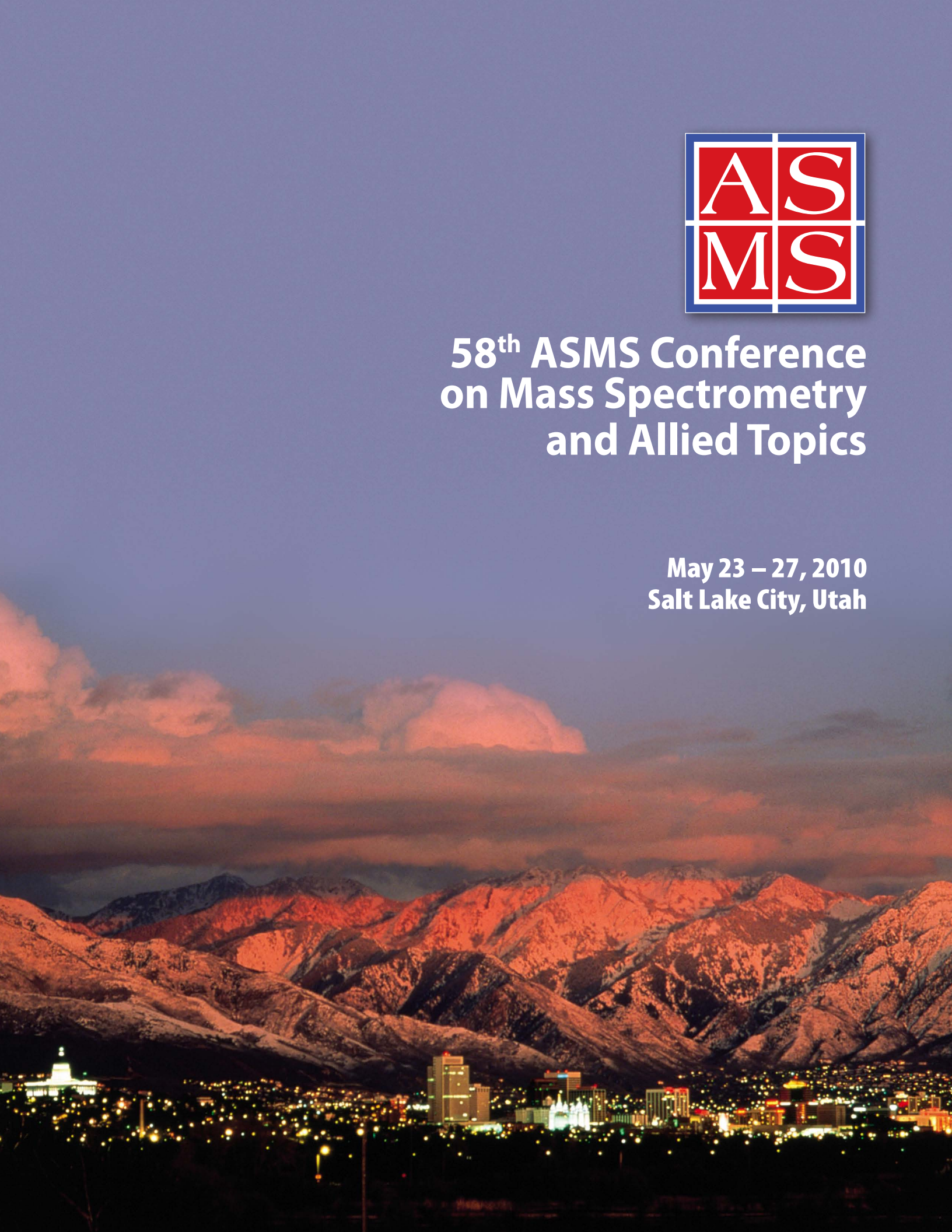

58th ASMS Conference on Mass Spectrometry and Allied Topics

May 23 – 27, 2010
Salt Lake City, Utah

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

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

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

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

5:00 pm, **Collision-Induced Dissociation: How Does It Really Work and What It Can (or Can't) Tell You**
Peter B. Armentrout
University of Utah

5:45 pm, **The Role of Mass Spectrometry in Drug Discovery and Development**
Walter A. Korfmacher
Merck Research Laboratories

PLENARY SESSIONS. Plenary Sessions are in Hall 4.

Sunday, 6:45 – 7:00 pm, **Conference Opening**
7:00 – 7:45 pm
Systems Medicine and Emerging Technologies: Catalyzing the Transformation from Reactive to Proactive (P4) Medicine
Leroy Hood
Institute for Systems Biology

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

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

Thursday, 4:45 – 5:30 pm
Molecular Approaches to Understanding Human Uniqueness
Svante Pääbo
Max Planck Institute for Evolutionary Anthropology

ORAL SESSION LOCATIONS

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

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

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

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

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

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

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

POSTER SCHEDULE. The poster sessions are 10:30 am – 2:30 pm, Monday through Thursday. Authors are encouraged to attend their posters between 10:30 am and 2:30 pm on their scheduled day. Authors should take a lunch break as follows:
11:45 am – 12:15 pm .....Lunch break for odd-numbered posters
12:15 – 12:45 pm ..... Lunch break for even-numbered posters

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

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

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

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

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

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

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

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

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

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

SOCIAL ACTVITIES

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

CONFERENCE REGULATIONS

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

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

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

MEDIA EVENTS

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

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

ASMS

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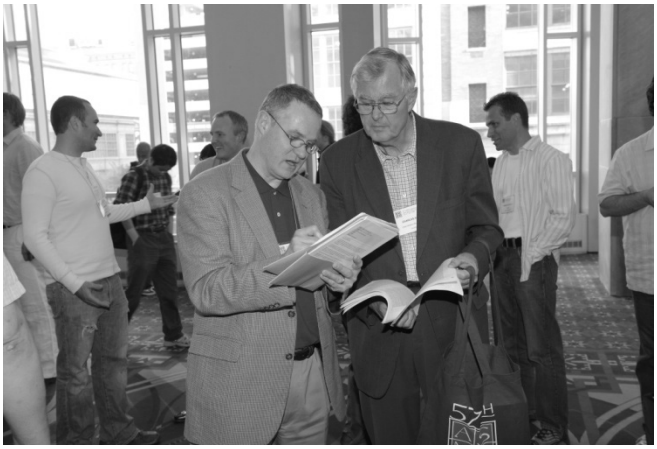
NEW THIS YEAR!

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



- The Conference Proceedings will be online by June 30 – no more DVD that formerly was mailed in September.

HOTELS AND TRANSPORTATION

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

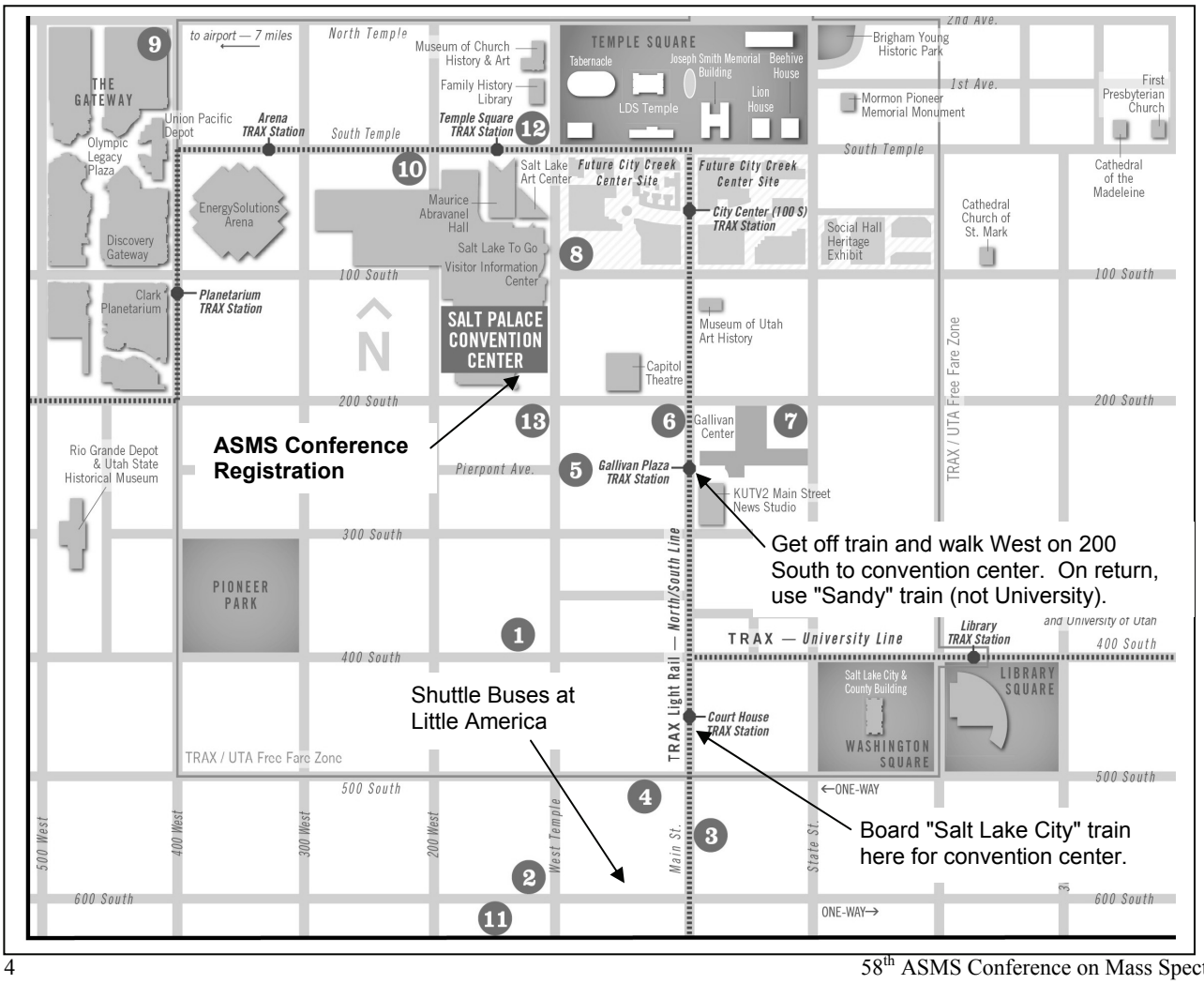
TRANSPORTATION. The Salt Lake City light rail system (TRAX) is free within the downtown area and runs every 10 - 20 minutes. If your room is at the Embassy Suites, Red Lion, Little America or Grand America, use the Court House Station on Main Street to board TRAX. Take the "Salt Lake City" train (not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

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

SHUTTLE BUS SCHEDULE.

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

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



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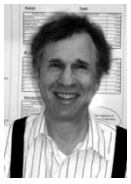

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ASMS

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Fundamentals	Nick Polfer *University of Florida* Daniel Austin *Brigham Young University*
H/D Exchange & Covalent Labeling	Janna G. Kiselar *Case Western Reserve University* Michael Chalmers *Scripps Florida*
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Ion-Mobility MS	John A. McLean *Vanderbilt University*
Ion Trap MS	Heather Desaire *University of Kansas*
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Metal Ion Coordination Chemistry	Victor Ryzkov *Northern Illinois University.*
Peptide Fragmentation	Gavin E. Reid *Michigan State University* Bella Paizs *DKFZ Heidelberg*
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Polymeric Materials	Michael J. Polce *Lubrizol Advanced Materials*
Protein Therapeutics	Guodong Chen *Bristol-Myers Squibb*
Regulated Bioanalysis	Fabio Garofolo *Algorithme Pharma Inc.*
Young Mass Spectrometrists	Connell Cunningham *Rohm and Haas Company*

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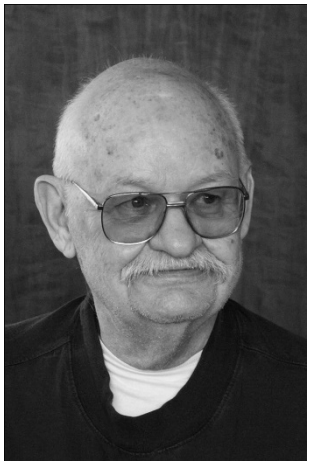
ASMS AWARDS

AWARD FOR A DISTINGUISHED CONTRIBUTION IN MASS SPECTROMETRY

2010 Recipient: Marvin L. Vestal

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



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

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

THE BIEMANN MEDAL

2010 Recipient: David C. Muddiman

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

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

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

RON A. HITES AWARD FOR OUTSTANDING RESEARCH PUBLICATION IN JASMS

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

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

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

ASMS RESEARCH AWARDS

2010 RECIPIENTS

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

Sponsored by

Thermo Scientific

Hao Chen
Ohio University

Sponsored by

Waters Corporation

Sarah Trimpin
Wayne State University

CALL FOR 2011 RESEARCH AWARD PROPOSALS

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

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

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

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

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

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

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

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

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

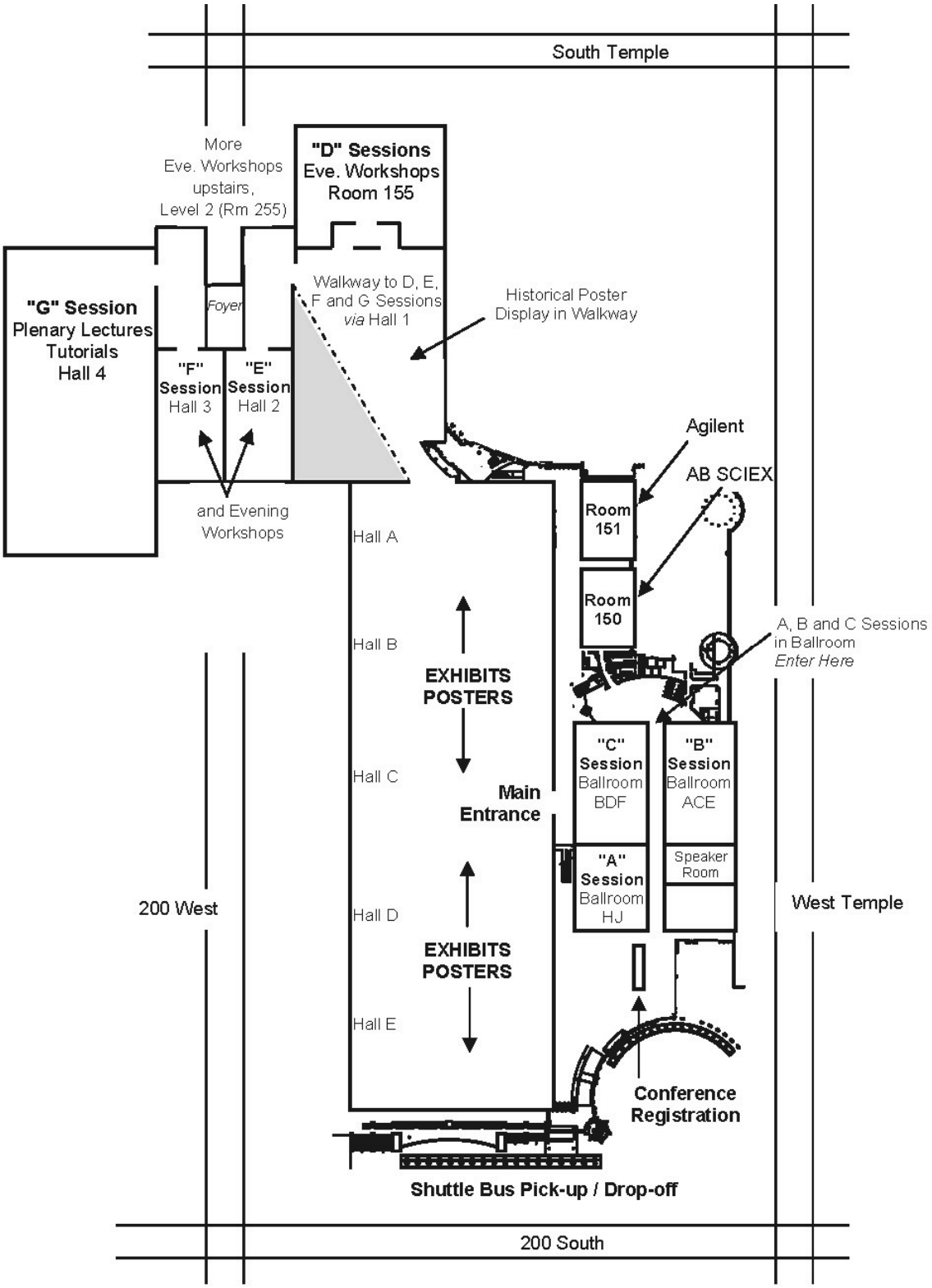
Awards are approximately $1,000 each. Information and application details may be found at www.gbmsdg.org.

2010 Recipients

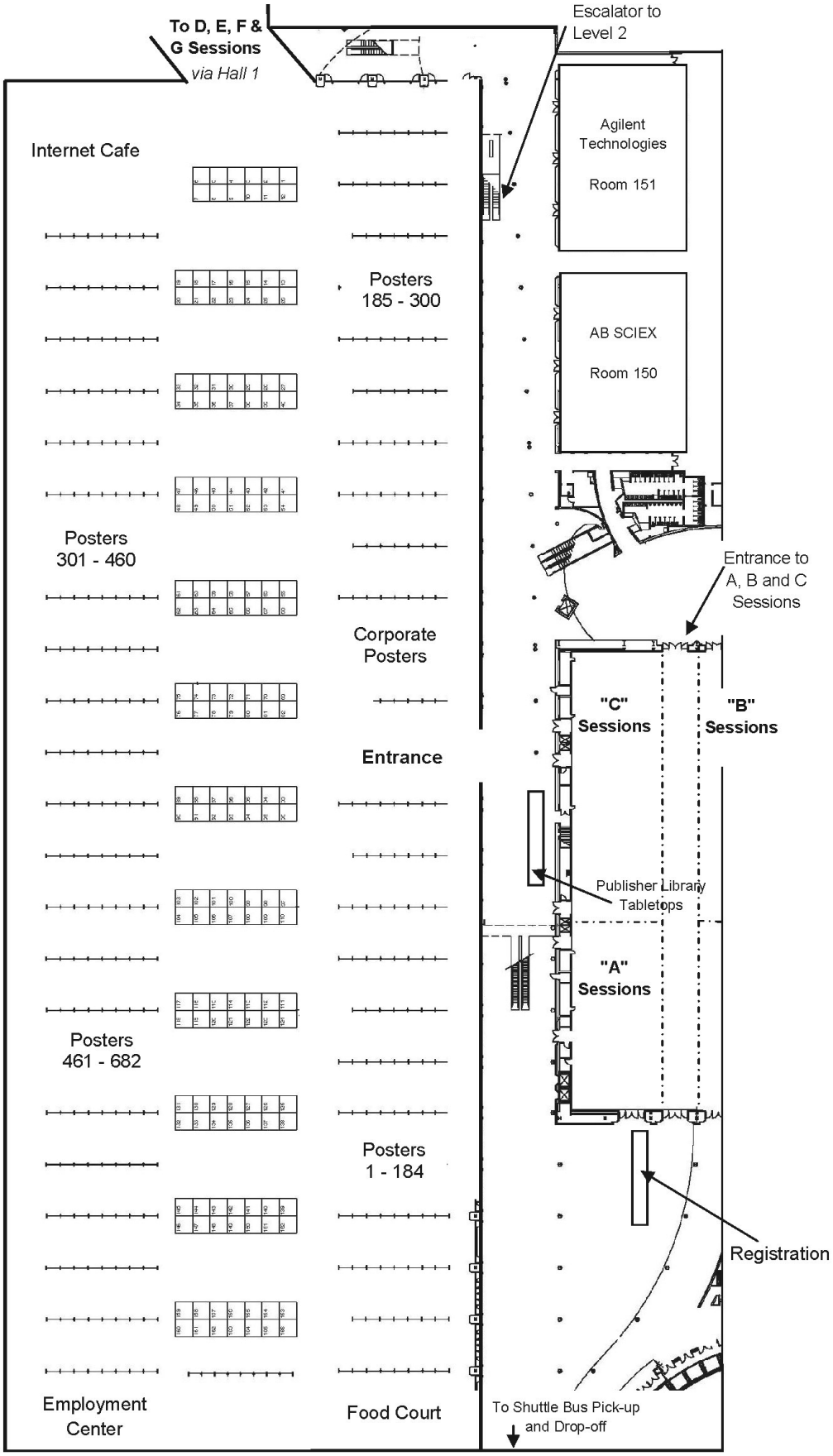
Kristin J. Boggio, *Brandeis University*
Christopher R. Morgan, *Northeastern University*

CONVENTION CENTER MAP, FIRST LEVEL

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



POSTER - EXHIBIT HALL, FIRST LEVEL



CONVENTION CENTER MAP, SECOND LEVEL

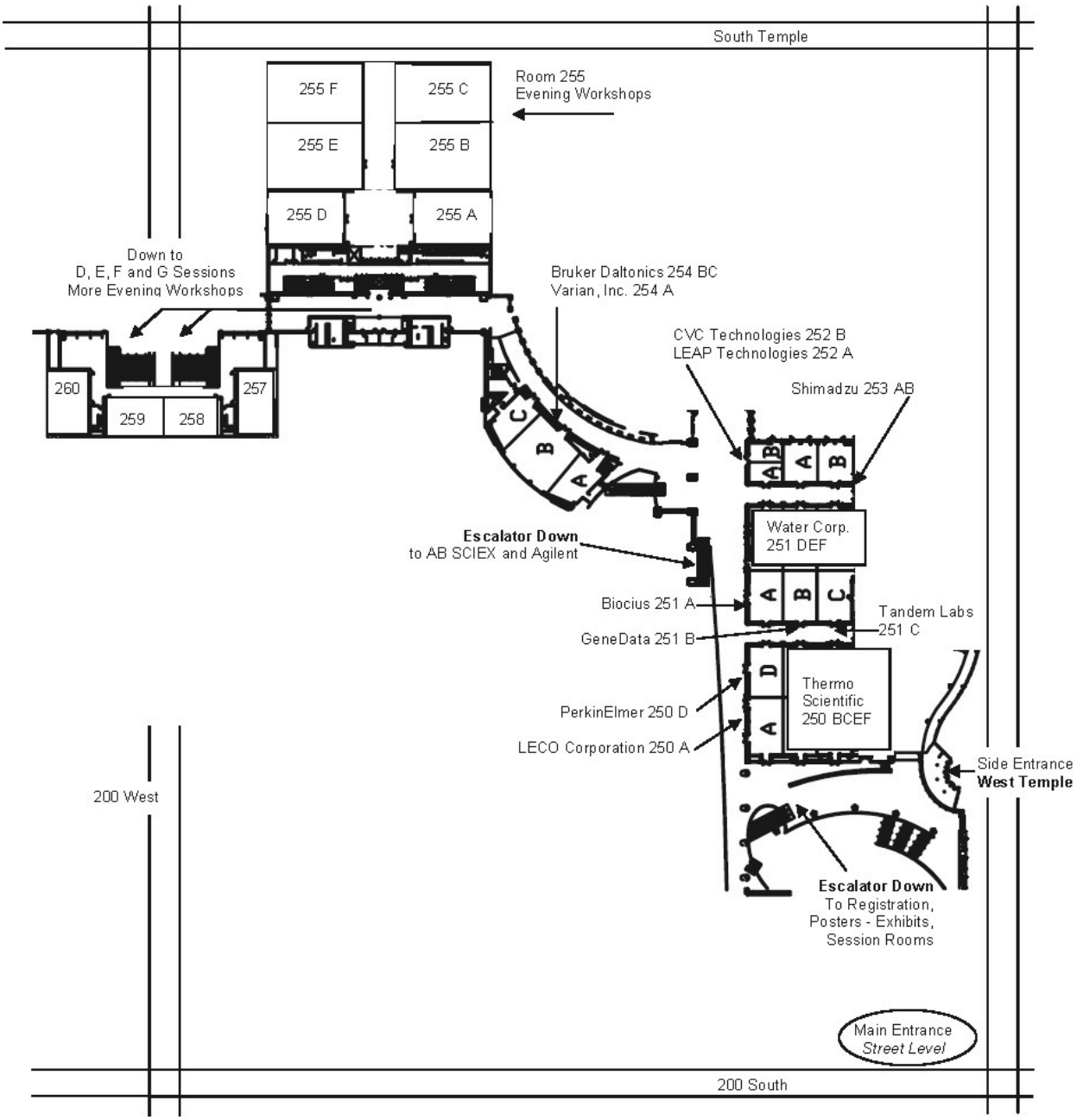
Second Level of the Salt Palace Convention Center is home to evening workshops and corporate hospitality suites.

