John F O'Brien; Devin D Oglesbee; *Mayo Clinic College of Medicine, Rochester, MN*

TP 258 **Urinary Biomarker Discovery for Early Diagnostics of Human Contrast Induced Kidney Injury Using 2-D DIGE Followed by MS Analyses**; Ling Wang[3]; Zhaohui Ni[3]; Jim M. Jia[1]; Fuquan Yang[2]; Ran Zheng[4]; *[1]KBI, Kunming, China; [2]Institute of Biophysics, China Academy of Science, Beijing, China; [3]Renji Hospital, Jiao Tong Univ. School of Medicine, Shanghai, China; [4]ICBR/UF, Gainesville, FL*

TP 259 **Automated SPE-LC/MS/MS Assay for Immunosuppressant Drugs from Whole Blood**; Kimberly Eaton[1]; Kimberly Gamble[2]; Tony Brand[3]; M.p. George[3]; Ken Lewis[1]; *[1]OpAns, LLC, Durham, NC; [2]MicroLiter Analytical Supplies, Inc., Suwanee, GA; [3]Agilent Technologies, Raleigh, NC*

PROTEOMICS: PTM DETERMINATION (HISTONES), 260 - 273

TP 260 **Determination of Sirtuin Deacetylation Sites Using Biotinylation Combined with Mass Spectrometry**; Stephen Swatkoski; Poonam Bheda; Cynthia Wolberger; Robert J. Cotter; *Johns Hopkins University School of Medicine, Baltimore, MD*

TP 261 **Mass Spectrometric Screening of Histone Modifications Uncovers Global Resistance Mechanism to Apoptosis in Yeast**; Neil L. Kelleher; Cong Wu; Lihua Jiang; Mingxi Li; Manjui V. Lee; *University of Illinois at Urbana-Champaign, Urbana, IL*

TP 262 **Automated On-Line Sample Preparation for Profiling Changes in Histone Modifications Using a QTOF Mass Spectrometer**; Paul Drogaris[1]; Eric Bonneil[2]; Christelle Pomies[3]; Kevin Killeen[4]; Pierre Thibault[5]; *[1]Université de Montréal, Montréal, Canada; [2]Universite de montreal, Montreal, QC; [3]IRIC/University of Montreal, Montreal, QC; [4]Agilent Laboratories, Santa Clara, CA; [5]Univ.of Montreal, Montreal, QC*

TP 263 **Mapping the Post-Translational Modifications of Human RNA Pol II C-Terminal Domain;** William Drury[1]; Christine Jelinek[2]; Luis A. Rojas[1]; Robert J. Cotter[3]; Danny Reinberg[1,1]; *[1]NYU-SOM/HHMI, New York, NY; [2]Johns Hopkins School of Medicine, Baltimore, MD; [3]Middle Atlantic MS Laboratory, Baltimore, MD*

TP 264 **Identification and Quantitation of Messenger Ribonucleoprotein Complexes (mRNPs) in the Presence and Absence of Arginine Methylation**; Ambrosius Snijders; Guillaume Hautbergue; Stuart Wilson; Mark Dickman; *University of Sheffield, Sheffield, UK*

TP 265 **Initial Characterization of Lysine Propionylation Pathway**; Yue Chen[1]; Zhongyi Cheng[1]; Yi Tang[2]; Sung Chan Kim[1]; Wei Gu[2]; Yingming Zhao[1]; *[1]The University of Chicago, Chicago, IL; [2]Columbia University, New York, NY*

TP 266 **Histone Post Translational Modifications Associated with Transcription**; Jessica R. Chapman[1]; Kristie L. Rose[1]; Klaas W. Mulder[2]; F.M.A. Richard van Schaik[2]; Jeffrey Shabanowitz[1]; H.Th. Marc Timmers[2]; Donald F. Hunt[1]; *[1]University of Virginia, Charlottesville, VA; [2]University Medical Centre-Utrecht, Utrecht, The Netherlands*

TP 267 **Hyperpropionylation of Histone H3 lysine 23 is Specific in U937 Cell Line**; Kangling Zhang[1]; Yihui Lin[2]; Xuehui Song[2]; Agus Darmanto[1]; Quoling Xu[2]; *[1]Loma Linda University, Loma Linda, CA; [2]Institute of biochem. & cell biol., Shanghai, China*

TP 268 **MS Identification of A Redox-dependent Pathway for Regulating Histone Deacetylase in Cardiac Myocytes**; Hong Li; Tong Liu; Tetsuro Ago; Wei Chen; Junichi Sadoshima; *UMDNJ, Newark, NJ*

TP 269 **A Fast Screening Method for Detecting Difference in Post-Translational Modifications of Proteins by Bioinformatics and FTICR/ECD/MS/MS**; Frank Li; Shenheng Guan; Feixia Chu; Raisa Talroze; Al Burlingame; *University of California San Francisco, San Francisco, CA*

TP 270 **Improved Analysis of Histones Using a LTQ-Orbitrap with ETD and a Nanoacuity Chromatography System;** David A. Maltby; Shannon M Eliuk; A.l. Burlingame; *University of California, San Francisco, CA*

TP 271 **Identification of Post-Translational Modifications on Nucleoplasmin from Xenopus laevis Oocytes Using High Resolution Front-End Electron Transfer Dissociation Mass Spectrometry**; Josh Nicklay[1]; David Shechter[2]; Philip Compton[1]; C. David Allis[2]; Donald F.

Hunt[1]; [1]*University of Virginia, Charlottesville, VA;* [2]*Rockefeller University, New York, NY*

TP 272 **Progress Towards the Human Chromatome**; Mariana D. Plazas-Mayorca; Nicolas L. Young; Benjamin A. Garcia; *Princeton University, Princeton, NJ*

TP 273 **Combining ChIP Antibodies and Mass Spectrometry to Study Post-Translational Modifications on Histones**; Katherine Stamper[1]; Robert J. Cotter[2]; [1]*Johns Hopkins University, Baltimore, MD;* [2]*Middle Atlantic MS Laboratory, Baltimore, MD*

INSTRUMENTATION: FTMS, 274 - 291

TP 274 **The Analytical Method to Find the Conditions of Coalescence Onset in FT-ICR**; Ivan Boldin; Eugene Nikolaev; *Institute for Energy Problems of Chemical Physics, Moscow, Russian Federation*

TP 275 **Study on the Space-Charge Mediated Shift in Magnetron Frequency and its Utility for Quantitative Measurements in FT-ICR Mass Spectrometry**; Pavel N. Sagulenko[1,2]; Alexander Yu. Agapov[1,2]; Dmitry A. Tolmachev[1]; Mikhail V. Gorshkov[1]; [1]*Institute for Energy Problems of Chemical Physics, Moscow, Russia;* [2]*Moscow Institute of Physics and Technology, Dolgoprudny, Russia*

TP 276 **Particle-in-Cell Algorithm Implemented on MIMD-Class Supercomputers for Simulating Ion Cloud Dynamics with Injection in the FT-ICR Cell and Sidekick**; Andriy Kharchenko[1]; Gleb Vladimirov[2]; Eugene Nikolaev[2]; Ron Heeren[1]; [1]*FOM Institute for Atomic and Molecular Physics, Amsterdam, Netherlands;* [2]*Institute for Energy Problems of Chem.Physics, Moscow, Russia*

TP 277 **Particle-In-Cell Ion Trajectory Simulations To Model Observed FTICR-MS Space Charge Frequency Shifts**; Franklin E. Leach III[1]; Jon Amster[1]; Andriy Kharchenko[2]; Eugene Nikolaev[3]; Ron M.a. Heeren[4]; [1]*University of Georgia, Athens, GA;* [2]*FOM Institute for Atomic and Molecular Physics, Amsterdam, Netherlands;* [3]*The Institute for Energy Problems of Chemical Phys, Moscow, Russian Federation;* [4]*FOM Inst. Atomic/Molecular Phy, Amsterdam, Netherlands*

TP 278 **Limits of FT-ICR MS Resolution and Dynamic Range from Supercomputer Modeling of Ion Cloud Motion in an ICR cell**; Eugene Nikolaev[1]; Gleb Vladimirov[1]; Ivan Boldin[1]; Ron M.a. Heeren[2]; Chris Hendrickson[3]; Greg Blakney[3]; Alan G. Marshall[4]; [1]*The Institute for Energy Problems of Chemical Phys, Moscow, Russian Federation;* [2]*FOM Inst. Atomic/Molecular Phy, Amsterdam, Netherlands;* [3]*National High Magnetic Field Laboratory, Tallahassee, FL;* [4]*Ion Cyclotron Resonance Prog, Tallahassee, FL*

TP 279 **Exchange of Axial and Radial Kinetic Energy During Ion Transfer Through Multipole Ion Guides in a Strong Magnetic Field Gradient**; Steve Beu[1]; Chris Hendrickson[2]; Alan G. Marshall[3]; [1]*S C Beu Consulting, Austin, TX;* [2]*National High Magnetic Field Laboratory, Tallahassee, FL;* [3]*Ion Cyclotron Resonance Prog, Tallahassee, FL*

TP 280 **Low Cost Higher Frequency RF Power Supplies for Quadrupole Ion Guides in FT-ICR Instruments with External Ion Sources**; Jan E. Szulejko; Behrooz Zekavat; David LaBrecque; Touradj Solouki; *University of Maine, Orono, ME*

TP 281 **Improved Broadband Phase Correction of Complex FT-ICR Mass Spectra: Baseline Roll and Apodization**; Feng Xian[1]; Chris Hendrickson[2]; Greg T. Blakney[3]; Steve Beu[4]; Alan G. Marshall[5]; [1]*Department of Chemistry and Biochemistry, FSU, Tallahassee, FL;* [2]*National High Magnetic Field Laboratory, Tallahassee, FL;* [3]*National ICR Program at NHMFL, Tallahassee, FL;* [4]*S C Beu Consulting, Austin, TX;* [5]*Ion Cyclotron Resonance Prog, Tallahassee, FL*

TP 282 **Applications of a Compensated Trap to Top-Down Proteomics in FTMS**; Don L. Rempel; Adam Brustkern; Michael L. Gross; *Washington University, St Louis, MO*

TP 283 **Cluster Ion Source Designed for 9.4 T FT-ICR Identification of Products of Mass-Selected Ion-Molecule Reactions**; Alan G. Marshall[1,2]; Nathan K. Kaiser[1]; Christopher L. Hendrickson[1,2]; Paul W. Dunk[2]; Harold W. Kroto[2]; [1]*National High Magnetic Field Laboratory, Tallahassee, FL;* [2]*Florida State University, Tallahassee, FL*

TP 284 **Design and Performance of a Novel 9.4 Tesla FT-ICR Mass Spectrometer for Proteome and Petroleum Analysis**; Nathan K. Kaiser[1]; John Paul Quinn[1]; Gregory T. Blakney[1]; Daniel G. McIntosh[1]; Christopher L. Hendrickson[1,2]; Alan G. Marshall[1,2]; [1]*National High Magnetic Field Laboratory, Tallahassee, FL;* [2]*Florida State University, Tallahassee, FL*

TP 285 **A 5T Bench Top FT-ICR Instrument with Compact Cryogen-Free Superconducting Magnet System**; Alexander S. Misharin; Andrey N. Vilkov; Vladimir M. Doroshenko; *MassTech Inc., Columbia, MD*

TP 286 **Advanced Data Acquisition Strategy for a 14.5 T Hybrid Linear Ion Trap Fourier Transform Ion Cyclotron Resonance Mass Spectrometer**; Greg T. Blakney[1]; Chris Hendrickson[1,2]; Alan G. Marshall[1,2]; [1]*National ICR Program at NHMFL, Tallahassee, FL;* [2]*Florida State University, Tallahassee, FL*

TP 287 **High Resolution Broadband FTMS Data via Data Streaming for Complex Mixture Analysis**; Christopher Thompson[1]; Steve Van Orden[1]; Joe Meier[1]; Christoph Gosteli[2]; Michael Schenkel[2]; [1]*Bruker Daltonics Inc., Billerica, MA;* [2]*Bruker BioSpin, Fallanden, Switzerland*

TP 288 **Precision Proteomics on Ultrahigh Resolving Power 12 and 15 Tesla FTICR Mass Spectrometers**; Yuri E.M. Van Der Burgt; Magnus Palmblad; André M. Deelder; *Leiden University Medical Ce, Leiden, Netherlands*

TP 289 **Withdrawn**

TP 290 **Separation of Isobaric Phosphopeptides by High Field Asymmetric Waveform Ion Mobility Spectrometry Confirmed by LTQ Orbitrap XL ETD Mass Spectrometry**; Yue Xuan[1]; Andrew Creese[2]; Julie Horner[3]; Helen J. Cooper[2]; Thomas Moehring[1]; [1]*ThermoFisherScientific, Bremen, Germany;* [2]*School of Biosciences, University of Birmingham, Birmingham, UK;* [3]*ThermoFisher Scientific, San Jose, CA*

TP 291 **Simplified DREAMS Device Implemented on Bruker 7T Apex-Qe FTICR**; Dale Whittington[1]; Ryan M. Danell[2]; Gary Kruppa[3]; Ross F. Lawrence[1]; William N. Howald[1]; David R. Goodlett[1]; [1]*University of Washington, Seattle, WA;* [2]*Danell Consulting, Greenville, NC;* [3]*Bruker Daltonics Inc., New York, NY*

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TP 292 **Analysis of Post-Blast Pipe Bomb Fragments Using DESI-Mass Spectrometry**; Joseph H Kennedy[1]; John V Goodpaster[2]; Erica Lotspeich[2]; Justin Wiseman[1]; *[1]Prosolia Inc, Indianapolis, IN; [2]IUPUI, Indianapolis, IN*

TP 293 **Direct Characterization of Complex Viscous Mixtures by Extractive Electrospray Ionization Mass Spectrometry**; Wai Siang Law[1]; Huanwen Chen[2,3]; JianHua Ding[2,3]; Liang Zhu[1]; Gerardo Gamez[1]; Konstantin Chingin[1]; Shuiping Yang[3]; Yulin Ren Ren[3]; Renato Zenobi[1]; *[1]ETH Zurich, Zurich, Switzerland; [2]East China Institute of Technology, Fuzhou, China; [3]Jilin University, Changchun, China*

TP 294 ***In vivo* Detection of intramuscular Injected Ephedrine in Breath by EESI-MS**; Jianhua Ding[1,2]; Haiwei Gu[1,3]; Bin Hu[1]; Zhuanzhang Wu[1]; Yulin Ren[2]; Huanwen Chen[1,2]; *[1]East China Institute of Technology, Fuzhou, P.R.China; [2]Jilin University, Changchun, P.R.China; [3]Validation Resources, LLC, Bend, OR*

TP 295 **DESI-MS as a Tool for Obtaining Quick Answers to Practical Pharmaceutical Questions**; Laura Sharon[1]; Peter M. Yehl[1]; Peng Wang[2]; Hong Gao[2]; Margaret Figus[2]; Fanyu Meng[2]; Xiaoyi Gong[2]; *[1]Merck & Co., Inc., West Point, PA; [2]Merck & Co., Inc, Rahway, NJ*

TP 296 **Direct Analysis of Reversed-Phase HPTLC Separated Peptides from Protein Tryptic Digests Using a Surface Sampling Probe/ESI-MS System**; Joshua F. Emory[1]; Matthew J. Walworth[1]; Vilmos Kertesz[1]; Gary J. Van Berkel[1]; Michael Schulz[2]; Susanne Minarik[2]; *[1]Oak Ridge National Laboratory, Oak Ridge, TN; [2]Merck, Darmstadt, Germany*

TP 297 **Extractive Electrospray Ionization Ion Cyclotron Resonance Mass Spectrometry for Rapid Unambiguous Detection of Phthalates in Complex Matrices**; Huanwen Chen[1,2]; Konstantin Chingin[1]; Liang Zhu[1]; Gerardo Gamez[1]; Renato Zenobi[1]; *[1]ETH Zürich, Zürich, Switzerland; [2]East China Institute of Technology, FuZhou, China*

TP 298 **Rapid Desorption Electrospray Ionization Using Hadamard Transform Time-of-Flight Mass Spectrometry**; Griffin K. Barbula; Matthew D. Robbins; Richard N. Zare; *Stanford Univ., Stanford, CA*

TP 299 **DESI-MS of *Francisella tularensis* Inoculation Pathways**; Tamara Sibray[1]; Richard Bowen[2]; John T. Belisle[2]; Franco Basile[1]; *[1]University of Wyoming, Laramie, WY; [2]Colorado State Univ., Fort Collins, CO*

TP 300 **Novel Chromatographic Separations Using an Atmospheric Solids Analysis Probe (ASAP) Mass Spectrometry**; Richard G. Mckay[1]; Barbara S. Larsen[2]; Charles N. Mcewen[3]; *[1]M&M Mass Spec Consulting LLC, Hockessin, DE; [2]The DuPont Company, Wilmington, DE; [3]Univ. of the Sciences in PA, Philadelphia, PA*

TP 301 **A Desorption Corona Beam Ionization Source for Direct Analysis of Samples from Surface**; Wenjian Sun; Xiaohui Yang; Junsheng Zhang; Tao Lin; Li Ding; *Shimadzu Research Laboratory (Shanghai), Shanghai, China*

TP 302 **Open Probe – A Novel Method and Device for Ultra Fast Electron Ionization Mass Spectrometry Analysis;** Aviv Amirav; Marina Poliak; Alexander Gordin; *Tel-Aviv University, Tel-aviv, Israel*

TP 303 **Characterization of Weathering-Induced Structural Changes in Anti-Oxidant Additives within Polymer-Based Surface Coatings by Mass Spectrometry;** Martin R L Paine[1]; Philip Barker[2]; Stephen J Blanksby[1]; *[1]University of Wollongong, Wollongong, Australia; [2]BlueScope Steel Research, Wollongong, Australia*

TP 304 **The Application of Low Temperature Plasma (LTP) Ambient Mass Spectrometry Ionization to Drugs of Abuse in Biological Matrices**; Ayanna Jackson[1]; Juan F Garcia-reyes[2]; Jason D. Harper[1]; Nicholas Charipar[1]; R. Graham Cooks[1]; *[1]Purdue University, West Lafayette, IN; [2]university of Jaen, Jaen, Spain*

TP 305 **Ionization Mechanism of Positive Ion-DART: A Transient Microenvironment Theory**; Liguo Song; Stephen C. Gibson; Deepak Bhandari; Kelsey D. Cook; John E. Bartmess; *University of Tennessee, Knoxville, TN*

TP 306 **The Utilization of the Direct Analysis In Real Time Experiment Table (DART-ET) in a Pharmaceutical Development Environment**; Leah Buhler[1]; Larry M. Mallis[1]; Roy Helmy[2]; Peter Yehl[1]; Xiaoyi Gong[2]; Timothy Rhodes[2]; *[1]Merck & Co., Inc, West Point, PA; [2]Merck & Co., Inc., Rahway, NJ*

TP 307 **Rapid Semi-Quantitative Mapping of Dispersed Caffeine Using an Autosampler/DART/TOFMS**; Andrew H. Grange; *U.S. EPA, Henderson, NV*

TP 308 **Investigation of the Internal Energy Deposited During Direct Analysis in Real Time (DART) Mass Spectrometry;** Dana Hostetler[1]; Glenn A Harris[2]; Facundo Fernandez[3]; *[1]Georgia Tech, Atlanta, GA; [2]Georgia Institute of Technol, Atlanta, GA; [3]Georgia Institute of Technology, Atlanta, GA*

TP 309 **Studies of the Mechanism and Limitations of DART Ionization**; Julia Rummel; John R. Eyler; David H. Powell; *University of Florida, Gainesville, FL*

TP 310 **Determination of Melamine and Cyanuric Acid in Dried Milk Using Direct Analysis in Real Time-Time-of-Flight Mass Spectrometry**; Lukas Vaclavik[1]; Jana Hajslova[1]; Bert Popping[2]; *[1]ICT Prague, Prague, Czech Republic; [2]Eurofins Scientific Group, Yorkshire, UK*

LC/MS, 311 - 325

TP 311 **Development of High Performance TFA-Free Capillary and Nanoscale Protein Separations for LC-MS Protein Profiling;** Jia You; Christopher R. Gessner; Michael A. Freitas; *Ohio State Univ., Columbus, OH*

TP 312 **Cross Platform Evaluation of a Static and Dynamic Range Proteomic Mixture Comparing Search Engines and Parameters;** Archer Smith Iv[1]; Gregory J. Bowersock[1]; Landon Wilson[1]; Ray Moore II[1]; Jennifer Busby[2]; Stephen Barnes[1]; James Mobley[1]; Matthew B. Renfrow[1]; *[1]University of Alabama at Birmingham, Birmingham, AL; [2]TSRI-Scripps Florida, Jupiter, FL*

TP 313 **The Hunt for Human Plasma Biomarkers Using 55 cm LC Nano-Columns in Shotgun Proteomics**; Vilem Guryca; Sabine Kux van Geijtenbeek; Daniel Roeder; Maria Esther Ricci da Silva; Nikolaos Berntenis; Hans-Werner Lahm; Hanno Langen; Axel Ducret; *F.Hoffmann-La Roche (MML), Basel, Switzerland*

TP 314 **A Comparative Analysis of Ubiquitinated Substrates by SCX and ZIC-HILIC Followed by RP-UPLC-MS/MS**; Geoffrey Smith; Sonja Hess; Raymond J. Deshaies; *Caltech, Pasadena, CA*

TP 315 **Universal Hydrophobicity Scales and Peptide Retention Standards for Reversed-Phase HPLC in**

Proteomics Applications; Oleg V. Krokhin; Michael Harder; Vic Spicer; *University of Manitoba, Winnipeg, Canada*

TP 316 **Development of an On-Line Two-Dimensional LC-MS Method with Multiple Peak Trapping Capabilities for the Characterization of MAbs**; Melissa Alvarez[1]; Oleg Borisov[2]; Victor Ling[1]; Guillaume Tremintin[3]; *[1]Genentech, Inc., So San Francisco, CA; [2]Genentech, South San Francisco, CA; [3]Dionex Corporation, Sunnyvale, CA*

TP 317 **Determination of 12 Aminoglycosides in Swine Muscle by Liquid Chromatography with Tandem Mass Spectrometry**; Chae-mi Lim; Byung-hoon Cho; Hyun-Jeong Kwon; Su-Jeong Park; Gap-Su Jeong; *National Veterinary Research & Quarantine Service(, Anyang, South Korea*

TP 318 **A Simple and Rapid Analysis of Speciation of Selenium in Se-Enriched Rice and Green Tea by Foliar Enrichment Using HPLC-ICPMS**; Yong Fang[1,2]; Yaofang Zhang[1]; Qilin Chan[1]; Qiuhui Hu[2]; Joseph A. Caruso[1]; *[1]University of Cincinnati, Cincinnati, OH; [2]Nanjing Agricultural University, Nanjing, Jiangsu, China*

TP 319 **LC-MS/MS Identification of b-N-Methylamino-L-Alanine in Cyanobacteria**; Zdenek Spacil[1,2]; Johan Eriksson[1]; Leopold L. Ilag[1]; *[1]Stockholm University, Stockholm, Sweden; [2]Faculty of Pharmacy, Charles University in Prague, Hradec Kralove, Czech Republic*

TP 320 **Screening of Botanical Extracts for Ligands to Quinone Reductase-2 Using Ultrafiltration LC-MS**; Xi Qiu[1]; Yongsoo Choi[1]; Hongjie Zhang[1]; Yegao Chen[2]; Minghua Qiu[3]; Harry H.S. Fong[1]; Richard B. Van Breemen[1]; *[1]University of Illinois at Chicago, Chicago, IL; [2]Yunnan Normal University, Yunnan, China P. R; [3]Chinese Academy of Sciences, Kunmin, China P. R*

TP 321 **Fine Analysis of Asian Lacquer tree Extracts (Urushiols) by High Performance Liquid Chromatography/Tandem Mass Spectrometry**; Su-Min Park; Yu-Kyung Jung; Jin San Kim; Ki-Jung Paeng; *Yonsei university, Wonju, South Korea*

TP 322 **LC-APCI-MS/MS Analysis of Redox Status of Coenzymes CoQ9 and CoQ10 in Biological Samples as a Biomarker for Oxidative Stress**; Sergiu P. Palii[1]; Timothy J. Garrett[1]; Christiaan Leeuwenburgh[1]; Nigel A. Calcutt[2]; Peter W. Stacpoole[1]; *[1]University of Florida, Gainesville, FL; [2]Univ. of California, San Diego, CA*

TP 323 **Multipesticides Analysis of Water Samples by Direct Injection Using Ultra-Fast LC/MS/MS and Continuous Polarity Switching**; Detlev Schleuder[1]; Jianru Stahl-Zeng[1]; Jan Lembcke[1]; Wolfram seitz[2]; Schulz Wolfgang[2]; Walter Weber[2]; *[1]Applied Biosystems, Germany, Darmstadt, Germany; [2]Landeswasserversorgung Langenau, Langenau, Germany*

TP 324 **Analysis of Ketamine and its Metabolites in Urine by LC-FAIMS-MS**; Chung-Yu Chen; Maw-rong Lee; *National Chung-Hsing University, Taichung, Taiwan*

TP 325 **Determination of Red Dye #7 in Imported Candy by HPLC/MS/MS, a Food Safety Issue for the Modern Spectrometry Laboratory;** Patrick Sasso; *Scientist, Hainesport, NJ*

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TP 326 **A Rapid Visualized Indicator of Surfactant Residual (VISR) for the Generic and Membrane Proteomics Application**; Chao-Jung Chen; Mei-Chun Tseng; Yet-Ran Chen; *Academia Sinica, Taipei, Taiwan*

TP 327 **Withdrawn**

TP 328 **Label free Comparative Analysis of FFPE Specimen for Biomarker Discovery**; Javad Nazarian; Yetrib Hathout; Tobey MacDonald; *Children's Natl. Medical Center, Washington, DC*

TP 329 **Affinity-Enrichment Does, but Affinity-Depletion Does Not, Improve the Identification of Serum Proteins by 2D LC-MS/MS**; Wenbo Zhi; Meiyao Wang; Sharad Purohit; Jin-Xiong She; *Medical College of Ga, Augusta, GA*

TP 330 **Electrophoretic Enrichment and Fractionation of Low Molecular Weight Proteins for Bottom-Up Proteomic Analysis**; Wes E Steiner; Benjamin Katz; Chuck Witkowski; Jeremy L. Norris; *Protein Discovery, Inc., Knoxville, TN*

TP 331 **An SDS-PAGE-Based Sample Clean-up Method for LC-MS/MS Detection of Low Amounts of Protein in Complex Protein Mixtures Containing Contaminants**; Wenzhu Zhang; Elizabeth Heller; Nathaniel Heintz; Brian Chait; *The Rockefeller University, New York, NY*

TP 332 **Assessing the Variability of Peptide Peak Areas in Online Pepsin Digestion**; Joomi Ahn[1]; Martha Stapels[1]; Keith Fadgen[1]; John R. Engen[2]; *[1]Waters Corporation, Milford, MA; [2]Northeastern University, Boston, MA*

TP 333 **Identification of Multiple Sources of Partial Tryptic Peptides in LC-MS/MS Experiments and The Importance of Using Partial Trypsin Search Parameters**; Kaye D. Speicher; Peter Hembach; Thomas Beer; Hsin-yao Tang; David W. Speicher; *The Wistar Institute, Philadelphia, PA*

TP 334 **Coomassie Stains: Choices and Concerns: An evaluation of ESI-MS Compatibility;** David Sumpton; Willy Vincent Bienvenut; *Beatson Inst. Cancer Res., Glasgow, UK*

TP 335 **Application and Optimization of Various Phosphopeptide Enrichment Strategies for Selective Isolation and Enrichment of Sphingoid Base 1-Phosphates**; YouXun Jin[2]; YunHwa Shi[2]; Jun Young Kwak[2]; Hwan-Soo Yoo[2]; Yong-Moon Lee[2]; Hun-Young So[1]; Yong-Hyeon Yim[1]; *[1]KRISS, Daejeon, South Korea; [2]Chungbuk National Univ., Chongju, South Korea*

TP 336 **In-Depth Identification of Proteins and Modifications by Multi-Dimensional Protein Separation and LC-MS/MS and MRM Methods**; Manfred R. Raida; Rong Li; Kim Huey Ee; Rosalind Yc Tan; Gina YB Tan; Bernad PM Tham; Choon Keow Ng; *Experimental Therapeutics Ce, Singapore*

TP 337 **Rapid In-Gel Digestion of Proteins Using Surface Acoustic Waves**; Sri H. Ramarathinam[1]; Ketav P. Kulkarni[2]; Nicholas A. Williamson[1]; James Friend[3]; Leslie Yeo[3]; Anthony W. Purcell[1]; Patrick Perlmutter[2]; *[1]Deparment of Biochemistry, University of Melbourne, Parkville, Australia; [2]Department of Chemistry, Monash University, Clayton, Australia; [3]Dept. of Mechanical Engineering, Monash University, Clayton, Australia*

TP 338 **Systematical Optimization of LTQ-Orbitrap Platform for Protein Identification and Peptide**

Quantitation; Ping Xu; Duc Duong; Junmin Peng; *Emory University, Atlanta, GA*

TP 339 **Evaluating Peptide Adsorptive Loss to HPLC Autosampler Vials**; Lynn Spruce[1]; Jessica Y. Lee[1]; Todd M Greco[1,2]; Steven L. Cohen[1]; Steven H. Seeholzer[1]; *[1]Children's Hospital of Philadelphia, Philadelphia, PA; [2]University of Pennsylvania, Philadelphia, PA*

TP 340 **Reproducing Peptide nano-LC/MS Data: Looking beyond the Sample**; Jason S Harrington[1]; Anthony J. Makusky[1]; Jeffrey A. Kowalak[1]; Sanford P. Markey[2]; *[1]NIH, Bethesda, MD; [2]NIMH, NIH, Bethesda, MD*

TP 341 **Novel Strategy to Screen Various Chemical Modifications on a Target Peptide: Combination of Group-Specific Immunoaffinity Extraction and Mass Spectrometry**; Takaaki Goto; Shota Kojima; Seon Hwa Lee; Tomoyuki Oe; *Tohoku University, Sendai, Japan*

TP 342 **Development of an On-Bead Digestion Procedure for Immunoprecipitated Proteins**; Matthew J Berberich[1]; Dhaval Nanavati[2]; Anthony J. Makusky[2]; Brian Martin[2]; Detlef Vullhorst[1]; Andres Buonanno[1]; Sanford P. Markey[2]; *[1]NICHD, NIH, Bethesda, MD; [2]NIMH, NIH, Bethesda, MD*

TP 343 **Extraction of Activatable Cell Penetrating Peptides from Mouse Organs and Analysis with Orbitrap Mass Spectrometer**; Larry Gross[1,2]; Tao Jiang[1,2]; Emilia S. Olson[3]; Todd A. Aguilera[1]; Mike Whitney[1]; Jessica L. Crisp[1]; Roger Y. Tsien[1,2]; *[1]UCSD, La Jolla, CA; [2]Howard Hughes Medical Institute, La Jolla, CA; [3]UCSD School of Medicine, La Jolla, CA*

PEPTIDES FRAGMENTATION AND SEQUENCING, 344 - 371

TP 344 **Effect of Ring Substituents on the Dissociation Behavior of Model, Benzoic Acid Terminated Peptides and Esters**; Dale R Kerstetter[1]; Anthony Vu[1]; Adam M Graichen[2]; Idia Tokunboh, [1]; Richard Vachet[2]; Michael J. Van Stipdonk[1]; *[1]Wichita State University, Wichita, KS; [2]University of Massachusetts, Amherst, MA*

TP 345 **Comparison of Free Radical Initiated Peptide Sequencing (FRIPS) and Electron Capture Dissociation for Characterization of Modified Peptides**; Ashley Brant[1]; Jason W Kieltyka[2]; Kristina Hakansson[1]; *[1]University of Michigan, Ann Arbor, MI; [2]Abbott Laboratories, Abbott Park, IL*

TP 346 **Application of a Novel Site Selective N-Terminal Labeling Method on Peptide Sequencing**; Min Bian; Suping Zheng; Steve Becht; Xiaoya Ding; *PPD, Inc., Middleton, WI*

TP 347 **Identification of the [14C]HKI-272 Covalent Binding Site on Human Serum Albumin Using In-Gel Tryptic Digestion and LC/MS Analysis**; Jianyao Wang[1]; Lin Deng[2]; *[1]Wyeth Pharmaceuticals, Collegeville, PA; [2]Wyeth, Collegeville, PA*

TP 348 **TEMPO-Based FRIPS Approach for Gas-Phase Peptide Sequencing**; Minhee Lee; Minhyuck Kang; Bongjin Moon; Han Bin Oh; *Sogang University, Dept. of Chemistry, Seoul, South Korea*

TP 349 **Role of Amino Acid Side Chains in Apparent Selective Ring Opening of Cyclic b5 Ions**; Sam Molesworth; Sandra M. Osburn; Stephanie Curtice; Michael J. Van Stipdonk; *Wichita State University, Wichita, KS*

TP 350 **Structure and Fragmentation Pathways of Doubly-Protonated Pro-His-Xxx Tripeptides**; Bela Paizs[1]; Michaela Knapp-Mohammady[1]; Alex G. Harrison[2]; *[1]DKFZ, Heidelberg, Heidelberg, Germany; [2]University of Toronto, Toronto, ON*

TP 351 **Fragmentation Pathways of Non-Tryptic Peptides: Formation of the b_{n-1}+OH Ion**; Irina Perdivara[1,2]; Leesa Deterding[1]; Michael Przybylski[2]; Kenneth B. Tomer[1]; *[1]NIEHS, Rtp, NC; [2]Universitat Konstanz, Konstanz, GERMANY*

TP 352 **Experimental and Theoretical Investigation of the Influence of Specific Residues on Formation of b-Type Ions from Protonated Peptides**; Stephanie S. Curtice; Sandra M. Osburn; Sam Molesworth; Michael J. Van Stipdonk; *Wichita State University, Wichita, KS*

TP 353 **Predictions of Dominant Channels in Peptides Mass Spectra Using Density Functional Theory Calculations**; Oleg Obolensky; Yi-Kuo Yu; *National Center for Biotechnology Information, NLM, Bethesda, MD*

TP 354 **A Systematic Study into Phosphopeptide Ionization and Fragmentation**; Teresa Allen-Michaud[1,3]; Chao-Hung Chang[2]; Adam Profit[1,2]; Emmanuel Chang[1,2]; *[1]York College/CUNY, Jamaica, NY; [2]The Graduate School and University Center/CUNY, New York, NY; [3]Queens College/CUNY, Flushing, NY*

TP 355 **Establishing the Mechanism for Dominant c-Ion Formation in Deprotonated C-Terminal Amide Peptides Using Collision-Induced Dissociation**; Samantha S. Bokatzian-Johnson; Carolyn J. Cassady; *University of Alabama, Tuscaloosa, AL*

TP 356 **Withdrawn**

TP 357 **Gas-Phase Basicity Measurements of Singly- and Doubly-Charged bn Fragment Ions Using ESI/FT-ICR MS**; Behrooz Zekavat; Abdullah H. Al-fdeilat; Touradj Solouki; *University of Maine, Orono, ME*

TP 358 **Intramolecular Proton Relay Revealed by Substituent Effect and Energy-Resolved Mass Spectrometry**; Xudong Yao; Pamela Ann Diego; Hui Jiang; *University of Connecticut, Storrs, CT*

TP 359 **Fragmentation of Peptide Ions during Electrospray Ionization**; Yu Xia; He Wang; Marco Pazzi; Zheng Ouyang; R. Graham Cooks; *Purdue University, West Lafayette, IN*

TP 360 **Fragmentation of Singly Protonated Ions via Interaction with Metastable Rare Gas Atoms**; Vadym Berkout; *MassTech, Inc., Columbia, MD*

TP 361 **Liquid Chromatography - Electron Transfer Dissociation - Ion Mobility on a Quadrupole Time of Flight Mass Spectrometer**; Jeffery M Brown; Steven D Pringle; Iain D G Campuzano; Richard C Chapman; John B Hoyes; *WATERS, Manchester, UK*

TP 362 **Simplifying Fragmentation Patterns of Multiply Charged Peptides by N-terminal Derivatization and Electron Transfer Collision Activated Dissociation**; James Madsen; Jared Shaw; Jennifer Brodbelt; *The University of Texas, Austin, TX*

TP 363 **Abundant b Ion Formation in Electron Capture Dissociation of Supercharged Peptides**; Neil D Hershey; Anastasia Kalli; Kristina Hakansson; *University of Michigan, Ann Arbor, MI*

TP 364 **New Improvements and Understandings of the In-Source Decay (ISD) of Peptides in MALDI-TOF Mass Spectrometry**; Kevin Demeure; Valerie Gabelica; Frederic Rosu; Loic Quinton; Edwin Depauw; *University of Liege, Liège, Belgium*

Posters must be set up 8:00 - 8:30 am on the day scheduled and removed 7:30 to 8:00 pm. Authors of odd numbered posters (001, 003, 005, etc.) are required to be present 10:30 – 12:30. Authors of even numbered posters (002, 004, 006, etc.) must be present 12:30 – 2:30 pm.

TP 365 **Valence Parity for c/z Ions from ECD of Peptides: Effect of Enzyme Digestion, H· Atom Transfer and Charge State**; Yuan Mao[1,2]; Jeremiah Tipton[1]; Greg T. Blakney[1]; Chris Hendrickson[1,2]; Alan G. Marshall[1,2]; *[1]National High Magnetic Field Laboratory, Tallahassee, FL; [2]Florida State University, Tallahassee, FL*

TP 366 **Atmospheric Pressure Collection of Peptide fragments after Thermal Dissociation**; Livia S. Eberlin[1]; Hao Chen[2]; R. Graham Cooks[1]; *[1]Purdue University, West Lafayette, IN; [2]Ohio Univ., Athens, OH*

TP 367 **A Comparison of Tandem MS Search Algorithms Using Electron Transfer Dissociation Data**; Henrik Molina[1,2]; Akhilesh Pandey[2]; Kumaran Kandasamy[2]; *[1]Centre de Regulacio Genomica (CRG), Barcelona, Spain; [2]The Johns Hopkins University, Baltimore, MD*

TP 368 **Activated-Ion ETD for Sequence Analysis of Peptides in Low Charge States;** Aaron Ledvina[1]; Graeme McAlister[1]; Myles Gardner[2]; Suncerae Smith[2]; James Madsen[2]; Jennifer Brodbelt[2]; Joshua J. Coon[1]; *[1]Univ of Wisconsin-Madison, Madison, WI; [2]University of Texas, Austin, TX*

TP 369 **Implementation of Beam-Type CAD with Ion Trap Product Detection, on a Hybrid QLT-Orbitrap Mass Spectrometer; Large-Scale Comparisons to Resonant Excitation**; Graeme Mcalister[1]; Doug Phanstiel[2]; M. Violet Lee[3]; Craig Wenger[2]; Joshua J. Coon[4]; *[1]The University of Wisconsin, Madison, WI; [2]University of Wisconsin, Madison, WI; [3]University of Wisconsin-Madi, Madison, WI; [4]Univ of Wisconsin-Madison, Madison, WI*

TP 370 **Comparison Of Ion Fragmentation Methods For Sequencing Phosphopeptides;** Robert Brown[1]; Stephane Houel[2]; William Old[1]; Katheryn Resing[1]; *[1]University Of Colorado, Boulder,; [2]Howard Hughes Medical Instit, Boulder, CO*

TP 371 **Electron Capture Dissociation of Non-Covalent (12-crown-4)-Peptide Complex Ions**; Wai Yi Chan[1]; Tak-wah Dominic Chan[2]; *[1]The Chinese University of Hong Kong, Hong Kong SAR, China; [2]The Chinese Univ. of Hong Kong, Hong Kong Sar, China*

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TP 372 **Autonomous Light-Weight Integrated Direct Sampling Mass Spectrometer for TIC and CWA Detection**; J. Mitchell Wells[1]; Miriam Fico[1]; Adam Keil[1]; Jane Likens[1]; Jonell Smith[2]; Daniel Sutton[1]; Bruce Solomon[1]; Brent Rardin[1]; Garth Patterson[1]; Robert J. Noll[2]; R. Graham Cooks[2]; Dennis Barket, Jr. [1]; *[1]ICx Griffin Analytical Technologies, West Lafayette, IN; [2]Purdue University, West Lafayette, IN*

TP 373 **Rapid Mass Spectrometric Detection of Chemical Warfare Agents, Simulants, and Toxic Industrial Chemicals Using a Field-Portable GC-TMS**; Christopher R. Bowerbank; Tiffany C. Wirth; Patricia E. Oliphant; Joseph L. Oliphant; Edgar D. Lee; Douglas W. Later; *Torion Technologies Inc., American Fork, UT*

TP 374 **On-Site Detection of Chemical Warfare Agents by Mass Spectrometry and Ion Mobility Spectrometry**; Yasuo Seto[1]; Shintaro Kishi[1]; Takeshi Ohmori[1]; Mieko Kanamori-Kataoka[1]; Kouichiro Tsuge[1]; Akihiko Okumura[2]; Yasuaki Takada[2]; Naoya Ezawa[2]; Susumu Watanabe[3]; Hiroaki Hashimoto[3]; Masanori Kidara[4]; Kazuya Takahashi[4]; *[1]National Research Institute of Police Science, Kashiwa, Japan; [2]Hitachi, Ltd., Kokubunji, Japan; [3]Hitachi High-Tech Control Systems Co., Hitachinaka, Japan; [4]The Institute of Physical and Chemical Research, Wako, JAPAN*

TP 375 **High Throughput Desorption Electrospray Ionization Analysis of Chemical Warfare Agents in Liquids Using Tandem Mass Spectrometry and Ion Mobility Separation**; Paul A. D'Agostino; Claude L. Chenier; *DRDC Suffield, Medicine Hat, Canada*

TP 376 **Monitoring of Diphenylchloroarsine and Diphenylcyanoarsine in Air Using Atmospheric Pressure Chemical Ionization Ion Trap Mass Spectrometry with Direct Air Introduction**; Akihiko Okumura[1]; Susumu Watanabe[2]; Hiroaki Hashimoto[2]; Yasuaki Takada[1]; Naoya Ezawa[1]; Yasuo Seto[3]; Shintaro Kishi[3]; *[1]Hitachi, Ltd., Tokyo, Japan; [2]Hitachi High-Tech Control Systems Co., Ibaraki, Japan; [3]National Research Institute of Police Science, Chiba, Japan*

TP 377 **High-Throughput Walkthrough Portal with Wire Linear Ion-Trap to Detect Improvised Explosive Devices (IEDs)**; Masuyuki Sugiyama, Yuichiro Hashimoto, Hisashi Nagano, Hideki Hasegawa, Akihiko Okumura, Yasutaka Suzuki, Yasuaki Takada; *Hitachi, Tokyo, Japan*

TP 378 **High-Precision Measurements of RDX in C4 by GC/NCI-MS**; Marcela C Najarro; Greg Gillen; Eric Windsor; *NIST, Gaithersburg, MD*

TP 379 **Evidence for Sulfur Oxidation in the Perhydrolysis of the Chemical Warfare Agent VX**; Andrew M. McAnoy[1]; J Williams[1]; Stephen J Blanksby[2]; Martin R. L. Paine[2]; *[1]Defence Science and Technology Organisation, Melbourne, Australia; [2]University of Wollongong, Wollongon, Australia*

TP 380 **Low Femtomole Detection and Quantification of Ricin in Serum**; David M. Schieltz[1]; Sara C. Mcgrath[1]; Lisa G. Mcwilliams[2]; John R. Barr[1]; *[1]Centers for Disease Control and Prevention, Atlanta, GA; [2]Battelle Memorial Institute, Atlanta, GA*

TP 381 **Microfluidic Cell Culture Device Coupled to MALDI-TOF MS for Identification of Microorganisms**; Jeonghoon Lee; Steven A. Soper; Kermit K. Murray; *Louisiana State University, Baton Rouge, LA*

TP 382 **Detection of Functional Anthrax Edema Factor in Human and Animal Plasma by Liquid Chromatography-Tandem Mass Spectrometry**; Elodie Duriez[1]; Pierre L. Goossens[2]; Francois Becher[1]; Eric Ezan[1]; *[1]CEA, Gif Sur Yvette, France; [2]Institut Pasteur, Paris, France*

TP 383 **The Advantages of MS/MS Typing for Differentiating Between Close Neighbors;** Jane Razumovskaya; Appavu Sundaram; Seshu Gudlavalleti; Sergey Kurnosenko; Vladimir M. Doroshenko; *Science and Engineering Services, Inc., Columbia, MD*

TP 384 **Evaluation of Mass–Spectrometry Based Proteomic Approach for Bacterial Identification and Classification Using Blinded Microbial Samples**; Rabih Jabbour[1]; Jacek P. Dworzanski[2]; Samir Deshpande[3]; Charles H. Wick[4]; Michael F. Stanford[4]; Alan W. Zulich[4]; *[1]SAIC INC., Apg, MD; [2]SAIC, Bel Air, MD; [3]Science & Technology Corporation, Edgewood, MD; [4]Edgewood chemical biological Center, APG, MD*

TP 385 **On-Line analysis of Airborne Trace Level Toxic Chemicals Using Thermal Desorption Preconcentration and a New Time of Flight Mass**

Spectrometer; Gareth Roberts; Gerhard Horner; Nick Bukowski; *ALMSCO International, Bridgend, UK*

TP 386 **Vapor Detection at 1 ppt with Secondary Electrospray Ionization (SESI) and a Single Quadrupole MS**; Juan A. Sillero[1]; Juan Rus[1]; Juan Fernandez De La Mora[2]; *[1]SEADM, Boecillo, Spain; [2]Yale University - Mechanical Engineering Departmen, New Haven, CT*

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TP 387 **Mood Stabilizer-Induced Changes in the Postsynaptic Density Proteome**; Dhaval Nanavati[1]; Lisa A. Catapano[3]; Anthony J. Makusky[1]; Ayse Dosemeci[2]; Daniel Austin[3]; Guang Chen[3]; Husseini K. Manji[3]; Sanford P. Markey[1]; *[1]NIMH/LNT, Bethesda, MD; [2]NINDS/NIH, Bethesda, MD; [3]NIMH/LMP, Bethesda, MD*

TP 388 **Strategies in Method Development of Rivastigmine and its Metabolite NAP226-90 in Human Plasma by Liquid Chromatography Tandem Mass Spectrometry**; Xuejun Peng; Amara Pinnawala; Rong Yi; Winnie Lui; Eliot Chung; Alison Pyner; Sarah Ostonal; *Can Test Ltd, Burnaby, Canada*

TP 389 **Morphine Metabolites, Plasma, Quantification, Pharmacokinetic;** Vivek V Tummala; Sherwin Jiang; Robb Harman; Yongdong Zhu; Yuan-shek Chen; Kumar Ramu; *QPS,LLC, Newark, DE*

TP 390 **Determination of Low Concentration of Oxymorphone and 6β- Hydroxyoxymorphone in Human Plasma by LC-MS/MS**; Hongkun Liang; Crystal Nguyen; Hongzhuan Chen; Mojdeh Vahid; Kristen Singleton; Jared Callan; Yongdong Zhu; Yuan-Shek Chen; Kumar Ramu; *QPS, LLC, Newark, DE*

TP 391 **Simultaneous Determination of Oxycodone, Noroxycodone and Oxymorphone in Human Plasma by Liquid Chromatography Electrospray Ionization Tandem Mass Spectrometry**; Rong Yi; Gina de Boer; Winnie Lui; Hong Zhang; Xuejun Peng; *Can Test Ltd, Burnaby, Canada*

TP 392 **Withdrawn**

TP 393 **Rapid Method for Identification and Quantitation of Dantrolene and its Metabolite in Plasma Using Two Linear Ion Trap Mass Spectrometers;** Julian J Phillips[1]; Julie Horner[1]; Dan McKemie[2]; Anne Taylor[2]; Heather Knych[2]; Scott Stanley[2]; *[1]Thermo Fisher Scientific, San Jose, CA; [2]University of California - Davis, Davis, CA*

TP 394 **An Improved HPLC/MSMS Assay for Aprepitant in Plasma Utilizing a Mobile Phase Containing Ethylenediaminetetraacetic acid to Improve Calibration Curve Linearity**; Cynthia M. Chavez-Eng; Ryan Lutz; Marvin Constanzer; Eric Woolf; *Merck & Co., West Point, PA*

TP 395 **Stabilization of Troglitazone Extracts with Ascorbic Acid for the LC/MS/MS Analysis of Blood and Plasma Samples**; Bahanu Habulihaz; Gino M. Salituro; Lawrence Colwell; Lucinda Cohen; *Merck & CO. INC., Rahway, NJ*

TP 396 **Overcoming Challenges in Developing a Rugged LC-MS/MS Method for Mycophenolate Mofetil and Mycophenolic Acid in Human Plasma**; Nick Peng; Iffat Balkhi; Justine Lam; Nicola Hughes; *Biovail Contract Research, Toronto, Canada*

TP 397 **Quantification of Sirolimus in Human Whole Blood by LC-MS/MS**; Hongkun Liang; Crystal Nguyen; David J Quirico; Jamie Zhao; Yongdong Zhu; Yuan-shek Chen; Kumar Ramu; *QPS, LLC, Newark, DE*

TP 398 **Quantification of Naringinen, Bergamottin, and 6',7'-dihydroxybergamottin- Three Major Components in Grapefruit Juice by LC-MS/MS**; Yafei Xu; Jing Ke; Harry Zhao; Zhongping John Lin; *Frontage Laboratories, Inc., Malvern, PA*

TP 399 **Simultaneous Determination of Tolbutamide, Omeprazole, Midazolam and Dextromethorphan by LC-MS/MS – A High Throughput Approach to Evaluate Drug-Drug Interactions**; Wei Zhang[1]; Futian Han[1]; Ping Guo[1]; Harry Zhao[1]; Zhongping (John) Lin[1]; Mike-Qingtao Huang[2]; Naidong Weng[2]; *[1]Frontage Laboratories, Inc., Malvern, PA; [2]Johnson & Johnson PRD, Raritan, NJ*

TP 400 **Quantification of Itraconazole and Its Metabolite Hydroxyitraconazole in Human Plasma by LC-MS/MS**; Venkatraman Junnotula; Hongli Wang; Lina Tang; Angel Tseng; Yuwen Zhao; Jamie Zhao; Yuan-Shek Chen; Kumar Ramu; *QPS, LLC, Newark, DE*

TP 401 **An LC MS/MS Assay of the "Pittsburgh Cocktail": Six CYP Probe-Drug/Metabolites from Human Plasma and Urine Using Standard Isotope Dilution**; Nicolas A. Stewart[1]; Thomas P. Conrads[2]; Robert A. Branch[1]; *[1]University of Pittsburgh, Center for Clin. Pharm., Pittsburgh, PA; [2]University of Pittsburgh, Cancer Institute, Pittsburgh, PA*

TP 402 **Method Develoment Strategy in the Analysis of Testosterone by LC-FAIMS-MS/MS**; Kimberly Dunn-Meynell; Sam Wainhaus; Walter Korfmacher; *Schering-Plough, Kenilworth, NJ*

TP 403 **Quantitative Analysis of 17-Desacetyl Norgestimate in Human Plasma By LC MS/MS**; Colin Patrick; Yongdong Zhu; Yuan-shek Chen; Jerry Cao; Hongzhuan Chen; Kelly Whetstone; Kumar Ramu; *QPS, LLC, Newark, DE*

TP 404 **The Combined Quantitation of Two Challenging Compounds, Fluticasone and Salmeterol, on a New Tandem Mass Spectrometer**; Edward Brewer[2]; Min Meng[2]; Patrick Bennett[2]; Spencer Carter[2]; George Scott[1]; Robert Horton[2,2]; Gerard Dalglish[2,2]; *[1]Ionics Mass Spectrometry Group, Bolton, Canada; [2]Tandem Labs, Levittown, PA*

TP 405 **Determination of Bicalutamide in Human Plasma by Liquid Chromatography-Tandem Mass Spectrometry (LC-MS/MS)**; Jun-hwa Shim; Hwa Suk Kim; Seul Oh; Hyang Hee Yang; Won Seok Nam; Seon Jeong Kim; Seo Hyun Yoon; Kyung-Sang Yu; In-Jin Jang; *Seoul National University, Seoul, South Korea*

TP 406 **Simultaneous Determination of Udenafil and its Active Metabolite, DA-8164, in Free Fraction Human Plasma by LC-ESI/MS/MS**; Hwa Suk Kim; Seul Oh; Jun-Hwa Shim; Hyang Hee Yang; Won Seok Nam; Seon Jeong Kim; Seo Hyun Yoon; Kyung-Sang Yu; In-Jin Jang; *Seoul National University, Seoul, South Korea*

TP 407 **Determination of Rifabutin and 25-O-Deacetyl Rifabutin in Human Plasma by LC/MS/MS**; Hongkun Liang; Crystal Nguyen; Mojdeh Vahid; Yongdong Zhu; Jamie Zhao; Kristen Singleton; Preeta Bissessar; Yuan-Shek Chen; Kumar Ramu; *QPS, LLC., Newark, DE*

TP 408 **The Quantitative Analysis of Voriconazole in Human Plasma by Liquid Chromatography-Tandem Mass Spectrometry (LC-MS/MS)**; Seo Hyun Yoon; Jun-hwa Shim; Hwa Suk Kim; Seul Oh; Hyang Hee Yang; Won

Seok Nam; Seon Jeong Kim; Kyung-Sang Yu; In-Jin Jang; *Seoul National University, Seoul, South Korea*

DRUG METABOLISM: PHARMACOKINETICS, 409 - 423

TP 409 **Identification of Urinary Metabolites of Tolcapone, an Inhibitor of Catechol-O-methyl Transferase, by LC/MS-based Metabonomics Analysis**; Jinchun Sun[1]; Laura K. Schnackenberg[1]; Linda S. Von Tungeln[1]; Frederick A. Beland[1]; Marja-Leena Toivonen[2]; Wade Hines[3]; Richard D. Beger[1]; *[1]NCTR, Jefferson, AR; [2]Orion Pharmaceuticals, Espoo, Finland; [3]BG Medicine, Waltham, WA*

TP 410 **A Highly Effective and Sensitive LC-MS/MS Assay for Itraconazole and Hydroxy-Itraconazole in Human Plasma for Bioequivalence, Bioavailability and Pharmacokinetic Studies**; Wei Zhang[1]; Futian Han[1]; Harry Zhao[1]; Zhongping (John) Lin[1]; Guillermo Tous[2]; *[1]Frontage Laboratories, Inc., Malvern, PA; [2]Stiefel Laboratories, Inc., Princeton, NJ*

TP 411 **Pharmacokinetic Analysis of Di(2-ethylhexyl)phthalate (DEHP) and its Major Metabolites in Plasma and Urine using UPLC with ES/MS/MS**; Nathan C. Twaddle; Steven J. Moon; Luisa Camacho; K. Barry Delclos; Daniel R. Doerge; *NCTR/FDA, Jefferson, AR*

TP 412 **Plasma Pharmacokinetics of NSC 265959, a Novel 3,11-Diazasteroid, in Mice**; Lawrence R. Phillips[1]; John P. Carter[2]; Eva Majerova[2]; Dianne L. Newton[2]; Melinda G. Hollingshead[1]; *[1]National Cancer Institute at Frederick, Frederick, MD; [2]SAIC-Frederick, Inc., Frederick, MD*

TP 413 **Metabolism and Pharmacokinetics of Oxazoles with anti-Tuberculosis Activity**; Yang Song; Valentina Petukhova; Larry. L Klein; Richard B. Van Breemen; scott Franzblau; *university of Illinois, Chicago, IL*

TP 414 **Determination of Dexamethasone to 13 pg/g (mL) in Ocular Fluids and Tissues following Unilateral, Topical Administration**; Matthew Marchewka; Hillary Decker; Michael Wynalda; Wasser Carol; James Vrbanac; *PharmOptima, Portage, MI*

TP 415 ***In vitro* Metabolic Interactions between Black Cohosh (Cimicifuga racemosa) and Tamoxifen;** Jinghu Li; Tanja Gödecke; Shaonong Chen; Guido F. Pauli; Richard B. van Breemen; Dejan Nikolic; *University of Illinois College of Pharmacy, Chicago, IL*

TP 416 **24 High Throughput LDTD-MS/MS IC50 Determination of CYPinhibition in Human Liver Microsomes (HLM)**; Patrice Tremblay[1]; Pierre Picard[1]; Limin He[2]; Jae Chang[2]; Jane Huang[2]; *[1]Phytronix Technologies, Quebec, Canada; [2]DMPK, Roche Palo Alto, Palo Alto, CA*

TP 417 **PD/PK Characterization of Drug Release From Nanoparticles Independent of Formulation: Acute Pharmacokinetics and Cardiovascular Effects of Intravenous Nifedipine**; James Vrbanac[1]; Steven Humphrey[1]; Michael Wynalda[1]; Allen Buhl[1]; Mike Morgan[2]; *[1]PharmOptima, Portage, MI; [2]Bend Research, Inc, Bend, Oregon*

TP 418 **Quantitation of Drug Candidates in Pharmacokinetic Studies Using High Resolution Accurate MS – A Different Approach for Bioanalysis**; Rena Zhang[1]; Sean Yu[2]; Philip Tiller[3]; Suzie Yeh[4]; Elizabeth A. Mahan[2]; William Bart Emary[5]; *[1]Merck & Co., Inc, West Point, PA; [2]Merck & Co., West Point, PA; [3]RMI laboratories, Collegeville, PA; [4]Merck & Co., Inc., West Point, PA; [5]Merck Research Labs, West Point, PA*

TP 419 **Quantitation of Small Molecules with Simultaneous Structural Characterization of Metabolites using High Resolution Mass Spectrometry for Accelerating Drug Discovery**; Melis Coraggio[1]; Young Shin[2]; Jonathan C. Mcnally[3]; Sheerin Shahidi[2]; Yan Chen[3]; Yingying Huang[4]; Cornelis Hop[5]; Patrick J. Rudewicz[1]; *[1]Genentech, Inc., South San Francisco, CA; [2]Genentech, South San Francisco, CA; [3]ThermoFisher Scientific, San Francisco, CA; [4]Thermo Fisher Scientific, San Jose, CA; [5]Genetech, South San Francisco, CA*

TP 420 **Why a Q-TOF Mass Spectrometer Could Detect Homspera® More Than Two Orders of Magnitude Lower Than a Triple Quadrupole**; Earl L. White[1]; Veronica P. Rodriquez[1]; Kenyon Hood[1,2]; Kasey Benson[3]; Hal Siegel[3]; *[1]MDx BioAnalytical, Inc., Tucson, AZ; [2]Ventana Medical Systems, Inc., Tucson, AZ; [3]ImmuneRegen BioSciences, Inc, Scottsdale, AZ*

TP 421 **An Improved Predicted MRM Method for *in vivo* Metabolite Detection Method Using a Hybrid LIT/Triple Quadrupole Mass Spectrometer**; Hua-fen Liu[1]; Elliott Jones[1]; Robert Cho[2]; Ji Ma[3]; *[1]Applied Biosystems, Foster City, CA; [2]Amgen, Inc, South San Francisco, CA; [3]Amgen Inc., South San Francisco, CA*

TP 422 **Simultaneous Pharmacokinetic Quantitation and Metabolic Identification Using pMRM Survey Mode on a High Scan Rate QqQ/LIT LCMS**; Rolf Kern; Theresa Lee; Richard Lauman; Elliott Jones; Dale H. Patterson; Loren Olson; *Applied Biosystems, San Jose, CA*

TP 423 **Development of a HPLC-MS/MS Assay to Measure the Novel Proteasome Inhibitor CEP-18770 in Plasma. Preliminary Pharmacokinetic Evaluation in Cancer Patients;** Elena Marangon[1]; Federica Sala[1]; Cristiana Sessa[3]; Elisa Dall'O'[2]; Roberta Cereda[4]; Valeria Livi[4]; Maurizio D'Incalci[1]; Massimo Zucchetti[1]; *[1]Istituto di Ricerche Farmacologiche Mario Negri, Milano, Italy; [2]SENDO, Milano, Italy; [3]Istituto Oncologico della Svizzera Italiana, Bellinzona, Switzerland; [4]EOS, Milano, Italy*

PROTEIN CONFIRMATION, 424 - 456

TP 424 **Characterization of a Microfabricated Electrospray Ionization (ESI) Device for Solution-Phase H/D Exchange in Non-Denaturing Media**; Abdullah H. Al-Fdeilat; Behrooz Zekavat; Scott D. Collins; Rosemary Smith; Touradj Solouki; *University of Maine, Orono, ME*

TP 425 **Investigation of Rapid Two-Dimensional Peptic Peptide Fractionation for HD Exchange by Nano-LC MALDI**; Wayne Chou; Nicholas Sam-Soon; Tom Poulos; Paul Gershon; *UC-Irvine, Irvine, CA*

TP 426 **Reduced Back-Exchange by Modified RPLC Mobile Phase Separation of Proteolytic Peptides for MS Analysis of H/D Exchange of Solution-Phase Proteins**; Santosh G Valeja[1,2]; Mark R. Emmett[1,2]; Alan G. Marshall[1,2]; *[1]Nat'l High Magnetic Field Lab, Tallahassee, FL; [2]Florida State university, Tallahassee, FL*

TP 427 **H/D Exchange Combined with Top-Down Electron Capture Dissociation for Protein Complex Structural Characterization: Development and Early Results**; Magalie Duchateau; Charlotte Boisseau; Julia Chamot-

rooke; Guillaume Van Der Rest; *Ecole Polytechnique, Palaiseau, France*

TP 428 **Tandem MS with a Label Reduction Strategy Enables a Proteomics Approach to H/DX Experiments**; Andrew Percy; David Schriemer; *University of Calgary, Calgary, Canada*

TP 429 **Deuterium Exchange Mass Spectrometry Using a Semiautomatic Interface for Data Acquisition and Automatic Data Analysis and Reporting;** Maria T. Villar; Danny E. Miller; Aron W. Fenton; Antonio Artigues; *University of Kansas Medical Center, Kansas City, KS*

TP 430 **Towards a Standardized Approach in Presenting Hydrogen-Deuterium Exchange Mass Spectrometry (HDX MS) Data in Comparability Studies of Biopharmaceutical Products**; Cedric Bobst[1]; Rinat Abzalimov[1]; Damian Houde[2,3]; Marek Kloczewiak[2]; Steven A. Berkowitz[2]; John R. Engen[3]; Igor A. Kaltashov[1]; *[1]University of Massachusetts, Amherst, MA; [2]Biogen Idec, Inc., Cambridge, MA; [3]Northeastern University, Boston, MA*

TP 431 **ESI-MS Identifies Protein Oxidation as Major Contributor to Irreversible Thermal Denaturation**; Jenna-Jiangjiang Liu; Lars Konermann; *Univ. of Western Ontario, London, ON*

TP 432 **A New Approach to Assessing Conformational Stability and Functional Competence of Protein Therapeutics using Mass Spectrometry**; Cedric Bobst[1]; Rinat Abzalimov[1]; Damian Houde[2]; Steven A. Berkowitz[2]; Rohin Mhatre[2]; Igor A. Kaltashov[1]; *[1]University of Massachusetts, Amherst, MA; [2]Biogen Idec, Inc., Cambridge, MA*

TP 433 **Protein Equilibrium Population Snapshot (PEPS) MS Method for Measuring Protein Folding Energies Using H/D exchange and Oxidation of Methionine;** Rohana Liyanage; Nagarjuna Devarapalli; Latisha M. Puckett; N.H. Phan; Joel A. Starch; Jennifer Gidden; Wesley E. Stites; Jackson O. Lay; *University of Arkansas, Fayetteville, AR*

TP 434 **His-HDX Method to Probe the Microenvironment of Histidine Residues in *Escherichia coli* Dihydrofolate Reductase**; Masaru Miyagi; Chris Dealwis; *Case Western Reserve Univers, Cleveland, OH*

TP 435 **Metal-Catalyzed Hydrogen/Deuterium Exchange and MS as a New Way to Determine Metal-Protein Binding Sites**; Adam M Graichen; Richard Vachet; *University of Massachusetts, Amherst, MA*

TP 436 **Structural and Dynamic Investigation of *umuD* Gene Products by Hydrogen Exchange Mass Spectrometry**; Jing Fang; Penny J. Beuning; John R. Engen; *Northeastern University, Boston, MA*

TP 437 **Differences in Structural Dynamics of Factor VIII and Lactadherin C2 Domains in Relation to Membrane Binding Employing DXMS Analysis;** Dennis Pantazatos[3]; Virgil Woods, Jr. [5]; Gary E. Gilbert[1,2]; Chris Gessner[4]; *[1]VA Boston Health Care System, West Roxbury, MA; [2]Brigham and Women's Hospital, Boston, MA; [3]Harvard Medical School, Boston, MA; [4]Ohio State University, Columbus, OH; [5]University of California, La Jolla, CA*

TP 438 **The Interaction of Myristoylated HIV Nef with N-Myristoyltransferase-1 as Determined by Hydrogen Exchange Mass Spectrometry**; Chris Morgan[1]; Purushottam S. Narute[2]; Brian V. Miglionico[1]; Thomas E. Smithgall[2]; John R. Engen[1]; *[1]Northeastern University, Boston, MA; [2]University of Pittsburgh, Pittsburgh, PA*

TP 439 **Conformational Dynamics of the Transcription Regulator VraR are Modulated by Phosphorylation: A Hydrogen/Deuterium Exchange ESI-MS Study**; Yu-Hong Liu[1]; Antoaneta Belcheva[2]; Dasantila Golemi-Kotra[2]; Lars Konermann[1]; *[1]The University of Western Ontario, London, Canada; [2]York University, Toronto, Canada*

TP 440 **HIV-1 Vif Conformation Upon Phosphorylation by MAPK and Its Implications in Elongin-BC Binding**; Sean R. Marcsisin; John R. Engen; *Northeastern University, Boston, MA*

TP 441 **Post-Translational Modifications Alter Intact IgG1 Conformation and Influence Fc-Gamma-RIII Binding**; Damian Houde[1,2]; Steven Berkowitz[1]; John R. Engen[2]; *[1]Biogen Idec, Inc., Cambridge, MA; [2]Northeastern University, Boston, MA*

TP 442 **Protein Dynamics of Peroxiredoxins Studied by Hydrogen/Deuterium Exchange Mass Spectrometry**; Sasidhar N Nirudodhi; Claudia Maier; *Oregon State University, Corvallis, OR*

TP 443 **Dynamic Studies and Structural Delineation of Truncated Human Cardiac Troponin Using HDX;** Dev Kowlessur; Larry Tobacman; *University of Illinois, Chicago, IL*

TP 444 **Isotopic Depletion for the Structural Mapping of the Troponin Complex by Hydrogen/Deuterium Exchange Combined with FT-ICR Mass Spectrometry**; George M. Bou-assaf[1,2]; Jean E. Chamoun[2,3]; Mark R. Emmett[1,2]; Piotr G. Fajer[2,4]; Alan G. Marshall[1,2]; *[1]Ion Cyclotron Resonance Prog, Tallahassee, FL; [2]NHMFL/FSU, Tallahassee, FL; [3]Department of Chemistry, Macquarie University, Sydney, Australia; [4]Institute of Molecular Biophysics / FSU, Tallahassee, FL*

TP 445 **How Do the Four Keys (Ca^{2+}) Change the World? A PLIMSTEX Study of Troponin C**; Richard Yu-cheng Huang; Don L. Rempel; Michael L. Gross; *Washington University, St.louis, MO*

TP 446 **Accelerated Protein Folding due to Chaperone Action is Revealed by SUPREX;** Stefan Esswein[1]; Hannah Florance[2]; Perdita Barran[2]; *[1]University of Edinburgh, Edinburgh, UK; [2]The University of Edinburgh, Edinburgh, UK*

TP 447 **Analysis of Histone Dynamics in the Higher Order Folding of Nucleosome Arrays Using Hydrogen/Deuterium Exchange Coupled to Mass Spectrometry**; Tanya Panchenko[1]; Sandya Ajith[1]; Mike Resch[2]; Jeffrey C. Hansen[2]; Ben E. Black[1]; *[1]University of Pennsylvania, Philadelphia, PA; [2]Colorado State University, Fort Collins, Colorado*

TP 448 **Structural Mass Spectrometry of the αβ-Tubulin Dimer Supports a Revised Model of Microtubule Assembly**; Melissa J. Bennett[1]; John Chik[1]; Gordon Slysz[1]; Tyler Luchko[2]; Dan L. Sackett[3]; David Schriemer[1]; *[1]University of Calgary, Calgary, AB; [2]Cross Cancer Institute, Edmonton, Canada; [3]National Institutes of Health, Bethesda, MD*

TP 449 **Allosteric Effects in the Abl Kinase Upon Inhibitor Binding**; Roxana E. Iacob[1,3]; Jianming Zhang[2]; Nathanael S. Gray[2]; John R. Engen[1,3]; *[1]Northeastern University, Boston, MA; [2]Dana- Farber Cancer Institute,*

Harvard Medical, Boston, MA; [3]Barnett Institute, Boston, MA

TP 450 **Identification of an Allosteric Pathway in the Regulation of α-Isopropylmalate Synthase from Mycobacterium Tuberculosis by Solution-phase H/D Exchange FT-ICR MS**; Mark R. Emmett[1]; Hui-Min Zhang[1]; Patrick A. Frantom[2]; John S. Blanchard[2]; Alan G. Marshall[1]; *[1]Nat'l High Magnetic Field Lab/Florida State Univ., Tallahassee, FL; [2]Albert Einstein College of Medicine, Bronx, NY*

TP 451 **Folding of the Protein Cex in Solution and in the Gas Phase Studied by Hydrogen/Deuterium Exchange**; Peran Terrier; D. J. Douglas; *University of British Columbia, Vancouver, BC*

TP 452 **Investigation of Transferrin/Transferrin Receptor Interaction by Hydrogen-Deuterium Exchange Mass Spectrometry (HDX MS)**; Cedric Bobst[1]; Anne B. Mason[2]; Igor A. Kaltashov[1]; *[1]University of Massachusetts, Amherst, MA; [2]University of Vermont Medical School, Burlington, VT*

TP 453 **Study of the Conformation of Myoglobin Adsorbed on Nanoparticles with Hydrogen/Deuterium Exchange Mass Spectrometry**; Yaoling Long; David Barber; John R. Eyler; *University of Florida, Gainesville, FL*

TP 454 **Hydrogen/Deuterium Exchange Analysis of RXR–Rexinoid Interactions in the Presence and Absence of Coactivator GRIP-1**; LeeAnn J. Boerma[1]; Gang Xia[1]; Cheng Qui[1]; Donald D. Muccio[1]; Matthew B. Renfrow[2]; *[1]UAB at Birmingham, Birmingham, AL; [2]University of Alabama at Birmingham, Birmingham, AL*

TP 455 **Probing the Effects of GTP Hydrolysis State on the Conformation of RhoA Using HDX MS**; Madonna-Lily Choi; Michael P. Walsh; John K. Chik; *University of Calgary, Calgary, Canada*

TP 456 **Probing Host-Guest Complex Formation between Cyclodextrins and Pharmaceutical Drugs Using Hydrogen-Deuterium Exchange;** Adedamola Onipede; Christian Granados; Jon Robinson; Xiomara Soto; David Sierra; Dil Ramanathan; *Kean University, Union, NJ*

NON-COVALENT INTERACTIONS, 457 - 486

TP 457 **ETD Dissociation of the Non-Covalent Complexes between Calmodulin and Dopamine or Adenosine A2A Receptor Epitopes**; Amina S. Woods[1]; Sucharita Dutta[2]; Shelley N Jackson[3]; *[1]NIDA IRP, NIH, Baltimore, MD; [2]Thermo Fisher Scientific, San Jose, CA; [3]NIDA-IRP, NIH, Baltimore, MD*

TP 458 **Identifying the Sites of Small Molecules and Amyloid Beta-Protein Noncovalent Interactions Using Top-Down Mass Spectrometry**; Eric Pang[1]; David B. Teplow[2]; Joseph A. Loo[1]; *[1]UCLA, Los Angeles, CA; [2]David Geffen School of Medic, Los Angeles, CA*

TP 459 **Enhanced Stoichiometry Measurements of Heterogeneous sub-MDa Protein Assemblies by Tandem MS: Elucidation of Subunit Exchange Mechanism in GroEL**; Rinat Abzalimov[1]; Sarah C. Wehri[2]; George H. Lorimer[2]; Igor A. Kaltashov[1]; *[1]University of Massachusetts, Amherst, MA; [2]University of Maryland College Park, College Park, MD*

TP 460 **How Bacteria Defend Themselves Against Pathogens: The Structure and Topology of the Cascade Protein Complex Revealed by Macromolecular Mass Spectrometry**; Kristina Lorenzen[1]; Esther Van Duijn[1]; Arjan Barendregt[1]; Stan Brouns[2]; Matthijs Jore[2]; John van der Oost[2]; Albert J.R. Heck[1]; *[1]Utrecht University, Utrecht, Netherlands; [2]Wageningen University, Wageningen, Netherlands*

TP 461 **Mass Spectrometry Study of the Interaction Between Calmodulin And ERα17p, a Peptide that Corresponds to the Estrogen Receptor α/Calmodulin-Binding Site;** Sandrine Voillard[1]; Francoise Fournier[1]; Carlos Afonso[1]; Yves Jacquot[1]; Guy Leclercq[2]; Jean-Claude Tabet[1]; *[1]University Paris VI (UPMC), Paris Cedex O5, France; [2]Institut Jules Bordet, Brussels, Belgium*

TP 462 **Probing the Solution Structure of TNF-α Homo- and Heterotrimers Before and After Complex Perturbation**; Eric Beil; Sheng-Jiun Sam Wu; George A. Heavner; Jennifer F. Nemeth; *Centocor R&D, Radnor, PA*

TP 463 **Small Heat Shock Proteins (sHSPs) are Thermo-Dynamically Regulated Molecular Chaperones with Polydisperse Substrate Binding Behaviour**; Florian Stengel[1]; Alex J Painter[1]; Andrew J Baldwin[2]; Nomalie Jaya[3]; Eman Basha[3]; Lewis E Kay[2]; Elizabeth Vierling[3]; Carol V Robinson[1]; Justin LP Benesch[1]; *[1]University of Cambridge, Cambidge, UK; [2]University of Toronto, Toronto, Canada; [3]University of Arizona, Tucson, Arizona*

TP 464 **Application of CE-MS to the Determination of Autoinducer Inactivation Enzyme A-metal Stoichiometry**; Mehdi Moini[1]; Selynda Garza[2]; *[1]Texas State University, San Marcos, TX; [2]Cedra Corp, Austin, TX*

TP 465 **Structures and Binding Energies of Noncovalent Complexes of Peptidomimetic Complexes of Protonated Nitrogen Bases with 18-Crown-6**; Yu Chen; Mary T. Rodgers; *Wayne State University, Detroit, MI*

TP 466 **Investigation of Non-covalent Complexes Between Synthetic Polymers and Biomolecules Using Mass Spectrometry**; Danijela Smiljanic; Chrys Wesdemiotis; *The University of Akron, Akron, OH*

TP 467 **Non-Covalent Interactions between the PEBP/RKIP Protein and Nucleotide Analogs;** Lucie Jaquillard[1]; Guillaume Gabant[1]; Françoise Schoentgen[2]; Luigi Agrofoglio[3]; Martine Cadene[1]; *[1]CBM CNRS UPR4301 (INC) Rue Charles Sadron, Orléans, France; [2]IMPMC, Université de Paris 6, Paris, France; [3]ICOA UMR6005 Université d'Orléans, Orléans, France*

TP 468 **Comprehensive Analysis of the TRAP-Anti-TRAP Complex by ESI-MS and X-Ray Crystallography**; Satoko Akashi[1]; Masahiro Watanabe[1]; Jonathan G. Heddle[1,2]; Satoru Unzai[1]; Sam-Yong Park[1]; Jeremy R. H. Tame[1]; *[1]Yokohama City University, Yokohama, Kanagawa, Japan; [2]Global Edge Inst., Tokyo Institute of Technology, Yokohama, Japan*

TP 469 **Withdrawn**

TP 470 **Non-Covalent Interactions between Food-Derived Proteins and Polyphenols Assessed by Ultra-Filtration and Mass Spectrometry – a Matter of Bioavailability and Perception;** Kornel Nagy; Marie-Claude Courtet-Compondu; Martin Kussmann; *Nestle Research Center, Lausanne 26, Switzerland*

TP 471 **CCR2 Di-Sulfated N-Terminal Peptide and Arixtra Bind Competitively to MCP-1/CCL2**; Connie Jen; Julie A. Leary; *UC Davis, Davis, CA*

Posters must be set up 8:00 - 8:30 am on the day scheduled and removed 7:30 to 8:00 pm. Authors of odd numbered posters (001, 003, 005, etc.) are required to be present 10:30 – 12:30. Authors of even numbered posters (002, 004, 006, etc.) must be present 12:30 – 2:30 pm.