HOSPITALITY SUITES

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

WORKSHOPS

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



ASMS CORPORATE MEMBERS

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

ASMS CORPORATE MEMBERS

COMPANY	BOOTH/POSTER/LIBRARY	HOSPITALITY SUITE (IN CONVENTION CENTER)
Edwards	120	
Eksigent Technologies	Poster	
Elforlight Limited	166	
Elsevier	Library Tabletop	
EMD Chemicals	146/Poster	
Enthalpy Analytical, Inc.	10	
Extrel CMS	31	
Full Spectrum Analytics, Inc.	58	
Gelcompany	107	
Genedata, Inc.	1/Poster	Room 251 B
Genetic Engineering & Biotechnology News	Library Tabletop	
Geneva Bioinformatics	131/Poster	
Genologics	139	
GenTech Scientific Inc.	25	
Gerstel, Inc.	65/Poster	
GL Sciences	7	
Glygen Corp.	40/Poster	
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International Labmate	Library Tabletop	
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Ionics Mass Spectrometry Group, Inc.	29	
IonSense, Inc.	50/Poster	
Ionwerks, Inc.	105	
ITT Power Solutions	115	
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McKinley Scientific, LLC	103	
MestreLab Research	128	
Metabolon, Inc.	44	
Michrom Bioresources, Inc	33	
MicroLiter Analytical Supplies, Inc.	159	
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New England Peptide, LLC	148	
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Phytronix Technologies	57	
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Pressure BioSciences	8/Poster	
Prolab GmbH	99/Poster	
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Royal Society of Chemistry	Library Tabletop	
Sage-N Research, Inc.	81	
SAI LTD	123	
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PROGRAM ACKNOWLEDGEMENTS

Scott A. McLuckey
Vice President for Programs

STUDENT ASSISTANTS

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

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Julian Whitelegge
William Wikoff
Jon Williams

CONFERENCE PROGRAM OVERVIEW

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

SUNDAY	9:00 am - 4:30 pm	***SHORT COURSES***
	10:00 am - 8:00 pm	***REGISTRATION***
	5:00 - 6:30 pm	***TUTORIAL LECTURES,*** *Hall 4* • **Collision Induced Dissociation: How Does It Really Work and What It Can (or Can't) Tell You; Peter B. Armentrout**, *University of Utah* • **The Role of Mass Spectrometry in Drug Discovery and Development; Walter A. Korfmacher**, *Merck Research Laboratories*
	6:45 - 7:45 pm	***OPENING and PLENARY LECTURE,*** *Hall 4* **Systems Medicine and Emerging Technologies; Leroy Hood,** *Institute for Systems Biology*
	7:45 - 9:30 pm	***RECEPTION IN THE EXHIBIT HALL,*** *Exhibit Hall ABCDE*

MONDAY	8:30 - 10:30 am	***ORAL SESSIONS*** • MOA: **Fundamentals: Ion Structures and Energetics**, *Ballroom HJ* • MOB: **New Developments in Ion Traps and Hybrid Instruments**, *Ballroom ACE* • MOC: **MS of Nucleic Acids** *Ballroom BDF* • MOD: **MS Derived Peptide/Protein Biosignatures and Biomarkers**, *Room 155* • MOE: **Increasing Throughput for ADME and PK Assays**, *Hall 2* • MOF: **Application of LC-MS for PK Characteristics of Biologics**, *Hall 3* • MOG: **Quantitative Intact Proteomics**, *Hall 4*
	10:30 am - 2:30 pm	***POSTER SESSION AND EXHIBITS,*** *Exhibit Hall ABCDE.* See page 43.
	2:30 - 4:30 pm	***ORAL SESSIONS*** • MOA: **Fundamentals: Supramolecular Chemistry: Non-Covalent Complexes**, *Ballroom HJ* • MOB: **Advances in Imaging**, *Ballroom ACE* • MOC: **MS of Synthetic Polymers**, *Ballroom BDF* • MOD: **Qualitative Analysis of Protein Therapeutics by MS**, *Room 155* • MOE: **LC-MS Challenges & Solutions for Monitoring Human Metabolites in Safety Testing (MIST)**, *Hall 2* • MOF: **Quantitation of Biologics: Applications and Techniques**, *Hall 3* • MOG: **Phosphoproteomics Applications**, *Hall 4*
	4:45 - 5:30 pm	***AWARD LECTURE,*** *Hall 4* **Recipient of the Award for a Distinguished Contribution in Mass Spectrometry**
	5:45 - 7:00 pm	***WORKSHOPS.*** See page 19.
	8:00 - 11:30pm	***CORPORATE HOSPITALITY SUITES,*** *Salt Palace Convention Center*

Tuesday	8:30 - 10:30 am	***ORAL SESSIONS*** • TOA: **Fundamentals: Biomolecular Ion Radical Chemistry**, *Ballroom HJ* • TOB: **MS of Lipids**, *Ballroom ACE* • TOC: **MS of Viruses**, *Ballroom BDF* • TOD: **MS of Protein-Ligand Complexes**, *Room 155* • TOE: **Incurred Sample Reanalysis and Analytical Solutions,** *Hall 2* • TOF: **Quantitation of Xenobiotic Metabolites without Reference Standard**, *Hall 3* • TOG: **Quantitation in Proteomics: Peptides,** *Hall 4*
	10:30 am - 2:30 pm	***POSTER SESSION AND EXHIBITS,*** *Exhibit Hall ABCDE..* See page 73.
	2:30 - 4:30 pm	***ORAL SESSIONS*** • TOA: **Fundamentals: Ion Spectroscopy**, *Ballroom HJ* • TOB: **MS and Immunology**, *Ballroom ACE* • TOC: **MS of Carbohydrates**, *Ballroom BDF* • TOD: **New Developments in Ionization**, *Room 155* • TOE: **Identification of Unusual Xenobiotic Metabolites Using MS**, *Hall 2* • TOF: **Dealing with Phospholipids in Regulated Bioanalysis**, *Hall 3* • TOG: **Bioinformatics in Proteomics**, *Hall 4*
	4:45 - 5:30 pm	***AWARD LECTURE,*** *Hall 4;* **Recipient of the Biemann Medal** Research Award Presentations
	5:45 - 7:00 pm	***WORKSHOPS.*** See page 20.
	8:00 - 11:30pm	***CORPORATE HOSPITALITY SUITES,*** *Salt Palace Convention Center*

WEDNESDAY	8:30 - 10:30 am	***ORAL SESSIONS*** • WOA: **Multiple Charging in MS**, *Ballroom HJ* • WOB: **MS and Clinical Diagnostics**, *Ballroom ACE* • WOC: **MS of Fuels, Biofuels and Heavy Oils**, *Ballroom BDF* • WOD: **Environmental MS Identification of Unknowns**, *Room 155* • WOE: **LC-MS Strategies for Metabolomics in Drug Discovery**, *Hall 2* • WOF: **Clinical Applications of Integrated Qualitative and Quantitative LC-MS**, *Hall 3* • WOG: **Characterizing PTMs**, *Hall 4*
	10:30 am - 2:30 pm	***POSTER SESSION AND EXHIBITS,*** *Exhibit Hall ABCDE.* See page104.
	2:30 - 4:30 pm	***ORAL SESSIONS*** • WOA: **Fundamentals: Ion-Molecule and Ion-Ion, Ion-Electron Interactions**, *Ballroom HJ* • WOB: **FTMS Instrumentation and Applications**, *Ballroom ACE* • WOC: **MS in Environmental Toxicology**, *Ballroom BDF* • WOD: **MS of Glycoproteins**, *Room 155* • WOE: **LC-MS of Reactive Xenobiotic Metabolites**, *Hall 2* • WOF: **MS of Pharmaceuticals and Personal Care Products in Water**, *Hall 3* • WOG: **MS and Systems Biology**, *Hall 4*
	4:45 - 5:30 pm	***ASMS MEETING,*** *Ballroom ACE*
	5:45 - 7:00 pm	**WORKSHOPS.** See page 21.
	8:00 – 11:30 pm	***CORPORATE HOSPITALITY SUITES,*** *Salt Palace Convention Center*

Thursday	8:30 - 10:30 am	***ORAL SESSIONS*** • ThOA: **Electron and Photon-Based Ion Activation/Dissociation (PD, ECD, ETD, EDD)**, *Ballroom HJ* • ThOB: **H/D Exchange for Protein Structure and Folding**, *Ballroom ACE* • ThOC: **Recent Developments in Ion Mobility MS**, *Ballroom BDF* • ThOD: **Metabolomics: Bioinformatics and Metabolite Identification**, *Room 155* • ThOE: **Automated and Post-Acquisition Software Tools for Xenobiotic Metabolites**, *Hall 2* • ThOF: **Dried Blood Spot Analysis**, *Hall 3* • ThOG: **MS and Cellular Pathways**, *Hall 4*
	10:30 am - 2:30 pm	***POSTER SESSION AND EXHIBITS,*** *Exhibit Hall ABCDE.* See page 135.
	2:30 - 4:30 pm	***ORAL SESSIONS*** • ThOA: **Fundamentals: Ion-Surface Interactions and Preparative MS**, *Ballroom HJ* • ThOB: **Biomolecular Structure**, *Ballroom ACE* • ThOC: **Peptide Ion Fragmentation**, *Ballroom BDF* • ThOD: **Novel Developments in Instrumentation**, *Room 155* • ThOE: **Quantitation of Endogenous Analytes in Regulated Bioanalysis**, *Hall 2* • ThOF: **Laser/Surface Desorption Techniques for ADME**, *Hall 3* • ThOG: **MS of Membrane Proteins**, *Hall 4*
	4:45 - 5:30 pm	***PLENARY LECTURE,*** *Hall 4* **Svante Pääbo,** *Max Planck Institute for Evolutionary Anthropology*
	5:30 - 6:00 pm	***CONFERENCE CLOSING TOAST,*** *Hall 4*

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

MONDAY WORKSHOPS, 5:45 – 7:00 PM

NIH Update: Funding Opportunities and Recent Policy Changes
Douglas Sheeley, presiding. **Hall 2**

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

Identification of Unique Metabolites:
New MS Techniques and Strategies
Organized by Drug Metabolism and
Pharmacokinetics Interest Group
Ragu Ramanathan, Gabriella Szekely-Klepser,
and Lucinda Cohen, presiding. **Hall 3**

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

Hot Topics in LC-MS Instrumentation Troubleshooting
Organized by LC/MS & Related Topics Interest Group
J. Will Thompson, presiding. **Room 155**

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

Undergraduate Research in Mass Spectrometry
Interest Group Meeting
Jennifer Grant and Mike VanStipdonk, presiding. **Room 255 A**

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

Quantitative Intact Proteomics (QIP)
David Friedman and Julian Whitelegge, presiding
Room 255 B

We propose an open forum format where Julian and David moderate the discussion while "roaming the room" with microphones to be handed to participants. David/Julian will open the workshop with a 5 minute introduction to QIP themes, and present a short list of possible discussion points generated from a pre-survey using our existing email interest list. A small panel of 2 or 3 additional experts will be invited to give a 5-minute presentation on a topical area in the beginning, and then remain in front during the discussion. Kathryn Lilley (Cambridge) has already accepted our invitation to be on the expert panel; she is an expert on QIP-related issues, including experimental design and statistical power.

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

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

Screening for Unknowns in our Environment Experience,
Ideas, and Suggestions
Organized by Environmental Applications Interest Group
Enrico Davoli and Susan Richardson, presiding. **Room 255 D**

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

The Reliability of PTM Assignments
Katalin F. Medzihradszky, presiding. **Room 255 E**

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

The Role of Mass Spectrometry in Our Future Energy Supply
David Stranz and Wolfgang Schrader, presiding
Room 255 F

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

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

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

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

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

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

Current Topics in FTMS

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

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

Rearrangement Reactions in Peptide Fragmentation: From Fundamentals to Applications

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

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

Careers of Young Mass Spectrometrists

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

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

Biologics Mass Spectrometry: Best Practices and Recent Developments

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

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

Problem Solving Session

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

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

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

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

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

Metabolomics Current Challenges and Future Directions

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

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

Accurate Mass Measurement (again) and Service Survey

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

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

Challenges in MS Data Analysis
Organized by Bioinformatics for MS Interest Group
Marc Kirchner, presiding. **Hall 2**
The workshop will feature two 6min40s "starter/provocation" talks (with automatically advancing slides, so no chance to lengthen the presentation time) on current challenges in two MS Bioinformatics fields: (i) practical application of computational methods and (ii) computational MS statistics and method development. Each talk will be followed by 25min of open discussion.

Towards an Automated Mass Spec Analyzer for Clinical Labs - What, When and How?
Organized by Clinical Chemistry Interest Group
Nigel Clarke & Russell Grant, presiding. **Hall 3**
Mass Spectrometry has become the new area of interest in the clinical diagnostic world over the last few years. It is growing at an astounding rate with tests such as testosterone and vitamin D leading the way. While the high complexity Dx labs can afford to buy, upkeep and staff these complicated instruments even they will agree that we need to simplify their operation to reduce subjectivity and errors in results. Furthermore, at present large numbers of labs that want to use this technology are sitting on the side-lines waiting for it to become more "user-friendly." We propose to put together a mix of labs and vendors and generally interested parties to discuss the needs and solutions for this situation.

Troubleshooting the Imaging Process
Organized by Imaging MS Interest Group
Michelle Reyzer, presiding. **Room 155**
This workshop will provide a forum for attendees to get helpful hints for getting around common problems in the imaging process. Several speakers (3-4 slides each) will present tips for overcoming challenges at any point in the image generation process, from sample preparation, to image acquisition, to image processing. This will be followed by an informal discussion on specific issues brought up by the audience.

Practical Aspects of New Techniques for Volatile Compound Analysis
Organized by Flavor, Fragrance and Foodstuff Interest Group
David Heller, presiding. **Room 255 A**
New techniques have been introduced in recent years with applicability to volatile compounds. These techniques include new mass analyzers coupled with gas chromatography, such as new GC-TOF and GC-MS/MS hybrids, and also new ionization techniques, such as ambient ionization and extractive electrospray ionization. This workshop aims to bring together developers or practitioners of such new techniques to discuss practical applications to volatile compounds important to the flavor, fragrance and foodstuff arena. Attendees are invited to share relevant challenges and problem-solving techniques in an open discussion format. We hope to use this Interest Group's Forum page at the ASMS web site for advance discussion of specific topics and techniques.

Ion Mobility-Mass Spectrometry for Structural Biology
Organized by Ion Mobility MS Interest Group
John A. McLean & Brandon T. Ruotolo, presiding
Room 255 B
The utility of structural separations on the basis of ion mobility-mass spectrometry (IM-MS) has recently shown considerable promise in structural biology research. This workshop will be a forum for discussing the level of structural insight that can be obtained through IM-MS measurements, what additional technology would be necessary to elevate the impact of these measurements in the field of structural biology, and finally the challenges and limitations of IM-MS based studies relative to other structural probes. This workshop attempts to align the commonalities of IM-MS structural and allied studies to better enumerate both the present state-of-the-art as well as future directions for promoting the wider use of IM-MS in structural biology.

H/D Exchange and Covalent Labeling
Organized by H/D Exchange and Covalent Labeling Interest Group
Michael Chalmers & Janna Kiselar, presiding
Room 255 C
The workshop will provide a forum that is focused on the discussion of the methods/experimental parameters of HDX and covalent labeling experiments. The workshop will open with a short update on the state of the field. There will be a number of short talks to introduce new advances within the field to the attendees. The goal of the talks (5 min maximum) will be to stimulate discussion. The workshop will also contain a question and answer session with questions being submitted in advance.

The Great Dissociation Debate. What's Your Favorite Way to Dissociate Ions Inside an Ion Trap?
Organized by Ion Trap Mass Spectrometry Interest Group
Heather Desaire, presiding. **Room 255 D**
This workshop will be an informal venue for speakers to discuss the relative merits of established and new methods of ion dissociation inside ion traps. New methods such as photodissociation, HCD, and various laser dissociation methods will be explored and compared to standard CID methods, for a variety of different compound types.

Glycomics and Glycoproteins
Ronald Orlando, presiding. **Room 255 E**
This workshop will focus on the analytical challenges associated with glycomics and glycoprotein characterization, particularly: the accurate identification of individual glycans present in isomeric mixtures; and the ability to quantitatively identify changes in glycan abundance. The workshop will open with an overview of these issues, and will be followed by several short talks (5 minutes). The workshop will conclude with an informal discussion on specific issues brought up by the audience.

Metal Ions: Bridging the Gap between the Gas Phase and Solution
Organized by the Metal Ions Interest Group
Victor Ryzhov, presiding. **Room 255 F**
This workshop traditionally encompasses various topics involving gas-phase metal ions (bare and coordinated), including challenges in metal ion formation, their reactivity, structure and energetics. This year, the focus of the workshop will be on bridging the gap between the solution and gas-phase data. How can the gas-phase measurements be used best to address condensed phase questions? Sample topics may include hydrated metal ions/clusters and metal ion/biomolecule complexes (originated in the gas-phase or in solution). Approaches complementary to the experimental mass spectrometry techniques (such as theoretical calculations and ion spectroscopy) will be discussed.

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

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

Peter B. Armentrout, *University of Utah*

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

Walter A. Korfmacher,
Merck Research Laboratories

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

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

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

Leroy Hood, *Institute for Systems Biology*

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

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

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

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

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

MOA am 09:30 **Sensitivity of b_3 Ion Structure to Minor Changes in Amino Acid Sequence**; Alessandra Ferzoco[1]; Jeffrey Steill[2]; Jos Oomens[2]; Benjamin Bythell[3]; Bela Paizs[3]; Gary L. Glish[1]; *[1]University of North Carolina, Chapel Hill, NC; [2]FOM Rijnhuizen, Nieuwegein, Netherlands; [3]DKFZ, Heidelberg, Heidelberg, Germany*

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

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

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

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

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

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

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

MOB am 09:50 **Design and Performance of a Hybrid Mass Spectrometer Capable of Comprehensive Linked Scans with No Scanning Losses**; Sunnie Myung[1]; Andrew Kruchinsky[2]; David Fenyo[1];

Herbert Cohen[1]; Julio Cesar Padovan[1]; Brian Chait[1]; *[1]The Rockefeller University, New York, NY; [2]Andrew Kruchinsky, San Francisco, CA*

MOB am 10:10 **Design and Performance of Coaxial Ion Trap: Transferring Ions between Two Trapping Regions in One Mass Analyzer**; Ying Peng; Zhiping Zhang; Brett J. Hansen; Miao Wang; Milton L. Lee; Aaron R. Hawkins; Daniel E. Austin; *Brigham Young University, Provo, Utah*

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

MOC am 08:30 **A Role for the MS Analysis of Nucleic Acids in the Post-Genomics Age**; Daniele Fabris; *U. Maryland Baltimore County, Baltimore, MD*

MOC am 08:50 **ETD, PD and Hybrid Tandem MS Techniques to Characterize DNA, RNA and DNA Adducts**; Suncerae Smith; Jennifer Brodbelt; *The University of Texas, Austin, TX*

MOC am 09:10 **Systematic Study of the Epigenetic Pathways Perturbed by 6-Thioguanine in Human Cancer Cells**; Hongxia Wang; Yinsheng Wang; *Univeristy of California, Riverside, CA*

MOC am 09:30 **Detection of Peptide-Oligonucleotide Heteroconjugates and Protein:RNA Cross-Links via Capillary ICPMS**; Brittany Catron[1]; Joseph Caruso[1]; Jacqueline Giliberti[2]; Gary Janssen[2]; Patrick A. Limbach [1]; *[1]University of Cincinnati, Cincinnati, OH; [2]Miami University, Oxford, OH*

MOC am 09:50 **Gas-Phase Anion-Electron Reactions and Vibrational Activation of Nucleic Acids and Their Complexes**; Hangtian Song; Linjie Han; Kristina Hakansson; *University of Michigan, Ann Arbor, MI*

MOC am 10:10 **Insights into DNA Damage by Electrochemistry/Liquid Chromatography/Mass Spectrometry**; Herbert Oberacher[1]; Robert Erb[1]; Sabine Plattner[1]; Florian Pitterl[1]; Jean-Pierre Chervet [2]; *[1]Medical University Innsbruck, Innsbruck, Austria; [2]Antec (Leyden) BV, Zoeterwoude, Netherlands*

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

MOD am 08:30 **An Overview of the Roles of Mass Spectrometry in Expanding the Clinical Plasma Proteome**; Leigh Anderson[1]; Matt Pope[2]; Morteza Razavi[2]; Angela Jackson[3]; Terry Pearson[2]; *[1]Plasma Proteome Institute, Washington, DC; [2]University of Victoria, Victoria, BC Canada; [3]UVic Genome BC Proteomic centre, Victoria, BC*

MOD am 08:50 **MALDI MS Imaging at Cellular Resolution Across Entire Tissue Sections of ALS Mice and Co-Registration Using YFP-Labeled Fluorescent Neurons**; Kristin J. Boggio[1]; Joseph Salisbury[1]; Nicole Zaia[1]; Nathalie Y.R. Agar[2]; Jeffrey N. Agar[1]; *[1]Brandeis University, Waltham, MA; [2]Brigham & Women's Hospital, Harvard Medical School, Boston, MA*

MOD am 09:10 **Expanding the Biomarker Discovery Pipeline from Protein Expression to Turnover**; Yaoyang Zhang[1]; Stefan Reckow[1]; Michaela D. Filiou[1]; Christian Webhofer [1]; Michael Boehme[1]; Philipp Gormanns[1]; Giuseppina Maccarrone [1]; Wolfgang M. Egge-Jacobsen[2]; Christoph W. Turck[1]; *[1]Max Planck Institute of Psychiatry, Munich, Germany; [2]IMBV, University of Oslo, Oslo, Norway*

MOD am 09:30 **Label-Free Top-Down Quantitative Proteomics: Post-Translational Modifications as Potential Disease Biomarkers**; Ying Ge; Jiang Zhang; Moltu Guy; Lisa Xu; Xintong Dong; M. Shahriar Salamat; Ken Young; *University of Wisconsin-Madison, Madison, WI*

MOD am 09:50 **Digital Pathology: Discovering and Verifying Barretts' Disease Progression Markers in Tissue Samples Using LCM-Coupled SRM Assays;** Amol Prakash[1]; Brian L Hood[3]; Michael Athanas[2]; Bryan Krastins[1]; Taha Rezai[1]; David Sarracino [1]; Melanie S Flint[3]; Jon M Davison[4]; Mary F Lopez[1]; Thomas P. Conrads[4]; *[1]Thermo Fisher Scientific, Cambridge, MA; [2]VAST Scientific, Cambridge, MA; [3]The University of Pittsburgh Cancer Institute, Pittsburgh, PA; [4]University of Pittsburgh, Pittsburgh, PA*

MOD am 10:10 **Development and Application of a Biomarker Discovery through Verification Pipeline to Cardiovascular Disease**; Hasmik Keshishian[1]; Terri Addona[1]; Xu Shi[2]; Michael Burgess[1]; Michael Gillette[1]; DR Mani[1]; Gregory Lewis[2]; Laurie Farrell[2]; Michael Fifer[2]; Marc S. Sabatine[3]; Robert E. Gerszten[2]; Steven A. Carr[1]; *[1]Broad Institute of MIT and Harvard, Cambridge, MA; [2]Massachusetts General Hospital, Boston, MA; [3]Brigham and Women's Hospital, Boston, MA*

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

MOE am 08:30 **Parallel Micro-Flow LC Coupled with a Multi-Inlet ESI Source for High-Throughput LC/MS/MS in Drug Discovery**; John Janiszewski [1]; Richard Schneider[2]; Matthew Troutman[1]; Sau Lan Tang Staats [4]; Wayne Lootsma[5]; William Schramm[5]; Felix Yiu[6]; Arthur Fogiel, Jr. [3]; *[1]Pfizer Inc., Groton, CT; [2]Pfizer Global R&D, Groton, CT; [3]Phoenix S&T, Inc., Chester, PA; [4]Phoenix S & T, Inc, Chester, PA; [5]Sound Analytics, LLC, Niantic, CT; [6]Apricot Designs, Covina, CA*

MOE am 08:50 **Reducing Bottlenecks in ADME Sample Analysis Using Solid Phase Extraction with a Quadrupole Time-of-Flight Mass Spectrometer**; Panos Hatsis [1]; Michelle Romm[2]; Vaughn Miller[2]; Jakal Amin[1]; William A. Lamarr[2]; Can "Jon" Ozbal[2]; Shawn Harriman[1]; *[1]Novartis Institutes for Biomedical Research, Cambridge, MA; [2]BIOCIUS Lifesciences, Woburn, MA*

MOE am 09:10 **Evaluation of a New Prototype Accurate Mass System for Simultaneous Quantitative and Qualitative Bioanalysis and Metabolite Profiling**; Henrianna Pang[1]; Hesham Ghobarah[2]; Tanya Gamble[2]; Yingbo Yang[1]; Sophie Pan[1]; Brad Gien[1]; Douglas J. Turk[1]; *[1]NoAb BioDiscoveries, Inc., Mississauga, Canada; [2]AB SCIEX, Concord, Canada*

MOE am 09:30 **High-Throughput LDTD384-MS/MS for Drug Metabolism and Pharmacokinetic Studies**; Sebastien Gagne[1]; Patrice Tremblay[2]; Francis Foczeny[1]; Robert Houle[1]; Eric Langlois[1]; Kevin Bateman[1]; Pierre Picard[2]; *[1]Merck Canada, Kirkland, Canada; [2]Phytronix Technologies, Quebec, QC*

MOE am 09:50 **Automated Solid-Phase Microextraction in 96-Well Plate Format: High-Throughput Analysis and Ligand-Receptor Binding Studies**; Janusz Pawliszyn[1]; Dajana Vuckovic[1]; Erasmus Cudjoe[1]; Dietmar Hein[2]; Rosa Vatinno[3]; Carlo Zambonin[3]; *[1]University of Waterloo, Waterloo, Canada; [2]Professional Analytical Service Technology, Magdala, Germany; [3]Universit`a degli Studi di Bari, Bari, Italy*

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

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

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

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

MOF am 09:10 **Biosynthetic Concatenated Labeled Peptides: Equivalence to Whole Labeled Proteins as Internal Standards for Isotope Dilution Mass Spectrometry?** Jacquelyn Cole [2]; Dhaval Nanavati[1]; Cai Chen[2]; Brian Martin[2]; Anthony J. Makusky; Sanford P. Markey[2]; *[1]Northwestern University, Evanston, IL; [2]NIMH/ NIH, Bethesda, MD*

MOF am 09:30 **Identification and Quantification of *in vitro* Protein Metabolites Using a Novel Mass Spectrometry-Based Workflow**; Scott Peterman[2]; Amol Prakash[2]; Julian Saba[1]; Taha Rezai[3]; Bryan Krastins[1]; David Sarracino[1]; *[1]Thermo Fisher Scientific, San Jose, CA; [2]ThermoFisher Scientific, Cambridge, MA; [3]Thermo Scientific BRIMS, Cambridge, MA*

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

MOF am 10:10 **Quantitative LC-MS/MS Method Development for Quantitation of Therapeutic Proteins in Plasma**; Steven T. Wu[1]; Zheng Ouyang[2]; Timothy Olah[2]; Mohammed Jemal[1]; *[1]Bristol-Myers Squibb, Princeton, NJ; [2]Bristol-Myers Squibb Company, Princeton, NJ*

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

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

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

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

MOG am 09:30 **Fluorescent Zdye Platform for Differential Covalent Labeling of Proteins for Quantitative Intact Proteomic Analysis on 2D Gels**; Edward Dratz[1]; Paul Grieco[1]; Scott Laffoon[1]; Ben Reeves[1]; Jennifer Vance[1]; Matt shipman[1]; Rand Swanson[2]; *[1]Montana State University, Bozeman, MT; [2]Resonon, Inc., Bozeman, Montana*

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

MOG am 10:10 **The Identification of Protein Biomarkers Distinguishing Virus Transmission Competent and Refractive Insect Populations by Coupling Genetics with Quantitative Intact Proteomics**; Michelle Cilia[1]; Tara Fish[1]; Kevin Howe[1]; Dawn Smith[2]; Theodore Thannhauser[1]; Stewart Gray[1, 2]; *[1]USDA-ARS, Ithaca, NY; [2]Cornell University, Ithaca, NY*

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

2:30 – 4:30 PM, MONDAY AFTERNOON
FUNDAMENTALS: SUPRAMOLECULAR CHEMISTRY AND NON-COVALENT COMPLEXES
Evan Williams, presiding
Room: Ballroom HJ

MOA pm 2:30 **Native Mass Spectrometry Provides a First Structural Model for the 405 kDa CRISPR-RNA Antiviral Defense System**; Esther Van Duijn[1]; Arjan Barendregt[1]; Jelle Bultema[3]; Matthijs M. Jore[2]; Magnus Lundgren[2]; Stan J. Brouns[2]; Blake Wiedenheft[4]; Jennifer A. Doudna[4]; Egbert J. Boekema[3]; John van der Oost[2]; Albert J.R. Heck[1]; *[1]Utrecht University, Utrecht, Netherlands; [2]Wageningen University, Wageningen, Netherlands; [3]University of Groningen, Groningen, Netherlands; [4]UC Berkeley, Berkeley, CA*

MOA pm 2:50 **Ion Mobility Spectrometry/Mass Spectrometry Reveals Conformational Conversion from Random Assembly to β-Sheet-Rich Oligomers in Amyloid Fibril Forming Peptides**; Christian Bleiholder[1]; Nicholas Dupuis[2]; Thomas Wyttenbach[3]; Michael T. Bowers [3]; *[1]University of California, SB, Santa Barbara, CA; [2]UC Santa Barbara, Goleta, CA; [3]University of California San, Santa Barbara, CA*

MOA pm 3:10 **Surface-Induced Dissociation Lends Insight on Subunit Arrangement in Non-Covalent Protein Complexes**; Anne E. Blackwell; Eric D. Dodds; Christopher M. Jones; Vicki H. Wysocki; *University of Arizona, Tucson, AZ*

MOA pm 3:30 **Analysis of Big Macromolecular Soluble and Membrane Protein Complexes for ESI-MS**; Nina Morgner; Helena Hernandez; Min Zhou; Laura A Lane; Carol Robinson; *University of Oxford, Oxford, UK*

MOA pm 3:50 **Supercharged HD Exchange-MS for Top-down Structural Characterization of Proteins and Complexes**; Harry J. Sterling; Evan R. Williams; *University of California, Berkeley, CA*

MOA pm 4:10 **Noncovalent Molecular Recognition of Protonated Peptidomimetic Bases by 18-Crown-6: Structure Versus Energetics**; Mary T. Rodgers; Yu Chen; *Wayne State University, Detroit, MI*

2:30 – 4:30 PM, MONDAY AFTERNOON
ADVANCES IN ION IMAGING
Michelle Reyzer, presiding
Room: Ballroom ACE

MOB pm 2:30 **Imaging Mass Spectrometry: Current Performance and Upcoming Challenges**; Pierre Chaurand; *University of Montreal, Montreal, Canada*

MOB pm 2:50 **Correlation of MS, MRI, and Optical Images for 3D Assessment of the Tumor Microenvironment**; Erin H. Seeley[1]; Julie A. Sterling[1]; Amelie R. Gillman[1]; Tuhin K. Sinha[2]; Rachelle W. Johnson[1]; Thomas E. Yankeelov[1]; John C. Gore[1]; Gregory R. Mundy[1]; Lynn M. Matrisian[1]; Richard M. Caprioli[1]; *[1]Vanderbilt University, Nashville, TN; [2]University of California San Fransisco, San Fransisco, CA*

MOB pm 3:10 **Revealing Bacterial Post-Translationally Modified Cannibalistic Metabolic Exchange Factors with Imaging Mass Spectrometry;** Pieter Dorrestein; *University of California, San Diego, Skaggs School, La Jolla, CA*

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

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

MOB pm 4:10 **Intraoperative Identification of Malignant Gastrointestinal Tumors and Proximal Metastases by Rapid Evaporative Ionization Mass Spectrometry**; Julia Balog[2]; Tamas Szaniszlo[2]; Daniel Szalay[2]; Lajos Godorhazy[2]; Laszlo Sasi Szabo[4]; Karl C Schaefer[1]; Miklos Toth[3]; Zoltan Takats[1]; *[1]Justus-Liebig-University, Giessen, Germany; [2]Medimass Inc., Budapest, Hungary; [3]Semmelweis University, Budapest, Hungary; [4]University of Debrecen, Debrecen, Hungary*

2:30 – 4:30 PM, MONDAY AFTERNOON
MS OF SYNTHETIC POLYMERS
Barbara Larsen, presiding
Room: Ballroom BDF

MOC pm 2:30 **Characterization of Enzymatically-Catalyzed Polycaprolactones**; William E. Wallace[1]; Atul Bhangale[2]; Santanu Kundu[1]; Charles M. Guttman[1]; Kathleen M. Flynn[1]; Richard A. Gross[2]; Kathryn L. Beers[1]; *[1]National Institute of Standards & Technology, Gaithersburg, MD; [2]Polytechnic Institute of New York University, New York, NY*

MOC pm 2:50 **Library of Polymer Architectures Examined by Ion Mobility Spectrometry-Mass Spectrometry**; Sarah Trimpin[1]; Hoskins Jesika[2]; Kanchana Wijerathne[1]; Ellen D. Inutan [1]; Scott M. Grayson[2]; *[1]Wayne State University, Detroit, MI; [2]Tulane University, New Orleans, LA*

MOC pm 3:10 **Ion Mobility Mass Spectrometry of Supramolecular Polymers**; Chrys Wesdemiotis; Xiaopeng Li; Wen-Bin Zhang; Stephen Z. D. Cheng; *The University of Akron, Akron, OH*

MOC pm 3:30 **Methylation of Pendant Groups to Enable end-Group Characterization in MAA-based Copolymers**; Rémi Giordanengo[1]; Stéphane Viel[1]; Manuel Hidalgo[2]; Béatrice Allard-Breton[2]; André Thévand[1]; Laurence Charles [1]; *[1]Universités Aix-Marseille, Marseille, France; [2]Arkema, Pierre-Bénite, France*

MOC pm 3:50 **Electron Induced Dissociation: A New Method of Characterising Polymers;** Michael Smith; Jackie Mosely; *Durham University, Durham, UK*

MOC pm 4:10 **Characterization of Hydrogenation Reactions and Products of 1,4-bis(phenethyl)benzene (DEB) with High-Resolution Mass Spectrometry**; Steven Thornberg; James

Hochrein; *Sandia National Laboratories, Albuquerque, NM*

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

MOD pm 2:30 **Application of Mass Spectrometry in the Development of Protein Therapeutics**; Reb Russell; *Bristol-Myers Squibb Co., Princeton, New Jersey*

MOD pm 2:50 **Disulfide Linkages of an Albumin Fusion Protein**; Andrea Meeler; Mark Hesselberg; Angie Deng; Michael Byrne; Zhuchun Wu; *Human Genome Sciences, Inc., Rockville, MD*

MOD pm 3:10 **A Tris (2-Carboxyethyl) Phosphine (TCEP) Related Cleavage on Cysteine-Containing Proteins**; Li Tao; Peiran Liu; Bethanne Warrack; Wei Wu; Yunping Huang; Guodong Chen; Reb Russell; *Bristol-Myers Squibb Co., Pennington, NJ*

MOD pm 3:30 **Mass Spectrometry Methods to Analyze Higher Order Structure of Protein Therapeutics**; Lisa Jones[1]; Justin Sperry [2]; James Carroll[2]; Michael L. Gross[1]; *[1]Washington University, St. Louis, MO; [2]Pfizer, Chesterfield, MO*

MOD pm 3:50 **Aglycosylation Alters Protein Conformation in Antibodies Engineered with Specific Effect or Functions**; Damian Houde [1, 3]; Christopher Reyes[1]; Tiffany Chen[2]; Steven Berkowitz[1]; Dane Wittrup[2]; John R. Engen[3]; *[1]Biogen Idec, Cambridge, MA; [2]MIT, Cambridge, MA; [3]Northeastern University, Boston, MA*

MOD pm 4:10 **Characterizing Biotherapeutic Protein 3D Structures by Electrospray Ion-Mobility Mass Spectrometry: Biological Significance and Comparison with X-ray Crystallography and NMR Measurements**; Weibin Chen; Asish Chakraborty; St John Skilton; Scott Berger; Jeff Mazzeo; *Waters Corporation, Milford, MA*

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

MOE pm 2:30 **How to Deal with Human Metabolites in Safety Testing (MIST): An Overview**; Natalia Penner; Lewis Klunk; Chandra Prakash; *Biogen Idec, Cambridge, MA*

MOE pm 2:50 **Mass Spectrometry Solutions for an Overall Metabolite Monitoring Strategy**; Ragu Ramanathan; Nirmala Raghavan; Donglu Zhang; Lifei Wang; Hong Cai; S. Nilgun Comezoglu; Jonathan L. Josephs; William Humphreys; *Bristol-Myers Squibb, Princeton, NJ*

MOE pm 3:10 **Method Development for Biological Sample Processing and Metabolite Profiling by LC-MS in Drug Development**; Joanna Pols; Swapan K. Chowdhury; Kevin Alton; *Merck Research Laboratories, Kenilworth, NJ*

MOE pm 3:30 **To the Detection and Quantification of Drug Metabolites Using the Simultaneous Collection of MRM and MS/MS Data: A Case Study**; Warren Potts[1]; Ian Wilson[3]; Rob Plumb[2]; *[1]Waters Corporation, Milford, MA; [2]Imperial College, London, UK; [3]Astra Zeneca DMPK, Alderly Park Maccesfield, Manchester UK*

MOE pm 3:50 **Semi-Quantitation of Metabolites across Species for Direct and Quantitative Evaluation of MIST Coverage**; Hongying Gao; Shibing Deng; R. Scott Obach; *Pfizer, Inc, Groton, CT*

MOE pm 4:10 **Effect of Mobile Phase pH and Aqueous-Organic Ratio on MS/MS Fragmentation Pattern: Implications in LC-MS/MS Bioanalysis**; Jian Wang; Anne Aubry; Mark S. Bolgar; Timothy Olah; Mohammed Jemal; *Bristol-Myers Squibb, Princeton, NJ*

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

MOF pm 2:30 **Quantitative Measurement of Biologics Using Mass Spectrometry: An Overview**; Patrick J. Rudewicz; *Elan Pharmaceuticals, South San Francisco, CA*

MOF pm 2:50 **Integrated Label-Free Quantitative Analysis of the Lung Proteome, Secretome, and Phosphoproteome in a Model of Acute Lung Injury;** Matthew W. Foster; Erik J. Soderblom; J. Will Thompson; Harvey E. Marshall; Arthur M. Moseley; *Duke University School of Medicine, Durham, NC*

MOF pm 3:10 **A Novel Quantitative Approach for Sulfated Cholecystokinin CCK-8 in Plasma Using Immunoprecipitation LC-MS/MS**; Scott Young[1]; Samir Julka[1]; Glenn Bartley[2]; Jeffrey Gilbert[3]; Brian Wendelburg[3]; Shao-Ching Hung[1]; Kerr Anderson[1]; Wallace Yokoyama[2]; *[1]Dow Chemical Company, Midland, MI; [2]Western Regional Research Center, USDA, Albany, CA; [3]Dow AgroSciences, Indianapolis, IN*

MOF pm 3:30 **Supporting Therapeutic Antibody Programs with Total Target Biomarker Quantitation by Sensitive Immunoaffinity LC-MS/MS – Validation and Implementation in Clinical Trials**; Hendrik Neubert; *Pfizer Corporation, Sandwich, Kent, UK*

MOF pm 3:50 **Comparison of Different Mass Spectrometry Techniques for Quantitative Analysis of Peptide Drugs at Low pg/ml Levels in Biological Samples**; Anders Sonesson; Anna-Karin Wendel; Lasse Skov Jensen; Magnus Knutsson; Alf Carlshaf; *Ferring Pharmaceuticals A/S, Copenhagen S, Denmark*

MOF pm 4:10 **Quantitation of Therapeutic Peptides and Oligonucleotides Using High-Resolution Mass Spectrometry: Benefits and Considerations**; J.C. Yves Leblanc; J. Larry Campbell; *AB SCIEX, Concord, On, Canada*

2:30 – 4:30 PM, MONDAY AFTERNOON
PHOSPHOPROTEOMICS APPLICATIONS
Jesper Olsen, presiding
Room: Hall 4

MOG pm 2:30 **System-Wide Temporal Characterization of the Proteome and Phosphoproteome of Differentiating Human Embryonic Stem Cells**; Kristoffer T. G. Rigbolt[1]; Tatyana A. Prokhorova[1]; Vyacheslav Akimov[1]; Jeanette Henningsen[1]; Irina Kratchmarova[1]; Moustapha Kassem[2]; Matthias Mann[3]; Jesper V. Olsen[4]; Blagoy Blagoev[1]; *[1]University of Southern Denmak, Odense, Denmark; [2]Odense University Hospital &Medical Biotech Center, Odense, Denmark; [3]Max Planck Institute for Biochemistry, D Martinsried, Germany; [4]University of Copenhagen, Denmark*

MOG pm 2:50 **Activity Dependent Changes in Synaptic Composition**; Jonathan C. Trinidad[1]; Agnes Thalhammer[2]; Aenoch Lynn[1]; Peter Baker[1]; Ralf Schoepfer[2]; A.L. Burlingame[1]; *[1]University of California, San Francisco, San Francisco, CA; [2]University College London, London, UK*

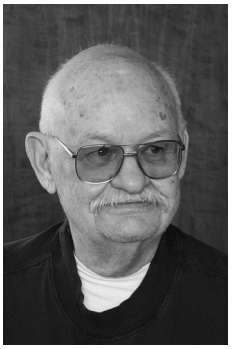
MOG pm 3:10 **Phosphotyrosine Proteome Analysis of *E. coli* Strains Using High Resolution Fourier Transform Mass Spectrometry**; Raghothama Chaerkady [1, 2]; Jyoti Sharma[2]; Santosh Renuse[2]; Harrys Kishore J[1, 2]; Nandini Patankar[2]; Sneha Pinto[2]; Harsha HC[1, 2]; Min-Sik Kim[1]; Anne-Marie Hanssen[3]; James B. Kaper[3]; Akhilesh Pandey[1]; *[1]Institute of Genetic Med, Johns Hopkins University, Baltimore, MD; [2]Institute of Bioinformatics, Bangalore, India; [3]University of Maryland School of Medicine, Baltimore, MD*

MOG pm 3:30 **Phosphoproteomic Survey of *in vitro* Kinase Substrates and the Phosphorylation Motif**; Naoyuki Sugiyama[1]; Haruna Imamura[1]; Koichi Yokota[2]; Sumiko Ohnuma[1]; Mai Tsukaha[1]; Masaru Tomita[1]; Yasushi Ishihama[1]; *[1]IAB, Keio Univ., Tsuruoka, Japan; [2]Carna Biosciences Inc., Kobe, Japan*

MOG pm 3:50 **A Tissue-Specific Atlas of Protein Phosphorylation and Expression in the Mouse**; Edward Huttlin[1]; Mark Jedrychowski[1]; Josh Elias[2]; Tapasree Goswami[1]; Ramin Rad[1]; Judit Villen[1]; Wilhelm Haas[1]; Mathew Sowa[1]; Steven Gygi[1]; *[1]Harvard Medical School, Boston, MA; [2]Stanford University, Stanford, CA*

MOG pm 4:10 **Multiplexed Quantitative Analysis of the Differentiating Human ES Cell Phosphoproteome via High Mass Accuracy Tandem MS;** Nicole A Beauchene[1]; Danielle L Swaney[1]; Pengzhi Yu[1, 2]; Steven A Jackson[1, 2]; James A Thomson[1, 2]; Joshua J Coon[1]; *[1]University of Wisconsin, Madison, WI; [2]Morgridge Institute for Research, Madison, WI*

4:45 – 5:30 PM, MONDAY
AWARD LECTURE
Hall 4



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

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

8:30 – 10:30 AM, TUESDAY MORNING
FUNDAMENTALS: BIOMOLECULAR ION-RADICAL CHEMISTRY
Frank Turecek, presiding
Room: Ballroom HJ

TOA am 08:30 **Evidence for Internal Energy Dependent Mechanisms in the Formation of Radical Product Ions in Electron Capture Dissociation**; Natalie Thompson; Daniel A. Thomas; Takashi Baba; Gary L. Glish; *University of North Carolina, Chapel Hill, NC*

TOA am 08:50 **Tunable Fixed-Charge Tags for Electron Transfer Dissociation of Peptides**; Thomas W. Chung; Frantisek Turecek; *University of Washington, Seattle, WA*

TOA am 09:10 **Gas-Phase Structures of the Three-Helix Bundle Protein KIX Probed by Electron Capture Dissociation**; Martin Tollinger[2]; Kathrin Breuker[1]; *[1]University of Innsbruck, Innsbruck, Austria; [2]Max F. Perutz Laboratories, Vienna, Austria*

TOA am 09:30 **Gas Phase Covalent Modification of Peptides via Ion/Ion Reactions: Schiff Base Formation on the Conversion of Ion Polarity**; Kerry Hassell; Scott A. Mcluckey; *Purdue University, West Lafayette, IN*

TOA am 09:50 **Elucidating Tertiary Structure in Gaseous Proteins Using Distant Dependent Hydrogen Atom Transfer between Radical Donor-Acceptor Pairs**; Tony Ly; Ryan R. Julian; *University of California, Riverside, Riverside, CA*

TOA am 10:10 **The dGdC Radical Cation Base Pair as a Model for Oxidative Damage in DNA**; Linda Feketeova[1]; Chan Bun[2]; George N. Khairallah[1]; Leo Radom[2]; Richard A. J. O'Hair[1]; *[1]Bio21 Inst & School of Chemistry,Uni of Melbourne, Melbourne, Australia; [2]School of Chemistry, University of Sydney, Sydney, Australia*

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

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

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

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

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

TOB am 09:50 **Lipid Imaging by Matrix Implanted Laser Desorption/Ionization (MILDI) Ion Mobility-TOF MS Using Sub-Monolayer Nanoparticulate matrices**; J. Albert Schultz[1]; Ernest K. Lewis [1]; Thomas Egan[1]; Kelley Waters[1]; Valerie Vaughn[1]; Michael McCulley[1]; Jerry F. Moore[2]; Jeremy Post[3]; Alice Delvolve[3]; Amina S. Woods[3]; *[1]Ionwerks, Inc., Houston, TX; [2]MassThink LLC, Naperville, IL; [3]NIDA IRP, NIH, Baltimore, MD*

TOB am 10:10 **Identification of 1-Deoxy-Sphingoid Bases and *N*-Acyl-1-Deoxy-Sphingoid Bases by LC-ESI-MS/MS**; Hyejung Park[1]; Elaine Wang[2]; Mark Cameron Sullards[2]; Alfred H. Merrill[2]; Catherine E. Costello[1]; *[1]Boston University School of Medicine, Boston, MA; [2]Georgia Institute of Technology, Atlanta, GA*

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

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

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

TOC am 09:10 **Virus Assembly and Stability Monitored by Native Electrospray and Ion Mobility Mass Spectrometry**; Glen Shoemaker[1]; Esther Van Duijn[1]; Sue Crawford[2]; Charlotte Uetrecht[1]; Marian Baclayon[3]; Wouter Roos[3]; Gijs Wuite[3]; Mary Estes[2]; Venkataram Prasad[2]; Albert J.R. Heck[1]; *[1]Utrecht University, Utrecht, Netherlands; [2]Baylor College of Medicine, Houston, Texas; [3]Vrije Universiteit, Amsterdam, Netherlands*

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

TOC am 09:50 **Dynamic Evolution of the Macaque Pulmonary Proteome Response to Highly Pathogenic Avian Influenza and Spanish Flu Influenza Infections**; Joseph Brown[1]; Robert Palermo[2]; Jon Jacobs[1]; Marina Gritsenko[1]; Michael Katze[2]; Richard D. Smith[1]; *[1]Pacific Northwest National Laboratories, Richland, WA; [2]University of Washington - Dept. of Microbiology, Seattle, WA*

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

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

TOD am 08:30 **Quantifying Protein-Ligand Interactions with Electrospray Ionization Mass Spectrometry**; Elena Kitova[1]; Lan Liu[1]; Lu Deng[1]; Nian Sun[1]; Amr El-Hawiet[1]; Dhanashri Bagal [2]; Paul Schnier[2]; John Klassen[1]; *[1]University of Alberta, Edmonton, Canada; [2]Amgen, Thousand Oaks, CA*

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

TOD am 09:10 **Probing the Sites of Molecular Tweezer Noncovalent Binding to Amyloid β-Protein Using Top-Down ECD-FT-ICR MS**; Eric Pang[1, 2]; Sheng Yin[1]; Gal Bitan[2]; Thomas Schrader[3]; Joseph A. Loo[1]; David Teplow[2]; *[1]Department of Chemistry and Biochemistry, UCLA, Los Angeles, CA; [2]Department of Neurology, UCLA, Los Angeles, CA; [3]University of Duisburg-Essen, Essen, Germany*

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

TOD am 09:50 **Investigating Protein-Peptide Binding by 'Top-Down' FT-ICR MS, Ion-Mobility MS and Hydrogen/Deuterium Exchange;** David J Clarke[1]; Euan Murray[2]; Peter A Faull[2]; Ted Hupp[2]; Perdita Barran[2]; Pat Langridge-Smith[1]; C. Logan Mackay[1]; *[1]SIRCAMS, University of Edinburgh, Edinburgh, UK; [2]The University of Edinburgh, Edinburgh, UK*

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

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

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

TOE am 08:30 **Beyond Successful ISR: Case by Case Investigations for Unmatched Reassay Results When ISR Passed**; Robert Massé; Aimin Tan; Sylvain Lachance; Sofi Gagnon-Carignan; Ann Levesque; *Anapharm Inc., Quebec, QC*

TOE am 08:50 **Identifying Trends and Improving Outcomes from Incurred Sample Analysis Failure Investigations in a Bioanalytical CRO**; Patrick Bennett; Min Meng; Scott Reuschel; *Tandem Labs, Salt Lake City, UT*