TP 472 **Characterization and Structure Elucidation by FT-ICR-MSMS and NMR of a Protein-Complex Contaminant Produced from a 96 Well-Plate Cover Adhesive**; Marshall M. Siegel; Xidong Feng; Franklin Moy; Walter Massefski; Brooke Swalm; Mehul Patel; Lee Jennings; *Wyeth Research, Pearl River, NY*

TP 473 **Spatially Ordered Surfactant Assemblies in Gas Phase : Bis(2-ethylhexyl)sulfosuccinate-Alkaline Metal Ion Aggregate**; Gianluca Giorgi[1]; Vincenzo Turco Liveri[2]; *[1]University of Siena, Siena, Italy; [2]University of Palermo, Palermo, Italy*

TP 474 **Solution-Phase Chelators for the Suppression of Nonspecific Metal-Protein Interactions in ESI-MS**; Jingxi Pan; Lars Konermann; *Univ. of Western Ontario, London, ON*

TP 475 **Quantitating Zinc Deposition in the ESI Source during Zinc-Peptide Analysis**; Haritha Mattapalli; Colin S. Burns; Allison S. Danell; *East Carolina University, Greenville, NC*

TP 476 **Energy and Entropy Effects in the Dissociation of Non-Covalent Ionic Polymer/Substrate Complexes**; Eric Martineau; Abdulrahman Alhazmi; Justin Renaud; Paul Michael Mayer; *University of Ottawa, Ottawa, Canada*

TP 477 **Monitoring Polymer Growth in the Interior of a Protein-Cage and Overcoming Challenges in Assigning Charge States to Native-Spray Mass Spectra**; Lars Liepold; Luke Oltrogge; Joynal Abedin; Peter Suci; Mark Young; Trevor Douglas; *Montana State University, Bozeman, MT*

TP 478 **From Metal Binding to Nanoparticle Formation: Monitoring Biomimetic Iron Oxide Synthesis within Protein Cages Using Mass Spectrometry**; Sebyung Kang[1,2]; Craig C. Jolley[1,2]; Lars O. Liepold[1,2]; Mark Young[1,2]; Trevor Douglas[1,2]; *[1]Montana State University, Bozeman, MT; [2]Center for BioInspired Nanomaterials, Bozeman, MT*

TP 479 **Why do Mass Spectrometric Measurements of Noncovalent Binding Constants Give Accurate Results?** Renato Zenobi[1]; Matthias C Jecklin[1]; Rui Wang[1]; David Touboul[2]; *[1]ETH Zurich, Zurich, Switzerland; [2]CNRS, Gif-sur-Yvette, France*

TP 480 **Determination of Protein-Ligand Binding Constants Using Mass Spectrometry and Validation Using Surface Plasmon Resonance and Isothermal Titration Calorimetry;** Matthias Jecklin[1]; Stefan Schauer[2]; Christoph Dumelin[3]; Renato Zenobi[4]; *[1]ETH Zürich, Zürich, Switzerland; [2]Functional Genomics Center Zürich, Zürich, Switzerland; [3]Philochem AG, Zürich, Switzerland; [4]ETH Zurich, Zurich, Switzerland*

TP 481 **Determination of Dimerization Constants of CH3-CH3 Interactions in IgG4 Antibodies by Native Mass Spectrometry**; Rebecca J. Rose[1]; Aran F. Labrijn[2]; Ewald T.J. van den Bremer[2]; Janine Schuurman[2]; Patrick H.C. van Berkel[2]; Paul W.H.I. Parren[2]; Albert J.R. Heck[1]; *[1]Utrecht University, Utrecht, Netherlands; [2]Genmab, Utrecht, Netherlands*

TP 482 **Mass spectrometry Contribution for Stability Constants Measurement of Protein/Protein Complexes**; Aurélie Même[1]; Peran Terrier[1]; Frank Hannemann[2]; Rita Bernhardt[2]; Hélène Nierengarten[1]; Noelle Potier[1]; Emmanuelle Leize-Wagner[1]; *[1]LDSM2 - Institut de Chimie-CNRS-ULP, Strasbourg, France; [2]Biochemie Universität des Saarlandes, Saarbrücken, Germany*

TP 483 **Imaging of Noncovalent Complexes by MALDI-MS**; Shelley N Jackson[1]; Amina S. Woods[2]; *[1]NIDA-IRP, NIH, Baltimore, MD; [2]NIDA IRP, NIH, Baltimore, MD*

TP 484 **Withdrawn**

TP 485 **Noncovalent Interactions between Polyethyleneimine and Cibacron Blue 3GA Studied by Mass Spectrometry**; Ömür Çelikbıçak[1,2]; Bekir Salih[2]; Chrys Wesdemiotis[1]; *[1]The University of Akron, Akron, OH; [2]Hacettepe University, Ankara, Turkey*

TP 486 **Characterization of Binding Sites of Insulin and IGF-2 for a Genome-Inspired DNA Binding Ligand by MALDI-TOF-Mass Spectrometry**; Junfeng Xiao; Dmitri Zagorevski; Linda McGown; *Rensselaer Polytechnic Institute, Troy, NY*

PEPTIDES: QUANTITATION – APPLICATIONS, 487 - 513

TP 487 **Novel Aspects of Quantitation of Immunogenic Gluten Peptides by LC/MS/MS**; Jennifer A. Voyksner[1]; Robert D. Voyksner[1]; Chaitan Khosla[2]; James Jorgenson[3]; *[1]LCMS Limited, Durham, NC; [2]Stanford University, Stanford, CA; [3]University of North Carolina at Chapel Hill, Chapel Hill, NC*

TP 488 **Quantification of Oxidative Modification in Hemoglobin Using iTRAQ/Isobaric Tags and Tandem Mass Spectrometry**; Tatiana Pimenova[1]; Claudia P. Pereira[2]; Peter M. Gehrig[3]; Dominik J. Schaer[2]; Renato Zenobi[1]; *[1]ETH Zurich, Zurich, Switzerland; [2]University of Zurich, Zurich, Switzerland; [3]Functional Genomics Center, Zurich, Switzerland*

TP 489 **High Sensitive Simultaneous Quantification Method of Hepcidin-20, 22, and -25 in Human Serum by LC/MS/MS**; Naoaki Murao; Hideyuki Yasuno; Yasushi Shimonaka; Masaki Ishigai; *Chugai Pharmaceutical Co., Ltd., Gotemba, Japan*

TP 490 **Stable Isotope Free Direct MALDI-MS Quantitation of Beta Defensin 2 Regulated by TLR Activation in Chicken Heterophils**; Lakshmi Kannan[1]; Rohana Liyanage[1]; Narayan C Rath[2]; Jackson O. Lay[1]; *[1]University of Arkansas, Fayetteville, AR; [2]PPPSRU, ARS, USDA, Fayetteville, AR*

TP 491 **Identification and Measurement of Pituitary Peptides during Development**; Adriana Bora; Lori Raetzman; Jonathan Sweedler; *University of Illinois, Urbana, IL*

TP 492 **Quantification of NMDA Receptor Binding Proteins in Normal and Schizophrenic Human Brain Tissue**; Eugene Ciccimaro[1]; Mark Szewc[1]; Mark Sanders[1]; Chang-gyu Hahn[2]; Matthew L Macdonald[2]; *[1]Thermo Fisher Scientific, Somerset, NJ; [2]University of Pennsylvania, Philadelphia, PA*

TP 493 **Quantitation of Exenatide in Human Plasma Using LC-MS/MS/MS (LC-MS^3) on a Linear Q-Trap API-5500 System**; Yan Xu; John-Paul Gutierrez; Tian-sheng Lu; Haiqing Ding; Xiuying Chen; Kristin Miller; Yong-Xi Li; *Medpace Bioanalytical Laboratories, Cincinnati, OH*

TP 494 **Quantitation of Formaldehyde-Hemoglobin Adducts**; Maria Ospina; Adrienne K. Barry; Hubert Vesper; *Centers for Disease Control & Prevention, Atlanta, GA*

TP 495 **Measuring Acrylamide-Hemoglobin Adducts by LC/MS/MS**; Adrienne K. Barry; Maria Ospina; Hubert Vesper; *Centers for Disease Control Prevention, Atlanta, GA*

Posters must be set up 8:00 - 8:30 am on the day scheduled and removed 7:30 to 8:00 pm. Authors of odd numbered posters (001, 003, 005, etc.) are required to be present 10:30 – 12:30. Authors of even numbered posters (002, 004, 006, etc.) must be present 12:30 – 2:30 pm.

TP 496 **Increased α-Synuclein 3-Nitrotyrosine Levels at Tyrosine 39 in a Parkinson's Disease Model;** Steven R. Danielson; Jason Held; May Oo; Birgit Schilling; Bradford W. Gibson; Julie K. Andersen; *Buck Institute for Age Research, Novato, CA*

TP 497 **Quantitative Peptidomic Analysis of Peptide Amidation in Mouse Pituitary with Liquid Chromatography-Mass Spectrometry**; Ping Yin[1]; Suresh P. Annangudi[1]; Danielle Bousquet-Moore[2]; Eipper A. Betty[2]; Richard E. Mains[2]; Jonathan V. Sweedler[1]; *[1]University of Illinois, Urbana, IL; [2]University of Connecticut Health Center, Farmington, CT*

TP 498 **Mass Spectrometry-Based Quantification of Acrolein-Modified Thiol-Containing Peptides in an *in vivo* Model of Oxidative Stress**; Jianyong Wu; Claudia Maier; *Oregon State University, Corvallis, OR*

TP 499 **Development of the Plant Signaling Peptides Discovery Platform Using Mass Spectrometry**; Ying Lan Chen[1,2]; Mei-chun Tseng[3]; Yet-ran Chen[1,2]; *[1]Agricultural Biotechnology Research Center, Academ, Taipei, Taiwan; [2]National Taiwan Ocean University, Keelung City, taiwan; [3]Institute of Chemistry, Academia Sinica, Taipei, Taiwan*

TP 500 **A MRM-based Mass Spectrometry Method for Optimization of Protein Expression to Increase Biofuel Production in *E. coli***; Christopher J. Petzold; Alyssa M. Redding; Tanveer S. Batth; Farnaz F. Nowroozi; Aindrila Mukhopadhyay; *JBEI, Lawrence Berkeley National Laboratory, Emeryville, CA*

TP 501 **LC/MS/MS Analysis of Murine Fibrinopeptide A in Lung Tissue : a Candidate Biomarker for Pulmonary Fibrosis**; Joe Palandra; Theodore Baginski; Sharon Rouw; Josef Ozer; Dean J Welsch; *Pfizer, Chesterfield, MO*

TP 502 **The Quantification of Urocortin 2, a Large Synthetic Peptide, from Rat Plasma by UPLC/MS/MS;** Don Laudicina; Liping Jin; Ajay Madan; Haig Bozigian; Kayvon Jalali; *Neurocrine Biosciences, San Diego, CA*

TP 503 **Withdrawn**

TP 504 **Evaluation of Novel Front-End Technologies to Facilitate the Study of BNP-32 by High Performance Mass Spectrometry**; Christopher M. Shuford[1]; Genna L. Andrews[1]; D. Keith Williams, Jr. [1]; John C. Burnett, Jr. [2]; Adam M. Hawkridge[1]; David C. Muddiman[1]; *[1]N.C. State Univeristy, Raleigh, NC; [2]Mayo Clinic College of Medicine, Rochester, MN*

TP 505 **Detection of Peanut, Milk, Egg and Wheat Allergens by LC-MS/MS: Towards a Multi-Allergen Assay for Major Allergens in Food**; Catherine S Lane[1]; Phil J Jackson[1]; Donna Potts[1]; Jianru Stahl-zeng[1]; Antonio Serna[1]; Bert Popping[2]; Stephen J. Lock[1]; *[1]Applied Biosystems, Warrington, UK; [2]Eurofins, Pocklington, UK*

TP 506 **Quantitative Analysis of N –and C-Terminal Phosphorylation of FRS-2 by Immuno-Enrichment and LC-MSMS – Method-Validation**; Stephan Bek; Francois Legay; Denis Herzog; *Novartis, Basel, Switzerland*

TP 507 **Comparing the Levels of Endogenous Peptides Using Isotopic Labels and Mass Spectrometry**; Fang Xie[1]; Jonathan Sweedler[2]; *[1]University of Illinois at Urbana-Champaign, Urbana, IL; [2]Univ. of Illinois, Urbana, IL*

TP 508 **Quantitative Determination of Relative Concentrations of the Amyloid-Beta Peptide with Aspartic Acid in Different Isomeric Forms**; Igor Popov[1,2]; Maria Indeykina[3]; Sergey Kozin[2,3]; Alexey Kononikhin[1,4]; Oleg Kharybin[2]; Alexander Makarov[3]; Alexander Archakov[2]; Eugene Nikolaev[1,2]; *[1]Emanuel Institute of Biochemical Physics RAS, Moscow, Russia; [2]Orekhovich Institute of Biomedical Chemistry RAMS, Moscow, Russia; [3]Engelhardt Institute of Molecular Biology, Moscow, Russia; [4]Institute for Energy Problems of Chemical Physics, Moscow, Russia*

TP 509 **The Grb2ome: Development of a Robust & Quantitative LC-On-Chip sMRM Assay for Proteins Associated with Human Grb2**; Lorne E. B. Taylor[1]; Nicolas Bisson[1]; Andrew James[1]; Brett Larsen[1]; J. Bryce Young[3]; Nicole Hebert[3]; Stephen A Tate[2]; Tony Pawson[1]; *[1]Samuel Lunenfeld Research Institute, Toronto, Canada; [2]MDS Sciex, Concord, ON; [3]Eksigent Technologies, Dublin, CA*

TP 510 **Quantitating the Cellular Response to DNA Double Strand Breaks through the MRN Complex;** Andrea M De Santis; Philip Compton; Jeffrey Shabanowitz; Patrick Concannon; Donald F. Hunt; *University of Virginia, Charlottesville, VA*

TP 511 **Quantification of Antigenic Components in Influenza Vaccines by Isotope Dilution Bottom Up Proteomics**; John R. Barr; Tracie Williams; Jessica Norrgran; Carrie L Pierce; Adrian R Woolfitt; Maria I Solano; James Stevens; Reuben O Donis; James L Pirkle; *CDC, Atlanta, GA*

TP 512 **Quantitating Stress-Activated Changes of Gene Expression and Protein Abundance in *Saccharomyces cerevisiae***; M. Violet Lee; Scott E. Topper; Audrey P. Gasch; Joshua J. Coon; *University of Wisconsin-Madison, Madison, WI*

TP 513 **Measurement of Protein Abundance in Mouse and Rat Organs**; Martha Stapels[1]; Jim Langridge[1]; Chelsea Piper[2]; An Zhou[2]; *[1]Waters Corporation, Milford, MA; [2]Legacy Research, Portland, OR*

PROTEIN GLYCOPROTEIN, 514 - 531

TP 514 **Defining IgA1 *O*-glycan Heterogeneity by Use of ECD and IgA1 Specific Proteases**; Kazuo Takahashi; Stephanie B. Wall; Archer Smith IV; Hitoshi Suzuki; Stacy Hall; Jiri Mestecky; Bruce A. Julian; Jan Novak; Matthew B. Renfrow; *University of Alabama at Birmingham, Birmingham, AL*

TP 515 **N-glycosylation Microheterogeneity and Site Occupancy of an Asn-X-Cys Sequon in Plasma-Derived and Recombinant Protein C**; Geun-cheol Gil[1]; Kevin Van Cott[2]; William H. Velander[2,3]; *[1]U. of Nebraska-Lincoln, Lincoln, NE; [2]University of Nebraska, Lincoln, NE; [3]Progenetics LLC, Blacksburg, VA*

TP 516 **Proteolytic *Clostridium botulinum*: Combined mass Spectrometry and Microarray analyses of Diversity of Flagellar Glycosylation**; Susan Twine[1]; Luc Tessier[1]; Michael Peck[2]; Catherine Paul[1,3]; John Austin[3]; Susan Logan[1]; Andrew Carter[2]; John F. Kelly[4]; *[1]National Research Council, Ottawa, Canada; [2]Institute of Food Research, Norwich, UK; [3]Health Canada, Ottawa, ON; [4]National Research Council of Canada, Ottawa, ON*

TP 517 **Microbial Glycosylation: The Outer Surface of the Archaeon *Methanosarcina mazei***; Deborah R. Francoleon[1]; A. Jimmy Ytterberg[1]; Pinmanee

Boontheung[1]; Unmi Kim[1]; Patricia A. Denny[2]; Paul C. Denny[2]; Joseph A. Loo[1]; Robert P. Gunsalus[1]; Rachel R. Ogorzalek Loo[1]; *[1]University of California, Los Angeles, CA; [2]University of Southern California, Los Angeles, CA*

TP 518 **Identification and Quantitation of Phosphorylated and O-GlcNAcylated Proteins Associated with Mitotic Spindles and Midbodies during Cytokinesis (Part A);** Chad Slawson[1]; Zihao Wang[1]; Namrata Udeshi[2]; Philip Compton[2]; Jeffrey Shabanowitz[2]; Donald F. Hunt[2]; Gerald W. Hart[1]; *[1]Johns Hopkins School of Medicine, Baltimore, MD; [2]University of Virginia, Charlottesville, VA*

TP 519 **Sialylation and Metastasis: A Biological Interplay**; Giuseppe Palmisano; Rikke Leth-Larsen; Martin Rossel Larsen; *Southern University of Denmark, Odense, Denmark*

TP 520 **Glycoproteomic Analysis of Zebrafish Embryos by Novel Shotgun LC-MS/MS Approaches**; Chia-wei Lin[1]; Sz-wei Wu[1,2]; Kay-hooi Khoo[1,2]; *[1]Institute of Biological Chemistry, Academia Sinica, Taipei, Taiwan; [2]NRPGM Core facilities, Taipei, TAIWAN*

TP 521 **N-Linked Glycosylation Profiling and Comparisons of Five *Saccharomyces cerevisiae* Strains Using Label-Free and High Resolution Data Acquisition**; Michael R. Hoopmann; Edward J. Hsieh; Michael J. Maccoss; *University of Washington, Seattle, WA*

TP 522 **Mass Spectroscopic Characterization of Glycosylation in the Immune Adherence Receptor CD35**; Thomas J. Allen[1]; Haowei Song[1]; Richard Hauhart[1]; John P. Atkinson[1]; John Turk[1]; Jan Crowley[2]; *[1]Washington University School of Medicine, St. Louis, MO; [2]Washington University, St Louis, MO*

TP 523 **Isolation and Glycosylation Profile of Prostate Specific Antigen (PSA) from Urine;** Lewis K. Pannell; Sharon D Rose; Tapas Manna; Lalita A Shevde; *Mitchell Cancer Institute, Mobile, AL*

TP 524 **Rapid Simultaneous Detection and Quantification of Allergenic Proteins Including Posttranslational Modification in Dietetic Food by Using Tandem LC/MS/MS**; Marco Euler[1]; Jianru Stahl-Zeng[2]; Marko Mank[1]; Gilda Georgi[1]; Bernd Stahl[1]; *[1]Danone Research Centre for Specialised Nutrition, Friedrichsdorf, Germany; [2]Applied Biosystems, Darmstadt, Germany*

TP 525 **Proteomic Techniques for Micro-Determination of Tissue-Derived Proteoglycans, Bikunin and Decorin**; Tatiana Laremore[1]; Rick T. Owens[2]; Dmitri Zagorevski[1]; Franklin E. Leach Iii[3]; Jon Amster[3]; Robert J. Linhardt[1]; *[1]Rensselaer Polytechnic Institute, Troy, NY; [2]LifeCell Corporation, Branchburg, NJ; [3]University of Georgia, Athens, GA*

TP 526 **Systematic Identification of Glyco-Alteration in a Glycoprotein Using Multiple Glycan Profiling Tools**; Hiromi Ito[1]; Atsushi Kuno[1]; Hiromichi Sawaki[1]; Maki Sogabe[1]; Hidenori Ozaki[1]; Yasuhito Tanaka[2]; Masashi Mizokami[2]; Jun-ichi Shoda[3]; Takashi Angata[1]; Takashi Sato[1]; Jun Hirabayashi[1]; Yuzuru Ikehara[1]; Hisashi Narimatsu[1]; *[1]RCMG, AIST, Tsukuba, Japan; [2]Nagoya City University, Nagoya, Japan; [3]University of Tsukuba, Tsukuba, Japan*

TP 527 **Structural Study of Non-Enzymatic Glycation in Human Serum Albumin**; Zheling Zhang[1]; Malwina Huzarska[1]; Jeremiah Tipton[2]; Mark R. Emmett[3]; Alan G. Marshall[4]; Nicolas Polfer[1]; *[1]University of Florida, Gainesville, FL; [2]NHMFL, Tallahassee, FL; [3]Nat'l High Magnetic Field Lab, Tallahassee, FL; [4]Ion Cyclotron Resonance Prog, Tallahassee, FL*

TP 528 **Proteomic and Functional Characterisation of the Key Adipocytokine, Adiponectin**; Michelle Colgrave[1]; Ayanthi Richards[2]; Alun Jones[3]; Elaine Preston[4]; Donna Wilks[4]; Greg Cooney[4]; Jon P. Whitehead[2]; *[1]CSIRO, St Lucia, Australia; [2]Diamantina Institute, Brisbane, Australia; [3]University of Queensland, Brisbane, Australia; [4]Garvan Institute of Medical Research, Sydney, Australia*

TP 529 **Characterization of Group 1 Grass Pollen Allergens using High Resolution / High Mass Accuracy Mass Spectrometry**; Francois Fenaille[1]; Emmanuel Nony[2]; Henri Chabre[2]; Thierry Batard[2]; Philippe Moingeon[2]; Eric Ezan[1]; *[1]CEA Saclay, DSV/iBiTec-S/SPI/LEMM, Gif Sur Yvette, France; [2]Stallergenes SA, Antony, France*

TP 530 **Quantifying N-Glycosylation Distribution in Therapeutic Recombinant IgG Using MRM Strategies and Triple Quadrupole Linear Ion Trap MS Technology**; Jenny Albanese[1]; Christie L Hunter[2]; Carmen Fernández-Metzler[3]; *[1]Applied Biosytems, South Lake Tahoe, CA; [2]Applied Biosystems, Foster City, CA; [3]Merck and Co., West Point, PA*

TP 531 **Facile Isolation of Glycopeptides from Proteolytic Peptide Mixtures Using Custom-Made Cellulose-based Separation Cartridges;** Sergei Snovida; Ed Bodnar; Helene Perreault; *University of Manitoba, Winnipeg,, Canada*

PROTEOMICS: SYSTEMS BIOLOGY, 532 - 558

TP 532 **A Target Discovery Platform for Identifying Breast Cancer-Associated MicroRNA Targets Utilizing Quantitative Proteomics**; Nicholas W. Bateman[1,2]; Brian L Hood[1,2]; Thomas P. Conrads[1,2]; *[1]Department of Pharmacology & Chemical Biology, Pittsburgh, PA; [2]Univ. of Pittsburgh Cancer Institute, Pittsburgh, PA*

TP 533 **Global Analysis of the Yeast Osmotic Stress Response Using High Resolution Mass Spectrometry Based Quantitative Proteomics;** Boumediene Soufi[1]; Christian Dahl Kelstrup[1]; Tobias C. Walther[2]; Florian Fröhlich[2]; Jesper V. Olsen[1]; *[1]Department of Proteomics and Signal Transduction:, Martinsried, Germany; [2]Organelle Architecture and Dynamics, Martinsried, Germany*

TP 534 **Comparative Transcriptomic and Proteomic Profiling for Analysis of Cellular Responses to Oxidative Stress**; Michael W. Schmidt[2]; Shuangding Wu[1]; Khatereh Motamedchaboki[1]; Dieter A. Wolf[1]; Laurence M. Brill[1]; *[1]Burnham Instit for Med Res, La Jolla, CA; [2]Tumitek LLC, Encinitas, CA*

TP 535 **Cataloguing the Drosophila Melanogaster Interactome by Parallel Affinity Purification and MS Analysis of Protein Complexes;** Johanna Rees[1]; Irina Armean[1]; Nick Lowe[1]; Edward Ryder[2]; Daniel StJohnston[1]; Kathryn S Lilley[1]; *[1]University of Cambridge, Cambridge, UK; [2]Sanger Center, Cambridge, UK*

TP 536 **Reducing Tissue Heterogeneity for the Specific Proteomic Analysis of Proximal Convoluted Tubule Apical Membranes**; Scott Walmsley[1]; Corey Broeckling[1,2]; Jessica Prenni[1,2]; Norman Curthoys[1]; *[1]Colorado State University, Fort Collins, CO; [2]Proteomics and Metabolomics Facility, Fort Collins, CO*

TP 537 **Withdrawn**

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TP 538 **A Systems-Approach to Studying Histone H4 and Its Epigenetic Regulatory Role in Human Embryonic Stem Cells**; Justin Brumbaugh[1]; Doug Phanstiel[1]; James A Thomson[1]; Joshua J. Coon[2]; *[1]University of Wisconsin, Madison, WI; [2]Univ of Wisconsin-Madison, Madison, WI*

TP 539 **Quantitative Proteomic Analysis of MyD88-Dependent Signal Regulation for Innate Immune Response**; Ying Du; Yanbao Yu; Qianchuan He; Xian Chen; *University of North Carolina, Chapel Hill, NC*

TP 540 **Dynamic Remodeling of CEBPα Protein Complexes in Myeloid Differentiation and Leukemogenesis**; Rositsa Koleva; Scott Ficarro; Manor Askenazi; Jignesh Parikh; Shaojuan Li; Jarrod Marto; *Dana Farber Cancer Instit, Boston, MA*

TP 541 **Shotgun Proteomic Analysis of a Model 7-Member Human Gut Microbiota Created in Gnotobiotic Mice**; Alison L. Russell[1,2]; Nathan C. Verberkmoes[2]; Nathan McNulty[3]; Manesh Shah[2]; Jeffrey Gordon[3]; Robert Hettich[2]; *[1]Genome Sciences & Technology, UT-Knoxville, Knoxville, TN; [2]Oak Ridge National Laboratory, Oak Ridge, TN; [3]Center for Genome Sciences, Washington University, St. Louis, MO*

TP 542 **Probing Changes in Biochemical Pathways in Environmentally Important Methanotrophs;** Konstantinos Thalassinos[1]; Nisha Patel[1]; Susan E. Slade[1]; Vibhuti Patel[1]; Andrew Crombie[1]; J. Colin Murrell[1]; Chris Hughes[2]; Joanne B. Connolly[2]; Jim Langridge[3]; James Scrivens[1]; *[1]University of Warwick, Coventry, UK; [2]Waters, Manchester, UK; [3]Waters Corporation, Manchester, UK*

TP 543 **Translational Effect of Microrna-21 on Protein Expression Studied with Metabolically Labeled TGF-β 1 Transgenic Mice**; Jihyeon Lim[1]; Huimin Shang[1]; Vikram Padmanabhan[1]; Xiaohong Jing[1]; Christine Esau[2]; Ruth Hogue Angeletti[1]; Markus Bitzer[1]; *[1]Albert Einstein College of Medicine, Bronx, NY; [2]Regulus Therapeutics, Carlsbad, CA*

TP 544 **Altered Proteolytic Events in Experimental Autoimmune Encephalomyelitis Discovered by iTRAQ Shotgun Proteomics Analysis of Spinal Cord**; Mohit R Jain; Shengjie Bian; Tong Liu; Jun Hu; Stella Elkabes; Hong Li; *New Jersey Medical School Cancer Research Center, Newark, NJ*

TP 545 **Fed and Fasted Physiology Plays Significant Role in Shaping the Rat Liver Lipid Droplet Proteome**; Bindu Abraham[2]; Michael Sweredoski[1]; Carole Sztalryd[3]; Sonja Hess[1]; *[1]Caltech, Pasadena, CA; [2]FDA, Bethesda, MD; [3]University of Maryland, Baltimore, MD*

TP 546 **Systems Approach to Identify, Explore Components and Interactions of Presynapse Protein Network**; Rong Wang[1]; Georgia Dolios[2]; Noura S. Abul-Husn[2]; Avi Ma'ayan[2]; Lakshmi A. Devi[2]; *[1]Mount Sinai School of Med, New York, NY; [2]Mount Sinai School of Medicine, New York, NY*

TP 547 **Signaling Proteins are Less Abundant in Lipid Raft Proteomes of Tumorigenic Human Breast Cells**; Joseph Caruso; Paul Stemmer; *Wayne State University, Detroit, MI*

TP 548 **Proteomics Analysis Reveals Overexpression of the Tyrosine Kinase AXL as a Novel Mechanism of Lapatinib Resistance in Breast Tumor Cells**; Roland S. Annan; Therese Collingwood; Francesca Zappacosta; Dean McNulty; James Greger; Michael Huddleston; Anne-Marie Martin; Hong Shi; Yuan Liu; Joel Greshock; Ganesh Sathe; Li Liu; Tona Gilmer; *GlaxoSmithKline, King of Prussia, PA*

TP 549 **Knock Down, Drag Out Proteomics for Biomarker Validation**; Devanand M. Pinto[1]; Stephen A Tate[2]; Christie L Hunter[3]; Kenneth Chisholm[1]; *[1]NRC, Halifax, Canada; [2]MDS Analytical Technologies, Concord, ON; [3]Applied Biosystems, Foster City, CA*

TP 550 **Proteomic Identification of Novel Protein Targets and Downstream Effects of Microrna-155 in B Cell Lymphoma**; Shi-jian Ding; Yulei Shen; Miao Liu; Steven Hinrichs; John Chan; *Univ of Nebraska Med Center, Omaha, NE*

TP 551 **Systems Biology Analyses of Leukemia Stem Cells to Identify Novel Regulators of Self-Renewal**; Matthias Trost[1]; Olivier Herault[1,2]; Martin Sauvageau[1,3]; Amelie Faubert[1,3]; Nadine Mayotte[1]; Guy Sauvageau[1,4]; Pierre Thibault[1,5]; *[1]Institute for Research in Immunology and Cancer, Montréal, Canada; [2]INSERM ESPRI-EA3855, Tours, France; [3]Dept. of Molecular Biology, Université de Montréal, Montréal, Canada; [4]Dept. of Medicine, Université de Montréal, Montréal, Canada; [5]Dept. of Chemistry, Université de Montréal, Montréal, Canada*

TP 552 **Application of Label-Free Quantitative LC-MS-Based Proteomics for Biomarker Identification in *Salmonella Typhimurium***; Charles Ansong[1]; Hyunjin Yoon[2]; Marina A. Gritsenko[1]; Heather M. Mottaz-Brewer[1]; Joshua N. Adkins[1]; Fred Heffron[2]; Richard D. Smith[1]; *[1]Pacific NW National Lab, Richland, WA; [2]Oregon Health and Science University, Portland, OR*

TP 553 **Determination of Cytokine Signaling-Dependent Protein Stability by Pulse-Chase SILAC Experiments**; Joseph Anthony; Shujun Lin; Vincent Duronio; Juergen Kast; *University of British Columbia, Vancouver, Canada*

TP 554 **Effects of Strain Type and Growth Conditions on the Secretome of *Tetrahymena thermophila***; Casey Madinger[1]; Kathleen Collins[2]; Christopher Taron[1]; Jack Benner[1]; *[1]New England BioLabs, Ipswich, MA; [2]University of California, Berkeley, Berkeley, CA*

TP 555 **Proteomic Analysis of *Trypanosoma cruzi* Intracellular Amastigotes**; Xiang Zhu; James A Atwood Iii; Brent Weatherly; Todd A Minning; Rick L. Tarleton; Ron Orlando; *Univ. of Georgia, Athens, GA*

TP 556 **Quantitative Proteomics Analysis of Ionizing Radiation-Induced Dose-dependent Dynamics of ATM-Associated Complexes**; YuanYu Lee[1]; Yanbao Yu[3]; Nedyalka Dicheva[2]; Xian Chen[1,2]; *[1]University of North Carolina, Chapel Hill, NC; [2]UNC-Duke Proteomics Center, Chapel Hill, NC; [3]Institute of Biomedical Studies, Fudan University, Shanghai, China*

TP 557 **Leaf Development and Cellular Differentiation of the Maize Leaf Organ Defined by Large Scale Quantitative Proteomics and Cluster Analysis**; Klaas J. Van Wijk; Giulia Friso; Wojciech Majeran; *Cornell University, Ithaca, NY*

TP 558 **Quantitative Global Proteome and Phosphoproteome Profiling of Plant Immune Signaling Trigged by Pathogen Effector**; Zhouxin Shen; Chris C.N. van Schie; Amanda G. Mason; Steven P. Briggs; *University of California, San Diego, La Jolla, CA*

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NOVEL METABOLITE IDENTIFICATION TECHNIQUES, 559 - 585

TP 559 **Metabolomics Study of Radiotherapy-Induced Changes in Brain Malignancies**; Izabella Surowiec[1]; Carl Wibom[2]; Lina Mören[2]; Henrik Antti[1]; A. Tommy Bergenheim[2]; *[1]Department of Chemistry, Umeå University, Umeå, Sweden ; [2]Department of Neurosurgery, Umeå University Hospit, Umeå, Sweden*

TP 560 **The Creation and Application of Theoretical Mass Spectra for Radio-Labelled Pharmaceutical Compounds**; Richard T. Gallagher[2]; Tim Smith[2]; Kirsten Hobby[1]; *[1]Kisotopic Solutions, Manchester, UK; [2]AstraZeneca, Macclesfield, UK*

TP 561 **Mass Defect Trigger IDA to Improve Selection of Candidate Ions for MSMS Confirmation of Metabolites From *in-vivo* Samples;** J.c. Yves Leblanc[1]; Eva Duchoslav[1]; Nic Bloomfield[2]; *[1]MDS Analytical Technologies, Concord, On, Canada; [2]MDS Analytical Tech- Sciex, Concord, ON*

TP 562 **Integrated Approach to API Quantitation and Rapid *in vivo* Metabolic Profiling in Early Discovery PK Assays**; Asoka Ranasinghe; Bogdan Sleczka; Celia Darienzo; Ragu Ramanathan; William Humphreys; Timothy Olah; *Bristol-Myers Squibb Company, Princeton, NJ*

TP 563 **Intelligent Workflows (MS^M) for Metabolite Screening and Characterization Using an LTQ Orbitrap**; Yingying Huang[1]; Ji Ma[2]; Jae C. Schwartz[1]; Robert Cho[2]; Yan Chen[1]; Tim Carlson[2]; *[1]Thermo Fisher Scientific, San Jose, CA; [2]Amgen Inc., South San Francisco, CA*

TP 564 **Application of Statistical Uncertainty Derived from Experimental *in situ* Mass Spectrometer Performance Can Differentiate between Probable and Improbable Candidate Formulae**; Kirsten Hobby[1]; Richard T. Gallagher[2]; *[1]Kisotopic Solutions, Manchester, UK; [2]AstraZeneca, Macclesfield, UK*

TP 565 **Small Molecule Characterization from Molecular Formula Determination to Automated Structure Verification**; Herbert Thiele[1]; Sebastian Goetz[1]; Aiko Barsch[1]; Ulrich Braumann[2]; Manfred Spraul[2]; *[1]bruker Daltonik GmbH, Bremen, Germany; [2]Bruker Biospin, Rheinstetten, Germany*

TP 566 **Novel Metabolite Search Using Stable Isotope Labeled Docosahexaenoic Acid Coupled to HPLC/MS/MS**; Jeongrim Lee; Karl Kevala; Hee-yong Kim; *National Institutes of Health, Bethesda, MD*

TP 567 ***In vivo* Metabolic Profiling of Carbamezapine in Brain and CSF Using an Advanced Hybrid Quadrupole-Ion Trap System and Fast Chromatography**; Ru Qiu (Sophie) Pan[2]; Hesham Ghobarah[1]; Tanya Gamble[1]; Henrianna Y. Pang[2]; Yingbo Yang[2]; Julia Izhakova[2]; Douglas J. Turk[2]; *[1]Applied Biosystems / MDS Analytical Technologies, Concord, Canada; [2]NoAb BioDiscoveries Inc., Mississauga, Canada*

TP 568 **Intelligent Data Acquisition and Metabolite Detection in Complex Matrices Using an Automated Mass Exclusion Calculator;** Tim J Stratton[1]; Shichang Miao[1]; Yingying Huang[2]; Thomas D McClure[2]; *[1]ChemoCentryx, Mountain View, CA; [2]ThermoFisher Scientific, San Jose, CA*

TP 569 **Identification of Metabolites by Microbore Liquid Chromatography and Accurate Mass Triggered Data-Dependent Mass Analysis Using an LTQ/Orbitrap**; Heng-Keang Lim; Jose Silva; *Johnson and Johnson PRD, Raritan, NJ*

TP 570 **Development of a Metabolite Identification Workflow Using MALDI-QTof and Multivariate Statistical Analysis**; Stephen Mcdonald[2]; Andrew Baker[2]; Henry Y. Shion[1]; *[1]Waters Corp., Milford, MA; [2]Waters Corporation, Beverly, MA*

TP 571 **Application of Multivariate Analysis for Determining Metabolic Profiles of Drugs: A Case Study Using Nefazodone**; Richard Schneider; Hui Zhang; Lillian Mu; Amit Kalgutkar; *Pfizer Inc., Groton, CT*

TP 572 **Metabolite Profiling of Acetaminophen in Human Saliva Using UPLC-MS and MetaboLynx&trade**; Jordan Richardson[1]; Dr David Douce[2]; Dr Catherine Duckett[1]; *[1]Keele University, Stoke-on-trent, UK; [2]Waters Corporation, Manchester, UK*

TP 573 **A Study of Tetrapyrroles Compounds, *i.e.* Bile Pigment Metabolites, Using ESI-MS/MS Method**; Nhu Quynh, Thi Nguyen; Nhu Quynh, Thi Nguyen; *Chemistry Department, SUNY B, Buffalo, NY*

TP 574 **Fast and Sensitive Metabolite Identification of Amiodarone in Human Bile with UPLC Coupled with a Benchtop oaTOF MS**; Xiaoyan Chen[1]; Kate Yu[2]; Jose Castro-perez[2]; Dafang Zhong[1]; Ke Li[1]; John P. Shockcor[2]; Tiangen You[3]; *[1]Shanghai Institute of Materia Medica, Shanghai, China; [2]Waters Corporation, Milford, MA; [3]Shanghai Eastern Hospital, Shanghai, China*

TP 575 **A Rapid Automated Approach to Estimate Metabolite Exposure in Pooled Human Plasma Using a Combination of Tecan and LC-MS;** Nirmala Raghavan; Ming Yao; S.Nilgun Comezoglu; William G Humphreys; Ragu Ramanathan; *Bristol-Myers Squibb, Princeton, NJ*

TP 576 **Investigation of Isotope Patterns of Pharmaceutical Molecules by Two Independent Detectors in a LTQ/Orbitrap Instrument**; Lin Deng[1]; Jianyao Wang[2]; Ming Gu[3]; *[1]Wyeth, Collegeville, PA; [2]Wyeth Pharmaceuticals, Collegeville, PA; [3]Cerno Bioscience, Yardley, PA*

TP 577 **Increasing the Hit-Rate in the Automated Structural Elucidation of Product Ions and Drug Metabolites Using an Exhaustive Bond Disconnection Approach**; Laurent Leclercq[1]; Michael Hartshorn[2]; Alastair Hill[2]; Russel Mortishire-Smith[1]; Filip Cuyckens[1]; Jose Castro-Perez[3]; *[1]Johnson & Johnson Pharmaceutical Research and Deve, Beerse, BELGIUM; [2]Dotmatics, Bishops Stortford, UK; [3]Waters Corp., Milford, MA*

TP 578 **High-Throughput and Sensitive Analysis of Phosphorylated Metabolic Intermediates Using MALDI Mass Spectrometry**; Daichi Yukihira; Daisuke Miura; Hiroyuki Wariishi; *Kyushu University, Fukuoka, Japan*

TP 579 **Development of High-Throughput Metabolic Profiling Method Using Highly Sensitive MALDI Mass Spectrometry**; Daisuke Miura[1]; Yoshinori Fujimura[1]; Shinichi Yamaguchi[2]; Hirofumi Tachibana[1]; Hiroyuki Wariishi[1]; *[1]Kyushu University, Fukuoka, Japan; [2]Shimadzu Corporation, Kyoto, Japan*

TP 580 **Rapid Identification of Drug Metabolites using a Fast Hybrid Triple Quadrupole Linear Ion Trap Mass Spectrometry**; Daniel Lebre; Julie Wingate; Gary

Impey; *Applied Biosystems/MDS Analytical Technologies, Concord, Canda*

TP 581 ***In vivo* Metabolic Profiling of Carbamazepine at Physiologically Relevant Concentrations Using Hybrid Quadrupole-Linear Ion Trap Technology**; Tanya Gamble[1]; Henrianna Y. Pang[2]; Sophie Pan[2]; Yingbo Yang[2]; William Cui[2]; Douglas J. Turk[2]; Hesham Ghobarah[1]; *[1]Applied Biosystems/MDS Analytical Technologies, Concord, Canada; [2]NoAb BioDiscoveries Inc., Mississauga, Canada*

TP 582 **Evaluation of U-HPLC for Multiple Data Dependent Scan Experiments using LTQ-OrbiTrap for Rapid Metabolite Identification and Quantitation**; C. Emily Luk; Petia Shipkova; Jonathan L. Josephs; *Bristol-Myers Squibb Co., Hopewell, NJ*

TP 583 **An Accurate-Mass-Based Isotope-Pattern-Filtering Algorithm for Extraction of Drug Metabolites Containing a Fixed Ratio of Isotopes in LC/MS Data**; Peijuan Penny Zhu; Wei Tong; Kevin Alton; Swapan K. Chowdhury; *Schering-Plough Research Institute, Kenilworth, NJ*

TP 584 **Determination of Ibuprofen Drug Metabolites in Urine by the Use of Multivariant Analysis**; Masahiro Maeda; Yoshifumi Kogure; Yoshiyuki ishii; *Agilent Technologies, Tokyo, Japan*

TP 585 **A Rapid Metabolite Identification and Reaction Phenotyping Strategy to Reduce Drug Interaction Potentials at Early Drug Discovery Stage**; Shihong Wang; Weiping Jia; Elaine Ginn; Song Lin; *Novartis Institute for Biomedical Research, Emeryville, CA*

ENVIRONMENTAL, 586 - 608

TP 586 **Improved LC/MS/MS Methods for the Analysis of Perfluorinated Compounds (PFCs) in Whole Fish and Fish Livers**; Amy Delinsky[1]; Andrew B. Lindstrom[1]; Mark J. Strynar[1]; Jerry L. Varns[2]; Shoji F. Nakayama[3]; *[1]U.S. EPA, Rtp, NC; [2]NCBA Inc, SEE Program, Durham, NC; [3]ORISE, Oak Ridge, TN*

TP 587 **A Novel Tool for Exposure Source Identification of Perfluoroalkyl Substances Using Enantiospecific HPLC-MS/MS**; Yuan Wang[1]; Jonathan W. Martin[2]; *[1]University of Alberta, Edmonton, Canada; [2]Uinversity of Alberta, Edmonton, Canada*

TP 588 **Pitfalls and Prospects: Analysis of Perfluorinated Compounds (PFCs) Utilizing LC/MS/MS**; Alexander Ruderisch[1]; Christian Dausch[1]; Juergen Wendt[2]; Stefan Fenzel[2]; *[1]Agrolab Labor GmbH, Bruckberg, Germany; [2]Agilent Technologies, Waldbronn, Germany*

TP 589 **Perfluorinated Compounds in Standard Reference Materials**; Jessica L. Reiner; Jennifer M. Keller; John R. Kucklick; Steven G. O'Connell; Michele M. Schantz; *NIST, Charleston, SC*

TP 590 **Study on the Oxidative Degradation Reaction of Sertraline Catalyzed by Fe-TAML/Hydrogen Peroxide System Using Liquid Chromatography/Tandem Mass Spectrometry**; Longzhu Shen; Mark E. Bier; Terrence J. Collins; *Carnegie Mellon University, Pittsburgh, PA*

TP 591 **Ozonation of Ethinyl Estradiol (a Synthetic Steroidal Estrogen) in Aqueous-Methanolic Solution: Monitoring by Direct Infusion Electrospray Ionization Mass Spectrometry**; Rodinei Augusti; Clésia C. Nascentes; Karla M. Vieira; *Federal University of Minas Gerais, Belo Horizonte/ MG, Brazil*

TP 592 **LC-MS Analysis of Spectrophotometric Chemical Indicator Impurities: Toward Understanding the Impact of Impurities in All Spectrophotometric Analytical Techniques**; Brian P Gregson; Xuewu Liu; David Fries; *University of South Florida College of Marine Scie, St. Petersburg, FL*

TP 593 **Identification of New Photolytic and Photocatalytic Transformation Products of Antibiotic Trimethoprim in Aqueous Solutions by Combination NanoESI-QqTOF-MS-MS and LC-MS-MS;** Despina Tsipi[1]; Helen V. Botitsi[1]; Sotirios N. Katsikis[3]; Anastasios Economou[3]; Spiros D. Garbis[2]; *[1]General Chemical State Laboratory, Athens, Greece; [2]B.R.F.A.A., Athens, Greece; [3]University of Athens, Athens, Greece*

TP 594 **Determination of Six Antibiotics in Surface Water by On-Line SPE(Solid-Phase Extraction)-Liquid Chromatography Tandem Mass Spectrometry**; Keun-joo Choi[1]; Soo-jeon Yoo[1]; Jae-soon Roh[1]; Seung-Hyun kim[2]; *[1]waterworks institute, Kimhae, South Korea; [2]Civil Engineering Deparment, Kyungnam University, Masan, South Korea*

TP 595 **Fully Automated Quantification of Different Classes of Cyanobacterial Toxins by Online SPE-LC-ESI-MS/MS**; Liza Viglino[1]; Pascal Lemoine[1]; Michèle Prévost[2]; Sébastien Sauvé[3]; *[1]University, Montreal, Canada; [2]Polytechnique de Montréal, Montréal, Canada; [3]Université de Montreal, Montreal, QC*

TP 596 **LDTD-APCI-MS/MS: Optimization and Method Application for Selected Endocrine Disrupting Compounds in Water Matrices;** Paul B. Fayad[1]; Michèle Prévost[2]; Sébastien Sauvé[1]; *[1]Université de Montréal, Montreal, Quebec, Canada; [2]École Polytechnique de Montréal, Montreal, Quebec, Canada*

TP 597 **High Throughput Analysis of Some Endocrine Diruptoring Compounds (EDCs) in Solid Matrices by LDTD-MS/MS**; Liza Viglino[1]; Paul Fayad[2]; Michèle Prévost[3]; Sébastien Sauvé[4]; *[1]University, Montreal, Canada; [2]Universite de Montreal, Montreal, QC; [3]École Polytechnique de Montréal, Montréal, Canada; [4]Université de Montreal, Montreal, QC*

TP 598 **Analysis of Hydroxylated Polybrominated Diphenyl Ether Metabolites Using Atmospheric Pressure Chemical Ionization Liquid Chromatography Mass Spectrometry (APCI LC/MS);** Sara J. Lupton[1]; Troy Wood[2]; Diana Aga[2]; *[1]State University of New York, Buffalo, NY; [2]University at Buffalo, Buffalo, NY*

TP 599 **A Comparison of Direct Injection and On-Line Solid Phase Extraction for the Detection of Acidic Herbicides in Water;** Stephen J. Lock[1]; Pamela Stoddart[1]; Iain Gibb[1]; James Thomas[2]; *[1]Applied Biosystems, Warrington, UK; [2]SEPA, Glasgow, UK*

TP 600 **LC/MS/MS Analysis of Imidazolinone Herbicides in Sprinkler Irrigation Leachate**; John Headley; Kerry M. Peru; Jonathan Bailey; Allan Cessna; *Environment Canada, Saskatoon, Canada*

TP 601 **Use of Accurate Mass Screening to Detect Drugs of Abuse in Sacramento River;** William T. Jewell; *UC Davis, Davis, CA*

TP 602 **Improved Method for the Determination of Organochlorine, Organophosphate and Pyrethroid Pesticides in House Dust Using Solid Phase Extraction and GC/EI-MS/MS**; Cariton Kubwabo;

Brian Stewart; Geneviève Grenier; Pat Rasmussen; *Health Canada, Ottawa, On, Canada*

TP 603 **Assessment of Occurrence and Removal of Pesticides and Their Degradation Byproducts in Missouri Natural and Treated Drinking Water by LC-MS/MS**; Yinfa Ma[1]; Xiaoliang Cheng[1]; Honglan Shi[2]; Craig Adams[3]; Terry Timmons[4]; *[1]Missouri S&T, Rolla, MO; [2]Missouri S&T/ERC, Rolla, MO; [3]University of Kansas, Lawrence, KS; [4]Missouri Department of Natural Resources, Jefferson City, MO*

TP 604 **Comparison of Semivolatile Disinfection By-Products Formation in Water Treatment Process with Classic and Perspective Disinfecting Agents**; Olga Polyakova; Maria Khrushcheva; Albert Lebedev; *Moscow State University, Moscow, Russian Federation*

TP 605 **Long Term, On-line Monitoring of Disinfection Byproducts in a Public Swimming Pool Using an Un-Supervised MIMS**; Gert H. Kristensen[1]; Morten M. Klausen[1]; Vagn A. Hansen[3]; Frants R Lauritsen[2]; *[1]DHI - Water - Environment - Health, Copenhagen, Denmark; [2]Chemistry, Copenhagen University, Copenhagen, Denmark; [3]Mikrolab Aarhus A/S, Aarhus, Denmark*

TP 606 **Ion Chromatography and MS/MS Quantification of Polyphosphonates and Scale Inhibitors in High Ionic Strength Samples**; Stacy Henday[1]; Jinyuan Wang[1]; Charles T. Yang[2]; William C. Schnute[1]; *[1]Dionex Corporation, Sunnyvale, CA; [2]Thermo Fisher Scientific, San Jose, CA*

TP 607 **Food and Environmental Contaminates: Toxic Metals in Food**; Marc E. Engel; *FDACS, Tallahassee, FL*

TP 608 **Identification of New Arsenic Species in Construction and Demolition Debris Landfill Leachate and Groundwater using Off-Line IC ICP-MS**; Jianye Zhang[1]; Yong Cai[2]; Timothy Townsend[1]; *[1]University of Florida, Gainesville, FL; [2]Florida International University, Miami, FL*

PROTEOMICS: CLINICAL APPLICATIONS, 609 - 628

TP 609 **Identification of Novel Tumor Marker in Human Oral Cancer by Mass Spectrometry-Based Proteomics**; Tsung-ching Lai; Yi-Hua Jan; Chung-Hsuan Chen; Michael Hsiao; *The Genomics Research Center, Academia Sinica., Taipei, Taiwan*

TP 610 **Altered Glycosylation Pattern of Total Serum IgG in Patients with Rheumatoid Arthritis Analyzed by MALDI-TOF MS**; Ray Sanchez[1]; Katrin Sparbier[2]; Hassan Dihazi[3]; Sabine Blaschke[3]; Gerhard-Anton Mueller[3]; Thomas Flad[4]; Markus Kostrzewa[2]; Arndt Asperger[2]; *[1]Bruker Daltonics Inc., Billerica, MA; [2]Bruker Daltonik GmbH, Bremen, Germany; [3]University of Göttingen, Göttingen, Germany; [4]PANATecs, Tübingen, Germany*

TP 611 **Wnt Signaling Related Biomarker Discovery and Targeted Detection in Colon Cancer**; Yi Chen; Mike Gruidl; Richard Z. Liu; Ann Chen; Steven Eschrich; Timothy Yeatman; John Koomen; *H. Lee Moffitt Cancer Center, Tampa, FL*

TP 612 **Mass Spectrometry Based Analysis and Identification of Candidate Biomarkers in Liver Cancer**; Yi-hua Jan; Tsung-ching Lai; Po-sheng Huang; Michael Hsiao; *Genomic Research Center, Academia Sinica, Taipei, Taiwan*

TP 613 **Characterization of Secreted Proteins during the Differentiation of Human Preadipocytes to Adipocytes**; Jun Zhong[1]; Sarah Krawczyk[2]; Raghothama Chaerkady[1,3]; G. William Wong[1]; Barbara E. Corkey[2]; Akhilesh Pandey[1]; *[1]Johns Hopkins University, Baltimore, MD; [2]Boston University, Boston, MA; [3]Institute of Bioinformatics, Bangalore, India*

TP 614 **Direct Orthotopic Human Glioma Models: Protein Analysis Using MALDI-IMS;** Sara L. Frappier[1]; Anuraag Sarangi[1]; Michael K. Cooper[1]; Richard M. Caprioli[2]; *[1]Vanderbilt University, Nashville, TN; [2]Vanderbilt Univ Sch of Med, Nashville, TN*

TP 615 **Characterization of Transferrin Isoforms in Cerebrospinal Fluid Using Accurate Mass and MS^n**; Kristy J. Brown[1]; Yetrib Hathout[1]; Fanny Mochel[2,3]; Raphael Schiffmann[3]; Adeline Vanderver[1]; *[1]Children's National Medical Center, Washington, DC; [2]Hospital de la Salpetriere, Paris, France; [3]Baylor Research Institute, Dallas, TX*

TP 616 **Identificaton of Biomarkers in Patients with Aspergillosis**; Josée Chabot;; Donald C. Sheppard; Momar Ndao; Brian J. Ward; Christine Straccini; Bernard F. Gibbs; *McGill University, Montreal, Canada*

TP 617 **Proteomic Analysis of Innate Defenses in the Small Intestine: Correlation with Disease Pathophysiology;** Dipankar Ghosh[1]; S. K. Venugopal[1]; Sunil Kumar[2]; Uday Ghoshal[2]; *[1]Jawaharlal Nehru University, New Delhi, India; [2]Sanjay Gandhi PG Institute of Medical Sciences, Lucknow, India*

TP 618 **A Label-Free Proteomic Analysis of Low Abundance Multiple Myeloma Clinical Samples**; Rick Edmondson; Sheeno Thyparambil; Veronica Macleod; Bart Barlogie; John D. Shaughnessy, Jr; *Univ Arkansas Med Sci., Little Rock, AR*

TP 619 **Unique Insights into Disease Progression Using Quantitative Bottom-Up Proteomics: A Phenotypic Characterization of Chlamydia Infection Using Gel-Free Label-Free LC/MS/MS**; J. Will Thompson; Alex Saka; Laura G. Duboise; Arthur Moseley; Raphael Valdivia; *Duke Univ. School of Medicine, Durham, NC*

TP 620 **Quantitative Proteome Analysis of CSF Samples Using a Label-Free Proteomics Technology**; Barbara Sitek[1]; Sebastian Link[1]; Birgit Korte[1]; Christian Stephan[1]; Wolfgang Jabs[2]; Daniel C. Chamrad[3]; Klaus Marquart[3]; Martin Blueggel[3]; Carsten Baessmann[2]; Beate Gleissner[4]; Helmut E. Meyer[5]; Kai Stühler[1]; *[1]Ruhr-University Bochum, Dortmund, Germany; [2]Bruker Daltonik GmbH, Bremen, GERMANY; [3]Protagen AG, Dortmund, Germany; [4]Universitätsklinikum des Saarlandes, Homburg, Germany; [5]Ruhr University of Bochum, Bochum, Germany*

TP 621 **Revealing the Mystery Behind 'The Elephant Man': Proteomic Characterization of Proteus Syndrome**; Shama P. Mirza; Kelly Duffy; Marla A. Chesnik; Regina Cole; David P. Bick; Michael Olivier; *Medical College of Wisconsin, Milwaukee, WI*

TP 622 **An Extensive Peptide Identification List of MALDI MS Profile Peaks from the Analysis of Human Blood Serum**; Ali Tiss[1]; Celia Smith[1]; Usha Menon[2]; Ian Jacobs[2]; John Timms[2]; Rainer Cramer[1]; *[1]University of Reading, Reading, UK; [2]UCL, London, UK*

TP 623 **Identification and Quantification of N-Linked Glycoproteins in Human Cerebrospinal Fluid Unique to Parkinson's Disease or Its Progression**; Hyejin Hwang[1]; Kathy Chung[2]; Joseph Quinn[2]; Elaine Peskind[1];

Jing Zhang[1]; *[1]University of Washington, Seattle, WA; [2]Oregon Health and Science University, Portland, OR*

TP 624 **Plasma Methylglyoxal and Correlation with the Severity of Diabetic Albuminuria**; Hussein Yassine; Mike Kimzey; Irene Alvarez; Steve Stratton; Craig Stump; George Tsaprailis; Michael A Galligan; Serrine S. Lau; *University of Arizona, Tucson, AZ*

TP 625 **Identification of Biomarkers in Urine and Cell Lines Relating to Bladder Carcinoma**; Wassim Kassouf; Jordan R Steinberg; David W. Blank; Bernard F. Gibbs; *McGill University, Montreal, Canada*

TP 626 **Tandem Mass Spectrometry Reveals Novel Insulin Stimulated IRS-1 Interacting Partners**; Zhengping Yi; Moulun Luo; Rebekka Mapes; Natalie Lefort; Paul Langlais; Benjamin Bowen; Lawrence J. Mandarino; *Arizona state university, Tempe, AZ*

TP 627 **Quantitative Mass Spectrometry Reveals Targets of the Cytotoxic Response to DNA Damage**; Aaron Aslanian[1]; John Yates[2]; Tony Hunter[1]; *[1]Salk Institute, La Jolla, CA; [2]The Scripps Research Institute, La Jolla, CA*

TP 628 **Identification of Subtype-specific Glycoproteins in Triple-Negative Breast Cancer**; Li-Hui Tseng[1,4]; Pedram Argani[1]; Yan Li[1]; Yuan Tian[1]; Mary Lopez[2]; Michael Athanas[3]; Chiun-Sheng Huang[4]; Kuan-Ting Kuo[4]; Daniel Chan[1]; Hui Zhang[1]; *[1]Pathology, Johns Hopkins Medical Institutions, Baltimore, MD; [2]Thermo Fisher Scientific, Cambridge, MA; [3]VAST Scientific, Cambridge, MA; [4]National Taiwan University Hospital, Taipei, Taiwan*

IONIZATION MECHANISMS, 629 - 647

TP 629 **Insights into the Mechanism of Protein Oxidation during Electrospray Ionization**; Brian Boys; Jamie Noel; Lars Konermann; *Univ. of Western Ontario, London, ON*

TP 630 **Proton Distribution in ESI Nanodroplets: Is the "Surface Charge Concept" Really Tenable?** Elias Ahadi[1]; Lars Konermann[2]; *[1]The University of Western On, London, Canada; [2]Univ. of Western Ontario, London, ON*

TP 631 **Origin of the Proton Required for the Formation of Gaseous [M+H]+ Ions from Aprotic Solvents**; Changching Chan[1]; Mark S. Bolgar[2]; Athula B. Attygalle[3]; *[1]Stevens Institue of Technology, Hoboken, NJ; [2]Bristol-Myers Squibb, New Brunswick, NJ; [3]Stevens Institute of Technology, Hoboken, NJ*

TP 632 **Probing Temperature Changes in the Electrospray Plume Using Laser-Induced Fluorescence Spectroscopy**; Stephen C. Gibson[1]; Yu Zhu[2]; Charles S. Feigerle[1]; Kelsey D. Cook[1]; *[1]University of Tennessee, Knoxville, TN; [2]SABIC Innovative Plastics, Washington, WV*

TP 633 **Spatial Mapping of Analyte Ion Intensity of Nanoelectrospray in the Plume-Inlet Region**; Gary Valaskovic[1]; Mike S. Lee[2]; *[1]New Objective, Inc., Woburn, MA; [2]Milestone Development Services, Newtown, PA*

TP 634 **Corona Discharge Initiated Electrochemical Ionization**; John R Lloyd[2]; Sonja Hess[1]; *[1]Caltech, Pasadena, CA; [2]NIH/NIDDK, Germantown, MD*

TP 635 **Mass Spectrometry of Monolayer Protected Clusters**; Christina A. Fields-Zinna; Royce W. Murray; *UNC-Chapel Hill Chemistry Dept., Chapel Hill, NC*

TP 636 **The Effects of Matrix, Electrospray Solution, and Laser on Desorption and Ionization Mechanisms in Electrospray-Assisted Laser Desorption Ionization Mass Spectrometry**; Chu-Nian Cheng; Min-Zong Huang; Jentaie Shiea; *National Sun Yat-Sen Univ., Kaohsiung, Taiwan*

TP 637 **Mechanisms Involved in Positive Atmospheric Pressure Chemical Ionization (APCI) of an LDTD Source;** Pierre Picard[1]; E. Real Paquin[2]; Patrice Tremblay[3]; *[1]Phytronix Technologies, Inc., Quebec, Canada; [2]Université Laval, Québec, QC; [3]Phytronix Technologies, Quebec, QC*

TP 638 **Detection of Security Relevant Substances with Single Photon Ionization Mass Spectrometry within complex Matrices**; Jasper Hoelzer[1]; Elisabeth Schramm[1]; Ralf Zimmermann[2]; *[1]Helmholtz-Zentrum Muenchen, Neuherberg, Germany; [2]University of Augsburg, Augsburg, Germany*

TP 639 **Nanopost Array (NAPA) Photonic Ion Sources for Soft Laser Desorption Ionization**; Bennett N Walker[1]; Jessica A. Stolee[1]; Deanna Pickel[2]; Scott Reterrer[2]; Akos Vertes[1]; *[1]George Washington University, Washington, DC; [2]Oak Ridge National Laborator, Oak Ridge, TN*

TP 640 **Ionization Mechanisms in MALDI – A Case Study of Fullerene C60**; Ilko Bald; Benedikt Ómarsson; Oddur Ingolfsson; *University of Iceland, Reykjavik, Iceland*

TP 641 **Examining Matrix Ion-Pair Hypothesis of MALDI Mechanism Using Synchronized Dual-Polarity MALDI-TOF Mass Spectrometry**; Yi-Sheng Wang; Bo-Hong Liu; Yuan T. Lee; *Academia Sinica, Taipei, Taiwan*

TP 642 **Ion Transport Processes in API Sources: Temporally and Spatially Resolved APLI Measurements**; Matthias Lorenz; Walter Wissdorf; Sonja Klee; Hendrik Kersten; Klaus J. Brockmann; Thorsten Benter; *University of Wuppertal, Wuppertal, Germany*

TP 643 **Proton Source of Matrix-Assisted Laser Desorption/Ionization Using an Infrared Laser**; Sachiko Suzuki; Tamami Fujita; Satoshi Fukumoto; Hiroshi Horiike; Kunio Awazu; *Osaka University, Osaka, Japan*

TP 644 **Laser Desorption Ionization Mass Spectrometry of Heavy Alkali Earth Metal Cations**; Freneil Jariwala[1]; Athula B. Attygalle[2]; *[1]Stevens Institute of Tech, Hoboken, NJ; [2]Stevens Institute of Technology, Hoboken, NJ*

TP 645 **Distinct Features of Matrix-Assisted 6 µm Infrared Laser Desorption/Ionization Mass Spectrometry**; Yoshinao Wada[1]; Michiko Tajiri[2]; Takae Takeuchi[3]; *[1]Osaka MCHRI, Osaka, Japan; [2]CREST, JST, Izumi, Osaka, Japan; [3]Nara Women's University, Nara, Japan*

TP 646 **Ab Initio Study on ionization and Fragmentation in Matrix-Assisted Infrared and Ultraviolet Laser Desorption/Ionization Mass Spectrometry**; Takae Takeuchi[1,2]; Seika Nabei[1]; Yoshinao Wada[3]; Michiko Tajiri[4]; *[1]Nara Women's University, Nara, Nara, Japan; [2]AIST, Ikeda, Osaka, Japan; [3]Osaka MCHRI, Izumi, Osaka, Japan; [4]CREST, Izumi, Osaka, Japan*

TP 647 **Fast Photography of Infrared Laser Plume Ejection in Ambient Mass Spectrometry**; Xing Fan; Kermit K. Murray; *Louisiana State University, Baton Rouge, LA*

FORENSICS, 648 - 665

TP 648 **Orthogonal Array Optimization of Microwave-Assisted Derivatization for Determination of Trace Amphetamine and Methamphetamine Using Negative Chemical Ionization Gas Chromatography-**

Mass Spectrometry; Li-wen Chung[1]; Keh-Liang Lin[2]; Thomas Ching-Cherng Yang[3]; Maw-Rong Lee[1]; *[1]National Chung-Hsing University, Taichung, Taiwan; [2]Chung Shan Medical University, Taichung, Taiwan; [3]National Kaohsiung Normal University, Kaohsiung, Taiwan*

TP 649 **Drug Screening in Non-Derivatized Urine by Automated Solid Phase Microextraction (SPME) and Comprehensive Multidimensional Gas Chromatography Time-of-Flight Mass Spectrometry (GCxGC-TOFMS)**; Scott Pugh; John R. Heim; Mark Libardoni; *LECO Corporation, St. Joseph, MI*

TP 650 **LC/MS/MS Analyisis of Rodenticide Anticoagulants in Hair**; Juergen Wendt[1]; Joerg Roehrich[2]; Siegfried Zoerntlein[2]; Juergen Becker[2]; Reinhard Urban[2]; *[1]Agilent Technologies, Waldbronn, Germany; [2]Institute of Legal Medicine, Uni Mainz, Mainz, Germany*

TP 651 **Characterization of Homemade Explosives (HMEs) and Other Compounds of Military Interest by Ion Chromatography – Tandem Mass Spectrometry (IC-MS/MS)**; John A. Tokarz; Joy M. Ginter; *US Army - ECBC, Aberdeen Proving Ground, MD*

TP 652 **LC/MS/MS Reveals Unexpected Metabolism of 6-Acetylmorphine in Pain Management Patients**; Bridgit Crews[1]; Charles Mikel[1]; Sergey Latyshev[1]; Robert West[1]; Amadeo Pesce[1]; Patrick Friel[2]; Ann Smith[3]; *[1]Millenium Laboratories, San Diego, CA; [2]Toxicology Laboratory WSP Forensic Laboratory, Seattle, Wa; [3]eLab, Atlanta, GA*

TP 653 **High Throughput Analysis of Performance Enhancing Drugs by Automated Solid-Phase Extraction and Liquid Chromatography Time-of-Flight Mass Spectrometry**; Brian Shofran; *LECO Corporation, St. Joseph, MI*

TP 654 **Withdrawn**

TP 655 **Direct Surface Analysis of Inorganic Salts by Desorption Electrospray Ionization (DESI)**; Ewa Sokol; Ayanna Jackson; Nathaniel Sanders; R. Graham Cooks; *Purdue University, West Lafayette, IN*

TP 656 **MALDI-TOF-MS Fingerprinting of Condom Lubricants and Residues and Their Differentiation from Biological Fluids**; Sandra Spencer[1]; Kevin Schug[2]; *[1]Univ. of Texas at Arlington, Arlington, TX; [2]University of Texas at Arlington, Arlington, TX*

TP 657 **Mass Spectrometry and Illicit Drug Testing: Application of GC/MS for the Study of Liposomes as Masking Agents in Sport Doping**; Alessandra Tieri[1,2]; Xavier de la Torre[2]; Simone Esposito[2]; Francesco Botre[1,2]; *[1]Sapienza University of Rome, Rome, Italy; [2]Laboratorio Antidoping FMSI, Rome, Italy*

TP 658 **Withdrawn**

TP 659 **Analysis of Gabapentin in Equine Plasma by Liquid Chromatography-Tandem Mass Spectrometry**; Ying Liu[1]; Xiaoqing Li[1]; Cornelius Uboh[2]; Lawrence R Soma[1]; Fuyu Guan[1]; Youwen You[3]; Jeffrey Rudy[4]; Jinwen Chen[1]; *[1]University of Pennsylvania, Kennett Square, PA; [2]West Chester University, West Chester, PA; [3]University of Pennsylvani, West Chester, PA; [4]PA Equine Toxicology, West Chester, PA*

TP 660 **Soot as a Forensic Tool in the Mass Spectrometric Detection of Chemical Warfare Agents in the Field**; Ronny Robbins; William M. Lagna; *US Army, Gunpowder, MD*

TP 661 **Forensic Identification of Binary and Ternary Microbial DNA Mixtures Utilizing ESI-TOF Mass Spectrometry**; Joshua K. Stone[2]; Bruce Budowle[1]; James M. Robertson[1]; Brian Eckenrode[1]; *[1]Fed Bureau of Investigation, Quantico, VA; [2]Oak Ridge Institute for Science and Education, Oak Ridge, TN*

TP 662 **GCxGC-MS Analysis of Ricin Processing Carbohydrate Markers**; David Wunschel; Heather A Colburn; Antolick Kate; Jon H Wahl; Helen Kreuzer; Angie Melville; Karen L. Wahl; *Pacific Northwest National Laboratory, Richland, WA*

TP 663 **Extreme Dilution and Large-Volume Injection: Eliminates Matrix Effects while Maintaining Sensitivity for the Analysis of Drugs in Urine**; Syam Sundar Andra[1]; Patrick N. Friel[2]; Jennifer A. Field[1]; *[1]Oregon State University, Corvallis, OR; [2]Washington State Toxicology Laboratory, Seattle, WA*

TP 664 **Withdrawn**

TP 665 **Laser Desorption Mass Spectrometry of Inorganic Compounds of Forensic Interest**; Josette Marrero; Emily O'Neill; Trevor Cornell; John Allison; *The College of New Jersey, Ewing, NJ*

Posters must be set up 8:00 - 8:30 am on the day scheduled and removed 7:30 to 8:00 pm. Authors of odd numbered posters (001, 003, 005, etc.) are required to be present 10:30 – 12:30. Authors of even numbered posters (002, 004, 006, etc.) must be present 12:30 – 2:30 pm.