TOE am 09:10 **Incurred Sample Reanalysis by a Bioanalytical Data Management System**; Joel I Usansky; Mike Small; Marc Krug; *Thermo Fisher, Philadelphia, PA*

TOE am 09:30 **Unexpected Event Investigation and Resolution for an ISR Test Failure for a SN-38 Assay Supporting a Clinical Study**; Qin C. Ji; Lisa Iacono; Dennis Garner; Mark E. Arnold; *Bristol-Myers Squibb Co., Princeton, NJ*

TOE am 09:50 **Application of Dried Blood Spots for the Analysis of a Novel Compound in the Presence of Liable Phase II Metabolites**; Hermes Licea Perez; Sharon Boram; Christopher Evans; *Bioanalysis, King of Prussia, PA*

TOE am 10:10 **The Evolution and Optimization of a High-Throughput LC/MS/MS Bioanalytical Method: HPLC-MS/MS vs. UFLC-MS/MS vs. UPLC-MS/MS**; Lisa Ford; Mike Allen; Kelli Goodman; *Enthalpy Analytical, Inc., Durham, NC*

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

TOF am 08:30 **Estimation of Metabolite Concentrations in the Absence of an Authentic Standard Based on Relative $^{12}C/^{14}C$ Ratios Analyzed by High-Resolution ESI-MS**; Filip Cuyckens; Nadine Pauwels; Valerie Koppen; Laurent Leclercq; *Johnson & Johnson Pharma R&D, Beerse, Belgium*

TOF am 08:50 **A Novel Detection Technology Charged Aerosol Detection Coupled with HPLC, UV and LTQ Orbitrap MS for Drug Metabolism Study**; Hong Cai[1]; Jonathan L. Josephs [1]; Ragu Ramanathan[1]; Christopher Crafts[2]; Bruce A. Bailey[2]; William G. Humphreys[1]; *[1]Bristol-Myers Squibb, Pennington, NJ; [2]Dionex, Sunnyvale, CA*

TOF am 09:10 **Identification and Quantification of Reactive Metabolites and Their Adducts Using Electrochemistry Coupled to LC-MS**; Uwe Karst[1]; Wiebke Lohmann[1]; Anne Baumann[1]; Sandra Jahn[1]; Björn Meermann[1]; *[1]University of Münster, Münster, Germany*

TOF am 09:30 **LC-CaptiveSpray Ionization-Mass Spectrometry for Detection, Characterization and Quantification of Circulating Human Metabolites**; Nirmala Raghavan; Ragu Ramanathan; S. Nilgun Comezoglu; William Humphreys; *Bristol-Myers Squibb, Princeton, NJ*

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

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

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

TOG am 08:30 **Experimental and Computational Strategies in Quantitative Proteomics**; Alexey Nesvizhskii; *University of Michigan, Ann Arbor, MI*

TOG am 08:50 **Minimally Permutated Peptide Analogs (MIPA) as Internal Standards for Relative and Absolute Quantification of Peptides and Proteins**; Joerg Seidler[1]; Dominic Winter[1]; Dominik Kugelstadt[2]; Bianca Derrer[2]; Barbara Kappes[2]; Wolf D. Lehmann[1]; *[1]German Cancer Research Center, Heidelberg, Germany; [2]University of Heidelberg, Heidelberg, Germany*

TOG am 09:10 **Spectral Counting Error Statistics from Nine Replicate MudPIT Samples**; Bret Cooper; *USDA-ARS, Beltsville, MD*

TOG am 09:30 **EtEP - A Novel Method to Produce an Equimolar Mixture of Standard Peptides for Absolute Quantification and Stoichiometry Determination**; Johann Holzmann[1]; Johannes Fuchs[1]; Otto Hudecz[2]; Peter Pichler[3]; Mathias Madalinski[1]; Robert Kurzbauer[1]; Karl Mechtler[1,2]; *[1]Research Institute of Molecular Pathology, Vienna, Austria; [2]Institute of Molecular Biotechnology, Vienna, Austria; [3]Christian Doppler Laboratory for Proteome Analysis, Vienna, Austria*

TOG am 09:50 **Detection and Correction of Interference in MRM Analysis**; David Fenyo[1]; Sofia Waldemarson[2]; Guoan Zhang[2]; Asa Wahlander[2]; Beatrix Ueberheide[1]; Sunnie Myung[1]; Brian Reed[1]; Kelly Molloy[1]; Julio Cesar Padovan[1]; Jan Eriksson[3]; Thomas Neubert[2]; Brian Chait[1]; *[1]The Rockefeller University, New York, NY; [2]New York University Medical Center, New York, NY; [3]Swedish University of Agricultural Sciences, Uppsala, Sweden*

TOG am 10:10 **Development and Application of a System Suitability Standard and Protocol to Assess Data Quality in LC-MRM-MS across Multiple MS Platforms**; Susan E. Abbatiello[1]; Birgit Schilling[2]; D. R. Mani[4]; Xingdong Feng[8]; Lisa Zimmerman [6]; Brendan Maclean[5]; Michael P. Cusazk[2]; Terri Addona[1]; Nell Sedransk[8]; Michael J. Maccoss[5]; Steven C. Hall[3]; Steven A. Carr[1]; CPTAC Network[7]; *[1]Broad Institute, Cambridge, MA; [2]Buck Institute for Age Research, Novato, CA; [3]UCSF Sandler-Moore Mass Spectrometry Core Facility, San Francisco, CA; [4]The Broad Institute of MIT and Harvard, Cambridge, MA; [5]University of Washington, Seattle, WA; [6]Vanderbilt University, Nashville, TN; [7]National*

Cancer Institute, Bethesda, MD; [8]NISS, Research Triangle Park, NC

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

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

TOA pm 2:30 **Alkali Metal Cationized Aliphatic Amino Acids: Charge-Solvation Becomes More Favorable with Increasing Ion Size**; Jos Oomens[1, 2]; Miriam Drayss[3]; Peter B. Armentrout[4]; Mathias Schaefer[3]; *[1]FOM Rijnhuizen, Nieuwegein, Netherlands; [2]University of Amsterdam, Amsterdam, Netherlands; [3]Inst. Organic Chemistry University of Cologne, Koeln, Germany; [4]University of Utah, Salt Lake City, UT*

TOA pm 2:50 **Gas Phase Structure of Micro-Hydrated Manganese Perchlorate Salts Probed by Infrared Spectroscopy**; Philippe Maitre[1]; Edith Nicol[1, 2]; Vincent Steinmetz[1]; Rajeev Sinha[1]; *[1]Laboratoire de Chimie Physique, Orsay, France; [2]DCMR, Department of Chemistry, Ecole Polytechnique, Palaiseau, France*

TOA pm 3:10 **Infrared Spectroscopic Evidence for Ring Opening of Cyclic Monosaccharides**; Sarah Stefan[1]; John R. Eyler [1]; Brad K. Bendiak[3]; Darin Brown[3]; Jos Oomens[2]; Jeffrey Steill[2]; *[1]Department of Chemistry, University of Florida, Gainesville, FL; [2]FOM Rijnhuizen, Nieuwegein, Netherlands; [3]University of Colorado Health Sciences Center, Denver, CO*

TOA pm 3:30 **Building and Breaking the Water Network:Thermodynamics of Hydration and Long-Range Ion Effects from Infrared Photodissociation Spectroscopy and Kinetics**; James Prell[1]; Jeremy O'Brien[2]; Terrence Chang[1]; Evan R. Williams[1]; *[1]University of California, Berkeley, CA; [2]UC Berkeley, Berkeley, CA*

TOA pm 3:50 **Structures of Bare and Hydrated Pb[AA-H]$^+$ Complexes (AA=Ala, Val, Leu, Ile, Phe, Met) by IRMPD Spectroscopy and Computational Chemistry**; Michael Burt; Sarah Decker; Chad Atkins; Mark Rowsell; Travis Fridgen; *Memorial University of NL, St. John's, Canada*

TOA pm 4:10 **Vibrational Signatures of Zwitterionic and Charge Solvated Structures for Metal-Complexed Amino Acid Dimers**; Warren K Mino[1]; John R. Eyler [1]; Robert C. Dunbar[2]; Nicolas Polfer[1]; *[1]University of Florida, Gainesville, FL; [2]Case Western Reserve Univ, Cleveland, OH*

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

TOB pm 2:30 **Mass Spectrometry Analysis of Natural HLA-DR Associated Peptides in Rheumatoid Arthritis or Antibiotic-Refractory Lyme Arthritis**; Chunxiang Yao[1]; Elise E. Drouin[2]; Robert Seward[1, 2]; Allen C. Steere[2]; Catherine E. Costello[1]; *[1]Boston University School of Medicine, Boston, MA; [2]MGH, Harvard Medical School, Boston, MA*

TOB pm 2:50 **Sequencing and Quantification of IgG Fragments and Antigen Binding Regions by Mass Spectrometry;** Dominique de Costa[1]; Ingrid Broodman[2]; Martijn van Duijn[3]; Christoph Stingl [3]; Lennard Dekker[3]; Peter Burgers[3]; Henk Hoogsteden[1]; Peter Sillevis Smitt[3]; Rob van Klaveren[1]; Theo Luider[3]; *[1]Erasmus Medical Center, Dept. of Pulmonology, Rotterdam, Netherlands; [2]Erasmus Medical Center, Dept.of Clinical Chemistry, Rotterdam, Netherlands; [3]Erasmus Medical Center, Dept. of Neurology, Rotterdam, Netherlands*

TOB pm 3:10 **Proteomic Elucidation of Intrinsic Defense Mechanisms Mediated by the Interferon Inducible Protein X**; Tuo Li; Zixuan Wang; Fang Yu; Ileana M. Cristea; *Princeton University, Princeton, NJ*

TOB pm 3:30 **A Mass Spectrometric Strategy to Develop Multi-Epitope Protein Vaccines against Invasive Fungal Infections**; Diana Diaz Arevalo; Teresa Hong; James Ito; Markus Kalkum; *City of Hope, Duarte, CA*

TOB pm 3:50 **Identification of Novel Class I MHC-Restricted Phosphopeptides for Use as Cancer Immunotherapeutics**; Jennifer Cottine; Kara Cummings; Michelle English; Jeffrey Shabanowitz; Victor H. Engelhard; Donald F. Hunt; *UVA, Charlottesville, VA*

TOB pm 4:10 **Next Generation Autoimmune Disease Diagnostics: Mass Spectrometric and Peptide Chip Epitope Analysis of Autoantigens**; Michael O. Glocker [1]; Jörn Kekow[5]; Reinhard Guthke[2]; Dirk Koczan[3]; Hans-Jürgen Thiesen[4]; *[1]Proteome Center Rostock, Rostock, Germany; [2]Hans-Knoell Institute, Jena, Germany; [3]Steinbeis Transfer Center for Proteomics, Rostock, Germany; [4]IndyMED GmbH, Rostock, Germany; [5]Otto von Guericke University, Magdeburg, Germany*

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

TOC pm 2:30 **21st Century Developments in the Mass Spectrometry of Glycans and Glycoconjugates**; Catherine E. Costello; *Boston University School of Medicine, Boston, MA*

TOC pm 2:50 **A Systematic Method for Comprehensive Glycome Elucidation**; Shuai Wu[1]; Nannan Tao[1]; Ning Tang[2]; Keith Waddell[2]; Rudi Grimm[2]; J. Bruce German[1]; Carlito Lebrilla[1]; *[1]UC Davis, Davis, CA; [2]Agilent Technologies, Palo Alto, CA*

TOC pm 3:10 **High Performance Glycoproteome Analysis of Human and Murine Plasma Using Ion Trap Mass Spectrometry**; Katherine A. Stumpo[1]; Laura Shelton[2]; Thomas Seyfried[2]; Vernon N. Reinhold[1]; *[1]University of New Hampshire, Durham, NH; [2]Department of Biology, Boston College, Chestnut Hill, MA*

TOC pm 3:30 **Method Development for the Comprehensive Compositional Analysis of Heparin/Heparan Sulfate Disaccharides from Human Serum**; Wei Wei; Milady Ninonuevo; Lieza Marie Danan; Julie A. Leary; *University of California Davis, Davis, CA*

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

TOC pm 4:10 **Electron Detachment Of Highly Sulfated Glycosaminoglycan Carbohydrates**; Franklin E. Leach III[1]; Jeremy Wolff[3]; Tatiana Laremore[2]; Zhongping Xiao[2]; Sailaja Arungundram[1]; Kanar Al-Mafraji[1]; Andre Venot[1]; Geert-Jan Boons[1]; Robert J. Linhardt[2]; Jon Amster[1]; *[1]University of Georgia, Athens, GA; [2]Rensselaer Polytechnic Institute, Troy, NY; [3]Bruker Daltonics, Billerica, MA*

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

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

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

TOD pm 3:10 **Low-Temperature Plasma (LTP) Probe Ambient Ionization Source: Temporally and Spatially-Resolved Investigations of Plasma-Sample Interactions**; Joshua Wiley[1]; Carsten Engelhard[2]; Ayanna Jackson[1]; Jacob Shelley[2]; Robert Noll[1]; R. Graham Cooks[1]; Gary Hieftje[2]; *[1]Purdue University, West Lafayette, IN; [2]Indiana University, Bloomington, IN*

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

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

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

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

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

TOE pm 2:50 **Metabolomics Data Processing Techniques Applied to Metabolite Identification of Xenobiotics**; Jeffrey L. Whitney; Kenneth L. Ray; Mark E. Hail; *Novatia, LLC, Monmouth Junction, NJ*

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

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

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

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

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

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

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

TOF pm 3:10 **Depletion of Phospholipid Matrix Interference when Dealing with Small Volume Plasma Samples**; Craig Aurand[1]; David S. Bell[2]; Hillel K. Brandes[2]; Daniel Vitkuske[2]; *[1]Sigma Aldrich, Bellefonte, PA; [2]Supelco/ Sigma Aldrich, Bellefonte, PA*

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

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

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

2:30 – 4:30 PM, TUESDAY AFTERNOON
BIOINFORMATICS IN PROTEOMICS
Michael MacCoss, presiding
Room: Hall 4

TOG pm 2:30 **A New Kinetic Model of Peptide Fragmentation for Improved Discrimination in Peptide Identification**; Shaojun Sun[1]; Chia-Yu Yen[1]; Stephane Houel [2]; Natalie Ahn[1, 2]; Meredith Betterton[1]; William Old[1]; *[1]University of Colorado, Boulder, CO; [2]Howard Hughes Medical Institute, Boulder, CO*

TOG pm 2:50 **Thousandfold Faster Database Searching For Peptide Identification from Tandem Mass Spectra**; Benjamin Diament[1]; William Noble[2]; *[1]Univ of Washington, Seattle, WA; [2]University of Washington, Seattle, WA*

TOG pm 3:10 **Template Proteogenomics: Sequencing Proteins Using an Imperfect Database**; Natalie E Castellana [1]; Victoria Pham[2]; David Arnott[3]; Jennie Lill[4]; Vineet Bafna[5]; *[1]UCSD, La Jolla, CA; [2]Genentech, South San Francisco, CA; [3]Genentech, Inc., S. San Francisco, CA; [4]Genentech Inc, South San Francisco, CA; [5]Univ. Cal. San Diego, San Diego, CA*

TOG pm 3:30 **Skyline Targeted Proteomics Environment: Sharing SRM/MRM Method Creation and Results Analysis across Laboratories and Instrument Platforms**; Brendan Maclean[1]; Daniela Tomazela[1]; Susan E. Abbatiello[2]; Birgit Schilling[3]; Nicholas Shulman[1]; Matthew Chambers[4]; David Tabb [4]; Bradford W. Gibson[3]; Steven A. Carr[2]; Daniel C. Liebler[4]; Michael J. Maccoss[1]; *[1]University of Washington, Seattle, WA; [2]Broad Institute, Cambridge, MA; [3]Buck Institute for Age Research, Novato, CA; [4]Vanderbilt University, Nashville, TN; [5]National Cancer Institute, Bethesda, MD*

TOG pm 3:50 **DirecTag-TagRecon: Sequence Tagging Reveals Ubiquity of Peptide Modifications in Clinical Cancer Samples**; Surendra Dasari; Matthew Chambers; David Tabb; *Vanderbilt University, Nashville, TN*

TOG pm 4:10 **Database Independent Proteomics; *Ab initio* Analysis of the Ostrich Proteome by a Combination of Lys-N and Electron Transfer Dissociation**; A.F. Maarten Altelaar; Danny Navarro; Bas van Breukelen; Jos Boekhorst; Berend Snel; Shabaz Mohammed; Albert J.R. Heck; *Utrecht University, Utrecht, Netherlands*

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

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

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

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

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

WOA am 08:30 **BIRD-Experiments on Multiply Charged Anions in a New Temperature-Controllable ICR Cell**; Tatjana Karpuschkin[2]; Maria Massaouti[1]; Eugene Nikolaev[3]; Oliver Hampe[2]; Manfred M. Kappes[2]; *[1]Foundation for Research & Technology-Hellas Forth, Heraklion, Greece; [2]Karlsruhe Institute for Technology, Karlsruhe, Germany; [3]The Institute for Energy Problems of Chemical Phys, Moscow, Russian Federation*

WOA am 08:50 **Laserspray Using a Commercial AP-MALDI Source for Rapid Switching between Singly and Multiply Charged Ions**; Barbara S. Larsen[1]; Sarah Trimpin; Charles N. Mcewen[3]; *[1]The DuPont Company, Wilmington, DE; [2]Wayne State University, Detroit, MI; [3]Univ. of the Sciences in PA, Philadelphia, PA*

WOA am 09:10 **Unusual Electrospray Solvent for Protein Desorption**; Nicolas Auzeil[1]; Anna Warnet[2]; Jean-Claude Tabet[2]; *[1]Université Paris Descartes, Paris, France; [2]University Paris VI (UPMC), Paris, France*

WOA am 09:30 **Factors that Promote ESI Multiple Charging for Proteins**; Joseph A. Loo; Shirley H. Lomeli; Rachel R. Ogorzalek Loo; *UCLA, Los Angeles, CA*

WOA am 09:50 **Vapor Treatment of Electrospray Droplets for Altering Protein Charge State Distributions**; Anastasia Kharlamova; Boone Prentice; Teng-Yi Huang; Scott A. Mcluckey; *Purdue University, West Lafayette, IN*

WOA am 10:10 **A Critical Evaluation of Charge Manipulation Strategies Coupled to Nano-Electrosrpay Ion Mobility-Mass Spectrometry**; Russell Bornschein; Brandon Ruotolo; *The University of Michigan, Ann Arbor, MI*

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

WOB am 08:30 **A Physician's Perspective on Clinical Mass Spectrometry**; William Roberts; *University of Utah, Salt Lake City, UT*

WOB am 08:50 **Quantitative Underivatized Amino Acid Analysis - Development, Dimensionality, Data Reduction and Diagnostic Utility**; Brian Rappold; Russell Grant; Patricia Holland; *Labcorp, Burlington, NC*

WOB am 09:10 **Derivative Design for Clinical Analysis: Free Amino Acid Quantification with MPBS and DMABS**; David W. Johnson; *SA Pathology/Women's and Children's Hospital, N Adelaide SA, Australia*

WOB am 09:30 **Top-Down Sequencing of Hemoglobin Variants with Multiple Activation Techniques**; Roger Theberge[1]; Mark E. Mccomb[2]; Cheng Lin [3]; Catherine E. Costello[4]; *[1]Boston University School, Boston, MA; [2]Boston University Med. School, Boston, MA; [3]Boston University, Boston, MA; [4]Boston University School of Medicine, Boston, MA*

WOB am 09:50 **Clinical Diagnosis of Doss Porphyria and Erythropoietic Porphyria Using Tandem Mass Spectrometry**; John R. Choiniere; Frantisek Turecek; Michael H. Gelb; C. Ronald Scott; *University of Washington, Seattle, WA*

WOB am 10:10 **Diagnosis and Quantification of Toxemia of Anthrax Using Mass Spectrometry**; John R. Barr[1]; Anne E. Boyer[1]; Conrad P. Quinn[1]; Maribel Gallegos[2]; Renato Lins[2]; Zsuzsanna Kuklenyik[1]; James L. Pirkle[1]; *[1]CDC, Atlanta, GA; [2]Battelle Memorial Institute, Atlanta, GA*

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

WOC am 08:30 **Ambient Analysis of Saturated Hydrocarbons Using Discharge-Induced Oxidation in Desorption Electrospray Ionization**; Chunping Wu; Marcela Nefliu; R. Graham Cooks; *Purdue University, West Lafayette, IN*

WOC am 08:50 **NonCovalent Aggregation: The Overriding Principle that Defines Mass Spectral Characterization of Asphaltenes**; Amy M. McKenna[1]; Lynda J. Donald[2]; Ryan P. Rodgers[1]; Kenneth G. Standing[3]; Alan G. Marshall[1]; *[1]Natl High Magnetic Field Laboratory, Tallahassee, FL; [2]Department of Chemistry, University of Manitoba, Winnipeg, MB; [3]Department of Physics, University of Manitoba, Winnipeg, MB; [4]Department of Chemistry and Biochemistry, FSU, Tallahasee, FL*

WOC am 09:10 **Thermal Analysis - Modulated Fast Gas Chromatography- Single Photon Ionisation TOF-MS for Comprehensive Characterization of Crude Oil-Fractions and Polymers**; Ralf Zimmermann[1]; Mohammad Saraji-Bozorgzad[2]; Markus Eschner[2]; *[1]University of Rostock, Rostock, GERMANY; [2]Helmholtz Zentrum München, Oberschleißheim, Germany*

WOC am 09:30 **Investigation of Deposition and Fouling in Crude Oils By Liquid Chromatography and FT-ICR Mass Spectrometry**; Wolfgang Schrader[1]; Sami Lababidi [1]; Julia Hesse[1]; Katharina Lühring[1]; Fabiane Nachtigall[1]; Jan T. Andersson[2]; *[1]Max-Planck Inst Coal Res., Mülheim / Ruhr, Germany; [2]Univ. Münster, Münster, Germany*

WOC am 09:50 **Assessment of Asphaltene Structure Using Ion Mobility-Mass Spectrometry**; Sharon Munisamy[1]; Kyle Fort[2]; Christopher Becker[1]; David H. Russell[2]; *[1]Baylor University, Waco, TX; [2]Texas A&M University, College Station, TX*

WOC am 10:10 **Biodiesel Analysis - Complexity and Time**; G. John Langley[1]; Christianne Wicking[1]; Tom Lynch[2]; *[1]University of Southampton, Southampton, UK; [2]BP Global Lubricants, Pangbourne, UK*

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

WOD am 08:30 **Data Mining Strategies for Identification of Unknowns in Environmental Water Samples**; Imma Ferrer; Michael Thurman; *University of Colorado, Boulder, CO*

WOD am 08:50 **Non Targeted Screening of Marine Biotoxins in Shellfish by Ultra High Resolution Mass Spectrometry**; Joseph Hui[1]; Pearl Blay[1]; James Chang[2]; Jeremy Melanson[1]; *[1]NRC Institute for Marine Biosciences, Halifax, Canada; [2]Thermo Scientific, San Jose, CA*

WOD am 09:10 **Liquid Chromatography Tandem Mass Spectrometry Discovery of Haloquinones as Water Disinfection Byproducts**; Xing-Fang Li; Yuli Zhao; Feng Qin; Jessica Boyd; Wagner Megan; *University of Alberta, Edmonton, Canada*

WOD am 09:30 **Metaproteomics: Phylogenomic-Based Identification of Microbes from MS/MS Environmental Samples and Unprecedented Assignment Of Peptides and Proteins Using Spectral Libraries;** William Cannon[1, 2]; Mitchell Rawlins[1]; Gaurav Kulkarni[1]; Douglas Baxter[1]; Ananth Kalyanaraman[2]; Mary Lipton[1]; Stephen Callister[1]; *[1]Pacific NW National Lab, Richland, WA; [2]Washington State University, Pullman, WA*

WOD am 09:50 **Determination of Natural Pyrethrins by LC-EI-MS**; Achille Cappiello; Giorgio Famiglini; Pierangela Palma; Veronica Termopoli; Bruno Tirillini; Helga Trufelli; *Universita di Urbino, Urbino, Italy*

WOD am 10:10 **Characterization of Oligomers in Biogenic Secondary Organic Aerosol by High-Resolution Mass Spectrometry and Infrared Multi-Photon Dissociation**; Wiley A. Hall; Murray Johnston; *University of Delaware, Newark, DE*

8:30 – 10:30 AM, WEDNESDAY MORNING
LC-MS STRATEGIES FOR METABOLOMICS IN DRUG DISCOVERY
Gabriella Szekely-Klepser, presiding
Room: Hall 2

WOE am 08:30 **Putting Metabolomics to Practice in Drug Discovery**; Michael Reily; *Bristol-Myers Squibb, Princeton, NJ*