PROTEOMICS: QUANTITATION TECHNIQUES, 001 - 034

WP 001 **Use of iTRAQ and MudPIT to Quantify Synaptic Protein Expression Changes in Post-Synaptic Density Isolated from Individual Mouse Brains**; Zhongping Liao; Yunhu Wan; Sarah Rynarzewski; Stefani Thomas; Austin J. Yang; *Univ of Maryland Baltimore, Baltimore, MD*

WP 002 **Identification of Potential Kidney Stem Cell Markers using Quantitative Proteomics**; Lorraine Anderson[1]; Md Abedin[1]; Pratik Jagtap[2]; Sunayan Bandyopadhyay[1]; Chad Myers[1]; Raj Kasthuri[3]; Sandeep Gupta[1]; *[1]University of Minnesota, Minneapolis, MN; [2]Minnesota Supercomp. Inst., Minneapolis, MN; [3]University of North Carolina at Chapel Hill, Chapel Hill, NC*

WP 003 **Discovery of New Lysosomal Protein Candidates by iTRAQ 8-Plex Analysis of Rat Liver Gradient Fractions**; Maria Cecilia Della Valle[1]; Michel Jadot[2]; Haiyan Zheng[1]; David E. Sleat[1]; Peter Lobel[1]; *[1]CABM/UMDNJ, Piscataway, NJ; [2]Facultes Universitaires Notre-Dame de la Paix, Namur, Belgium*

WP 004 **Quantitative Proteomic Analysis Of Mycobacterium Semegmatis by iTRAQ labeling and LC/MALDI-TOF-TOF**; Fa-yun Che; Eleanor Russell Goldman; Edward Nieves; John Chan; Ruth Hogue Angeletti; *Albert Einstein College of Medicine, Bronx, NY*

WP 005 **Identification of New Markers of Mesenchymal Stem Cell Differentiation with iTRAQ® Technology**; Leeann Higgins; Troy C. Lund; Lorraine Anderson; Amanda J. Kobs; Paul J. Orchard; Jakub Tolar; *University of Minnesota, Minneapolis, MN*

WP 006 **Is Diversity Library Dynamic Range Leveling a Valid Approach for Quantitative Proteomics?** Lashanda N. Waller; Susana Comte-Walters; Daniel R. Knapp; *Medical University of SC, Charleston, SC*

WP 007 **Validation of Protein Quantification Strategies for Complex Samples: Comparison of iTRAQ and Multiple Reaction Monitoring (MRM) Quantitation Schemes**; Gregg A. Czerwieniec; Jason M. Held; Sung W. Choi; Birgit Schilling; Simon Melov; Bradford W. Gibson; *Buck Institute for Age Research, Novato, CA*

WP 008 **Tandem Mass Tags for Selection and Absolute Quantification of Brain Damage Markers in CSF**; Loïc Dayon[1]; Natacha Turck[1]; Alexander Scherl[1]; Stefan Kienle[2]; Jean-Charles Sanchez[1]; *[1]Geneva University, Geneva, Switzerland; [2]Proteome Sciences R&D GmbH & Co. KG, Frankfurt am Main, Germany*

WP 009 **Candidate Verification of Iron-Sensitive Meningococcal Proteins Using TMT SRM**; Helen Byers[1]; James Campbell[1]; Karsten Kuhn[2]; Malcolm Ward[1]; Peter Schulz-knappe[2]; Peter van Ulsen[3]; Jan Tommassen[3]; Thorsten Prinz[2]; *[1]Proteome sciences plc, London, UK; [2]Proteome Sciences R&D, Frankfurt/ Main, Germany; [3]University of Utrecht, Utrecht, Holland*

WP 010 **Age Dependent Changes in the Mitochondrial Proteome of APP/PS1 Transgenic Mice**; You-Jun Fu; Shuling Xiong; Mark A Lovell; Bert C Lynn; *University of Kentucky, Lexington, KY*

WP 011 **Elucidation of Thioredoxin Targeted Protein Networks in Mouse Heart**; Cexiong Fu; Changgong Wu; Tong Liu; Tetsuro Ago; Peiyong Zhai; Junichi Sadoshima; Hong Li; *UMDNJ, Newark, NJ*

WP 012 **Maturation of Toxins in the Venom Duct of Conus Textile**; Rowan L. Dobson[1]; Mike Collodoro[1]; Nicolas Gilles[2]; Stéphanie Kirsch[1]; Edwin De Pauw[1]; Loic Quinton[1]; *[1]Liege University, Liege, Belgium; [2]CEA Saclay, Gif sur Yvette, France*

WP 013 **Quantitative Proteomic Analysis in Transformed Astrocytes Using Spectral Counting and SILAC Methods**; Kiyonaga Fujii[1]; Ken Sasai[2]; Taichi Kimura[2]; Shinya Tanaka[2]; Fuyuhiko Inagaki[1]; *[1]Hokkaido University, Sapporo, Japan; [2]Hokkaido University Graduate School of Medicine, Sapporo, Japan*

WP 014 **Comparative Analyses of Proteins from Two Distinct Bacterial Populations Using SILAC;** Deborah Post[1]; Margaret Ketterer[2]; Jason Johnston[2]; Michael Apicella[2]; Bradford W. Gibson[1]; *[1]Buck Institute, Novato, CA; [2]The University of Iowa, Iowa City, IA*

WP 015 **Evaluating the Protein Stoichiometry within Protein-RNA Complexes by Multiple Reaction Monitoring in Comparison to MS Standard Methods**; Carla Schmidt[1]; Michael Grote[3]; Christof Lenz[2]; Reinhard Lührmann[3]; Henning Urlaub[1]; *[1]MPI for Biophysical Chemistry, Bioanalytical MS, Göttingen, Germany; [2]PSM Support, Applied Biosystems, Darmstadt, Germany; [3]MPI for Biophysical Chemistry, Cell. Biochemistry, Göttingen, Germany*

WP 016 **A Comparison of Analytical Approaches to the Detection and Quantitation of Proteins in Complex Biological Matrices**; Anita Izrael-Tomasevic; Lilian Phu; Qui Phung; Jennie Lill; David Arnott; *Genentech, Inc., South San Francisco, CA*

WP 017 **Quantitative Mitochondrial Proteome of Pancreatic INS-1β Cells Stimulated with Prolonged High Glucose Using SILAC**; Xiulan Chen; Ziyou Cui; Junjie Hou; Zhensheng Xie; Peng Xue; Jing Li; Peng Wu;

Linan Shi; Tanxi Cai; Fuquan Yang; *Institute of Biophysics, CAS, Beijing, China*

WP 018 **Protein Profiles of Cisplatin Treated CEM Cells - An Interesting Insight from Three Different Techniques;** Petr Novak[1,5]; Petr Pompach[1,5]; Petr Man[1]; Martin Strohalm[1,2]; Vladimir Havlicek[1,4]; Jirina Martinkova[3]; Hana Kovarova[3]; Petr Dzubak[4]; Marian Hajduch[4]; *[1]Institute of Microbiology, Prague 4, Czech Republic; [2]Institute of Chemical Technology, Prague, Czech Republic; [3]Intitute of Animal Physiology and Genetics,, Libechov, Czech Republic; [4]Palacky University, Olomouc, Czech Republic; [5]Charles University, Prague, Czech Republic*

WP 019 **Proteome-Wide Quantitative Mass Spectrometry of Astrocyte Protein Secretion**; Todd M. Greco; Lynn A. Spruce; Adrian Mak; Steven H. Seeholzer; Harry Ischiropoulos; *Children's Hospital of Philadelphia, Philadelphia, PA*

WP 020 **Can Quantitative Proteomics Predict the Effects of Autophagy Inhibition on Mitochondrial Function?** Rongxiao Sa; Marian Navratil; Xin Xu; Edgar A. Arriaga; *University of Minnesota, Minnespolis, MN*

WP 021 **Stoichiometry and Absolute Quantification of Ribosomal Proteins by Mass Spectrometry using QconCAT Technology**; Zubida Al-Majdoub; Simon J. Gaskell; Jill Barber; *University of Manchester, Manchester, UK*

WP 022 **Determination of Clp Protease Complex Composition in Arabidopsis Thaliana Chloroplasts by Quantitative Mass Spectrometry**; Paul Dominic B. Olinares[1]; Boris Zybailov[1]; Qi Sun[2]; Klaas J. Van Wijk[1]; *[1]Plant Biology, Cornell University, Ithaca, NY; [2]Computational Biology Unit, Cornell University, Ithaca, NY*

WP 023 **Circadian Differences of Photoreceptor Outer Segment Proteome Observed by Proteolytic ^{18}O Labeling**; Dagmar Hajkova[1]; Chao Yuan[2]; Masaru Miyagi[3]; *[1]Case Western Reserve Univ, Cleveland, OH; [2]Case Western Reserve Univ., Cleveland, OH; [3]Case Western Reserve Univers, Cleveland, OH*

WP 024 **18O Labeling and Mass Spectrometry as a Simple Tool for High Confidence Protein-Protein Interaction Analysis**; Karel Bezstarosti; Alireza Ghamari; Frank Grosveld; Jeroen Demmers; *Erasmus Medical Center, Rotterdam, Netherlands*

WP 025 **Quantitative Proteomic Elucidation of the Core AAA+ Vacuolar Protein Sorting 4B ATPase Protein Interaction Complex**; Stefani N. Thomas[1]; Yunhu Wan[1]; Zhongping Liao[1]; David K. Ann[2]; Phyllis I. Hanson[3]; Austin J. Yang[1]; *[1]Univ of Maryland Baltimore, Baltimore, MD; [2]City of Hope, Duarte, CA; [3]Washington University, St. Louis, MO*

WP 026 **Discovery of Disease-Related Proteins in the *Min* Mouse Model for Colorectal Cancer via ^{15}N Metabolic Labeling and Microarray Analysis**; Edward L. Huttlin[1,2]; Xiaodi Chen[1]; Gregory Barrett-Wilt[1]; Richard Halberg[1]; Adrian D. Hegeman[3]; Melanie M. Ivancic[1]; Michael A. Newton[1]; Amy C. Harms[1]; William F. Dove[1]; Michael R. Sussman[1]; *[1]University of Wisconsin, Madison, WI; [2]Harvard Medical School, Boston, MA; [3]University of Minnesota, Saint Paul, MN*

WP 027 **The Role of Nascent Peptide-Ribosome Interactions in Gene Regulation Using Quantitative Mass Spectrometry with 15N-Stable Isotope Labeling**; Blanca Martínez-Garriga; Hua Xu; Krishna Kannan; Alexander Mankin; *Univ Illinois at Chicago, Chicago, IL*

WP 028 **Quantification and Proteotyping of α-1-Antitrypsin Deficiency by a Peptide MRM Assay**; Linda M Benson; Yuhong Chen; Melissa R. Snyder; Jerry A. Katzmann; H. Robert Bergen, III; *Mayo Clinic, Rochester, MN*

WP 029 **Dynamic Changes in the Proteome of the Postnatally Developing Mouse Brain: A Combination of 2-D DIGE and Isobaric Mass Tagging**; Babs Van de Plas[1]; Martijn Pinkse[2]; Gert Van den Bergh[1]; Stefan Clerens[1,3]; Peter D. Verhaert[2]; Lutgarde Arckens[1]; *[1]K.U.Leuven, Leuven, Belgium; [2]Delft University of Technology, Delft, Netherlands; [3]AgResearch, Christchurch, New Zealand*

WP 030 **Proteomic Analysis of the *Helicobacter pylori* ArsRS regulon by DIGE/MS**; John T. Loh; David B. Friedman; Timothy L. Cover; *Vanderbilt University School of Medicine, Nashville, TN*

WP 031 **Quantitative Proteomics to Identify MicroRNA Target Proteins in Human Neoplasias**; Christopher Lößner; Jan Meier; Uwe Warnken; Peter Lichter; Armin Pscherer; Martina Schnölzer; *German Cancer Research Center, Heidelberg, Germany*

WP 032 **Identification of Biomarkers to Estrogen Exposure Using MCF-7/BOS Cell Line Exposed to 17β-Estradiol and Phytoestrogens**; Mike Collodoro; Pascale Lemaire; Virginie Bertrand; Rowan L. Dobson; Gabriel Mazzucchelli; Joelle Widart; Edwin De Pauw; Marie-claire Gillet; *University of Liège, Liège, Belgium*

WP 033 **Label-Free Proteomics with MS^E: Applications to Protein Functional Biology and the Biology of Adult Stem Cells**; Lewis M. Brown; Grégory Boël; Nidhi Gangadhar; Brent R. Stockwell; Stuart Firestein; John F. Hunt; *Columbia University, New York, NY*

WP 034 **Comprehensive Overview on Hyperosmotic Conditions in Corynebacterium Glutamicum**; Benjamin Fränzel; Dirk Wolters; *University Bochum, Bochum, Germany*

BIOINFORMATICS, 035 - 064

WP 035 **Babel Fish: Interconversion of MS File Formats and Standards**; Paul Gershon[1]; Panagiotis T. Papoulias[2]; Bryan Smith[2]; Philip Andrews[2]; *[1]UC-Irvine, Irvine, CA; [2]University of Michigan, Ann Arbor, Michigan*

WP 036 **New Functionality for the Trans-Proteomic Pipeline: Tools for the Analysis of Proteomics Data**; Luis Mendoza[1]; David Shteynberg[1]; Natalie Tasman[1]; Brian S Pratt[2]; Jimmy K. Eng[3]; Henry H. Lam[4]; Alexey Nesvizhskii[5]; Eric W. Deutsch[1]; Ruedi Aebersold[1,6]; *[1]Institute for Systems Biology, Seattle, WA; [2]Insilicos LLC, Seattle, WA; [3]University of Washington, Seattle, WA; [4]Hong Kong University of Science and Technology, Clear Water Bay, Hong Kong; [5]University of Michigan, Ann Arbor, MI; [6]Swiss Federal Institute of Technology, Zurich, Switzerland*

WP 037 **Peptidome: NCBI Peptide Data Resource**; Douglas J. Slotta; Tanya Barrett; Ron Edgar; *NIH/NLM/NCBI, Bethesda,*

WP 038 **Annotation and Project Management Resource Integrated with the ProteomeCommons.org Tranche Repository**; James Hill[1]; Bryan Smith[1]; Mark Gjukich[1]; Panagiotis G Papoulias[1]; Jayson Falkner[2]; Philip Andrews[1]; *[1]University of Michigan, Ann Arbor, MI; [2]SOSI, Portland, OR*

Posters must be set up 8:00 - 8:30 am on the day scheduled and removed 7:30 to 8:00 pm. Authors of odd numbered posters (001, 003, 005, etc.) are required to be present 10:30 – 12:30. Authors of even numbered posters (002, 004, 006, etc.) must be present 12:30 – 2:30 pm.

WP 039 **Custom Mass-Informatics Algorithms and Workflows with MultiplierZ**; Manor Askenazi[1,2]; Jignesh Parikh[2]; Shaojuan Li[2]; Jarrod Marto[2]; *[1]Hebrew University, Jerusalem, Israel; [2]Dana-Farber Cancer Institute, Boston, MA*

WP 040 **Yale Protein Expression Database (YPED) – Tools to Support Targeted Proteomic Analysis**; Christopher Colangelo; Tom Abbott; Mark Shifman; *Yale University, New Haven, CT*

WP 041 **Scalable Cyberinfrastructure for Proteomics Research**; Claudiu Farcas; To-Ju Huang; Roy Liu; Vineet Bafna; Ingolf Krueger; Pavel Pevzner; Nuno Bandeira; *Univ. of California, San Diego, La Jolla, CA*

WP 042 **DAMAGE - Boosting Peptide MSMS Identification Computing Times Using Nvidia Graphic Cards with a GPGPU Engine**; Ivan Topolsky[1]; Olivier Evalet[2]; Jacques Colinge[3]; Anne Niknejad[2]; Pierre-Alain Binz[2,4]; Alexandre Masselot[2]; *[1]Geneva University, Geneva, Switzerland; [2]Geneva Bioinformatics (GeneBio), Geneva, Switzerland; [3]CeMM, Vienna, Austria; [4]Swiss Institute of Bioinformatics, Geneva, Switzerland*

WP 043 **Using Peptide and Spectrum Indexing To Speed Up Mass Spectrometry Based Protein Identification**; You Li; Leheng Wang; Hao Chi; Haipeng Wang; Yan Fu; Zuofei Yuan; Ruixiang Sun; Simin He; *Institute of Computing Technology and Key Lab of I, Beijing,china, China*

WP 044 **Analytical System of LC/MS Proteomics Data and Application**; Xinjian Yan; Dmitrii Tchekhovskoi; Bhaskar Godugu; Stephen E. Stein; *NIST, Gaithersburg, MD*

WP 045 **Integrated Informatics Solution for Streamlining Biopharmaceutical Data Management and Reporting**; Fredrick W. Schmidt; Chris L Stumpf; *Waters Corporation, Milford, MA*

WP 046 **Improving the Sensitivity of Peptide Identification from TandemMass Spectra using Meta-Search, Grid-Computing, and Machine-Learning**; Nathan J. Edwards; *Georgetown University Medical Center, Wasington, DC*

WP 047 **SPIRE: Systematic Protein Identification and Relative Expression Analysis Resource for High-Throughput Proteomics**; Roger Higdon[1]; Gregory Hather[1]; Andrew T Bauman[1]; Brent Louie[1]; Bill Broomall[1]; Simon Fortenly[1]; Natali Kolker[1]; Gerald van Belle[2]; Eugene Kolker[1]; *[1]Seattle Children's Research Institute, Seattle, WA; [2]University of Washington, Seattle, WA*

WP 048 **High-Throughput Autonomous Proteomic Pipeline**; Kebing Yu; Arthur Salomon; *Brown University, Providence, RI*

WP 049 **STRAP: Open-Source Software for Protein Annotation and Data Visualization**; Vivek N. Bhatia; David H. Perlman; Catherine E. Costello; Mark E. McComb; *Boston University School of Medicine, Boston, MA*

WP 050 **A New Comprehensive Software Tool for Proteomics Data Generated by Less Specific Enzymes**; Malte Schürken; Michael Karas; *JW Goethe Univ. of Frankf, Frankfurt Am Main, Germany*

WP 051 **Invigorating the Mass Spectrometer: Software Solution for Tandem MS**; Anuj Shah; Andrei Liyu; Yan Shi; Navdeep Jaitly; Ashoka D. Polpitiya; Joshua Adkins; Adam Wynne; Mikhail Belov; Ian Gorton; Gordon Anderson; Richard D. Smith; *Pacific Northwest National Laboratory, West Richland, WA*

WP 052 **IDSieve: An Automated Algorithm for Peptide pI Filtering of MS/MS Data to Lower False Positive and False Negative Identifications;** Nikhil Garge; Benjamin J. Cargile; Jonathan L. Bundy; Maureen K. Bunger; James L. Stephenson Jr; *Research Triangle Institute, Durham, NC*

WP 053 **Computational MS/MS Spectra Preprocessing – a Free Lunch**; Bernhard Y. Renard[1,2]; Flavio Monigatti[3]; Marc Kirchner[1,3]; Alexander R. Ivanov[4]; Juri Rappsilber[5]; Judith A. J. Steen[3]; Fred A. Hamprecht[1,2]; Hanno Steen[3]; *[1]Univ. of Heidelberg, Heidelberg, Germany; [2]Children's Hospital Boston, Boston, MA; [3]Harvard Medical School/Children's Hospital Boston, Boston, MA; [4]Harvard Univ. HSPH, Boston, MA; [5]Wellcome Trust Centre for Cell Biology, Edinburgh, UK*

WP 054 **Consolidated Statistical Approach to Identify Cancer Biomarkers in Humoral Immune Response Study**; Huy Vuong; Evelyn H. Kim; Chen Li; Tasneem Patwa; Manoj Pal; Mack Ruffin; Diane M. Simeone; David M. Lubman; *University of Michigan, Ann Arbor, MI*

WP 055 **Evaluation of Clustering Algorithms for Protein Complex and Protein Interaction Network Assembly**; Mihaela Sardiu; Laurence Florens; Michael Washburn; *Stowers Institute for Medical Research, Kansas City, MO*

WP 056 **Express Biological Pathway Analysis of Mass Spectrometry Based Proteomics Datasets;** Alexandre Podtelejnikov; Christian Ravnsborg Ingrell; Morten Bern; Ole Vorm; *Proxeon A/S, Odense, Denmark*

WP 057 **Development of Methods and Tools for Performing Protein Set Expression Analysis (PSEA)**; Roger Higdon[1]; Gregory Hather[1]; Andrew T Bauman[1]; Brent Louie[1]; Gerald van Belle[2]; Simon Fortenly[1]; Natali Kolker[1]; Bill Broomall[1]; Eugene Kolker[1]; *[1]Seattle Children's Research Institute, Seattle, WA; [2]University of Washington, Seattle, WA*

WP 058 **Molecular Networks Derived from Proteomic Analysis of Oral Epithelial Cells from HIV Patients Show High Correspondence with Known HIV-Interacting Proteins**; Gaurav S.J.B. Rana; Elizabeth H Yohannes; Santosh Gosh; Bin Jiang; Thomas McCormick; Aaron Weinberg; Mark Chance; *Case Western Reserve Univers, Cleveland, OH*

WP 059 **Simultaneous Multiple Alignment for LC/MS Peak Lists**; Bjoern Voss[1]; Bernhard Y. Renard[1]; Anna Kreshuk[1]; Michael Hanselmann[1]; Ullrich Koethe[1]; Hanno Steen[2]; Judith A. J. Steen[2]; Marc Kirchner[1,3]; Fred A. Hamprecht[1]; *[1]University of Heidelberg, Heidelberg, Germany; [2]Harvard Medical School/Children's Hospital Boston, Boston, MA; [3]Children's Hospital Boston / Harvard Medical, Boston, MA*

WP 060 **A Peak Alignment Algorithm for Two-Dimensional Gas Chromatography/Time-of-Flight Mass Spectrometry Based Metabolomics**; Bing Wang[1,2]; Aiqin Fang[1]; Charles Buck[3]; Xiaodong Huang[3]; Xiang Zhang[1]; *[1]University of Louisville, Louisville, KY; [2]Anhui University of Technology, Ma An Shan, China; [3]Purdue University, West Lafayette, IN*

WP 061 **Improving Untargeted Differential Analysis of Mass Spectrometric Data by Recursive Feature Extraction**;

Norton Kitagawa; Steven M. Fischer; Theodore Sana; David Peterson; Ed Darland; Xiangdong Li; *Agilent Technologies, Inc., Santa Clara, CA*

WP 062 **Noise Analysis on Liquid Chromatography Mass Spectrometry Data on Elution Time Profile Dimension**; Elias Gonzalez; Michelle Zhang; *Universiyt of Texas at San Antonio, Universal City, TX*

WP 063 **The Comparison of Peak-Detection Algorithms for LC/MS**; Jian Cui[1]; gonzalez Elias[1]; William Haskins[2]; Huang Huang[1]; Jianqiu Zhang[1]; *[1]Dept. of ECE, University of Texas at San Antonio, San Antonio, TX; [2]University of Texas, San Antonio, TX*

WP 064 **Robust Statistical Reconstruction of Protein Profiles in Mass Spectrometry**; Pierre P. Grangeat[1]; Grégory Strubel[1]; Jean-François Giovannelli[2]; Virginie Brun[3]; Laurent Gerfault[1]; Caroline Paulus[1]; Alain Dupuis[3]; Jérôme Garin[3]; *[1]CEA, LETI, MINATEC, Grenoble, France; [2]Université de Bordeaux, IMS/LAPS, Talence, France; [3]CEA, INSERM, UJF, U880, iRTSV, Grenoble, France*

PROTEOMICS: BIOMARKER DISCOVERY, 065 - 095

WP 065 **Testing for Differences between Complex Samples in Proteomics Datasets**; Brian C. Searle[1]; David Tabb[2]; Jayson A. Falkner[3]; Jeffrey A. Kowalak[4]; Karen Meyer-arendt[5]; Lennart Martens[6]; Manor Askenazi[7]; Paul Rudnick[8]; Sean L. Seymour[9]; William S. Lane[10]; *[1]Proteome Software Inc., Portland, OR; [2]Vanderbilt University, Nashville, TN; [3]Single Organism Software Inc, Beaverton, Or, OR; [4]NIH, Bethesda, MD; [5]University of Colorado, Boulder, CO; [6]European Bioinformatics Institute, Cambridge, UK; [7]Dana-Farber Cancer Institute and Hebrew University, Boston, MA; [8]NIST, Gaithersburg, MD; [9]Applied Biosystems, Foster City, CA; [10]Harvard University, Cambridge, MA*

WP 066 **Identification of Intracellular Modified Proteins by the Lipid Peroxidation Aldehyde DODE;** Peter G. Slade; Michelle Williams; Viral Brahmbhtt; John S. Wishnok; Steve Tannenbaum; *Massachusetts Institute of Technology, Cambridge, MA*

WP 067 **Withdrawn**

WP 068 **Identification of Candidate Biomarkers from Integrated Proteomic Analysis of Human Cancer Cells and Plasma from an Ovarian Cancer Mouse Model**; Sharon J. Pitteri[1]; Lellean JeBailey[2]; Vitor M. Faca[1]; Melissa A. Silva[1]; Renee C. Ireton[1]; Jason D. Thorpe[1]; Marc B. Horton[2]; Hong Wang[1]; Liese Pruitt[2]; Qing Zhang[1]; Kuang H. Cheng[2]; Nicole Urban[1]; Daniela M. Dinulescu[2]; Samir M. Hanash[1]; *[1]Fred Hutchinson Cancer Research Center, Seattle, WA; [2]Harvard Medical School, Boston, MA*

WP 069 **Artifact-Free Quantitation of Free and Protein-Bound Nitrotyrosine and Chlorotyrosine in Human Serum by NICI GC/MS**; Yu Zeng; Kari E. Schlicht; Viral Brahmbhatt; Peter G. Slade; Lizz Liffrig; John S. Wishnok; Steven R. Tennenbaum; *MIT, Cambridge, MA*

WP 070 **Comparison Of Label-Free, $^{18}O/^{16}O$ And Glycopeptide Enrichment For Differential Proteomics Analysis Of Human Plasma After Branched-Chain Amino Acid Infusion**; Kenneth L. Johnson[1,2]; Carrie Holtz-Heppelmann[1,2]; Cristine Charlesworth[1,2]; Michael W. Holmes[1,2]; Jeanette Eckel-Passow[1,3]; Terry Therneau[1,3]; K Sreekumaran Nair[1,4]; H. Robert Bergen, III[1,2]; *[1]Mayo Clinic, Rochester, MN; [2]Mayo Proteomics Research Center, Rochester, MN; [3]Division of Biomedical Statistics and Informatics, Rochester, MN; [4]Endocrinology, Rochester, MN*

WP 071 **Mass Spectrometry-Based Analysis of Cerebrospinal Fluid Peptidome and Proteome for Biomarker Discovery in Alexander Disease**; Robert Cunningham[1]; Xin Wei[2]; Paige Jany[3]; Albee Messing[3]; Lingjun Li[4]; *[1]Univ. of Wisconsin-Maidson, Madison, WI; [2]Univ.of Wisconsin-Madison, Madison, WI; [3]Waisman Center, University of Wisconsin-Madison, Madison, WI; [4]University of Wisconsin, Madison, WI*

WP 072 **Proteomic Analysis of Gynecological Mucus Samples Provides Insight into the Early Detection of Endometrial Cancer**; Guangyu Zhang[1]; Michael Finan[1]; Rodney Rocconi[1]; Madhuri Mulekar[2]; Lewis K. Pannell[1]; *[1]Mitchell Cancer Institute, Mobile, AL; [2]University of South Alabama, Mobile, AL*

WP 073 **Murine Colorectal Tumor Tissue Analysis by 2D-LC/MS/MS**; Wenhong Zhu; *The Burnham Institute, La Jolla, CA*

WP 074 **Discovery of Mitochondrial Protein and Phosphoprotein Biomarkers of Atrial Fibrillation**; Mark M. Ross[1]; Maryam Goudarzi[1]; Weidong Zhou[1]; Amy VanMeter[1]; Lance Liotta[1]; Emanuel Petricoin[1]; Lisa Martin[2]; Niv Ad[2]; *[1]George Mason University, Manassas, VA; [2]Inova Heart & Vascular Institute, Falls Church, VA*

WP 075 **Quantitative and Qualitative Analysis of Urinary Biomarkers by Selected Reaction Monitoring**; Nathalie Selevsek[1]; Mariette Matondo[1]; Marta Sánchez-Carbayo[2]; Ruedi Aebersold[1]; Bruno Domon[1]; *[1]ETH Zurich, Zurich, Switzerland; [2]Centro Nacional de Investigaciones Oncológicas, Madrid, Spain*

WP 076 **Proteomics Analysis of Stem Cell Secretome**; Hsin-Chieh Wu[1]; Ming-Hui Yang[2]; Shiang-Bin Jong[1]; Yu-Chang Tyan[1]; *[1]Kaohsiung Medical University, Kaohsiung, Taiwan; [2]National Sun Yat-sen University, Kaohsiung, Taiwan*

WP 077 **Identification of Glycoprotein Biomarkers in Prostate Cancer by Quantitative Proteomics**; Vivekananda Shetty; Thamby Gomathinayagam; Punit Shah; Zacharie Nickens; Ramila Philip; *Immunotope, Inc., Doylestown, PA*

WP 078 **A Quantitative Proteomic Approach for the Discovery of Prion Disease Biomarkers**; Xin Wei; Allen Herbst; Judd Aiken; Lingjun Li; *Univ.of Wisconsin-Madison, Madison, WI*

WP 079 **Identification of Amyloid Beta Peptides in Cerebrospinal Fluid Using Isotope Dilution Liquid Chromatography and Electrospray Ionization Tandem Mass Spectrometry**; Alfred N. Fonteh[1]; Rachel D. Fisher[1]; John Rush[2]; Michael G. Harrington[1]; *[1]Huntington Med. Res. Insts., Pasadena, CA; [2]Cell Signaling Technology, Beverly, MA*

WP 080 **SILAC-Labeled Cell/Tissue Lysates as a Generic Source of Proteotypic Peptides in Multiple Reaction Monitoring Analyses**; Stephan Jung[1]; Stuart Pengelley[1]; Karsten Krug[1]; Ana Velic[2]; Boris Macek[1]; *[1]Proteome Center Tubingen, Tubingen, Germany; [2]Max-Planck Institute for Biochemistry, Martinsried, Germany*

WP 081 **Proteomic analysis of Sera from Prostate Cancer Patients with MALDI-TOF-MS**; Corinna Henkel[1]; Joachim Grosse[2]; Gerhard Jakse[2]; Nadine Reulen[1]; Axel Heidenreich[2]; Ruth Knuechel[1]; Kristina Schwamborn[1,3]; *[1]Pathology, RWTH Aachen University Hospital, Aachen,*

Germany; [2]Urology, RWTH Aachen University Hospital, Aachen, Germany; [3]Mass Spectrometry Research Center, Biochemistry, Nashville, TN

WP 082 **Comprehensive Proteomics Analysis of Human Placental BeWo Cell Model for Preterm Birth Biomarker Discovery**; Vineet Sangar[1]; Sumit Shah[1]; Samuel I Parry[1]; Ian A. Blair[2]; *[1]University of Pennsylvania, Philadelphia, PA; [2]Univ. of Penn/SOM/Pharmacol, Philadelphia, PA*

WP 083 **A Quantitative Proteomics Method for the Measurement of Immune Responses in HIV Resistant Women;** Derek R Stein[1]; Terry B Ball[1,2]; Garrett Westmacott[2]; Keding Cheng[2]; Francis A Plummer[2]; *[1]University of Manitoba, Winnipeg, Canada; [2]Public Health Agency of Canada, Winnipeg, Canada*

WP 084 **Identification of Biomarkers in Cochlear Pathogenesis in the Usher Syndrome 1F Mouse Model**; Giridharan Gokulrangan[1]; Daniel Chen[2]; Sunitha Shyam[1]; Rebecca Levinson[1]; Nam Kim[2]; Mark Chance[1]; Kumar Alagramam[2]; *[1]Case Center for Proteomics, Cleveland, OH; [2]Otolaryngology, Case Western Reserve University, Cleveland, OH*

WP 085 **Identification of Tumor-Specific Proteins in Plasma**; Yuan Tian[1]; Karen S. Kelly-Spratt[2]; Christopher J. Kemp[2]; Hui Zhang[1]; *[1]Johns Hopkins University, Baltimore, MD; [2]Fred Hutchinson Cancer Research Center, Seattle, WA*

WP 086 **Elucidation of Potential Diagnostic Biomarkers from Archival Fibrohistiocytic Tumor Tissue**; Brian L. Hood[1,2]; Arash Radfar[3]; Adar T. Berghoff[4]; Mai Sun[1,2]; Uma Rao[4]; Thomas P. Conrads[1,2]; *[1]University of Pittsburgh, Pittsburgh, PA; [2]The University of Pittsburgh Cancer Institute, Pittsburgh, PA; [3]Department of Dermatopathology, Pittsburgh, PA; [4]Department of Pathology, Pittsburgh, PA*

WP 087 **Halogenated-Peptides as Internal Standards (H-PINS) for Liquid Chromatography Mass Spectrometry**; Hamid Mirzaei[1]; Mi-Youn Bruisnak[1]; Lukas N. Mueller[1]; Simon Letarte[1]; Julian D Watts[1]; Ruedi Aebersold[1,2]; *[1]Institute for Systems Biology, Seattle, WA; [2]Institute of Molecular Systems Biology, ETH Zurich, Switzerland*

WP 088 **Comparison of High Abundance Protein Depletion Techniquesfor Biomarker Discovery with Two Proteomics Workflows**; Tim Wehr[1]; Chengjun Sun[1]; Lei Li[1]; Steve Freeby[1]; Ning Liu[1]; John Walker[1]; Aran Paulus[1]; Katrina Academia[1]; Chris Sutton[2]; *[1]Bio-Rad Labs, Hercules, CA; [2]Univ. of Bradford, Bradford, UK*

WP 089 **Use of Pre-Spotted ProteinChip Arrays for Qualification of a MALDI TOF-TOF Instrument in Linear, Reflectron, and MS/MS Modes**; Diane Mccarthy; Vanitha Thulasiraman; Amanda Bulman; Enrique Dalmasso; Fiona Plows; *Bio-Rad Laboratories, Inc., Hercules, CA*

WP 090 **Oxythiamine Specifically Inhibits Heat Shock Protein 27 (Hsp27) Phosphorylation and Cell Proliferation in MIA Pancreatic Cancer Cells**; Rui Cao[1]; Hengwei Zhang[1]; W. Paul Lee[2]; Caishu Deng[1]; Yingchun Zhao[1]; Qingmei Xie[1]; Joan Lappe[1]; Robert Recker[1]; Songping Liang[3]; Gary Guishan Xiao[1]; *[1]Creighton University, Omaha, NE; [2]Harbor - UCLA Medical Center, Torrance, CA; [3]College of Life Science, Hunan Normal University, Changsha, China*

WP 091 **Diagnostic Feature Detection in 2-200 kDa TOF-MS Spectra of Leukemia Serum Proteins**; Maureen B. Tracy; Dariya Malyarenko; Karl W. Kuschner; Eugene R. Tracy; William E. Cooke; Dennis Manos; *College of William and Mary, Williamsburg, VA*

WP 092 **Proteomic Analysis of Interstitial Fluid from Head and Neck Tumors**; Matthew Stone; Rick M Odland; Tim Griffin; *University of Minnesota, Minneapolis, MN*

WP 093 **Discovery of Protein Markers for Lung Cancer by Label Free Mass Spectrometry and Validation in Serum**; Jenny L. Heidbrink[1]; Tao He[2]; Aiqun Li[1]; Yeoun Jin Kim[3]; William FitzHugh[4]; Elizabeth Joseloff[5]; Gulshan Dhariwal[1]; Sudeepta Aggarwal[1]; Charles E. Birse[1]; Steven M. Ruben[1]; *[1]Celera, Rockville, MD; [2]Wyeth, Cambridge, MA; [3]Bristol-Myers Squibb, Princeton, NJ; [4]5 AM Solutions, Reston, VA; [5]Cystic Fibrosis Foundation, Bethesda, MD*

WP 094 **Secretome Profiling in Pancreatic Cancer Cells in Response to Transketolase Inhibitor Oxythiamine Using 15N Amino Acid Labeling and Serum-Depleted Medium**; Yingchun Zhao[1]; Jing Xiao[1]; W. Paul Lee[2]; Rui Cao[1]; Robert Recker[1]; Vay Liang Go[2]; Gary Guishan Xiao[1]; *[1]Creighton University, Omaha, NE; [2]Harbor - UCLA Medical Center, Torrance, CA*

WP 095 **Identification of Diagnostic Serum Biomarkers for Chagas Disease in Asymptomatic Subjects**; Momar Ndao; Brian J. Ward; Christine Straccini; Bernard F. Gibbs; *McGill University, Montreal, Canada*

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WP 096 **Derivatization of Amino Acids in Human Plasma for Quantitation by Comprehensive Two Dimensional Gas Chromatography Time of Flight Mass Spectrometry**; Elizabeth A. McGaw; Gauthier Eppe; Mark S. Lowenthal; Nathan G. Dodder; Karen W. Phinney; *NIST, Gaithersburg, MD*

WP 097 **High Resolution, High Accuracy Measurement and Fragmentation Analysis for Metabolite Identification in Broccoli Samples – Meta-Phor Research Initiative Results**; Helmut Muenster[1]; Eugen Damoc[1]; Catharina Crone[1]; Thomas Moehring[1]; Martin Hornshaw[2]; Madalina Oppermann[1,2]; *[1]Thermo Fisher Scientific (Bremen) GmbH, Bremen, GERMANY; [2]Thermo Fisher Scientific, Hemel Hempstead, UK*

WP 098 **Investigative Renal Toxicity Study in Mice Using MS-Based Metabolomics**; Joanna R. Pols; Anthony Srnka; Swapan K. Chowdhury; Kevin B. Alton; *Schering-Plough Research Institute, Kenilworth, NJ*

WP 099 **Metal Chelating Agent Enhances Polar Anionic Metabolome Analysis in Nano-LC/MS**; Khin Than Myint[1,2]; Yoshiya Oda[1,2]; *[1]Eisai Co, Tsukuba, Japan; [2]CREST, Japan Science and Technology, Saitama, Japan*

WP 100 **Characterizing Free Radical-Induced Indole Binding in Plasma Proteins of Huntington Disease (HD) Patients Using Liquid Chromatography/ Electrochemical Array (LCECA) and LCMS^n**; Erika N. Ebbel[1]; Lei Wang[2]; Wayne R. Matson[3]; Samantha Matson[3]; Swati Sharma[3]; Giuseppe Infusini[1]; Mikhail B. Bogdanov[2]; Steven Hersch[4]; Catherine E. Costello[1]; *[1]Boston University School of Medicine, Boston, MA; [2]Weill Medical College of Cornell, New York, NY; [3]Bedford VA Medical Center, Bedford, MA; [4]Mass. General Hospital, Harvard Medical School, Charlestown, MA*

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WP 101 **Absolute Quantification of Amino Acids in Plasma Using Stable Isotope Dilution LC-MS/MS – Application to a Reference Material for Metabolomics**; Mark S. Lowenthal; Gauthier Eppe; Elizabeth A. McGaw; Nathan G. Dodder; Karen W. Phinney; *National Institute of Standards and Technology, Gaithersburg, MD*

WP 102 **Characterizing Active Metabolism in Quiescent Human Fibroblasts**; Johanna M Scarino; Hilary A Coller; Joshua D Rabinowitz; Aster Legesse-Miller; Bryson Bennett; Xiao-Jiang Feng; *Princeton University, Princeton, NJ*

WP 103 **GCxGC-TOFMS Data Interpretation of Metabolic Biomarkers from Diabetic and Nondiabetic Urine Utilizing Fisher Ratios Prior to Multivariate Analysis**; John R. Heim; Scott Pugh; Mark Libardoni; *LECO Corporation, St. Joseph, MI*

WP 104 **Global Quantitation of Carbonyl Metabolites in Human Urine and Plasma Using ^{12}C-/^{13}C-Dansylhydrazine Labeling and Nanolc/FT-ICR-MS**; Margot R. Dawe; Kevin Guo; Liang Li; *University of Alberta, Edmonton, Canada*

WP 105 **Optimization of Mass Accuracy, Spectral Accuracy, and Resolution in Metabolite Identification Using LTQ-FT Ultra Hybrid Mass Spectrometer**; Wei Zou[1]; Yongdong Wang[2]; Ming Gu[2]; Vladimir Tolstikov[1]; *[1]University of California, Genome Center, Davis, CA; [2]Cerno Bioscience, Yardley, PA*

WP 106 **Direct Single Organelle Metabolomics in a Live Single RBL-2H3 Cell by Video-Mass Spectrometry**; Hajime Mizuno; Naohiro Tsuyama; Takanori Harada; Tsutomu Masujima; *Hiroshima Univ. BioMed., Hiroshima, Japan*

WP 107 **Comprehensive Analysis of Urinary Acylglycines Using Ultra-Performance Liquid Chromatography Coupled with a Hybrid Linear Ion Trap Mass Spectrometer;** Avalyn Lewis; Liang Li; *University of Alberta, Edmonton, Canada*

WP 108 **Phosphate-Containing Metabolite Enrichment Using TiO2 and ZrO2 Microcolumns**; Hyun Ju Yoo; Kristina Hakansson; *University of Michigan, Ann Arbor, MI*

WP 109 **A Metabolomics Study of a Breast Cancer Rat Model with Compound Identification Using an Accurate Mass Retention Time Database**; Steven M. Fischer; Theodore Sana; *Agilent Technologies, Santa Clara, CA*

WP 110 **Biomonitoring of 2-Amino-1-Methyl-6-Phenylimidazo[4,5-b]Pyridine (PhIP) and Its Carcinogenic Metabolites in Urine**; Robert J. Turesky[1]; Jean-Marie Fede[1]; Nigel J. Gooderham[2]; *[1]Wadsworth Center, Albany, NY; [2]Imperial College London, London, UK*

WP 111 **Uncovering the Hidden Biology of 5'-Methylthioadenosine in Cancer Research Using Mass Spectrometry**; Yibai Chen; Baiqing Tang; Warren Kruger; Anthony Yeung; *Fox Chase Cancer Center, Philadelphia, PA*

WP 112 **Assessing the Reproducibility of Direct Infusion Mass Spectrometric Analyses using Thermometer Ions;** Paolo Lecchi; Jinghua Zhao; Wesley S. Wiggins; Tzong-Hao Chen; Greg P. Bertenshaw; Ping F. Yip; Brian C. Mansfield; John M. Peltier; *Correlogic Systems, Inc., Rockville, MD*

WP 113 **An Optimized UPLC-QTof-MS Method for Plant Metabolomics and Secondary Metabolism**; David V. Huhman; Lloyd W. Sumner; *The Samuel Roberts Noble Foundation, Inc., Ardmore, OK*

WP 114 **Metabolomics Analysis of Saccharomyces Cerevisiae by LC/MS-TOF Using a Robust Milling Protocol for Extraction**; Stefan Jenkins; Sally Webb; Theodore R. Sana; *Agilent Technologies, Santa Clara, CA*

WP 115 **Predicting Human Developmental Toxicity Using Human Embryonic Stem Cells and Metabolomics**; Paul R. West; April M. Weir; Alan Smith; Sudeepa Bhattacharyya; Gabriela G. Cezar; *Stemina Biomarker Discovery, Madison, WI*

WP 116 **Electrospray Ionization and Collision Induced Dissociation of tert-Butyldimethylsilyl Derivatives of Endogenous Metabolites from Human Cancer Cells**; Ruth N. Udey; Chrysoula Vasileiou; Babak Borhan; A. Daniel Jones; *Michigan State Univ., East Lansing, MI*

WP 117 **Measuring Cell to Cell Differences in the Metabolome of Individual Neurons Using Capillary Electrophoresis with Electrospray Ionization Mass Spectrometry**; Theodore Lapainis[1]; Stanislav Rubakhin[2]; Jonathan V. Sweedler[1]; *[1]Univ. of Illinois, Urbana, IL; [2]Beckman Institute, UIUC, Urbana, IL*

WP 118 **GC/APCI-TOF MS: A New Valuable Tool for Analysis of Biofluids in Metabolomics Studies**; Alegria Carrasco-Pancorbo[1]; Ekaterina Nevedomskaya[1]; Tiziana Pacchiarotta[1]; Ali Kettani[2]; Thomas Arthen-Engeland[3]; Gabriela Zurek[3]; Carsten Baessmann[3]; Oleg Mayboroda[1]; Andre Deelder[1]; *[1]LUMC, Leiden, NL; [2]Bruker Daltonics Inc., Fremont, CA; [3]Bruker Daltonik GmbH, 28359 Bremen, Germany*

WP 119 **A Laboratory Information Management System (LIMS) for High-Throughput LC-MS Metabolomics-Based Biomarker Discovery**; Alan Smith[1]; Yuerong Zhu[2]; Paul R. West[1]; April M. Weir[1]; Sudeepa Bhattacharyya[1]; Gabriela G. Cezar[1]; *[1]Stemina Biomarker Discovery, Madison, WI; [2]BioInfoRx, Inc., Madison, WI*

WP 120 **Challenges in the Investigation of the Metabolic Changes in Nicotiana Attenuata during Insect Herbivory Using an Improved HPLC-TOF-MS Method**; Matthias Schoettner[1]; Beatrice Berger[1]; Emmanuel Gaquerel[1]; Eva Rothe[1]; Birgit Schneider[2]; Gabriela Zurek[2]; Aiko Barsch[2]; Mike Mcdonell[3]; Ian T. Baldwin[1]; *[1]MPI Chemical Ecology, Jena, Germany; [2]Bruker Daltonik GmbH, Bremen, Germany; [3]Bruker Bioscience, Delta, BC*

WP 121 **Identification of Metabolites in a Human Plasma Standard Reference Material by Comprehensive two Dimensional Gas Chromatography-Time-of-Flight Mass Spectrometry**; Gauthier Eppe; Elizabeth A. McGaw; Nathan G. Dodder; Bruce A. Benner Jr; Karen W. Phinney; Michele M. Schantz; *NIST, Gaithersburg, MD*

WP 122 **Metabolomics-Based Approach to Antibiotic Resistance in Staphylococcus Aureus**; Kyu Rhee[2]; Steven M. Fischer[1]; Elizabeth Alexander[2]; *[1]Agilent Technologies, Santa Clara, CA; [2]Weill Cornell Medical College, NY, NY*

WP 123 **Metabolite Profiling of the Novel NIST Standard Human Plasma Using a Multi-Target Calibration Approach in GC/Quadrupole MS**; Mine Palazoglu; Sevini Shahbaz; Oliver Fiehn; *UC Davis, Davis, CA*

WP 124 **Precision and Accuracy of Carbon Isotope Ratios is Critical for Isotopomer-Based Metabolomics: A Comparative study of FTICR and NMR;** Bogdan

Bogdanov[1]; Teresa W Fan[1,2]; Andrew N Lane[1,2]; Richard M Higashi[1,2]; *[1]University of Louisville Department of Chemistry, Louisville, KY; [2]James Graham Brown Cancer Center, Louisville, KY*

WP 125 **Metabolomics of Volatile Compounds by a New BinBase Mass Spectral Database**; Gert Wohlgemuth; Kirsten Skogerson; Oliver Fiehn; *UC Davis, Davis, CA*

WP 126 **The Metabolomic Analysis of Simvastatin Dosed Rat Plasma by GC/TOF/MS**; Henry Y. Shion[1]; John P. Shockcor[1]; Douglas Stevens[3]; Jose Castro-perez[1]; Kate Yu[1]; Emma Marsden-edwards[2]; Eleni Gika[4]; Georgios Theodoridis[4]; Ian Wilson[5]; *[1]Waters Corp., Milford, MA; [2]Waters Corporation, manchester, UK; [3]Waters Corp, Holden, MA; [4]Aristotle University, Thessaloniki, Greece; [5]Astra Zeneca, Macclesfield, UK*

WP 127 **Identification of Key Metabolic Pathways in Polycystic Ovary Syndrome by Mass Spectrometry, NMR and Cavity Ring Down Spectroscopy**; Michael R. Shortreed[1]; Fariba Assadi-Porter[1]; Leah D. Whigham[1]; Mark E. Cook[1]; Butz Daniel[1]; Warren P. Porter[1]; David H. Abbott[1]; John L. Markley[1]; Hamid Eghbalnia[2]; Lloyd M. Smith[1]; *[1]University of Wisconsin, Madison, WI; [2]University of Cincinnati, Cincinnati, OH*

WP 128 **Comparison and Combination of Direct Infusion- and LC-FTMS for Comprehensive Plant Metabolomics**; Jun Han[1]; Ryan M Danell[2]; Monica H Elliott[1]; Michael Deyholos[3]; Christoph H Borchers[1]; *[1]UVic-GBC Proteomics Centre, Victoria, Canada; [2]Danell Consulting, Greenville, NC; [3]Dept Biological Sciences, University of Alberta, Edmonton, AB, Canada*

WP 129 **Single Cell Differential Metabolomics for Stimulated Allergy Cells**; Shoko Inoue; Hajime Mizuno; Naohiro Tsuyama; Takanori Harada; Tsutomu Masujima; *Hiroshima Univ. BioMed., Hiroshima City, Japan*

WP 130 **Biomarker Discovery in a Glaucoma Study Using Targeted and Non-Targeted Metabolomics Approaches**; Richard Schneider[1]; Marielle Delnomdedieu[1]; Andy Butler[1]; Poulabi Banerjee[1]; Klaus Weinberger[2]; Denise Sontag[2]; *[1]Pfizer Global R&D, Groton, CT; [2]Biocrates Life Sciences, Innsbruck, Austria*

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WP 132 **Love It or Leave It... On the Use of SDS in GELFrEE for Protein Prefractionation and MS Analysis**; Alan A. Doucette; Fang Liu; *Dalhousie University, Halifax, Canada*

WP 133 **Use of Low Conductivity Buffers in Isoelectric Trapping Separations and MS Analysis**; Stephanie M. Cologna; William K. Russell; Gyula Vigh; David H. Russell; *Texas A&M University, College Station, TX*

WP 134 **Proteome Prefractionation Using Three Complimentary 2D Solution Phase Platforms**; Mark J. Wall; Alan A. Doucette; *Dalhousie University, Halifax, Canada*

WP 135 **Comparison of 2-D and 3-D Protein Profiling of Melanoma Cells: Depth of Analysis and Reproducibility of Protein Detection**; Huan Wang; Tony Chang-Wong; Hsin-Yao Tang; David W. Speicher; *The Wistar Institute, Philadelphia, PA*

WP 136 **Protein Separation and Identification Using Thin-Layer Chromatography Coupled With Electrospray-Assisted Laser Desorption Ionization Mass Spectrometry**; Min-Zong Huang; Ya-Ting Chan; Jentaie Shiea; *National Sun Yat-Sen Univ., Kaohsiung, Taiwan*

WP 137 **Surface-Enhanced Protein Analysis: Effect of Different Surfaces on Reflectron Profiling and MS/MS Analysis Using ToF-ToF Instrumentation**; Fiona Plows[1]; Vanitha Thulasiraman[1]; Matthew Hammond[1]; Steve Roth[1]; Mariana Rusa[1]; Diane McCarthy[2]; *[1]Bio-Rad Laboratories, Inc., Hercules, CA; [2]Bio-Rad, Malvern, PA*

WP 138 **Selective Purification of Azide-Containing Peptides from Complex Mixtures**; Merel A. Nessen; Gertjan Kramer; JaapWillem Back; Linde E.J. Smeenk; Jan H. van Maarseveen; Leo J. de Koning; Luitzen de Jong; Henk Hiemstra; Chris G. de Koster; *University of Amsterdam, Amsterdam, Netherlands*

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WP 140 **Merging Single-Particle Electron Microscopy and Mass-Spectrometry-Based Proteomics - EM Carbon-Film-Assisted Endoproteinase Digestion (ECAD)**; Florian M. Richter[1]; Monika M. Golas[2]; Björn Sander[2]; Berthold Kastner[3]; Reinhard Lührmann[3]; Holger Stark[4]; Henning Urlaub[1]; *[1]Bioanalytical MS, MPI Biophysical Chemistry, Göttingen, Germany; [2]EM Research Laboratory, University of Århus, Århus, Denmark; [3]Cellular Biochemistry, MPI Biophysical Chemistry, Göttingen, Germany; [4]3D Electron Microscopy, MPI Biophysical Chemistry, Göttingen, Germany*

WP 141 **Novel Efficient and Automated On-Line Enrichment Strategy for Phosphopeptide Analysis;** Yelena Margolin[1]; Bogdan A. Budnik[2]; Emily Freeman[1]; William S. Lane[2]; Alexander R. Ivanov[1]; *[1]Harvard University, HSPH, Boston, MA; [2]Harvard University, Cambridge, MA*

WP 142 **Dynamic Range Compression via Hexapeptide Libraries for Increased Proteome Coverage in Whole Human Saliva**; Sricharan Bandhakavi; Matthew D Stone; Timothy J Griffin; *University of Minnesota, Minneapolis, MN*

WP 143 **Squid Neuron Analysis: Applying Proteomic Software Tools to LC/MS/MS Data from Species without Annotated Genomes**; Anthony J. Makusky[2]; Joseph A. DeGiorgis[1]; Jeffrey A. Kowalak[2]; Sanford P. Markey[2]; *[1]Providence College, Providence, RI; [2]NIMH, NIH, Bethesda, MD*

WP 144 **Comparison of Proteogenomic Approaches Across Kingdoms: A Joint Effort in Gene Modeling**; Samuel O. Purvine[1]; Kim K. Hixson[1]; Muktak Aklujkar[2]; Ellen Panisko[1]; Lee Ann McCue[1]; Matthew Monroe[1]; Lykidis Athanasios[3]; Kyrpides Nikos[3]; Deanna Auberry[1]; Derek Lovely[2]; Grigoriev Igor[3]; Scott Baker[1]; Mary Lipton[1]; Gordon Anderson[1]; Richard D. Smith[1]; *[1]Pacific Northwest National Laboratory - Battelle, Richland, WA; [2]University of Massachusetts, Amherst, Massachusetts; [3]Joint Genome Institute, Walnut Creek, California*

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WP 145 **Deconvolution of Isotopically Unresolved Multiply Charged States of Intact Proteins and Peptides**; Natalia Belyaeva; Tonya Second; *Thermo Fisher Scientific, San Jose, CA*

WP 146 **Optimization of a LC-FTMS Proteomics Pipeline for High Throughput and Confident Peptide Identifications**; Ronald J. Moore; Aleksey Tolmachev; Anil K. Shukla; Therese R.W. Clauss; Rui Zhang; David J. Anderson; Karl K. Weitz; Brianne O. Petritis; Richard D. Smith; *Pacific Northwest National Laboratory, Richland, WA*

WP 147 **A Novel Way to Observe Protein Interaction Environments Using the Global Proteome Machine Database**; Chengcheng Zhang; Dan Evans; Ronald Beavis; Juergen Kast; *University of British Columbia, Vancouver, Canada*

WP 148 **A Comparison of Calibration Equations for Improving Mass Accuracy by Internal Recalibration of TOF MS/MS Data Sets From Whole-cell Digests**; Cesar Costa Vera[1]; André M. Deelder[2]; Magnus Palmblad[2]; *[1]Escuela Politécnica Nacional / Dept. de Física, Quito, Ecuador; [2]Leiden University, Leiden, Netherlands*

WP 149 **Quantifying Multiplexed MS/MS Spectral "Chimeras" in Shotgun Proteomics**; Stephane Houel; Robert A. Abernathy; Kutralanathan Renganatahan; Eric S. Witze; Chia-yu Yen; Karen Meyer-Arendt; Katheryn A. Resing; Natalie G. Ahn; William M. Old; *Univ. of Colorado, Boulder, CO*

WP 150 **An Information-Dependent Iterative MS/MS Acquisition (IMMA) Tool for Non-redundant Protein Identification on a LC MALDI MS/MS Platform**; Haichuan Liu[1]; Lee Yang[2]; Nikita Khainovski[3]; Simon Allen[1]; Ming Dong[2]; Evelin D. Szakal[1]; Megan Choi[2]; Steven Hall[1]; Susan Fisher[1]; Jian Jin[2]; H. Ewa Witkowska[1]; Mark D. Biggin[2]; *[1]UCSF Sandler-Moore Mass Spectrometry Core Facility, San Francisco, CA; [2]Lawrence Berkeley National Laboratory, Berkeley, CA; [3]Consultant, Framingham, MA*

WP 151 **Statistical Calibration of XCorr is More Important for Spectra Derived Using Data-Independent Acquisition**; Sean Mcilwain; Michael J. Maccoss; William Noble; *University of Washington, Seattle, WA*

WP 152 **Fast and Accurate Identification of Cross-Linked Peptides for the Structural Analysis of Large Protein Complexes and to Elucidate Interaction Networks**; Salman Tahir; Jimi-Carlo Bukowski-Wills; Morten Rasmussen; Juri Rappsilber; *Wellcome Trust Centre for Cell Biology, Edinburgh, UK*

WP 153 **Development of a Mass-Spectrometry Identifiable Cross-Linker and Application to a the 34K-Actin Protein System**; Lisabeth Hoffman[1]; Paul Griffin[1]; Marcus Fechheimer[1]; Evgeniy Petrotchenko[2]; Christoph Borchers[2]; Jon Amster[1]; *[1]University of Georgia, Athens, GA; [2]UVic-GBC Proteomics Centre, Victoria, BC*

WP 154 **Analysis of Crosslinked Proteins Using a Marker-Ion Labeled Crosslinker**; Tobias Beckhaus; N. Arrey Tabiwang; Florian Durst; Volker Doetsch; Michael Karas; *Goethe-University of Frankfurt, Frankfurt Am Main, Germany*

WP 155 **Mapping Protein-Protein Interactions in Human Serum with the Protein Interaction Reporter (PIR)/Chemical Cross-Linking Strategy**; Chad Weisbrod[2]; Li Yang[1]; Xiaoting Tang[2]; James Bruce[2]; *[1]Washington State University, Pullman, WA; [2]University of Washington, Seattle, WA*

WP 156 **Novel Photo-Cleavable Protein Interaction Reporter (pcPIR) Cross-Linking and Data-Dependent MS/MS Strategy for Studying Protein-Protein Interactions**; Li Yang[1]; Xiaoting Tang[2]; Gerhard Munske[1]; James Bruce[2]; *[1]Washington State University, Pullman, WA; [2]University of Washington, Seattle, WA*

WP 157 **Monitoring Protein Conformation Changes as an Activating Step for Protein Interactions with Cross-Linking/MS Analysis**; Zhuo Chen[1]; Morten Rasmussen[1]; Salman Tahir[1]; C.A.C Clark[2]; Paul Barlow[2]; Juri Rappsilber[1]; *[1]Wellcome Trust Centre for Cell Biology, Edinburgh, UK; [2]School of Chemistry, University of Edinburgh, Edinburgh, UK*

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WP 158 **Top-Down Identification of Dihydroergoloids in Equine Plasma by MS^n Ion Tree Mass Spectrometry and High Resolution Accurate Mass Analysis**; Jeffrey Rudy[1]; Carisa Dixon[2]; Cornelius Uboh[1,2]; Lawrence Soma[2]; *[1]PA Equine Toxicology, West Chester, PA; [2]University of Pennsylvania, Kennett Square, PA*

WP 159 **Investigations into Drug Stability Using LC-MS-MS Data Combined with Statistical Analysis**; Stephen Rumbelow[1]; Johnie Brown[2]; *[1]Croda Inc, New Castle, DE; [2]Applied Biosystems, Framingham, MA*

WP 160 **LC/MS/MS Determination of Gemcitabine Incorporation into DNA as a Useful Surrogate for Optimizing Drug Exposure**; Barry R. Jones[1]; Barry Lutzke[2]; Enaksha R Wickremsinhe[2]; Bradley L. Ackermann[2]; Angela M. Bones[2]; Angela B. Freeman[2]; Susan E. Pratt[2]; Christopher A. Schmalz[2]; Gary A. Schultz[1]; *[1]Advion BioServices, Inc., Ithaca, NY; [2]Eli Lilly & Company, Indianapolis, IN*

WP 161 **Unambiguous Assignment of the Elemental Composition through the Use of A Fuzzy Logic Algorithm**; Richard Gedamke[1]; Serhiy Hnatyshyn[1,2]; *[1]Bristol-Myers Squibb, New Brunswick, NJ; [2]BMS Co., Princeton, NJ*

WP 162 **Laser Desorption Mass Spectrometric Analysis of Paints and Pigments Used by Modern Artists**; Daniel P. Kirby; Narayan Khandekar; Lynn Lee; *Straus Center, Harvard, Cambridge, MA*

WP 163 **Gas Chromatography SALDI: Importance of Proton Affinity and Laser Fluence to Sensitivity and Ion Fragmentation**; Sergey Alimpiev[2]; Alexander Grechnikov[3]; Jan Sunner[1]; Alexey Borodkov[3]; Serfey Nikiforov[2]; Yaroslav Simanovsky[2]; *[1]University of Portsmouth, Portsmouth, UK; [2]Prokhorov General Physics Inst Russ Acad Sci, Moscow, Russia; [3]Vernadsky Institute Geochemisty Analytical Chem, Moscow, Russia*

WP 164 **Distinguishing Regioisomers of Carboxylated Aromatic Analytes via Atmospheric Pressure Chemical Ionization and Tandem Mass Spectrometry**; Lucas Amundson[1]; Steven Habicht[1]; Vanessa Gallardo[1]; Mingkun Fu[1]; Ryan Shea[2]; Allen Mossman[2]; Hilkka Kenttamaa[3]; Hilkka Kenttamaa[3]; *[1]Purdue University, West Lafayette, IN; [2]BP Chemicals, Naperville, IL; [3]Chemistry Department, West Lafayette, IN*

WP 165 **A New Robust Library Search Algorithm for LC-MSMS of Small Molecules and its Spectral Library Sharing Mechanism**; Yann Mauron[1]; Roman Mylonas[1]; Alexandre Masselot[2]; Pierre-Alain Binz[1,2]; Marc Fathi[3];

Veronique Viette[4]; Denis F Hochstrasser[3,5]; Frederique Lisacek[1]; [1]*Swiss Institute of Bioinformatics, Geneva, Switzerland;* [2]*Geneva Bioinformatics (GeneBio), Geneva, Switzerland;* [3]*Geneva University Hospitals, Geneva, Switzerland;* [4]*ADMed Fundation, La Chaux-de-Fonds, Switzerland;* [5]*Swiss Center for Applied Humen Toxicology, Geneva, Switzerland*

WP 166 **New Qualitative Screening Software for Automated Small Molecule Multi-Target Analysis**; Graham A. McGibbon[1]; Mark A. Bayliss[1]; Vitaly Lashin[2]; [1]*Advanced Chemistry Development Inc., Toronto, ON;* [2]*Advanced Chemistry Development, Ltd, Moscow, Russia*

WP 167 **Determination of Relative Affinities of Staurosporine Derivatives for Quinone Reductase-2 Using Ultrafiltration of LC-MS**; Yongsoo Choi[1]; Megan Sturdy[1]; Katherine Maloney[2]; Sang Jip Nam[2]; Shunyan Mo[1]; Andrew D Mesecar[1]; John M Pezzuto[3]; William Fenical[2]; Jimmy Orjala[1]; Richard B. van Breemen[1]; [1]*University of Illinois College of Pharmacy, Chicago, IL;* [2]*University of California, La Jolla, California;* [3]*University of Hawaii at Hilo, Hilo, Hawaii*

WP 168 **Live Single Cell Video-Mass Spectrometry for Straightforward Analysis of Cellular Pathways**; Tsutomu Masujima; Naohiro Tsuyama; Hajime Mizuno; *Hiroshima Univ. BioMed., Hiroshima, Japan*

WP 169 **Mass Spectrometric Analysis of Small Molecules Using Nano–Assisted Laser Desorption/Ionization (NALDI) MS**; Chul Yoo[1]; Michael Ronk[1]; David J. Semin[1]; Sam Fu[2]; Joseph P. Fox[2]; Gongyi Shi[2]; [1]*Amgen, Inc., Thousand Oaks, CA;* [2]*Bruker Daltonics, Fremont, CA*

WP 170 **Purity Analysis of HTS Compounds for the National Toxicology Program Utilizing Liquid Chromatography Mass Spectrometry**; Lisa L. Haney[1]; Leslie L. Moody[1]; Kim T. Thornton[1]; Bart A. O'Brien[1]; Roger K. Harris[1]; Peter J. Schebler[1]; Joseph W. Algaier[1]; Beby Jayaram[2]; Cynthia S. Smith[2]; [1]*Midwest Research Institute, Kansas City, MO;* [2]*National Toxicology Program - NIEHS, Research Triangle Park, NC*

WP 171 **A Sensitive LC-MS/MS Method for the Determination of KX2-391 in Human Plasma**; Xinping Fang[1]; Dawei Zhou[1]; Anh Pharm[1]; David, G. Hangauer[2]; Jinn Wu[1]; [1]*XenoBiotic Laboratories, Inc., Plainsboro, NJ;* [2]*Kinex Pharmaceuticals, LLC, Buffalo, NY*

WP 172 **New Algorithm for Determination of Isotopic Envelopes on Labelled Compounds, Comparison of MS and MS/MS Platforms for Isotopic Abundance Measurements**; Gustaf Hulthe; Sofia Essén; Magnus Johansson; *Medicinal Chemistry, Mölndal, Sweden*

WP 173 **Monitoring Levels of Salsolinol and Neurotransmitters in the Brain of Alcohol Preferring Rats Exposed to Alcohol and Treated with Ceftriaxone**; Youssef Sari[2]; Loubna A. Hammad[1]; Marwa M. Saleh[1]; George V. Rebec[2]; Yehia Mechref[1]; [1]*Department of Chemistry, Indiana University, Bloomington, IN;* [2]*Department of Psychological, Indiana University, Bloomington, IN*

WP 174 **Feasibility and Reliability of Low and High-Resolution MS Approaches for Accurate Mass and Molecular Formula Determination in Drug Discovery;** Vladimir Capka[1]; Ming Gu[2]; [1]*Astra Zeneca R&D Boston, Waltham, MA;* [2]*Cerno Bioscience, Yardley, PA*

WP 175 **Optimizing Mass Spectrometric Detection for Ion Chromatography: I. Common Anions and Organic Acids**; Jinyuan Wang; Stacy Henday; William C. Schnute; *Dionex Corporation, Sunnyvale, CA*

WP 176 **Investigation of Infrared Multiphoton Dissociation with Potential Application to Pharmaceutically-Relevant Compounds**; K Wayne Taylor; *Lilly, Indianapolis, IN*

WP 177 **Mass Spectral Method for the Quantification of Host-Guest Interactions Including Ionophore-Siderophore Assemblies**; Esther M. Tristani; George R. Dubay; Alvin L. Crumbliss; *Duke University, Durham, NC*

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WP 178 **Spatially-Resolved Proteomic Analysis of Chick Heart Valves**; Andrew K. Gelasco[1]; Angus C. Grey[2]; Ricardo A. Moreno-Rodriguez[1]; Edward L. Krug[1]; Kevin L. Schey[2]; [1]*Medical University of South Carolina, Charleston, SC;* [2]*Vanderbilt University, Nashville, TN*

WP 179 **MALDI Imaging of Prostate Cancer Tissue Toward Validation of Biomarker Identification**; Christopher Hattan[1]; Barbara Leinweber[1]; Raymond Nagle[2]; Jaime Gard[2]; Gary Pestano[3]; Phillip Miller[3]; Jan Froehlich[3]; Gongyi Shi[4]; Gary Kruppa[4]; George Tsaprailis[5]; Serrine S. Lau[1]; [1]*Univ of Arizona, Pharmacy, Tucson, AZ;* [2]*Univ of Arizona, Medicine, Tucson, AZ;* [3]*Ventana Medical Systems, Tucson, AZ;* [4]*Bruker Daltonics, Billerica, MA;* [5]*Center for Toxicology, Tucson, AZ*

WP 180 **Mapping VEGF Splice Variants in the Rat Model of Retinopathy by MALDI IMS**; Joey C. Latham; Susan E. Yanni; John S. Penn; Richard M. Caprioli; *Vanderbilt Univ Sch of Med, Nashville, TN*

WP 181 **Imaging Therapeutic "Decoy" Oligodeoxynucleotide within Tissue Sections by MALDI MS**; Rita Casadonte[1]; Joseph M. Amann[1]; Jennifer R. Grandis[2]; David P. Carbone[1]; Richard M. Caprioli[1]; [1]*Vanderbilt Univ Sch of Med, Nashville, TN;* [2]*University of Pittsburgh School of Medicine, Pittsburgh, Pennsylvania*

WP 182 **MALDI Mass Spectrometric Imaging of Nervous Tissue Using the Stretched Sample Method**; Tyler A Zimmerman[1]; Stanislav Rubakhin[2]; Elena Romanova[1]; Jonathan Sweedler[1]; [1]*University of Illinois, Urbana, IL;* [2]*Beckman Institute, UIUC, Urbana, IL*

WP 183 **Utilizing NIMS and MALDI Imaging Mass Spectrometric Techniques for Lipidomic and Peptidomic Studies of Crab and Murine Brain**; Robert Sturm[1]; Ruibing Chen[1]; Hin-Koon Woo[2]; Oscar Yanes[2]; Gary Siuzdak[2]; Lingjun Li[1]; [1]*University of Wisconson-Madison, Madison, WI;* [2]*The Scripps Research Institute, La Jolla, CA*

WP 184 **Imaging Mass Spectrometry Reveals Peptide Partitioning in MALDI Samples**; Delphine Debois; Pascale Lemaire; Loic Quinton; Valerie Gabelica; Edwin De Pauw; *University of Liege, LSM-CART, Liège, Belgium*

WP 185 **Visualization of Mouse Cardiovascular Modeling from Embryonic Day 14.5 to Adult by High Resolution MALDI Imaging**; Peggi Angel[1]; Pierre Chaurand[1]; Joey V. Barnett[1,2]; H. Scott Baldwin[1,2]; Richard M. Caprioli[2]; [1]*Vanderbilt University Medical Center, Nashville, Tennessee;* [2]*Vanderbilt Univ Sch of Med, Nashville, TN*

Posters must be set up 8:00 - 8:30 am on the day scheduled and removed 7:30 to 8:00 pm. Authors of odd numbered posters (001, 003, 005, etc.) are required to be present 10:30 – 12:30. Authors of even numbered posters (002, 004, 006, etc.) must be present 12:30 – 2:30 pm.