WOE am 08:50 **Solid-phase Microextraction for Untargeted LC-MS Metabolomics Studies Using Benchtop Orbitrap Instrument**; Dajana Vuckovic[1]; Janusz Pawliszyn[1]; Inés de Lannoy[2]; Brad Gien[2]; Robert Shirey[3]; Leonard Sidisky[3]; Sucharita Dutta[4]; *[1]University of Waterloo, Waterloo, Canada; [2]NoAb BioDiscoveries, Mississauga, Canada; [3]Supelco Inc., Bellefonte, PA; [4]ThermoFisher Scientific, San Jose, CA*

WOE am 09:10 **High Resolution Liquid Chromatography and High Resolution Mass Spectrometry for Simultaneous Qualitative and Quantitative Analysis;** Gérard Hopfgartner[1]; J.C. Yves Le Blanc[2]; Emmanuel Varesio[1]; *[1]School of Pharamaceutical Sciences, EPGL, LSMS, Geneva, Switzerland; [2]AB-SCIEX, Toronto, Canada*

WOE am 09:30 **HILIC-UPLC-MS for the Metabolic Profiling of Biofluids: Application to Toxicological Studies**; Elizabeth J Want[1]; Konstantina Spagou[2, 3]; Perrine Masson[3]; *[1]imperial College, London, UK; [2]Aristotle University, Thessaloniki, Greece; [3]Imperial College London, London, UK*

WOE am 09:50 **Practical Ways to Identify Metabolite Markers in Drug Discovery Using High Resolution LC/MS-Based Metabolomics Approach**; Haiying Zhang; Thomas Harrity; Petia Shipkova; George Psaltis; Randolph Ponticiello; David Gordon; Laura Patrone; John Kozlosky; Lindsay Tomlinson; Greg Cosma; Joseph Horvath; Jonathan Josephs; William Humphreys; *Bristol-Myers Squibb R&D, Princeton, NJ*

WOE am 10:10 **Non-Targeted Biochemical Profiling Platform Reveals Biomarkers of Sepsis, Including Those at Highest Risk for Septic Death, at Time of Presentation**; Anne M. Evans[1]; Robert P. Mohney[1]; Jacob Wulff[1]; Raymond J. Langley[2]; Stephen Kingsmore[2]; *[1]Metabolon, Inc., Durham, NC; [2]The National Center for Genome Research, Santa Fe, NM*

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

WOF am 08:30 **Overcoming the Conundrums of Multi-Disciplinary Translational Proteomics – Lessons Learned from Multiple Clinical Proteomics Studies**; J. Will Thompson; Laura Dubois; Erik J Soderblom; Meredith Turner; Matt Foster; Jeanette McCarthy; Virginia Kraus; Jonathan Catterall; Victoria Christian; Arthur Moseley; *Duke University School of Medicine, Durham, NC*

WOF am 08:50 **'Eye-Tracking' of Proteins from Human Intraocular Fluids – Qualitative and Quantitative Approaches Toward Understanding the Progression of Eye Disease**; Keiryn L. Bennett[1]; Marion Funk[2]; Andreas Pollreisz[2]; Marion Tschernutter[1]; Melanie Planyavsky[1]; Katja Parapatics[1]; Florian P. Breitwieser[1]; Ceereena Ubaida Mohien[3]; Andre Mueller[1]; Zlatko Trajanoski[3]; Jacques Colinge[1]; Giulio Superti-Furga[1, 1]; Ursula Schmidt-Erfurth[2] *[1]CeMM - Center for Molecular Medicine, Vienna, Austria; [2]Medical University of Vienna, Vienna, Austria; [3]Technical University of Graz, Graz, Austria*

WOF am 09:10 **Proteome Analysis of Cerebrospinal Fluid: Monitoring Changes in Protein Abundance over the Course of Antiretroviral Therapy in HIV Infected Individuals**; Thomas Angel[1]; Jon Jacobs[1]; Richard Price[2]; Serena Spudich[2]; Marina Gritsenko[1]; Dietmar Fuchs[3]; Lars Rosengren[4]; Henrik Zetterberg[4]; Dave Camp[1]; Richard D. Smith[1]; *[1]PNNL, Richland, WA; [2]Department of Neurology, University of California, San Francisco, CA; [3]Biocentre, Innsbruck Medical University, Innsbruck, Austria; [4]Sahlgrenska Academy at University of Gothenburg, Gothenb*

WOF am 09:30 **Quantitation by High Resolution Full Scan Accurate Mass-The Future of Discovery DMPK?** Jonathan L. Josephs; Yanou Yang; Chiuwa Emily Luk; Petia Shipkova; William Humphreys; *Bristol-Myers Squibb, Pennington, NJ*

WOF am 09:50 **Evaluating the Intestinal Health of Premature Infants by NanoLC-MS Analysis of Excreted Oligosaccharides**; Maria Lorna A. de Leoz [1]; Shuai Wu[1]; Mark Underwood[1]; Peggy Cheng[1]; John S. Strum[1]; Rudolf Grimm[2]; Bruce German[1]; David Mills[1]; Carlito B. Lebrilla[1]; *[1]University of California, Davis, CA; [2]Agilent Technologies, Santa Clara, CA*

WOF am 10:10 **Mass Spectrometric Characterization of Arylpropionamide-Derived Selective Androgen Receptor Modulators and their *in-vitro* and *in-vivo* Generated Metabolites**; Mario Thevis[1]; Enrico Gerace[2]; Hans Geyer[1]; Wilhelm Schänzer[1]; *[1]German Sport University, Cologne, Germany; [2]University of Turin, Turin, Italy*

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

WOG am 08:30 **Quantitative Mass Spectrometry Reveals Complexity and Function of Protein Ubiquitination**; Junmin Peng; *Emory University, Atlanta, GA*

WOG am 08:50 **Improved Methodologies for the Identification of Ubiquitin and Ubiquitin-Like Protein (Ubl) Conjugation Sites Identifies Novel Ubl Chain Linkages**; Tharan Srikumar[1, 2]; Stanley Jeram[1, 2]; Xiang-Dong Zhang[3]; H. Anne Eisenhauer[1]; Richard Rogers[4]; Patrick G.A. Pedrioli[5]; Michael Matunis[6]; Henry Lam[7]; Brian Raught[1,2]; *[1]Ontario Cancer Institute, Toronto, Canada; [2]Medical Biophysics, University of Toronto, Toronto, Canada; [3]Dept. Biological Sciences, Wayne State University, Detroit, MI; [4]Institute for Systems Biology, Seattle, WA; [5]Institute of Biochemistry ETH, Zurich, Switzerland; [6]Biochem. and Mol. Biol. The Johns Hopkins Univ., Baltimore, MD; [7]Dept Chem Biomol Engineer. Hong Kong Univ Sci Tech, Clear Water Bay, Hong Kong*

WOG am 09:10 **Multi-Glycomics Platform Approach for Cancer**; Carlito Lebrilla; Hyun Joo An; Scott Kronewitter; Maria Lorna A. De Leoz; Kyle Peacock; Jaehan Kim; Sureyya Ozcan; Grace Ro; *University of California, Davis, CA*

WOG am 09:30 **Characterizing the Range of Naturally-Occurring Post-Translational Modifications in the Proteomes of Microbial Isolates and Consortia**; Robert Hettich[1]; Alison Russell[2]; Andrew Dykstra [2]; Jill Banfield[3]; *[1]Oak Ridge National Laboratory, Oak Ridge, TN; [2]UTK-Oak Ridge National Lab, Knoxville, TN; [3]University of California - Berkeley, Berkeley, CA*

WOG am 09:50 **In-Depth Phosphoproteome Analysis Using PolyMAC**; Anton Iliuk; Victoria Martin; Bethany Alicie; Robert Geahlen; Weiguo Andy Tao; *Purdue University, West Lafayette, IN*

WOG am 10:10 **Estimating False Discovery Rates of Post-Translational Modification Site Assignments**; Banu Dost[1]; Vineet Bafna[2]; Nuno Bandeira[3]; *[1]University of California, San Diego, La Jolla, CA; [2]Univ. Cal. San Diego, San Diego, CA; [3]CCMS, UCSD, La Jolla, CA*

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

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

WOA pm 2:30 **Gas-Phase Substitution and Elimination Reactions of Vinylic and Aryl Halides**; Allison Eanes; Diogo de Oliveira; Michele Khurana; Renan Joviliano; Scott Gronert; *Virginia Commonwealth Uni, Richmond, VA*

WOA pm 2:50 **Original Formation and Reactivity on Double Bonds of Dichlorocarbene at Atmospheric Pressure Studied by Photoionization Mass Spectrometry**; David Touboul[1]; Julie Allegrand[1]; Alexandre Giuliani [2]; Olivier Laprévote[1]; *[1]CNRS-ICSN, Gif-Sur-Yvette, France; [2]Synchrotron Soleil, Gif-Sur-Yvette, France*

WOA pm 3:10 **Does the 2,6–Didehydropyridinium Ion Exist?** Bartłomiej J. Jankiewicz[1, 2]; Nelson R. Vinueza[1]; Lindsey M. Kirkpatrick[1]; John J. Nash[1]; Hilkka I. Kenttämaa[1]; *[1]Department of Chemistry, Purdue University, West Lafayette, Indiana; [2]Military University of Technology, Warsaw, Poland*

WOA pm 3:30 **Gas Phase Reactions of Carbanions with H Atoms**; Zhibo Yang [1]; Oscar Martinez Jr. [1]; Brian Eichelberger[2]; Marshall Carpenter[1]; Theodore P. Snow[1]; Veronica M. Bierbaum [1]; *[1]University of Colorado, Boulder, CO; [2]John Brown University, Siloam Spring, MD*

WOA pm 3:50 **Investigating the Role of Cation Recombination Energy as a Key Factor in ETD/ECD**; Marija Mentinova[1]; David Crizer[2]; Takashi Baba[2]; Gary L. Glish[3]; Scott A. Mcluckey[1]; *[1]Purdue University, West Lafayette, IN; [2]UNC-Chapel Hill, Chapel Hill, NC; [3]University of North Carolina, Chapel Hill, NC*

WOA pm 4:10 **High-Throughput, Combinatorial Analysis of Cationic and Anionic Ion/Ion Reagents Using an ETD-Enabled QLT-Orbitrap Coupled to a Gas Chromatograph**; Amelia C. Peterson; Graeme McAlister; Joshua J. Coon; *University of Wisconsin, Madison, WI*

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

WOB pm 2:30 **Overview: Recent Advances in Fourier Transform Ion Cyclotron Resonance Mass Spectrometry**; Alan G. Marshall; *Ion Cyclotron Resonance Prog, Tallahassee, FL*

WOB pm 2:50 **Harmonization of Electric Field in FT ICR Cell. The New Approaches**; Ivan Boldin; Eugene Nikolaev; *The Institute for Energy Problems of Chemical Phys, Moscow, Russian Federation*

WOB pm 3:10 **Examining Time-Dependent Space-Charge Effects in FTICR Mass Spectrometry With Multiparticle Simulations of Ion Motion**; Jon Amster[1]; Franklin E. Leach III[1]; Andriy Kharchenko; Ron M.A. Heeren [5]; Eugene Nikolaev[4]; Konstantin Aizikov; Peter B. O'connor[6]; *[1]University of Georgia, Athens, GA; [2]FOM Institute for Atomic and Molecular Physics, Amsterdam, Netherlands; [3]BUSM, Boston, MA; [4]The Institute for Energy Problems of Chemical Phys, Moscow, Russian Federation; [5]FOM Inst. Atomic/Molecular Phy, Amsterdam, Netherlands; [6]University of Warwick, Coventry, UK*

WOB pm 3:30 **A Gas-Phase Reactivity Study of a σ,σ,σ,σ-Tetraradical Ion – the 2,4,6-Tridehydropyridine Radical Cation**; Vanessa Gallardo[1]; Bartłomiej Jankiewicz[2]; Nelson Vinueza[1]; John Nash[1]; Hilkka Kenttamaa[1]; *[1]Purdue University, West Lafayette, IN; [2]Military University of Technology, Warsaw, Poland*

WOB pm 3:50 **Tailored Ion Spatial Distribution in FT-ICR MS for Improved Analysis of Complex Mixtures**; Nathan K. Kaiser [1]; Joshua J. Savory[1]; Amy M. Mckenna[1]; Christopher L. Hendrickson[1]; Alan G. Marshall[1, 2]; *[1]National High Magnetic Field Laboratory, Tallahassee, FL; [2]Ion Cyclotron Resonance Prog, Tallahassee, FL*

WOB pm 4:10 **Top-Down Proteomic Identification of Heavy Isotope Depleted Yeast Proteins Using LC-FT-ICR MS with Funnel-Skimmer Dissociation Fragmentation**; Jennifer S. Cobb [1]; Aimee M. Morris[1]; Michael L. Easterling[2]; Jeffrey N. Agar[1]; *[1]Brandeis University, Waltham, MA; [2]Bruker Daltonics, Inc., Billerica, MA*

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

WOC pm 2:30 **Linking Mass Spectrometry with Toxicology for Emerging Water Contaminants**; Susan Richardson; *US EPA, NERL, Athens, GA*

WOC pm 2:50 **Arsenic Interaction with Proteins and Detecting Arsenic-Binding Proteins in Human Cells Using Mass Spectrometry and Affinity Chromatography**; Huiming Yan[1]; Michael Weinfeld[1]; William Cullen[2]; Xiufen Lu[1]; Baowei Chen[1]; Meiling Lu[1]; Zhongwen Wang[1]; Anthony McKnight-Whitford[1]; X. Chris Le[1]; *[1]University of Alberta, Edmonton, Canada; [2]University of British Columbia, Vancouver, Canada*

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

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

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

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

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

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

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

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

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

WOD pm 3:50 **Complementary N-Linked Glycoproteomics of Myocardial Ischemia / Reperfusion Injury Reveals Complex Changes in Extracellular Environments**; Benjamin Parker[1]; Giuseppe Palmisano[2]; Alistair Edwards[1]; Melanie White[3, 4]; Kasper Engholm-Keller[2]; Brett Hambly[1]; Albert Lee[5]; Daniel Kolarich[5]; Nicki Packer[5]; Martin Larsen[2]; Stuart Cordwell[1, 3]; *[1]The University of Sydney, NSW, Australia; [2]The University of Southern Denmark, Odense, Denmark; [3]The University of Sydney, NSW, Australia; [4]Johns Hopkins University; [5]Macquarie Univ., NSW, Australia*

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

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

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

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

WOE pm 3:10 **Characterization of Stereo Conformation of the Reactive Metabolites of the Chlorogenic Acid by UPLC/ Ion Mobility/TOF MS**; Cen Xie[1]; Kate Yu[2]; Xiaoyan Chen[1]; Tao Yuan[1]; Dafang Zhong[1]; Hayley Crowe[2]; John P. Shockcor[2]; Alan L Millar[2]; *[1]Shanghai Inst Materia Medica, Shanghai, China; [2]Waters Corporation, Milford, MA*

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

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

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

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

WOF pm 2:30 **Pharmaceuticals and their Metabolites in Drinking-Water: Breaking the Part-Per-Trillion Concentration Barrier with LC/MS/MS**; Michael Thurman; Imma Ferrer; *University of Colorado, Boulder, CO*

WOF pm 2:50 **Multi-Target Quantitation and General Unknown Screening for Pharmaceuticals and Personal Care Products in Water Samples Using LC/MS/MS**; Andre Schreiber; Nadia Pace; *AB SCIEX, Concord, Ontario, Canada*

WOF pm 3:10 **Analysis of Steroids in Manufacturing Plant Waste Effluent by On-Line SPE/UPLC/MS/MS**; Claude Mallet[1]; Alain Carrier[2]; Audrey Tousignant[2]; *[1]Waters Corporation, Milford, MA; [2]Sandoz Canada Inc, Boucherville, Quebec, Canada*

WOF pm 3:30 **Utilizing On-Line Pre-Concentration with LC/MS/MS for the Quantification of Pharmaceuticals and Personal Care Products in Water at the ng/L Level**; Kevin J. Mchale[1]; Mark Sanders[2]; *[1]Thermo Fisher, Somerset, NJ; [2]Thermo Fisher Scientific, Somerset, NJ*

WOF pm 3:50 **Improved Sensitivity of Direct Aqueous Sample Analysis with Thermally Assisted Desorption Electrospray Ionization Mass Spectrometry**; Ian Campbell; Alain Ton; Christopher Mulligan; *Illinois State University, Normal, IL*

WOF pm 4:10 **Direct Detection of Pharmaceuticals and Personal Care Products Contaminants in Water with Desorption Electrospray Ionization**; Christopher Mulligan; Ian Campbell; *Illinois State University, Normal, IL*

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

WOG pm 2:30 **Quantification of Protein Copy Number and Robustness in the Store-Operated Calcium Signaling Network Using Selective Reaction Monitoring (SRM) Mass Spectrometry**; Ellen Abell[1]; Paola Picotti[2]; Tobias Meyer[1]; Ruedi Aebersold[2]; Mary Teruel[1]; *[1]Chemical & Systems Biology, Stanford University, Stanford, CA; [2]Institute for Molecular Systems Biology,ETH Zurich, Zurich, Switzerland*

WOG pm 2:50 **Rapid Quantitation of mRNA, Proteins, and PTMs Applied to a Systems-Level Analysis of Human ES, iPS, and Fibroblast Cells**; Doug Phanstiel[1]; Justin Brumbaugh[1]; Craig Wenger[1]; Danielle L Swaney[1]; Gloria Kreitinger[1]; Mark Tervo[1]; Ron Stewart[2]; James A Thomson[1, 2]; Joshua J. Coon[2]; *[1]University of Wisconsin, Madison, WI; [2]Morgridge Institute, Madison, WI*

WOG pm 3:10 **A Global Protein Kinase and Phosphatase Interaction Network in Yeast**; Ashton Breitkreutz[1]; Hyungwon Choi[3]; Jeff Sharom[1]; Lorrie Boucher[1]; Victor Neduva[2]; Brett Larsen[1]; Zhen-Yuan Lin[1]; Bobby-Joe Breitkreutz[1]; Chris Stark[1]; Guomin Liu[1]; Alexey Nesvizhskii[3]; Michael Tyers[1, 2]; Anne-Claude Gingras[1]; *[1]Samuel Lunenfeld Research Institute, Mount Sinai H, Toronto, Canada; [2]University of Edinburgh, Edinburgh, UK; [3]University of Michigan, Ann Arbor, MI*

WOG pm 3:30 **Soybean Root Hairs: Proteomics and Beyond**; Ljiljana Pasa-Tolic[1]; Laurent Brechenmacher[2]; Tran Hong Nha Nguyen[2]; Marc Libault[2]; Kim K. Hixson[1]; Marina Gritsenko[1]; Therese Clauss[1]; Feng Yang[1]; Gary Stacey[2]; *[1]Pacific NW Nat'l Lab, Richland, WA; [2]National Center for Soybean Biotechnology, U of MO, Columbia, MO; [3]Division of Biochemistry, University of Missouri, Columbia, MO*

WOG pm 3:50 **Insight into Mammalian Protein Dynamics and Homeostasis by Characterization of Global Tissue Proteomes *in vivo* Using Stable Isotope Metabolic Labeling**; Shenheng Guan; John C. Price; Sina Ghaemmaghami; Stanley B. Prusiner; Alma L. Burlingame; *University of california, San Francisco, CA*

WOG pm 4:10 **Systems Biology of Skin Disease – Effect of UV Irradiation and Contact Sensitizers on Keratinocytes**; Giridharan Gokulrangan[1]; Pratima Karnik[2]; Yu Liu[1]; Gaurav S.J.B.Rana[1]; Kevin Cooper[2]; Mark Chance[1]; *[1]Case Western Reserve University, Cleveland, OH; [2]Department of Dermatology, University Hospitals, Cleveland, OH*

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

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

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

ThOA am 08:30 **Top-Down Structural Analysis of 60-150 kDa Proteins with ETD-Based Tandem Mass Spectrometry**; Yury Tsybin[1]; Hisham Ben Hamidane[1]; Michael Groessl[1]; Paul Dyson[1]; Jovan Simicevic[1]; Bart Deplancke[1]; Sophie Nallet[1]; Florian Wurm[1]; Carsten Stoermer[2]; Ralf Hartmer[2]; *[1]Ecole Polytechnique Federale, Lausanne, Switzerland; [2]Bruker Daltonics GmbH, Bremen, Germany*

ThOA am 08:50 **Photodissociation and Activated-Electron Photodetachment Dissociation (Activated-EPD) for Structural Characterization of Sugar and Protein Polyanions**; Rodolphe Antoine[1]; Vincent Larraillet[1]; Aleksey Vorobyev[2]; Amandine Racaud[1]; Claire Brunet[1]; Yury O. Tsybin[2]; Jérôme Lemoine[3]; Philippe Dugourd[1]; *[1]LASIM CNRS Univ Lyon 1, Villeurbanne, France; [2]Ecole Polytechnique Federale, Lausanne, Switzerland; [3]LSA CNRS Univ Lyon 1, Villeurbanne, France*

ThOA am 09:10 **Travelling Wave Ion Mobility Mass Spectrometry of Electron Transfer Dissociation Products of Phosphopeptides: Evidence of Conformational Memory?** Helen Cooper[1]; Jeff Brown[2]; Iain D G Campuzano[2]; Nick Tomczyk[2]; Andrew Creese[1]; Jonathan P.

Williams[2]; *[1]University of Birmingham, Birmingham, UK; [2]Waters Micromass MS Technologies, Manchester, UK*

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

ThOA am 09:50 **Negative Electron Transfer Dissociation Identifies Thousands of Acidic Peptides from Complex Mixtures**; Graeme Mcalister[1]; Jason Russell[1]; Neil Rumachik[1]; Aaron Ledvina [1]; John E. P. Syka[2]; Joshua J. Coon[1]; *[1]University of Wisconsin, Madison, WI; [2]Thermo Fisher Scientific, Charlottesville, VA*

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

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

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

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

ThOB am 09:10 **Hydrogen Deuterium Exchange Mass Spectrometry Applied to the Characterization of Proteins of Therapeutic Interest**; Michael J. Chalmers[1]; Scott Novick[1]; Xi Zhang[1]; Scooter Willis[1]; Bruce D. Pascal[1]; Ellen Y.T. Chien[2]; Raymond C. Stevens[2]; John E. Toth[3]; Jeffrey A. Dodge[3]; Patrick R. Griffin[1]; *[1]Scripps Florida, Jupiter, FL; [2]The Scripps Research Institute, La Jolla, CA; [3]Lilly Research Laboratories, Indianapolis, IN*

ThOB am 09:30 **Conformational Basis for the Drug Inhibition and Resistance Mechanism of KIT Tyrosine Kinase, Determined by H/D Exchange FT-ICR MS**; Hui-Min Zhang[1]; Xiu Yu[2]; Michael Greig[2]; Ketan S. Gajiwala[2]; Joe C. Wu[3]; Elizabeth A. Lunney[2]; Wade Diehl[2]; Mark R. Emmett[1, 4]; Alan G. Marshall[1, 4]; *[1]Nat'l High Magnetic Field Lab, Tallahassee, FL; [2]Pfizer Global R&D- La Jolla, San Diego, CA; [3]Pfizer-Cambridge, Cambridge, MA; [4]Florida State University, Tallahassee, FL*

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

ThOB am 10:10 **Conformational Dynamics of the Full Membrane Bovine Mitochondrial ADP/ATP Carrier Revealed by HDX MS Measurements;** Martial Rey[3]; Petr Man[1, 2]; Gerard Brandolin[3]; Ludovic Pelosi[3]; Eric Forest[1]; *[1]Inst. for Structural Biology, Grenoble, France; [2]Institute of Microbiology, Prague, Czech Republic; [3]LBBSI, iRTSV, CEA, Grenoble, France*

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

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

ThOC am 08:50 **Chemical Effects in Differential Mobility Spectrometry/Mass Spectrometry**; Bradley B Schneider[1]; Thomas Covey[1]; Stephen L Coy[2]; Evgeny V Krylov[2]; Erkinjon Nazarov[3]; *[1]AB SCIEX, Concord, Canada; [2]Sionex Corp., Bedford, MA; [3]Sionex, Bedford, MA*

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

ThOC am 09:30 **Gas-Phase Structural Biology: Measuring and Interpreting Collision Cross Sections**; Matthew F. Bush[1]; Zoe Hall[1]; Kevin Giles[2]; John Hoyes[2]; Andrew J. Baldwin[3]; Justin L.P. Benesch[1]; Brandon T. Ruotolo[4]; Carol V. Robinson[1]; *[1]Dept of Chemistry, University of Oxford, Oxford, UK; [2]Waters Corporation, Manchester, UK; [3]Dept of Chemistry, University of Toronto, Toronto, Canada; [4]Dept of Chemistry, University of Michigan, Ann Arbor, MI*

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

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

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

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

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

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

ThOD am 09:30 **New Automated Software for Biomarker Discovery with High Resolution LC-MS Data**; Serhiy Hnatyshyn[2]; Michael Reily[2]; Petia Shipkova; Thomas Mcclure[1]; Jules Phillips[1]; Mark Sanders[1]; *[1]Thermo Fisher Scientific, San Jose, CA; [2]Bristol Myers Squibb, Princeton, NJ*

ThOD am 09:50 **Robotized Video-Mass Scope for Direct and Live Single-cell Molecular Exploration**; Tsutomu Masujima[1]; Naohiro Tsuyama [1]; Hajime Mizuno[1]; Takanori Harada[1]; Iwao Sakane[2]; *[1]Hiroshima Univ. BioMed., Hiroshima, Japan; [2]ITO EN Co. Ltd., Makinohara, Japan*

ThOD am 10:10 **Impact of Storage and Handling Conditions on Metabolites in a Human Plasma Standard Reference Material**; Gauthier Eppe[1]; Nathan G. Dodder [2]; Katrice A. Lippa[2]; Karen W. Phinney[2]; Michele M. Schantz[2]; *[1]Liege University, Liège, Belgium; [2]NIST, Gaithersburg, MD*

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

ThOE am 08:30 **Identification of Metabolites from Maropitant Using a Dual-Cell Linear Ion Trap and Mass Frontier Software**; Rose Herbold[1]; Yingying Huang [1]; David Nakamura[2]; *[1]Thermo Fisher Scientific, San Jose, CA; [2]Elan Pharmaceuticals, South San Francisco, CA*

ThOE am 08:50 **Fast Oxidative Metabolite Identification Using Polarity Switching of Intensity-Dependent MS/MS Spectral Acquisition and Post-Acquisition Data-Mining on an Improved Q-TRAP Instrument**; Ming Yao; Mingshe Zhu; *Bristol-Myers Squibb, Princeton, NJ*

ThOE am 09:10 **MeTABOOlite Identification from Trap to ToF; Automated Software Tools to Get All the Answers You Need**; Gary Impey[2]; Tanya Gamble[1]; Hesham Ghobarah[2]; Mark M. Garner[2]; J.C. Yves Leblanc[1]; *[1]AB SCIEX, Concord, On, Canada; [2]AB/ SCIEX, Concord, ON*

ThOE am 09:30 **Metabolite Detection and Identification Using Fragment Ion Search in Conjunction with Automated Fragment Prediction**; Juraj Lutisan[1]; Yingying Huang [2]; Alexej Nikiforov[3]; Milos Suchy[1]; Robert Mistrik[1]; *[1]HighChem, Ltd., Bratislava, Slovakia; [2]Thermo Fisher Scientific, San Jose, CA; [3]University of Vienna, Vienna, Austria*

ThOE am 09:50 **Positive Negative Switching on a QTOF: Application to Drug Metabolite Identification and Metabolomics**; William Fitch[1]; Lester Taylor[2]; Kenneth Imatani[2]; *[1]Stanford University, Palo Alto, CA; [2]Agilent Technologies, Santa Clara, CA*

ThOE am 10:10 **Screening Foods for Unknown Chemical Contaminants by Non-Targeted LC/MS^n Analysis**; Timothy R. Croley[1]; Kevin D. White[1]; Jon Wong[1]; John H. Callahan[1]; Steve Musser[1]; Margaret Antler[2]; Vitaly Lashin[2]; Graham A. Mcgibbon[2]; *[1]US FDA, College Park, MD; [2]ACD/Labs, Toronto, ON*

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

ThOF am 08:30 **Implementation of a Microfluidic LC Device for Dried Blood Spot Analysis – Driving Down the Limit of Detection**; Christopher A. Evans[1]; Chester L Bowen[1]; Jonathan Kehler[1]; Rob Plumb[2]; Paul Rainville[2]; *[1]GlaxoSmithKline, King of Prussia, PA; [2]Waters, Milford, MA*

ThOF am 08:50 **Application of Automated Serial Blood Sampling in Mice and Dried Blood Spot Technique Using LC-MS/MS for Pharmacokinetic Studies**; Roger Pham; *Amgen, Inc., Thousand Oaks, CA*

ThOF am 09:10 **A uHPLC-MS/MS Assay for the Analysis of Omeprazole in Rat Blood Using Dried Blood Spots**; Heidi Snapp; Guowen Liu; Qin Ji; Mark E. Arnold; *Bristol-Myers Squibb Co., Princeton, NJ*

ThOF am 09:30 **Liquid Extraction Surface Analysis (LESA) of Dried Blood Spot Cards via Chip-Based Nanoelectrospray for Drug and Drug Metabolite Monitoring Studies;** Christopher Alpha[1]; Daniel Eikel[1]; Jason Vega[1]; Jack D. Henion[2]; Simon J. Prosser[1]; *[1]Advion BioSystems, Inc., Ithaca, NY; [2]Advion BioSciences, Inc, Ithaca, NY*

ThOF am 09:50 **Direct Quantitative Bioanalysis of Drugs in Dried Blood Spot Samples**; Paul Abu-Rabie[1]; Neil Spooner[1]; Matthias Loppacher[2]; *[1]GlaxoSmithKline R&D Ltd, Ware, UK; [2]Camag, Muttenz, Switzerland*

ThOF am 10:10 **Quantitative Analysis of Dried Blood Spots by DART (Direct Analysis in Real Time) /MS/MS without Sample Preparation**; Justin Gordon[1]; Elizabeth Crawford[2]; Jing-Tao Wu[1]; Brian D. Musselman [2]; Ming-xiang Liao[1]; Bei-Ching Chuang[1]; Cindy Xia[1]; David Ho[3]; Lily Li[3]; ShaoxiaYu[1]; *[1]Millennium Pharmaceuticals, Inc., Cambridge, MA; [2]IonSense, Inc., Saugus, MA; [3]TandemLabs, Woburn, MA*

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

ThOG am 08:30 **Pathway Analysis and Characterization of Novel Downstream Effectors of the mTORC1/S6K Signaling Axis by Quantitative Phosphoproteomics**; Yonghao Yu; Sang-Oh Yoon; Qian Yang; Xiaoju Max Ma; Judit Villen; John Blenis; Steven P. Gygi; *Harvard Medical School/Department of Cell Biology, Boston, MA*

ThOG am 08:50 **Pathway Analysis Reveals Apoptosis as a Regulator of Breast Cancer Induced Myeloid-Derived Suppressor Cells**; Olesya Chornoguz[1]; Lydia Grmai[1]; Pratima Sinha[1]; Konstantin Artemenko[3]; Roman Zubarev[2]; Suzanne Ostrand-Rosenberg[1]; *[1]University of Maryland Baltimore County, Baltimore, MD; [2]Karolinska Institutet, Stockholm, Sweden; [3]Uppsala University, Uppsala, Sweden*

ThOG am 09:10 **Functional and Mass Spectrometric Analysis of Histone Deacetylase 5 (HDAC5) Phosphorylation and Protein-Protein Interactions**; Fang Yu; Todd M. Greco; Amanda J. Guise; Ileana M. Cristea; *Princeton University, Princeton, NJ*

ThOG am 09:30 **A Targeted Protein-Protein "Interact-ome" of Components in the Insulin Signaling Pathway in Drosophila and Compared to Human Cancer Cells**; John M Asara[1, 2]; Meghana Kulkarni[2]; Xuemei Yang[1]; Adam Friedman[2]; Norbert Perrimon[2]; Jeffrey Engelman[3]; *[1]Beth Israel Deaconess Medical Center, Boston, MA; [2]Harvard Medical School, Boston, MA; [3]Massachusetts General Hospital, Charlestown, MA*

ThOG am 09:50 **Time-Resolved Proteomic and Genomic Studies Reveal that Replication Fork Progression is Remarkably Uniform Throughout the Yeast Genome**; Matthew Sekedat[1]; David Fenyo[1]; Richard Rogers[2]; Alan Tackett[3]; John Aitchison[2]; Brian Chait[1]; *[1]The Rockefeller University, New York, NY; [2]Institute for Systems Biolog, Seattle, WA; [3]UAMS Biochemistry & Molecular Biology, Little Rock, AR*

ThOG am 10:10 **Quantitative Phosphoproteomics Identifies Transient Signaling in the FAK-ERK Axis as a Novel Molecular Determinant of Embryonic Stem Cell Differentiation**; Yu Lu[1, 2]; Dita Mayerova[3]; Scott B. Ficarro[1]; Yi Zhang[1]; Manor Askenazi[1]; Jignesh R. Parikh[1]; C. John Luckey[3]; Jarrod A. Marto[1, 2]; *[1]Dana-Farber Cancer Institute, Boston, MA; [2]Harvard Medical School, Boston, MA; [3]Brigham and Women's Hospital, Boston, MA*

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

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

ThOA pm 2:30 **Soft Landing of Gas-Phase Ions: An Overview**; Frantisek Turecek; *University of Washington, Seattle, WA*

ThOA pm 2:50 **Preparation of Monolayer Catalytic Materials on Surfaces in Vacuum Using Ion Soft Landing Method**; Wen-Ping Peng [1]; Grant Johnson[2]; Peng Wang[2]; Omar Hadjar[2]; Julia Laskin[2]; R. Graham Cooks [3]; *[1]National Dong Hwa University, Shoufeng, Hualien, Taiwan; [2]Pacific Northwest National Laboratory, Richland, WA; [3]Purdue University, West Lafayette, IN*

ThOA pm 3:10 **Surface Ion Modification and Characterization of Muscovite by Laser Ablated Carbon and Transition Metal Clusters Using Soft Landing Ion Mobility**; Stephen Davila; William Hoffmann; David Birdwell; Guido F. Verbeck; *University of North Texas, Denton, TX*

ThOA pm 3:30 **Fundamental Studies of Molecular Depth Profiling and 3-D Imaging with ToF-SIMS and Cluster Ions**; Caiyan Lu; Nick Winograd; *Penn State University, University Park, PA*

ThOA pm 3:50 **Computer Simulation of Depth Profiling in Secondary Ion Mass Spectrometry (SIMS)**; Barbara J. Garrison; *Penn State University, University Park, PA*

ThOA pm 4:10 **Determinants of Surface-Induced Dissociation and Collision-Induced Dissociation Behavior in Noncovalent Protein Ensembles**; Eric D. Dodds; Anne E. Blackwell; Christopher M. Jones; Vicki H. Wysocki; *University of Arizona, Tucson, AZ*

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

ThOB pm 2:30 **Structural Analysis of Macro-Molecular Protein Complexes Using Chemical Cross-Linking and Mass Spectrometry**; Franz Herzog[1]; Alexander Leitner[1]; Thomas Walzthöni[1]; Friedrich Förster[2]; Roman Jakob[3]; Timm Maier[3]; Martin Beck[4]; Ruedi Aebersold[1]; *[1]Swiss Institute of Technology, IMSB, Zurich, Switzerland; [2]Max Planck Institut, Munich, Germany; [3]Swiss Institute of Technology, IMB, Zurich, Switzerland; [4]European Molecular Biology Laboratory, Heidelberg, Germany*

ThOB pm 2:50 **The Gating Mechanism of a Potassium Channel Probed by Structural Mass Spectrometry**; Sayan Gupta [1]; Rhijuta D'Mello[1]; Vassiliy N. Bavro[2]; Stephen J. Tucker[2]; Catherine Vénien-Bryan[2]; Mark R. Chance[1]; *[1]Case Western Reserve University, Upton, NY; [2]University of Oxford, Oxford, UK*

ThOB pm 3:10 **Exploring the Mechanisms of Protein Folding and Subunit Assembly by Pulsed Oxidative Labeling and ESI-MS**; Bradley B. Stocks; Lars Konermann; *Univ of Western Ontario, London, Canada*

ThOB pm 3:30 **Structural Similarities and Differences of Human Apolipoprotein E2, E3, and E4, Determined by Chemical Footprinting and Mass Spectrometry**; Brian C. Gau[1]; Richard Yu-Cheng Huang [1]; Kanchan Garai[2]; Carl Frieden[2]; Michael L. Gross[1]; *[1]Washington University, St. Louis, MO; [2]Washington University School of Medicine, St. Louis, MO*

ThOB pm 3:50 **Analysis of a 670 kDa Multiprotein Complex by Cross-Linking and Mass Spectrometry**; Zhuo Chen[1]; Lutz Fischer[1]; Anass Jawhari[2]; Claudia Buchen[2]; Salman Tahir[1]; Tomislav Kamenski[2]; Morten Rasmussen[1]; Laurent Larivière [2]; Jimi-Carlo Bukowski-Wills[1,3]; Michael Nilges[4]; Patrick Cramer[2]; Juri Rappsilber[1]; *[1]Wellcome Trust Centre for Cell Biology, Edinburgh, UK; [2]Ludwig-Maximilians-Universität, Munich, Germany; [3]Centre for Systems Biology, Edinburgh, UK; [4]Institut Pasteur, Paris, France*

ThOB pm 4:10 **A Stable Isotope Labeling Strategy for Protein-Ligand Binding Analysis in Multi-Component Protein Mixtures**; Patrick D. Dearmond; Graham M. West; Michael C. Fitzgerald; *Duke University, Durham, NC*

2:30 – 4:30 PM, THURSDAY AFTERNOON
PEPTIDE ION FRAGMENTATION
Michael Van Stipdonk, presiding
Room: Ballroom BDF

ThOC pm 2:30 **Threshold Collision Induced Dissociation Measurements of Protonated Peptides**; Peter B. Armentrout[2]; Abhigya Mookherjee[2]; Stephanie Curtice[1]; Drew Heide[1]; Michael J. Van Stipdonk[1]; *[1]Wichita State University, Wichita, KS; [2]University of Utah, Salt Lake City, UT*

ThOC pm 2:50 **Dependence of Head-to-Tail Cyclization on Primary Structure of Peptides in Collision-Induced Dissociation: The Case of QWFGLM b_6**; Xian Chen[1]; Jeffrey Steill[2]; Jos Oomens[2, 3]; Nicolas Polfer[1]; *[1]University of Florida, Gainesville, FL; [2]FOM Rijnhuizen, Nieuwegein, Netherlands; [3]University of Amsterdam, Amsterdam, Netherlands*

ThOC pm 3:10 **Exploration and Enhancement of Enzymatic and Chemical Peptide Modification Strategies for Optimizing Fragmentation by Electron Transfer Dissociation**; A. Michelle English; Jeremy Balsbaugh; Jeffrey Shabanowitz; Donald F. Hunt; *University of Virginia, Charlottesville, VA*

ThOC pm 3:30 **Fragmentation Chemistry of Phosphorylated and De-Phosphorylated, Protonated Peptides**; Benjamin J. Bythell[2]; Sam Molesworth[1]; Sarah Young[1]; Christopher L. Hendrickson[3]; Alan G. Marshall[3]; Michael J. Van Stipdonk [1]; Bela Paizs[2]; *[1]Wichita State University, Wichita, KS; [2]DKFZ, Heidelberg, Heidelberg, Germany; [3]National High Magnetic Field Laboratory, Tallahassee, FL*

ThOC pm 3:50 **Insights into Histidine-Containing Peptide b2+Ion Formation and Structure Using IRMPD Spectroscopy and Fragment Ion Hydrogen-Deuterium Exchange**; Ashley Gucinski[1]; Julia Chamot-Rooke[2]; Arpad Somogyi[1]; Brittany R. Perkins[1]; Sung Hwan Yoon[1]; Vicki H. Wysocki[1]; *[1]The University of Arizona, Tucson, AZ; [2]CNRS, Palaiseau, France*

ThOC pm 4:10 **Cyclization and Rearrangement Reactions of a_n Ions of Protonated Peptides**; Bela Paizs[1]; Benjamin Bythell[3]; Philippe Maitre[2]; *[1]DKFZ, Heidelberg, Heidelberg, Germany; [2]Laboratoire de Chimie Physiq, Orsay, France; [3]NHMFL/ FSU, Tallahasse, FL*

2:30 – 4:30 PM, THURSDAY AFTERNOON
NOVEL DEVELOPMENTS IN INSTRUMENTATION
Zheng Ouyang, presiding
Room 155

ThOD pm 2:30 **Elemental Analysis by Distance-of-Flight MS and Array Detection**; Christie G. Enke[1]; Steven Ray[2]; Alexander W. Graham[2]; Gary M. Hieftje[2]; David W. Koppenaal[3]; Charles J. Barinaga[3]; *[1]University of New Mexico, Albuquerque, NM; [2]Indiana University, Bloomington, IN; [3]Pacific Northwest Nat'l Laboratory, Richland, WA*

ThOD pm 2:50 **Discontinuous Atmospheric Pressure Interface for Mass Spectrometry Instrumentation: Theory, Development and Application**; Wei Xu; Matthew Kirleis; Nickolas Charipar; Yu Xia; William Chappell; Zheng Ouyang; *Purdue University, West Lafayette, IN*

ThOD pm 3:10 **Time-Resolved Liquid Jet Desorption Electrospray Ionization-Mass Spectrometry (DESI-MS)**; Zhixin Miao; Hao Chen; *Ohio University, Athens, OH*

ThOD pm 3:30 **Development of a Portable Mass Spectrometer for Operation at 1 Torr**; Glen Jackson; *Ohio University, Athens, OH*

ThOD pm 3:50 **Transmission Geometry Profiling / Imaging Mass Spectrometry with Sub-Cellular Resolution**; Andrey I Zavalin; Richard M. Caprioli; *Vanderbilt Univ Sch of Med, Nashville, TN*

ThOD pm 4:10 **Sub-Attomole Detection Limits Using Enhanced Ion-Funnel Technology on a Triple Quadrupole Mass Spectrometer**; George Stafford[1, 2]; Tim Schlabach[1]; Anabel Fandino[1]; *[1]Agilent Technologies, Santa Clara, CA*

2:30 – 4:30 PM, THURSDAY AFTERNOON
QUANTITATION OF ENDOGENOUS ANALYTES IN REGULATED BIOANALYSIS
Rick Steenwyk, presiding
Room: Hall 2

ThOE pm 2:30 **Challenges and Key Considerations for Mass Spectrometry-Based Quantitation of Biomarkers in the Clinical Setting**; Joe Lin; Eddie Takahashi; Rick Steenwyk; *Pfizer, Groton, CT*

ThOE pm 2:50 **Parallelism and Response Factor Considerations for LC/MS Biomarker Assay Validation Using Surrogate Matrix and Surrogate Analyte Approaches**; Barry R. Jones[2]; Gary Schultz [1]; Steve Lowes[3]; James A Eckstein[4]; Barry Lutzke[5]; Bradley L. Ackermann[5]; *[1]Advion BioServices, Inc., Ithaca, NY; [2]Advion Biosciences, Ithaca, NY; [3]Advion BioSciences, Inc., Ithaca, NY; [4]Eli Lilly, Greenfield, IN; [5]Eli Lilly & Company, Indianapolis, IN*

ThOE pm 3:10 **Ultra-Low Detection Limits of Quinolinic Acid and Kynurenine via Gas Chromatography-Tandem Mass Spectrometry**; Francesca Notarangelo[2]; David Graham[3]; Robert Schwarcz[2]; Anthony Macherone[1]; *[1]Agilent Technologies, Wilmington, DE; [2]Maryland Psychiatric Research Center, Baltimore, Maryland; [3]Johns Hopkins School of Medicine, Baltimore, Maryland*

ThOE pm 3:30 **Application of a Conjugate Matrix and UHPLC-MS/MS Detection for the Determination of Eicosapentaeonic and Docosahexenoic Acid in Human Plasma**; Chester L Bowen; Christopher A. Evans; Jonathan Kehler; *GlaxoSmithKline, King of Prussia, PA*

ThOE pm 3:50 **Chemometric Optimization of LC-MS/MS Method for Quantification of the Biomarker Leukotrine B4 for Support of Gene-to-Clinic Drug Discovery Approach**; Margrét Thorsteinsdóttir[1]; Baldur Bragi Sigurdsson[2]; Gisli Bragason[2]; Ólafur Magnússon[3]; *[1]University of Iceland, Reykjavik, Iceland; [2]ArcticMass, Reykjavik, Iceland; [3]deCODE genetics, Reykjavik, Iceland*

ThOE pm 4:10 **Application of 2-D Nanospray Techniques for Improved Sensitivity in the Analysis of Adrenal Steroids in Plasma**; Kenneth Lewis[1]; Thurman Allsup[1]; Gary Valaskovic[2]; *[1]OpAns, LLC, Durham, NC; [2]New Objective, Inc., Woburn, MA*

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

ThOF pm 2:30 **Mass Spectrometry of Organic Molecules and Laser-Induced Acoustic Desorption: Applications, Mechanisms and Perspectives;** Alexander Zinovev; Igor Veryovkin; Michael Pellin; *Argonne National Laboratory, Argonne, IL*

ThOF pm 2:50 **Liquid Extraction Surface Analysis (LESA) Combined with nESI-MS as a Novel Tool in Early ADME Studies of Drug Candidates;** Daniel Eikel; Christopher Alpha; Geoffrey S. Rule; Simon J. Prosser; Jack D. Henion; *Advion BioSystems, Inc., Ithaca, NY*

ThOF pm 3:10 **LDTD384-MS/MS for *in vitro* Assays : Different Buffer Environment**; Patrice Tremblay[1]; Pierre Picard[1]; Serge Auger[1]; Grégory Blachon[2]; *[1]Phytronix Technologies, Quebec, Canada; [2]Université Laval, Québec, QC*

ThOF pm 3:30 **High-Sensitivity MALDI-MRM-MS Imaging Applied to Determine the Penetration of Multiple Fluoroquinolone Drugs into Tuberculosis Lung Granulomas**; Brendan Prideaux[1]; Dieter Staab[1]; Anne Goh[2]; Veronique Dartois[2]; Peiting Zheng[2]; Hui Qing Ang[2]; Maxime Herve[2]; Clifton E Barry[3]; Laura Via[3]; Danielle Weiner[3]; Daniel Schimel[3]; Emmanuel K Dayao[3]; Markus Stoeckli[1]; *[1]Novartis Institutes for BioMedical Research, Basel, Switzerland; [2]Novartis Institute for Tropical Diseases, Singapore, Singapore; [3]National Institutes of Health, Bethesda, MD*

ThOF pm 3:50 **MALDI Imaging of Distribution of Xanthohumol and Its Metabolites in Rat Tissues**; Henry Y. Shion [3]; Dejan Nikolic[1]; Birgit Dietz[2]; Guido Pauli[2]; Brian Wright[1]; Ghenet Hagos[2]; Daniel Lantvit[2]; Alan L Millar[3]; John P. Shockcor[3]; Richard B. van Breemen[1] *[1]University of Illinois College of Pharmacy, Chicago, IL; [2]University of Illinois, UIC/NIH Botanical Center, Chicago, IL; [3]Waters Corp., Milford, MA*

ThOF pm 4:10 **Chemoselective Screening for Homocysteine and Related Endogenous Sulfhydryl Biomarkers in Blood and Urine Using Surface-Enhanced Transmission Mode Desorption Electrospray Ionization**; Joe Chipuk; Jennifer Brodbelt; *The University of Texas, Austin, TX*

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

ThOG pm 2:30 **Quantitatively Probing Cellular Membrane Proteome Dynamics Using Membrane-Impermeable Chemical Probes and Proteomics Analysis**; Haizhen Zhang; Wei-Jun Qian; Tao Liu; Roslyn N. Brown; Matthew E. Monroe; Samuel O. Purvine; Ronald J. Moore; Liang Shi; Margaret F. Romine; James K. Fredrickson; William B. Chrisler; Steven H. Wiley; Ljiljana Paša-Tolić; Richard D. Smith; Mary S. Lipton; *PNNL, Richland, WA*

ThOG pm 2:50 **Glycan Determination on Human Embryonic Stem Cell Membrane Proteins**; Hyun Joo An[1]; Phung Gip[2]; Jaehan Kim[1]; Shuai Wu[1]; David Schaffer[2]; Carolyn Bertozzi[2]; Carlito Lebrilla[1]; *[1]University of California, Davis, Davis, CA; [2]University of California, Berkeley, Berkeley, CA*

ThOG pm 3:10 **A Multiplexed SRM Method to Monitor Membrane Protein Knockdown Using Viral Delivery of shRNA in Neuro 2A Cells**; Santiago E. Farias[2]; Amy Lasek[1]; Paula L. Hoffman[2]; Christine C. Wu[2]; *[1]Ernest Gallo Clinic and Research Center, UCSF, San Francisco, CA; [2]University of Colorado School of Medicine, Aurora, CO*

ThOG pm 3:30 **Using MALDI-TOF-MS to Probe Protein-Ligand Interactions of G-Protein Coupled Receptors Incorporated into Stable Polymerized Planar Supported Lipid Bilayers**; Erin Johnson; James R. Joubert; S. Scott Saavedra; Vicki H. Wysocki; *University of Arizona, Tucson, AZ*

ThOG pm 3:50 **Phospholipid Bilayer Nanodiscs as a Platform for Integral Membrane Protein Analysis by Hydrogen Exchange Mass Spectrometry**; Chris Morgan [1]; Christine Hebling [2]; Kasper Rand[1]; James Jorgenson[2]; Darrel Stafford[2]; John R. Engen[1]; *[1]Northeastern University, Boston, MA; [2]University of North Carolina, Chapel Hill, NC*