WP 186 **Comparison of Laser Desorption 7.87 eV Postionization Mass Spectrometry with MALDI for Detection of Peptides in Bacterial Biofilms**; Artem Akhmetov[1]; Gerald Gasper[1]; Chhavi Bhardwaj[1]; Peter Koin[1]; Ross Carlson[2]; Jerry F. Moore[3]; Luke Hanley[1]; *[1]University Illinois Chicago, Chicago, IL; [2]Montana State University, Bozeman, MT; [3]MassThink LLC, Naperville, IL*

WP 187 **Analysis of Potential Biomarkers in Human Ovarian Cancer Using MALDI Imaging Mass Spectrometry**; Yanfeng Chen; Ying Liu; Rebecca Shaner; DeEtte Walker; John McDonald; Alfred Merrill; Mark Cameron Sullards; *Georgia Institute of Technology, Atlanta, GA*

WP 188 **MALDI Imaging of Posttranslationally Modified Proteins**; Kevin L. Schey; Angus Grey; *Vanderbilt University, Nashville, TN*

WP 189 **Isobaric Mass Tags for Quantitative Multiplexed Imaging of mRNA Distributions by *in-situ* Hybridisation and MALDI-MS**; Emrys A Jones[1]; Adam McMahon[1]; Andrew Thompson[2]; Emmanuel Raptakis[3]; *[1]University of Manchester, Manchester, UK; [2]Trillion Genomics, Cambridge, UK; [3]Kratos Analytical, Manchester, UK*

WP 190 **Multiple Sequential Imaging of PL's, Proteins, and Peptides on a Single Tissue Section using MALDI IMS**; William Hardesty[1]; Richard M. Caprioli[2]; *[1]Vanderbilt University, Nashville, TN; [2]Vanderbilt Univ Sch of Med, Nashville, TN*

WP 191 **Imaging Mass Spectrometry Comparative Analysis of Human Pancreatic Adenocarcinoma, Insulinoma and Control**; Alexandra van Remoortere; René J.M. van Zeijl; Stefan M. Willems; André M. Deelder; Liam Mcdonnell; *LUMC, Leiden, Netherlands*

WP 192 **Chemical Molecular Imaging for Nanoparticles Induced Brain and Lung Damage Animal Models by MALDI-TOF MS**; Jen-kun Chen; Yi-Ting Wu; Jui-Ping Li; Chia-Hua Chen; Chung-Shi Yang; *National Health Research Institutes, Zhunan, Taiwan*

WP 193 **FT-ICR and SIMS-TOF Imaging Mass Spectrometry for the Characterization of Human Pancreatic Disease**; Donald F. Smith[1]; Marc C. Duursma[1]; Michael Hanselmann[2]; Fred A. Hamprecht[2]; Nathalia A. Giese[2]; Ron M.A. Heeren[1]; *[1]FOM-AMOLF, Amsterdam, Netherlands; [2]University of Heidelberg, Heidelberg, Germany*

WP 194 **Enhancement of Au and Silica Nanoparticle Matrices for Tissue Imaging utilizing MALDI-TOF MS**; Jeremy D. Post[1]; Alice Delvolve[1]; J. Albert Schultz[2]; Steven Oldenburg[3]; Amina S. Woods[4]; *[1]NIH/NIDA-IRP, Baltimore, MD; [2]Ionwerks, Inc., Houston, TX; [3]nanoComposix, San Diego, CA; [4]NIDA IRP, NIH, Baltimore, MD*

WP 195 **LC-SIMS: The Doors Wide Open for Biological Applications of SIMS in Imaging Mass Spectrometry;** Luke MacAleese; Leendert A. Klerk; Donald F. Smith; Marc C. Duursma; Ron M.A. Heeren; *FOM Institute AMOLF, Amsterdam, Netherlands*

ION MOBILITY, 196 - 217

WP 196 **Gating in Ion Mobility Spectrometry**; Bill Siems[1]; Eric J. Davis[1]; Kristyn Roscioli[1]; Christina Crawford[1]; Herbert H Hill[2]; *[1]Washington State University, Pullman, WA; [2]Washington State Universtiy, Pullman, WA*

WP 197 **Tissue Imaging of Pharmaceuticals by Ion Mobility Mass Spectrometry**; Stacey R. Oppenheimer[1]; Tasneem Bahrainwala[2]; Emmanuelle Claude[2]; *[1]Pfizer, Groton, CT; [2]Waters Corporation, Beverly, MA*

WP 198 **Development and Evaluation of a DMS-Based Method for the Detection of Insecticides**; Erick Molina[1]; Erkinjon Nazarov[3]; Ulrich R. Bernier[2]; Richard A. Yost[1]; *[1]University of Florida, Gainesville, FL; [2]USDA-ARS-CMAVE, Gainesville, FL; [3]Sionex, Bedford, MA*

WP 199 **Ion/Ion Reaction Effects on the Conformation of Proteins, Peptides, and Small Biomolecules**; Derrick L. Morast[1]; R. Sam Houk[1]; Gregg Schieffer[1]; Ethan R. Badman[2]; *[1]Iowa State University, Ames, IA; [2]Hoffmann-La Roche Inc., Nutley, NJ*

WP 200 **Structural Transitions of the $[M + 10H]^{10+}$ of Ubiquitin by Overtone Mobility Spectrometry (OMS)**; Sunyoung Lee; Fabiane M Nachtigall; David E. Clemmer; *Indiana University, Bloomington, IN*

WP 201 **Hydrogen/Deuterium Exchange of Mobility Selected Ubiquitin Ions Using a High-Resolution Circular Ion Mobility Spectrometry Instrument in Ring-Down Mode**; Rebecca S. Glaskin; Samuel Merenbloom; David E. Clemmer; *Indiana University, Bloomington, IN*

WP 202 **Developing Techniques for Characterizing the Serum Glycoproteome with LC-IMS-MS**; Nicholas A Pierson; Huilin Shi; Stephen Valentine; David E. Clemmer; *Indiana University, Bloomington, IN*

WP 203 **Differential Mobility Spectrometer Coupled with LTQ FT to Evaluate Improvement of Proteomic Coverage of Complex Protein Mixtures**; Sergei Ilchenko[1]; Daniela M Schlatzer[1]; Mark Chance[1]; Evgeny V Krylov[2]; Erkinjon Nazarov[2]; *[1]Case Western Reserve University, Cleveland, OH; [2]Sionex Corp., Bedford, MA*

WP 204 **Accurate and Reproducible Reduced Mobility Values in Ion Mobility Spectrometry**; Christina L. Crawford[1]; Roberto Fernandez Maestre[1]; Charles S. Harden[2]; Vincent M. McHugh[3]; William F. Siems[1]; Herbert H. Hill[1]; *[1]Washington State University, Pullman, WA; [2]SAIC/ECBC Operations, Aberdeen Proving Ground, MD; [3]US Army Edgewood Chem Bio Center, Aberdeen Proving Ground, MD*

WP 205 **Developing IMS-IMS-IMS-MS for Analysis of Large Protein Complexes**; Natalya Atlasevich; Joshua Maze; Brian Bohrer; Martin Jarrold; David E. Clemmer; *Indiana University, Bloomington, IN*

WP 206 **Ion Mobility-Mass Spectrometry: A Novel Approach to the Analysis of Gold Monolayer Protected Clusters**; Kellen M. Harkness; David E. Cliffel; John A. Mclean; *Vanderbilt University, Nashville, TN*

WP 207 **Accelerated Detection of Biomarkers Using DMS-Prefiltered Mass Spectrometry**; Stephen L Coy[1]; Evgeny V Krylov[1]; Erkinjon Nazarov[2]; *[1]Sionex Corp., Bedford, MA; [2]Sionex, Bedford, MA*

WP 208 **Middle-Down Sequencing of Monoclonal Antibodies by Ion Mobility Q-TOF Mass Spectrometry**; Dhanashri Bagal[1]; Himanshu Gadgil[2]; Paul Schnier[1]; *[1]Amgen, Thousand Oaks, CA; [2]Amgen Inc, Seattle, WA*

WP 209 **Ion Mobility-Mass Spectrometry Measurements of Insulin**; Rune Salbo[1]; Claus G Nielsen[1]; Ingrid, V. Pettersson[1]; Kim F. Haselmann[1]; Iain D G Campuzano[2]; Peter, K. Nielsen[1]; Helle Naver[1]; *[1]Novo Nordisk, Maaloev, Denmark; [2]Waters Corporation, Manchester, UK*

WP 210 **Collision Cross-Section Calculation of Serine Octamer Clusters Using Travelling Wave-Based**

Ionmobility Mass Spectrometer; Gustavo H M F Souza[12]; Marcos N Eberlin[3]; *[1]Waters Corporation, Sao Paulo, Brazil; [2]Waters Corporation, Manchester, UK; [3]ThoMSon Lab UNICAMP, Campinas, SP, Brazil*

WP 211 **Determining the Structures and the Assembly of AAA+ Motor, Sliding Clamp Loader By Ion Mobility and Tandem Mass Spectrometry**; Ahyoung Park; Brandon Ruotolo; Argyris Politis; Daniel Barsky; Carol Robinson; *University of Cambridge, Cambirdge, UK*

WP 212 **Development of a Circular Drift Tube for High Resolution Ion Mobility Spectrometry**; Samuel I. Merenbloom; Rebecca S. Glaskin; Zachary B. Henson; David E. Clemmer; *Indiana University, Bloomington, IN*

WP 213 **Periodic Focusing Field Electrodes for High Resolution Ion Mobility Spectrometry**; Ryan Blase; Kent Gillig; David H. Russell; *Texas A&M University, College Station, TX*

WP 214 **Withdrawn**

WP 215 **Identifying Human Plasma N-linked Glycan Isomers Using Combined Ion Mobility-Mass Spectrometry and Molecular Modeling Methods**; Manolo D. Plasencia; V. Blake Champlin; David E. Clemmer; *Indiana University, Bloomington, IN*

WP 216 **Separation of Isomeric Carotenoids Using Atmospheric Pressure Chemical Ionization Ion Mobility Spectrometry-Time-of-Flight Mass Spectrometry**; Linlin Dong[1]; Roderick Davis[2]; Richard B. Van Breemen[1]; *[1]University of Illinois College of Pharmacy, Chicago, IL; [2]Univ.of Illinois at Chicago Research Resources Ctr, Chicago, IL*

WP 217 **Application of Ion Mobility Techniques in the Analysis of the Impurities in a Mixture of Liquid Crystals**; Sung-Chan Jo[1]; Kyoung-Wook Kim[2]; Weonsik Oh[1]; *[1]Samsung Electronics Co., Ltd., Yongin, South Korea; [2]Waters Korea Limited, Seoul, Korea*

QUANTITATION: SMALL MOLECULE, 218 - 246

WP 218 **LC/MS/MS Determination of Emtricitabine and Tenofovir in Human Plasma**; Lina Tang; Hsun-Wen Chou; Venketraman Junnotula; Yuwen Zhao; Kris Singleton; Jamie Zhao; Yuan-shek Chen; Kumar Ramu; *QPS, LLC, Newark, DE*

WP 219 **Evaluation of Free and Protein-Bound 3-Nitrotyrosine in Human Plasma By Isotope Dilution LC-QqQ with an Artifactual Nitration-Free Proteolysis**; Thierry Delatour; Janique Richoz; Christophe Cavin; Aurélien Desmarchelier; *Nestle Research Center, Lausanne, Switzerland*

WP 220 **Studies of Intestinal Absorption and Serum Levels of Novel Chemopreventive Agents**; Soyoun Ahn[1]; Mark S Cushman[2,2]; John M Pezzuto[2]; Richard B. Van Breemen[1]; *[1]University of Illinois, Chicago, IL; [2]Purdue University, West Lafayette, IN*

WP 221 **Increasing the Selectivity of Clenbuterol Detection in Urine Samples By Using MS3 on a Hybrid Quadrupole-Linear Ion Trap**; Mauro Aiello; Rolf Kern; Beth Fernandez; Loren Olson; *Applied Biosystems, San Jose, CA*

WP 222 **Software Assisted Chiral Chromatographic Method Development for the Quantitation of Four Chiral Drugs in Human Plasma using LC/MS/MS**; Patrick Bennett; Min Meng; Lisa Rohde; *Tandem Labs, Salt Lake City, UT*

WP 223 **Application of High pH Mobile Phase in LC-ESI(+)/MS/MS under HILIC Mode to Reach Optimal Sensitivity for Bioanalysis**; Eugénie-Raphaëlle Bérubé; Jean-Nicholas Mess; Milton Furtado; Fabio Garofolo; *Algorithme Pharma Inc., Laval (Montreal), Quebec, Canada*

WP 224 **A Novel Algorithm for Quantitative LC Peak Integration**; Lyle Burton; Gordana Ivosev; Lau Adam; Ron Bonner; *MDS Analytical Tech, Sciex, Concord, Canada*

WP 225 **Trace Analysis (ppt) Via LC/MS/MS to Assess Removal of Various Pharmaceutical Compounds by Activated Carbon Based Drinking Water Filters**; Hong Jian Dai; Todd Branch; Peter Beerse; Stanley Cummins; Tom Huggins; *Procter & Gamble, Mason, OH*

WP 226 **Comparison of Linear Ion Trap and Triple Quadruple Mass Analyzer for Quantitation: An Antibiotics Case Study**; Susie Dai[1,2]; Timothy Herrman[1,2]; *[1]Office of the Texas State Chemist, College Station, TX; [2]Texas A&M University, College Station, TX*

WP 227 **Development and Validation of an LC-MS/MS Method for Farnesol Quantitation in Candida Albicans Biofilms**; Marie-Claude Denis; Karine Venne; Annie Leduc; Jean Barbeau; Alexandra Furtos; *Universite de Montreal, Montreal, Canada*

WP 228 **HPLC/MS/MS with In-Source Collision-Induced Dissociation for Direct Measurement of PEGylated Compounds in Biological Matrices**; Mark Dreyer[1]; Linda Chen[1]; Dale Schoener[2]; Oanh Dang[2]; *[1]Elan Pharmaceuticals, South San Francisco, CA; [2]Alta Analytical Laboratory, El Dorado Hills, CA*

WP 229 **Quantification of Illegal Drugs in Urine Using Magnetic Nanoprobes and MALDI-TOF MS**; Chi-Yi Ho[1]; Po-Chiao Lin[2]; Chun-Cheng Lin[2]; Ying-Wei Lu[2]; Mei-Chun Tseng[3]; Yu-Ju Chen[3]; Ming-Ren Fuh[1]; *[1]Department of Chemistry, Soochow University, Taipei, Taiwan; [2]Department of Chemistry, Tsing Hua University, Hsinchu, Taiwan; [3]Institute of Chemistry, Academia Sinica, Taipei, Taiwan*

WP 230 **500 Discovery Samples a Day: Maximizing Throughput and Minimizing Matrix Effects in Discovery Analysis**; Rob Horton; Gerard Dalglish; Edward Brewer; *Tandem Labs, West Trenton, NJ*

WP 231 **Preparation of Quantum Dots and Concentration Measurements via ICP-MS for The Application of Neurotransmitter Sensing**; Jong Sung Kim; Jeong Ha Yoo; *Kyungwon University, Seongnam, South Korea*

WP 232 **Summation of Multiple Transitions Monitoring in LC/MS/MS to Enhance Signal to Noise and to Reduce Variability**; François Viel; Isabelle M. Levesque; Sebastien Gagne; Sylvain Lachance; Philippe Belanger; Jean Couture; Ann Levesque; Robert Masse; *Anapharm, Québec, Canada*

WP 233 **Quantitation without Standards via Electrosprayed Clusters: Determining Solution Molar Fractions of Peptides and Small Molecules**; Ryan D. Leib; Tawnya G. Flick; Evan R. Williams; *University of California, Berkeley, CA*

WP 234 **Overcome Non-Phospholipid Related Matrix Effect and Continuing Improvement for the Quantification of Naltrexone and 6β-Naltrexol in Human Plasma by LC/MS/MS**; Min Meng; Lin Tan; Troy Volker; Ryan Alder; Patrick Bennett; *Tandem Labs, Salt Lake City, UT*

WP 235 **A Unique Approach for 'Top down Analysis' of Melamine in Herbal Matrix Using HCD and High Resolution Mass Spectrometry**; Ge Xiao Wei[1]; Nargund Sandy[2]; Martina Monique[2]; *[1]Health Sciences Authority, Singapore, Singapore; [2]Alpha Analytical [S] Pte Ltd, Singapore, Singapore*

WP 236 **The Simultaneous Detection of Metabolites and Quantification of Drug Molecules in Bioanalytical Assays**; Rob Plumb[1]; Paul Rainville[1]; Joanne Mather[2]; Ian Wilson[3]; *[1]Waters, Milford, MA; [2]waters corporation, Milford, MA; [3]Astra Zeneca, Macderfield, UK*

WP 237 **Ways to Handle Matrix Effect in Quantitative Bio-Analysis in Real Time Analysis**; Ashutosh Pudage; Noel Gomes; *Accutest Research Laboratory, Navi Mumbai, India*

WP 238 **Hydrophobic Interaction Chromatography (HILIC) Analysis of 6MPR For Targeted Drug Delivery to the Brain Using Gold Nanoparticles (AuNP) via LC/MS/MS**; Brian Rago; Julie Poe; Lisa Buchholz; Ayman El-Kattan; Charles Rotter; Manthena Varma; Paul Nkansah; *Pfizer, Groton, CT*

WP 239 **Monitoring Matrix Interferences in Biological Samples Utilizing Dual Scan MRM Mode Mass Spectrometry**; Paul Rainville[1]; Robert Plumb[2]; Joanne Mather[3]; *[1]Waters, Milford, MA; [2]Imperial College, London, UK; [3]waters corporation, Milford, MA*

WP 240 **Development of the New Method for Quantitation and Screening Analysis of Organic Acids by Means of Using IC/MS/MS**; Kaori Saito[1]; Tomoko Hamasaka[1]; Yoko Yamagishi[1]; Shigeru Sakamoto[1]; Takahiro Suzuki[2]; *[1]Thermo Fisher Scientific K.K., Yokohama, Japan; [2]Nippon Dionex K.K., Tokyo, Japan*

WP 241 **Quantitative Bioanalysis using Time of Flight Mass Spectrometry and Fast Liquid Chromatography**; Gunnar Stenhagen; *AstraZeneca R&D, Mölndal, Sweden*

WP 242 **Withdrawn**

WP 243 **Successful Applications of Autosampler Needle Seat Back-Flush to Reduce Carryover Using Common HPLC Hardware When Standard Washing Procedures Are Ineffective**; Marie-Pierre Taillon; Nikolay Youhnovski; Simon Robert; Louis-Philippe Morin; Milton Furtado; Fabio Garofolo; *Algorithme Pharma Inc., Laval (Montreal), Quebec, Canada*

WP 244 **Quadratic Behavior in Standard Curves in LC-MS/MS Bioanalytical Assays: Is a Wide Curve Range the Root Cause?** Long Yuan; Yunlin Fu; Anne-Francoise Aubry; Duxi Zhang; *Bristol-Myers Squibb, Princeton, NJ*

WP 245 **Development of an Automation Assisted Generic Approach for LC-MS/MS Method Validation**; Jie Zhang; Shimin Wei; H Tom Smith; Francis Tse; *DMPK, Novartis Pharmaceuticals Corp., East Hanover, NJ*

WP 246 **Multidimensional Molecular Identification by Laser Control Mass Spectrometry**; Xin Zhu; *East Lansing, MI*

CLINICAL CHEMISTRY, 247 - 275

WP 247 **Evaluation of 3-Iodothyronamine (T1AM) in Cell Preparation, Tissue Homogenates and Biological Fluids by HPLC-ESI-MS-MS**; Alessandro Saba[1]; Grazia Chiellini[2]; Sabina Frascarelli[2]; Sandra Ghelardoni[2]; Maja Marchini[2]; Andrea Raffaelli[3]; Riccardo Zucchi[2]; *[1]University of Pisa - Chemistry Dept., Pisa, Italy; [2]University of Pisa - Medical School, Pisa, Italy; [3]CNR ICCOM, Pisa, Italy*

WP 248 **Application of Diels-Alder Derivatization and 96 Well Plate Solid Phase Extraction to Increase the Throughput of 25-Hydroxyvitamin D3 Analysis**; Pavel A. Aronov[1]; Jun Yang[2]; Laura M. Hall[2]; Charles B. Stephensen[2]; Bruce D. Hammock[2]; *[1]Stanford, Stanford, CA; [2]University of California, Davis, CA*

WP 249 **Rapid Analysis of Catecholamines and Metanephrines in Biological Fluids by Automated Online Solid-Phase Extraction LC/MS/MS**; Sylvie Beaudet[1]; Martin Sibum[2]; Luce Boulanger[3]; *[1]MDS Analytical Technologies, Concord, Canada; [2]Spark Holland Inc.,, Emmen, Netherlands; [3]CHUM St-Luc Hospital, Montreal, Canada*

WP 250 **Development of a Reference Method for B6 Vitamer Pyridoxal 5'-Phosphate in Serum Using Isotope-Dilution Liquid Chromatography-Electrospray Ionization Tandem Mass Spectrometry**; Johanna E. Camara; Karen W. Phinney; *NIST, Gaithersburg, MD*

WP 251 **Determination of Plasma Free Metanephrines by On-Line Extraction and Hydrophilic Liquid Chromatography Coupled to Tandem Mass Spectrometry**; Karina Helena Morais Cardozo; Marlene Freitas Madeira; *Fleury Medicine and Health, São Paulo, Brazil*

WP 252 **Quantitation of Underivatized Acylcarnitines and Acyl CoA Fatty Acid Esters in Rat Tissue Samples Using Triple Quadrupole Mass Spectrometry**; James Carlson[1]; Jeff Miller[1]; Jenny Moshin[1]; Susan Leonard[1]; Yan Wang[2]; Irving Wainer[2]; *[1]Applied Biosystems, Framingham, MA; [2]NIH/NIA, Baltimore, MD*

WP 253 **High-Throughput Isotope-Dilution Liquid Chromatography-Tandem Mass Spectrometry Assay for Simultaneous Measurement of Vitamins D2 and D3 25-Hydroxy Metabolites in Human Serum;** Valdemir Melechco Carvalho; Odete Hirata Nakamura; Marlene de Freitas Madeira; José Gilberto Vieira; *Fleury Medicine and Health, Sao Paulo, Brasil*

WP 254 **Detection of Specific Porphyrias Using Tandem Mass Spectrometry**; Autumn W. Burns; John Choiniere; Frantisek Turecek; Michael H. Gelb; C. Ronald Scott; *University of Washington, Seattle, WA*

WP 255 **Simple and Fast Method for Determination of Acetaminophen in Serum**; Jose Luiz Costa[1]; Rafael Lanaro[2]; Anna Slyvia Ferrari Marques[1]; Helio Martins[1]; *[1]Applied Biosystems, Sao Paulo, Brazil; [2]Poison Control Center, Faculty of Medical, Campinas, Brazil*

WP 256 **A LC-MS/MS Platform for the Simultaneous TDM Analysis of Opiates and Benzodiazepines with Direct Urine Injection**; Christopher L. Esposito[1]; Francois A. Espourteille[2]; Matthew Berube[2]; *[1]Thermo Scientific, Franklin, MA; [2]Thermo Fisher Scientific, Franklin, MA*

WP 257 **Free and Total Sialic Acid in CSF by UPLC-MS/MS**; Sabrina Forni; Xiaowei Fu; Raphael Schiffmann; Lawrence Sweetman; *Inst. of Metabolic Disease, Baylor Res. Institute, Dallas, Texas*

WP 258 **Analysis of Antidepressants and Neuroleptics in Serum/Plasma by LC/MS/MS**; Tanya Gamble[2]; Tania A. Sasaki[1]; Lisa Sapp[1]; *[1]Applied Biosystems, Foster City, CA; [2]Applied Biosystems/MDS Analytical Technologies, Concord, Canada*

WP 259 **Quantification of Plasma S-Adenosyl Homocysteine and S-Adenosyl Methione by Stable Isotope Dilution Positive Ion ESI LC/MS/MS with On-Line Concentration**; David Hasman[1,2]; Sheila M Innis[2];

[1]Procyon Research Inc., Vancouver, Canada; [2]University of British Columbia, Vancouver, BC Canada

WP 260 **Analysis of Leukotriene B4 and Cysteinyl-Leukotrienes in Human Sputum**; Gloria P. Lee; Xiaoyao Xiao; Arnaldo Pica-Mendez; Omar Laterza; Wesley K. Tanaka; *Merck & Company, Inc., Rahway, NJ*

WP 261 **Automated SPE-LC/MS/MS Assay for 25-OH Vitamin D Metabolites in Blood**; Kimberly Eaton[1]; M. P. George[2]; Tony Brand[2]; Kimberly Gamble[3]; Ken Lewis[1]; *[1]OpAns, LLC, Durham, NC; [2]Agilent Technologies, Santa Clara, CA; [3]MicroLiter Analytical Supplies, Inc., Suwanee, GA*

WP 262 **A New Software Application Enabling User Walk-up LC-MS Quantification of Immunosuppressants for the Clinical Laboratory**; Dennis G. Nagtalon; *Thermo Fisher Scientific, San Jose, CA*

WP 263 **Endogenous Prednisolone and Prednisone Interference Elucidation by Linear Ion Trap in a Clinical Assay**; Brian C Netzel; Ravinder J. Singh; Molly A. VanNorman; Tania A. Sasaki[2]; *Mayo Clinic, Rochester, MN;* [2]Applied Biosystems

WP 264 **Improved Sensitivity in Mass Spectrometric Quantification of Cardiolipin in Human Serum by HPLC/ESI-MS**; Elizabeth W. Ogbonna[1]; Hee-Yong Kim[2]; Alfred L. Yergey[1]; Peter S. Backlund[1]; *[1]NICHD/NIH, Bethesda, MD; [2]NIAAA/NIH, Bethesda, MD*

WP 265 **An Isotope-Dilution GC/MS Method for the Quantitation of 25-Hydroxy-Vitamin D_3 in Human Serum**; Anna M. Przyborowska[1]; Graham D. Carter[2]; Julia C. Jones[2]; John M. Halket[1,2]; *[1]King's College London, London, UK; [2]Imperial College Healthcare NHS Trust, London, UK*

WP 266 **In-Source Water Loss As a Source of Analytical Error in Vitamin D LC/MS/MS Quantitative Analysis**; Eduard Rogatsky; Daniel Stein; *Albert Einstein College of Medicine, Bronx, NY*

WP 267 **Simultaneous Determination of Alpha-Aminoadipic Semialdehyde, Piperideine-6-Carboxylate, and Pipecolic Acid in Human Plasma by Liquid Chromatography-Mass Spectrometry**; Katerina Sadilkova[1]; Si Houn Hahn[1,2]; *[1]Seattle Children's, Seattle, WA; [2]University of Washington, Seattle, WA*

WP 268 **Method Development for the Determination of 25-Hydroxyvitamin D3 and 25-Hydroxyvitamin D2 in Serum Using Isotope Dilution Liquid Chromatography-Tandem Mass Spectrometry**; Susan Tai; *NIST, Gaithersburg, MD*

WP 269 **Plasma Free Metanephrine and Normetanephrine Quantitation Using On-line Sample Extraction Coupled with Tandem Mass Spectrometry**; Yang Shi; Catherine Lafontaine; Tim Haney; Joseph J. Takarewski; Francois A. Espourteille; *Thermo Fisher Scientific, Franklin, MA*

WP 270 **Increased Throughput of Vitamin D Analysis Using a Multiple Parallel LC-MS System**; Adrian Taylor; David Cox; Min J. Yang; John Gibbons; *MDS Analytical Technologies, Concord, Canada*

WP 271 **Fast Analysis of 15 Endogenous Estrogens using Positive Ion Electrospray with Cumulative Multicolumn Sequential Chromatography for Low Femtogram Analysis;** Timothy D. Veenstra[1]; Xia Xu[1]; Haleem Isaaq[1]; King Chan[1]; Robert Classon[2]; William A Hedgepeth[2]; *[1]SAIC-Frederick, Inc., Frederick, MD; [2]Shimadzu Scientific Instruments, Inc, Columbia, MD*

WP 272 **A Novel Derivatisation Reagent to Enhance the Detection Characteristics of Keto-Steroids via LC-MS**; Brian L Williamson; Marjorie Minkoff; Scott B. Daniels; Subhakar Dey; Babu Purkayastha; *Applied Biosystems, Framingham, MA*

WP 273 **High-Throughput Analysis of Serum 5&alpha-Dihydrotestosterone by 2D-LC-MS/MS**; Bingfang Yue[1]; Mark M. Kushnir[1]; A Wayne Meikle[1,2]; Alan L. Rockwood[1,3]; *[1]ARUP Laboratories, Salt Lake City, UT; [2]Dept. Medicine and Pathology, University of Utah, Sal Lake City, UT; [3]Dept. of Pathology, University of Utah, Salt Lake City, UT*

WP 274 **Simultaneous Screening, Quantitation and Confirmation of Regulated Chemicals for the Treatment of Erectile Dysfunction in Dietary Supplements**; Hwami Lee[1]; Hansoon Kwon[3]; Sunghoon Yeo[3]; Jiehui Hu[2]; Huaien Zhu[2]; Yongming Xie[2]; Sanghwa Kim[3]; Myunghee Kang[1]; Youngmi Jang[1]; *[1]Korea Food & Drug Administration, Incheon, South Korea; [2]Applied Biosystems1, Shanghai, China; [3]Applied Biosystems, Seoul, South Korea*

WP 275 **Detection and Quantification of the Endocrine Disruptor Clomiphene Citrate in Serum and Meconium by LC-ESI-MSn**; Justin Lygrisse; Kelsey Witherspoon; Michael J. Van Stipdonk; *Wichita State University, Wichita, KS*

PROTEOMICS: PTM DETERMINATION (OXIDATIVE MODIFICATIONS AND OTHERS), 276 - 308

WP 276 **Methodological Development for Mural Painting Ageing Study**; Sophie Dallongeville; Sylvia Turrell; Christian Rolando; Caroline Tokarski; *Univ. des Science/Tech de Lille, Villeneuve D'ascq, France*

WP 277 **Proteomics and Redox Proteomics Analyses to Understand the Role of Oxidative Stress in Immunosenescence of Aging Mice**; Renã A. Sowell; D. Allan Butterfield; *University of Kentucky, Lexington, KY*

WP 278 **Top-Down Identification of Protein Modifications Induced by Cigarette Smoke Condensate**; Pauline Le Faouder[1]; Iman Emami[2]; Caroline Tokarski[1]; Christian Rolando[1]; *[1]Univ. des Science/Tech de Lille, Villeneuve D'ascq, France; [2]Biosyntech, Paris, France*

WP 279 **Post-Translational Modifications of Model Proteins with 4-Hydroxynonenal, a Quantitative Analysis of Reactivity at Specific Sites**; Qingyuan Liu; Scott Gronert; *Virginia Commonwealth Univ., Richmond, VA*

WP 280 **Identification and Characterization of 3-Nitrotyrosine Modified Proteins in Cerebrospinal Fluid**; Ashley Beasley[1]; Avindra Nath[1]; Robert J. Cotter[2]; *[1]Johns Hopkins University School of Medicine, Baltimore, MD; [2]Middle Atlantic MS Laboratory, Baltimore, MD*

WP 281 **Modification Specific Proteomics: Specific Enrichment and Identification of Carbonylated Sites in Proteins**; Angela Pereira Da Rocha; Adelina Rogowska-Wrzesinska; Kenneth Bendix Jensen; Peter Roepstorff; *University of Southern Denmark, Odense, Denmark*

WP 282 **Primary Sequence and Site-Selective Hydroxylation of Prolines in Isoforms of the Peanut Allergen Protein Ara h 2**; Jinxi Li[1]; Kevin J. Shefcheck[2]; John H. Callahan[2]; Catherine Fenselau[1]; *[1]University of*

Maryland, College Park, MD; [2]FDA/CFSAN, College Park, MD

WP 283 **High-Content Quantitation of the S-Nitrosylated Proteins in Parkinson's Disease Paradigms**; Fanjun Meng[1,2]; Fan Wei[2]; Siqi Liu[2]; Zezong Gu[1,3]; *[1]University of Missouri-Columbia School of Medicine, Columbia, MO; [2]Chinese Academy of Sci Beijing Genomics Institute, Beijing, China; [3]Burnham Institute for Medical Research, La Jolla, CA*

WP 284 **Optimization of a 2DE-Based Biotin Switch Method for Proteomics Analysis of Nitrosylated Proteins**; Changgoog Wu; Tong Liu; Cexiong Fu; Wei Chen; Mohit Jain; Hong Li; *UMDNJ, Newark, NJ*

WP 285 **Identification of Sites and Tissue-Dependent Protein Targets for Posttranslational Modifications by 4-Hydroxy-2-Nonenal, an End-Product of Lipid Peroxidation, in the Mitochondria**; Navin Rauniyar; Katalin Prokai-Tatrai; Laszlo Prokai; *UNT Health Science Center, Fort Worth, TX*

WP 286 **Characterization and Performance of a Multicomponent Protein Mixture for the Analysis of Tyrosine Nitration Using Several Mass Spectrometry Platforms**; Bensheng Li; Birgit Schilling; Jason M. Held; Bradford W. Gibson; *Buck Institute for Age Research, Novato, CA 94945*

WP 287 **Quantitative Profiling of Site-Specific Hydroxylation on the Hypoxia-Inducible Factors HIF1&alpha and HIF2α** Dean E. Mcnulty; Melissa B. Pappalardi; Lusong Luo; Roland S. Annan; *GlaxoSmithKline, King of Prussia, PA*

WP 288 **Withdrawn**

WP 289 **Label-Free Strategy for Site-Specific Quantitation of S-Nitrosylome**; Hsiao-Chiao Chou[1,3]; Yi-Ju Chen[2,3]; Wei-Chi Ku[3]; Yu-Ju Chen[3]; *[1]Department of Chemistry, NTU, Taipei City, Taiwan; [2]IBS, National Taiwan University, Taipei City, Taiwan; [3]Institute of Chemistry, Academia Sinica, Taipei City, Taiwan*

WP 290 **A Strategy for Direct Identification of Protein S-Nitrosylation Sites by Quadrupole Time-of-Flight Mass Spectrometry**; Tong Liu; Yan Wang; Changgong Wu; Hong Li; *UMDNJ, Newark, NJ*

WP 291 **Peroxynitrite-Mediated Oxidative Post-Translational Modifications of Mitochondrial Complex II in the Post-Ischemic Myocardium**; Liwen Zhang; Chwen-Lih Chen; kari. B Green-Church; Yoeng-Renn Chen; *Ohio State University, Columbus, OH*

WP 292 **Mass Spectrometry-Based Site-Specific Identification of S-Nitrosylome in Cardiovascular System**; Yi-Ju Chen[1,2]; Hsiao-chiao Chou[2,3]; Wei-Chi Ku[2]; Kay-hooi Khoo[1,4]; Yu-Ju Chen[2]; *[1]IBS, National Taiwan University, Taipei City, Taiwan; [2]Institute of Chemistry, Academia Sinica, Taipei City, Taiwan; [3]Institute of Chemistry, National Taiwan University, Taipei City, Taiwan; [4]IBC, Academia Sinica, Taipei City, Taiwan*

WP 293 **Detection of Oxidation-Associated *in vivo* Carbonylation of Biologically Significant Proteins during Early Development of Zebrafish Embryos**; Tatjana Talamantes; Navin Rauniyar; Katalin Prokai-Tatrai; Laszlo Prokai; *University of North Texas Health Science Center, Fort Worth, TX*

WP 294 **Analysis of Arginine and Lysine Methylation using Electron Transfer Dissociation Mass Spectrometry and Peptide Separations at Neutral pH;** Ambrosius PL Snijders; Ming-Lung Hung; Stuart A Wilson; Mark J Dickman; *University of Sheffield, Sheffield, UK*

WP 295 **Towards the Development of a Method for the Quantitation of Methylation to Lysine Residues in Proteins**; Anthony Berardinelli[1]; Bruce Snyder[2]; Amanda Bryant-Friedrich[1]; Wendell P. Griffith[1]; *[1]University of Toledo, Toledo, OH; [2]Emmanuel Christian High School, Toledo, OH*

WP 296 **Post-Translational Modifications on the Subunit p65 of NFkB**; Benlian Wang[1]; Tao Lu[2]; Masaru Miyagi[1]; George R. Stark[2]; Mark Chance[1]; *[1]Case Western Reserve University, Cleveland, OH; [2]Lerner Research Institute, Cleveland, OH*

WP 297 **An Unusual Case Study: MS/MS Spectrum of a Lysine-Methylated Peptide Looks Almost Perfectly Like That of a Serine Methylated Peptide**; Junmei Zhang[1]; Yue Chen[2]; Zhihong Zhang[2]; Joanna Wysocka[3]; Yingming Zhao[4]; *[1]University of Texas Southwestern Medical Center, Dallas, TX; [2]University of Chicago, Chicago, IL; [3]Stanford University, Stanford, CA; [4]The University of Chicago, Chicago, IL*

WP 298 **Microtubules of Toxoplasma Gondii Contain C-Terminal Methylated α- and β-Tubulins**; Hui Xiao[1]; Kamal EI Bissati[1]; pascal Verdier-Pinard[2]; Kami Kim[1]; Berta Burd[1]; Ruth Hogue Angeletti[1]; Louis M. Weiss[1]; *[1]Albert Einstein College of Medcine, Bronx, NY; [2]Aix-Marseille Université,, Marseille cedex, France*

WP 299 **Screening of Ubiquitin K11 Linkage Specific Substrates by Quantitative Differential Display Proteomics Approach**; Ping Xu[1]; Duc Duong[1]; Nicholas Seyfried[2]; D. Jessica Cheng[1]; John Rush[3]; Mark Hochstrasser[4]; Daniel Finley[5]; Junmin Peng[1]; *[1]emory university, Atlanta, GA; [2]Department of Human Genetics, Atlanta, GA; [3]Cell Signaling Technology, Danvers, MA; [4]Yale University, New Haven, CT; [5]Harvard University, Boston, MA*

WP 300 **Identification of EGF-Stimulation Specific PCM1 Interaction Partners by Quantitative Proteomics**; Vyacheslav Akimov; Kristoffer T. G. Rigbolt; Blagoy Blagoev; *Uni. of Southern Denmark, Odense, Denmark*

WP 301 **Characterisation of SUMOylated RanGAP1 by Ion Mobility/Time of Flight Mass Spectrometry;** Mark Skehel; Helen Flynn; Sarah Maslen; *Cancer Research UK, Hertfordshire, UK*

WP 302 **Mapping Endogenous SUMO Sites: A Novel Approach Using ESI-MS and Modified Database Search with Common Search Engines**; He-Hsuan Hsiao[1]; Erik Meulmeester[2]; Benedikt T.C. Frank[3]; Frauke Melchior[2]; Henning Urlaub[1]; *[1]Bioanalytical Mass Spectrometry Group, MPIbpc, Goettingen, Germany; [2]Faculty of Medicine, University of Goettingen, Goettingen, Germany; [3]Department of NMR Based Structural Biology, MPIbpc, Goettingen, Germany*

WP 303 **Proteomic Analysis of SUMOylated Proteins in Mammalian Cells**; Xiaoyan Liu; Fujian Zhang; Jianjun Zhai; Haining Zhu; *Univ. of Kentucky, Lexington, KY*

WP 304 **A Quantitative Proteomics Approach to Characterize A Cellular TDP-43 Proteinopathy Model**; Nicholas Seyfried[1,3]; Yair M. Gozal[2,3]; Qiangwei Xia[1,3]; Duc Duong[1,3]; Allan I. Levey[2,3]; James J. Lah[2,3]; Junmin Peng[1,3]; *[1]Department of Human Genetics, Atlanta, GA; [2]Department of Neurology, Atlanta, GA; [3]Emory University, School of Medicine, Atlanta, GA*

Posters must be set up 8:00 - 8:30 am on the day scheduled and removed 7:30 to 8:00 pm. Authors of odd numbered posters (001, 003, 005, etc.) are required to be present 10:30 – 12:30. Authors of even numbered posters (002, 004, 006, etc.) must be present 12:30 – 2:30 pm.

WP 305 **Quantitative Identification of Acyl Modifications in SDS Resistant Pellets of S. Cerevisiae**; Hongying Zhong; Jianjian Li; Yingxia Yue; *Central China Normal University, Wuhan, China*

WP 306 **Probing Huntingtin Palmitoylation Sites by Mass Spectrometry**; Fiona BJ Young[2,3]; Michael R Hayden[2,3]; Bernd O Keller[1,3]; *[1]University of British Columb, Vancouver, Canada; [2]UBC-CMMT, Vancouver, BC; [3]UBC-Child&Family Res. Institute, Vancouver, BC*

WP 307 **GPIomics: Global Analysis of Glycosylphosphatidylinositol (GPI)-Anchored Molecules of Trypanosoma cruzi by Tandem Mass Spectrometry**; Ernesto S. Nakayasu[1]; Dmitry V. Yashunsky[2]; Lilian L. Nohara[1]; Ana C.T. Torrecilhas[3]; Andrei V. Nikolaev[2]; Igor C. Almeida[1]; *[1]University of Texas at El Paso, El Paso, TX; [2]University of Dundee, Dundee, UK; [3]University of Sao Paulo, Sao Paulo, Brazil*

WP 308 **Identification and Profiling of Novel Fatty Acid Modifications to Lens Major Intrinsic Protein AQP0**; Zhen Wang[1]; Danielle B Gutierrez[2]; Angus C Grey[1]; Kevin L Schey[1]; *[1]Vanderbilt University, Nashville, TN; [2]Medical University of South Carolina, Charleston, SC*

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WP 309 **Characterization of the "Ion-CCD" Used as Position Sensitive Detector for Charged Particles**; Omar Hadjar; Gottfried Kibelka; Scott Shill; Scott Kassan; Chad Cameron; *O.I. Analytical, Pelham, AL*

WP 310 **Single Large Biomolecular Ion Detection**; Chien-Hsun Chen[1]; Jung-Lee Lin[1]; Ming-Lee Chu[2]; Yi-Sheng Wang[1]; Chung-Hsuan Chen[1]; *[1]Genomics Research Center, Academia Sinica, Taipei, Taiwan; [2]Institute of Physics, Academia Sinica, Taipei, Taiwan*

WP 311 **M2 Ion Detector for High Speed and Wide Dynamic Range**; Motohiro Suyama; *Hamamatsu Photonics K.K., Iwata, Japan*

WP 312 **Improvements in Charge Detection Mass Spectrometry**; Joshua Maze; Lloyd Zilch; John Smith; Nathan C. Contino; Haitao Tu; George E. Ewing; Martin Jarrold; *Indiana University, Bloomington, IN*

WP 313 **Increased Quantitative Throughput and Selectivity for Triple Quadrupole Mass Spectrometer Based Assays Using Intelligent SRM (iSRM)**; Reiko Kiyonami[1]; Alan E. Schoen[1]; Amol Prakash[1]; Huy Nguyen[1]; Scott Peterman[1]; Vlad Zabrouskov[1]; Charles T. Yang[1]; Dipankar Ghosh[1]; Kristi D. Akervik[1]; Nathalie Selevsek[2]; Andreas F Huhmer[1]; Bruno Domon[2]; *[1]ThermoFisher Scientific, San Jose, CA; [2]ETH Zurich, Zurich, Switzerland*

WP 314 **Web-Enabled Management of an Ionization Source and Data Processing with the Apple iPod Touch**; Peter Leopold[1]; Elizabeth Crawford[2]; Joseph Tice[2]; Michael Festa[2]; *[1]BioAnalyte Inc., Portland, ME; [2]IonSense, Inc., Saugus, MA*

WP 315 **RePlay® Combined with an Exclusion List Script Significantly Improves Number of Protein Assignments from Complex Proteomic Samples**; Daniel Eikel[1]; Christian Albers[2]; Geoffrey S. Rule[3]; Simon J. Prosser[4]; *[1]AdvionBioSystems, Ithaca, NY; [2]Bruker Daltonik, Bremen, GERMANY; [3]Advion BioSystems, Salt Lake City, UT; [4]Advion BioSciences, Inc., Ithaca, NY*

WP 316 **The Sensitivity of Laser-Induced Acoustic Desorption/Electron Ionization in a Fourier Transform Ion Cyclotron Resonance Mass Spectrometer**; Zhicheng Jin[1]; Hilkka Kenttamaa[2]; *[1]Purdue University, West Lafayette, IN; [2]Chemistry Department, West Lafayette, IN*

WP 317 **Development of Multiplexed Protein Separation and Identification Using Digital Microfluidics and Mass Spectrometry**; Adam A. Stokes; Yifan Li; William Parkes; David J. Clarke; Pat Langridge-Smith; C. Logan Mackay; Anthony J. Walton; *The University of Edinburgh, Edinburgh, Scotland*

WP 318 **Development of an Integrated High-Pressure Microfluidic Nano-LC Platform**; James Murphy; Geoff Gerhardt; Angela Doneanu; Jay Johnson; Joseph Michienzi; Keith Fadgen; *Waters Corporation, Milford, MA*

WP 319 **High Efficiency Mass Spectrometry Systems with Discontinuous Atmospheric Pressure Interface**; Nicholas A. Charipar; Jason D. Harper; Matthew A. Kirleis; Wei Xu; Zheng Ouyang; *Purdue University, Lafayette, IN*

WP 320 **In-Source Atmospheric Pressure-Electron Capture Dissociation (AP-ECD): A New Tool for Structural Characterization of Peptides**; Damon Robb[1]; Jason Rogalski[1]; Juergen Kast[1]; Michael Blades[2]; *[1]University of British Columbia, Vancouver, Canada; [2]University of British Columb, Vancouver, BC*

WP 321 **Online Bioaffinity- Electrospray Mass Spectrometry: Combining Molecular Identification and Bioaffinity Quantification in Biopolymer Interactions**; Michael Przybylski[1]; Mihaela Dragusanu[1]; Stefan Slamnoiu[1]; Alina Petre[1]; Tingting Tu[2]; Michael L. Gross[2]; *[1]University of Konstanz, Konstanz, Germany; [2]Washington University, Saint Louis, MO*

WP 322 **Electrochemistry / Electrospray Mass Spectrometry for Investigation of Reaction Kinetics**; Boguslaw Pozniak; Richard B. Cole; *University of New Orleans, New Orleans, LA*

WP 323 **Theoretical Studies of the Effect of Swirling Flow on Ion Focusing in a Coaxial Flow Electrospray Ion Source**; Serguei Savtchenko[2]; Lisa Cousins[2]; Nasser Asgriz[1]; *[1]University of Toronto, Toronto, ON, Canada; [2]IONICS Mass Spectrometry Group Inc., Toronto, ON*

WP 324 **Simulations for Determining Mass Spectral Quality from μ-Cylindrical Ion Traps Using a Hard-Sphere Collision Buffer Gas Model**; Friso H. W. van Amerom; Ashish Chaudhary; Tim Short; *SRI International, St Petersburg, FL*

WP 325 **A Carbon Nanotube Ionization Source for a Low Power Ion Trap Mass Spectrometer for Martian Organic Analysis**; Theresa Evans-Nguyen[1]; Charles Parker[2]; Christina Hammock[3]; Vladimir M. Doroshenko[4]; Jeffrey Glass[2]; Luann Becker[5]; Robert J. Cotter[1]; *[1]Johns Hopkins School of Medicine, Baltimore, MD; [2]Duke University, Durham, NC; [3]Johns Hopkins Applied Physics Lab, Laurel, MD; [4]MassTech, Inc., Columbia, MD; [5]Johns Hopkins University;, Baltimore, MD*

WP 326 **A Rotating Ball LC/SALDI Interface Surface Activation and Analytical Performance**; Sergey Alimpiev[3]; Alexander Gretchnikov[2]; Jan Sunner[1]; Sergey Nikiforov[3]; Yaroslav Simanovsky[3]; *[1]University of Portsmouth, Portsmouth, UK; [2]Vernadsky Inst Geochem Anal Chem, Russ Acad Sci, Moscow, Russia;*

[3]Prokhorov General Physics Inst Russ Acad Sci, Moscow, Russia

WP 327 **Automated Vacuum Compatible Sample Positioning Device for Imaging Mass Spectrometry;** Konstantin Aizikov[1]; Donald Smith[2]; David A. Chargin[3]; Sergei Ivanov[3]; David H. Perlman[4]; Tzu-yung Lin[5]; Nadezda P. Sargaeva[5]; Ron M.A. Heeren[6]; Peter B. O'Connor[7]; *[1]BUSM Mass Spectrometry Re, Boston, MA; [2]FOM-AMOLF, Amsterdam, Netherlands; [3]Fraunhofer CMI, Boston, MA; [4]Boston U. Sch. of Medicine, Boston, MA; [5]Boston University, Boston, MA; [6]FOM Inst. Atomic/Molecular Phy, Amsterdam, Netherlands; [7]University of Warwick, Coventry, UK*

WP 328 **No Portable Mass Spec Required: Adaptive Sampling in the Field Using a Portable Automated Purification Robot with Lab MS ID**; David Fries; Brian Gregson; Geran Barton; Stan Ivanov; *U South Florida, St Petersburg, FL*

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WP 329 **Compatability of UHPLC with MS, Are We More Productive?** Marc Elliott[1]; Sean Mchugh[1]; Mark Woodruff[2]; Ken Butchart[2]; *[1]Resolution Analytical Systems, Holland, MI; [2]Fortis Technologies Ltd, Neston, UK*

WP 330 **Open Access with Open Arms: Implementation of a Single System that Meets the Varying Needs of Different Compounds**; Zachary S Giles; *GlaxoSmithKline, Rtp, NC*

WP 331 **A Postcolumn Device for Signal Intensity Improvement of Peptides in TFA-containing Mobile Phase LC/MS**; Nan-Hsuan Wang; Wan-Li Lee; Guor-Rong Her; *National Taiwan University, Taipei, Taiwan*

WP 332 **LC-MS/MS Bioanalysis of Variety of Pharmaceutical Compounds in High-pH Mobile Phases**; Jian Wang; Mohammed Jemal; *Bristol-Myers Squibb, Princeton, NJ*

WP 333 **Development of a Desalting Interface for LC/MS Mobile Phase Containing Non-volatile Salts**; Yutaka Takahashi[1,2]; Kanae Teramoto[1]; Kazumi Yoshida[3]; Kazuhiro Chiba[3]; *[1]JEOL, Tokyo, Japan; [2]TUAT-TLO. Co. Ltd, Tokyo, Japan; [3]Tokyo University of Agriculture and Technology, Tokyo, Japan*

WP 334 **Reduce Column Related Carryover for Bioanalysis by Alternating the Column Flow Direction in LC/MS/MS**; Susan Chen; Ji Zhang; Debra Liao; Michael Johnson; Shaoxia Yu; Justin Gordon; Jing-Tao Wu; Mark Qian; *Millennium: The Takeda Oncology Company, Cambridge, MA*

WP 335 **Novel Automated Online Column Switching HILIC-RP-LC/MS Method for the Analysis of Complex Samples**; Egidijus Machtejevas[1]; Sven Andrecht[1]; Robertus Hendriks[1]; Klaus K. Unger[2]; *[1]Merck KGaA, Darmstadt, Germany; [2]Johannes Gutenberg University, Mainz, Germany*

WP 336 **A Novel Micro-Affinity Column for LC ICP-MS Analysis of Trace Metalloproteins in Bio-Fluids**; Sabrina Tachdjian[2]; Naoki Furuta[1]; Kazunori Iwata[3]; Takashi Kotsuka[3]; *[1]Chuo University, Tokyo, Japan; [2]Showa Denko America, Inc., New York, NY; [3]Showa Denko KK, Tokyo, Japan*

WP 337 **Method Development Strategies for Ultra High-Throughput LC-MS/MS Analysis of Small Polar Molecules Utilizing HILIC Mechanisms**; Brian Rappold; Russell Grant; Patricia Holland; *Labcorp, Burlington, NC*

WP 338 **Application of a Structured Approach for Method Development in Bioanalytical HILIC-MS/MS Applications**; A. Carl Sanchez; Monika M. Kansal; *Phenomenex, Torrance, CA*

WP 339 **Identification and Separation of an Environmental Contaminant (Synephrine) During the Measurement of Free Phenylephrine in Human Plasma using ESI-HILIC-LC/MS/MS**; Michael P. Waldron; Jordan Honrine; Patricia E. Paterson; Bruce Hidy; Rand G. Jenkins; *PPD, Richmond, VA*

WP 340 **Alternative LC Columns for Hydrophilic Compounds for Better Detection and Separation in LC/MS**; Kazuko Haseyama; Hiroko Arai; Isao Yanagisawa; Taketoshi Kanda; Osamu Shirota; *Shiseido, Tokyo, Japan*

WP 341 **The Separation of Popular Cold, Sinus, and Allergy Medications using TSK-GEL ODS-140HTP Columns**; Atis Chakrabarti; Shigeru Nakatani; J.Kevin O'Donnell; *Tosoh Bioscienc LLC, Montgomerryville, PA*

WP 342 **High Throughput Qualitative and Quantitative LC/MS Analyses Based on Fused-Core™ Columns**; Nelson Huang; Peter Tate; Ning Pan; Franklin Schlerman; Oliver McConnell; *Wyeth, Cambridge, MA*

WP 343 **Recent Advancements in Accelerated Bioanalytical LC/MS Using Fused-Core Columns**; Richard L. Beardsley; Ethan R. Badman; Zhenmin Liang; Surendra Bansal; *Hoffmann-La Roche Inc., Nutley, NJ*

WP 344 **Evaluation of C18 Sub 2 Micron Particle Columns for UPLC Analysis of Drug-like Molecules**; Iris Scherer; Melissa Gomez; Luke Miller; *GlaxoSmithKline, Rtp, NC*

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WP 345 **Sample Preparation of Phosphorus-Containing Amino Acid Herbicides Using TiO_2-Coated Monolithic Spin Column**; Shota Miyazaki; *GL Sciences Inc., Saitama, Japan*

WP 347 **In Preparative LC/MS, Loadability and Peak Shape Changes with pH and Concentration are Rationalized Based on Eluent Conditions and Analyte**; Xu Zhang; Mark J. Hayward; *Lundbeck Research USA, Paramus, NJ*

WP 347 **Norbornene-Based Monolithic Pre-Columns for LC/MS Analysis in Nanomedical Research**; Christina Gatschelhofer[1]; Agnes Mautner[1]; Michael R. Buchmeiser[2]; Andreas Zimmer[3]; Karin Wernig[3]; Thomas R. Pieber[1,4]; Frank M. Sinner[1]; *[1]Joanneum Research, Graz, Austria; [2]Leibniz Institute for Surface Modification e.V., Leipzig, Germany; [3]University of Graz, Graz, Austria; [4]Medical University Graz, Graz, Austria*

WP 348 **LC Autosampler with "Straight-to-Column" Structure Desigend for Ultimate Seperation Efficiency and Anti-Carryover Performance in LC-MS**; Osamu Shirota; *Shiseido, Yokohama, Japan*

WP 349 **Automatic Non-Volatile Salt and Ion-Pair Reagent Removal System for Impurity Determination in Pharmaceutical Products**; Satoshi Yamaki; Naoki Hamada; Yoshihiro Hayakawa; Shuzo Maruyama; Junko Iida; *Shimadzu Corporation, Kanagawa, Japan*

WP 350 **Automated Extraction of Pharmaceutical Compounds in Plasma**; William Hudson; Yung-Lin Chen; *Varian, Inc., Lake Forest, CA*

WP 351 **Two Dimensional Online Solid-Phase Extraction Combined with Liquid Chromatography – Mass**

Spectrometry; Martin Sibum; Emile Koster; *Spark Holland Inc., Plainsboro, NJ*

WP 352 **Comparing ESI and APCI Sources to Screen Dairy-Based Foods for Melamine by Rapid On-line Extraction with LC-MS/MS**; Joseph Di Bussolo[1]; Rory Rohm[2]; *[1]Thermo Fisher Scientific, West Chester, PA; [2]West Chester University of PA, West Chester, PA*

WP 353 **Analysis of Melamine and Cyanuric Acid from Baby Formula with Clean Up Using Solid Phase Extraction (SPE)**; Shahana Huq; *Phenomenex, Torrance, CA*

WP 354 **Quantitative Determination of Drug Concentrations in Tissue Homogenates Using LC-MS/MS Plasma Assays**; Hao Jiang; Jianing Zeng; Mark Arnold; *Bristol-Myers Squibb, Princeton, NJ*

WP 355 **Understanding the Role of Oleic Acid and Its Metabolite in Atherosclerosis by Determining Their Levels in Human Plasma Using SPE-LC-MS/MS**; Huiling Liu[1]; Qunjie Wang[1]; Changyong Xue[2]; Yinghua Liu[2]; Jin Wang[2]; Yuehong Zhang[2]; Xiaoxing Lv[2]; Junyan Zhang[1]; Jie Liao[2]; *[1]Agela Technologies Inc, Newark, NJ; [2]General Hospital of Chinese PLA, Beijing, China*

WP 356 **Impact of Side Reactions Involving Strong Cation Exchange SPE Mechanism on Bioanalytical Assay Accuracy by Using LC-MS/MS**; Catherine Fontaine; Jean-Nicholas Mess; Milton Furtado; Fabio Garofolo; *Algorithme Pharma Inc., Laval (Montreal), Quebec, CANADA*

WP 357 **Modification of the QuEChERS Extraction Procedure for the Analysis of Veterinary Medicine Residues in Animal Tissue by SPE-LC-MS/MS**; Richard Schriner[1]; Jason Causon[2]; Jason Clague[1]; *[1]Hill Laboratories, Hamilton, New Zealand; [2]University of Surrey, Guilford, UK*

WP 358 **Analysis of Drugs of Abuse Using Automated Disposable Pipette Extraction and LC/MS/MS**; Fred Foster[1]; William Brewer[2]; Sparkle Ellison[2]; Stephen Morgan[2]; Tom Gluodenis[3]; *[1]Gerstel, Inc., Linthicum, MD; [2]University of South Carolina, Columbia, SC; [3]Agilent Technologies, Wilmington, DE*

WP 359 **Multiresidue Analysis of Aminoglycoside Antibiotics Using Disposable Pipette Extraction and Liquid Chromatography-Tandem Mass Spectrometry**; Katerina Mastovska; Alan R. Lightfield; *USDA-ARS-ERRC, Wyndmoor, PA*

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WP 360 **Top Down Approaches for the Identification of Peptidic Toxins Containing Disulfide Bonds;** Chafia Bennaceur[1]; Carlos Afonso[1]; Sandra Alves[1]; Anne Bossée[2]; Jean-Claude Tabet[1]; *[1]Université Paris 6, Paris, France; [2]Centre d'Etudes du Bouchet, Vert-le-Petit, France*

WP 361 **Characterization of Peptide-Hormone Somatostatin Using Different Tandem Mass Spectrometry Methods**; Marija Mentinova; Hongling Han; Scott A. Mcluckey; *Purdue University, West Lafayette, IN*

WP 362 **Relevance of Peak Assignment Criteria in the Analysis of Disulfide-Bonded Peptides Using Collision Induced Dissociation Spectra**; Daniel Clark; Melinda L Toumi; Eden P Go; Heather Desaire; *University of Kansas, Lawrence, KS*