ThOG pm 4:10 **V-Type ATPases: What Can We Learn from Mass Spectrometry?** Min Zhou[1]; Nelson Barrera[2]; Nina Morgner[1]; Carol Robinson[1]; *[1]University of Oxford, Oxford, UK; [2]University of Santiago de Chile, Santiago, Chile*

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

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

Svante Pääbo, *Max Planck Institute for Evolutionary Anthropology*

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

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

Special Posters 1 – 5
Bioinformatics, 001 – 031
Proteins: General, 032 – 063
Proteomics: Protein Sequencing, 064 – 076
Proteomics: Covalent Labeling, 077 – 092
Proteomics: New Approaches I, 093 – 117
MS of Glycoprotein I, 118 – 141
Quantitative Proteomics I, 142 – 176
Peptide Quantitation: Applications, 177 – 202
Biomarker Discovery I, 203 – 232
Peptides PTM, 233 – 254
Microbial Analysis, 255 – 276
Lipids I, 277 – 299
Clinical Chemistry, 300 – 321
Metabolomics I, 322 – 348
Small Molecule Quantiation I, 349 – 378
LC/MS, 379 – 407
Drug Biotransformation I, 408 – 428
Dried Blood Spot Analysis, 429 – 439
Drug Metabolism: Quantitation, 440 – 463
Environmental Analysis: General, 464 – 480
Atmospheric/Aerosol Chemistry, 481 – 486
Hydrocarbon & Peteochemical: General, 487 – 510
Elemental Analysis, 511 - 518
Isotope Ration MS, 519 – 531
Imaging MS: Method Development I, 532 – 556
Direct Ionization: Applications, 557 – 574
Ionization Mechanisms, 575 – 600
Ion Sources: ESI, 601 – 619
Ion Activation/Dissociation: ECD/ETD, 620 – 633
Ion Activation/Dissociation, 634 – 650
Instrumentation: FTMS, 651 – 664

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

Special 1 **Mass Spectrometry for the Masses: Creative Educational Approaches for Mass Spectrometry**; Donald H. Chace[1]; O. David Sparkman[2]; *[1]Pediatrix Analytical, Pittsburgh, PA; [2]University of the Pacific, Antioch, CA*

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

Special 3 Mon & Tues only **ABRF sPRG2010 Study: Multi-Laboratory Evaluation of a Phosphopeptide Standard for Proteomics**; James Farmar[1]; Christopher Colangelo [2]; Alexander R. Ivanov [3]; Chris Kinsinger[4]; Jeffrey A. Kowalak[5]; Karl Mechtler[6]; Brett Phinney[7]; Manfred R. Raida [8]; Susan T. Weintrauv[9]; *[1]U. of Virginia, Charlottesville, VA; [2]Yale University, New Haven, CT; [3]Harvard University HSPH, Boston, MA; [4]NIST, Gaithersburg, MD; [5]NIH, Bethesda, MD; [6]IMP Research Institute of Mo, Vienna, Austria; [7]University of CA, Davis, Davis, CA; [8]Experimental Therapeutics Ce, Singapore, Singapore; [9]University of Texas HSC, San Antonio,TX*

Special 4 Wed & Thur only **ABRF iPRG2010 Study: Informatic Evaluation of Phosphopeptide Identification and Phosphosite Localization Results from Multiple Proteomics Laboratories**; Paul Rudnick[1]; Manor Askenazi[2]; Karl R. Clauser [3]; William S. Lane[4]; Lennart Martens [5]; W. Hayes Mcdonald[6]; Philipp Mertins[3]; Karen Meyer-Arendt[7]; Brian C. Searle[8]; Jeffrey A. Kowalak[9]; *[1]NIST, Gaithersburg, MD; [2]Dana-Farber Cancer Institute and Hebrew University, Boston, MA; [3]Broad Institute of MIT and Harvard, Cambridge, MA; [4]Harvard University, Cambridge, MA; [5]Universiteit Gent, Gent, Belgium; [6]Vanderbilt University, Nashville, TN; [7]University of Colorado, Boulder, CO; [8]Proteome Software Inc, Portland, OR; [9]NIH, Bethesda, MD*

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

BIOINFORMATICS, 001 - 031

MP 001 **Peptide Identification from Mixture Tandem Mass Spectra**; Jian Wang[1]; Philip Bourne[2]; Nuno Bandeira[3]; *[1]Bioinformatics Program, UCSD, La Jolla, CA; [2]SSPPS, SDSC, UCSD, La Jolla, CA; [3]CCMS, UCSD, La Jolla, CA*

MP 002 **pFind2.1 Greatly Improves Peptide Identification for Proteomic Analysis After Comprehensive Characterization of ETD Spectra**; Rui-Xiang Sun[2]; Meng-Qiu Dong[1]; Chun-Qing Song[1]; Hao Chi[2]; Bing Yang[1]; Li-Yun Xiu[2]; Chao Liu[2]; Le-Heng Wang[2]; Yan Fu[2]; Si-Min He[2]; *[1]NIBS, Beijing, China; [2]Institute of Computing Technology, CAS, Beijing, China*

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

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

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

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

MP 007 **The Generating Function of CID, ETD and CID/ETD Pairs of Tandem Mass Spectra: Applications to Database Search**; Sangtae Kim[1]; Nikolai Mischerikow[2]; Nuno Bandeira[3]; Shabaz Mohammed[2]; Albert J.R. Heck [2]; Pavel Pevzner[1]; *[1]UCSD, San Diego, CA; [2]Utrecht University, Utrecht, Netherlands; [3]CCMS, UCSD, La Jolla, CA*

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

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

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

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

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

Samir Deshpande[1]; Rabih Jabbour[2]; Michael Stanford[3]; Charles Wick[3]; Alan Zulich[3]; *[1]Science & Technology Corporation, Edgewood, MD; [2]SAIC INC., Apg, MD; [3]U.S. Army Edgewood Chemical Biological Center, Aberdeen Proving Ground, MD*

MP 013 **Comparison of Techniques for False Discovery Rate Analysis Using Multiple Instrument Platforms and Database Search Engines with a Proteomics Standard**; D. Brent Weatherly[1]; Archer Smith[2]; James Mobley[2]; James A Atwood III[1]; *[1]Bioinquire, Athens, GA; [2]University of Alabama at Birmingham, Birmingham, Alabama*

MP 014 **Improving Phosphorylation Site Assignment by Statistical Analysis on CID Fragmentation**; Sheng-Chieh Lu[1]; Chia-Feng Tsai[2]; Chih-Chiang Tsou[1]; Han-Yin Yang[1]; Lien-Chin Chen[1]; Yu-Ju Chen[2]; Ting-Yi Sung[1]; Wen-Lian Hsu[1]; *[1]Institute of Information Science, Academia Sinica, Taipei, Taiwan; [2]Institute of Chemistry, Academia Sinica, Taipei, Taiwan*

MP 015 ***de novo* Peptide Sequencing and Identification Using HCD Spectra**; Hao Chi[1, 2]; Rui-Xiang Sun[1]; Bing Yang[2]; Chun-Qing Song[2]; Le-Heng Wang[1]; Chao Liu[1, 2]; Yan Fu[1]; Zuo-Fei Yuan[1]; Hai-Peng Wang[1]; Si-Min He[1];Meng-Qiu Dong[2] *[1]Institute of Computing Technology, CAS, Beijing, China; [2]NIBS, Beijing, Beijing, China*

MP 016 **A Flexible Informatic Approach to Automated Proteomic Discovery**; John Damask; Justin Klekota; Stephen Marshall; Urs Wirth; Markus Schirle; Ioannis K. Moutsatsos; *Novartis Institutes for BioMedical Research, Cambridge, MA*

MP 017 **Gapped Peptide Search: A Bridge between *de novo* Peptide Sequencing and MS/MS Database Search**; Julio Ng; Pavel Pevzner; *UCSD, La Jolla, CA*

MP 018 **No News is Good News -- *de novo* Determination of Amino Acids When Peaks are Missing**; Lin He; Bin Ma; *University of Waterloo, Waterloo, Canada*

MP 019 **Critical Evaluation of Bioinformatic Tools for Automated Annotation of Large Protein Datasets**; Tomas Rejtar; Sangwon Cha; Barry L. Karger; *Northeastern University, Boston, MA*

MP 020 **A Method to Achieve Accurate Protein Confidences**; Ignat Shilov; Sean L. Seymour; Alpesh Patel; *AB SCIEX, Foster City, CA*

MP 021 **A Comparative Proteomics Technique for Automatic Annotation of Post Translational Modifications on Multiple Genomes with Reduced Error Rate;** Viswanadham Sridhara; Aron Marchler-Bauer; Stephen H Bryant; Lewis Y Geer; *NCBI/NLM/NIH, Bethesda, MD*

MP 022 **Improved Use of Peptide pI Filtering Within IDSeive Algorithm Increases the Number of Identifications While Lowering the False Positive Rate;** Nikhil Garge; Benjamin Cargile; Xinxin Zhang; Jonathan Bundy; James Stephenson; Maureen Bunger; *Research Triangle Institute, Durham, NC*

MP 023 **Determining the Spectrum to Peptide Assignment Ratio of MS Analysis of Microbial Communities for Increased Proteomic Coverage**; Brian Erickson[1, 2]; Alison Russell[1, 2]; Nathan C. Verberkmoes [2]; Brian Dill [2]; Manesh Shah[2]; Robert Hettich[2]; *[1]University of Tennessee, Knoxville, TN; [2]Oak Ridge National Laboratory, Oak Ridge, TN*

MP 024 **Finding Patterns in Unassigned Peak Lists of Protein and Peptide Fragment Mass Spectra Using Frequent Itemset Mining Techniques;** Trung Nghia Vu[1]; Dirk Valkenborg[3]; Dominique Eeckhout[2]; Geert De Jaeger[2]; Bart Goethals[1]; Erwin Witters [3]; Filip Lemière[4]; Kris Laukens[1]; *[1]Univ. of Antwerp - Mathematics & Computer Science, Antwerp, Belgium; [2]VIB - Plant Systems Biology / University of Ghent, Gent, Belgium; [3]Flemish Institute for Technological Research, Antwerp, Belgium; [4]University of Antwerp, Antwerp, Belgium*

MP 025 **Determining the False Discovery Rate for Peptide Identification without a Decoy Database**; Lei Xin [1]; Baozhen Shan[2]; Bin Ma[3]; *[1]CS Dept. of The University of Western Ontario, London, ON; [2]Bioinformatics Solutions Inc., Waterloo, ON; [3]University of Waterloo, Waterloo, ON*

MP 026 **Evaluation of Statistical Tools for Verifying Single-Hit Protein Identifications**; Mingguo Xu; Liang Li; *Department of Chemistry University of Alberta, Edmonton , Canada*

MP 027 **A Pipeline for Identifying Unexpected Post-Translational Modifications on Proteins from MS/MS Data**; Florent Gluck[1]; Paola Antinori[1]; Carla Pasquarello[2]; Alexander Scherl[2]; Denis Hochstrasser[1, 3]; Laurent Geiser[1]; *[1]Swiss Centre for Applied Human Toxicology (SCAHT), Geneva, Switzerland; [2]Proteomics Core Facility, Geneva University, Geneva, Switzerland; [3]University Hospital of Geneva (HUG), Geneva, Switzerland*

MP 028 **Tools for Maintenance and Preparation of Fasta Protein Databases**; Phillip Wilmarth; Larry David; *OHSU, Portland, OR*

MP 029 **A Mathematical Approach for Reference Dataset Selection in High Throughput Proteomics**; Brian Lamarche; Stephen Callister; Anuj Shah; Aaron Wright; Michael Wilkins; Matthew Monroe; Kevin Crowell; Gordon Anderson; Richard Smith; *Pacific Northwest National Laboratory, Richland, WA*

MP 030 **Identification of Modification Sites in Peptides Using MS Software**; Harriet Mörtstedt; Marina C Jeppsson; Bo A. G. Jönsson; Monica H. Kåredal; Christian Lindh; *Lund University, Lund, Sweden*

MP 031 **Enabling Fast Genome-Scale Database Searches**; Kyowon Jeong[1]; Sangtae Kim[1]; Nuno Bandeira[2]; Pavel Pevzner[1]; *[1]UCSD, La Jolla, CA; [2]CCMS, UCSD, La Jolla, CA*

PROTEINS: GENERAL, 032 - 063

MP 032 **Proteomic Profiling of MCF-7 Breast Cancer Cells at Different Stages of the Cell Cycle**; Milagros Perez[1, 2]; Iuliana Lazar[1, 2]; *[1]Virginia Bioinformatics Institute, Blacksburg, VA; [2]Department of Biological Sciences, Blacksburg, VA*

MP 033 **Analysis of Virion Components of a Mixed Bacteriophage Infection of Pseudomonas Aeruginosa by Mass Spectrometry**; Susan T. Weintraub [1]; Natia Karumidze[2]; Julie A. Thomas[3]; Kevin W. Hakala[1]; Nino Kvatadze[2]; Zemphira Alavidze[2]; Philip Serwer[1]; Stephen C. Hardies[1]; *[1]University of Texas HSC, San Antonio , TX; [2]George Eliava Inst. Bacteriophage, Micro. & Virol., Tbilisi, Republic of Georgia; [3]University of Maryland School of Medicine, Baltimore, MD*

MP 034 **Preparation of *Magnaporthe oryzae* Mycelia and Spores for Proteomic Analysis: Protein Extraction, Fractionation and Identification**; Anna R. Courie; Emine Gokce; Timothy S. Collier ; William L. Franck; Yeon Yee Oh; Ralph A. Dean; David C. Muddiman; *North Carolina State University, Raleigh, NC*

MP 035 **Identification of Proteins by Quantitative Mass Spectrometry to Serve as Normalizing Controls for**

High-Throughput, High-Content Cell Signaling Assays; Konstantinos Petritis; Tony Tegeler; Matthew Rosenow; Jian Liu; Ashoka D. Polpitiya ; Linda Nagore; Wendy McDonough; Michael Berens; *Translational Genomics Research Institute, Phoenix, AZ*

MP 036 **Proteomic Analysis of Pseudorabies Virus Extracellular Virions**; Tal Kramer; Anna Arnaudo; Lynn W. Enquist; Ileana M. Cristea; *Princeton University, Princeton, NJ*

MP 037 **Identification of Proteins in Works of Art: Combined Use of Maldi Mass Fingerprinting and ELISA**; Daniel P. Kirby [1]; Julie Arslanoglu[2]; Adriana Rizzo[2]; *[1]Straus Center, Harvard, Cambridge , MA; [2]Metropolitan Museum of Art, New York, New York*

MP 038 **Tandem Mass Spectrometry Analysis of Ex Vivo Amyloid Fibril and Tissue Samples**; Zhenning Hong; Giuseppe Infusini ; Lawreen H. Connors; Martha Skinner; Catherine E. Costello; *Boston University School of Medicine, Boston, MA*

MP 039 **Large-Scale Identification of Human Microtubule-Associated Proteins Using Multidimensional Chromatography and Tandem Mass Spectrometry**; Chao Gong; Carthene R. Bazemore-Walker; *Brown University, Providence, RI*

MP 040 **Interactions of the Human Iron Sulfur Cluster Assembly Protein Complex Investigated Using Hydrogen/Deuterium Exchange Mass Spectrometry**; Michaella Levy; Pei-Jing Pai; William K. Russell; David H. Russell; David P. Barondeau; *Texas A&M University, College Station, TX*

MP 041 **Top Down Proteomics to Characterize *in vivo* Polyubiquitin Chains**; Lucy Roach; Joanna Strachan; Kleitos Sokratous; Robert Layfield; Neil Oldham; *University of Nottingham, Nottingham, UK*

MP 042 **Electron Detachment Dissociation (EDD) and Collisionally Activated Dissociation (CAD) for Top-Down Mass Spectrometry of Acidic Proteins**; Barbara Ganisl; Monika Taucher; Kathrin Breuker; *University of Innsbruck, Innsbruck, Austria*

MP 043 **Interaction Studies between Abeta-autoantibodies and Abeta Peptides by Immunoaffinity –Mass Spectrometry**; Claudia Cozma [1]; Mihaela Dragusanu[1]; Michael Przybylski[2]; *[1]University of Konstanz, Konstanz , Germany; [2]Universitat Konstanz, Konstanz, Germany*

MP 044 **Translation Fidelity Rate Determination in a Cell-Free Protein Synthesis System Using LC-MS**; Tyler H Heibeck; Gang Yin; Juan Zhang; Evan Green; Alexander Steiner; Christine Roos; Chris Murray; Sushmita Mimi Roy; *Sutro Biopharma, South San Francisco, CA*

MP 045 **Mass Spectrometry-Ion Mobility Spectrometry to Investigate the Interaction of Alzheimer's Amyloid Beta Protein and Aggregation Inhibitors**; Megan M. Murray[1, 2]; Huiyuan User[1, 2]; Gal Bitan[1, 2]; Michael T. Bowers [1, 2]; *[1]University of California, Santa Barbara, CA; [2]University of California, Los Angeles, CA*

MP 046 **Proteomic Characterization of Histone Deacetylase 10**; Yang Luo; Laura-Mae Britton; Fang Yu; Ileana M. Cristea; *Princeton University, Princeton, NJ*

MP 047 **Architecture of a Photosynthetic Membrane Revealed by Hydrogen/Deuterium Exchange and Mass Spectrometry**; Jianzhong Wen[1]; Richard Yu-Cheng Huang[2]; Michael L. Gross[2]; Robert E. Blankenship[1]; *[1]Depart. of Biology&Chemistry,Washington University, Saint Louis, MO; [2]Department of Chemistry,Washington University, Saint Louis, MO*

MP 048 **Ion Mobility Mass Spectrometry Characterization of Therapeutic Antibody Bioconjugates**; Ryan Preston; Robert Murphy; *Pfizer / CovX, San Diego, CA*

MP 049 **Evaluation of Protamine Zinc Insulin (PZI) Stability from Chromatographic Fingerprints and MALDI Mass Spectrometry**; Stephanie Eastwood; Mary Elizabeth Gimon-Kinsel; Gary R. Kinsel; *Southern Illinois University Carbondale, Carbondale, IL*

MP 050 **Quantification of Collagen in Tissues Using Stable Isotope Labeling and LC-MS**; Sin-Yi Chang; Yen-Peng Ho; *National Dong Hwa University, Hualien, Taiwan*

MP 051 **N- and C-Terminal Sequencing of Truncated Proteins Using Top-Down Mass Spectrometry with High Resolution, Accurate Mass and Multiple Dissociation Methods**; Zhiqi Hao[1]; Meng-Qiu Dong[2]; David Horn[1]; Andreas F Huhmer[1]; *[1]Thermo Fisher Scientific, San Jose, CA; [2]NIBS, Beijing, Beijing, China*

MP 052 **High Confidence Analysis of WDR5 Interactome**; Chia-Fang Lee; *Nevada Cancer Institute, Las Vegas, NV*

MP 053 **Broad Mass Range Ion Transmission and Improved Peptide Detection and Identification Using QTOF MS Equipped with New Atmospheric Pressure Interface**; Michael Ugarov [1]; Patrick D. Perkins[1]; Alex Mordehai[1]; Bill Barry[1]; Gangqiang Li[2]; Stuart Hansen[2]; George Stafford[1]; *[1]Agilent Technologies, Santa Clara, CA; [2]Agilent Labs, Santa Clara, CA*

MP 054 **New Reagents for Enhanced Charging of Intact Protein Ions for Liquid Chromatography Tandem Mass Spectrometry**; Santosh G. Valeja[1, 2]; Jeremiah D. Tipton[1]; Mark R. Emmett[1, 2]; Alan G. Marshall[1, 2]; *[1]ICR Program, Nat'l High Magnetic Field Lab, Tallahassee, FL; [2]Dept. of Chem and biochem.Florida State University, Tallahassee, FL*

MP 055 **Evaluation of a Sheathless Nanospray CE-MS Interface for the Analysis of Proteins;** Sean Mccarthy[1]; Martin Gilar[1]; Jeff Mazzeo[2]; *[1]Waters, Milford, MA; [2]Waters Corporation, Milford, MA*

MP 056 **Comparative Study on Proteins Identification by Combining Chromatofoc Using and Capillary/Nano-HPLC with MALDI-TOF/TOF Mass Spectrometry Analysis**; Alberto Nunez; Laurie Fortis; Nereus Gunther; *USDA-ARS-ERRC, Wyndmoor, PA*

MP 057 **Top-Down Hydrogen/Deuterium Exchange Using Electron Transfer Dissociation for Resolving Backbone Amide Hydrogen Exchange at the Single Residue Level**; Seema Sharma[1]; Jie Qian[1]; Iman Mohtashemi[1]; Mark Sanders[1]; Leland Mayne[2]; *[1]Thermo Fisher Scientific, San Jose, CA; [2]University of Pennsylvania, Philadelphia, PA*

MP 058 **Time Resolved Electrospray Ionization Mass Spectrometry: A New Approach for Measuring Kinetic Isotope Effects in the Enzymatic Pre-Steady State**; Peter Liuni; Derek Wilson; *York University, Toronto , Canada*

MP 059 **New Strategies for High Pressure Assisted Digestion in Proteomics**; Daniel Lopez Ferrer[1]; Kim K. Hixson[2]; Karl Weitz[1]; Ron Moore [1]; Mikhail Belov[1]; Ljiljana Pasa-Tolic[1]; Richard D. Smith[1]; *[1]PNNL, Richland, WA; [2]Washington State University, Pullman, WA*

MP 060 **Dissection of Rapamycin-Proteasome Interactions Using Mass Spectrometry Tools;** Monika Tokmina-Lukaszewska; Srividya Madabhushi; Maria E. Gaczynska; Pawel A. Osmulski; University of Texas HSC, San Antonio, TX

MP 061 **Combination of Ultrasound and Pressure-Assisted Tryptic Digestion of Proteins**; Seongjae Shin; Jinhee Kim; Hyo-Jik Yang; Jeongkwon Kim; *Chungnam National University, Daejeon, South Korea*

MP 062 **Protein Interactions and Post-Translational Modification of the Schizosaccharomyces Pombe Pif1 Family DNA Helicase, Pfh1**; Karin R. McDonald; Virginia A. Zakian; Ileana M. Cristea; *Princeton University, Princeton , NJ*

MP 063 **Optimization of Novel Lectins Affinity Chromatography for Use in iTRAQ Studies: Integrating Training and Research in the Undergraduate Proteomics Laboratory;** Krystle Rogers[1]; Kalyan Adhikari[1]; Kellen Doerr[1]; Gerrick Meyer[1]; Jennifer Minton[1]; Jen Grant[2]; *[1]Applied Science, University of Wisconsin-Stout, Menomonie , WI; [2]Biology Department, University of Wisconsin-Stout, Menomonie, WI*

PROTEOMICS: PROTEIN SEQUENCING, 064 - 076

MP 064 **Top-Down Mass Spectrometry of Supercharged Proteins**; Rajeswari Lakshmanan; Ivory X. Peng; Carly N. Ferguson; Rachel R. Ogorzalek Loo ; Joseph A. Loo; *UCLA, Los Angeles, CA*

MP 065 **Mass Spectrometric Top-Down Protein Sequencing *de novo*: The Full Determination of a 13.7 kDa Camelid Nanobody Sequence**; Anja Resemann[1]; Gonyi Shi[2]; Dirk Wunderlich[1]; Jens Fuchser[1]; Detlev Suckau[1]; *[1]Bruker Daltonics, Bremen, Germany; [2]Bruker Daltonics Inc., Fremont, CA*

MP 066 **Top-Down Sequencing of Proteins Extracted from Polyacrylamide Gels Using MALDI in Source Decay (ISD);** G. Reid Asbury[1]; Anja Resemann[2]; Waltraud Evers[2]; Jessica Irrgang[3]; Detlev Suckau[2]; Trust T Razunguzwa[1]; Matthew J. Powell[1]; Harald Dibowski[3]; *[1]Protea Biosciences, Morgantown, WV; [2]Bruker Daltonik GmbH, Bremen, Germany; [3]Dichrom GmbH, Marl, Germany*

MP 067 **Optimizing MALDI- ISD and T3 Methods for N- and C- Terminal Protein Sequencing**; Suresh Annangudi; Jeffrey Gilbert; David Mccaskill; Jesse Balcer; Nicholas Harpham; Debbie Schwedler; Steve Evans; *Dow Agrosciences, Indianapolis, IN*

MP 068 **Electron Capture Dissociation for the Analysis of Recombinant Proteins**; Atim Enyenihi[1]; Jon D. Williams[2]; Wendy White [2]; Mary B. Moyer[2]; Takashi Baba[1]; Gary L. Glish[1]; *[1]University of North Carolina, Chapel Hill, NC; [2]GlaxoSmithKline, RTP, NC*

MP 069 **Top Down Sequence Coverage Comparison between CID, HCD, and ETD on an Orbitrap XL Mass Spectrometer**; Robert O'Meally; Robert Cole; *Johns Hopkins School of Medicine, Baltimore, MD*

MP 070 **Detailed Structural Characterization of Recombinant H3 and its Methylated Analogs by Top-Down FTMS Combined CAD and ECD**; Jun Han; Christoph H. Borchers; *University of Victoria-Genome BC Proteomics Centre, Victoria , Canada*