WP 363 **Oxidative Cleavage of Disulfide Bond for Sequencing and Disulfide Mapping in Polypeptides**; Yu Xia; R. Graham Cooks; *Purdue Univeristy, West Lafayette, IN*

WP 364 **ESI- and MALDI-MS/MS Analysis of Intramolecular Cross-Linked Peptides with a Photoactivated NHS-Diazirine Cross-linker**; Alexandre F. Gomes; Fabio C Gozzo; *Institute of Chemistry - University of Campinas, Campinas, Brazil*

WP 365 **Fragmentation of Intermolecular Cross-Linked Peptides by ECD and IRMPD**; Luiz Fernando Arruda Santos; Amadeu H Iglesias; Fabio C Gozzo; *IQ - University of Campinas, Campinas, BRAZIL*

WP 366 **TxXIIIA, an Atypical Homodimeric Conotoxin Found in the *Conus textile* Venom**; Loic Quinton[1]; Nicolas Gilles[2]; Edwin De Pauw[1]; *[1]University of Liege, Liège, Belgium; [2]CEA, iBiTec-S, SIMOPRO, Gif-sur-Yvette, France*

WP 367 **Characterization of Peptides Linked by Disulfide-containing Crosslinkers with Various Tandem Mass Spectrometric Approaches**; Tyler J. Greer; Bo Wang; Kristina Hakansson; *Univ. of Michigan, Ann Arbor, MI*

WP 368 **Characterization of Peptides from Skin Secretions of Amphibians by Composition-Based *de novo* Sequencing**; Markus Langsdorf[1]; Alireza Ghassempour[2]; Andreas Roempp[1]; Bernhard Spengler[1]; *[1]Justus Liebig University, Giessen, Germany; [2]Shahid Beheshti University, Tehran, Iran*

WP 369 **Sequencing of Peptides Produced in the Process of Mimicking Prebiotic Syntheses from Amino Acids by Thermocycling**; Alexey Kononikhin[1,3]; Olga Demina[3]; Erast Kunenkov[2]; Andrey Khodonov[3]; Maria Indeykina[2]; Igor Popov[1,3]; Sergey Varfolomeev[2,3]; Eugene Nikolaev[1,3]; *[1]The Institute for Energy Problems of Chemical Phys, Moscow, Russian Federation; [2]Lomonosov Moscow State University, Moscow, Russian Federation; [3]Emanuel Institute of Biochemical Physics, Moscow, Russian Federation*

WP 370 **New Insights into Human Chromium Binding Peptides**; Heather Watson; Yuan Chen; Carolyn J. Cassady; John B. Vincent; *University of Alabama, Tuscaloosa, AL*

NATURAL PRODUCTS, 371 - 392

WP 371 **Identification of a Novel Wasp Venom Peptide via Micro-Scale Chemical Modifications and Tandem Mass Spectrometry**; Zhihua Yang; Athula B. Attygalle; Václav Čeřovský; *Stevens Institute of Technology, Hoboken, NJ*

WP 372 **Natural Product Screening and Identification Using a Combination of High-throughput UPLC-TOF and Hybrid Linear Ion Trap - FTMS LC/MS;** Jeffrey R. Gilbert; Paul Lewer; Dennis O. Duebelbeis; Don R. Hahn; *Dow AgroSciences, Indianapolis, IN*

WP 373 **Mass Spectrometric Analysis of Polyketide Biosynthesis: Direct Infusion FTICR-MS Versus Low-Resolution LC-MS for Analysis of Active-Site Bound Intermediates**; Christopher M Rath; David H Sherman; Kristina Hakansson; *University of Michigan, Ann Arbor, MI*

WP 374 **Structural Characterization of New Statin-Like Flavonoid Glycosides in Citrus Bergamia by High Resolution Mass Spectrometry**; Leonardo Di Donna; Giuseppina De Luca; Anna Napoli; Fabio Mazzotti; Domenico Taverna; Giovanni Sindona; *Università della*

Calabria, Dipartimento di Chimica, Arcavacata di rende (CS), Italy

WP 375 **High-Resolution TOF LC/MS Characterization of the Enzymatic Glycosylation of Stevia Rebaudiana: A Comparison of Natural and Enzyme-Treated Stevia Extracts;** Katrina Emmel[1]; Ted Waszkuc[1]; Susan Kraemer-Berkman[1]; Andre Szczesniewski[2]; Sue D'antonio[2]; *[1]NOW Foods, Bloomingdale, IL; [2]Agilent Technologies, Schaumburg, IL*

WP 376 **The Development of a New Algorithm for Empirical Formula Calculations Based On Multiple Molecular Ion Data**; Ichiro Hirano[1]; Yusuke Inohana[1]; Yutaro Yamamura[1]; Norio Mukai[1]; Michizane Hashimoto[2]; Neil Loftus[3]; John Warrander[3]; *[1]Shimadzu Corporation, Kyoto, Japan; [2]Astellas Pharma Inc., Tsukuba, Japan; [3]Shimadzu ISS, Manchester, UK*

WP 377 **High Precision Molecular Formula Determinations of Phytochemicals in Plant Extracts using the Isotope Fine Structure obtained by 15T FT-ICR MS**; Jang Mi Jin; Kyu Hwan Park; Dong Wan Lim; Jong Shin Yoo; Hyun Sik Kim; *Korea Basic Science Institute, Daejon, South Korea*

WP 378 **Characterization of Phenolic Compounds in Almond Agricultural Wastes by Negative Ion ESI LC/MS for Potential Nutraceutical Applications**; Carina Minardi; Crisand Anderson; Anuradha Prakash; Christine A. Hughey; *Chapman University, Orange, CA*

WP 379 **Developmental Validation for the Simultaneous Quantification of Multiple Bioactive Polyphenolic Compounds in Herbal Extracts by a High Throughput LC-MS/MS Method**; Xiao Chuan Li[1,2]; Kim B. Plath[2]; Richard E. Staub[3]; Uwe Christians[1,2]; Isaac Cohen[3]; Yan Ling Zhang[1,2]; *[1]Univ. of Colorado Health Science, Aurora, CO; [2]bioNovo CO, Aurora, CO; [3]bioNovo CA, Emeryville, CA*

WP 380 **Determination of Cytotoxic Alkaloids in Houttuynia Cordata by Liquid Chromatography/Electrospray Ionization-Tandem Mass Spectrometry**; Fang-Ju Chou; Ting-Ting Jong; Maw-Rong Lee; *National Chung Hsing University, Taichung, Taiwan*

WP 381 **Determination of Digoxin and Digitoxin by Electrospray Ionization Ion Trap Time-Of-Flight Tandem Mass Spectrometry**; Kang Ma[2]; Leren Wan[1]; Jing Dong[1]; Hashi Yuki[1]; Li Hongmei[2]; *[1]Shimadzu Shanghai Office, Shanghai, China; [2]National Institute of Metrology of China, Beijing, China*

WP 382 **Use of GC-QTOF MS to Identify Unknown Compounds in Herbal Extracts**; Viorica Lopez-Avila; Adrian P. Land; George Yefchak; *Agilent Laboratories, Santa Clara, CA*

WP 383 **Identification & Confirmation of Hydrolysable Tannins from Phyllagathis Preatermissa with Coupling of NMR & FTMS**; Hooi Poay Tan[1,2]; Sui Kong Ling[1]; Cheng Hock Chuah[2]; Hun Teong Cheah[3]; *[1]Forest Research Institute Malaysia, Kepong, Selangor; [2]University of Malaya, Kuala Lumpur, W.Persekutuan; [3]Alpha Analytical Malaysia, Shah Alam, Malaysia*

WP 384 **Tandem Mass Spectrometric Characterization of Echinomycin and Related Compounds**; Takemichi Nakamura[1]; Kenji Watanabe[2]; Hiroki Oguri[3]; Hideaki Oikawa[3]; Hiroyuki Koshino[1]; *[1]RIKEN, Wako, Japan; [2]Okayama University, Okayama, Japan; [3]Hokkaido University, Sapporo, Japan*

WP 385 **A Shotgun Approach for Profiling Traditional Chinese Medicine Samples Using UPLC/TOF MSE Coupled with Multi-Variant Statistical Data Analysis**; Kate Yu[1]; Baijping Ma[2]; John P. Shockcor[1]; Jose Castro-perez[1]; Heshui Yu[2]; Liping Kang[2]; Jie Zhang[2]; Yue Gao[2]; *[1]Waters Corp, Milford, MA; [2]Beijing Institute of Radiation Medicine, Beijing, China*

WP 386 **PCA Analysis of MS Spectroscopic Fingerprints to Differentiate Skullcap (Scutellaria lateriflora) from Germanders (Teucrium canadense, T. chamaedrys)**; Pei Chen[1]; Fenhong Song[2]; James Harnly[1]; Longze Lin[1]; *[1]USDA, Beltsville, MD; [2]FDA, Lenexa, KS*

WP 387 **Multidimensional Scaling (MDS) of Matrix Assisted Laser Desorption/Ionization Mass Spectra to Evaluate Hydrolysable Tannins and Anthocyanins**; Rachael Leverence; Martha M. Vestling; Jess D. Reed; *University of Wisconsin, Madison, WI*

WP 388 **Microbial Volatile Organic Compounds of *Aspergillus* sp;** Takae Takeuchi[1,2]; Haruna Tanaka[2]; Takahito Suzuki[2]; Shin-ich Iwaguchi[2]; Sachiyo Kaneko[2]; Masato Kiuchi[1]; Masako Iwamatsu[1]; Mamoru Okubo[3]; Takaomi Matsutani[4]; Yoshinori Hosokawa[5]; Yoshio Hashimoto[6]; Hajime Ishitani[6]; *[1]National Institute of Advanced Industrial Science, Ikeda, Osaka, Japan; [2]Nara Women's University, Nara, JAPAN; [3]Soda Kogyo Co., Ltd., Higashi-Osaka,, Japan; [4]Kinki University, Higashi-Osaka, Japan; [5]X-ray Precsision, Inc., Kyoto, Japan; [6]Shinnihondenko Co.Ltd., Osaka, Japan*

WP 389 **Quantitation of Pterostilbene in Blueberrie Juice by Liquid Chromatography Electrospry Ionization Tandem Mass Spectrometry and Isotope Dilution**; Fabio Mazzotti[1]; Hicham Benabdelkamel[1]; Bartolo Gabriele[2]; Leonardo Di Donna[1]; Anna Napoli[1]; Giovanni Sindona[1]; *[1]Università della Calabria, Dipartimento di Chimica, Arcavacata Di Rende, ITALY; [2]Facolta' di Farmacia e Scienze della Nutrizione e, Rende, Italy*

WP 390 **Analysis of the Skin Secretion of Odorrana Schmackeri, the Chinese Odorous Frog;** Martijn Pinkse[1]; Geisa Caprini[1]; Tianbao Chen[2]; Chris Shaw[2]; Peter Verhaert[1]; *[1]Delft University of Technology, Delft, Netherlands; [2]School of Pharmacy, Queen's University of Belfast, Belfast, UK*

WP 391 **Direct Live Plant Molecular Analysis of Single Cell from Different Tissues**; Mónica Lorenzo Tejedor; Hajime Mizuno; Naohiro Tsuyama; Takanori Harada; Tsutomu Masujima; *Hiroshima Univ. BioMed., Hiroshima, JAPAN*

WP 392 **Elucidation of the Mass Fragmentation Processes of the Polyether Marine Toxins, Dinophysistoxins, with Isomer Discrimination using Sodiated Adduct Ions**; Kevin James; Bebhine Carey; zuzana skrabakova; ambrose furey; *Proteobio, Cork, Ireland*

PROTEINS: PHOSPHOPROTEINS, 393 - 414

WP 393 **Highly Efficient Phosphopeptide Enrichment Using TiO2 Coated Magnetic Beads: Phosphoproteomic Analysis of Drosophila Kc167 Cell Lysates**; Lei Cheng[1]; Sven Andrecht[2]; Joerg von Hagen[2]; Clause Juel Jensen[3]; Morten Frodin[3]; Ole N. Jensen[1]; *[1]Univ. of Southern Denmark, Odense, Denmark; [2]Merck KGaA, Darmstadt, Germany; [3]Biotech Research & Innovation Center, Copenhagen, Denmark*

WP 394 **Development of PolyMAC-Ti, A Novel Soluble Nanopolymer-Based Phosphopeptide Enrichment Method;** Anton Iliuk; Bethany Alicie; Vicky Martin;

Robert Geahlen; Weiguo Andy Tao; *Purdue University, West Lafayette, IN*

WP 395 **High Performance Phosphoproteomics Using Phase Transfer Surfactant**; Takeshi Masuda[1]; Mio Iwasaki[1,2]; Yasuyuki Igarashi[1]; Masaru Tomita[1,2]; Yasushi Ishihama[1,3]; *[1]Institute for Advanced Biosciences Keio University, Tsuruoka, Japan; [2]Keio University, Yamagata, Japan; [3]PRESTO, Japan Science and Technology Agency, Tokyo, Japan*

WP 396 **A High-Throughput Analysis of Phosphopeptides Using a Biphasic Pre-Column**; Tabiwang N. Arrey; Thorsten Wolfgang Jaskolla; Dominic Baemlisberger; Björn Meyer; Michael Karas; *University of Frankfurt, Frankfurt Am Main, Germany*

WP 397 **Enrichment of Phosphopeptides Using Polymer-Titanium(IV) Hybrid Materials on MALDI Plates**; Wei-Han Wang; Yu-Jing Tan; Merlin L. Bruening; *Michigan State University, East Lansing, MI*

WP 398 **Direct on-TiO2 Isotopic Labeling of Phosphopeptides by iTRAQ – Qualitative and Quantitative Validation of TiO2 Phosphopeptide Enrichment Parameters**; Martin R. Larsen; *Univ. Southern Denmark, Odense, Denmark*

WP 399 **A Screening Method for the Detection of Phosphorylated Peptides in High-Resolution Mass Spectra**; Dirk Valkenborg[1,2]; Raf Van De Plas[2]; Rita Derua[2]; Etienne Waelkens[2]; Tomasz Burzykowski[1]; *[1]UHasselt, Hasselt, Belgium; [2]K.U.Leuven, Leuven, Belgium*

WP 400 **High Speed MALDI TOF/TOF Analysis – Its Advantages for Identification of Digested Proteins and Screening for Phosphorylated Peptides in LC-MSMS**; Dietmar Waidelich; Christof E. Lenz; Dietrich Merkel; Matthias Glueckmann; *Applied Biosystems, Darmstadt, Germany*

WP 401 **Lys-N and Trypsin Cover Complementary Parts of the Phosphoproteome in a Refined SCX-Based Phosphoproteomics Approach**; Shabaz Mohammed; Sharon Gauci; Andreas Helbig; Nadia Taouatas; A.f. Maarten Altelaar; Albert J.r. Heck; *Utrecht University, Utrecht, Netherlands*

WP 402 **Improved Sample Preparation for Phosphoproteome Analysis of Rat Brain Tissue**; Erol E. Gulcicek; Kathryn L Stone; Can Bruce; Raimund I Herzog; Robert S Sherwin; *Yale University, New Haven, CT*

WP 403 **Application of Acid Hydrolysis on Bovine Beta-Casein to Investigate the Integral Phosphorylation**; Jinhee Kim; Seongjae Shin; Hyo-jik Yang; Jeongkwon Kim; *Chungnam National University, Daejeon, South Korea*

WP 404 **The Determination of Flavin Binding to Rnf Family of Membrane Proteins by MALDI-MS/MS**; Dmitri Zagorevski; Blanca Barquera; *Rensselaer Polytechnic Institute, Troy, NY*

WP 405 **Characterization of the Auto-Phosphorylation Mechanisms of an Oncogenic Fusion Protein NPM-ALK Using Tandem Affinity Purification-Mass Spectrometry**; Peng Wang; Fang Wu; Leah C Young; Raymond Lai; Liang Li; *University of Alberta, Edmonton, Canada*

WP 406 **Dun1 FHA Domain-Dependent Dun1 Phosphorylation by Mass Spectrometry**; Eric S.-W. Chen[1,2]; Hyun Lee[1]; Ming-Daw Tsai[1,2]; *[1]Genomic Research Center, Academia Sinica, Taipei, Taiwan; [2]National Taiwan University, Taipei, Taiwan*

WP 407 **Regulation of Protein Phosphorylation at the Postsynaptic Density: Global Analysis Targeting Specific Kinase and Phosphatase Activities**; Howard Jaffe[2]; Ayse Dosemeci[1]; *[1]NINDS/NIH, Bethesda, MD; [2]NIH, NINDS, Gaithersburg, MD*

WP 408 **LC-MS^{E} Phosphopeptide Mapping of RhoA and RhoC following *in vitro* Phosphorylation by PKCε**; Gregory S. Cavey[1]; Caryn L. Lehner[1]; Joan C. Krilich[2]; Quintin Pan[3]; *[1]Van Andel Research Institute, Grand Rapids, MI; [2]Nanosphere Inc., Northbrook, IL; [3]Ohio State University Comprehensive Cancer Center, Columbus, OH*

WP 409 **Identification of Protein Phosphorylation Sites of Human APPL1 Using MS, MS/MS, and IM-MS**; Randi L. Gant -Branum; John A. Mclean; *Vanderbilt University, Nashville, TN*

WP 410 **Quantitative Cancer Stem Cell Phosphoprotein Profiling by Use of Tandem Mass Tags and LC-HCD-MS/MS in an LTQ-Orbitrap**; Carol L. Nilsson[6]; Arugadoss Devakumar[1]; Roslyn Dillon[1]; John C. Rogers[2]; Bryan Krastins[5]; Mary Lopez[5]; Michael Rosenblatt[3]; Barbara Kaboord[2]; Charles A. Conrad[4]; *[1]Pfizer Global R & D, San Diego, CA; [2]ThermoFisher Scientific, Rockford, IL; [3]Thermo Scientific, Rockford, IL; [4]University of Texas, M.D.A.C.C., Houston, TX; [5]Thermo Fisher Scientific, BRIMS Center, Cambridge, MA; [6]Pfizer Inc., San Diego, CA*

WP 411 **Temporal Analysis of Nocodazole-Induced Phosphorylation Using LTQ Orbitrap;** Kohji Nagano; Takashi Shinkawa; Hironori Mutoh; Osamu Kondoh; Sayuki Morimoto; Noriyuki Inomata; Motooki Ashihara; Nobuya Ishii; Yuko Aoki; Masayuki Haramura; *Chugai Pharmaceutical, Kamakura, Japan*

WP 412 **Phosphorylation of Arginine Guanidyl Groups as Posttranslational Protein Modificaiton**; Andreas Schmidt[2]; Goran Mitulovic[3]; Jakob Fuhrmann[1]; Tim Clausen[1]; Karl Mechtler[1,3]; *[1]IMP Research Institute of Mo, Vienna, Austria; [2]CD Laboratory / Vienna, Vienna, Austria; [3]IMBA Inst. of Mol. Biotech., Vienna, Austria*

WP 413 **Mass Spectrometry Characterization of hCenexin1 Phosphorylation Vital to Polo-like Kinase 1 (Plk1) Interaction for Mitotic Functions**; Li-Rong Yu[1]; Nak-Kyun Soung[2]; Jung-Eun Park[2]; Kyung H. Lee[2]; Jung-Min Lee[3]; Jeong K. Bang[4]; Timothy D. Veenstra[5]; Kunsoo Rhee[3]; Kyung S. Lee[2]; *[1]National Center for Toxicological Research/FDA, Jefferson, AR; [2]National Cancer Institute/NIH, Bethesda, MD; [3]Seoul National University, Seoul, South Korea; [4]Korea Basic Science Institute, Busan, South Korea; [5]SAIC-Frederick, Inc., Frederick, MD*

WP 414 **Label-Free Quantitation by LC-MS of the Global and Phosphoenriched Heart Tissue Proteome Reveals Novel Nitrite-Mediated Pathways to Cardioprotection**; David H. Perlman; Giuseppe Infusini; Selena Bauer; Bernadette O. Fernandez; Vivek N. Bhatia; Mark E. Mccomb; Martin Feelisch; Catherine E. Costello; *Boston University School of Medicine, Boston, MA*

Posters must be set up 8:00 - 8:30 am on the day scheduled and removed 7:30 to 8:00 pm. Authors of odd numbered posters (001, 003, 005, etc.) are required to be present 10:30 – 12:30. Authors of even numbered posters (002, 004, 006, etc.) must be present 12:30 – 2:30 pm.

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WP 415 **AMOM: Investigational New Analytical Marker of Oxidation for Monoclonal Antibodies using RP-LC/MS, Peptide Maps and SPR**; John C. Le; Justin T. Paroski; Bernice Yeung; Byeong S. Chang; *Symyx Technologies Inc., Camarillo, CA*

WP 416 **Thermodynamic Measurements of Enzyme Stabilities Using H/D exchange and MALDI-TOF MS**; Cheng-Ying Lin; Yen-Peng Ho; *National Dong Hwa University, Hualien, Taiwan*

WP 417 **Ligand Binding to Cytochrome P450 46A1 as Assessed by Hydrogen – Deuterium Exchange and Mass Spectrometry**; Wei-Li Liao[1]; Nathan Dodder[2]; Natalia Mast[3]; Irina A Pikuleva[3]; Illarion V. Turko[1]; *[1]Center for Advanced Research in Biotechnology, Rockville, MD; [2]NIST, Gaithersburg, MD; [3]Case Western Reserve University, Cleveland, OH*

WP 418 **Allosteric Networks and Regulation of Protein Kinase A: Amide H/D Exchange Mass Spectrometry Reveals Parallels between cAMP Binding and Phosphorylation**; Ganesh S. Anand[1]; Tanushree Bishnoi[1]; Susan Taylor[2]; Elizabeth Komives[2]; *[1]National University of Singapore, Singapore, Singapore; [2]University of California, La Jolla, CA*

WP 419 **70S Ribosomal-Protein Dynamics in Translocation Revealed by H/D Exchange and Mass Spectrometry**; Tatsuya Yamamoto[1]; Yoshihiro Shimizu[2]; Takuya Ueda[2]; Yoshitsugu Shiro[1]; *[1]RIKEN, Sayo-gun, Japan; [2]Grad. Sch. Frontier Sci., Univ. Tokyo, Kashiwa, Japan*

WP 420 **Two New Tools for Applying Chromatographic Retention Data to the Mass-Identification of HDX Peptides during HD-Exchange Experiments by NanoLC-MALDI**; Enrique Cauich; Paul Gershon; *UC-Irvine, Irvine, CA*

WP 421 **Combined Ion Mobility and Rapid Gas-Phase Deuterium Labeling in a Synapt Mass Spectrometer for Enhanced Detection of Protein Conformations**; Kasper D. Rand[1]; James P. Murphy III[2]; Keith Fadgen[2]; John R. Engen[1]; *[1]Northeastern University, Boston, MA; [2]Waters Corporation, Milford, MA*

WP 422 **Generation of Native Protein Ions and H/D Exchange in Liquid Sample Desorption Electrospray Ionization Mass Spectrometry (DESI-MS)**; Zhixin Miao; Hao Chen; *Ohio University, Athens, OH*

WP 423 **New Developments to HD Desktop Software for the Data Analysis of Hydrogen Exchange Mass Spectra**; Bruce Pascal; Michael Chalmers; Jun Zhang; Scott Busby; Patrick R. Griffin; *The Scripps Research Institute, Scripps Florida, Jupiter, FL*

WP 424 **Characterization of Thermal Unfolding in Proteins Using Electrospray Ionization Time of Flight Mass Spectrometry and Top Down Fragmentation**; Douglas Rehder; Sabine Paterson; David Hambly; Jaby Jacob; Michael J Treuheit; Bruce Kerwin; Himanshu Gadgil; *Amgen Inc., Seattle, WA*

WP 425 **IR Photodissociation Spectra of Gaseous Protein Ions: Hydrogen Bonding of Side-Chain Protonated Amino Groups is Unusually Strong**; Xianglei Kong[1]; Kathrin Breuker[2]; Fred W. Mclafferty[1]; *[1]Cornell University, Ithaca, NY; [2]University of Innsbruck, Innsbruck, Austria*

WP 426 **New ECD Kinetic Probes of the Unfolding and Folding of Protein Conformers after Electrospray**; Sergio Castro[1]; Kathrin Breuker[2]; Fred W. Mclafferty[1]; *[1]Cornell University, Ithaca, NY; [2]University of Innsbruck, Innsbruck, Austria*

WP 427 **Fragmentation of of Gas Phase Ions of Ubiquitin Produced from Different Solution Conformations in a 3D Ion Trap**; John Wright; *Varian Inc., Wood Dale, IL*

WP 428 **Mass spectrometry-Based Studies of the Vancomycin Resistance Pathway in *Enterococcus faecalis***; Charlotte A. Scarff; Andrew M. Quigley; Adrian J. Lloyd; David I. Roper; James H. Scrivens; *University of Warwick, Coventry, UK*

WP 429 **Development of Mass Spectrometry-Based Experimental Strategies for Detection and Characterization of Proteins with Non-Native Disulfide Bonds**; Adriana Zeledon; Igor A. Kaltashov; *University of Massachusetts, Amherst, MA*

WP 430 **Computational Methods for Incorporation of Structural Mass Spectrometry Data in Structure Determination**; Xiaojing Zheng[1]; Robert M Vernon[2]; David Baker[2]; Mark Chance[3]; *[1]Case Western Reserve Univ., Cleveland, OH; [2]University of Washington, Seattle, WA; [3]Case Western Reserve Univers, Cleveland, OH*

WP 431 **MS Cleavable Crosslinker for Protein Interactions**; Billy Clifford-Nunn; Eric Simon; Philip Andrews; *University of Michigan, Ann Arbor, MI*

WP 432 **"MALDI-MS3" Analysis of CID-Cleavable Isotopically Coded Crosslinker TEABS;** Jamie Thomas; Evgeniy Petrotchenko; Christoph Borchers; *UVic-GBC Proteomics Centre, Victoria, Canada*

WP 433 **Probing the Electrostatic Surface Topology of Proteins Using Combinatorial Collision-Induced Dissociative Chemical Crosslinking Reagents and Mass Spectrometry Analysis**; Fan Liu; Michael B. Goshe; *NC State University, Raleigh, NC*

WP 434 **Structural Proteomics Revisited: A Top-Down Approach to Chemical Crosslinking and Protein Interactions**; Giuseppe Infusini; Weiwei Tong; David H. Perlman; Roger Theberge; Catherine E. Costello; *Boston University School of Medicine, Boston, MA*

WP 435 **A Strategy for Efficient Identification of Chemically-Crosslinked Sites in Large Protein Complexes Using Label-Free LC-MS/MS Pattern Comparisons and Targeted MS/MS**; Donghai Li[1]; Sandra L. Harper[1]; Hsin-yao Tang[1]; David W. Speicher[1,2]; *[1]The Wistar Institute, Philadelphia, PA; [2]Wistar Institute, Philadelphia, PA*

WP 436 **Development of Polyproline Linked Bifunctional Crosslinkers as Molecular Rulers for the Structural Investigation of Protein Assemblies**; Timothy Garrett Jr; Kevin B. Turner; Daniele Fabris; *U. Maryland Baltimore County, Baltimore, MD*

WP 437 **Structure Determination of Proteins from the Endoplasmic Reticulum Using Chemical Cross-Linking, Mass Spectrometry and Bioinformatics;** Morten Rasmessen[1]; Tina Nielsen[1]; Gunnar Houen[3]; Juri Rappsilber[2]; Peter Hojrup[1]; *[1]BMB, University of Southern Denmark, Odense M, Denmark; [2]Wellcome Trust Centre for Cell Biology, Edinburgh, UK; [3]Statens Serum Institut, Copenhagen, Denmark*

WP 438 **Use of N-Terminal Modification with Isotopically Coded Reagents for Selective Identification of Inter-Peptide Crosslinks**; Jason Serpa; Evgeniy Petrotchenko;

Christoph Borchers; *UVic-GBC Proteomics Centre, Victoria, Canada*

WP 439 **Crosslinking Techniques for Structural Studies of Large, Multi-chain Coagulation-Related Proteins**; Susan T. Lord[1]; Maria Warren Hines[2]; Evgeniy Petrotchenko[3]; Carol E. Parker[2]; Barbara Cardinali[1]; *[1]Department of Pathology & Lab.Medicine, UNC-CH, Chapel Hill, NC; [2]UNC-Duke Proteomics Center, UNC-CH, Chapel Hill, NC; [3]UVic-GBC Proteomics Centre, Victoria, BC*

WP 440 **Out-gel Digest Procedure for Protein Cross-Linking Applications**; Ashley Cabecinha; Evgeniy Petrotchenko; Christoph Borchers; *UVic-GBC Proteomics Centre, Victoria, Canada*

WP 441 **Probability Based Shotgun Approach for Cross-Linking Sites Analysis by Mass Spectrometry**; Young Jin Lee; *Iowa State University, Ames, IA*

WP 442 **Characterization of β2m Dimer Formation using Covalent Labeling, Bottom-Up, and Top-Down Strategies**; Vanessa Leah Mendoza[1]; Jonathan Wilson[2]; Desmond Kaplan[2]; Richard Vachet[1]; *[1]University of Massachusetts, Amherst, MA; [2]Bruker Daltonics, Inc., Billerica, MA*

WP 443 **Structural Study of C3b-H Complex Using Gamma and Synchrotron Irradiation Coupled with Semi-Quantitative Mass Spectrometry**; Maxime Le Mignon[1,2]; Florence Gonnet[1,2]; Sebastien Brier[1,2]; Delphine Pflieger[1,2]; Bianca Sclavi[3]; Serge Pin[4,5]; Quentin Raffy[4,5]; Jean-Philippe Renault[4,5]; Régis Daniel[1,2]; *[1]Université Evry-Val-d'Essonne, Evry, France; [2]CNRS UMR 8587, LAMBE, Evry, France; [3]CNRS UMR 8113, LBPA, Cachan, France; [4]CNRS URA 331 LCF, Gif-sur-Yvette, France; [5]CEA IRAMIS, Gif-sur-Yvette, France*

WP 444 **Probing the Structure of Proinsulin by MS-Based Footprinting**; Janna Kiselar; Nelson B. Phillips; Mark R Chance; Michael A. Weiss; *Case Western Reserve Univ, Cleveland, OH*

WP 445 **Computational Methods for Examining Covalently Labeled Biomolecules Using Structural Mass Spectrometry;** Parminder Kaur; Janna Kiselar; Mark Chance; *Case Western Reserve Univ., Cleveland, OH*

WP 446 **Characterizing the ATP-Induced Structural Changes of the N-Terminal Domain of Pms1 by Oxidative Surface Mapping and Mass Spectrometry**; Allison N Schorzman[1]; Lalith Perera[1]; Lars C. Pedersen[1]; Jenny M. Cutalo[2]; Thomas A. Darden[1]; Thomas A. Kunkel[1]; Kenneth B. Tomer[1]; *[1]NIEHS, RTP, NC; [2]FBI, Washington, D.C., DC*

WP 447 **Autoantigen Structural Studies: Photolytic Oxidation and Chemical Modification Combined with Mass Spectrometry**; Jinglan Wang; James G Smedley III; Piotr J Bilski; Jeffrey F Kuhn; Kenneth B. Tomer; Leesa Deterding; *NIEHS, Research Triangle Park, NC*

WP 448 **Laser-Induced Oxidative Labeling of Proteins for Probing Folding Kinetics and Mechanisms**; Bradley B. Stocks; Lars Konermann; *Univ. of Western Ontario, London, Canada*

WP 449 **Structural Characterization of an Integral Membrane Protein by Oxidative Methionine Labeling and Mass Spectrometry**; Yan Pan; *Uni. of Western Ontario, London, Canada*

WP 450 **High Sensitivity Characterization of Conformational Differences in Pharmaceutical Proteins by Rapid Hydroxyl Radical Footprinting**; Caroline Watson[1]; Sergio G Tisminetzky[2]; Marshall W. Bern[3]; Joshua S. Sharp[1]; *[1]Complex Carbohydrate Research Center/UGA, Athens, GA; [2]Biotechnology Development Group, ICGEB, Trieste, Italy; [3]Palo Alto Research Center, Palo Alto, CA*

WP 451 **MS-based Carboxyl Group Protein Footprinting for Probing the Orientation of FMO Protein in Photosynthetic Bacterial Membranes**; Hao Zhang; Jianzhong Wen; Robert E. Blankenship; Michael L. Gross; *Washington University, Saint Louis, MO*

NON-COVALENT INTERACTIONS, 452 - 464

WP 452 **Investigation of Protein-Protein Complex Noncovalent Interactions by Quadrupole, Ion Mobility Separation Time-of-Flight Mass Spectrometry**; Sheng Zhang[1]; Abiola Pollard[1]; Michael Daly[2]; Brian Crane[1]; *[1]Cornell University, Ithaca, NY; [2]Waters Corp, Oakland, CA*

WP 453 **Determining Stoichiometry of Noncovalent Protein Complexes using LC-MS/MS Label-Free Protein Quantification**; Shirley H. Lomeli; Pinmanee Boontheung; Joseph A. Loo; *UCLA, Los Angeles, CA*

WP 454 **Towards the Elucidation of the Protein Complexes Involved in Prokaryotic Origin Independent DNA Replication Restart – An ESI-MS Study**; Lindsey Easthon; Jingshu Guo; Timothy Mueser; Wendell P. Griffith; *University of Toledo, Toledo, OH*

WP 455 **Antibody / Antigen Complexes: Characterization of Immune Complexes Using Noncovalent Mass Spectrometry**; Cédric Atmanene[1]; Elsa Wagner-Rousset[2]; Nathalie Corvaia[2]; Alain Van Dorsselaer[1]; Alain Beck[2]; Sarah Sanglier-Cianferani[1]; *[1]CNRS - IPHC - University of Strasbourg, Strasbourg, France; [2]Centre d'Immunologie Pierre Fabre, Saint-Julien-en-Genevois, France*

WP 456 **Optimization of Hydroxyl Radical Surface Mapping Method Combined with Molecular Dynamics Simulations for Characterizing Macromolecular Interactions**; Olga Charvatova[1]; Daniel Nesbitt[1]; Marshall W. Bern[2]; Joshua S. Sharp[1]; Ron Orlando[1]; Robert J. Woods[1]; *[1]University of Georgia, Athens, GA; [2]Palo Alto Research Center, Palo Alto, CA*

WP 457 **Protein Aggregates: Fast Semi-Quantitation Analysis by High-Mass MALDI ToF Analysis**; Alexis Nazabal; Marc Dodeller; Nathalie Riesen; Benoit Plet; Ryan Wenzel; *CovalX AG, Zürich, Switzerland*

WP 458 **CLIP: A Crosslinker for Enrichment and Confident Identification of Protein Crosslinking Sites by Mass Spectrometry**; Saiful M. Chowdhury[1]; Xiuxia Du[2]; Nikola Tolic[1]; Ashoka D. Polpitiya[1]; Ronald J. Moore[1]; John R. Cort[1,3]; Uljana M. Mayer[1]; Richard D. Smith[1]; Joshua N. Adkins[1]; *[1]Pacific Northwest National Laboratory, Richland, WA; [2]University of North Carolina, Charlotte, NC; [3]Washington State University, Tri-cities, Richland, WA*

WP 459 **Technology Development for Studying Transient Protein-Protein Interactions on Chromosomes: Identification of a Transient Acetyltransferase Interactome**; Samuel G. Mackintosh[1]; Sherri K. Smart[1]; Sean D. Taverna[2]; Ricky D. Edmondson[1]; Alan J. Tackett[1]; *[1]University of Arkansas for Medical Sciences, Little Rock, AR; [2]Johns Hopkins Medical School, Baltimore, MD*

WP 460 **Structural Characterization of Macromolecular Protein Complexes Using Chemical Cross-Linking and Mass Spectrometry**; Pragya Singh; Richard A. Pfuetzner; Scott A. Shaffer; Alexandre Panchaud; Eri Nakatani; Carlos E. Catalano; Samuel I. Miller; David R. Goodlett; *University of Washington, Seattle, WA*

WP 461 **Defining Topological Features of Membrane Proteins by Electrospray Ionization Mass Spectrometry**; Lynsey N. Jones; Stephen A. Baldwin; Peter J. F. Henderson; Alison E. Ashcroft; *Astbury Centre for Structural Molecular Biology, University of Leeds, Leeds, UK*

WP 462 **Photo-Crosslinking and Complementary Use of ESI and MALDI Mass Spectrometry to Map Interaction Sites between Transcriptional Activators and Mediator 15**; Bo Wang; Chinmay Majmudar; Anna Mapp; Kristina Hakansson; *University of Michigan, Ann Arbor, MI*

WP 463 **An Integrative Proteomic Approach to Identify Huntingtin Protein Networks Using a Novel BAC Transgenic Model of Huntington's Disease**; Dyna I. Shirasaki[1]; Erin R. Greiner[1]; Pinmanee Boontheung[1]; Steve Horvath[2]; X. William Yang[3]; Joseph A. Loo[1]; *[1]UCLA, Department of Chemistry and Biochemistry, Los Angeles, CA; [2]UCLA, Department of Biostatistics, Los Angeles, CA; [3]UCLA, Brain Research Institute, Los Angeles, CA*

WP 464 **Characterization of Protein Complexes from Human Pancreatic Cancer Cell Using a Combination of Native-PAGE and Mass Spectrometry**; Xinli Wang; Guoqiang Chen; Zhiyun Zhao; Zhili Li; *Institute of Basic Medical Sciences, CAMS & PUMC, Beijing, China*

CARBOHYDRATE / OLIGOSACCHARIDES, 465 - 491

WP 465 **A Comprehensive Method for Separating Neutral, Sialylated, and Sulfated N-linked Glycans in Their Native and Permethylated Forms**; Sergei Snovida; Ed Bodnar; Helene Perreault; *University of Manitoba, Winnipeg, Canada*

WP 466 **Profiling and Quantitation of Recombinant Monoclonal Antibody Glycosylation by Nano-LC/ESI-MS with the On-Chip Deglycosylation: Comparison to MALDI-TOF MS and CE-LIF;** Tomasz K. Baginski[1]; Maggie Bynum[2]; Rodney Keck[1]; *[1]Genentech, Inc., South San Francisco, CA; [2]Agilent Technologies, Santa Clara, CA*

WP 467 **An LC/MS Platform for Aminated Oligosaccharide Analysis in Both Positive and Negative Modes: towards More Complete Structural Assignment**; Ewa Jankowska; John F Cipollo; *Food and Drug Administration CBER, Bethesda, MD*

WP 468 **Withdrawn**

WP 469 **N-glycans Profiling Using Capillary Liquid Chromatography and High Mass Accuracy Electrospray Mass Spectrometry: Application to the Characterization of Therapeutic Glycoproteins**; Valegh Faid; Magali Andre; Nicolas Bihoreau; Guillaume Chevreux; *LFB, Courtaboeuf, France*

WP 470 **An Integrated Microfluidic LC/MS Chip Workflow for Rapid On-line Deglycosylation and Characterization of N-glycans from IgG Antibodies**; Maggie A. Bynum[1]; Hongfeng Yin[1]; Katie Felts[2]; Yvonne Lee[2]; Craig Monell[2]; Kevin Killeen[1]; *[1]Agilent Laboratories, Santa Clara, CA; [2]Agilent Technologies, La Jolla, CA*

WP 471 **Profiling and Characterization of N- and O-Linked Glycans Released from Glycoproteins Using RP-HPLC with Charged Aerosol Detection and Mass Spectrometry**; Andrew Hanneman; Jason Rouse; *Wyeth BioPharma, Andover, MA*

WP 472 **High Resolution CE-MS Separation of APTS-Labeled Glycans**; Tomas Rejtar; Dipak Thakur; Zhenke Liu; Andras Guttman; Barry L. Karger; *Northeastern University, Boston, MA*

WP 473 **Structure Library for Oligosaccharides Built on Retention Times and Accurate Masses**; Shuai Wu[1]; Nannan Tao[1]; J. B. German[1]; Rudi Grimm[2]; Carlito B. Lebrilla[1]; *[1]UC Davis, Davis, CA; [2]Agilent Technologies, Palo Alto, California*

WP 474 **Combining Fully Automated Chip-Nanoelectrospray Ion Trap Mass Spectrometry and GanglioSoft 1.2 Computer Software for Identification of Human Hemangioma Gangliosides**; Catalin C. Schiopu[1]; Alina F. Serb[2]; Eugen Sisu[2]; Zeljka Vukelic[3]; Alina D. Zamfir[4]; *[1]National Institute for R&D in Electrochemistry, Timisoara, Romania; [2]University of Medicine and Pharmacy, Timisoara, Romania; [3]University of Zagreb, Zagreb, Croatia; [4]University Aurel Vlaicu Arad, Arad, Romania*

WP 475 **Software Utilities for Automated Glycomics**; Sergey Y. Vakhrushev; Denis Dadimov; Jasna Peter-Katalinic; *Institute of Medical Phys, Muenster, Germany*

WP 476 **Can a Peptide Map Replace The Traditional Glycan Map for N-Glycan Analysis?** Bhavana Shah; Xinzhao Grace Jiang; Louise Chen; Zhongqi Zhang; *Amgen, Inc., Thousand Oaks, CA*

WP 477 **Multiple Reaction Monitoring Liquid Chromatography Mass Spectrometry for Monosaccharide Compositional Analysis of Glycoproteins**; Loubna A. Hammad; Marwa Saleh; Milos V. Novotny; Yehia Mechref; *Indiana University Biochem Ctr, Bloomington, IN*

WP 478 **Optimization of Three Atmospheric Pressure Mass Spectrometry (AP-MS) Techniques to Observe Oligosaccharide Degradation Products in Naturally and Artificially Aged Paper**; Catherine H. Stephens[1,2]; Bindesh Shrestha[3]; Paul M. Whitmore[1,2]; Mark E. Bier[2]; Akos Vertes[3]; *[1]Art Conservation Research Center, Pittsburgh, PA; [2]Carnegie Mellon University, Pittsburgh, PA; [3]George Washington University, Washington, DC*

WP 479 **Differentiation of Lithium Cation-Attached Mono- and Disaccharide Isomers by Wavelength-Dependent CO_2 Laser Photofragmentation and FTICR Mass Spectrometry**; John R. Eyler; Sarah E. Stefan; *University of Florida, Gainesville, FL*

WP 480 **Structural Characterization of 1-octyl-β-D-Glucopyranoside Using Zinc Cationization. An Electrospray Ionization and Tandem Mass Spectrometry Study**; Khaled Edbey[1]; Grainne Moran[2]; Gary Willett[2]; *[1]University of Garyounis, Benghazi, Libya; [2]The University of New South Wales, Sydney, NSW*

WP 481 **Changes in Modifications of Cell Wall Oligosaccharides from Lignocellulosic Biomass During AFEX Pretreatment Using LC/TOFMS and Multiplexed CID**; Ramin Vismeh; Shishir P

Chundawat; Venkatesh Balan; Bruce E Dale; A. Daniel Jones; *Michigan State University, East Lansing, MI*

WP 482 **Infrared Multiple Photon Dissociation (IRMPD) Spectra of Rubidium Cation-Tagged D-Glucuronic and L-Iduronic Acids**; Emilio Cagmat; Jan Szczepanski; Nicolas Polfer; David H. Powell; John R. Eyler; *Department of Chemistry, University of Florida, Gainesville, FL*

WP 483 **Compositional and Structural Analysis of Gangliosides in Human Cerebrospinal Fluid by Chip-Based Nanoelectrospray Ionization Tandem Mass Spectrometry**; Alina F. Serb[1]; Catalin C. Schiopu[2]; Dragana Marincic[3]; Zeljka Vukelic[3]; Alina D. Zamfir[4]; *[1]University of Medicine and Pharmacy, Timisoara, Romania; [2]National Institute for R&D in Electrochemistry, Timisoara, Romania; [3]University of Zagreb, Zagreb, Croatia; [4]Aurel Vlaicu University of Arad, Arad, Romania*

WP 484 **Characterization of Protein Glycosylation Intermediates by LC-MS/MS on Porous Graphitic Carbon: Discovery of C45 and C60 Polyisoprenyl-Oligosaccharide Lipid Carriers**; Jacek Stupak[1]; Christopher Reid[1]; Christine M. Szymanski[2]; Jianjun Li[1]; *[1]National Research Council, Ottawa, ON; [2]AICCS, University of Alberta, Edmonton, AB*

WP 485 **MALDI Tandem MS Analysis of Cellulose and Related Biomolecules: Potential for MS Imaging of Cellulosic Tissues**; Kyle A. Lunsford; Gary F. Peter; Richard A. Yost; *University of Florida, Gainesville, FL*

WP 486 **Analysis of Mycothiol and Mycothione Levels from Wild-Type and *mtr* Mutant Strains from *Mycobacterium smegmatis***; Cynthia M Holsclaw[1]; Wilson B Muse[3]; Kate Carroll[3]; Julie A. Leary[1,2]; *[1]Section of MCB, University of California, Davis, CA; [2]Department of Chemistry, University of California, Davis, CA; [3]Life Sciences Institute, University of Michigan, Ann Arbor, MI*

WP 487 **Analysis of Brain Chondroitin/Dermatan Sulfate Glycosaminoglycans by Fully Automated Chip-Based Nanoelectrospray Multistage Mass Spectrometry**; Corina Flangea[2]; Eugen Sisu[2]; Daniela Seidler[3]; Alina D. Zamfir[1]; *[1]University Aurel Vlaicu Arad, Arad, Romania; [2]University of Medicine and Pharmacy, Timisoara, Romania; [3]University of Muenster, Muenster, Germany*

WP 488 **Strategies toward Characterizing Sulfated Glycans in Recombinant Proteins**; John J. Thomas[1]; Paul Salinas[1]; Gregory O Staples[2]; Hicham Naimy[2]; Joseph Zaia[2]; Philip J. Savickas[1]; *[1]Shire HGT, Cambridge, MA; [2]Boston University School of Medicine, Boston, MA*

WP 489 **The Occurrence of Rare, Unsubstituted Glucosamine-Containing Disaccharides in Heparan Sulfate from Bovine and Rat Tissues: an SEC LC/MS Study**; Xiaofeng Shi; Joseph Zaia; *Boston University School of Medicine, Boston, MA*

WP 490 **On-Line Tandem Mass Spectrometry for Characterization of Protein Binding Heparan Sulfate Octasaccharides**; Hicham Naimy; Nancy Leymarie; Joseph Zaia; *Boston University School of Medicine, Boston, MA*

WP 491 **Improved HILIC LC/MS Analysis of Heparinoids Using a Chip with Post-column Make-Up Flow**; Gregory O. Staples[1]; Hicham Naimy[1]; Hongfeng Yin[2]; Karsten Kraiczek[3]; Kevin Killeen[2]; Catherine E. Costello[1]; Joseph Zaia[1]; *[1]Boston University School of Medicine, Boston, MA; [2]Agilent Laboratories, Santa Clara, CA; [3]Agilent Technologies, Waldbronn, Germany*

PROTEINS, GLYCOPROTEINS, 492 - 512

WP 492 **Biological Activities and Compositions of Protein Extracted from Kaempferia Parviflora Wall. Ex. Baker**; Polkit Sangvanich; *Chuklalongkorn University, Bangkok, Thailand*

WP 493 **Characterization of the Disulfide Connectivity and N-linked Glycosylation of KLH using a LTQ with CID and ETD**; Justin B. Sperry; Halyna E. Narepekha; Qin Zou; James A. Carroll; *Pfizer, Saint Louis, MO*

WP 494 **A Novel Approach for Identification and Quantitation of Protein Glycosylation Pattern by Precursor Ion Scan and H-SRM on QQQ Instrument**; Andreas F.R Hühmer[1]; Reiko Kiyonami[1]; Shiaw-lin Wu[2]; Barry L. Karger[2]; Vlad Zabrouskov[1]; William S. Hancock[2]; *[1]ThermoFisher Scientific, San Jose, CA; [2]Barnett Institute, Northeastern University, Boston, MA*

WP 495 **Electron Capture Dissociation of Sialated Glycopeptides**; Prasanna Ramachandran; Sheng Yin; Rachel R Ogorzalek Loo; Joseph A. Loo; *University of California,, Los Angeles, CA*

WP 496 **Parallel Structural Characterization of Glycopeptides and Glycoprotein Quantification by Electrospray Quadrupole Ion-Mobility Time-of-Flight Mass Spectrometry with Ultra Performance Liquid Chromatography**; Hui Wei[1]; Wen Ding[2]; John Kelly[2]; *[1]Waters Corporation, Milford, MA; [2]National Research Council of Canada, Ottawa, Ontario, Canada*

WP 497 **Combined Analysis Of Protein Glycosylation and Label-Free-Glycoprotein-Bacteria Interactions Using MALDI-FTICR MS and Scanning Optical Microscope Based on OI-RD**; Mariana Barboza; Yiyan Fei; David A. Mills; Bruce J. German; XiangDong Zhu; Carlito Lebrilla; *University of California,, Davis, CA*

WP 498 **Analysis of Site-Specific Glycosylation Profile of Glycoproteins by LC-ECD-MS/MS in a Radio Frequency Linear Ion Trap**; Takeshi Sakamoto; Naomi Manri; Hiroyuki Satake; Akihito Kaneko; *Central Res. Lab., Hitachi, Ltd., Tokyo, Japan*

WP 499 **Site-Specific Glycoprofiling of N-Linked Glycopeptides Using MALDI-TOF MS**; Morten Thaysen-Andersen; Simon Mysling; Peter Hojrup; *BMB, University of Southern Denmark, Odense M, Denmark*

WP 500 **Withdrawn**

WP 501 **A Glycoproteomics Approach for Profiling of Pharmaceutical Compounds Using Quantitative Glycopeptide Enrichment and Online LC (HILIC/RP) – Mass Spectrometry**; Jessica Wohlgemuth; Thomas Eichhorn; Robertus Hendriks; Sven Andrecht; *Merck KGaA, Darmstadt, Germany*

WP 502 **Comprehensive Characterization of Haptoglobin Glycosylation Using a PLOT LC column with a Thermo LTQ-ETD-MS;** Dongdong Wang; Marina Hincapie; Shiaw-Lin Wu; Barry L. Karger; *Northeastern University, Boston, MA*

WP 503 **Assigning the Glycosylation Sites of Glycoproteins Using Endo-M in Conjunction with LC/MSMS**; Ahmed Hussein[1,2]; Zaneer, M. Segu[1,3]; Milos, V. Novotny[1,2]; Yehia Mechref[1,2]; *[1]Dept of Chemistry, Indiana University, Bloomington, IN; [2]National Center for glycomics and glycoproteomics, Bloomington, IN;*

[3]METACyt Biochemical Analysis Center, Bloomington, IN

WP 504 **Identification and Quantitation of Sialylated glycopeptides as Cancer Biomarkers Using TiO2 Chromatography Combined with iTRAQ, O18-Labeling and MRM;** Sara Eun Lendal[1,2]; Søren Cold[3]; Martin R. Larsen[2]; *[1]Protein Research Group, Odense, Denmark; [2]Univ. Southern Denmark, Odense, Denmark; [3]Odense University Hospital, Odense, Denmark*

WP 505 **Identification and Quantification of Glycoproteins Using Ion-Pairing Normal-Phase Liquid Chromatography and Mass Spectrometry**; Wen Ding[1]; Harald Nothaft[2]; Christine Szymanski[2]; John F. Kelly[1]; *[1]National Research Council of Canada, Ottawa, ON; [2]University of Alberta, Edmonton, AB*

WP 506 **Method Optimization for the Determination of Protein Site of N-Glycosylation: Case Study for SynCAM 1**; Edward Voss[1]; Thomas Biederer[1]; Terence Wu[1]; Michael L. Easterling[2]; Mary LoPresti[1]; Kenneth R. Williams[1]; Tukiet T. Lam[1]; *[1]Yale University, New Haven, CT; [2]Bruker Daltonic, Billerica, MA*

WP 507 **Pancreatic Cancer Serum Detection Using A Lectin/Glyco-Antibody Array Method**; Chen Li[1]; Eugene Zolotarevsky[1]; Michelle A. Anderson[1]; Dean E. Brenner[1]; Diane M. Simeone[1]; David M. Lubman[1]; Fan Xiang[2]; *[1]University of Michigan, Ann Arbor, MI; [2]Shimadzu Biotech, Pleasanton, CA*

WP 508 **A Novel Enrichment Method for Analysis of Sulfated Glycopeptides with MALDI TOF MS**; Masaaki Toyoda; Hisashi Narimatsu; Akihiko Kameyama; *Research Center for Medical Glycoscience, AIST, Tsukuba, Ibaraki, Japan*

WP 509 **Glycoprotein Capturing through Functionalized Magnetic Nanoparticles**; Hyo-jik Yang[1]; Seongjae Shin[1]; Eun Hye Park[1]; Jinhee Kim[1]; Yangsun Kim[2]; Jeongkwon Kim[1]; *[1]Chungnam National University, Daejeon, South Korea; [2]Hudson Surface Technology, Newark, NJ*

WP 510 **Highly Sensitive MALDI-MS^n for Identification of Glycopeptides by a Simple Pyrene-Derivatization Method**; Junko Amano; Takashi Nishikaze; Fumio Tougasaki; *The Noguchi Institute, Itabashi, Japan*

WP 511 **Enrichment and Identification of Glycoproteins and Glycan Using Nano-Scale Chelating Con A Monolithic Capillary**; Shun Feng[1]; Na Yang[1]; Subramaniam Pennathur[1]; Steve Goodison[2]; David M. Lubman[1]; Fan Xiang[3]; *[1]University of Michigan, Ann Arbor, MI; [2]University of Florida, Jacksonville, FL; [3]Shimadzu Biotech, Pleasanton, CA*

WP 512 **A Comparison Study of Glycopeptides Enrichment of Boronic Acid Derived Magnetic Beads and Bare Silica-Coated Magnetic Nanoparticles**; Ming-yi Ho; Chung-lin Liao; *Academia Sinica, Taipei, Taiwan*

PLASMA PROTEOMICS, 513 - 524

WP 513 **Method for Purification and Identification of Protein Biomarker from Human Serum Using TOF-TOF Instrument;** Vanitha Thulasiraman[1]; Matthew Hammond[1]; Amanda Bulman[1]; Steve Roth[1]; Mariana Rusa[1]; Enrique Dalmasso[1]; Diane Mccarthy[2]; Fiona Plows[3]; *[1]Bio-Rad Laboratories, San Jose, CA; [2]Bio-Rad, Malvern, PA; [3]Bio-Rad Laboratories, Inc., Hercules, CA*

WP 514 **Quantitative Analysis of Chaotropic & Solvent Effects on the Trypsin Digestion Efficiency of Human Plasma**; Michael A. Kuzyk[1]; Darryl Hardie[1]; Juncong Yang[1]; Derek Smith[1]; Angela M. Jackson[1]; N. Leigh Anderson[2]; Jennifer Proc[1]; Christoph H. Borchers[1]; *[1]UVic-Genome BC Proteomics Centre, Victoria, Canada; [2]Plasma Proteome Institute, Washington, D.C.*

WP 515 **Analysis of Native Proteins by NanoLC-FT-ICR-MS : Application to the Identification of Apoliprotein A-I Modifications Induced by Oxidative Stress**; Alexia Ortiz[1]; Gérald Luc[2]; Caroline Tokarski[1]; Christian Rolando[1]; *[1]Univ. des Science/Tech de Lille, Villeneuve d'Ascq, France; [2]Université du Droit et de la Santé, Lille, France*

WP 516 **Changes in the Maternal Serum Proteome between the 1st and 3rd Trimesters of Uncomplicated Pregnancy in Nepal**; Peter Scholl[1,3]; Marjan Gucek[2]; Roberto Diez[2]; Ingo Ruczinski[3]; Alissa Rennie[3]; Chris Nathasingh[3]; Robert N. Cole[2]; James Yager[3]; John D. Groopman[3]; Kerry Schulze[3]; Parul Christian[3]; Keith West[3]; *[1]US FDA, College Park, MD; [2]Johns Hopkins University, School of Medicine, Baltimore, MD; [3]JHU, Bloomberg School of Public Health, Baltimore, MD*

WP 517 **A Recovery Strategy of Co-Depleted Proteins in Affinity-Based Separation Workflows for Plasma and serum**; Yanbao Yu[1,2]; Harsha P. Gunawardena[1,2]; Xian Chen[1,2]; *[1]University of North Carolina, Chapel Hill, NC; [2]UNC-Duke Proteomics Centre, Chapel Hill, NC*

WP 518 **Proteomic Analysis of Human Plasma Proteins by IEF-LC-MS/MS Analysis following Depletion of High-Abundance Proteins**; Chengjian Tu; Misti Yates; Kristin Cheek; Robbert Slebos; David Tabb; Daniel C. Liebler; *Department of Biochemistry,Vanderbilt University, Nashville, TN*

WP 519 **Enhanced Analytical Resolution Due to Efficient Depletion of Albumin and IgG from Human Plasma Using New Prepacked Columns**; Inger Salomonsson; Susanna Lindman; Ulf Hellberg; Staffan Lindqvist; Gunnar Glad; Lena Jonsson; Ann Bergh; *GE Healthcare, Uppsala, Sweden*

WP 520 **FT-ICR MS Profiling of Small Molecule Derived from Plasma Obtained from Gaucher Disease Patients**; TuKiet T. Lam[1]; Mei Yang[1]; Michael Easterling[2]; Edward Voss[1]; Pramod K. Mistry[1]; Kenneth R. Williams[1]; *[1]Yale University, New Haven, CT; [2]Bruker Daltonics, Inc., Billerica, MA*

WP 521 **A High Quality Human Plasma Proteome Available in the PeptideAtlas**; Terry Farrah[1]; Eric Deutsch[1]; David Shteynberg[1]; David S Campbell[1]; Henry H. Lam[2]; Zhi Sun[1]; Gilbert Omenn[1,3]; Ruedi Aebersold[1,4]; *[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; [4]Swiss Federal Institute of Technology, Zurich, Switzerland*

WP 522 **Development of Metrics for Assessment of Plasma Quality**; Lisa J Zimmerman[1]; Julie A Coleman[1]; Douglas P Hardin[1]; Alexander Statnikov[1]; Constantin Aliferis[2]; Daniel C. Liebler[3]; *[1]Vanderbilt University, Nashville, TN; [2]New York University, New York, NY; [3]Vanderbilt Univ. School of Medicine, Nashville, TN*

WP 523 **LC-MS/MS Analysis of HDL Complexes Isolated by IgY Immuno-Capture**; Yunan Miao[1]; Junji Watanabe[2]; George Katselis[1]; Srinivasa T. Reddy[2]; Terry Lee[1]; *[1]City of Hope, Duarte, CA; [2]University of California, Los Angeles, Los Angeles, CA*

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WP 524 **Quantitative Study of Plasma Proteome Dynamics in Genetically Leptin Deficient Patients during Leptin Replacement Treatment**; Victor Andreev[2]; Ravi Dwivedi[1]; Gilberto Paz-Filho[2]; Oleg V. Krokhin[1]; Ma-Li Wong[2]; John Wilkins[1]; Julio Licinio[2]; *[1]University of Manitoba, Winnipeg, Canada; [2]University of Miami, Miami, FL*

PROTEOMICS: TISSUE, 525 - 560

WP 525 **iTRAQ Labeling for Tissue Proteomics of Gastric Cancer**; Arivusudar Marimuthu[1,2]; Yashwanth Subbannayya[2]; Harsha H.C[1,2]; Santhosh Renuse[2]; Ghantasala S. Sameer Kumar[2]; Manoj K Kashyap[1,2]; Vijayakumar M[3]; Veerendra Kumar K.V. [3]; Vijayalakshmi Deshmane[3]; Girija Ramaswamy[3]; Rekha V Kumar[3]; Raghothama Chaerkady[1,2]; Pradip Kumar Acharya[2]; Akhilesh Pandey[1]; *[1]Johns Hopkins University, Baltimore, MD; [2]Institute of Bioinformatics, Bangalore, Karnataka; [3]Kidwai Memorial Institute of Oncology, Bangalore, India*

WP 526 **Discovering Novel Components of the Dystrophin-Associated Protein Complex Using Mass Spectrometry-Based Approaches**; Aaron Lorsong; Yetrib Hathout; Eric Hoffman; *Children's Natl. Medical Center, Washington, DC*

WP 527 **Quantitative Proteomics Analysis of Alcohol-Induced Cardiomyopathy Using Label Free LC-MS Approache;** Elizabeth Yohannes[1]; Helen Anni[2]; Gregory E Gonye[2]; Sergei Ilchenko[1]; Emanuel Rubin[2]; Mark R. Chance[1]; *[1]Case Western Reserve University, Cleveland, OH; [2]Thomas Jefferson University, Philadelphia, PA*

WP 528 **2D DIGE Proteomics of Rat Mammary Gland Intact Proteins to Identify Basis of Anti-Cancer Activity by Chemopreventive Polyphenols**; Mark B. Cope[1,2]; Landon Wilson[1]; Richie Herring[1]; Gloria Robinson[1]; Xiangqin Cui[1,2]; Stephen Barnes[1,2]; Helen Kim[1,2]; *[1]University of Alabama at Birmingham, Birmingham, AL; [2]UAB Center for Nutrient-Gene Interaction, Birmingham, AL*

WP 529 **Uncovering Changes to the Zebrafish Skeletal Muscle Proteome Induced by Hypoxia**; Kan Chen; Richard B. Cole; Bernard B. Rees; *University of New Orleans, New Orleans, LA*

WP 530 **Quantitative Analysis of Central Nervous System Myelin by NanoUPLC-MSE**; Stefan Tenzer[1]; Hauke B Werner[2]; Olaf Jahn[2]; Hansjörg Schild[1]; *[1]University of Mainz, Mainz, Germany; [2]Max Planck Institute of Experimental Medicine, Goettingen, Germany*

WP 531 **Quantitative Proteomic Profiling Reveals a Role for miR-128 in Prostate Cancer Progression**; Arun Sreekumar[1]; Amjad Khan[2]; Laila Poisson[2]; Vadiraja B. Bhat[3]; Rong Zhao[4]; Javed siddiqui[2]; Alexey Nesvizhskii[2]; Gilbert Omenn[2]; Arul Chinnaiyan[4]; *[1]Medical College of Georgia, Augusta, GA; [2]University of Michigan, Ann Arbor, Michigan; [3]Agilent Technologies, Wilmington, DE; [4]University of Michigan, Pathology, Ann Arbor, MI*

WP 532 **Studying Mammalian Peroxisomes by Quantitative High Resolution Mass Spectrometry**; Sebastian Wiese[1]; Thomas Gronemeyer[1]; Rob Ofman[2]; Christian Bunse[1]; Martin Eisenacher[1]; Christian Stephan[1]; Hans R. Waterham[2]; Ronald J.A. Wanders[2]; Helmut E. Meyer[1]; Bettina Warscheid[1]; *[1]Ruhr-University Bochum, Bochum, Germany; [2]University of Amsterdam, Amsterdam, The Netherlands*

WP 533 **MALDI-MS Analyses of Time-Dependent Changes in Tissue Protein Signals after Ethanol Fixation**; Hay-Yan J. Wang; Cheng Bin Liu; Jr Shin Kuo; Hsiao-Han Wang; *National Sun Yat-Sen University, Kaohsiung, Taiwan*

WP 534 **A Novel Closed ESI Interface Improved LC-MRM Assays for Biomarker Verification on Large-Cell Neuroendocrine Lung Cancer (LCNEC)**; Toshihide Nishimura[1]; Tetsuya Fukuda[2]; Hiroshi Hike[3]; Kiyonaga Fujii[4]; Hiroko Hamasaki[5]; Masaharu Nomura[1]; Yasuhiko Bando[2]; Norihiko Ikeda[1]; Harubumi Kato[1]; *[1]Tokyo Medical University, Tokyo, Japan; [2]Biosys Technologies, Inc., Tokyo, Japan; [3]AMR Inc., Tokyo, Japan; [4]Hokkaido University, Sapporo, JAPAN; [5]The University of Tokyo, Tokyo, Japan*

WP 535 **Proteomic Profiling of *Populus trichocarpa* for the Interrogation of Molecular Mechanisms behind Wood Formation**; Taufika Islam Williams; Ying-Hsuan Sun; Ting-Feng Yeh; Jason S. Sampson; David C. Muddiman; Vincent Chiang; *North Carolina State University, Raleigh, NC*

WP 536 **Top-Down High Resolution Electron Capture Dissociation Mass spectrometry for Characterization of Post-Translational Modifications in Mouse Cardiac Troponin**; Serife Ayaz Guner[1]; Lin Li[1]; Chris Doede[1]; Jeffery W. Walker[1,2]; Ying Ge[1]; *[1]University of Wisconsin-Madison, Madison, WI; [2]University of Arizona, Tucson, AZ*

WP 537 **Proteomic Analysis of ADAM17 Metalloproteinase-Cleaved Proteins from PMA-Stimulated Human Platelets;** Karen Pei Yi Fong[1]; Colin G. Barry[1]; Tilo Grosser[1]; Anh Tran[1]; Hsin-yao Tang[2]; Ian A. Blair[3]; David W. Speicher[2]; Lawrence Brass[1]; *[1]University of Pennsylvania, Philadelphia, PA; [2]The Wistar Institute, Philadelphia, PA; [3]Univ. of Penn/SOM/Pharmacol, Philadelphia, PA*

WP 538 **Quantitative Protein Profiling of Drosophila Parkin Null Mutants Using Stable Isotope Labeling and Label-Free Proteomics**; Zhiyin Xun[1]; Thomas C Kaufman[2]; David E. Clemmer[2]; *[1]UC-davis, Davis, CA; [2]Indiana University, Bloomington, IN*

WP 539 **Proteomic Foray into White Rhinoceros (*Ceratotherium simum*) Horn Keratin**; Stefan Clerens; Santanu Deb-Choudhury; Anita J. Hancock; Charisa D. Cornellison; Jeff E. Plowman; Henning Koehn; Ancy Thomas; Jolon M. Dyer; *AgResearch Limited, Christchurch, New Zealand*

WP 540 **Identification and Quantification of NMDA Receptor Complex Proteins in Human Postmortem Brain Tissue Samples**; Matthew L Macdonald[1]; Eugene F. Ciccimaro[3]; Anamika Banerjee[1]; Chang-gyu Hahn[1]; Ian A. Blair[2]; *[1]University of Pennsylvania, Philadelphia, PA; [2]Univ. of Penn/SOM/Pharmacol, Philadelphia, PA; [3]Thermo Fisher Scientific, Somerset, NJ*

WP 541 **Quantitative Proteomic Analysis of Diabetic Cardiomyopathy Using Label-free Mass Spectrometry**; Chao Yuan[1]; Gregg DiNuoscio[1]; Andrew Keller[2]; Gaurav S.J.B. Rana[1]; Andrea Romani[1]; Mark Chance[1]; *[1]Case Western Reserve Univ., Cleveland, OH; [2]Rosetta Biosoftware, Seattle, WA*

WP 542 **Withdrawn**

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WP 543 **GeLC-MS/MS Analysis of Rat Lens Proteins and Associated Effects From Aging/Environment;** Kyle A. Floyd; David R. Stella; Landon Wilson; Michael R. Heaven; Stephen Barnes; *University of Alabama at Birmingham, Birmingham, AL*

WP 544 **Proteomic Profiling of Rat Heart Aging**; Zongming Fu[1]; Chunling Fan[1]; Lesley Kane[1]; Marjan Gucek[1]; Geoffrey Hesketh[1]; Liqun Jiang[2]; Jing Zhang[2]; Mingyi Wang[2]; Allen Everett[1]; Jennifer Van Eyk[1]; Edward Lakatta[2]; *[1]Johns Hopkins School of Medicine, Baltimore, MD; [2]National Institute on Aging, Baltimore, MD*

WP 545 **Evaluation of Sample Preparation Methods for Improved Extraction of Membrane Proteins for Effective Proteomic Analysis of Small Number of Cells**; Dipak Thakur[1]; Tomas Rejtar[1]; Buffie Clodfelder-Miller[2]; Dennis Sgroi[3]; Barry L. Karger[1]; *[1]Northeastern University, Boston, MA; [2]University of Alabama, Birmingham, AL; [3]Massachusetts General Hospital, Charlestown, MA*

WP 546 **Withdrawn**

WP 547 **Comparison of Human Uridine Glucuronosyltransferase Enzyme Expression Levels within Human Liver, Intestine and Kidney using nanoLC Tandem Mass Spectrometry**; David Harbourt[1]; John Fallon[1]; Shinya Ito[2]; Takashi Baba[4]; Joseph K Ritter[3]; Philip C. Smith[1]; Gary L. Glish[2]; *[1]UNC Chapel Hill, Chapel Hill, NC; [2]University of North Carolina, Chapel Hill, NC; [3]Virginia Commonwealth University Medical Center, Richmond, VA; [4]Univ. North Carolina, Chapel Hill, NC*

WP 548 **Tissue Proteomics: A SILAM-Based Workflow For Targeted Differential Analysis Applied To Sleep Nuclei**; Ronald A. Miller[1]; Christopher J. Winrow[1]; Daniel S. Spellman[1]; Rhonda R. Taylor[1]; Duane R. Reiss[1]; James P. Conway[2]; Francisco J. Dieguez-Acuna[1]; John J. Renger[1]; Ronald C. Hendrickson[2]; *[1]Merck Research Laboratories, West Point, PA; [2]MRL, Rahway, NJ*

WP 549 **Characterization of the Biological Effects of Naphthenic Acid Exposure on Zebrafish (*Danio rerio*) Gill Proteome using 2MEGA Stable Isotope Labeling**; Andrea G. De Souza; Tyson J. MacCormack; Andy Lo; Greg G. Goss; Liang Li; *University of Alberta, Edmonton, Canada*

WP 550 **Characterization of Tubulin Isotypes in Human Tumor Tissue**; Leah M. Miller; Phyllis M. Novikoff; Susan Band Horwitz; Ruth Hogue Angeletti; *Albert Einstein College of Med, Bronx, NY*

WP 551 **Proteomic Analysis of the Effect of the Gut Microbiome on Host Cells**; Xinxin Zhang[1]; Nikhil Garge[1]; Dallas Donohoe[2]; Sarah Bortvedt[2]; Scott Bultman[2]; Maureen K. Bunger[1]; *[1]Research Triangle Institute, Research Triangle Park, NC; [2]University of North Carolina-Chapel Hill, Chapel Hill, NC*

WP 552 **Large Scale Analysis of Breast Cancer Tissue Proteomes Using an Accurate Mass and Time (AMT) Tag Approach**; V.S. Kumar Kolli[1]; Tao Liu[2]; Brianne Petritis[2]; Luke Weaver[1]; Brenda Deyarmin[1]; Jennifer Kane[1]; Richard Katenhusen[1]; David Kirchner[1]; Karin Rodland[2]; David Camp[2]; Richard D. Smith[2]; Craig Shriver[3]; Richard J. Mural[1]; *[1]Windber Research Institute, Windber, PA; [2]Pacific Northwest National Laboratory, Richland, WA; [3]Walter Reed Army Medical Center, Washington, DC*

WP 553 **Development of a Reproducible Sample Processing Method for Quantification of Proteins in Muscle Tissue**; Ekaterina G. Deyanova[1]; Zhenlian/vivian Ke[2]; Kevin Nennig[1]; Yi Du[1]; Kai Zhou[1]; Francisco Dieguez[2]; Nathan Yates[1]; Ronald Hendrickson[1]; *[1]Merck Research Laboratories, Rahway, NJ; [2]Merck, West Point, PA*

WP 554 **Cell Type Specific Protein Cataloguing of Barrett's Esophagus: Workflow Design and Evaluation**; Christoph Stingl[1]; Frederike G.I. van Vilsteren[2]; Coskun Guzel[1]; Theo M. Luider[1]; Jacques J. Bergman[2]; *[1]Erasmus MC, Rotterdam, The Netherlands; [2]Academic Medical Center, Amsterdam, The Netherlands*

WP 555 **Mining the Human Placenta Proteome ≥ 5000 Proteins Deep Using CID/ETD on a Novel Ion Trap Mass Spectrometer**; Simone M Lemeer[1]; Andrea Schneider[2]; Markus Lubeck[3]; Bernhard Kuster[1]; *[1]Technical Universitiy Munich, Freising, Germany; [2]Bruker Daltonics, Bremen, Germany; [3]Bruker Daltonik GmbH, Bremen, Germany*

WP 556 **Comparison of First-dimension Separations for "MudPIT" Proteomic Studies on Endometrial Tissue**; Steven L. Young[1]; Maria Warren Hines[2]; Nedyalka Dicheva[2]; Mihaela Mocanu[2]; Marc Fritz[1]; Scotchie Jessica[1]; Carol E. Parker[2]; *[1]Div. of Reprod. Endocrin.& Infertiility, UNC-CH, Chapel Hill, NC; [2]UNC-Duke Proteomics Center, UNC-CH, Chapel Hill, NC*

WP 557 **MS(E) Differential Proteomic Analysis of Archival Formalin Fixed, Celloidin Embedded Human Inner Ear Tissue**; Karin Green[1]; Antti A. Aarnisalo[2]; Jennifer O'Malley[2]; Joe Adams[2]; Saumil N. Merchant M.D. [2]; James E. Evans[1]; *[1]U-MASS Medical School, Worcester, MA; [2]Mass. Eye & Ear Infirmary, Harvard Medical School, Boston, MA*

WP 558 **Quantitative Proteome Analysis of Slow and Fast Skeletal Muscle Tissue Using *in vivo* SILAC**; Marcus Krueger[1]; Hannes Drexler[2]; Anne Konzer[1]; Aaron Ruhs[1]; Luca Mendler[1]; Thomas Braun[1]; *[1]MPI for Heart and Lung Research, Bad Nauheim, Germany; [2]MPI for Molecular Biomedicine, Muenster, Germany*

WP 559 **Tissue-Specific N-Glycopeptide Profiling Maps**; Carey Sheu[1]; Kelly Cooke[1]; David S Campbell[1]; Mi-youn Brusniak[1]; Simon Letarte[1]; Julian D Watts[1]; Ruedi Aebersold[1,2]; *[1]Institute for Systems Biology, Seattle, WA; [2]ETH - Swiss Federal Institute of Technology, Zurich, Switzerland*

WP 560 **Quantitative Analysis of Proteomic Changes in Alix Knockout Mice for High-Throughput Profiling of the Regulated Protein Expression by Poorly-Characterized Proteins**; Robert Dejournett[1]; Yanbao Yu[1]; Oliver Bogler[2]; Xian Chen[1]; *[1]University of North Carolina, Durham, NC; [2]UT M.D. Anderson Cancer Center, Houston, TX*

METABOLITE PROFILING, 561 - 582

WP 561 **Cell Type Classification by Phonotype Specific Markers of Live Single Cells**; Akinori Hosokawa; Naohiro Tsuyama; Hajime Mizuno; Takanori Harada; Tsutomu Masujima; *Hiroshima Univ. BioMed., Hiroshima, Japan*

WP 562 **What Do We Learn about Hepatotoxicity Using Coumarin-Treated Rat Model?** Ming-chih D. Ho[1]; Bob Xiong[1]; S. Stellar[2]; J. Silva[2]; H. K. Lim[2]; Patrick Bennett[1]; Lily Li[1]; J. Proctor[2]; *[1]Tandem Labs New England, Boxborough, MA; [2]Johnson & Johnson PRD, Raritan, NJ*

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WP 563 **Characterization of Metabolites in Stachybotrys chartarum by LC/TOF-MS**; Masahiko Takino[1]; Eri Ochiai[2]; Katsuhiko Kamei[2]; Yoshiko Sugita-Konishi[3]; *[1]Agilent Technologies, Hachioji-shi, Japan; [2]Medical mycology reserach Center, Chiba University, Chiba-shi, Japan; [3]National Institute of Health Sciences, Tokyo, Japan*

WP 564 **Mass Spectrometric Analysis of Metabolites in Corn (Zea Mays) Root by Mid-Infrared Laser Ablation Electrospray Ionization at Atmospheric Pressure**; Jennifer A Day; Peter Nemes; Akos Vertes; *George Washington University, Washington, DC*

WP 565 **Mass Spectrometry Study of Vine Defense Mechanisms Against *Plasmopara viticola***; Gregory Hamm[1]; Benoit Maunit[2]; Anne Poutaraud[3]; Vincent Carré[1]; Didier Merdinoglu[3]; Jean Francois Muller[1]; *[1]LSMCL, Metz, France; [2]ICOA, Orléans, France; [3]INRA, Colmar, France*

WP 566 **Quantitation of Several HIV Antiretroviral Drugs in Human Plasma by LC Tandem MS**; David W. Blank; Brian J. Gilfix; Marcos DiFalco; Line Roy; Bernard F. Gibbs; *McGill University, Montreal, Canada*

WP 567 **Comprehensive Profiling of Human Plasma Phospholipids by Combining Direct Infusion and LC FTMS**; Rachel Kozlowski; Jun Han; Christoph H. Borchers; *GBC UVic Proteomics Centre, Victoria,, Canada*

WP 568 **Identification of Cell Cycle Specific Metabolite Profile by Single Cell Mass Spectrometry in NIH3T3 Cells**; Yuka Miho; Naohiro Tsuyama; Hajime Mizuno; Takanori Harada; Tsutomu Masujima; *Hiroshima Univ. BioMed., Hiroshima, Japan*

WP 569 **Characterization of Methylated Flavonoid Regioisomers using Tandem Mass Spectrometry**; Chao Li[1]; Feng Shi[1]; Adam Schmidt[2]; Eran Pichersky[2]; A. Daniel Jones[1]; *[1]Michigan State University, East Lansing, MI; [2]University of Michigan, Ann Arbor, MI*

WP 570 **Spatially Resolved Non-Targeted Metabolic Profiling of Medicago Truncatula and Medicago Sativa Border Cells**; Mohamed Bedair[1]; Bonnie S. Watson[1]; Ewa Urbanczyk-Wochniak[2]; David Huhman[3]; Lloyd W. Sumner[4]; *[1]Samuel Roberts Noble Foundation, Ardmore, OK; [2]Monsanto, St. Louis, MO; [3]The Samuel Roberts Noble Foundation, Ardmore, OK; [4]The Noble Foundation, Ardmore, OK*

WP 571 **An Unusual Mass Spectrometric Fragmentation Pattern of a Group of Sulfonyl Compounds: Beta-Elimination and Subsequent Retro-Diels-Alder Ring Opening**; Hlaing (Holly) Maw; Hongbin Yu; *Boehringer Ingelheim Pharmaceuticals, Inc., Ridgefield, CT*

WP 572 **Acyl CoA-Profiling in Biological Tissues Using Online SPE-LC-FTMS (Orbitrap)**; Christoph Magnes[1]; Maria Suppan[1]; Petra Kienesberger[2]; Tarek Moustafa[3]; Thomas Pieber[1,3]; Frank Michael Sinner[1]; *[1]Joanneum Research Forschungsgesellschaft mbH, Graz, Austria; [2]University of Graz, Graz, Austria; [3]Medical Univ. of Graz, Graz, Austria*

WP 573 **Lipidomic Profiling of Steroid and Fatty Acid Derivatives Using High-Temperature Gas Chromatography-Mass Spectrometry**; Hyun-Jin Jung[1,2]; Won-Yong Lee[2]; Bong Chul Chung[1]; Man-ho Choi[1]; *[1]Life Sciences Division / KIST, Seoul, South Korea; [2]Yonsei University, Seoul, Korea*

WP 574 **Quantitative Steroid Signatures by Gas Chromatography-Mass Spectrometry for Multiple-Substrate Enzyme Assays**; Ju-Yeon Moon[1,2]; Hyun-Jin Jung[1,2]; Man-ho Choi[1]; Myeong Hee Moon[2]; Bong Chul Chung[1]; *[1]Life Sciences Division / KIST, Seoul, South Korea; [2]Yonsei University, Seoul, South Korea*

WP 575 **Plant Gibberellins: LC-MS/MS and GC-MS for Profiling, Identification and Quantification**; Baichen Zhang[1]; Leslie M. Hicks[2]; *[1]Donald Danforth Center, St Louis, MO; [2]Danforth Center, St. Louis, MO*

WP 576 **Accelerating Japanese Green Tea Quality Assessment by Ultra Fast LC-IT-TOF MS Based Profiling Studies Using High Mass Accuracy MSn Analysis**; Tairo Ogura[1]; Takushi Yamamoto[1]; Satoshi Yamaki[1]; Tatsunari Yoshida[1]; Hirohisa Mikami[1]; Rui Kawahara[2]; Takeshi Bamba[2]; Eiichiro Fukusaki[2]; *[1]Shimadzu corporation, Kyoto, Japan; [2]Osaka University, Osaka, Japan*

WP 577 **Quantitation of Amino Acids in Dried Blood Spots by iTRAQ®Regent Derivatization Reaction and LC/MS/MS Analysis**; Songhyun Yang[1]; Jungsun Han[1]; Chuljin Moon[1]; Hansoon Kwon[2]; Sanghwa Kim[2]; Jim Krol[3]; Scott B. Daniels[3]; Susan Leonard[3]; *[1]Green Cross Reference Laboratory, Yongin, South Korea; [2]Applied Biosystems, Seoul, South Korea; [3]Applied Biosystems1, Framingham, MA*

WP 578 **Embryonic Cell Metabolite Profiling during Neuronal Differentiation by Single Cell Mass Spectrometry**; Naohiro Tsuyama; Hajime Mizuno; Takanori Harada; Tsutomu Masujima; *Hiroshima Univ. BioMed., Hiroshima, Japan*

WP 579 **Complementarity of Plasma Proteome and Urinary Metabolome Changes Associated with Extreme Obesity, Metformin Therapy and Bariatric Surgery**; Stephen B. Harvey; Todd Kellogg; Therese Swan; Gary Nelsestuen; *University of Minnesota, Minneapolis, MN*

WP 580 **Fast HPLC-MS Analysis of Acylcarnitines in Biological Matrices**; Paul Minkler; Stephen Ingalls; Charles Hoppel; *Case Western Reserve Univ., Cleveland, OH*

WP 581 **Identification of Cryptorchidism in Horses by Analysing Their Urine Samples with Gas Chromatography Mass Spectrometry**; Jenny K.Y. Wong; David K.K. Leung; Francis P.W. Tang; Terence S.M. Wan; *The Hong Kong Jockey Club, Hong Kong, China*

WP 582 **Measuring the Quantity of Gold Nanoparticles Uptake into Mammalian Cells by Mass Spectrometry**; Huan-Chang Lin[1]; Hsin-Hung Lin[1]; Cai-Yu Kao[2]; Alice L. Yu[1]; Wen-ping Peng[1,2]; Chung-Hsuan Chen[1]; *[1]Genomics Research Center, Academia Sinica, Taipei, Taiwan; [2]National Dong Hwa University, Shoufeng, Hualien, Taiwan*

ENVIRONMENTAL, 583 - 609

WP 583 **Molecular Characterization of Sea-Surface Microlayers in the Adriatic Using Fourier Transform Ion Cyclotron Resonance Mass Spectrometry**; Boris P. Koch[2,3]; Matthias Witt[1]; Blazenka Gasparovic[4]; Sanja Frka[4]; Gerhard Kattner[2]; Christian Albers[1]; *[1]Bruker Daltonik GmbH, Bremen, Germany; [2]Alfred Wegener Institute for Polar and Marine Res, Bremerhaven, Germany; [3]University of Applied Sciences, Bremerhaven, Germany; [4]Ruder Boskovic Institute, Zagreb, Croatia*

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WP 584 **Characterization of Perfluorinated Acids by MALDI-TOF/TOF Mass Spectrometry**; Bing Guan[1]; Joseph B. Ferrario[2]; Richard B. Cole[1]; *[1]University of New Orleans, New Orleans, LA; [2]USEPA, Stennis Space Center, MS*

WP 585 **Rapid Analysis of Pharmaceutical Contaminants in Groundwater with Ambient Mass Spectrometry**; Ian S. Campbell; Alain Ton; Christopher C. Mulligan; *Illinois State University, Normal, IL*

WP 586 **Fast Screening for Explosives at Ultra-High Resolution: Utilization of Simple Method Development Using a Benchtop Orbitrap Mass Spectrometer**; Josef Ruzicka; Kevin J. Mchale; Mark Sanders; *Thermo Fisher Scientific, Somerset, NJ*

WP 587 **Dioxin Analysis by Gas Chromatography-Fourier Transform Mass Spectrometry**; Vincent Y. Taguchi[1]; Ray E. Clement[1]; Stefan Krolik[3]; Robert Nieckarz[1,2]; Robert Williams[4]; *[1]Ministry of the Environment, Toronto, ON; [2]University of Waterloo, Waterloo, Canada; [3]Consultant to Varian Inc, Montreal, Canada; [4]Varian Inc, Lake Forest, CA*

WP 588 **Melamine Screening in Milk Using Low Temperature Plasma Ionization on a Portable Mass Spectrometer**; Guangming Huang; Zheng Ouyang; R. Graham Cooks; *Purdue University, West Lafayette, IN*

WP 589 **Combinatorial Library-Building Based on GC-GC/MS Heartcuts and Spectral Deconvolution to Identify Alkylated PAH in Crude Oils;** Albert Robbat; Christian Zeigler; *Tufts University, Medford, MA*

WP 590 **Determination and Reduction of the Effects of Fragment Ion Interferences in High-Resolution Environmental Analyses**; Jerry Hart; Carla Lyon; Yves Tondeur; *Analytical Perspectives, Wilmington, NC*

WP 591 **Application of a Novel GC-MS Method for Assessing Endogenous Metabolites in Exhaled Breath Condensate**; Heidi F Hubbard; Joachim D Pleil; Jon R Sobus; Michael C Madden; *US EPA, Rtp, NC*

WP 592 **Chemical Ionization Detection of Haloamines in Real Time Using SIFT-MS**; Murray J. Mcewan[1]; John Gray[2]; Wan Ping Hu[2]; Daniel Milligan[2]; Vaughan Langford[2]; *[1]University of Canterbury, Christchurch, New Zealand; [2]Syft Technologies Ltd, 3 Craft Pl, Christchurch, New Zealand*

WP 593 **GC-Tandem Quadrupole Mass Spectrometry as an Alternative to High-Resolution Mass Spectrometry for the Investigation of Polychlorinated Dioxins and Furans**; Anthony Macherone; *Agilent Technologies, Elkton, MD*

WP 594 **Comparative Evaluation of Target/Non-Target Screen and Quantitation Techniques of 250 Pesticides in Potable Water**; Peter Stone; Michael Flanagan; *Agilent Technologies, Santa Clara, CA*

WP 595 **Pharmaceutical Contaminant Screen in Drinking Water and Surface Water by Direct Online Analysis**; Francois A. Espourteille; Catherine Lafontaine; *Thermo Fisher Scientific, Franklin, MA*

WP 596 **Host-Guest Chemistry to Improve LC-MS Detection Limits for Pharmaceuticals Present as Pollutants in Drinking Water**; Nirmala Viswanathan; Regina Nardi; Lauren Pettit; David Sierra; Dil Ramanathan; *Kean University, Union, NJ*

WP 597 **Wastewater Impurity Screening Coming from Large Chemical Plants Using a Combination of Polarity Switching ESI & APCI LC-MS/MS Analysis**; Markus Mickel; *Applied Biosystems, Darmstadt, Germany*

WP 598 **LC/TOF-MS for the Analysis of Pharmaceuticals and their Degradates in Water**; Imma Ferrer; Michael Thurman; *University of Colorado, Boulder, CO*

WP 599 **HPLC/MS/MS Characterization of a Putative New Nitrosamine Disinfection By-Product: N-Nitroso-3-Methylindole**; Jessica M. Boyd; Feng Qin; Xing-fang Li; *University of Alberta, Edmonton, Canada*

WP 600 **LC-MS/MS Analysis of Selected Perfluorinated Alkyl Acids in Drinking Water, EPA Method 537, a Validation Study**; Jia Wang[1]; Charles Neslund[1]; Jonathan Beck[2]; *[1]Lancaster Laboratories, Lancaster, PA; [2]Thermo Fisher Scientific, San Jose, CA*

WP 601 **Low Femtogram Target Screening and Quantitation of Polyfluorinated Compounds (PFCs) in Food Matrices**; Peter Stone[1]; Linda Cote[2]; *[1]Agilent Technologies Inc, Santa Clara, CA; [2]Agilent Technologies, Saint-laurent, QC*

WP 602 **LC-TOF/MS and UPLC-MS/MS Methods for the Analysis of Perfluorooctanesulfonate (PFOS) and the Reduction of Matrix Interference in Complex Biological Matrices**; Mark J. Strynar[1]; Amy D. Delinsky[1]; Andrew B. Lindstrom[1]; Shoji F. Nakayama[2]; Jessica L. Reiner[3]; *[1]U.S. EPA NERL, Durham, NC; [2]U.S. EPA NRMRL, Cincinnati, OH; [3]NIST Hollings Marine Laboratory, Charleston, SC*

WP 603 **Comparison of Conventional and Low Flow LC-ESI-MS For Analysis of Free and Conjugated Estrogens in Environmental Matrices**; Jerry Tso; Diana Aga; *University at Buffalo, Buffalo, NY*

WP 604 **Dynamic MRM Acquisition Method Optimization for UHPLC-QQQ Multi-Residue Analytical Applications**; Michael Flanagan; Bruce Wang; Harry Bunting; *Agilent Technologies, Santa Clara, CA*

WP 605 **Multi-Target Screening of up to 500 Pesticides in a Single LC/MS Run by xact Ion Traces**; Petra Decker[1]; Marcus Macht[2]; Arndt Ingendoh[1]; Laurie Allen[3]; *[1]Bruker Daltonik GmbH, Bremen, Germany; [2]Bruker Daltonics GmbH, Bremen, Germany; [3]Bruker Canada Inc., East Milton, Canada*

WP 606 **Single Step LC-MS Method for the Simultaneous Determination of Organochlorine and Phenoxy Acid Pesticides**; Giorgio Famiglini; Pierangela Palma; Elisabetta Pierini; Veronica Termopoli; Helga Trufelli; Achille Cappiello; *Università di Urbino, Urbino, Italy*

WP 607 **Withdrawn**

WP 608 **Using Bonded Silica Solid Phase Microextraction Fibers as a Screening Tool for Pharmaceuticals and Personal Care Products in Drinking Water**; Carmen T. Santasania; Katherine Stenerson; Robert Shirey; An Trinh; Craig Aurand; *Supelco/Sigma-Aldrich, Bellefonte, PA*

WP 609 **Hyphenated Techniques as Modern Detection Systems in Ion Chromatography**; Jörg Kleimann; Stefanie Czyborra; Andrea Wille; *Metrohm AG, Herisau, Switzerland*

POLYMERS, 610 - 630

WP 610 **Qualitative and Quantitative Determination of Cellulose Polymer Derivatives Using Size-Exclusion Chromatography and ELSD-MS Detection;** Louis-philippe Labranche[1]; Audrey Tousignant[3]; Yves G. Leblanc[2]; Alain Carrier[2]; *[1]Sandoz, Boucherville, Canada; [2]Sandoz Canada, Boucherville, QC; [3]Sandoz Canada Inc., Boucherville, QC*

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WP 611 **On-Line Coupling of Liquid Chromatography at Critical Conditions with Electrospray Tandem Mass Spectrometry for the Structural Characterization of Block Copolymers**; Marion Girod; Trang N.T. Phan; Laurence Charles; *University Aix-Marseille I & III, Marseille Cedex 20, France*

WP 612 **LC-MS of EO-PO Block Copolymers Using Ultrasonic Degradations and the Mechanism of Degradation**; Ryuichi Arakawa[1]; Masanori Okabayashi[1]; Takehiro Watanabe[1]; Yukari Nishimoto[2]; Tomoyuki Ozawa[3]; Hideya Kawasaki[1]; *[1]Kansai University, Osaka, Japan; [2]Nippon Synthetic Chemical Industry, Osaka, Japan; [3]Nissan Chemical Industries, Chiba, Japan*

WP 613 **Characterization of the Physical and Chemical Networks in Filled Rubber Compounds by Pyrolysis - GC/MS**; Alesia Salberg[1]; Abdulkareem Melaiye[2]; Ed Johnson[2]; Chrys Wesdemiotis[1]; *[1]The University of Akron, Akron, OH; [2]The Goodyear Tire & Rubber Company, Akron, OH*

WP 614 **Comprehensive Two Dimensional Liquid Chromatography/Mass Spectrometric (LCxLC/MS) Analyses for Characterization of Solid Epoxy Resins;** Samir Julka; Hernan Cortes; Bob Harfmann; Bruce Bell; Andreas Schweizer-Theobaldt; Matthias Pursch; David West; Shawn Maynard; *Dow Chemical Company, Mildland, MI*

WP 615 **Characterization of Povidones in Ophthalmic Solution by GPC-ELSD / LC-MS Analysis**; Audrey Tousignant[1]; Louis-philippe Labranche[3]; Yves G. Leblanc[1]; Alain Carrier[2]; *[1]Sandoz Canada Inc., Boucherville, Canada; [2]Sandoz Canada, Boucherville, QC; [3]Sandoz, Boucherville, QC*

WP 616 **Collision Induced Dissociation Processes in Azofunctional Oligoesters**; Cristian Peptu[1]; Valeria Harabagiu[2]; Bogdan C. Simionescu[2]; Marek Kowalczuk[1]; *[1]Jan Dlugosz University, Czestochowa, Poland; [2] ''Petru Poni'' Institute, Iasi, Romania*

WP 617 **Solvent Effect on the DESI Mass Spectra of Industrial Polymers and Additives;** Matthieu Loriau[1]; Sandra Alves[1]; Florence Churlaud[2]; Jean-Claude Tabet[1]; *[1]University Paris VI (UPMC), Paris Cedex O5, France; [2]Arkema - CERDATO, Serquigny, France*

WP 618 **MALDI Characterization of Polymers Using Accurate Mass Measured Data for Accelerated Material Understanding**; Sean Bennett[1]; Sucharita Dutta[1]; William Nichols[2]; Andrew J. Hoteling[2]; *[1]Thermo Fisher Scientific, San Jose, CA; [2]Eastman Kodak Company, Newark, NY*

WP 619 **Characterization of Poly(organophosphazene)s by Mass Spectrometry Techniques;** Vincenzo Scionti; Claire Tessier; Wiley Youngs; Chrys Wesdemiotis; *The University of Akron, Akron, OH*

WP 620 **Derivatization Strategies for Improved MALDI Mass Spectrometry of MAA-MMA Copolymers**; Rémi Giordanengo[1]; Stéphane Viel[1]; André Thévand[1]; Laurence Charles[1]; Béatrice Allard-Breton[2]; *[1]University Aix-Marseille I & III, Marseille Cedex 20, France; [2]ARKEMA, Pierre-Bénite, France*

WP 621 **Overcoming the Limitations of MALDI-TOF-MS Analysis of Polymers Using GPC-MALDI and a Hybrid Ion Trap Time of Flight MALDI MS**; Brian Feild[1]; Fan Xiang[2]; Martin Resch[3]; Chrys Wesdemiotis[4]; *[1]Shimadzu, Columbia, MD; [2]Shimadzu Biotech, Pleasanton, CA; [3]Shimadzu Europe, Duisburg, Germany; [4]The University of Akron, Akron, OH*

WP 622 **Comparative Study of Fatty Alcohol Alkoxylate Copolymers Fragmentation Patterns by MALDI-MS/MS Using Low Energy and High Energy CID**; Volker Wulf[1]; Martin Resch[2]; Oliver J. Schmitz[1]; Hans-Willi Kling[3]; Siegmar Gaeb[1]; Michaela Wirtz[3]; *[1]University of Wuppertal, Wuppertal, Germany; [2]Shimadzu Europe, Duisburg, Germany; [3]Cognis GmbH, Duesseldorf, Germany*

WP 623 **End-Group Determination in Minor Components of Polyalkylene Glycoles by MALDI-ToF Mass Spectrometry Following Preliminary Derivatization**; Roman Borisov; Nikolai Yu. Polovkov; Vladimir Zaikin; *Topchiev Institute of Petrochemical synthesis, Moscow, Russian Federation*

WP 624 **Identification of Functional Additives in Polybutadiene by Tandem Mass Spectrometry**; David E. Dabney; Jon Janoski; Roderic P. Quirk; Chrys Wesdemiotis; *The University of Akron, Akron, OH*

WP 625 **Quantitation of PEG Contaminants in Ethoxylated Surfactant Samples by MALDI TOFMS Using Standard Additions and Internal Standards Methods;** Scott D. Hanton[2]; Diane M. Henning[3]; Kevin G. Owens[1]; Renata Szyszka[1]; *[1]Drexel University, Philadelphia, PA; [2]Air Products & Chemicals, Inc, Allentown, PA; [3]Air Products and Chemicals, Inc., Milton, WI*

WP 626 **Positive and Negative Mode Mass Spectrometry of Poly(electrolytes)**; Bethany Subel[1]; Chrys Wesdemiotis[2]; *[1]University of Akron, Akron, OH; [2]The University of Akron, Akron, OH*

WP 627 **Mass Spectrometry of Polyethylene Glycols: Evidence of Structural And Energetic Interdependence**; Antony Memboeuf[1]; Ron M.A. Heeren[2]; Andreas Nasioudis[3]; Oscar F. Van Den Brink[4]; Karoly Vekey[5]; Laszlo Drahos[1]; *[1]hungarian Academy Of Sciences, Budapest, Hungary; [2]FOM Inst. Atomic/Molecular Phy, Amsterdam, Netherlands; [3]AkzoNobel, Arnhem, Netherlands; [4]Akzo Nobel, Utrecht, Netherlands; [5]Hungarian Academy of Science, Budapest, Hungary*

WP 628 **Development of a Novel Analytical Technique for the Identification of Organic Contamination on Spaceflight-Related Substrates Utilizing a DART-TOF**; Kathleen Brooks Loftin[1]; Timothy P. Griffin[2]; Christian A. Clausen III[3]; *[1]NASA- Kennedy Space Center, Kennedy Space Center, FL; [2]NASA, Kennedy Space Center, FL; [3]University of Central Florida, Orlando, FL*

WP 629 **Characteristic Fragmentation of Polysiloxanes in Monolayer by Monoatomic and Polyatomic Ions Bombardment in ToF-SIMS**; Hye Kyoung Moon; David D. Wells; Joseph A. Gardella; *SUNY Buffalo, Buffalo, NY*

WP 630 **Surface Analysis of Polyacetylene Thin Films by UV-LDI-FTMS**; Sasa Miladinovic[1]; Valérie De Vriendt[2]; Scott A. Robotham[3]; Stéphane Lucas[2]; Charles L. Wilkins[1]; *[1]University of Arkansas, Fayetteville, AR; [2]University of Namur-PMR, Namur, Belgium; [3]Nebraska Wesleyan University, Lincoln, NB*

HYDROCARBON AND PETROCHEMICAL, 631 - 659

WP 631 **Matrix Optimization for the MALDI-TOF-MS Analysis of Biodiesel Components**; Casey R. Mcalpin[1,2]; Kent J. Voorhees[1]; Robert L. McCormick[2]; Teresa L. Alleman[2]; *[1]Colorado School of Mines, Golden, CO; [2]National Renewable Energy Laboratory, Golden, CO*

WP 632 **Working Toward a Petroleomic Analysis of Bio-oils**; Erica Smith[1,2]; David Perdian[1,2]; Young Jin Lee[1,2]; *[1]Department of Chemistry, Iowa State University, Ames, IA; [2]Ames Laboratory- U.S. DOE, Ames, IA*

WP 633 **Characterization of Sterol Glucosides Found in B100 Biodiesels by Gas and Liquid Chromatography/Mass Spectrometry**; Ryan Shea; Rick Pauls; *BP Chemicals, Naperville, IL*

WP 634 **MALDI-TOF MS Screening of Aged Biofuels**; Julie Herniman[1]; G. John Langley[1]; Tom Lynch[2]; *[1]University of Southampton, Southampton, UK; [2]BP Castrol Global Lubricants Technology, Pangbourne, UK*

WP 635 **Biodiesel Identification: Distinguishing individual Fatty Acid Methyl Esters and Identifying Oxidation Products Using MS Coupled to Chromatographic Techniques;** Christianne Wicking[1]; G. John Langley[1]; Tom Lynch[2]; *[1]University of Southampton, Southampton, UK; [2]BP Castrol Global Lubricants Technology, Pangbourne, UK*

WP 636 **Identification of Oxidation Products of Biodiesel under Accelerated Oxidation Condition**; Jungju Seo[1]; Myung Hee Nam[1]; Manhoi Hur[3]; Jae-Kon Kim[2]; Mi-Jin Lee[1]; *[1]Korea Basic Science Institute, Seoul, South Korea; [2]Korea Institute of Petroleum Quality, Ochang-eup, Korea; [3]BNF Technology Inc, Daejeon, Korea*

WP 637 **Analysis of Carbohydrates and Lipids in Microalgal Biomass Samples with HPAEC-MS and LC/MS**; Linda Lopez[1]; Ting Zheng[1]; Rodney Corpuz[2]; Rosanne Slingsby[1]; Srinivasa Rao[1]; *[1]Dionex Corporation, Sunnyvale, CA; [2]General Atomics, San Diego, CA*

WP 638 **Ionization Techniques and Reagents for Improved Heteroatom Speciation in Crude Oils by Ultrahigh Resolution FT-ICR MS**; Priyanka Juyal[1,2]; Amy Mckenna[4]; Ryan P. Rodgers[3]; Alan G. Marshall[5]; *[1]Nalco Company, Sugar Land, TX; [2]Nat'l High Magnetic Field Laboratory, Tallahassee, FL; [3]Nat'l High Magnetic Field Lab, Tallahassee, FL; [4]Natl High Magnetic Field Laboratory, Tallahassee, FL; [5]Ion Cyclotron Resonance Prog, Tallahassee, FL*

WP 639 **Identification, Characterization and Quantitation of Vanadyl Porphyrins in Heavy Crude Oil by FT-ICR Mass Spectrometry**; Ryan P. Rodgers[1]; Jeremiah M. Purcell[2]; Amy Mckenna[1]; Alan G. Marshall[1]; *[1]Nat'l High Magnetic Field Laboratory, Tallahassee, FL; [2]Shell Global Solutions, Houston, TX*

WP 640 **Exploring Solvent and Concentration Effects on Average Molecular Weight (MW) Data for Petroleum Samples using Electrospray Ionization Mass Spectrometry (ESI-MS)**; Melisa Clements; Thomas Oldenburg; Steve Larter; *PRG, University of Calgary, Calgary, Canada*

WP 641 **Identification of Chemical Components in Shale Oils by ESI and APPI Fourier Transform Ion Cyclotron Resonance Mass Spectrometry**; Eun Suk Park[1]; Jeol Geol Na[2]; Soo Hyun Chung[2]; Manhoi Hur[4]; Hojoon Seo[4]; Sunghwan Kim[3]; Young Hwan Kim[1]; Jong Shin Yoo[1]; *[1]Korea Basic Science Institute, Chungwon-kun, Chungbuk-do, South Korea; [2]Korean Institute of Energy Research, Daejeon, South Korea; [3]Korean Basic Science Institute, Ochang-myun, SOUTH KOREA; [4]BNF Technology Inc., Daejeon, South Korea*

WP 642 **Isolation and Characterization of Naphthenic Acids in Crude Oils by Electrospray Ionization FT-ICR Mass Spectrometry**; Mmilili Myles Mapolelo[1]; Ryan P. Rodgers[2]; Alan G. Marshall[3]; *[1]Florida State Univ, Dept of Chemistry, Tallahassee, FL; [2]Nat'l High Magnetic Field Lab, Tallahassee, FL; [3]Ion Cyclotron Resonance Prog, Tallahassee, FL*

WP 643 **Analysis of Fresh and Used Lubricating Oils Using ASAP in Conjunction with Ion Mobility Mass Spectrometry**; Hilary J. Major[1]; Martin Selby[2]; Martin Green[1]; Alistair Wallace[1]; *[1]Waters Corporation, Manchester, UK; [2]Shell Global Solutions (UK), Chester, UK*

WP 644 **Identification of Low Abundant Impurities in Gas Oil by Fourier Transform Ion Cyclotron Resonance Mass Spectrometry**; Matthias Witt; Jochen Friedrich; *Bruker Daltonik GmbH, Bremen, Germany*

WP 645 **The Effect of Operating Conditions on Petroleum Analysis by Fourier Transform Ion Cyclotron Resonance Mass Spectrometry**; Haiyan Wang; Gil Jones; Matthew Unterfenger; Victor Kovar; Howard Greenberg; Hung Pham; Stella Cabanban; Paul Adams; Andrzej Ringwelski; *UOP LLC, A Honeywell Company, Des Plaines, IL*

WP 646 **Geochemical Applications of Electron Ionization GC-MS with Supersonic Molecular Beams**; David A. Zinniker[1]; Pierre Metzger[2]; J. Michael Moldowan[1]; Alexander B. Fialkov[3]; Aviv Amirav[4]; *[1]Stanford University, Stanford, CA; [2]Ecole Nationale Supérieure de Chimie de Paris, Paris, France; [3]Tel Aviv University, Tel Aviv, ISRAEL; [4]Tel-Aviv University, Tel-aviv, ISRAEL*

WP 647 **Element Speciation in Petroleum and Petroleum Products by HPLC-ICP MS**; Guilhem Caumette[1,2]; Charles-Philippe Lienemann[1]; Isabelle Merdrignac[1]; Brice Bouyssiere[2]; Ryszard Lobinski[2]; *[1]IFP - Lyon, Vernaison, France; [2]LCABIE - CNRS UMR 5254, Pau, France*

WP 648 **Development of an Analytical Protocol to Investigate Solid Well Bore Deposits: Determination of Heterocyclic Compounds by FT-ICR MS**; Saroj Panda[1]; Jan T. Andersson[2]; Wim Genuit[3]; Mark Grutters[3]; Andrew G. Shepherd[3]; Wolfgang Schrader[1]; *[1]Max-Planck Inst Coal Res., Mülheim / Ruhr, Germany; [2]Inst. Inorg. and Analytical Chem, Univ. Muenster, Muenster, Germany; [3]Shell Global Solutions, Amsterdam, Netherlands*

WP 649 **Investigations into Asphaltene Molecular-Mass Distribution and Plasma-Phase Aggregation Using Two-Step Laser Mass Spectrometry and LDI-MS**; Amy L. Morrow[1]; Andrew E. Pomerantz[2]; Matthew R. Hammond[1]; Oliver C. Mullins[2]; Richard N. Zare[1]; *[1]Stanford University, Stanford, CA; [2]Schlumberger-Doll Research, Cambridge, MA*

WP 650 **GCxGC TOF MS and Electrospray FT-ICR-MS Identification of Asphaltene Precipitate Componments - Understanding Water-In-Oil Emulsion Stability**; Brendan F Graham[2]; Eric F. May[2]; Robert Trengove[1]; *[1]Murdoch University, Murdoch,*

Australia; [2]University of Western Australia, Crawley, Australia

WP 651 **Evidence of Paraffin Traping by Asphaltenes Detected by LDI TOF MS;** Brice Bouyssiere[3]; Socrates Acevedo[1]; Ryszard Lobinski[3]; Josmelith M. Cordero T.[1]; Hervé Carrier[2]; *[1]Universidad Central de Venezuela, Caracas 1053, Venezuela; [2]Laboratoire des Fluide Complexe, Univeristé de Pau, Pau, France; [3]LCABIE - CNRS/UPPA UMR 5254, Pau, France*

WP 652 **Observation of Fullerenes from PAH's in MALDI TOF**; Robert E. Haufler[2]; Alexandre Loboda[2]; L. P. Felipe Chibante[1]; Brad McCann[1]; *[1]University of New Brunswick, Fredericton, Canada; [2]MDS Analytical Technologies, Concord, Canada*

WP 653 **REMPI Measurements of Aromatics in Hydrocarbon Model Flames**; Tina Kasper; Nils Hansen; *Sandia Nat. Labs., CRF, Livermore, CA*

WP 654 **Compositional Analysis of Petroleum Distillation Residue by APCI FT-ICR Mass Spectrometer**; Eunkyoung Kim[1,1]; Myoung-han No[1,2]; Jaesuk Koh[1,2]; Sunghwan Kim[1,3]; Manhoi Hur[1,4]; *[1], Daejeon, South Korea; [2]SK energy Institute of Tech., Daejeon, South Korea; [3]Korean Basic Science Institute, Ochang-myun, South Korea; [4]BNF Technology, 556, Youngsan-dong, Yuseong-gu, Daejeon, South Korea*

WP 655 **Molecular Analysis of a Coal Liquefaction Product by FT-ICR/MS – Comparison of ASAP, ESI, APCI and APPI Ionization Techniques**; Jeremie Ponthus; Lyes Assam; *Institut Francais du Petrole, Solaize, France*

WP 656 **What Color Is Your Fuel Spill? Solvent Dyes in Fuels and Fuel Spill Samples by Electrospray Ionization Mass Spectrometry**; Colleen Rostad; *USGS, WRD, NRP, Lakewood, CO*

WP 657 **The Petroleome: A Mass Spectral Database of Petroleum Composition**; Jade Velasquez[1,3]; Amy Mckenna[1,2]; Ryan P. Rodgers[1,2]; Alan G. Marshall[1,2]; *[1]Natl High Magnetic Field Laboratory, Tallahassee, FL; [2]Department of Chemistry and Biochemistry, FSU, Tallahassee, FL; [3]Florida State Univ., Tallahassee, FL*

WP 658 **Statistical Interpretation of Crude Oil High Resolution Spectra Obtained by ESI and APPI FT-ICR Mass Spectrometry Using Principal Components Analysis**; Manhoi Hur[1]; Somi Shin[1]; Hojoon Seo[1]; InJoon Yeo[2]; Eun Suk Park[2]; Eunkyoung Kim[3]; Myoung-han No[3]; Young Hwan Kim[2]; Sunghwan Kim[2]; *[1]BNF Technology Inc., Daejeon, South Korea; [2]Korea Basic Science Institute, Chungwon-kun, Chungbuk-do, South Korea; [3]SK energy Institute of Tech., Daejeon, South Korea*

WP 659 **The Analysis of Mass Spectra in Petroleomics – A Novel Application for Machine Learning**; Jennifer Hauschild; Hugh Cartwright; *University of Oxford, Oxford, UK*

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WP 660 **Structural Characterization of Gas-phase Uranyl Trihalide Anions Using IRMPD Spectroscopy**; Gary Groenewold[2]; Michael Kullman[1]; Ryan Dain[1]; Jos Oomens[3]; Jeffrey Steill[3]; Michael J. Van Stipdonk[1]; *[1]Wichita State University, Wichita, KS; [2]Idaho National Laboratory, Idaho Falls, ID; [3]FOM Rijnhuizen, Nieuwegein, Netherlands*

WP 661 **Measuring Infrared "Fingerprint" Spectra of Gas-Phase Zwitterions Using a Continuous Wave OPO Laser**; Warren K Mino Jr; Jan Szczapanski; David H. Powell; John R. Eyler; Nicolas Polfer; *University of Florida, Gainesville, FL*

WP 662 **IRMPD Spectroscopy Investigation of Gas-Phase Sodium and Potassium Chlorate Anions**; Ryan P. Dain[1]; Christopher M. Leavitt[1]; Jos Oomens[2]; Jeffrey Steill[2]; Gary Groenewold[3]; Michael J. Van Stipdonk[1]; *[1]Wichita State University, Wichita, KS; [2]FOM Rijnhuizen, Nieuwegein, Netherlands; [3]Idaho National Laboratory, Idaho Falls, ID*

WP 663 **Photoelectron Spectroscopy of Substituted Phenylnitrenes**; Neloni Wijeratne; Paul G. Wenthold; *Purdue University, West Lafayette, IN*

WP 664 **Potassium Affinity of Gas-Phase Amino Acids Determined by IRMPD (CO_2- and Free Electron Laser) and Molecular Modeling**; Miriam Drayss[1]; Frank Dreiocker[1]; Dirk Blunk[1]; Jeremiah M. Purcell[3]; Chris Hendrickson[2,6]; Alan G. Marshall[2,6]; Jos Oomens[4]; Abhingya Mookherjee[5]; Peter B. Armentrout[5]; Mathias Schaefer[1]; *[1]Inst. Organic Chemistry University of Cologne, Koeln, Germany; [2]Ion Cyclotron Resonance Prog, Tallahassee, FL; [3]Shell Global Solutions, Houston, TX; [4]FOM Rijnhuizen, Nieuwegein, Netherlands; [5]University of Utah, Salt Lake City, UT; [6]National High Magnetic Field Laboratory, Tallahassee, FL*

WP 665 **Chain Length and Sequence Effects on Metal-Ion Peptide Binding Conformations. IRMPD Spectroscopic Exploration**; Robert C. Dunbar[1]; Jeffrey Steill[2]; Nicolas Polfer[3]; Jos Oomens[2]; *[1]Case Western Reserve Univ, Cleveland, OH; [2]FOM Rijnhuizen, Nieuwegein, Netherlands; [3]University of Florida, Gainesville, FL*

WP 666 **The Structure of (M+H-H2O)+ Generated from Protonated Tetraglycine Revealed by Tandem MS and IRMPD Spectroscopy**; Michael J. Van Stipdonk[1]; Benjamin Bythell[2]; Ryan Dain[1]; Jos Oomens[3]; Jeffrey Steill[3]; Gary Groenewold[4]; Bela Paizs[5]; *[1]Wichita State University, Wichita, KS; [2]GermanCancer Research Center, Heidelberg, Germany; [3]FOM Rijnhuizen, Nieuwegein, Netherlands; [4]Idaho National Laboratory, Idaho Falls, ID; [5]DKFZ, Heidelberg, Germany*

WP 667 **Structure and Fragmentation Behavior of Metal-Cationized Phosphopeptides**; Sarah M. Young[1]; Sam Molesworth[1]; Jeffrey Steill[2]; Ryan Dain[1]; Jos Oomens[2]; Gary Groenewold[3]; Michael J. Van Stipdonk[1]; *[1]Wichita State University, Wichita, KS; [2]FOM Rijnhuizen, Nieuwegein, Netherlands; [3]Idaho National Laboratory, Idaho Falls, ID*

WP 668 **An IRMPD Study of Radical Cations of Aromatic Amino Acids and their Precursors**; Chi-kit Siu[1]; Udo Verkerk[1]; Junfang Zhao[1]; Yuzhu Guo[1]; Yuyong Ke[1]; Jeffrey Steill[2]; Jos Oomens[2]; Robert C. Dunbar[3]; Alan C. Hopkinson[1]; K W Michael Siu[1]; *[1]CRMS, York University, Toronto, ON; [2]FOM Rijnhuizen, Nieuwegein, Netherlands; [3]Case Western Reserve University, Cleveland, OH*

WP 669 **Characterization of the Conformations of Gas-Phase Peptide Ions via Acid-Base Measurements: A Study of Ion Internal Solvation**; Jianhua Ren; Kiran Kumar Morishetti; Robert Harper; John Tan; Betty Huang; *University of the Pacific, Stockton, CA*

WP 670 **Structure and Behavior of Mixed Serine Clusters: Molecular Dynamics, Post-Hartree Fock and Density**

Functional Theory Studies; Anthony Costa; R. Graham Cooks; *Purdue University, West Lafayette, IN*

WP 671 **Conformational and Thermochemical Properties of Deprotonated Amino Acid Clusters from High Pressure Mass Spectrometry**; Robert J. Nieckarz[1]; Chad G. Atkins[2]; Opal Courtney[1]; Terry Mcmahon[1]; *[1]University of Waterloo, Waterloo, Canada; [2]Memorial University, St Johns, Canada*

WP 672 **Mechanisms of Characteristic Phospholipid Anion Fragmentations: Theoretical Study II**; Daryl Giblin; Fong-Fu Hsu; John Turk; Michael L. Gross; *Washington University, St Louis, MO*

WP 673 **Mobile Protons and Mobile Radicals: Insights from Time- and Collision Energy-Resolved Surface-Induced Dissociation Studies**; Julia Laskin[1]; Zhibo Yang[2]; Ngor Wai Lam[3]; Ivan K. Chu[4]; *[1]Pacific NW National Laboratory, Richland, WA; [2]University of Colorado at Bo, Boulder, CO; [3]HKU, Hong Kong, Hong Kong; [4]University of Hong Kong, Hong Kong, Hong Kong*

WP 674 **Determination of the Binding Energy of Benzene-Water Cluster**; Laura Haupert; Paul G. Wenthold; *Purdue University, West Lafayette, IN*

WP 675 **Double Hydrogen Transfer on Unimolecular Dissociation for *N*-(2-Indancarbonyl)-1-azacycloalkan(e)-2-(thi)one Derivatives Including Deuterium Labeled Ones Using a Four Sector Tandem Mass Spectrometer**; Hiroshi Yamaoka[1]; Kazuo Fujii[1]; Rie Uemura[1]; Kimio Isa[2]; Ryuji Nakata[2]; Tetsuya Maekawa[2]; Nico M.M. Nibbering[3]; *[1]Osaka Prefecture University, Sakai,Osaka, Japan; [2]University of Fukui, Fukui, Japan; [3]Vrije Universiteit, Amsterdam, The Netherlands*

WP 676 **Selective Bond Breaking in Prompt and Metastable Decay of Deprotonated Monosaccharides – the Role of Intramolecular Vibrational Redistribution**; Oddur Ingolfsson; Ilko Bald; *University of Iceland, Reykjavik, Iceland*

WP 677 **Unusual Rearrangements and Fragmentations of different Steroid Ethers upon Electrospray and Electron Ionization**; Jurgen Grotemeyer; Christorph Freudenhammer; *Christian-Albrechts-Univ, Kiel, Germany*

COMPUTER APPLICATIONS, 678 - 697

WP 678 **Sub-Part-Per-Million Mass Accuracy Using a Single Internal Calibrant on an Orbitrap Mass Spectrometer for Large-Scale Protein Analysis**; Craig D. Wenger; Graeme C. McAlister; Qiangwei Xia; Joshua J. Coon; *University of Wisconsin, Madison, WI*

WP 679 **Efficient Validation and Qualification of Mass Spectrometry Systems in a GLP- and GMP-Regulated Environment**; Cynthia A. Palmer[1]; Douglas James[2]; Mario Rocci[2]; *[1]FDA, Philadelphia, PA; [2]Prevalere Life Sciences, Inc., Whitesboro, NY*

WP 680 **Making a Spectrum Viewer with Microsoft's Windows Presentation Foundation;** Tom Patterson; *nScan, Medford, MA*

WP 681 **Bayesian Tools for Mapping Accurate Mass Measurements to Elemental Formulae**; Philip C. Price[1]; Megan E. Price[3]; Daniel O. Price[2]; *[1]The Dow Chemical Company, South Charleston, WV; [2]Fellow, American Statistical Assoc., Jacksonville, FL; [3]The Benetech Initiative, Palo Alto, CA*

WP 682 **Is Wikipedia the Public Face of Mass Spectrometry?** Thabiso Musapelo; Kermit K. Murray; *Louisiana State Univ., Baton Rouge, LA*

WP 683 **An Improved Calibration Method for the MALDI-FTICR Analysis of ^{15}N-Metabolically Labeled Proteome Digests Using a Mass Difference Approach**; LiJing; Jon Amster; *University of Georgia, Athens, GA*

WP 684 **Image Enhancement with Constraints in the Input Space for ToF/DL Imaging Mass Spectrometry**; Andriy Kharchenko; Leendert Klerk; Ron Heeren; *FOM Institute for Atomic and Molecular Physics, Amsterdam, Netherlands*

WP 685 **Open Access Tables of Accurate Precursor Ion Mass Values for Mass-Based Classification (MBC) of Chemical Compounds**; Bernhard Spengler; Alfons Hester; *University of Giessen, Giessen, Germany*

WP 686 **The IUPAC International Chemical Identifier and Mass Spectrometry**; Peter J. Linstrom[1]; Steve R. Heller[1]; Alan D. McNaught[2]; Yuri A. Mirokhin[3]; Stephen E. Stein[1]; Dmitrii V. Tchekhovskoi[1]; *[1]NIST, Gaithersburg, MD; [2]IUPAC, Research Triangle Park, NC; [3]KT Consulting, Antioch, CA*

WP 687 **Scalable Data Management on a High Throughput MALDI TOF Mass Spectrometer**; George Mills; Matthew Gabeler-lee; *Virgin Instruments Corporation, Sudbury, MA*

WP 688 **Simulation of Ion Transport from Atmospheric Pressure through Intermediate Pressure to Vacuum**; Peter Williams; *Agilent Laboratories, Santa Clara, CA*

WP 689 **Mass++ is a Plug-In Type Universal Freeware for Viewing and Manipulating Large Scale LC/MS Data**; Satoshi Tanaka[1]; Ken Aoshima[1,2]; Yuji Miura[1,2]; Yoshiya Oda[1,2]; *[1]CREST, Saitama, Japan; [2]Eisai Co., Ltd, Tsukuba, Japan*

WP 690 **Automated Classification of Unknown Biocompounds Using Tandem MS**; Sebastian Böcker; Thomas Zichner; Florian Rasche; *Friedrich-Schiller-University Jena, Jena, Germany*

WP 691 **Optimized Data Compression Strategy for Efficient Storage and Analysis for High Throughput Multidimensional Separations and Mass Spectrometry**; Nathaniel Beagley; Chad Scherrer; Yan Shi; Brian H. Clowers; William F. Danielson; Anuj Shah; Anoop M. Mayampurath; Gordon Anderson; Richard D. Smith; *Pacific Northwest National Laboratory, Richland, WA*

WP 692 **A Peptide Mass Fingerprinting Approach to Enhance Protein Sequence Coverage Using High Mass Accuracy MS1 Spectra**; Yunhu Wan; Stefani Thomas; Zhongping Liao; Sarah Rnyarzewski; Nandakumar Madayiputhiya; Noble Nemieboka; Austin Yang; *University of Maryland, Baltimore, MD*

WP 693 **Developing Application Software Using Applied Biosystem Mass Spectrometer and Shimadzu HPLC to Achieve Multiplexing and Direct Instrument Control in Bioanalysis**; Leimin Fan[1]; Richard Koeritz[3]; Tawakol El-Shourbagy[2]; Huaiqin Wu[2]; *[1]Abbott Labs, Abbott Park, IL; [2]Abbott Laboratories, Abbott Park, IL; [3]Shimadzu Scientific Instruments Inc., Columbia, MD*

WP 694 **Automated Identification of Fragments via Rigorous Statistical Modelling of LC-MS Metabolomic Data**; Andreas Ipsen; Elizabeth J Want; Timothy M Ebbels; *Imperial College London, London, UK*

Posters must be set up 8:00 - 8:30 am on the day scheduled and removed 7:30 to 8:00 pm. Authors of odd numbered posters (001, 003, 005, etc.) are required to be present 10:30 – 12:30. Authors of even numbered posters (002, 004, 006, etc.) must be present 12:30 – 2:30 pm.

WP 695 **Directed Sample Interrogation Utilizing an Accurate Mass Exclusion-Based Data-Dependent Acquisition Strategy (AMEx)**; Emily Rudomin[2]; Steven A. Carr[2]; Jacob D. Jaffe[1]; [1]*The Broad Institute of Ha, Cambridge, MA;* [2]*Broad Institute, Cambridge, MA*

WP 696 **A High Throughput LC/MS/MS Data Analysis Approach for Discovery PK and i*n-vitro* Bio-Analysis**; Mei Foong Hwang; Monica Wu; Mark Gao; Quincey Wu; *XenoPort, Inc., Santa Clara, CA*

WP 697 **The Protein Information and Property Explorer: a Rich-Client Web Application for the Management and Functional Exploration of Proteomic Data**; Hector Ramos[1]; Paul Shannon[1]; Ruedi Aebersold[1,2]; [1]*Institute for Systems Biolog, Seattle, WA;* [2]*Swiss Federal Institute of Technology, Zurich, Switzerland*

Posters must be set up 8:00 - 8:30 am on the day scheduled and removed by 3:30 pm. Authors of odd numbered posters (001, 003, 005, etc.) are required to be present 10:30 – 12:30. Authors of even numbered posters (002, 004, 006, etc.) must be present 12:30 – 2:30 pm.

BIOINFORMATICS, 001 - 032

ThP 001 **Peptide Identification from Mixture Tandem Mass Spectra**; Jian Wang[1]; Josue Perez[1]; Ronald Luethy[2]; Parag Mallick[2]; Nuno Bandeira[3]; *[1]Bioinformatics Program, UCSD, San Diego, CA; [2]Dept. of Chemistry and Biochemistry, UCLA, Los Angeles, CA; [3]Center for Computational Mass Spectrometry, UCSD, San Diego, CA*

ThP 002 **RAId_deNovo: Using *de novo* Statistics to Combine Search Results from Multiple Scoring Functions and More**; Gelio Alves; Aleksey Ogurtsov; Yi-kuo Yu; *National Center for Biotechnology Information, NLM, Bethesda, MD*

ThP 003 **Automated Multiple Round Searches to Increase Coverage of Peptide/Protein Identification**; Baozhen Shan[1]; Lei Xin[2]; Weijie Yang[1]; Gilles Lajoie[2]; Bin Ma[3]; *[1]Bioinformatics Solutions Inc., Waterloo, Canada; [2]University of Western Ontario, London, ON; [3]University of Waterloo, Waterloo, ON*

ThP 004 **HyPep: A New Strategy to Accelerate Peptide Discovery with a Combination of *de novo* Sequencing and Homology Database Search**; Weifeng Cao[1]; Mingming Ma[1]; Qiang Fu[2]; Lingjun Li[1]; *[1]University of Wisconsin, Madison, WI; [2]Schering Plough, North Plainfield, NJ*

ThP 005 **Beyond Edman Degradation: Automated *de novo* Protein Sequencing of Modified Monoclonal Antibodies**; Nuno Bandeira[1]; Victoria Pham[2]; David Arnott[2]; Jennie Lill[2]; Pavel Pevzner[3]; *[1]Center for Computational Mass Spectrometry, UCSD, La Jolla, CA; [2]Genentech Inc, South San Francisco, CA; [3]University of California, San Diego, La Jolla, CA*

ThP 006 **PepNovo+: Extending the Performance Envelope of *de novo* Sequencing**; Ari Frank; Pavel Pevzner; *UCSD, La Jolla, CA*

ThP 007 **Lipid Analytical Tool (LipidAT): Automated Analysis of Lipidomic Mass Spectrometry Data**; Jun Ma; Haixu Tang; *Indiana University, Bloomington, IN*

ThP 008 **LipiDiff: A Tool for High-Throughput Glycerophospholipid Profiling and Quantitative Difference Testing via Direct Infusion Electrospray Ionization Mass Spectrometry**; Peter S. Straub; Eric I. Purser; David L. Tabb; *Vanderbilt University, Nashville, TN*

ThP 009 **ICC-CLASS: Isotopically-Coded Cleavable Cross-Linking Analysis Software Suite;** Evgeniy Petrotchenko; Christoph Borchers; *UVic-GBC Proteomics Centre, Victoria, Canada*

ThP 010 **A Database Search Algorithm for Identification of Intact Cross links in Proteins and Peptides Using Tandem Mass Spectrometry**; Hua Xu[1]; Pang-hung Hsu[2]; Liwen Zhang[3]; Michael A. Freitas[3]; *[1]University of Illinois at Chicago, Chicago, IL; [2]The Genomics Research Center, Academia Sinica, Taipei, Taiwan; [3]Ohio State University, Columbus, OH*

ThP 011 **Spectral Clustering for Comprehensive PTM Discovery and Targeted Quantitative Proteomics Analysis of Human Lens Proteins**; Jayson A. Falkner[1]; Phillip Wilmarth[2]; Jarret Falkner[1]; Larry David[2]; *[1]Single Organism Software, Beaverton, OR; [2]BMB, OHSU, Portland, OR*

ThP 012 **Correlation of MS2 and MS3 Pairs for Phosphoprotein Identification**; Bret Cooper; *USDA-ARS, Beltsville, MD*

ThP 013 **Sequencing of Cyclic Non-Ribosomal Peptides Using High Accuracy Mass Spectrometry Data**; Julio Ng[1]; Nuno Bandeira[1]; Wei-ting Liu[1]; Roger Linington[2]; Pieter Dorrestein[3]; Pavel Pevzner[1]; *[1]University of California, San Diego, La Jolla, CA; [2]University of California, Santa Cruz, Santa Cruz, CA; [3]University of California, San Diego, Skaggs School, La Jolla, CA*

ThP 014 **BUPID-Top-Down: Database Search and Assignment of Top-Down MS/MS Data**; Weiwei Tong; Roger Theberge; Giuseppe Infusini; Weidong Cui; David H. Perlman; Cheng Lin; Mark E. Mccomb; Catherine E. Costello; *Boston University School of Medicine, Boston, MA*

ThP 015 **Fast Unrestrictive Identification of Multiply-Modified Peptides**; Seungjin Na[1]; Nuno Bandeira[2]; Eunok Paek[1]; *[1]Univ. of Seoul, Seoul, South Korea; [2]Center for Computational Mass Spectrometry, UCSD, La Jolla, CA*

ThP 016 **HeXicon++: Automating HDX Data Analysis**; Xinghua Lou[1]; Bernhard Y. Renard[1]; Marc Kirchner[2]; Ullrich Koethe[1]; Christian Graf[3]; Judith A.J. Steen[2]; Hanno Steen[2]; Matthias P. Mayer[3]; Fred Hamprecht[1]; *[1]University of Heidelberg, Heidelberg, Germany; [2]Children's Hospital Boston / Harvard Medical, Boston, MA; [3]ZMBH, Heidelberg, Germany*

ThP 017 **HDX by nanoLC-MALDI: Software for Discovery of Protein-Wide Correlations between Peptide Deuterium Uptake Data and Structural or MD Simulation Parameters**; Vikram Bodicherla; Paul Gershon; *UC-Irvine, Irvine, CA*

ThP 018 **Marimba: A Toolset for Automated Design of High-Throughput LC-MRM/MS Assays from Prior Shotgun Proteomics Analyses;** Angel D. Pizarro[1]; Sumit Shah[1]; Kenneth Yu[1]; Samuel I. Parry[1]; Garret A. FitzGerald[2]; Ian A. Blair[2]; *[1]University of Pennsylvania,*

Philadelphia, PA; [2]Univ. of Penn/SOM/Pharmacol, Philadelphia, PA

ThP 019 **Automated Creation and Refinement of Complex Scheduled SRM Methods for Targeted Proteomics**; Brendan Maclean[1]; Daniela Tomazela[1]; Amol Prakash[2]; Scott Peterman[3]; Michael J. Maccoss[1]; *[1]University of Washington, Seattle, WA; [2]ThermoFisher Scientific, Cambridge, MA; [3]Thermo Electron, Somerset, NJ*

ThP 020 **Statistical Analysis of Calibration Curves on Log-Log Scale from Multiple Reaction Monitoring Assays for Measuring Proteins Spiked into Human Plasma;** Steven J Skates[1]; Terri Addona[2]; Susan E. Abbatiello[2]; Birgit Schilling[3]; D. R. Mani[4]; David M. Bunk[5]; Clifford H. Spiegelman[6]; Lisa Zimmerman[7]; Amy-joan L. Ham[8]; Hasmik Keshishian[4]; Steven C. Hall[9]; Steven A. Carr[2]; CPTAC Network[10]; *[1]Massachusetts General Hospital, Boston, MA; [2]Broad Institute, Cambridge, MA; [3]Buck Institute for Age Research, Novato, CA; [4]Broad Institute of MIT, Cambridge, MA; [5]National NIST, Gaithersburg, MD; [6]Texas A&M University, College Station, TX; [7]Vanderbilt Univ., Nashville, TN; [8]Vanderbilt Univ. School of Medicine, Nashville, TN; [9]UCSF MS Core Facility, San Francisco, CA; [10]National Cancer Institute, Bethesda, MD*

ThP 021 **Database Searching of Combined ETD and CID Data Using Protein Prospector**; Peter R Baker; Robert Chalkley; Aenoch Lynn; Shenheng Guan; A.L. Burlingame; *Univ. of California, San Francisco, CA*

ThP 022 **Decreasing Database Search Times in ETD MS/MS Sequence Searching by Assignment of Parent Precursor Charge to MS/MS Spectra;** Viswanadham Sridhara; Lewis Y. Geer; Stephen H. Bryant; *NCBI/NLM/NIH, Bethesda, MD*

ThP 023 **Charge Prediction Machine: A Tool for Inferring Precursor Charge States of Electron Transfer Dissociation Tandem Mass Spectra**; Paulo C Carvalho[1,2]; Daniel Cociorva[1]; Catherine C L Wong[1]; Maria da Gloria da C Carvalho[2]; Valmir C Barbosa[2]; John Yates[1]; *[1]The Scripps Research Institute, La Jolla, CA; [2]Federal University of Rio de Janeiro, Rio de Janeiro, Brazil*

ThP 024 **Modeling ETD Fragmentation with Bayesian Network for Peptide Identification**; Xiaowen Liu[1]; Baozhen Shan[2]; Bin Ma[1]; *[1]University of Waterloo, Waterloo, Canada; [2]Bioinformatics Solutions Inc., Waterloo, ON*

ThP 025 **Statistical Discovery and Applications of Fragmentation Patterns from Proteomics-Grade Electron Transfer Dissociation (ETD) Spectra**; Ruixiang Sun[1,2]; Meng-Qiu Dong[3]; Bing Yang[3]; Hao Chi[1,2]; Liyun Xiu[1,2]; You Li[1,2]; Wenping Wang[1,2]; Chao Liu[1,2]; Leheng Wang[1,2]; Yan Fu[1,2]; Si-Min He[1,2]; *[1]Institute of Computing Technology, CAS, Beijing, China; [2]Key Lab of Intelligent Information Processing, CAS, Beijing, China; [3]National Institute of Biological Sciences, Beijing, China*

ThP 026 **Increasing Peptide Identifications Using Spectral Processing Prior to a Database Search**; David Good; Craig Wenger; Joshua J. Coon; *Univeristy of Wisconsin, Madison, WI*

ThP 027 **MS-Based Proteomics of Oceanic Microbial Communities Using High-Performance Computing, Sequence Similarity, Peptide Coverage Mapping, and Confidence Metrics**; Angela D. Norbeck[1]; Christopher Oehmen[1]; Matthew E. Monroe[1]; Carrie D. Nicora[1]; Ashoka D. Polpitiya[1]; Heather Mottaz-Brewer[1,4]; Sarah Sowell[3]; Lea Constan[2]; Stephen Giovannoni[3]; Steven Hallam[2]; Liljiana Paša-Tolić[1,4]; Mary S. Lipton[1]; Richard D. Smith[1]; *[1]Pacific Northwest National Laboratory, Richland, WA; [2]University of British Columbia, Vancouver, Canada; [3]Oregon State University, Corvallis, OR; [4]Environmental and Molecular Sciences Laboratory, Richland, WA*

ThP 028 **Quadrupole Time-of-Flight Mass Spectrometry to Characterize the Proteome of an Unsequenced Genome –*Mangifera indica***; Pradip Kumar Acharya[1]; Keshava T.S. Prasad[1]; Harsh A Pawar[1]; Sameer Kumar[1]; Renu Goel[1]; Rajesh Raju[1]; Santosh Renuse[1]; H C Harsha[1,2]; Raghothama Chaerkady[1,2]; Akhilesh Pandey[2]; *[1]Institute of Bioinformatics, Bangalore, India; [2]Johns Hopkins University, Baltimore, MD*

ThP 029 **Confident Identification of Single Amino Acid Polymorphisms by a Database-Searching Approach for Shotgun Proteomics**; Chongle Pan[1]; P. Douglas Hyatt[1]; Nathan C. Verberkmoes[1]; Jill F. Banfield[2]; Robert Hettich[1]; *[1]Oak Ridge National Laboratory, Oak Ridge, TN; [2]University of California, Berkeley, CA*

ThP 030 **An Automated Method for Resolving Gene Sequencing Errors through Tandem Mass Spectrometry**; Robert M. Day[1,2]; Tamah Fridman[1,2]; Nathan C. Verberkmoes[1]; Loren Hauser[1]; Doug Hyatt[1]; Andrey Gorin[1]; *[1]Oak Ridge National Laboratory, Oak Ridge, TN; [2]Joint Institute for Computational Sciences, Oak Ridge, TN*

ThP 031 **Investigating Amino Acid Polymorphisms in a Natural Viral-Microbial Community by Integrating High Mass Accuracy and *de novo* Search Algorithms;** Patricia Carey[1]; Chongle Pan[1]; Manesh Shah[1]; Robert Hettich[1]; Mya Breitbart[2]; Jillian Banfield[3]; Nathan C. Verberkmoes[1]; *[1]Oak Ridge National Lab, Oak Ridge, TN; [2]University of South Florida, St. Petersberg, FL; [3]University of California, Berkeley, CA*

ThP 032 **Withdrawn**

PROTEOMICS: BIOMARKER DISCOVERY, 033 - 064

ThP 033 **Effect of Preimplantation Factor (PIF)* on Autoimmune Neuroinflammation (Multiple Sclerosis) Using Discovery Proteomics**; Ravi Amunugama[1]; Michael Ford[1]; Richard Jones[1]; Lola Weiss[2]; Reuven Or[2]; Sivakumar Ramu[3,4]; Zhanna Yachtin[2]; Eytan Barnea[3,5]; *[1]NextGen Sciences, Ann Arbor, MI; [2]Hebrew University, Jerusalem, Israel; [3]BioIncept LLC, Cherry Hill, NJ; [4]Cari Reproductive Institute, Chicago, IL; [5]Society for the Investigation of Early Pregnancy, Cherry Hill, NJ*

ThP 034 **Classification of MALDI-TOF Profile Spectra of Spinal Cord Tissue from Control and ALS Patients**; Joshua L. Johnson[1]; Long Li[1]; Daryl A. Bosco[2]; Robert H. Brown Jr[2]; Pengyu Hong[1]; Jeffrey N. Agar[1]; *[1]Brandeis University, Waltham, MA; [2]University of Massachusetts Medical School, Worcester, MA*

ThP 035 **Using Cell Fractionation and Metabolic Labeling to Identify Serum Biomarkers of Liver Damage;** Julie A. Weisz[1]; Hidekazu Tsukamoto[2]; Christine C Wu[3]; *[1]Univ. of Colorado Sch. of Medicine, Aurora, CO; [2]UCLA, Los Angeles, CA; [3]Univ. of Colorado, Aurora, CO*

Posters must be set up 8:00 - 8:30 am on the day scheduled and removed by 3:30 pm. Authors of odd numbered posters (001, 003, 005, etc.) are required to be present 10:30 – 12:30. Authors of even numbered posters (002, 004, 006, etc.) must be present 12:30 – 2:30 pm.

ThP 036 **Identification of Brugia Worm Proteins by Life Cycle Stage**; Tiffany Weinkopff[1,2]; Xiang Zhu[1]; Rohan Patel[1]; John John[1]; William Jones[1]; Patrick Lammie[2]; Ron Orlando[1]; *[1]University of Georgia, Athens, GA; [2]CDC, Atlanta, GA*

ThP 037 **Biomarker Candidate Discovery from Formalin-Fixed and Paraffin-Embedded Tissue Microarrays: Combining Electrophoresis and MALDI FT-ICR MS**; Hans-Rudolf Aerni; Dale S. Cornett; Richard M. Caprioli; *Vanderbilt University, Nashville, TN*

ThP 038 **Differential Gel Electrophoresis of Bovine Samples Treated with Zeranol to Determine the Mechanism of Positive Muscle Growth in Cattle**; Jocelyn Hach; Young C Lin; Wei-Ping Ye; John Mark Reddish; Kari Green-Church; Macdonald Wick; *The Ohio State Universtiy, Columbus, OH*

ThP 039 **High Throughput Sample Preparation for Stroke Biomarker Discovery Using the Digital Proteome Chip**; David Sarracino[2]; MingMing Ning[1]; Amol Prakash[2]; Taha Rezai[2]; Bryan Krastins[2]; Michael Athanas[3]; Mary F Lopez[2]; *[1]Massachusettes General Hospital, Boston, MA; [2]ThermoFisher Scientific, Cambridge, MA; [3]VAST Scientific, Wayland, MA*

ThP 040 **Proteomics Analysis of the Human Embryonic Stem Cell Secretome Reveals Novel Differentiation Factor Candidates**; Qiangwei Xia; Guokai Chen; James A. Thomson; Joshua J. Coon; *Univ of Wisconsin, Madison, Madison, WI*

ThP 041 **Multiplex iTRAQ-Based Quantitative Approach for Cochlear Nucleus Proteomics in a Mouse Model of Age-Related Hearing Loss (AHL)**; Harsha P. Gunawardena; Ling Xie; Yanbao Yu; Heather O'Donohue; Paul B. Manis; Xian Chen; *University of North Carolina, Chapel Hill, NC*

ThP 042 **Glycan Biomarker Discovery of Adult Stem Cells Using Sequential Mass Spectrometry**; Jenny Jiao[1]; Hailong Zhang[1]; Krisha Panchalingam[2]; James L. Sherley[2]; Vernon N. Reinhold[1]; *[1]The Glycomics Center, University of New Hampshire, Durham, NH 03824; [2]Boston Biomedical Research Institute, Watertown, MA*

ThP 043 **Leveraging MS/MS Spectra for Optimizing SRM Transitions for Hypothesis-Driven Biomarker Discovery in Human Plasma;** Simon Letarte[1]; Mi-youn Brusniak[3]; Jungchun Chen[3]; Hamid Mirzaei[1]; Emma Nimeus[2]; Carey Sheu[1]; Julian D Watts[1]; Ruedi Aebersold[1,3]; *[1]Institute for Systems Biology, Seattle, WA; [2]University Hospital, Lund, Sweden; [3]Swiss Federal Institute of Technology, Zurich, Switzerland*

ThP 044 **Withdrawn**

ThP 045 **Profiling the Prostate Cancer Plasma Membrane N-Glycoproteome via a Highly Specific Glycopeptide-Capture Chemistry**; Amelia C. Peterson[1]; Priti Koranne[2]; Bernd Wollscheid[3]; Daniel B. Martin[2]; *[1]University of Wisconsin, Madison, WI; [2]Institute for Systems Biology, Seattle, WA; [3]IMSB, ETH Zurich, Zurich, Switzerland*

ThP 046 **Label-Free Quantitative Analysis of Glycoproteins Enriched through Lectin Affinity Chromatography of Human Serum: Application to the Study of Esophageal Adenocarcinoma**; Benjamin Mann[1]; Milan Madera[2]; Yehia Mechref[2,3]; Milos V. Novotny[1,2]; *[1]Indiana University, Bloomington, IN; [2]National Center for Glycomics and Glycoproteomics, Bloomington, IN; [3]METACyt Biochemical Analysis Ctr., Bloomington, IN*

ThP 047 **A SILAC Study of Neurofibromatosis: Evaluating the Proteome of Tumor Specimen and Nf1-/- Primary Cells**; Douglas A Johnson[1]; Catherine Formolo[1,2]; Tobey MacDonald[1]; Karlyne Reilly[3]; Roger Packer[1]; Yetrib Hathout[1,2]; *[1]Children's National Medical Center, Washington, DC; [2]George Washington University, Washington, DC; [3]National Cancer Institute, Frederick, MD*

ThP 048 **Application of a Rationally Designed Gas Phase Fractionation Technique to Isotope Coded Affinity Tagging**; Kristian E. Swearingen; Martin Sadilek; Brad T. Cookson; Norman J. Dovichi; *University of Washington, Seattle, WA*

ThP 049 **Enrichment and Identification of Low Abundance Proteins Using Hexapeptide Libaries**; Martha Stapels[2]; Catalin Doneanu[2]; Kate Smith[1]; Weibin Chen[2]; *[1]Bio-Rad Laboratories, Hercules, CA; [2]Waters Corporation, Milford, MA*

ThP 050 **Improved Proteomic Approach for the Discovery of Potential Vaccine Targets in Trypanosoma Cruzi**; Ernesto S. Nakayaasu[1]; Tiago J.P. Sobreira[2]; Rafael Torres Jr. [1]; Luciane Ganiko[1]; Paulo S.L. Oliveira[2]; Alexandre F. Marques[1]; Igor C. Almeida[1]; *[1]University of Texas at El Paso, El Paso, TX; [2]Instituto do Coracao, Universidade de Sao Paulo, Sao Paulo, Brazil*

ThP 051 **Comprehensive Plasma Analysis for Finding Pathogenic Factors in Preeclampsia**; Chongdong Liu[2]; Haiqiang Yu[1]; Yong Liang[1]; Yang Xu[2]; Haiteng Deng[1]; Zhenyu Zhang[2]; *[1]The Rockefeller University, New York, NY; [2]Beijing Chaoyang Hospital affiliated Capital Medic, Beijing, China*

ThP 052 **LC-MS Analysis of Proteins Secreted By Activated Pancreatic Stellate Cells;** Angela Y Wehr[1]; Kenneth Yu[1]; Ian A. Blair[2]; *[1]University of Pennsylvania, Philadelphia, PA; [2]Univ. of Penn/SOM/Pharmacol, Philadelphia, PA*

ThP 053 **Identification and Quantitation of *Plasmodium falciparum* and *Anopheles gambiae* Proteins from *Plasmodium* Parasite Infected Mosquitoes Using Isotope Labeling**; Raghothama Chaerkady[1,2]; Mobolaji A Okulate[1]; Kumaran Kandasamy[1,2]; Sutopa B Dwivedi[2]; Nirbhay Kumar[1]; Akhilesh Pandey[1]; *[1]Johns Hopkins University, Baltimore, MD; [2]Institute of Bioinformatics, Bangalore, India*

ThP 054 **Relative Quantification in Mass Spectrometry Based Proteomics Studies: Understanding Bias and Variability in an iTRAQ Spike-in Study**; Ann L Oberg[1]; Douglas Mahoney[1]; Carrie Holtz-heppelmann[1]; Linda M Benson[1]; Leeann Higgins[2]; Terry Therneau[1]; Gary Nelsestuen[2]; H. Robert Bergen, III[1]; *[1]Mayo Clinic, Rochester, MN; [2]Univ. of Minnesota, Minneapolis, MN*

ThP 055 **SILAC Based Quantitative Proteomics Approach to Identify Secreted Biomarkers of Esophageal Squamous Cell Carcinoma**; Manoj K. Kashyap[1,2]; H. C. Harsha[1,2]; Santosh S. Renuse[2]; Harsh A. Pawar[2]; Min-Sik Kim[1]; Arivusudar Marimuthu[1,2]; Raghothama Chaerkady[1,2]; Anil K. Rustgi[3]; Akhilesh Pandey[1]; *[1]Johns Hopkins University, Baltimore, MD; [2]Institute of Bioinformatics, Bangalore, India; [3]University of Pennsylvania, Philadelphia, PA*

ThP 056 **A Quantitative Label-Free Profiling Study of the Effects of Hypoxia on Mycobacterium Tuberculosis Membrane and Cytosol Proteins**; Hua Lin; Jing

Wang; Thomas A. Shaler; Chris Becker; *PPD Biomarker Discovery Sciences, Menlo Park, CA*

ThP 057 **Identification of Potential Biomarkers of Esophageal Squamous Cell Carcinoma Using Quantitative Proteomics**; Santosh Renuse[2]; Pradip Kumar Acharya[2]; H.C. Harsha[1,2]; Nandini Patankar[2]; Manoj K Kashyap[1,2]; Yashwanth Subbannayya[2]; Harsh Pawar[2]; Raghothama Chaerkady[1,2]; Rekha V Kumar[3]; Akhilesh Pandey[1]; *[1]Johns Hopkins University, Baltimore, MD; [2]Institute of Bioinformatics,, Bangalore, India; [3]Kidwai Memorial Institute of Oncology, Bangalore, India*

ThP 058 **Comparative Proteomic Profiling of Osteoarthritis and Rheumatoid Arthritis**; Nandini Patankar[1]; Mitali Bhattacharjee[1]; Harsh Pawar[1]; Charles Jacob Harrys Kishore[1]; H. C. Harsha[1,2]; Santosh Renuse[1]; Raghothama Chaerkady[1,2]; Shankar Subramanian[3]; Akhilesh Pandey[2]; *[1]Institute of Bioinformatics, Bangalore, India; [2]Johns Hopkins University School of Medicine, Baltimore, MD; [3]Armed Forces Medical College, Pune, India*

ThP 059 **Identification of Secreted Biomarkers of Pancreatic Cancer Using SILAC**; H.C. Harsha[1,2]; Jun Zhong[1]; Arivusudar Marimuthu[1,2]; Manoj K Kashyap[1,2]; Sameer Kumar[2]; Raghothama Chaerkady[1,2]; Akhilesh Pandey[1]; *[1]Johns Hopkins University, Baltimore, MD; [2]Institute of Bioinformatics,, Bangalore, India*

ThP 060 **Evaluation of Formalin Fixed Paraffin Embedded Tissues for the Extraction and Comparison of Peptide Phosphorylation**; Paul L Auger Jr[2]; Christopher Farnsworth[3]; Kimberly Lee[2]; Leo E. Bonilla[2]; Mike Davis[1]; *[1]Amgen, Inc., Thousand Oaks, CA; [2]Amgen, Thousand Oaks, CA; [3]Molecular Sciences-Amgen, Seattle, WA*

ThP 061 **Identification of Differentially Modified Proteins in the Astrocytoma Secretome**; Catherine Formolo[1,2]; Kristy J. Brown[1]; Tobey J. MacDonald[1,2]; Yetrib Hathout[1,2]; *[1]Children's National Medical Center, Washington, DC; [2]George Washington University, Washington, DC*

ThP 062 **Quantitative Neuroblastoma Cell Line Comparison Using a Pooled SILAC Reference Sample**; Charlene Bierl; Lin-sheng Li; Logan J Everett; Stephen R Master; *University of Pennsylvania, Philadelphia, PA*

ThP 063 **Multiplexed On-Target Protein Fractionation for MALDI Analysis of Sub-Proteome "Windows" into Complex Samples**; Rachel L Weller Roska; Stephen A Brose; Robert E Carlson; *Receptors LLC, Chaska, MN*

ThP 064 **Identification of Serum Biomarker in Cysticercossis, the Major Parasitic Disease of the Central Nervous System**; Brian J. Ward; Momar Ndao; Christine Straccini; Bernard F. Gibbs; *McGill University, Montreal, QC*

METABOLOMICS, 065 - 100

ThP 065 **Global Metabolic Profiling in Plasma Samples of Patients Before and after Ketogenic Diet Therapy by Monolithic-C18 LC and HILIC/(+)ESI-MS**; Soledad Cerutti; Peggy R. Borum; Jodie V. Johnson; Richard A. Yost; David H. Powell; *University of Florida, Gainesville, FL*

ThP 066 **Evaluation of Exact Mass and Relative Isotopic Abundance Measurements in LTQ-Orbitrap Mass Spectrometer for Further Metabolomics Database Building**; Ying Xu[1]; Geoffrey Madalinski[1]; Aurelie Roux[1]; jean-francois Heilier[1,2]; Jerome Cotton[1]; Eric Ezan[1]; Jean-claude Tabet[3]; Christophe Junot[1]; *[1]CEA, Gif-sur-Yvette, France; [2]Université Catholique de Louvain, Bruxelles, Belgique; [3]University Paris VI (UPMC), Paris, France*

ThP 067 **Determining the Molecular Substrate Specificity of Kidney Anion Transporters *in vivo* Using Untargeted Metabolomics**; William Wikoff[1]; Sanjay Nigam[3]; Gary Siuzdak[2]; *[1]The Scripps Research Intitute, San Diego, CA; [2]The Scripps Research Institute, La Jolla, CA; [3]Univ. of California San Diego, La Jolla, CA*

ThP 068 **Measurement of the Metabolome of Stagonospora Nodorum, a Major Pathogen on Wheat**; Robert Trengove[1,3]; Joel Gummer[1,2]; Kar-Chun Tan[1,2]; Peter S Solomon[2,4]; Richard P. Oliver[1,2]; *[1]Murdoch Univ., Murdoch, Australia; [2]ACNFP, Murdoch, Australia; [3]Metabolomics Australia (Murdoch Node), Murdoch, Australia; [4]Australian National Univ., Canberra, Australia*

ThP 069 **Proof-of-Principle for Untargeted Plasma Metabolite Profiling to Discover Metabolic Aberrations Resulting from Gene Defects and Drug Treatments**; Qiuying Chen[1]; HC Park[2]; Brian Ratliff[2]; Michael Goligorsky[2]; Steven M. Fischer[3]; Steven S. Gross[1]; *[1]Weill Medical College of Cornell University, New York, NY; [2]New York Medical College, New York, NY; [3]Agilent Technologies, Santa Clara, CA*

ThP 070 **Combining Unbiased Metabolic Profiling with Targeted Analysis of Specific Metabolites Using High Resolution Mass Spectrometry, a Step Forward in Metabolomics**; Albert Koulman[1]; Martin Hornshaw[2]; Gary Woffendin[2]; Helen Welchman[2]; Vinod Narayana[1]; Catharina Crone[2]; Dietrich Volmer[1]; *[1]Medical Research Council, Cambridge, UK; [2]Thermo Fisher Scientific, Hemel Hempstead, UK*

ThP 071 **Mass-Based Global Metabolomics in a Neuropathic Rat Model Implicates the Central Nervous System as the Basis for Chronic Pain**; Gary J Patti[1]; Oscar Yanes[1]; James Bilsland[2]; Jean-Philippe Courade[2]; Gary Siuzdak[1]; *[1]The Scripps Research Institute, La Jolla, CA; [2]Pfizer, Pain, Sandwich, UK*

ThP 072 **Cuticular Wax Profiling of Individual *Arabidopsis* Flowers: Use of LVI-PTV-GCMS as a Means of Validating Metabolite Imaging Data**; Zhihong Song[1,2]; Ji Hyun Jun[1,2]; Zhenjiu Liu[1,2]; Edward S. Yeung[1,2]; Young Jin Lee[1,2]; Basil J. Nikolau[1,2]; *[1]Ames Lab of US DOE, Ames, IA; [2]Iowa State Univ., Ames, IA*

ThP 073 **Visualization of Identified and Unknown Compounds in Metabolomic Data Sets of Environmental Tobacco Smoke Exposure in Rats**; Dinesh Kumar Barupal; Oliver Fiehn; *UC, Davis, CA*

ThP 074 **Optimization of Cell–based Protein Production Using Quantitative Targeted Metabolite Analysis of Animal Cell Cultures**; Denise U. Sonntag; Michael Urban; Matthias Keller; Klaus M. Weinberger; *Biocrates Life Sciences AG, Innsbruck, Austria*

ThP 075 **An Automated Processing Pipeline for Accurate Mass LC-MS Data Enabling Combined Identification and Quantitation of Metabolites**; Ryan M. Danell[1]; Jun Han[2]; Christoph Borchers[2]; *[1]Danell Consulting, Greenville, NC; [2]UVic-GBC Proteomics Centre, Victoria, BC*

ThP 076 **Ultra-Fast Quantitative Profiling of Endogenous Metabolites Based on Differential Chemical Labelling and MALDI-MS**; Dietrich A Volmer;

Daniel Petras; Vinod Narayana; Albert Koulman; *Medical Research Council, Cambridge, UK*

ThP 077 **Mass Spectrometry Based Metabonomics Study on Autism**; Jun Yang; Jozsef Lango; Bruce D. Hammock; *University of California, Davis, Davis, CA*

ThP 078 **Metabolomics Reveals Unique *Medicago truncatula* Responses to the Devastating *Phymatotrichopsis* Root Rot Pathogen and Strategies for Metabolic Engineering of Resistance**; Wensheng Li[1,2]; Guoan Shen[1]; Srinivasa Rao Uppalapati[1]; Kirankumar S. Mysore[1]; Richard A. Dixon[1]; Lloyd W. Sumner[1]; *[1]The Noble Foundation, Ardmore, OK; [2]Monsanto, Inc., St. Louis, MO*

ThP 079 **Human Metabotypes Associate with Genotypes and Environmental Challenge**; Rui Wang-Sattler[1]; Christian Gieger[1]; Yao Yu[2]; Kirstin Mittelstrass[1]; Eva Lattka[1]; Elisabeth Altmeier[1]; Karl H Ladwig[1]; Norbert Dahmen[3]; Pei Hao[2]; Yixue Li[2]; Lei Liu[2]; Ludwig Geistlinger[1]; Martin Hrabe de Angelis[1,4]; Florian Kronenberg[5]; Thomas Meitinger[1,6]; Hans-Werner Mewes[1,4]; H.-Erich Wichmann[1,6]; Klaus M. Weinberger[7]; Jerzy Adamski[1,4]; Karsten Suhre[1,6]; Thomas Illig[1,6]; *[1]Helmholtz Zentrum Muenchen, Neuherberg, Germany; [2]Chinese Academy of Sciences, Shanghai, China; [3]University of Mainz, Mainz, Germany; [4]Technische Universitaet Muenchen, Munich, Germany; [5]Innsbruck Medical University, Innsbruck, Austria; [6]Ludwig Maximilian Universitaet, Munich, Germany; [7]Biocrates Life Sciences, Innsbruck, Austria*

ThP 080 **Direct Mass Spectrometric Detection of Metabolic Changes in Live Cells: Uninfected vs HTLV-1 Infected T Cells**; Prabhakar Sripadi[1]; Rebecca L. Easley[2]; Fatah Kashanchi[2]; Akos Vertes[1]; *[1]George Washington University, Washington, DC; [2]George Washington University School of Medicine, Washington, DC*

ThP 081 **Genetic Basis of Metabolome Variation in Yeast**; J. Scott Breunig[1]; Eugene Melamud[1]; Erin N. Smith[2]; Leonid Kruglyak[1]; Joshua Rabinowitz[1]; *[1]Princeton University, Princeton, NJ; [2]The Scripps Research Institute, La Jolla, CA*

ThP 082 **Multiplexed Collision Induced Dissociation-LC/TOF MS for Non-target Metabolite Discovery and Profiling**; Feng Shi; Chao Li; A.Daniel Jones; *Michigan State University, East Lansing, MI*

ThP 083 **Influence of Gut Microbiotal Suppression and Recolonization on Host Metabolism: An Integrated UPLC-MS Based Metabonomic and Metagenomic Approach**; Jonathan R Swann[1]; Elizabeth J Want[1]; Kieran M Tuohy[2]; Glenn R Gibson[2]; Ian D Wilson[3]; James Sidaway[3]; Jeremy K Nicholson[1]; Elaine H Holmes[1]; *[1]Imperial College, London, UK; [2]Univ. of Reading, Reading, UK; [3]AstraZeneca, Macclesfield, UK*

ThP 084 **Investigating the Health of Whale Sharks at the Georgia Aquarium by Direct Analysis in Real Time Metabolic Serum Fingerprinting**; Manshui Zhou[1]; Alistair D.M. Dove[2]; David H. Webb[2]; Julia Kubanek[1]; Facundo Fernandez[1]; *[1]Georgia Institute of Technology, Atlanta, GA; [2]Georgia Aquarium Inc, Atlanta, GA*

ThP 085 **Sterol Profiling of Phytosterolemia by Ultrahigh Pressure Liquid Chromatography-Mass Spectrometry**; Chiun-gung Juo[1]; Cheng-long Wang[2]; Dou-ming Niu[3]; Ming-shi Shiao[4]; *[1]MMRC, Chang Gung University, Tao-yuan, Taiwan; [2]GIBMS,, Chang Gung University, Tao-yuan, Taiwan; [3]Pediatrics, Taipei Veterans General Hospital, Taipei, Taiwan; [4]LS, Chang Gung University, Tao-yuan, Taiwan*

ThP 086 **LC-FTMS- and NMR-Based Metabolomics Reveal Age-Related Differences in Mice and Humans**; Quinlyn A. Soltow; Jennifer M. Johnson; Youngja Park; Tianwei Yu; Frederick H. Strobel; Dean P. Jones; *Emory University, Atlanta, GA*

ThP 087 **Metabolomics Characterization of Metabolic Effect of HIF1α**; Ru Wei; Guodong Li; Yuxin Wang; Xu Xu; Kurt Eng; Albert B Seymour; *Pfizer RTC, Cambridge, MA*

ThP 088 **Metabolomics Characterization of Adipocyte Cell Model**; Guodong Li; Yumei Lucy Sun; Debra F Nathan; Albert B Seymour; Ru Wei; *Pfizer RTC, Cambridge, MA*

ThP 089 **Probing the Metabolic Response of Yeast to Nutrient Limitation by LC-MS/MS**; Christopher Crutchfield; Viktor Boer; Patrick Bradley; David Botstein; Joshua Rabinowitz; *Princeton University, Princeton, NJ*

ThP 090 **Metabolite Variations of Genetic Strain Brassica Seeds Analyzed by Infusion FTMS-Based Metabolomics**; Jun Han[1]; Ryan M. Danell[2]; Raju Datla[3]; Christoph Borchers[1]; *[1]UVic-GBC Proteomics Centre, Victoria, BC; [2]Danell Consulting, Greenville, NC; [3]NRC Plant Biotechnology Institute, Saskatoon, SK, Canada*

ThP 091 **A Non-Targeted Metabolomics Approach to Metabolite Analysis in a Complex Matrix Using a Sensitive, High Speed Mass Spectrometer**; Alina Dindyal-popescu[1]; Nanqun Zhu[2]; Thomas O'shea[2]; Jeffrey Miller[3]; *[1]MDS Analytical Technologies, Concord, Canada; [2]Genzyme, Waltham, MA; [3]Applied Biosystems, Framingham, MA*

ThP 092 **A Bioinformatics Platform for Two Dimensional Gas Chromatography Mass Spectrometry-Based Metabolomics**; Bing Wang[1,2]; Aiqin Fang[1]; Charles Buck[4]; Mark Libardoni[3]; John Heim[3]; Xiang Zhang[1]; *[1]Univ. of Louisville, Louisville, KY; [2]Anhui Univ. of Technology, Ma An Shan, China; [3]LECO Coporation, St. Joseph, MI; [4]Purdue Univ., West Lafayette, IN*

ThP 093 **Global Profiling Studies in Tumour Bearing Mouse Models Using High Mass Accuracy MSn Analysis**; Lindsay Lai[1,2]; Ian Wilson[2]; Robert Wilkinson[2]; Rajesh Odedra[2]; Simon Ashton[3]; Alan Barnes[3]; Neil Loftus[3]; *[1]Manchester University, Manchester, UK; [2]AstraZeneca, Alderley Park, UK; [3]Shimadzu, Manchester, UK*

ThP 094 **Integration of NMR- and MS-Based Metabolic Profiling Techniques for Structural Determination of Marker Metabolites**; Satoko Kakoi[1]; Tadashi Nemoto[2]; Katsutoshi Takahashi[2]; Kazunori Saito[3]; Eri Sunaga[2]; Daichi Yukihira[1]; Yoshinori Fujimura[1]; Daisuke Miura[1]; Hiroyuki Wariishi[1]; *[1]Kyushu university, Fukuoka, Japan; [2]National Institute of Advanced Industrial Science, Tsukuba, Japan; [3]Bruker Daltonics Japan, Yokohama, Japan*

ThP 095 **Optimisation of Metabolite Extraction from Liver Samples for Metabolic Profiling by UPLC-MS**; Perrine Masson; Jeremy K Nicholson; Elizabeth J Want; *Imperial College, London, UK*

ThP 096 **Metabolomic Profiling Using Orbitrap Fourrier Transform Mass Spectrometry**; Ludovic Muller[1];

Nathalie Priymenko[2]; Céline Domange[2]; Alain Paris[2]; Christophe Junot[3]; Sandra Alves[1]; Jean-claude Tabet[1]; *[1]University Paris VI (UPMC), Paris Cedex O5, France; [2]INRA, Toulouse, France; [3]CEA, Gif-sur-Yvette, France*

ThP 097 **Metabolite Profiling and Biochemical Characterization of Bovine Milk Utilizing GC-MS and LC-MS/MS**; John Lennon; Carolyn Amoretty; Kurt Boudonck; *Metabolon, Inc., Durham, NC*

ThP 098 **Comprehensive Profiling of Acylcarnitines in Human Urine by UPLC-MS/MS**; Azeret Zuniga; Liang Li; *University of Alberta, Edmonton, Canada*

ThP 099 **Metabonomic Profiling of Human Plasma: The Impact of Sample Handling and Storage**; Bethanne Warrack; Janet Caceres-Cortes; Serhiy Hnatyshyn; Mohammed Jemal; Petia Shipkova; Michael Reily; *Bristol-Myers Squibb, Princeton, NJ*

ThP 100 **Targeted Metabolomics of Sterols and Cholesterol Derivatives in Mammal Samples**; Therese Koal; Peter Enoh; Matthias Keller; Hans-Peter Deigner; Klaus M. Weinberger; *Biocrates Life Sciences AG, Innsbruck, Austria*

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ThP 101 **Improved In-Gel Digestion Results and Work-Flow through the Use of a Mass Spectrometry Compatible Surfactant**; Daniel J. Simpson[1]; Sergei Saveliev[1]; Becky Godat[1]; Grzegorz Sabat[2]; *[1]Promega Corp., Madison, WI; [2]University of Wisconsin, Madison, WI*

ThP 102 **Improving Protein Identification Efficiency for Comprehensive Proteome Mapping of *Escherichia coli* by LC-ESI MS/MS**; Xiaoxia Ye; Nan Wang; Liang Li; *University of Alberta, Edmonton, Canada*

ThP 103 **Improved Protein Coverage and Throughput in Proteomics Using On-Line Multiplexed Enzyme Digestions and Targeted MS/MS with a Modified LTQ-FTICR**; Daniel Lopez Ferrer[1]; Konstantinos Petritis[1]; Andrei Liyu[1]; Yufeng Shen[1]; Benito Canas[2]; Kim K. Hixson[1]; Richard D. Smith[1]; Mikhail Belov[1]; *[1]PNNL / Battelle Northwest, Richland, WA; [2]Universidad Complutense de Madrid, Madrid, Spain*

ThP 104 **Integration of Top-Down and Bottom-Up Approaches: Application of RePlay for Confident Protein/Peptide Identifications by On-Line Post-Column Digestion and High-Resolution MS**; Konstantinos Petritis[1]; Daniel López-Ferrer[1]; Tian Zhixin[1]; Errol Robinson[1]; Mikhail Belov[1]; Lijliana Paša-Tolić[1]; John Fjeldsted[2]; Leslie Leonard[2]; Simon J. Prosser[3]; David Schriemer[4]; Darren F. Lewis[5]; Richard D. Smith[1]; *[1]Pacific Northwest National Laboratory, Richland, WA; [2]Agilent Technologies, Santa Clara, CA; [3]Advion BioSciences, Inc., Ithaca, NY; [4]University of Calgary, Calgary, AB; [5]Idex Health & Science Group, Oak Harbor, WA*

ThP 105 **Profiling the Thiol-Disulfide Complement of Saccharomyces Cerevisiae Using Organomercurial Enrichment and Multi-Dimensional-nanoLC/MS;** Mark J. Raftery; *Bioanalytical Mass Spectrometry, Sydney, Australia*

ThP 106 **2D RP/RP LC/MS as a Fractionation Tool for the Separation of Peptides in Human Ovarian Cancer Cell Extracts**; Monika Dzieciatkowska[1]; Tony Tegeler[2]; Jinsam You[2]; Mu Wang[1,2]; *[1]Indiana University School of Medicine, Indianapolis, IN; [2]Monarch Life Sciences, Indianapolis, IN*

ThP 107 **Quantitative Evaluation of Enzymatic Activity of Immobilized Trypsin Microreactors for Protein Digestion and Identification**; Ying Long; Troy Wood; *SUNY at Buffalo, Buffalo, NY*

ThP 108 **Toward Tubulin Proteomics: Separation and Identification of Acidic Peptides Using Offline High-pH RP-HPLC Coupled with Low-pH LC-MS/MS**; Chao Gong; Carthene R. Bazemore-Walker; *Brown University, Providence, RI*

ThP 109 **Investigation of the Clostridium Acetobutylicum Proteome under Different Growth Conditions Using 1D and 2D RPRP nanoUPLC and Alternative Scanning LCMS**; Thérèse Mckenna[1]; Joanne B. Connolly[1]; Chris Hughes[1]; Jim Langridge[1]; Kevin Collins[1]; Keith R Compson[1]; Philippe Soucaille[2]; Gwenaelle Bestel-corre[2]; *[1]Waters, Manchester, UK; [2]Metabolic Explorer, Saint Beauzire, France*

ThP 110 **Design of 1 Meter Long Monolithic nanoLC Columns for Ultra-High-Efficiency LC-MS Peptide Analyses**; Sebastiaan Eeltink; Evert-Jan Sneekes; Remco Swart; *Dionex Corp., Amsterdam, Netherlands*

ThP 111 **Automated Sample Loading and Desalting within a MudPIT Experiment to Increase Global Proteomic Identifications**; Robert Lj Graham[1]; John Lloyd[2]; Sonja Hess[1]; *[1]Caltech, Pasadena, CA; [2]NIH/NIDDK, Germantown, MD*

ThP 112 **An Efficient Microfluidic Chip-Based Proteolytic Reactor for Online ESI-MS Analysis**; Peter Liuni; Tamanna Rob; Derek J. Wilson; *York University, Toronto, Canada*

ThP 113 **High-Resolution Peptide Analysis Using Sub-Two Micron Columns**; Reno Nguyen; Joyce Wang; Mark Jacyno; Scott Anderson; Wendy Luo; Ian Chappell; *Grace Davison, Deerfield, IL*

ThP 114 **Novel Cleavable Probe for Cysteinyl-Peptide Enrichment and LC-MS/MS Analysis in Complex Protein Mixtures**; De Lin; Daniel C. Liebler; *Department of Biochemistry, Vanderbilt University, Nashville, TN*

ThP 115 **Mapping Reagent Space for Fragment Ion Mass Defect Labeling (FIMDL) of Peptides**; Yu Shi; Bekim Bajrami; Xudong Yao; *Chemistry Department, University of Connecticut, Storrs, CT*

ThP 116 **Expanding Mass Forbidden Zones in Tandem Mass Spectra for Improved Selectivity of Phosphoryl Fragment Ion Detection Using Peptide Esterification**; Bekim Bajrami[1]; Yu Shi[1]; Pascal Lapierre[2]; Xudong Yao[1]; *[1]Chemistry Department, University of Connecticut, Storrs, CT; [2]Biotech Center, University of Connecticut, Storrs, CT*

ThP 117 **Evaluation of Dansyl-Peptides MS and MS/MS Features to Enhance the LC-MALDI-MS/MS Analysis;** Giovanni Chiappetta[1,2]; Sega Ndiaye[1]; Emmanuelle Demey[1]; Iman Haddad[1]; Gennaro Marino[2]; Angela Amoresano[2]; Joelle Vinh[1]; *[1]ESPCI-ParisTech, Paris, France; [2]University of Naples Federico II, Naples, Italy*

ThP 118 **Enhancing the Detectability of Cysteine-Containing Peptides in MALDI-Based Proteomics**; Jon M. Bruno[1]; Carol E. Parker[2]; Nedyalka Dicheva[2]; Kristina E. Ile[3]; Mihaela Mocanu[2]; Vytas A. Bankaitis[3]; John C. Edwards[1]; *[1]Department of Medicine, UNC-CH, Chapel Hill, NC; [2]UNC-Duke Proteomics Center, UNC-CH,*

Chapel Hill, NC; [3]Cell and Developmental Biology, UNC-CH, Chapel Hill, NC

ThP 119 **Using Deuterium Oxide to Measure Turnover Rates of Plant Proteins**; XiaoYuan Yang; Wen-Ping Chen; Adrian D. Hegeman; William M. Gray; Jerry D. Cohen; *University of Minnesota, Saint Paul, MN*

ThP 120 **The Potential of Fluorous Labeling as a Novel Tool to Enrich Low Abundance Cysteinyl-Peptides**; Wantao Ying; David H. Perlman; Lei Li; Roger Theberge; Catherine E. Costello; Mark E. McComb; *Boston University School of Medicine, Boston, MA*

ThP 121 **Optimization of UPLC and Orbitrap Analyses for Characterization of Single Proteins and Complex Mixtures**; Donald S Kirkpatrick; Corey E Bakalarski; Lilian Phu; Daisy Bustos; Jianjun Zhang; David Arnott; *Genentech, Inc., South San Francisco, CA*

ThP 122 **Proteomic Analysis of a Sinitang Uptake Response in the Bacterium Deinococcus Radiodurans**; Jingyueh Jeng; Chiashan Weng; *Chia Nan University of Pharmacy & Science, Tainan, Taiwan*

ThP 123 **A Proteomic Approach to the Sources and Fate of Proteins in the Bering Sea**; Eli Moore[1]; Brook Nunn[2]; David R. Goodlett[2]; H. Rodger Harvey[1]; *[1]University of Maryland/CES, Solomons, MD; [2]University of Washington, Seattle, WA*

ThP 124 **High Throughput Global Proteome Profiling of Mammalian Tissue Using Hybrid Triple Quadrupole / Linear Ion Trap Technology**; Xu Guo[1]; Brigitte Simons[1]; Feng Zhong[1]; Jason Hoffert[2]; *[1]MDS Analytical Technologies, Concord, Canada; [2]NHLBI, Bethesda, MD*

ThP 125 **Mass Spectrometric Proteome Analysis of the Tardigrade Hypsibius Dujardini, a New Model Organism for Aging Research**; Birgit Schilling[1]; Aaron W. Miller[1]; Ronald Beavis[2]; Robert E. Hughes[1]; Bradford W. Gibson[1]; *[1]Buck Institute for Age Research, Novato, CA; [2]University of British Columbia, Vancouver, BC*

ThP 126 **Exploring the Structural Heterogeneity of the COP9 Signalosome Complex**; Lei Fang; Xiaorong Wang; Lan Huang; *University of California, Irvine, CA*

ThP 127 **Tandem Mass Spectrometry Analysis of Primary Amyloid Disease Patient Tissue Samples Fractionated by Hydrostatic Pressure Cycling**; Zhenning Hong; Giuseppe Infusini; Lawreen H. Connors; Martha Skinner; Catherine E. Costello; *Boston University School of Medicine, Boston, MA*

ThP 128 **Differential Expression of Cellular Proteins in Pancreatic Cancer Cells in Response to Transketolase Inhibitor Oxythiamine Treatment**; Hengwei Zhang[1]; Rui Cao[1]; W. Paul Lee[2]; Caishu Deng[1]; Yingchun Zhao[1]; Jing Xiao[1]; Qingmei Xie[1]; Shu Lim[2]; Vay Liang Go[2]; Robert Recker[1]; Gary Guishan Xiao[1]; *[1]Creighton University, Omaha, NE; [2]Harbor - UCLA Medical Center, Torrance, CA*

ThP 129 **A Novel Method for Protein Profiling in Layered Tissues Combining Serial Sectioning of Frozen Tissue with Gel-Free Label-Free Quantitative Proteomics;** Nikolai Skiba[1,2]; Boris Reidel[1,2]; Will Thompson[3]; Arthur Moseley[1,3]; Vadim Arshavsky[2]; *[1]Duke University, Durham, NC; [2]Duke Unuversity Eye Center, Durham, NC; [3]Institute for Genome Science and Policy, Durham, NC*

ThP 130 **Development and Use of Complex Experimental Proteomics Standards**; Andrew T Bauman[1]; Roger Higdon[1]; Sean Rapson[1]; Brent Louie[1]; Jared C. Roach[1]; Natali Kolker[1]; Gerald van Belle[2]; Eugene Kolker[1]; *[1]Seattle Children's Research Institute, Seattle, WA; [2]University of Washington, Seattle, WA*

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ThP 131 **LC/MS/MS Analysis of Biogenic Amines in Foods and Beverages**; Robert Ellis[1]; Takeo Sakuma[1]; Michael Quilliam[2]; Pearl Blay[2]; William Hardstaff[2]; Vernon Bartlett[3]; Becky Wittrig[3]; Daniel Bazavan[4]; Deolinda Fernandes[1]; David Cox[1]; Fouad Khalaf[1]; Andre Schreiber[5]; *[1]MDS Analytical Technologies, Concord, Canada; [2]National Research Council, Halifax, Canada; [3]Restek, Bellefonte, PA; [4]Dionex, Oakville, Canada; [5]Applied Biosystems, Toronto, Canada*

ThP 132 **Confirmation of Azaspiracid Toxins in Outbreak Implicated Mussel Products**; Ann Abraham; Steven M. Plakas; Hudson R. Granade; Kathleen R. El Said; Robert W. Dickey; *FDA, Dauphin Island, AL*

ThP 133 **Determination of Biogenic Amines in Seafood by GC- and LC-MS**; F. Aladar Bencsath; Ann Abraham; *FDA, Gulf Coast Seafood Laboratory, Dauphin Island, AL*

ThP 134 **High Throughput Pesticides Screening Using LC/TOF-MS**; Takashi Ando[1]; Makiko Iki[2]; Haruo Hosoda[3]; Jun Watanabe[3]; *[1]Miyazaki Agricultural Research Institute, Miyazaki, Japan; [2]JA Miyazaki Keizairen, Miyazaki, Japan; [3]Bruker Daltonics K. K., Yokohama, Japan*

ThP 135 **Mass-Spectrometric Analysis of Non-Nitrogen Containing Bisphosphonates:Clodronate**; Veniamin Lapko; Richard Olsen; Lee Zhu; Curtis Sheldon; Chad Briscoe; *MDS Pharma Services, Lincoln, NE*

ThP 136 **Analysis of Underivatized Amino Acids in Root Exudates Using Hydrophilic Interaction Liquid Chromatography Combined with Electrospray Ionization Mass Spectrometry**; Madeleine Dellmour; Leonhard Jaitz; Eva Oburger; Markus Puschenreiter; Gunda Koellensperger; Stephan Hann; *University of Natural Resources and Applied Life S, Vienna, Austria*

ThP 137 **High Sensitive Derivatization Method for the Analysis of Alendronic Acid in Human EDTA Plasma by LC/MS/MS;** Nicolas Jean; Chantal Gravel; Sylvain Lachance; Ann Levesque; Robert Masse; *Anapharm, Québec, Canada*

ThP 138 **Formation Mechanism of Germanium Containing Zeolitic Materials Studied by ESI-MS and ESI-MS/MS**; Bernd Bastian Schaack; Ferdi Schueth; Wolfgang Schrader; *Max-Planck Inst Coal Res., Mülheim / Ruhr, Germany*

ThP 139 **Laser Desorption Ionization on Nanowell Silicon Arrays Prepared by Argon Plasma Etching Using a Nanoporous Alumina Mask**; Basri Gulbakan[1,2]; Kaan Kececi[1,2]; Dooho Park[1,2]; Charles R Martin[1,2]; Weihong Tan[1,2]; David H Powell[1,3]; *[1]University of Florida Department of Chemistry, Gainesville, FL; [2]Center for Research at Bio/Nano Interface, Gainesville, FL; [3]UF Metabolomics Core, Gainesville, FL*

ThP 140 **Ultra Specific Determination of Clopidogrel in Human Plasma: Improved Method Minimizing Metabolite Back-Conversion**; Guy Havard; Marie-Eve Coulombe; Sylvain Lachance; Ann Levesque; Robert Masse; *Anapharm, Québec, Canada*

Posters must be set up 8:00 - 8:30 am on the day scheduled and removed by 3:30 pm. Authors of odd numbered posters (001, 003, 005, etc.) are required to be present 10:30 – 12:30. Authors of even numbered posters (002, 004, 006, etc.) must be present 12:30 – 2:30 pm.

ThP 141 **Characterization of DNA Adducts and Secondary Plant Metabolites at the Microgram Level Using a Nanoelectrospray LC-MS-Microcoil NMR Integrated System**; Rose Gathungu; Susan Schiavo; John Oldham; Carolyn Lee-Parsons; Paul Vouros; Roger Kautz; *Northeastern University, Boston, MA*

ThP 142 **Analysis of Canine Kidney Stones Using Mass Spectrometry**; James A. Campbell[1]; Catherine E. Petersen[1]; David S. Wunschel[1]; Thomas O. Metz[1]; David W. Koppenaal[1]; Leo Romanczyk[2]; Peter Markhill[2]; John Hammerstone[2]; *[1]Battelle-PNNL, Richland, WA; [2]Waltham, a Division of Mars Incorporated, Leicestershire, UK*

ThP 143 **Screening Phosphatidylcholine Injection Samples for Impurities by HPLC-UV-MS and GC/MS**; Jamie D. Dunn[1]; Jeffrey T. Woodruff[1]; John C. Reepmeyer[1]; Benjamin J. Westenberger[1]; Samia M. Nasr[2]; Michael E. Hadwiger[1]; *[1]FDA, CDER, Division of Pharmaceutical Analysis, St. Louis, MO; [2]FDA, CDER, Office of Compliance, Silver Spring, MD*

ThP 144 **Quality by Design Approach for the Identification of Extractable Substances in Vial Stoppers Using GC/MS and LC/MS for Qualitative Identification;** Louis-philippe Labranche[1]; John Mchugh[3]; Yves G. Leblanc[1]; Alain Carrier[2]; *[1]Sandoz, Boucherville, Canada; [2]Sandoz Canada, Boucherville, QC; [3]Sandoz Canada, Inc., Boucherville, QC*

ThP 145 **Development of an LC-MS-MS Assay for Cyclooxygenase Inhibition**; Hongmei Cao[1,2]; Rui Yu[1,2]; Yi Tao[1,2]; Dejan Nikolic[1,2]; Richard B. Van Breemen[1,2]; *[1]University of Illinois at Chicago, Chicago, IL; [2]College of Pharmacy, Chicago, IL*

ThP 146 **Lipemic Effect Evaluation on Detection Variability Using Natural and Synthetic Lipemic Plasma in Four LC/MS/MS Methods**; Nancy Lampron; Sylvain Lachance; Ann Levesque; Robert Masse; *Anapharm, Québec, Canada*

ThP 147 **Withdrawn**

ThP 148 **Quantitation of Propylene Glycol in Human Plasma by LC/MS/MS: A Bioanalytical Challenge**; Serge Auger; Sylvain Lachance; Julie Vibert; Sofi Gagnon-Carignan; Ann Levesque; Robert Masse; *Anapharm, Québec, Canada*

ThP 149 **A LC-MS/MS Method for Quantification of Anthocyanins, Application in a Clinical Pharmacologic Study with a Bioadhesive Black Raspberry Gel Formulation**; Yonghua Ling[1]; Chen Ren[1]; Susan Mallery[2]; Carlos M. Ugalde[2]; U.V.R. Vijaya Saradhi[1]; Ping Pei[2]; Gary Stoner[3,4]; Kenneth K. Chan[3,5]; Zhongfa Liu[1,3]; *[1]College of Pharmacy, The Ohio State Univ., Columbus, OH; [2]College of Dentistry, The Ohio State Univ., Columbus, OH; [3]Comprehensive Cancer Center, The Ohio State Univ, Columbus, OH; [4]College of Medicine, The Ohio State Univ., Columbus, OH; [5]Colleges of Pharmacy & Medicine and Public Health, Columbus, OH*

ThP 150 **A Novel Method for the Determination of Oxalic Acid in Root Exudates**; Leonhard Jaitz; Bernhard Müller; Madeleine Dell´mour; Eva Oburger; Markus Puschenreiter; Gunda Koellensperger; Stephan Hann; *University of Natural Resources and Applied Life S, Vienna, Austria*

ThP 151 **Evaluation of Two Innovative Derivatization Reagents: Application to the Determination of Calcitriol and Tibolone Metabolites in Human Plasma by LC/MS/MS;** Guy Havard; Serge Auger; Sylvain Lachance; Johanne Lefebvre; Ann Levesque; Robert Masse; *Anapharm, Québec, Canada*

ThP 152 **High Resolution Mass Spectrometry Analysis of 2-Substituted Benzothiazoles**; Jian Guo; Scott W. Grimm; *AstraZeneca Pharmaceuticals, Wilmington, DE*

ThP 153 **Troubleshooting Cross-well Contamination in a 96-Well Plate of Volatile Pharmaceutical Compounds (Methylphenidate and Rivastigmine) during Evaporation Step Using LC/MS/MS**; Danielle Bouchard; Philippe Bélanger; Patrice Arcand; Robert Massé; *Anapharm, Quebec, QC*

ThP 154 **Fast Method Development Approach for Multi-Analyte SPE Screening and the Analysis of 6 Different Compounds in Human Plasma by LC/MS/MS**; Philippe Belanger; Danielle Bouchard; Patrice Arcand; Robert Massé; *Anapharm, Québec, Canada*

ThP 155 **Light Exposure of 4-oxo-13-cis-retinoic Acid and 4-oxo-all-trans-Retinoic Acid and Qualitative Analysis of their Degradation by-products Using LC/MS/MS**; Sébastien Gagné; Nadine Boudreau; Adrien Musuku; Robert Masse; *Anapharm, Quebec, QC*

ThP 156 **Mass Spectrometry Based Assay for the Enzymatic Hydrolysis of Pseudo-Prochiral Malonate Diesters**; Dale A. Rosado, Jr; Thomas Maestri; Douglas Masterson*; *University of Southern Mississippi, Hattiesburg, MS*

ThP 157 **High-Throughput Screening of Cardiovascular Drugs from Clinical Samples by MALDI MS**; Eduardo C. Dias; Joey C. Latham; Dan M. Roden; Nancy J. Brown; Richard M. Caprioli; *Vanderbilt Univ Sch of Med, Nashville, TN*

ThP 158 **Alteration of Selective Neurotransmitters in Fetal Brains of Alcohol-Treated Prenatally C57BL/6 mice: Quantitative Analysis Using Liquid Chromatography/Tandem Mass Spectrometry Methods**; Loubna A. Hammad[2]; Youssef Sari[1]; Marwa M. Saleh[2]; Yehia Mechref[2]; *[1]Department of Psychology, Indiana University, Bloomington, IN; [2]Department of Chemistry, Indiana University, Bloomington, IN*

ThP 159 **Matrix-Ionization Laser Desorption (MILD) for Structural Elucidation of Small Molecules**; Asanka S Rathnayake[1]; Sadish Karunaweera[1]; Thushani N. Herath[1]; Ellen D. Inutan[1]; Charles N. Mcewen[2]; J Michael Walker[3]; Sarah Trimpin[1]; *[1]Wayne State University, Detroit, MI; [2]Univ. of the Sciences in PA, Philadelphia, PA; [3]Indiana University, Bloomington, IN*

ThP 160 **How Low Can We Go? An Evaluation of Strategies for Small-Molecule Analysis by MALDI**; Christopher C. Lai; Lawrence R. Phillips; Lyndsay L. Smith; James A. Kelley; *NCI/NIH, Frederick, MD*

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ThP 161 **High-Sensitivity Mass Spectrometric Imaging Applied to the Analysis of TB Drug Distributions in Infected Rabbit Lung**; Brendan Prideaux[1]; Dieter Staab[1]; Veronique Dartois[2]; Anne Goh[2]; Hui Qing Ang[2]; Peiting Zeng[2]; Maxime Herve[2]; Laura Via[3]; Clifton E. Barry[3]; Markus Stoeckli[1]; *[1]Novartis Institutes for BioMedical Research, Basel, Switzerland; [2]Novartis*

Institute for Tropical Diseases, Singapore; [3]National Institutes of Health, Bethesda, MD

ThP 162 **Strategies for Drugs Imaging;** Alice M. Delvolvé; Jeremy Post; Shelley N. Jackson; Amina S. Woods; *NIH/NIDA/IRP, Baltimore, MD*

ThP 163 **Imaging Mass Spectrometry Provides Chemical Makeup of Samples Prepared by Matrix-Assisted Laser Desorption/Ionization Methods**; Thushani N. Herath[1]; Ellen D. Inutan[1]; Steffen M. Wiedner[2]; Sarah Trimpin[1]; *[1]Wayne State University, Detroit, MI; [2]Fed. Inst. of Mat. Research, Berlin, Germany*

ThP 164 **Imaging Melamine in Egg Samples by Surface Desorption Atmospheric Pressure Chemical Ionization Mass Spectrometry**; Haiwei Gu[1,2]; Shuiping Yang[2]; Huanwen Chen[2,3]; Yuling Yang[2]; Bin Hu[2]; Xie Zhang[2]; Yufen Zhou[2]; Lili Zhang[3]; *[1]Validation Resources, LLC, Bend, OR; [2]East China Institute of Technology, Fuzhou, P.R.China; [3]Jilin University, Changchun, P. R. China*

ThP 165 **Quantitatitive Mass Spectrometric Imaging of Endogenous Acetylcarnitine from Piglet Brain Tissue Using Acetyl-d_3-Carnitine as an Internal Standard**; David A. Pirman; Peggy R. Borum; Richard A. Yost; *University of Florida, Gainesville, FL*

ThP 166 **Ambient Molecular Imaging of Matrix-Free Plant Tissues Using Electrospray-Assisted Laser Desorption Ionization Mass Spectrometry**; Siou-Sian Jhang; Min-Zong Huang; Jentaie Shiea; *National Sun Yat-Sen Univ., Kaohsiung, Taiwan*

ThP 167 **Direct Analysis of Irinotecan Metabolites by Accurate Mass and High Resolution Tissue Imaging off Tumor Samples**; Huy Bui[1]; Maria C. Prieto Conaway[1]; Shousong Cao[2]; Farukh Durrani[2]; Youcef Rustum[2]; Ping Wang[2]; Khin Marlar[2]; A. Latif Kazim[2]; *[1]Thermo Fisher Scientific, San Jose, CA; [2]Roswell Park Cancer Institute, Buffalo, NY*

ThP 168 **MALDI Imaging of Pharmaceuticals in Zebrafish for Discovery and Drug Safety Screening**; Stacey R. Oppenheimer[1]; Jiangwei Li[2]; *[1]Pfizer, Groton, CT; [2]Iowa State University, Ames, IA*

ThP 169 **Mass Spectrometric Imaging of AFEX treated Corn Stover**; Zhen Li[1]; Paul Bohn[2]; Jonathan Sweedler[1]; *[1]University of Illinois, Urbana, IL; [2]Notre Dame University, Norte Dame, IN*

ThP 170 **The Use of Imaging MALDI to Probe the Distribution of the Components of Gastropod Mucus**; David Evason[2]; Vic Parr[1]; Mark D. Mills[2]; Alexis Polley[3]; *[1]SAI, LTD., Manchester, UK; [2]SAI, Manchester, UK; [3]SAI Ltd., Manchester, UK*

ThP 171 **MALDI - MS Imaging of Tumour Lipids in DU145 and HCT116 Tumour Xenografts and the Effects of Vinblastine;** Paul J Trim[1]; Kelly M Hearne[2]; Chris Brown[2]; Andrew McEwen[2]; Emmanuelle Claude[3]; Peter S. Marshall[4]; Alessandra P Princivalle[1]; Malcolm Clench[1]; *[1]Sheffield Hallam Uni, UK, Sheffield, UK; [2]Quotient Bioresearch Ltd, Rushden, UK; [3]Waters Corporation, Manchester, UK; [4]GlaxoSmithKline, Stevenage, UK*

ThP 172 **Imaging of Phospholipids in Formalin Fixed Rat Brain Sections via MALDI-MS**; Claire Louise Carter[1]; Cameron McLeod[1]; Josephine Bunch[2]; *[1]The University of Sheffield, Sheffield, UK; [2]University of Birmingham, Birmingham, UK*

ThP 173 **MALDI-FTICR Imaging of Phospholipids in Tissue: More Peaks but More Images?**; Shannon Cornett[1]; Hans Rudolf Aerni[1]; Richard M. Caprioli[2]; *[1]Vanderbilt University, Nashville, TN; [2]Vanderbilt Univ Sch of Med, Nashville, TN*

ThP 174 **A Target Amplification Strategy to Detect Enzyme Activity by Imaging MS**; Junhai Yang[1]; Pierre Chaurand[1]; Ned Porter[1]; Richard M. Caprioli[2]; *[1]Vanderbilt University, Nashville, TN; [2]Vanderbilt Univ Sch of Med, Nashville, TN*

ThP 175 **Determination of Brain Extracted Lipids by Thin-Layer Chromatography – Imaging Desorption Electrospray Ionization (TLC-Imaging DESI);** Demian R. Ifa[1]; Giuseppe Paglia[2]; Gaetano Corso[2]; R. Graham Cooks[1]; *[1]Purdue University, West Lafayette, IN; [2]University of Foggia, Foggia, Italy*

ThP 176 **Mass Spectrometry Imaging of Mating Tetrahymena Thermophila Reveals that Cell Morphology Changes Precede Lipid Domain Formation**; Michael E. Kurczy[1]; Paul D. Piehowski[1]; Michael L Heien[1]; Andrew G. Ewing[1,2]; Nick Winograd[1]; *[1]Penn State University, University Park, PA; [2]Gothenburg University, Gothenburg, Sweden*

ThP 177 **MALDI Imaging of Phospholipids: Validation of Signal Response**; Satu Puolitaival[1]; Stephen Milne[2]; H. Alex Brown[3]; Richard M. Caprioli[4]; *[1]Vanderbilt Univ., Nashville, TN; [2]Vanderbilt Univ. Medical Center, Nashville, TN; [3]VUMC Cancer Research, Nashville, TN; [4]Vanderbilt Univ. Sch of Med, Nashville, TN*

ThP 178 **High Resolution MALDI Imaging of Lipids and Drug Metabolites in Brain Tissue;** Sucharita Dutta[1]; Shelley N Jackson[2]; Alice Devolve[2]; Amina S. Woods[2]; *[1]Thermo Fisher, San Jose, CA; [2]NIDA-IRP, NIH, Baltimore, MD*

ThP 179 **The Localization of Lipids Eye Flat-Mounts by Imaging Mass Spectrometry**; Timothy Garrett; William W. Dawson; Richard A. Yost; *University of Florida, Gainesville, FL*

ThP 180 **Imaging Mass Spectrometry of Antibiotics in *S. epidermidis* Bacterial Biofilms Using Laser Desorption 7.87 eV Postionization**; Gerald Gasper[1]; Ross Carlson[2]; Artem Akhmetov[1]; Jerry F. Moore[3]; Peng Lu[4]; Amy V. Walker[4]; Luke Hanley[1]; *[1]University of Illinois at Chicago, Chemistry, Chicago, Illinois; [2]Montana State University, Bozeman, Montana; [3]MassThink LLC, Naperville, IL; [4]Department of Chemistry, Washington University, St. Louis, MO*

ThP 181 **The Use of MSn and High Resolution MS for the Identification and Imaging of Lipids in Spinal Cord**; Rachelle R. Landgraf[1]; Whitney Stutts[1]; Timothy J. Garrett[1]; Peter W. Stacpoole[1]; Maria C. Prieto Conaway[2]; Richard A. Yost[1]; *[1]Univ. of Florida, Gainesville, FL; [2]Thermo Fisher Scientific, Pleasanton, CA*

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ThP 274 **Mass Spectrometry-Based Characterization of Protein Glutathionylspermidine Modification Using Complementary Dissociation Approaches**; Chi-Chi Chou[1]; Kuan-Ting Pan[1]; Bing-Yu Chiang[2]; Chun-Hung Lin[2]; Kay-hooi Khoo[1,2]; *[1]NRPGM MS Facilities at Academia Sinica, Taipei, Taiwan; [2]IBC, Academia Sinica, Taipei, Taiwan*

ThP 275 **Glutamine Deamidation: Differentiation of Glutamic Acid and γ-Glutamic Acid in Peptides by Electron Capture Dissociation**; Xiaojuan Li[1]; Weidong Cui[1]; Chunxiang Yao[1]; Konstantin Aizikov[1]; Tzu-Yung Lin[1]; Nadezda P. Sargaeva[1]; Cheng Lin[1]; Peter B. O'connor[2]; *[1]Boston University School of Medicine, Boston, MA; [2]University of Warwick, Coventry, UK*

ThP 276 **Improving the Selectivity of Titanium Dioxide-Based Enrichment of Sulfated Peptides**; Katie Hersberger; Kristina Hakansson; *Univ. of Michigan, Ann Arbor, MI*

ThP 277 **SUMOylation of E1: Determination of SAE2 SUMOylated Site Using Multiple Protease Digestion and Liquid Chromatography - Mass Spectrometry**; Khue Truong; Yi-Jia Li; Roger Moore; Terry Lee; Yuan Chen; *City of Hope, Duarte, CA*

ThP 278 **Substrate Specificity of TPST-1 and -2 Using Gastrin mutants: An MS Approach**; Peter J. Ludden[1]; Lieza Marie Danan[2]; Julie A. Leary[1]; *[1]Department of Molecular and Cellular Biology, Davis, CA; [2]Department of Chemistry, Davis, CA*

ThP 279 **Molecular Recognition Specificity and Bioaffinity Quantification in Biopolymer Interaction of Anti-3-Nitrotyrosine Antibody revealed by SAW-ESI-MS and PLIMSTEX**; Mihaela Dragusanu[1]; Brindusa-Alina Petre[1]; Tingting Tu[2]; Michael Gross[2]; Michael Przybylski[1]; *[1]University of Konstanz, Konstanz, Germany; [2]Washington University, St. Louis, Missouri*

ThP 280 **Identifying Characteristic Neutral Mass Losses and Low Mass Ions for Oxidized Amino Acids**; Jessica M. Saladino[1]; Joshua S. Sharp[2]; *[1]Univeristy of Georgia, Athens, GA; [2]University of Georgia, Athens, GA*

ThP 281 **Application of MALDI TOF/TOF CID Tandem Mass Spectrometry for the Rapid Identification of Unknown Disulfide-Bonded Peptides in Protein Digestions**; Dariusz Janecki; Jennifer F. Nemeth; *Centocor R&D, Radnor, PA*

ThP 282 **A Novel Modification in Somatostatin Fragment (7-14) Under Oxidative Stress**; Wei Wu; Peiran Liu; Michael Ackerman; Li Tao; Reb Russell; Michael Grace; *Bristol Myers Squibb Co., Pennington, NJ*

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ThP 285 **Specific Modification of Citrullinated Peptides Facilitates their Identification**; Marlies De Ceuleneer; Kelly Tilleman; Katleen Van Steendam; Dieter Deforce; *Pharmaceutical Biotechnology, Ghent University, Ghent, Belgium*

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ThP 288 **Elucidating Histone PTM Cross-Talk by Quantitative Mass Spectrometry**; Feixia Chu; Shannon M Eliuk; David A Maltby; Robert J Chalkley; Peter R Baker; Barbara Panning; Alma L Burlingame; *UCSF, San Francisco, CA*

ThP 289 **Using Mass Spectrometry to Characterize a Novel PTM in the Escherichia Coli Ribosomal Protein S12**; Michael Brad Strader[1]; Suwako Fujigaki[1]; Cai Yun Chen[1]; Nina Costantino[3]; Anthony J. Makusky[1]; W. Judson Hervy IV[2]; Donald L. Court[3]; Sanford P. Markey[1]; Jeffrey A. Kowalak[1]; *[1]NIMH/ NIH, Bethesda, MD; [2]UT-ORNL, Oak Ridge, TN; [3]NCI/FCRDC, Fredrick, Maryland*

ThP 290 **Histone Isoform Mapping Using Data-Dependent MS/MS of Deutero-Acetylated Tryptic Fragments**; Robert J. Cotter; Dwella Moton Nelson; Katherine Wilson; Rocio Montes de Oca; *Johns Hopkins School of Medicine, Baltimore, MD*

ThP 291 **Targeted Quantitative Analysis of Acetylated Histone H4 sites K5, K8, K12, K16**; Marc Gentzel[1]; Asifa Akhtar[2]; *[1]MPI-CBG, Dresden, Germany; [2]EMBL, Heidelberg, Germany*

ThP 292 **"Bottom-Up" Approaches to Characterizing Novel Post-Translational Modifications on Histones Using an LTQ-OrbitrapXL-ETD**; Dwella Moton Nelson; Rocio Montes de Oca; Katherine Wilson; Robert J. Cotter; *Johns Hopkins University School of Medicine, Baltimore, MD*

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ThP 294 **Minimizing Post Translation Modification Artifacts in Biotherapeutic Proteins**; Ying-qing Yu; Martin Gilar; John Gebler; Joomi Ahn; *Waters Corporation, Milford, MA*

ThP 295 **Comprehensive Analysis of the Arabidopsis Thaliana Leaf and Chloroplast Proteome: Proteotypic Library, Peptide Modifications, and**

Amino Acid Substitutions; Boris Zybailov; Qi Sun; Klaas van Wijk; *Cornell University, Cornell University, Ithaca, NY*

ThP 296 **Analysis of Post-Translationally Modified Peptides Using Synthetic Reference Standards and Tandem Mass Spectra Matching**; Hannes Hahne[1]; Simone M Lemeer[1]; Florian Richter[4]; Mikhail Savitski[2]; Martin Zeller[3]; Markus Boesche[2]; Thomas Moehring[3]; Marcus Bantscheff[2]; Henning Urlaub[4]; Bernhard Kuster[1]; *[1]Technical Universitiy Munich, Freising, Germany; [2]Cellzome AG, Heidelberg, Germany; [3]Thermo Fisher Scientific, Bremen, Germany; [4]MPI Biophysical Chemistry, Göttingen, Germany*

ThP 297 **Comparison of ETD-Trap and Q-TOF for Analysis of Post-Translational Modifications;** Vaibhav Chumbalkar[1]; Vadiraja Bhat[2]; Khatri latha[1]; Rebecca Maywald[1]; Oliver Bogler[1]; *[1]UT MD Anderson Cancer Center, Houston, TX; [2]Agilent Technologies, Wilmington, DE*

ThP 298 **Beyond Monoisotopic Mass: Detection of Peptide PTMs by Isotope Cluster Analysis**; Jonathan A Epstein[1]; Matthew Olson[2]; Kenneth Parker[3]; Peter S. Backlund[1]; Marvin Vestal[3]; Alfred L. Yergey[1]; *[1]NIH, Bethesda, MD; [2]JHMI, Baltimore, MD; [3]Virgin Instruments Corp., Sudbury, MA*

ThP 299 **High Energy Collision Dissociation of Glycopeptides Aiding in Identifying Glycosylation Sites in Proteins**; Zaneer Segu[1,2]; Yehia Mechref[1,2]; *[1]METACyt Biochemical Analysis Center, Bloomington, IN; [2]Dept of Chemistry, Indiana University, Bloomington, IN*

ThP 300 **Advances and Hurdles in O-linked Glycopeptide Analysis;** Zsuzsanna Darula[2]; Katalin F. Medzihradszky[1,2]; *[1]UCSF, San Francisco, CA; [2]Biological Research Center, HAS, Szeged, Hungary*

ThP 301 **Free Dinner: Doubling the Numbers of Identified Phosphopeptides by Converting MS3 Spectra into MS2 Mimics**; Wiebke A Timm[1]; Nurhan Ozlu[2]; Judith Steen[1]; Hanno Steen[1]; *[1]Harvard Medical School/Children's Hospital Boston, Boston, MA; [2]Harvard Medical School, Boston, MA*

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ThP 303 **De-Coupling the Identification and Relative Quantitation of Phopshopeptides Using a Real-Time Combination CID and HCD* Using an LTQ-Orbitrap XL;** Andrew JK Williamson[2]; Yvonne Connolly[1]; Duncan L Smith[1]; *[1]Paterson Institute for Cancer Research, Manchester, UK; [2]SCALPL, University of Manchester, Manchester, UK*

ThP 304 **A Chemical Derivatization, Results-Driven Mass Spectrometry Workflow for Sensitive Identification and Relative Quantification of Tyrosine Phosphorylation Sites;** John R Griffiths; Anthony D Whetton; *University of Manchester, Manchester, United Kingdon*

ThP 305 **MS Characterization of Differentially Modified Isoforms of the Homer2 Scaffolding Protein in Brain;** Rob Helton[2]; Karen K Szumlinski[1]; Christine C Wu[2]; *[1]University of California, Santa Barbara, CA; [2]University of Colorado School of Medicine, Aurora, CO*

ThP 306 **Assessment of Phosphopeptide Enrichment/Precipitation Methods for LC-MS/MS Based Phosphoproteomic Analysis of Plant Tissue**; Juanying Ye[1]; Elena Rudashevskaya[2]; Thomas Aarup Hansen[1]; Anja T. Fuglsang[2]; Michael G. Palmgren[2]; Ole N. Jensen[1]; *[1]University of Southern Denmark, Odense, Denmark; [2]University of Copenhagen, Copenhagen, Denmark*

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ThP 308 **Selective Enrichment and Quantitative Analysis of the Endogenous Serum Phosphorylated Peptides for Potential Disease Biomarker Discovery**; Lianghai Hu[1]; Houjiang Zhou[1]; Lihai Guo[2]; Shutao Sun[1]; Mingliang Ye[1]; Hanfa Zou[1]; *[1]Dalian Chemical Physics Institute, the CAS, Dalian, Liaoning; [2]ASC, Applied Biosystems, Shanghai, China*

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Juan Fernandez de la Mora[1]; *[1]Yale University - Mechanical Engineering Departmen, New Haven, CT; [2]SEADM, Boecillo, Valladolid, Spain; [3]CARTIF, Boecillo, Valladolid, Spain*

ThP 315 **Analysis of Non-ionic Surfactants on the Surface of Coated Acrylic Paints by Desorption Electrospray Ionization Mass Spectrometry**; Chengli Zu; Greg Meyers; Bruce Bell; Melinda Keefe; *Dow Chemical Company, Midland, MI*

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ThP 317 **Continuously Monitoring the States of nano-TiO2 Catalyzed Photo Reactions with Liquid Electrospray-assisted Laser Desorption Ionization Mass Spectrometry**; Cheng-Hui Yuan; Hsin-Hui Liang; Jentaie Shiea; *National Sun Yat-Sen Univ., Kaohsiung, Taiwan*

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ThP 319 **Preparation and Rapid Analysis of Dry Powders with an Ambient Pressure Desorption Ionization Equipped Mass Spectrometer**; Brian D. Musselman; Elizabeth Crawford; Jordan Krechmer; *IonSense, Inc., Saugus, MA*

ThP 320 **Instant Quality Control of Biodiesel Made from Used Frying Oil by Easy Ambient Sonic-Spray Ionization Mass Spectrometry**; Rosana Maria Alberici[1]; Vanderlea de Souza[2]; Gilberto Fernandes de Sá[3]; Romeu Jose Daroda[2]; Marcos Nogueira Eberlin[1]; *[1]ThoMSon Mass Spectrometry Laboratory-UNICAMP, Campinas, SP, Brazil; [2]National Institute of Metrology-INMETRO, Duque de Caxias, RJ, BRAZIL; [3]Department of Fundamental Chemistry, UFPE, Recife, PE, Brazil*

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ThP 323 **Electrospray-Assisted Laser Desorption Ionization (ELDI) with an Infrared OPO Laser for Characterization of Peptides and Proteins**; Mark Little[1]; Ivory Peng[2]; Rachel O. Loo[2]; Eli Margalith[1]; Joseph A. Loo[2]; *[1]Opotek, Inc., Carlsbad, CA; [2]UCLA, Los Angeles, CA*

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ThP 328 **On-Line Infrared Matrix-Assisted Laser Desorption Electrospray Ionization Mass Spectrometry**; Fan Huang; Kermit K. Murray; *Louisiana State University, Baton Rouge, LA*

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Laboratory, Billerica, MA; [3]O.I. Analytical, Pelham, AL

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ThP 341 **On-Line Reactors Enabling Fast Gas Chromatography (GC) and Comprehensive 2D GC (GCxGC) Coupled to Isotope Ratio Mass Spectrometry (IRMS)**; Herbert Tobias; J Thomas Brenna; *Cornell University, Ithaca, NY*

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ThP 344 **Ultra fast Proton-Transfer-Reaction Mass Spectrometry - Development of a Novel Drift Tube Design**; Alfons Jordan[1]; Stefan Haidacher[1]; Gernot Hanel[1]; Eugen Hartungen[1]; Hans Seehauser[1]; Ralf Schottkowsky[1]; Philipp Sulzer[1]; Lukas Maerk[1]; Tilmann Märk[1,2]; *[1]Ionicon Analytik, Innsbruck, Austria; [2]Universität Innsbruck, Innsbruck, Austria*

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ThP 346 **The Performance of a MALDI LTQ Orbitrap and its Application to the Study of Protein Complexes**; Yang Luo; Tuo Li; Fang Yu; A. Chase Palish; Tal Kramer; Ileana M. Cristea; *Princeton University, Princeton, NJ*

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ThP 348 **Planar High Field Asymmetric Ion Mobility Spectrometry Device Utilizing Temperature Control of Carrier Gas and Electrodes**; Mark Ridgeway[1]; Philip M Remes[2]; Gary L. Glish[1]; *[1]University of North Carolina, Chapel Hill, NC; [2]Thermo Fisher Scientific, San Jose, CA*

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ThP 351 **New Ion Source for Inductively Coupled Plasma Mass Spectrometry with Low Argon Consumption (UMAS Ion Source)**; Wolfgang Buscher[1]; Thorben Pfeifer[1]; Michael Sperling[1,2]; *[1]University of Muenster, Muenster, Germany; [2]EVISA Europ. Virtual Inst. for Speciation Analysis, Muenster, Germany*

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ThP 355 **Improved Bioanalysis of Antidepressants from Plasma Using Non-Drip Filtration Plates**; Eugene Chang; David Jones; Ritu Arora; *Varian Inc., Lake Forest, CA*

ThP 356 **A Simple Way to Remove Phospholipids from Bioanalytical Samples;** Ben Yong[1]; William Hudson[1]; David Jones[2]; Yung-Lin Chen[2]; *[1]Varian, Inc., Lake Forest, CA; [2]Varian Inc., Lake Forest, CA*

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ThP 358 **The Use of Liquid-Liquid Extraction along with Colloidal Silica and Polyvalent Cations to Remove Phospholipids that Produce ESI Matrix Effects**; Dale Schoener; Stan Murakami; *Alta Analytical Laboratory, El Dorado Hills, CA*

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ThP 360 **Determination of Topiramate in Human Plasma Using Negative Ion ESI-LC/MS/MS**; Song Zhao; Moucun Yuan; William R. Mylott; Bruce Hidy; Rand Jenkins; *PPD, Richmond, VA*

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ThP 364 **Selection of Buffer Additives for Liquid-Liquid Extraction (LLE) Procedure to Remove Matrix Effect Due to Phospholipids in LC-MS/MS**; Melanie Bergeron; Mathieu Lahaie; Milton Furtado; Fabio Garofolo; *Algorithme Pharma Inc., Laval (Montreal), Quebec, Canada*

ThP 365 **Method Development Strategies for Improving ISR Reproducibility - Use of Surfactants for Success**; Roger Demers; Daria L Wentzel; *Tandem Labs, West Trenton, NJ*

ThP 366 **Potential Ion Suppression from the Individual Components of Cannula Locking Solutions used in Rodent Studies**; Daniel G. Morgan[1]; Sarah J. Taylor[1]; Marc Browning[1]; Timothy Olah[2]; *[1]Bristol-Myers Squibb, Wallingford, CT; [2]Bristol-Myers Squibb Company, Lawrenceville, NJ*

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ThP 455 **New Insights into the Degradation of Neuropeptides by Metalloendopeptidases**; Markus Hardt[1]; Richard Niles[2]; Graeme S. Cottrell[2]; Nigel Bunnett[2]; *[1]Boston Biomedical Research Institute, Watertown, MA; [2]Univ. of CA San Francisco, San Francisco, CA*

ThP 456 **Characterization of Drosophila Melanogaster Neuropeptides by MALDI-FT-ICR Imaging MS, MALDI-TOF MS, and MALDI-TOF/TOF MS**; Kristin J. Boggio[1]; Yun-Wei A. Hsu[1]; Paul J. Kowalski[2]; Michael L. Easterling[2]; Michael Rosbash[1]; Jeffrey N. Agar[1]; *[1]Brandeis University, Waltham, MA; [2]Bruker Daltonics Inc., Billerica, MA*

ThP 457 **Use of an Antibody Functionalized Surface Specific for Amyloid Precurser Protein in Detection of Beta Amyloid Fragments by Mass Spectrometry**; Steve Roth[1,1]; Vanitha Thulasiraman[1,2]; Amanda Bulman[1,2]; Fiona Plows[1,3]; Mariana Rusa[1,2]; Matthew Hammond[1,4]; *[1]Fremont, CA; [2]Bio-Rad Laboratories, Hercules, CA; [3]Bio-Rad Laboratories, Inc., Hercules, CA; [4]Stanford University, Stanford, CA*

ThP 458 **Mapping Neuropeptide Expression in Single Identified Neurons in the Nematode Ascaris Suum**; Jessica Jarecki; Kari Andersen; Martha M. Vestling; Antony O. Stretton; *Univ. of Wisconsin, Madison, WI*

ThP 459 **C-Terminal Methyl Esterification During Neuropeptide Extraction**; Elizabeth A. Stemmler[1]; Elizabeth E. Barton[1]; Laura L. Onderko[1]; Andrew E. Christie[2]; Patsy S. Dickinson[1]; *[1]Bowdoin College, Brunswick, ME; [2]Mount Desert Island Biological Laboratory, Salisbury Cove, ME*

ThP 460 **Exploring the Functional Consequences of Neuropeptide Diversity by MALDI Mass Spectrometry**; Limei Hui; Ruibing Chen; Lingjun Li; *Univ. of Wisconsin-Madison, Madison, WI*

ThP 461 **MS-Based Characterization of Neuropeptides Present in and Released from the Suprachiasmatic Nucleus**; Shifang Ren; Norman Atkins; Ji Eun Lee; Nathan G. Hatcher; Martha U. Gillette; Neil L. Kelleher; Jonathan Sweedler; *University of Illinois at Urbana-Champaign, Urbana, IL*

ThP 462 **Using Deuterium Exchange Electrospary Mass Spectrometry to Evaluate Inhibitors of Amylooid-β Oligomerization**; Zijuan Zhang; Jason J. Evans; Marrianna Torok; *Univ. of Massachusetts, Boston, MA*

ThP 463 **High Throughput Single Cell MALDI-MS**; Stanislav Rubakhin[1]; Jonathan Sweedler[2]; *[1]Beckman Institute, UIUC, Urbana, IL; [2]University of Illinois, Urbana, IL*

ThP 464 **Characterization of Signaling Peptides in Sensory Neurons by MALDI-TOF and LC-ESI-qTOF Mass Spectrometry**; Elena V. Romanova[1]; Stanislav S. Rubakhin[1]; Ferdinand S. Vilim[2]; Jonathan V. Sweedler[1]; *[1]University of Illinois, Urbana, IL; [2]Mount Sinai School of Medicine, New York, NY*

ThP 465 **Development and Application of Quantitation via In Cell Combination (QUICC) Methodology for MALDI FTMS Analysis of Neuropeptides in Environmental Stress**; Yuzhuo Zhang; Ruibing Chen; Lingjun Li; *University of Wisconsin, Madison, WI*

ThP 466 **Discovery of Novel Neuropeptides and Processing Mechanisms Using Mass Spectrometry**; Nitin Gupta; Steven Bark; Weiya Lu; Laurent Taupenot; Daniel O'Connor; Pavel Pevzner; Vivian Hook; *UCSD, La Jolla, CA*

ThP 467 **MALDI-MS Probing of Non-Covalent Protein Complexes Related to Alzheimer's Disease**; Basri Gülbakan[1]; Bekir Salih[2]; *[1]University of Florida, Gainesville, Florida; [2]Hacettepe University, Ankara, Turkey*

ThP 468 **Peptidomic Profiling of Secreted Products from Cardiomyocytes Reveals Novel Natriuretic Peptide Processing**; Nancy Andon; James Bilakovics; Svetlana Nikoulina; Kevin McCowen; Steven Taylor; *Amylin Pharmaceuticals, Inc., San Diego, CA*

ThP 469 **Expression and Distribution of Neuropeptides in the Nervous System of the Lobster Homarus Americaus and their Roles in Development**; Ruibing Chen; Xiaoyue Jiang; Lingjun Li; *UW, Madison, Madison, WI*

ThP 470 ***In vivo* Monitoring of Dose Dependent Dynamic Changes of Endogeneous Enkephalins by Microdialysis with Capillary LC Multistage MS**; Qiang Li; Jon-Kar Zubieta; Robert Kennedy; *University of Michigan, Ann Arbor, MI*

ThP 471 **Inhibition of Prohormone Convertase 1/3 Peptide Hormone Processing by Organophosphate Treatment**; Sean Harshman; William C. Grunwald, Jr; David Cool; *Wright State University, Dayton, OH*

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ThP 472 **Analysis and Characterization of Stigmoid Bodies**; Cathleen Duffy[1]; Bingxing Shi[1]; Karina Tuz[1]; John Walsh[1]; Jeff Ault[2]; Russell J. Ferland[1]; Mark D. Platt[1];

[1]Rensselaer Polytechnic Institute, Troy, NY; [2]The Wadsworth Center, Albany, NY

ThP 473 **Identification of Protein Differences in the *C.elegans* Insulin Signaling Pathway**; Gennifer Merrihew; Gregory L. Finney; Michael J. Maccoss; *University of Washington, Seattle, WA*

ThP 474 **Novel Interacting Partners of the Escherichia Coli Poly(A) Polymerase I (PAPI): *in vivo* Evidence for Interaction with the Degradosome**; Valerie J. Carabetta; Thomas J. Silhavy; Ileana M. Cristea; *Princeton University, Princeton, NJ*

ThP 475 **Label-free Proteomic Expression Profiling of Haemophilus Influenza with a High Proteomic Coverage by Dual-Enzymatic Digestion and Long Gradient Nano-LC/Orbitrap**; Jun Li; Timonthy Murphy; Aimee Braue; Xiaotao Duan; Robert Straubinger; Jun Qu; *University at Buffalo, Amherst, NY*

ThP 476 **Redox-Dependent Disulfide Formation in the Zinc-Finger Motif of the SAP30L Co-repressor Protein Studied by ESI FT-ICR Mass Spectrometry**; Janne Jänis[1]; Mikko Laitaoja[1]; Keijo Viiri[2]; Jarkko Valjakka[2]; Olli Lohi[2]; Perttu Permi[3]; Tero Pihlajamaa[3]; Helena Tossavainen[3]; Pirjo Vainiotalo[1]; *[1]University of Joensuu, Joensuu, Finland; [2]University of Tampere, Tampere, Finland; [3]University of Helsinki, Helsinki, Finland*

ThP 477 **Analysis of Cross-Linked Cu/Zn-Superoxide Dismutase (SOD1) Associated with Familial Amyotrophic Lateral Sclerosis by MALDI-TOF MS and FT-ICR MS**; Jared R. Auclair; Kristin J. Boggio; Dagmar Ringe; Gregory A. Petsko; Jeffrey N. Agar; *Brandeis University, Waltham, MA*

ThP 478 **Complexes of Perfluorooctanoic Acid (PFOA) and Liver Fatty Acid Binding Protein Probed by Electrospray-Tandem Mass Spectrometry (ESI-MS/MS)**; Raymond E. March[1]; Naomi L. Stock[2]; Kyle Trumpour[1]; Mark Woodcroft[3]; Steven P. Rafferty[1]; David A. Ellis[1,4]; *[1]Department of Chemistry, Trent University, Peterborough, Canada; [2]Worsfold Water Quality Centre, Trent University, Peterborough, Canada; [3]Department of Biochemistry, Queen's University, Kingston, Canada; [4]Canadian Environmental Modelling Centre, Peterborough, Canada*

ThP 479 **Utilization of a Flow through Membrane Electrospray Probe for Online H/D Exchange ESI-MS**; Thomas P. White[1]; Juan Astorga-wells[2]; Tomas Bergman[2]; Hans Jornvall[2]; Thorleif Lavold[3]; Craig M. Whitehouse[1]; *[1]Analytica of Branford, Inc., Branford, CT; [2]Karolinska Institutet, Stockholm, Sweden; [3]Biomotif AB, Danderyd, Sweden*

ThP 480 **Mass Spectrometry-Based Footprinting of HIV-1 Integrase in Complex with a Cellular Cofactor**; Christopher Mckee; Jacques J. Kessl; Jocelyn O. Norris; Nikolozi Shkriabi; Mamuka Kvaratskhelia; *The Ohio State University, Columbus, OH*

ThP 481 **Qualitative and Quantitative Analysis of Programmed Ribosomal Frameshifting by Multiple Reaction Monitoring**; Yong Seok Choi[1]; Pei-Yu Liao[2]; Kelvin H. Lee[1]; *[1]University of Delaware, Newark, DE; [2]Cornell University, Ithaca, NY*

ThP 482 **Reconstituted Nucleosomes Containing Recombinant Human Histones for Mass Spectrometry-Based Biophysical Studies**; Sandya Ajith; Stacey Wood; Tanya Panchenko; Ben E. Black; *University of Pennsylvania, Philadelphia, PA*

ThP 483 **Thermodynamic Analysis of Protein-Ligand Binding Interactions Using SPROX**; Graham M West; Stephanie Cordato; Michael C. Fitzgerald; *Duke University, Durham, NC*

ThP 484 **Elucidation of the Binding of Abeta 1-40 with Human Apolipoprotein E3 by FPOP Labeling;** Brian C. Gau; Michael L. Gross; *Washington University, St. Louis, MO*

ThP 485 **Rapid, Isotope-Coded Method for Mapping Protein-Protein and Protein-Ligand Interactions**; Katina L Johnson; Matthew J Cuneo; Robert E London; Kenneth B Tomer; Jason G Williams; *NIEHS, NIH, DHHS, Research Triangle Park, NC*

ThP 486 **Identification of Gli2 Protein Complexes in Mammalian Cells Using Nano-LC-MSMS and MALDI-TOF/TOF**; Min Du; Ke Lu; Charles P. Emerson; *Boston Biomedical Research Institute, Watertown, MA*

ThP 487 **Biochemical and Functional Characterization of Serine Protease HTAR1 in Human Retinal Pigment Epithelial Cell Secretome;** Eunkyung An[1,2]; Supti Sen[2]; Heather Gordish-Dressman[2]; Kristy J. Brown[2]; Yetrib Hathout[2]; *[1]The George Washington University, Washington, DC; [2]Children's National Medical Center, Washington, DC*

ThP 488 **States of DNA Packaging Motors in Bacteriophage: Characterization of Proteins by Mass Spectrometry**; Susan T. Weintraub; Elena T. Wright; Kevin W. Hakala; Philip Serwer; *University of Texas HSC, San Antonio, TX*

ThP 489 **Protein Interactions of the Telomerase Holoenzyme in Saccharomyces Cerevisiae and Schizosaccharomyces Pombe**; Karin R. McDonald; Virginia A. Zakian; Ileana M. Cristea; *Princeton University, Princeton, NJ*

ThP 490 **The CrkRS/CDK12 Kinase is Activated by a Novel Isoform of Cyclin K and Phosphorylates the C-Terminal Domain of RNA Pol2**; Annie Moradian[1]; Michael Kuzyk[2]; S.-W. Grace Cheng[1]; Jerry Tien[3]; Emily Schaeffer[3]; Gregg Morin[1,3]; *[1]Genome Sciences Centre, BC, Vancouver, Canada; [2]University of Victoria Genom, Victoria, BC; [3]University of British Columb, Vancouver, BC*

ThP 491 **Profiling Akt-Interacting Proteins in Neuronal Cells**; Bill Huang; Hee-yong Kim; *National Institutes of Health, Bethesda, MD*

ThP 492 **Using Different Mass Spectrometry Approaches to Study PKA Interactome**; Yurong Guo[1]; Yuliang MA[1]; Susan S Taylor[1,2]; *[1]HHMI, San Diego, CA; [2]UCSD, San Diego, CA*

ThP 493 **Beam-type CID of Whole Protein Ions in Excess of 35 kDa;** Chamnongsak Chanthamontri; Scott A. Mcluckey; *Purdue University, West Lafayette, IN*

ThP 494 **Optimization and Evaluation of Subcellular Fractionation Method for Global Proteomic Analysis**; Jong-won Kim; *Monarchlifesciences, Indianapolis, IN*

ThP 495 **Mass Defect Analysis of Tryptic Peptides from Human Biofluids: A Fresh Look**; Melinda L Toumi; Heather Desaire; *University of Kansas, Lawrence, KS*

ThP 496 **Evaluation of Dynamic Range of Protein Identification and Quantification by LC-MSMS**

Using a Proteomics Dynamic Range Standard Mixture; Suya Liu; Gilles Lajoie; *University of Western Ontario, London, ON, Canada*

ThP 497 **Cleavable Affinity Extraction and Mass Spectrometric Analysis of Small Molecule-Binding Proteins**; Nariyasu Mano[1,2]; Koichi Sato[2]; Kohei Abe[1,2]; Masaru Mori[2]; Hiroaki Yamaguchi[1,2]; Takaaki Goto[2]; Miki Shimada[1,2]; Junichi Goto[1]; *[1]Tohoku University Hospital, Sendai, Japan; [2]Tohoku University, Sendai, Japan*

ThP 498 **Study of Proteolytic Digestion Efficiencies Under Conventional Heating and Microwave Irradiation Using MALDI-MS**; Chia-chen Chen; Mei-chuan Sun; Jun-Fu Hu; Yen-Peng Ho; *National Dong Hwa University, Taipei, Taiwan*

ThP 499 **High-Speed, High-Resolution Antibody Analysis Using sub2 Micron Columns for Peptide Mapping and Intact Protein Characterization**; Reno Nguyen; Scott Anderson; Mark Jacyno; Wendy Luo; Ian Chappell; *Grace Davison, Deerfield, IL*

ThP 500 **Temperature Effect on Ultrasound-Assisted Tryptic Digestion of Proteins**; Seongjae Shin; Jinhee Kim; Hyo-jik Yang; Gae Ho Lee; Jeongkwon Kim; *Chungnam National University, Daejeon, South Korea*

ThP 501 **Finding the Needles in the Hay Stack – Identifying Interacting Regions through Cross-Linking**; A. Jimmy Ytterberg[1]; Elena E. Grintsevich[2]; Dmitri S. Kudryashov[2]; Zeynep A. Oztug Durera[2]; Emil Reisler[2]; Ole N. Jensen[1]; Joseph A. Loo[2]; *[1]University of Southern Denmark, Odense, Denmark; [2]UCLA, Los Angeles, CA*

ThP 502 **Evaluation of Cross-Linker and Protein Dynamics in Cross-Linking Coupled to Mass Spectrometry Experiments**; Alana Dos Reis Figueiredo; Paulo C. T. Souza; Munir S. Skaf; Fabio C Gozzo; *Institute of Chemistry - University of Campinas, Campinas, Brazil*

ThP 503 **Protein Footprinting by Peroxide Photolysis Using Hg Lamp and 213 nm Laser as Radiation Sources**; Eduardo J Pilau; Alexandre F. Gomes; Marcelo A. O. Silva; Marco Aurelio Z. Arruda; Fabio C Gozzo; *IQ - University of Campinas, Campinas, Brazil*

ThP 504 **Use of Marker Ions and High Resolution Precursor Ion Scan for the Identification of Cross-linked Peptides**; Fabio C Gozzo; Amadeu H Iglesias; Luiz Fernando Arruda Santos; *IQ - University of Campinas, Campinas, Brazil*

ThP 505 **Enhanced Detection of Intact Proteins by Nanolc-MS Using a Novel Trapping Mode on a Hybrid Linear Ion Trap Mass Spectrometer**; Paul Drogaris[2,6]; Feng Zhong[1]; J.c. Yves Leblanc[1]; Alain Verreault[2,4]; Jennifer Fitzgerald[5]; Noel Lowndes[5]; Pierre Thibault[3,6]; *[1]MDS Analytical Technologies, Concord, ON, Canada; [2]Université de Montréal, Montréal, QC; [3]Univ.of Montreal, Montreal, QC; [4]Dept.Pathology & Cell Biology (U de Montreal), Montreal, Canada; [5]Dept. Biochemistry National University of Ireland, Galway, Ireland; [6]Institue for Research in Immunology and Cancer, Montreal, Canada*

ThP 506 **Extraction and Identification of Proteins from a Pottery Matrix Using Microwave-Assisted Enzymatic Digestion and Tandem Mass Spectrometry**; Andrew Barker[2]; Steve Wolverton[2]; Barney Venables[2]; Stanley M. Stevens, Jr. [1]; *[1]University of South Florida, Tampa, FL; [2]University of North Texas, Denton, TX*

ThP 507 **Specific Non-covalent Complex between the Major-Sperm-Protein Homology Domain of a Vesicle-Associated-Membrane-Protein-Associated Protein (VAP) and FFAT-Motif Peptides in the Gas Phase**; Thomas A. Shaler[1]; Stephen E. Kaiser[2]; Chris Becker[1]; *[1]PPD Biomarker Discovery Sciences, Menlo Park, CA; [2]Stanford University, Stanford, CA*

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ThP 508 **Development and Application of X-Ray Footprinting (XF) for Structural Studies of Integral Membrane Proteins**; Sayan Gupta; Mark Chance; *Case Western Reserve Univers, Upton, NY*

ThP 509 **Dissecting the Platelet Proteome by Mass Spectrometric Approaches for Subcellular Protein Inventories Including Analysis of Phosphorylations and Glycosylations**; Urs Lewandrowski[1]; René P. Zahedi[1]; Stefanie Wortelkamp[1]; Katharina Lohrig[2]; Albert Sickmann[1]; *[1]Institute for Analytical Sciences, Dortmund, Germany; [2]Ruhr-University-Bochum, Bochum, Germany*

ThP 510 **Topological Study of Membrane Proteins by Fenton Oxidation and Mass Spectrometry**; Hye Kyong Kweon; Xuequn Chen; Philip Andrews; *The University of Michigan, Ann Arbor, MI*

ThP 511 **Cysteine Chemical Cleavage-Assisted Tryptic Digestion for Membrane Proteomics**; Mio Iwasaki[1,2]; Takeshi Masuda[2]; Masaru Tomita[1,2]; Yasushi Ishihama[2,3]; *[1]Keio University, Fujisawa, Japan; [2]Institute for Advanced Biosciences Keio University, Tsuruoka, Japan; [3]Presto, Japan Science and Technology Agency, Tokyo, Japan*

ThP 512 **Diagnostic Cell Surface Protein Barcodes of Blood Cancers**; Andreas J Hofmann[1]; Bertran Gerrits[2]; Silvia Behnke[3]; Alexander Schmidt[1]; Thomas Bock[1]; Damaris Bausch-Fluck[1]; Ruedi Aebersold[1]; Holger Moch[3]; Marianne Tinguely[3]; Bernd Wollscheid[1]; *[1]Swiss Federal Institute of Technology, Zurich, Switzerland; [2]Functional Genomics Center Zurich, Zurich, Switzerland; [3]University Hospital Zurich, Zurich, Switzerland*

ThP 513 **Isolation and Characterization of the Human Sigma-1 Receptor Using Novel Affinity Ligand Purification and Mass Spectrometry**; Hongbo Gu; Carthene R. Bazemore-Walker; *Brown University, Providence, RI*

ThP 514 **Quantitative MS-Based Proteomics Strategy to Decipher Both Stable and Transient Interactors of Membrane Proteins in Yeast Peroxisomes**; Silke Oeljeklaus[1]; Benedikt S. Reinartz[1]; Michael Kohl[1]; Christian Stephan[1]; Ralf Erdmann[2]; Helmut E. Meyer[1]; Bettina Warscheid[1]; *[1]Medizinisches Proteom-Center, Bochum, Germany; [2]Department for Systems Biochemistry, Bochum, Germany*

ThP 515 **Comprehensive Proteomic Analysis of Yersinia Pestis Membrane Proteins**; Moo-Jin Suh[1]; Rembert Pieper[1]; Shih-Ting Hung[1]; David J. Clark[1]; Jeffrey M. Robinson[1]; Hamid Alami[1]; Prashanth P. Parmar[1]; Srilatha Kuntumalla[1]; Christine L. Bunai[1]; Robert D. Perry[2]; Robert D. Fleischmann[1]; Scott N. Peterson[1]; *[1]J Craig Venter Institute, Rockville, MD; [2]Department of Microbiology, University of Kentucky, Lexington, KY*

ThP 516 **Quantitative Proteomics Analysis of Cell Surface Caveolae in Mammary Epithelial Tumor Cells**; Yu

Zi Zheng; Ivan R. Nabi; Leonard J. Foster; *Univeristy of British Columbia, Vancouver, Canada*

ThP 517 **Analysis of the Membranome of Breast Cancer Cell Lines by Comparative Shotgun Proteomics Identifies Tumor Associated Antigens**; Lori C Stansberry; Eberhard Durr; Mark A Miller; Joseph G. Joyce; Loren D. Schultz; *Merck and Co., West Point, PA*

ThP 518 **The Membrane Topology and the Dynamics of Melittin within the Liposomes**; Kazumi Saikusa; Yo Kono; Shunsuke Izumi; *Graduate School of Science, Hiroshima University, Higashihiroshima, Japan*

ThP 519 **Determination of Membrane Protein Topology Expressed in a Wheat Germ Cell-Free Expression System Using Proteolysis Reactions and Mass Spectrometry**; Mark Scalf; Michael A. Goren; Mathew R. Lockett; Brian G. Fox; Lloyd M. Smith; *University of Wisconsin, Madison, WI*

ThP 520 **A Structural Investigation into the CB2 Receptor Using Covalent Ligands**; Dennis Szymanski[1]; Malvina Papanastasiou[2]; Alexander Makriyannis[1]; *[1]Center for Drug Discovery, Boston, MA; [2]Northeastern University, Boston, MA*

ThP 521 **Proteomics Analysis of Mitotic Golgi Disassembly and Reassembly Using a Reconstitution System**; Xuequn Chen; Eric Simon; Maureen Kachman; Yanzhuang Wang[1]; Philip Andrews[2]; *[1]The University of Michigan, Ann Arbor*

ThP 522 **Observation of Processed Proteins by ID Gel LC-MS/MS and Scaffold Data Visualization Software**; Randy J. Arnold; Rohini R. Kohli; Richard W. Hardy; *Indiana University, Bloomington, IN*

ThP 523 **Investigation of Protein Interactions of Gamma-Glutamyl Carboxylase and Vitamin K-Dependent Substrates Using Covalent Crosslinking and Mass Spectrometry**; Christine Hebling; James Jorgenson; *University of North Carolina, Chapel Hill, NC*

ThP 524 **Efficiency Comparison of Magnetic and Conventional Protein A/G Beads for Membrane Protein Immunoprecipitation for MS Analysis**; Hui Jiang; Alexis Ramos; Xudong Yao; *Department of Chemistry, University of Connecticut, Storrs, CT*

ThP 525 **Approaching the Complexity of Membrane Proteomes Digested with Elastase Using IEF/nLC-MALDI-MS/MS**; Benjamin Rietschel[1]; Tabiwang N. Arrey[1]; Bjoern Meyer[1]; Sandra Bornemann[1]; Dimitrios Papasotiriou[1]; Ansgar Poetsch[2]; Michael Karas[1]; *[1]University Frankfurt, Frankfurt, Germany; [2]University Bochum, Bochum, Germany*

ThP 526 **In-Gel Digestion of Mouse Membrane Protein Extract: 85% Increase in Peptide Recovery and Identification of Very Low Abundance Hydrophobic Proteins**; Chris Adams[1]; Allis S. Chien[1]; Daniel J. Simpson[2]; Bill Dailey[2]; Sergei Saveliev[2]; *[1]Stanford Univ., Stanford, CA; [2]Promega Corp., Madison, WI*

ThP 527 **Development of LC and LC-MS/MS Methods for the Analysis of p14 Fusion-Associated Small Transmembrane Protein**; Reno Nguyen[1]; Wendy Luo[1]; Roberto de Antueno[2]; Roy Duncan[2]; *[1]Grace Davison Discovery Scie, Deerfield, IL; [2]Dalhousie University, Nova Scotia, Canada*

ThP 528 **Sequential Gel-Assisted Digestion for Concomitant Analysis of Phosphorylated and Glycosylated Membrane Proteome**; Chih-Wei Chien[1]; Chia-li Han[2]; Chia-feng Tsai[2]; Yi Ting Wang[2]; Yu-ju Chen[2]; *[1]Dep. of Chemistry National Tsing Hua Univercity, Hsinchu, Taiwan; [2]Institute of Chemistry, Academia Sinica, Taipei, Taiwan*

ThP 529 **Determination of GTPase Expression in Membrane and Cytosolic Fractions after Bisphosphonate Treatment**; Marjo Jauhiainen[1,3]; Seppo Auriola[1]; Hannu Mönkkönen[1,2]; Michel Boutin[3]; Jukka Mönkkönen[1]; Pierre Thibault[3]; *[1]University of Kuopio, Kuopio, Finland; [2]INSERM, Universite Claude Bernard Lyon, Lyon, France; [3]Université de Montréal, Montreal, Canada*

ThP 530 **Isolation and Mass Spectrometric Analysis of Integral Membrane Proteins and their Interacting Partners**; Kwangwon Lee; Anne M. Distler; Micelle Jennings; Janos Kerner; Charles Hoppel; *Case Western Reserve Univers, Cleveland, OH*

ThP 531 **Mass Spectrometric Analysis of the GPCR AIDS Virus Co-receptor, CXCR4**; Ting Liu; Joyce Brewer; Royce Wilkinson; John Mills; Martin Teintze; Edward Dratz; *Montana State University, Bozeman, MT*

ThP 532 **The Composition of Integrin Beta 1 Complexes Investigated by Formaldehyde Cross-Linking and Mass Spectrometry**; Cordula Klockenbusch; Juergen Kast; *University of British Columbia, Vancouver, Canada*

PROTEINS: RECOMBINANT, 533 - 551

ThP 533 **Methods for Rapid Characterization of O-Linked Glycosylation in a Yeast Derived Recombinant GM-CSF Protein;** Melissa Zolodz; Halyna E. Narepekha; Justin Sperry; James Carroll; Ned M. Mozier; *Pfizer, Chesterfield, MO*

ThP 534 **An Alternative Approach for Characterization of Impurities and Site-specific Modifications in Protein Drugs**; Hongwei Xie; Martin Gilar; John C. Gebler; *Waters Corporation, Milford, MA*

ThP 535 **Identification and Quantification of Post-Translational Modifications of Monoclonal Antibodies by Top-Down HPLC/MS**; Pavel V. Bondarenko; Gang Xiao; Jason L. Richardson; Thomas M. Dillon; Da Ren; Zhongqi Zhang; *Amgen Inc., Thousand Oaks, CA*

ThP 536 **Emerging Role of Top Down LC/MS Analysis in Biopharmaceutical Characterization and Release Testing;** Himanshu Gadgil; David Hambly; Da Ren; Michael J Treuheit; Bruce Kerwin; *Amgen Inc., Seattle, WA*

ThP 537 **Application of Analytical Methods to Characterize Protein Aggregation for a Biopharmaceutical Drug Program**; Jennifer F. Nemeth; Michael Brigham-Burke; Audrey Baker; Eilyn Lacy; Cathy Gress; Angela Interrante; Yun Seung Kyung; Justin Sprenkle; *Centocor R&D, Radnor, PA*

ThP 538 **Characterizing Five Deamidation Products from a Single Asparagine Residue in Recombinant mAb's Through LC-MS Peptide Mapping;** Adam W. Lucka; Rekha Patel; Christine Nowak; Bruce Andrien; *Alexion Pharmaceuticals, Cheshire, CT*

ThP 539 **Withdrawn**

ThP 540 **Novel LC-MS and Gel LC-MS Platforms with Electron Transfer Dissociation for the Characterization of Therapeutic Monoclonal Antibodies**; Yi Wang; Cheryl Lu; Shiaw-lin Wu;

William S. Hancock; *Northeastern University, Boston, MA*

ThP 541 **Quantitation of Glycoforms in Recombinant IgG Antibody by LC/MS**; Carola WN Damen[2]; Jeff Mazzeo[1]; Asish Chakraborty[1]; Weibin Chen[1]; *[1]Waters Corporation, Milford, MA; [2]Dept. of Pharmacy,The Netherland Cancer Inst, Amsterdam, The Netherlands*

ThP 542 **2D SEC – RP LC/MS for the Analysis of Difficult Recombinant Protein Samples**; Wendy L. White; Jon D. Williams; *GlaxoSmithKline, Rtp, NC*

ThP 543 **Top-Down High Resolution Tandem Mass Spectrometry for Characterization of Conserved Automethylation in Coactivator Associated Arginine Methyltransferase 1**; Peter Kuhn; Qingge Xu; Erika Cline; Di Zhang; Ying Ge; Wei Xu; *University of Wisconsin-Madison, Madison, WI*

ThP 544 **Straight Protein QC by Benchtop MALDI-TOF Top-Down Sequencing**; Darwin Asa[1]; Anja Resemann[2]; Detlev Suckau[2]; Arndt Asperger[2]; *[1]Bruker Daltonics Inc, Billerica, MA; [2]Bruker Daltonik GmbH, Bremen, Germany*

ThP 545 **Enhanced Utility of the Advion Triversa Ion Source for Protein Characterization in the Biopharmaceutical Industry**; Steven C. Pomerantz; Jennifer F. Nemeth; *Centocor Research and Development, Radnor, PA*

ThP 546 **Isolation and Characterization of GST-Fusion Proteins by GSH-Bound Gold Nanodots for MALDI MS Analysis**; Cheng-Tai Chen[1]; Chao-Zong Liu[2]; Yu-Chie Chen[1]; *[1]National Chiao Tung University, Hsinchu, Taiwan; [2]Tzu Chi University, Hualien, Taiwan*

ThP 547 **Mass Spectrometric Analysis of Proteolytic Products from MBP-Containing Heterologous Proteins Expressed in *Pichia pastoris***; Zhiguo Li[1]; Wilson Leung[1]; Joan Lin-Cereghino[1]; Geoffrey Lin-Cereghino[1]; Fan Xiang[2]; Andreas Franz[1]; *[1]University of the Pacific, Stockton, CA; [2]Shimadzu Biotech, Pleasanton, CA*

ThP 548 **ESI-MS Characterization of a Novel Immunoconjugate: THIOMAB-Drug Conjugate (TDC)**; Galahad U. Deperalta; Lee Chien; Victor Ling; *Genentech, Inc., S. San Francisco, CA*

ThP 549 **The Comparison of a Therapeutic Complex Glycoprotein (TNK-tPA) from Both Innovator and Biosimilar Manufacturing Processes Using Mass Spectrometry**; Haitao jiang; Shiaw-lin Wu; William S. Hancock; *Northeastern University, Boston, MA*

ThP 550 **Glycosylation Analysis of IL23r Using Mass Spectrometry: Elucidation of Glycosylation Sites and Characterization of Attached Glycan Structures**; Jia Zhao; Yan-hui Liu; Paul Reichert; Birendra Pramanik; *Schering Plough Research Institute, Kenilworth, NJ*

ThP 551 **ER Stress-Induced Binding of Group VIA PLA2 (iPLA2&beta) to Calnexin Identified by Mass Spectrometric Characterization of the iPLA2β Interactome**; Haowei Song[1]; Henry W. Rohrs[2]; Jack Ladenson[1]; John Turk[1]; *[1]Washington University School of Medicine, St. Louis, MO; [2]Washington University Chemistry Department, St. Louis, MO*

PROTEINS: MODIFIED, 552 - 578

ThP 552 **Characterization of a Novel Amine Derivatization to Investigate the Structural Properties of Proteins by Mass Spectrometry;** Lake N. Paul; Kenneth B. Tomer; *NIEHS, Raleigh, NC*

ThP 553 **Lysine-Methylation: Mass Spectrometric Approaches for the Identification of Modified Proteins**; Rosalind Yc Tan; Manfred R. Raida; Choon-Keow Ng; Bernard PM Tham; *Experimental Therapeutics Ce, Singapore, Singapore*

ThP 554 **Mapping Iodination Sites of Whole Proteins by MALDI-MS and Gas Phase Photodissociation**; Qingyu Sun; Ryan R. Julian; *University of California, Riverside, CA*

ThP 555 **14 and 28 Da Mass Shifts Detected by MALDI-MS as Evidence and Discrimination for Artifactual Methylations of Aspartate and Glutamate**; Guoqiang Chen; Zhili Li; *Institute of Basic Medical Sciences, CAMS & PUMC, Beijing, China*

ThP 556 **Enhanced Peptide Peak Intensity with the use of Cysteine Modifiers and MALDI-TOF/TOF for Improvement of Protein Identification**; Masoud Zabet Moghaddam; Satomi Niwayama; *Texas Tech University, Lubbock, TX*

ThP 557 **Liquid Chromatography/Mass Spectrometric Analysis of Phosphorylation Site of Organophosphate Treated Chymotrypsin**; Kaisheng Jiao; Catherine F. Yang; *Department of Chem and Biochem, Rowan University, Glassboro, NJ*

ThP 558 **Impact of Deamidation and Oxidation on Biopharmaceutical Drug Candidate Stability and Activity Using UPLC ESI-TOF Peptide Mapping**; Ying Zhang; Brian Wiggins; Shujun Bai; Lihe Su; Yen-Ming Hsu; Alex Buko; Sharon Gao; *Biogen Idec, San Diego, CA*

ThP 559 **Optimizing the Kinetics of the Indirect Oxidation Pathway for an Electrochemistry-Based Protein Surface Mapping Pipeline**; Paul Abraham; Carlee Mcclintock; Jerry Parks; Vilmos Kertesz; Robert Hettich; *Oak Ridge Nntl. Laboratory, Oak Ridge, TN*

ThP 560 **Accurate Evaluation of Transcription Factor Acetylation Stoichiometry and Kinetics**; Steven H. Seeholzer; Gerd Blobel; *Children's Hospital of Philadelphia, Philadelphia, PA*

ThP 561 **Using Mass Spectrometry to Characterize the Novel Disulfide Linkage in the Endonuclease Motif of the *Arabidopsis* CPSF30 Ortholog**; Balasubrahmanyam Addepalli[1]; Arthur G. Hunt[2]; Patrick A. Limbach[1]; *[1]University of Cincinnati, Cincinnati, OH; [2]University of Kentucky, Lexington, KY*

ThP 562 **A Mass Spectrometric Comparison of the Interactions of Cisplatin and Transplatin with Myoglobin**; Ting Zhao; Fred King; *West Virginia Univ., Morgantown, WV*

ThP 563 ***In vitro* glycation of glyoxalase II by methylglyoxal Characterization of the glycation sites of by LC/MS/MS**; Jean Pierre Le Caer; Olivier Laprevote; Naima Nhiri; Eric Jacquet; Jean-Yves Lallemand; *CNRS Institut de Chimie des Substances Naturelles, Gif sur Yvette, France*

ThP 564 **Role of Hemoglobin Oxidation in the Formation of the Red Blood Cell Storage Lesion**; Grady Blacken; Yi Wang; Ryan Gallagher; Xiaoyun Fu; *Puget Sound Blood Center, Seattle, WA*

ThP 565 **Identification of Candidate Plasma Biomarkers for Diabetic Complications: *In vivo* Methylglyoxal Modified Hotspots**; Mike Kimzey[2]; Michael A

Galligan[2]; Hussein Yassine[2]; Craig Stump[2]; George Tsaprailis[2]; Serrine S. Lau[1]; *[1]Univ of Arizona, Pharmacy, Tucson, AZ; [2]Univ. of Arizona, Tucson, AZ*

ThP 566 **Characterization of the Conjugation Sites in Cleavable Antibody-Maytansinoid Conjugates Using UV Absorbance and Fluorescence Detection Combined with Mass Spectrometry**; Alexandru C. Lazar; Xuan Chen; Godfrey Amphlett; Rajesh Krishnamurthy; *ImmunoGen, Inc., Waltham, MA*

ThP 567 **Elucidation of PEGylation Site with a Combined Approach of In-Source Fragmentation and CID MS/MS**; Xiaojun Lu; P. Clayton Gough; Michael R. DeFelippis; Lihua Huang; *Eli Lilly and Company, Indianapolis, IN*

ThP 568 **Probing the Structure of the Gram-Positive Ribosome with Chemical Labeling**; Matthew A. Lauber; William E. Running; James P. Reilly; *Indiana University, Bloomington, IN*

ThP 569 **Top-down and Bottom-up Analysis of Nitrated Proteins by ECD, CID and IRMPD Mass Spectrometry**; Victor A. Mikhailov[1]; Andrew W. Jones[1]; Jesus Iniesta[2]; Helen Cooper[1]; *[1]University of Birmingham, Birmingham, UK; [2]University of Alicante, Alicante, SPAIN*

ThP 570 **Verification of Selenomethionine Incorporation by Top-Down and Bottom-Up Mass Spectrometry**; Xu Wang[1,2]; Jeremiah Tipton[2]; Mark R. Emmett[2]; Alan G. Marshall[1,2]; *[1]Florida State University, Tallahassee, FL; [2]Nat'l High Magnetic Field Lab, Tallahassee, FL*

ThP 571 **Development of a Microfluidic Quench-Flow Interface Compatible with ESI-FT-ICR MS for the Characterization of Enzyme Mechanisms;** David J Clarke; Adam A. Stokes; Pat Langridge-smith; C. Logan Mackay; *SIRCAMS, Dept. Chemistry, University of Edinburgh, Edinburgh, U.K.*

ThP 572 **Characterization of PEGylated-Peptides and Site Localization of Attachment with High Resolution ETD Mass Spectrometry**; Andrew Carr[1]; Tonya Second[2]; Robert Cummins[1]; Rosa Viner[2]; Lihua Huang[1]; *[1]Eli Lilly and Company, Indianapolis, IN; [2]Thermo Fisher Scientific, San Jose, CA*

ThP 573 **Redox-Regulation of p53: Identification of Redox Modifications Using Top Down FT-ICR Mass Spectrometry**; Jenna Scotcher[1]; David J Clarke[1]; Penka Nikolova[2]; Ted Hupp[3]; Peter Sadler[4]; Pat Langridge-Smith[1]; C. Logan Mackay[1]; *[1]SIRCAMS, Dept. Chemistry, University of Edinburgh, Edinburgh, UK; [2]Dept. Biochemistry, King's College London, London, UK; [3]University of Edinburgh Cancer Center, Edinburgh, UK; [4]Dept. Chemistry, University of Warwick, Coventry, UK*

ThP 574 **Type IV Pilin Profiling Reveals a Crucial Role of Glycerophosphate Modification in the Colonization Properties of Neisseria Meningitidis;** Julia Chamot-rooke[1]; Christian Malosse[1]; Guillain Mikaty[2]; Magali Soyer[2]; Patricia martin[2]; Philippe Chafey[3]; Guilhem Clary[3]; Luc Camoin[3]; Xavier Nassif[2]; Guillaume Dumenil[2]; *[1]CNRS UMR7651 - Ecole Polytechnique, Palaiseau, France; [2]INSERM U570 - Faculté de médecine Necker, Paris, France; [3]INSERM - Institut Cochin, Paris, France*

ThP 575 **FT-ICR MS Identification of Non-Pathologic Oxidative Modifications on Creatine Kinase in Alzheimer's and in Control Brains**; Shannon M. Eliuk; Matthew B. Renfrow; Stephen Barnes; Helen Kim; *University of Alabama at Birmingham, Birmingham, AL*

ThP 576 **Withdrawn**

ThP 577 **Characterization of S-thiolation on Secreted Proteins from E. Coli by Mass Spectrometry**; Peiran Liu[2]; Malloree Tarnowski[1]; Brian Omara[2]; Wei Wu[2]; Haiying Zhang[2]; James Tamura[2]; Michael Ackerman[2]; Li Tao[2]; Reb Russell[2]; *[1]University of Michigan, Ann Arbor, MI; [2]Bristol-Myers Squibb, Pennington, NJ*

ThP 578 **Identification and Characterization of Deamidation Sites of Human Growth Hormone**; Weidong Cui[1]; Chunxiang Yao[1]; Tzu-yung Lin[1]; Cheng Lin[1]; Peter B. O'connor[2]; *[1]Boston University School of Medicine, Boston, MA; [2]University of Warwick, Coventry, UK*

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ThP 579 **GC-MS/MS Support in the Evaluation of the Toxicokinetics of VX Following Intravenous and Percutaneous Exposures in Minipigs**; Jeffrey M. Mcguire; Stanley W. Hulet; E. Michael Jakubowski, Jr; Sandra A. Thomson; *US Army ECBC, Apg, MD*

ThP 580 **Quantification of Benzocaine in Rat Plasma Using UPLC-ES/MS/MS**; Kellie Woodling[1]; Tong Zhou[2]; Linda VonTungeln[1]; Frederick Beland[1]; Kevin Greenlees[2]; Daniel R. Doerge[1]; *[1]Nat. Ctr. Tox. Res., Jefferson, AR; [2]FDA/Center for Veterinary Medicine, Rockville, MD*

ThP 581 **Serum Metabolome and Frontal Cortex Proteome Alterations in C57Bl/6 Mice Persist Past Withdrawal of Chronic Tobacco Smoke Exposure**; Rachel Neal; Sadiatu Musah; Robert M. Greene; M Michele Pisano; *University of Louisville, Louisville, KY*

ThP 582 **Quantitative LC/MS Screening for Illicit Drugs in Biological Matrices Using Ultrahigh Resolution Mass Analysis and Accurate Mass Confirmation**; Kevin J. Mchale[1]; Mark Sanders[2]; *[1]Thermo Fisher, Somerset, NJ; [2]Thermo Fisher Scientific, Somerset, NJ*

ThP 583 **A Quick LC/MS/MS Method for the Analysis of Common Benzodiazepines and Opiates**; Tania A. Sasaki[1]; Sumandeep Rana[2]; Wayne B. Ross[2]; *[1]Applied Biosystems, Foster City, CA; [2]Redwood Toxicology, Santa Rosa, CA*

ThP 584 **Metabonomic Profiling of D-Serine-Induced Toxicity Biomarkers in Rat Urine;** Rhonda L. Pitsch[1,3]; Claude Grigsby[1]; Nicholas DelRaso[1]; Louis Tamburino[2]; Mateen Rizki[2]; John Schlager[1]; Pavel Shiyanov[1,3]; *[1]711th Human Performance Wing, WPAFB, OH; [2]Wright State University, Dayton, OH; [3]Henry M. Jackson Fndn., Wright-Patterson AFB, OH*

ThP 585 **Determination of VX Sequestered Within Göttingen® Minipig Skin Following Percutaneous Exposure Using LC-MS-MS and GC-MS-MS**; Jeffrey M. Mcguire; Stanley Hulet; E. Michael Jakubowski, Jr; Sandra Thomson; Christopher Byers; *US Army ECBC, APG, MD*

ThP 586 **Performance Evaluation of Three LC-MS Methods Implemented on Ion Trap Mass Spectrometer for Drug Testing in Urine**; Guifeng Jiang; Marta Kozak; Subodh Nimkar; *Thermo Fisher Scientific, San Jose, CA*

ThP 587 **Chemoproteomic Investigation of the Idiosyncratically Hepatotoxic Fluoroquinolone Trovafloxacin**; Shaun Mcloughlin; Hua Tang; Paul Richardson; Scott Warder; Jie Lai-Zhang; Michael

Liguori; Eric Blomme; *Abbott Laboratories, Abbott Park, IL*

ThP 588 **Protein profiling Using Tandem Mass Tags to Classify Chemical Allergens in Cell Culture Models**; Petra Budde[1]; Hans-dieter Zucht[1]; Karsten Kuhn[1]; Sasa Koncarevic[1]; Christian Baumann[1]; Stefan Selzer[1]; Lisa Dietz[2]; Stefanie Ohnesorge[2]; Herrmann-Josef Thierse[2]; Peter Schulz-knappe[1]; *[1]Proteome Sciences R&D GmbH & Co. KG, Frankfurt, Germany; [2]University Heidelberg, Mannheim, Germany*

ThP 589 **Quantitative Proteomic Analysis of HepG2 Cells after Ethanol Exposure**; Stanley M. Stevens, Jr; Robert Buzzeo; Patrick C. Bradshaw; *University of South Florida, Tampa, FL*

ThP 590 **Quantification of Potential DNA Glycation Biomarkers for Diabetes in Biological Samples by LC-MS/MS**; Hongxia Wang; Huachuan Cao; Yinsheng Wang; *University of California, Riverside, CA*

ThP 591 **LC-MS Detection of 4-ABP-DNA Adduct Formation in Bladder Cells and Tissues**; Kristen Randall[1]; Dayana Argoti[1]; Joseph D. Paonessa[2]; Yi Ding[2]; Zachary Oaks[1]; Yuesheng Zhang[2]; Paul Vouros[1]; *[1]Northeastern University, Boston, MA; [2]Roswell Park Cancer Institute, Buffalo, NY*

ThP 592 **Sensitive Determination of Hydroxylated-PAHs in Human Urine by Ultra Performance Liquid Chromatography Coupled to Time-of-Flight Mass Spectrometry;** Eric Gaudreau; Pierre Dumas; Eric Daigle; Nathalie Morissette; *Institut National de Santé Publique du Québec, Québec, Canada*

ThP 593 **On Line Sample Extraction Technique vs Traditional Sample Preparation Methods for LC-MS Toxicology Screening**; Marta Kozak; Guifeng Jiang; Subodh Nimkar; *Thermo Fisher Scientific, San Jose, CA*

ThP 594 **Serum Metabolite Profiling in the Search for Biomarkers of Inflammation**; Erin G. Prestwich; Ramesh Babu Indrakanti; Koli Taghizadeh; Peter Dedon; *MIT, Cambridge, MA*

ThP 595 **Hepatoxicity Biomarkers Found from Coumarin-Treated Rat Liver Tissues Utilizing MALDI TOF and FTMS Imaging Techniques**; Lily Li[1]; Katherine Kellersberger[2]; Paul Kowalski[2]; Jane-Marie Kowalski[2]; Paul Speir[2]; David Ho[1]; Bob Xiong[1]; Patrick Bennett[1]; S Stellar[3]; H.K. Lim[3]; *[1]TandemLabs, Woburn, MA; [2]Bruker Daltonics, Billerica, MA; [3]Johnson & Johnson, Raritan, NJ*

ThP 596 **Robust Differentiation of Isobaric Urine Opioids and n-desmethyl metabolites Using LC-Hybrid Tandem Mass Spectrometry (LC-MSMS) and Automated Library Search;** Judy Stone[1]; Deborah French[2,3]; Katherine Chen[2,3]; Alan Wu[2,3]; *[1]TPMG Regional Laboratories-Northern California, Richmond, CA; [2]Univ. of Calif. San Francisco, San Francisco, CA; [3]San Francisco General Hospital, San Francisco, CA*

ThP 597 **Determination of Arsenic Species in Urine and Serum Samples from Rats Exposed to Arsenite**; Baowei Chen[1]; Anthony McKnight-Whitford[1]; Lora L. Arnold[2]; Shugo Suzuki[2]; Karen L Pennington[2]; Samuel M. Cohen[2]; X. Chris Le[1]; *[1]University of Alberta, Edmonton, Canada; [2]University of Nebraska Medical Center, Omaha, Nebraska*

ThP 598 **Binding of Phenylarsine Oxide to Rat and Human Hemoglobin**; Jie Liu; Chris Le; *University of Alberta, Edmonton, Canada*

ThP 599 **Multi Target Screening for 700 Drugs Using a QTRAP LC-MS-MS System and Automated Library Searching**; Sebastian Dresen[1]; Nerea Ferreirós Bouzas[1]; Heike Gnann[1]; Wolfgang Weinmann[1]; [2]Mark Kuracina; [1]*Institute of Legal Medicine, Freiburg, Germany;* [2]*Applied Biosystems*

ThP 600 **Quantitative Analysis of Bisphenol-A by GC-MS-MS-(NCI) in Biological Liquid Including Urine, Blood, Serum/Plasma, Saliva, Milk and Fruit Juice**; Pierre Dumas; Éric Daigle; *INSPQ, Québec, Canada*

ThP 601 **Cardiac Toxicity of 2,3,7,8-Tetrachlorodibenzo-p-Dioxin (TCDD) in Juvenile Zebrafish Heart: Profiling Proteomic Changes by Label Free Quantitation Methods**; Lingjun Li; Jiang Zhang; Kevin Lanham; Richard Peterson; Warren Heideman; *University of Wisconsin, Madison, WI*

ThP 602 **Development of a LC/MS/MS Method for Determining VX Hydrolysis Product EA-2192 Concentration in Biological Matrices Following Exposure**; Stanley Hulet; E. Michael Jakubowski, Jr; Sandra Thomson; Ronald Evans; *U.S. Army ECBC, APG-EA, MD*

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ThP 603 **Mass Spectrometry's Role in Global Wildfire Emissions Modelling Important to Climate Change**; Simin D. Maleknia; *The University of New South, Sydney, Australia*

ThP 604 **Membrane Introduction Tandem Mass Spectrometry (MIMS-MS/MS) as an Mobile On-Line Monitor to Map Air Toxics in the Metropolitan Seattle-Tacoma Airshed**; Nicholas G. Davey[3,4]; Jacob M. Etzkorn[3,4]; Ji Hyun Park[1]; Robert S. Crampton[1]; Cole T. E. Fitzpatrick[1]; Timothy V. Larson[1]; Christopher D. Simpson[1]; Michael G. Yost[1,2]; Erik T. Krogh[3,4]; Christopher G. Gill[3,4]; *[1]University of Washington, Seattle, WA; [2]PNASH Center, Seattle, WA; [3]Applied Environmental Research Labs. (AERL), Nanaimo, B. C., Canada; [4]Vancouver Island University, Nanaimo, B. C., Canada*

ThP 605 **Environmental Quality. Mass spectrometry, Olfactometry and Diffusion Modelling to Define Air Quality and Risk Assessment in Landfills**; Enrico Davoli[1]; Giancarlo Bianchi[1]; Marinella Palmiotto[1]; Giorgio Celeste[1]; Roberto Fanelli[1]; Elena Fattore[1]; Massimiliano Il Grande[2]; Andrea N. Rossi[2]; *[1]Mario Negri Institute, Milano, Italy; [2]Progress S.r.L., Milano, Italy*

ThP 606 **A Gas-to-Liquid Membrane Interface for Analysis of Volatile Organics in the Gas Phase by Electrospray Ionization Mass Spectrometry**; Eric J Lanni; Mark E. Bier; *Carnegie Mellon University, Pittsburgh, PA*

ThP 607 **Real-Time *in-situ* Multidimensional Characterization of Ultrafine Diesel Tailpipe Particles Using Single Particle Mass Spectrometry**; Alla Zelenyuk[1]; Dan Imre[2]; Yong Cai[1,5]; John M. E. Storey[3]; Jian Wang[4]; Gunnar Senum[4]; Shean Huff[3]; Sam Lewis[3]; Dean Edwards[3]; *[1]Pacific Northwest National Laboratory, Richland, WA; [2]Imre Consulting, Richland, WA; [3]Oak Ridge National Laboratory, Oak*

Ridge, TN; [4]Brookhaven National Laboratory, Upton, NY; [5]University of Wyoming, Laramie, WY

ThP 608 **Single Particle Mass Analysis for Direct Determination of Particle Fluxes in Micro-Meteorological Experiments**; Klaus-Peter Hinz[1]; Elmar Gelhausen[1]; Bernhard Spengler[1]; Andres Schmidt[2]; Otto Klemm[2]; *[1]University of Giessen, Giessen, Germany; [2]University of Münster, Germany*

ThP 609 **Effects of Particle Composition and Morphology on Laser Desorption Ionization Mass Spectra**; Joseph P Klems; Murray V. Johnston; *University of Delaware, Newark, DE*

ThP 610 **Capillary Electrophoresis-Mass Spectrometry: a Useful Tool to Distinguish between Weak and Strong Organic Acids in Atmospheric Fine Particulate Matter**; Mahmoud M. Yassine[1]; Ewa Dabek-Zlotorzynska*[1]; Philippe Schmitt-Kopplin[2]; *[1]Analysis & Air Quality, Environment Canada, Ottawa, ON; [2]Institute of Ecological Chemistry, Neuherberg, Germany*

ThP 611 **Composition and Yield of Oligomers in Biogenic Secondary Organic Aerosol**; Wiley A. Hall; Murray V. Johnston; *University of Delaware, Newark, DE*

ThP 612 **Reactions of Aliphatic Amines with Ammonium Sulfate Clusters**; Bryan R. Bzdek; Murray V. Johnston; *University of Delaware, Newark, DE*

ThP 613 **Formation and Decomposition of Negative Atmospheric Ion Water Clusters O2-(H2O)n in Atmospheric Pressure Corona Discharge Mass Spectrometry**; Kanako Sekimoto; Mitsuo Takayama; *Yokohama City University, Yokohama, Japan*

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ThP 614 **A Robust Bayesian-based Recovery Algorithm for Resolution Enhancement in Time-of-Flight Mass Spectrometry**; Robert Jackson; Zhongyu Yang; C. Bronson Crothers; David A. Ferris; Stephen A. Lammert; *Stillwater Scientific Instruments, Inc., Orono, ME*

ThP 615 **Micro Array Ion Guide – A New Way of Ion Introduction into TOF Mass Spectrometer**; Boris Kozlov[1]; Andrey Trufanov[1]; Dmitriy Alekseev[1,2]; Mikhail Yavor[1,2]; Anatoli Verentchikov[1]; *[1]MS Consulting, Bar, Yugoslavia; [2]Institute For Analytical Instrumentation RAS, St. Petersburg, Russia*

ThP 616 **A Novel Ion Trap that Enables High Duty Cycle and Wide M/Z-Range on an Orthogonal Injection TOF Mass Spectrometer**; Igor Chernushevich; Alexandre Loboda; *MDS Analytical Technologies, Concord, ON*

ThP 617 **A Gridless Ion Decleration Cell for Improved Sensitivity and Ion Yields in Tandem Photodissociation Time-of-Flight Mass Spectrometry**; Kevin Kmiec; Jody May; David H. Russell; *Texas A&M University, College Station, TX*

ThP 618 **MALDI-TOF-TOF with High Resolution Precursor Selection and Multiplexed MS-MS**; Kevin Hayden; Stephen C. Gabeler; Mark Dahl; Marvin Vestal; *Virgin Instruments Corp., Sudbury, MA*

ThP 619 **Time-Resolved Vacuum UV Photodissociation of Peptides in ESI Linear Ion Trap/Orthogonal TOF Mass Spectrometer**; Tae-young Kim; James P. Reilly; *Indiana University, Bloomington, IN*

ThP 620 **Development of an Electron Transfer Dissociation Capable Ultra High Resolution Orthogonal Quadrupole Time of Flight Mass Spectrometer**; Carsten Stoermer[2]; Desmond A. Kaplan[1]; Ralf Hartmer[2]; Markus Lubeck[2]; Oliver Raether[3]; Melvin A. Park[1]; *[1]Bruker Daltonics, inc., Billerica, MA; [2]Bruker Daltonik GmbH, Bremen, Germany; [3]Bruker Daltonik, Bremen, Germany*

ThP 621 **Structural Analysis of Biomolecules Using High-Energy Collision Induced Dissociation in a Multi-Turn Tandem Time-of-Flight Mass Spectrometer "MULTUM-TOF/TOF"**; Shuichi Shimma; Ayumi Kubo; Hirofumi Nagao; Michisato Toyoda; *Osaka University, Toyonaka, Japan*

ThP 622 **A Stigmatic Mass Microscope with a High Mass Resolving Power Using a Multi-Turn Time-of-Flight Mass Spectrometer**; Hisanao Hazama[1,6]; Jun Aoki[2,6]; Hirofumi Nagao[1,6]; Ren Suzuki[1,6]; Hidetoshi Yoshimura[1,6]; Yasuhide Naito[3,6]; Michisato Toyoda[2,6]; Katsuyoshi Masuda[4,6]; Kenichi Fujii[5,6]; Toshio Tashima[6]; Kunio Awazu[1,6]; *[1]Graduate School of Engineering, Osaka University, Suita, Osaka, Japan; [2]Graduate School of Science, Osaka University, Toyonaka, Osaka, Japan; [3]GPI, Hamamatsu, Shizuoka, Japan; [4]Suntory Institute for Bioorganic Research, Mishima-gun, Osaka, Japan; [5]Osaka Institute of Technology, Hirakata, Osaka, Japan; [6]JST, Crest, Chiyoda-ku, Tokyo, Japan*

ThP 623 **Characterization of Complex Biological Mixtures Using Multi-Reflection TOFMS in Different Mass Resolution Modes**; Matthew Giardina[1]; Viatcheslav Artaev[1]; Mikhail Gavrik[2]; *[1]LECO Corporation, St. Joseph, MI; [2]Institute of Analytical Instrumentation, Saint Petersburg, Russian Federation*

ThP 624 **Design, Optimization, and Performance Evaluation of New MALDI-TOF MS and MS-MS Instruments**; Marvin Vestal; *Virgin Instruments Corp., Sudbury, MA*

ThP 625 **A New Multi-Turn Time-of-Flight Mass Spectrometer with High Resolving Powers Above One Million**; Osamu Furuhashi[1]; Kengo Takeshita[1]; Hideaki Izumi[1]; Shinichi Yamaguchi[1]; Masaru Nishiguchi[1]; Hiroki Sakae[1]; Yoshihiro Ueno[1]; Kiyoshi Ogawa[1]; Yoshikazu Yoshida[1]; Michisato Toyoda[2]; Mitsutoshi Setou[3]; *[1]Shimadzu Corporation, Kyoto, Japan; [2]Osaka University, Toyonaka, Osaka, Japan; [3]Hamamatsu University School of Medicine, Hamamatsu, Japan*

ThP 626 **Determination of the Stability Phase Space of Multi-Turn TOF Using for Imaging Mass Spectrometry**; Jun Aoki[1,6]; Hisanao Hazama[2,6]; Michisato Toyoda[1,6]; Kunio Awazu[2,6]; Katsuyoshi Masuda[3,6]; Kenichi Fujii[4,6]; Toshio Tashima[6]; Yasuhide Naito[5,6]; *[1]Graduate School of Science, Osaka University, Toyonaka, Osaka, Japan; [2]Graduate School of Engineering, Osaka University, Suita, Osaka, Japan; [3]Suntory Institute for Bioorganic Research, Mishima-gun, Osaka, Japan; [4]Osaka Institute of Technology, Hirakata, Osaka, Japan; [5]GPI, Hamamatsu, Shizuoka, Japan; [6]JST, Crest, Chiyoda-ku, Tokyo, Japan*

ThP 627 **Maximizing Performance Of Conventional Time-of-Flight Technology: Resolution, Accuracy And Speed**; Michael Ugarov; James Bertsch; Bill Barry; John Fjeldsted; *Agilent Technologies, Santa Clara, CA*

ThP 628 **Improved Resolution and Substantially Higher Sensitivity on a Quadrupole-TOF Mass Spectrometer**; Alexandre Loboda; Igor Chernushevich;

Nic Bloomfield; *MDS Analytical Technologies, Concord, ON*

ThP 629 **A High Performance, Folded Geometry oa-ToF Mass Analyser Incorporating Novel ADC Based Detection;** Jason L Wildgoose; *Waters Corporation, Manchester, UK*

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ThP 630 **Gas-Phase Thermochemical Properties of Damaged Nucleobases and Pyrimidine Nucleobases-Intrinsic Reactivity and Biological Implications**; Min Liu[1]; Meng Xu[1,2]; Tingting Li[1]; Sedinam Amegayibor[1]; Daisy Cardoso[1]; Yunlin Fu[1]; Jeehiun Lee[1]; *[1]Rutgers, The State University of New Jersey, Piscataway, NJ; [2]Schering-Plough, Piscataway, NJ*

ThP 631 **Stability of DNA Duplex Containing Hypoxanthine in the Gas Phase Versus Solution Phase**; Xuejun Sun; Jeehiun K. Lee; *Rutgers University, Piscataway, NJ*

ThP 632 **Gas Phase S_N2 Reactions of 1,3-Dimethyluracil and Analogs. Insights into the Mechanism of Uracil Removal by the UDG Enzyme**; Anna Zhachkina; Jeehiun K. Lee; *Rutgers University, Piscataway, NJ*

ThP 633 **Competition between Substitution and Elimination in the Reactions of Dianions with Substituted and Cyclic Alkyl Halides;** Keyanna Conner; Renan Joviliano; Andrew Alexander; Scott Gronert; *Virginia Commonwealth Univ, Richmond, VA*

ThP 634 **Gas Phase Reactions of Alpha Nucleophiles**; Veronica M. Bierbaum; Stephanie M. Villano; Nicole Eyet; W. Carl Lineberger; *University of Colorado, Boulder, CO*

ThP 635 **Gas Phase Anion Chemistry Relevant to the Interstellar Medium**; Oscar Martinez Jr. [1]; Brian Eichelberger[1]; Zhibo Yang[1]; Theodore P. Snow[1,2]; Veronica M. Bierbaum[1]; *[1]University of Colorado, Boulder, CO; [2]Center for Astrophysics and Space Astronomy, Boulder, CO*

ThP 636 **Charged Carbenes**; Fabiane M Nachtigall[1]; Yuri E Corilo[1]; Patrícia Verardi Abdelnur[1]; Marcos N Eberlin[1]; Jairton Dupont[2]; *[1]ThoMSon Lab UNICAMP, Campinas, SP, Brazil; [2]Laboratory of Molecular Catalysis, Porto Alegre, RS, Brazil*

ThP 637 **Identification of Aromatic Epoxide Functionalities in Protonated Analytes by Using Ion-molecule Reactions in a Fourier-transform Ion Cyclotron Resonance Mass Spectrometer**; Ryan J Eismin; *Purdue University, West Lafayette, IN*

ThP 638 **Reactivity Studies of Hydroxy-Substituted Dehydropyridines**; Jennifer Reece[1]; Bartłomiej Jankiewicz[1]; John Nash[2]; Hilkka Kenttamaa[3]; *[1]Purdue University, West Lafayette, IN; [2]Department of Chemistry, West Lafayette, IN; [3]Chemistry Department, West Lafayette, IN*

ThP 639 **Gas-Phase Ion-Molecule Reactions for the Differentiation of Primary, Secondary and Tertiary Hydroxyl Functionalities in Unknown Protonated Analytes**; Mingkun Fu[1]; Penggao Duan[2]; Hilkka Kenttamaa[3]; *[1]Purdue University, West Lafayette, IN; [2]Bruker Daltonics, Billerica, MA; [3]Chemistry Department, West Lafayette, IN*

ThP 640 **Differentiation of Carbohydrate Phosphates and Sulfates by Gas-Phase Ion-Molecule Reactions**; Matthew Hurt; Yuriy Pyatkivskyy; Victor Ryzhov; *Northern Illinois University, DeKalb, IL*

ThP 641 **Withdrawn**

ThP 642 **Ion-Neutral Complex Resulting from Dissociative Protonation: Fragmentation of α-Furanylmethyl Benzyl Ether**; Pengyuan Liu; Yuanjiang Pan; *Department of Chemistry, Zhejiang University, Hangzhou, China*

ThP 643 **Studying the Mechanism of Cysteine S-Nitrosylation by Ion-Molecule Reactions**; Victor Ryzhov[1]; Richard A. J. O'Hair[2]; *[1]Northern Illinois University, DeKalb, IL; [2]University of Melbourne, Victoria, Australia*

ThP 644 **In-Situ Selective and Sensitive Detection of Monosaccharides by Reactive Desorption Electrospary Ionization (DESI) Using Modified Phenylboronic Acids**; Yun Zhang[1]; Caroline Krieger[1]; Dina R. Justes[2]; Feng Feng[1]; Hao Chen[1]; *[1]Ohio University, Athens, OH; [2]Purdue University, West Lafayette, IN*

ThP 645 **Ion/Molecule Reactions of Electrogenerated Ions at Atmospheric Pressure**; Jiwen Li; Zhixin Miao; Hao Chen; *Ohio University, Athens, OH*

ThP 646 **Structural Fingerprinting of Recombinant Proteins Using Sequential Tandem Mass Spectrometry and Ion/Molecule Chemistry**; Kevin Turney; Paul Schnier; *Amgen, Thousand Oaks, CA*

ThP 647 **Characterization of PEGs and PEGylated Biotherapeutics by ESI Ion-Mobility Time-of-Flight Mass Spectrometer Coupled with Ion-Molecule Reactions**; Asish Chakraborty; Weibin Chen; John Gebler; *Waters Corporation, Milford, MA*

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