MP 071 **Atmospheric Pressure Thermal Dissociation of Multiply Charged Proteins**; Suhl A Choi; Catherine Vinci; Mark E. Bier; *Carnegie Mellon University, Pittsburgh, PA*

MP 072 **Protein pI Based Separation for Top-Down Proteomics**; Nathanael F. Zinnel; Stephanie M. Cologna; Gyula Vigh; David H. Russell; *Texas A&M University, College Station, Texas*

MP 073 **NIPAAM-MAA Brush Polymer Modified MALDI Targets for Improved Sequence Coverage in MS-Based Protein Identification**; Venney Wong; Gary R. Kinsel; Daniel J. Dyer; Bojan Mitrovic; *Southern Illinois University, Carbondale, IL*

MP 074 **Quantitative Proteomic Analysis of the Membrane Proteome of the Pancreatic Cancer Metastasis**; Min-Sik Kim [1]; Arivusudar Marimuthu [2]; Manoj K. Kashyap[2]; Shinichi Yachida[1]; Chris Iacobuzio-Donahue[1]; Akhilesh Pandey[1]; *[1]Johns Hopkins University, Baltimore, MD; [2]Institute of Bioinformatics, Bangalore, India*

MP 075 **Protein Composition of a Vesicular Vaccine Carrier Derived from the Outer Membrane of Neisseria Meningitidis**; Eberhard Durr; Lori C Stansberry; Lan Zhang; Mark A Miller; Joseph G Joyce; Loren D. Schultz; Craig Przysiecki; *Merck & Co, West Point, PA*

MP 076 **Identification of Helicobacter Pylori Proteins Involved in the Cag Type-IV Secretion System Apparatus via Discovery and Targeted Mass Spectrometry Approaches**; Carrie Shaffer[1]; W. Hayes McDonald[1]; Salisha Hill[1]; Mark McClain[1]; Ewa Hennig[2]; Timothy Cover[1]; *[1]Vanderbilt University, Nashville, TN; [2]Medical Center for Postgraduate Education, Warsaw, Poland*

PROTEOMICS: COVALENT LABELING, 077 - 092

MP 077 **Investigation of the CCL5-Chondrotin Sulfate Complex Using Hydroxyl Radical Footprinting Reveals Information Involving Ligand-Binding, Ligand-Induced Conformational Change and pH-Dependent Aggregation**; Caroline Watson; Vitor H. Pomin; Xu Wang; James H. Prestegard; Joshua S. Sharp; *Complex Carbohydrate Research Center/UGA, Athens, GA*

MP 078 **Carbene-Labeling Strategy for Interface Mapping of Protein Complexes**; Chanelle C. Jumper; David Schriemer; *University of Calgary, Calgary, Canada*

MP 079 **Selective Enrichment of Cross-Linked Peptides by a Reductive Amination and Click Chemistry Based Cross-linking Strategy;** Michael Trnka; A.L. Burlingame; *University of California, San Francisco, CA*

MP 080 **'Clicking on' Fluorous Tags: A Strategy for Enrichment of Cysteine-Containing Peptides in Proteomics Applications**; Klaus Rumpel; Carla Fernandes; Mireia Fernández Ocaña; *Pfizer PharmaTherapeutics Global R&D, Sandwich, UK*

MP 081 **Rapid Covalent Pre-Gel Modification of Proteins for their Instant Visualization and Subsequent Mass Spectrometric Characterization**; Robert Winkler; Marco Arnulfo Mata Gómez; Matthew Thomas Yasui; *Tecnológico de Monterrey (ITESM), Monterrey, Mexico*

MP 082 **Carboxyl Group Protein Footprinting for Mapping the Dimerization Interface and Phosphorylation-Induced Conformational Changes of a Membrane-Associated Protein Kinase**; Hao Zhang[1]; Wei Shen[2]; Ilan Vidavsky[1]; Michael L. Gross[1]; Ron Bose[2]; *[1]Washington University, St.Louis, MO; [2]Washington University School of Medicine, St.Louis, MO*

MP 083 **'Fixed Charge' Chemical Derivatization and Data Dependant Multistage Tandem Mass Spectrometry for Mapping Protein Surface Residue Accessibility and Protein Interactions**; Xiao Zhou; Yali Lu; Wenjing Wang; Babak Borhan; Gavin Reid; *Michigan State University, East Lansing, MI*

MP 084 **Probing Topology Changes of Sindbis Virus Structural Proteins Using Novel CID-Cleavable Chemical Crosslinking Reagents and Mass**

Spectrometry Analysis; Fan Liu; Dennis Brown; Michael Goshe; *NC State University, Raleigh, NC*

MP 085 ***In vivo* Study of E. Coli Protein-Protein Interactions Using Photocleavable Protein Interaction Reporter (pcPIR) Cross-Linking Strategy**; Li Yang[1]; Chunxiang Zheng[1]; Chad Weisbrod [2]; Michael R. Hoopmann [2]; Xiaoting Tang[3]; Jimmy Eng[2]; James Bruce[2]; *[1]Washington State University, Pullman, WA; [2]University of Wasington, Seattle, WA; [3]Novo Nordisk Inflammation Research Center, Seattle, WA*

MP 086 **Mapping of Contact Sites in Munc13/Calmodulin Complexes by Photoaffinity Labeling and Mass Spectrometry**; Kalina Dimova[1]; Fernando Rodríguez-Castañeda[2]; Mitcheell Maestre-Martínez[2]; Stefan Kalkhof[3]; Christian H. Ihling[3]; Andrea Sinz[3]; Christian Griesinger[2]; Teresa Carlomagno[2]; Nils Brose[1], Olaf Jahn[1]; *[1]MPI Experimental Medicine, Goettingen, Germany; [2]MPI Biophysical Chemistry, Goettingen, Germany; [3]Martin Luther University Halle, Halle, Germany*

MP 087 **A Covalent Labeling Protocol Using S-Methyl Thioacetimidate for the Thermodyamic Analysis of Protein Folding and Ligand Binding**; Ying Xu; Michael C. Fitzgerald; *Duke University, Durham, NC*

MP 088 **DEST: A Novel Protein Cross-Linking Reagent**; Matthew A. Lauber; James P. Reilly; *Indiana University, Bloomington, IN*

MP 089 **Top-Down Sequencing Can Increase Information Content during Protein Structural Analysis by Covalent Labeling with Mass Spectrometric Detection**; Yuping Zhou[1]; Desmond Kaplan[2]; Christopher Thompson[2]; Richard Vachet[1]; *[1]University of Massachusetts, Amherst, MA; [2]Bruker Daltonics, Billerica, MA*

MP 090 **Dynamical Effects of Incorporating Site-Specific Crosslinks in Peptides Examined by Hydrogen-Deuterium Exchange Mass Spectrometry**; Eizadora Yu; Aaron Highley; Richard Jacobsen; Sidney Elmer; Darryl Sasaki; Kenneth Sale; Joseph Schoeniger; *Sandia National Laboratories, Livermore, CA*

MP 091 **The Interaction of hApe1 and its Redox-Activity Inhibitor E3330 by HDX, NEM Labeling, and Mass Spectrometry**; Dian Su[1]; Sarah Delaplane[2]; Richard Yu-Cheng Huang [1]; Hao Zhang[1]; Meihua Luo[2]; Mark Kelley[2]; Millie Georgiadis[2]; Michael L. Gross[1]; *[1]Washington University, St Louis, MO; [2]Indiana University, Indianapolis, IN*

MP 092 **Metal-Induced Hydrogen/Deuterium Exchange (MIX) and MS for Metal-Protein Binding Sites Determination;** Jia Dong[1]; Adam M Graichen[2]; Richard Vachet[2]; *[1]university of massachusetts amherst, Amherst, MA; [2]University of Massachusetts, Amherst, MA*

PROTEOMICS: NEW APPROACHES I, 093 - 117

MP 093 **A Novel Approach to the Identification of Protein-Protein Interaction Using On-Beads Cross-Linking, Co-Immunoprecipitation and Mass Spectrometry**; Bill Huang; Hee-Yong Kim; *NIAAA/NIH, Rockville, MD*

MP 094 **Identification of Protein Targets *in vitro* and *in vivo* by Using Dendrimer-Based Nanomedicine**; Lianghai Hu; Jacob A. Galan; Anton Iliuk; Weiguo Andy Tao; *Purdue University, West Lafayette, IN*

MP 095 **Identification of Proteins Induced by PUGNAc Treatment in 3T3-L1 Adipocytes Using ATP-Affinity Chromatography: Relationship between Ubiquitination and O-glycosylation**; Jeong-Eun Lee; Ja-Hye Park; Moon-Chang Baek; *Kyungpook Nat'l Univ., Deagu, South Korea*

MP 096 **Mass Spectrometric Screening of Proteomic Changes in Human Breast Adenocarcinoma MCF-7 and T-Lymphoblastoid Cells after Treatment with Antibody**; Erika Lattova[1]; Boguslav Tomanek[2]; Dorota Bartusik[3]; Helene Perreault[1]; *[1]University of Manitoba, Winnipeg, Canada; [2]NRC, Institute for Biodiagnostics,, Calgary, Canada; [3]Cross Cancer Institute, Medical physics Department, Edmonton, Canada*

MP 097 **Integrated Mass Spectrometry Based Quantitative Analysis of Plasma Glycoproteins and their Glycan Modifications**; Hong Wang[1]; Chee-Hong Wong[1]; Alice Chin[1]; Allen Taylor[1]; Ayumu Taguchi[1]; Samir Hanash[1]; Sadanori Sekiya[2]; Hidenori Takahashi[2]; Masaki Murase[2]; Shigeki Kajihara[3]; Shinichi Iwamoto[2]; Koichi Tanaka[2]; *[1]PHS, Fred Hutchinson Cancer, Seattle, WA; [2]Koichi Tanaka Research Lab, Shimadzu Corporation, Kyoto, Japan; [3]Technology Research Lab, Shimadzu Corporation, Kyoto, Japan*

MP 098 **Streamlining Chemoproteomics Technology for Rapid Target Identification in Drug Discovery**; Hua Tang; Jeff Olson; Paul Richardson; Scott Warder; Violeta Marin; Shaun Mcloughlin; *Abbott Laboratories, Abbott Park , IL*

MP 099 **Differential Proteomic Analysis of the Hippocampus in Homer2 knockout and Wildtype Mice: Molecular Implications for Alcohol Aversion;** Scott Goulding[1]; Rob Helton[1]; Karen Szumlinski[2]; Christine Wu [1]; *[1]University of Colorado School of Medicine, Aurora, CO; [2]University of California Santa Barbara, Santa Barbara, CA*

MP 100 **Differential Proteomic Analysis in 3 Different types of Human Lymphomas Following Nutlin-3A-Induced p53 Stabilization and Activation;** Konstantina Psatha[1]; Michalis Aivaliotis[2]; Elias Drakos[3]; George Rassidakis[1]; *[1]National and Kapodistrian University of Athens, Athens, Greece; [2]Max-Planck-Institute of Biochemistry, Martinsried, Germany; [3]M.D. Anderson Cancer Center, Houston, TX*

MP 101 **Use of Accurate Mass Measurement Shotgun Proteomic Analysis Method to Investigate the Proteome of Acinetobacter baylyi ADP1**; Melissa Stoudemayer; William Whitman; Jon Amster; Yuchen Liu; Wes Bryson; *University of Georgia, Athens, GA*

MP 102 **Investigation of ATP- and GTP-Binding Proteins in Human Cells upon 6-Thioguanine Treatment**; Yongsheng Xiao[1]; Yinsheng Wang[2]; *[1]University of California, Riverside, Riverside, CA; [2]University of California, Riverside, CA*

MP 103 **Cell Specific On-Chip Protein Marker Discovery in Prostate Cancer Using MALDI-FTICR MS**; Hans-Rudolf Aerni; Kristina Schwamborn; Joey C. Latham; Andrey I Zavalin ; Richard M. Caprioli; *Vanderbilt University, Nashville, TN*

MP 104 **Proteomics-Based Target Deconvolution of Clinical Multi-Kinase Inhibitors Inducing Apoptosis in Primary Chronic Lymphocytic Leukemia Cells (CLL)**; Marcus Bantscheff[1]; Ulrich Kruse[1]; Christian Pallasch[2]; Dirk Eberhard[1]; Stefan Maier[1]; Thilo Werner[1]; Clemens Wendtner[2]; Gerard Drewes[1]; *[1]Cellzome AG, Heidelberg, Germany; [2]University of Cologne, Cologne, Germany*

MP 105 **Knock-In AP-MS: A Sensitive Platform for Mapping Protein Interaction Networks in the Wnt Signaling Pathway**; Jing Song; Yujun Hao; Zhenghe Wang; Rob

Ewing; *Case Western Reserve University, Cleveland, OH*

MP 106 **A High-Density Interactome for the Ubquitin-Like Protein Systems**; Sarah Wheaton[1]; Tharan Srikumar[1]; Connie Danielsen[2]; Brian Raught[1, 2]; *[1]Medical Biophysics, University of Toronto, Toronto, Canada; [2]Ontario Cancer Institute, Toronto , Canada*

MP 107 **Establishing Universal Units for Changes in the Expression Proteome as Well as in Signaling Activation**; David Good[1]; Consuelo Marin-Vicente[1]; Jinzhi Chen[2]; Roman Zubarev [1]; *[1]Karolinska Institutet, Stockholm, Sweden; [2]Roche, Palo Alto, CA*

MP 108 **Analysis of Cross-Linked Glycoproteins Through Mass Spectroscopy and Bioinformatics – Retaining Both Protein and Glycan Structural Information;** Morten Rasmussen[1]; Ana Neves-Ferreira[1]; Peter Hojrup[2]; *[1]BMB, Odense, Denmark; [2]University of Southern Denmark, Odense M, Denmark*

MP 109 **Label-Free Quantitation to Dissect Site-Specific Phosphorylation Stoichiometry and Dynamics of Signaling Proteins Involved in Inflammation and Pathogenesis**; Harsha P. Gunawardena; Yi Huang; Li Wang; Penggao Dai; Xian Chen; *University of North Carolina at Chapel Hill, Chapel Hill, NC*

MP 110 **Scheduled MRM Method for H/D Measurements in Support of Drug Screening**; Andrew J Percy; David Schriemer; *University of Calgary, Calgary, Canada*

MP 111 **Extended Data-Independent Acquisition (XDIA): Improving on the Label-Free Data-Independent Analysis**; Xuemei Han[1]; Paulo C Carvalho[1, 2]; Tao Xu[1]; Daniel Cociorva[1]; 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*

MP 112 **Global and Targeted Complexome Analysis of the Cytosolic Proteome of Enteropathogenic Escherichia Coli Using Native-PAGE Combined with nLC-LTQ Orbitrap MS**; Vassilia Balabanidou; Michalis Aivaliotis; Malvina Papanastasiou; Spyridoula Karamanou; Anastassios Economou; *IMBB-FORTH, Heraklion, Greece*

MP 113 **Highly Multiplexed Targeted Proteomics with Increased Selectivity**; Michael Heymann; Sébastien Gallien; Elodie Duriez; Bruno Domon; *Luxembourg Clinical Proteomics, CRP-Sante, Strassen, Luxembourg*

MP 114 **Universal Tool for On-Line Processing and Iterative Analysis**; Bruce Pascal; Kristie Rose; Valerie Cavett; Jennifer Busby; *The Scripps Research Institute, Jupiter, FL*

MP 115 **Advanced Automated Data Processing for ETD in Top-Down Proteomics**; Ralf Hartmer; Carsten Stoermer; *Bruker Daltonik, Bremen , Germany*

MP 116 **Improving Protein Identification Efficiency for Membrane Proteome Analysis of *Escherichia coli* by LC-ESI MS/MS Combined with Microwave-Assisted Sequential Protein Solubilization**; Xiaoxia Ye; Liang Li; *Chemistry Department, University of Alberta, Edmonton , Canada*

MP 117 **What Happens to Bacterial Cells and their Proteins after Microwave Heating? Towards a Single Step Sample Preparation Protocol for Proteomics**; Sujit Kandar; Franco Basile; *University of Wyoming, Laramie, WY*

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MP 118 **Candyland, the Novel and Distinct Outer Surface of the Archaeon *Methanosarcina mazei***; Deborah R. Francoleon; Renate Lux; Unmi Kim; Joseph A. Loo; Robert P. Gunsalus; Rachel R. Ogorzalek Loo; *University of California, Los Angeles, Los Angeles, CA*

MP 119 **Site-Specific N-linked Glycan Characterization of the Keyhole Limpet Hemocyanin**; Justin B. Sperry; Halyna E. Narepekha; Serdar Aykent; James A. Carroll; *Pfizer, Chesterfield, MO*

MP 120 **Determination of N-Glycosylation Sites and Site Heterogeneity in the Extracellular Region of CD44s**; Huanhuan Han[1]; Martha Stapels[2]; Yingqing Yu[2]; Yangjun Zhang[1]; Weibin Chen[2]; Li Tang[1]; Tim Riley[2]; Xiaohong Qian[1]; *[1]Beijing Proteome Research Center, Beijing, China; [2]Waters Corporation, Milford, MA*

MP 121 **Integrated Analysis of N-Glycans and Digest Peptides from Therapeutic Monoclonal Antibodies and Human Serum IgGs Using HPLC Chips with QTOF-MS**; Shiaw-Lin Wu[1]; Yi Wang[1]; Dayin Lin[2]; William Hancock[1]; Barry L. Karger[1]; *[1]Northeastern University, Boston, MA; [2]Agilent Technologies, Inc., Waldbronn, Germany*

MP 122 **Glycoproteomic Analysis of Developing Zebrafish Eggs by a Tandem MS^3 Approach on a Dual Collision Stage Enabled Q/TOF MS Instrument**; Chia-Wei Lin[1, 2]; Sz-Wei Wu[3]; Lan-Yi Chang[1]; Yann Guérardel[4]; Chang-Jen Huang[1, 2]; Kay-Hooi Khoo[1, 3]; *[1]IBC, Academia Sinica, Taipei, Taiwan; [2]IBS, National Taiwan University, Taipei, Taiwan; [3]NRPGM Mass Spectrometry Core Facilities, Taipei, Taiwan; [4]Université des Sciences et Technologies, Lille, France*

MP 123 **Structural Analysis of an Unliganded and Highly Glycosylated gp120-Based Antigen Using Mass Spectrometry**; Liwen Wang[1, 3]; Yali Qin[2]; Seiguei Ilchenko[1, 3]; Jennifer Bohon [1, 3]; Wuxian Shi[1, 3]; Michael Cho[2]; Mark Chance[1, 3]; *[1]Case Western Reserve University, Cleveland, OH; [2]Iowa State University, Ames, IA; [3]Case Western Reserve University, Upton, NY*

MP 124 **Glycosecretome Analysis of Conditioned Medium of Breast Cancer Cell Lines**; Yan Zhang; Xiaorong Tang; Ling Yao; Lisa Xu; Xiaofang Hu; *Shanghai Jiao Tong University, Shanghai, China*

MP 125 **Identification and Investigation of Glycosylation Sites and Site Occupation within Campylobacter Jejuni Using Glycoproteomic Strategies**; Nichollas Scott[1]; Nicolle Packer[2]; Martin R. Larsen[3]; Stuart Cordwell[4]; *[1]University of Sydney, Sydney, Australia; [2]Macquarie University, Sydney, Australia ; [3]Univ. Southern Denmark, Odense, Denmark; [4]The University of Sydney, The University Of Sydney, Australia*

MP 126 **Large-Scale Precision Mapping of N-Glycosylation Sites in the Proteomes of Mouse Organs and Plasma**; Dorota F. Zielinska[1]; Florian Gnad[2]; Pawel Ostasiewicz[1]; Matthias Mann[1]; Jacek R. Wisniewski[1]; *[1]Max Planck Institute for Biochemistry, Martinsried, Germany; [2]Harvard Medical School, Boston, MA*

MP 127 **Glycosylation Profiling of Recombinant CD24 by Chromatographic Methods and MALDI-QIT-TOF MS**; Zhenxin Lin[1]; Yashu Liu [1]; Fan Xiang[2]; Yang Liu[1]; David M. Lubman [1]; *[1]University of Michigan, Ann Arbor, MI; [2]Shimadzu Biotech, Pleasanton, CA*

MP 128 **Identification of the Human-Like Immunoglobulin IgG in the Plasma of the Endangered White-Winged-Wood Duck**; Audrey Andzelik; Claire McCarthy; Michael Majetich; Jooi Vyas; Abigail Hexamer; Tria Charnas; *Hiram College, Hiram, OH*

MP 129 **Demonstrating Biomanufacturing Comparability of Therapeutic Glycosylated Monoclonal Antibodies through Identification of N-Linked Glycans by**

Directed Multi-Stage Mass Spectrometry Oligosaccharide Profiling; Ian Edwards[1]; Shuuichi Nakaya[2]; Daniel Spencer[3]; Norihiro Kikuchi[4]; Akihiko Kameyama[5]; Hisashi Narimatsu[5]; *[1]Shimadzu Biotech, Manchester, UK; [2]Shimadzu Corporation, Kyoto, Japan; [3]Ludger Ltd, Abingdon, UK; [4]Mitsui Knowledge Industry Co Ltd, Tokyo, Japan; [5]AIST, Tsukuba, Japan*

MP 130 **Autoantibody Against Different Glycoforms of N-Cadherin in Melanoma Patient Sera**; Yashu Liu[1]; Jintang He [1]; Xiaolei Xie [1]; Michael S. Sabel[1]; Fan Xiang[2]; David M. Lubman [1]; *[1]University of Michigan, Ann Arbor , MI; [2]Shimadzu Biotech, Pleasanton, CA*

MP 131 **Analysis of N-Glycosylation of ABCA4 by Mass Spectrometry**; Benlian Wang[1]; Yaroslav Tsybovsky[2]; Krzysztof Palczewski[2]; Mark R. Chance[1]; *[1]Center for Proteomics and Bioinformatics, Case Western Reserve University, Cleveland, OH; [2]Department of Pharmacology, Case Western Reserve University, Cleveland, OH*

MP 132 **Process Proteomics Related to Plasma Derived Blood Coagulation Glycoproteins Using MALDI Mass Spectrometry and a Software Assisted Database**; Omar Belgacem[1]; Matthew Openshaw[1]; Guenter Allmaier[3]; Katharina Pock[2]; *[1]Shimadzu Biotech, Manchester, UK; [2]Octapharma Pharmazeutica, Vienna, Austria; [3]Institute of Chemical Technologies and Analysis, Vienna, Austria*

MP 133 **N-glycoproteome Analysis of Normal Human Liver by Complementary Glycoproteomic Approaches and Bioinformatics**; Yaohan Chen; Xinwen Zhou; Mingqi Liu; Guoquan Yan; Jing Cao; Pengyuan Yang; *Fudan University, Shanghai, China*

MP 134 **Site-Specific Glycoprofiling of Pharmaceutical Compounds Employing Quantitative Glycopeptide Enrichment Followed by Complementary HILIC- and RP-LC-MS Analysis**; Jessica Wohlgemuth[1]; Wen Jiang[2]; Thomas Eichhorn[1]; Sven Andrecht[1]; *[1]Merck KGaA, Darmstadt, Germany; [2]Merck SeQuant AB, Umea, Sweden*

MP 135 **Characterization of N-linked Glycosylation of a Recombinant Human Protein by Precursor Ion Scanning Quadrupole/Linear Ion Trap MS**; Sheng Zhang; Hashimoto Yoshifumi; Gary Blissard; *Cornell University, Ithaca, NY*

MP 136 **Therapeutic Trifunctional Triomab® Antibodies: Site-Specific Characterization of the Glycosylation Pattern by Mass Spectrometry**; Matthias Plöscher[2]; Patrick Gruber[1]; Michael Wasiliu[1]; Horst Lindhofer[1]; Dirk Chelius[1]; *[1]TRION Pharma, Munchen, Germany; [2]TRION Research, Martinsried, Germany*

MP 137 **Semi High-Throughput Peptide Based Quantitative Glycoprofiling of Therapeutic Antibodies Using MALDI-TOF;** Jette Wagtberg Sen; Yvonne B. Larsen; *Symphogen A/S, Lyngby, Denmark*

MP 138 **Characterization of Isobaric *O*-glycopeptides From Human IgA1 by Activated Ion-electron Capture Dissociation**; Kazuo Takahashi[1]; Stacy Hall[1]; Archer D. Smith IV[1]; Knud Poulsen[2]; Mogens Kilian[2]; Jan Novak[1]; Matthew B. Renfrow[1]; *[1]University of Alabama at Birmingham, Birmingham, AL; [2]Aarhus University, Aarhus, Denmark*

MP 139 **Improving Confidence in Characterization and Detection of Site-Specific Protein N-Glycolsylations**; Anoop M. Mayampurath; Yin Wu; Zaneer Segu; Yehia Mechref; Haixu Tang; *Indiana University, Bloomington , IN*

MP 140 **Separation of Protein Glycoforms by Preparative Native Electrophoresis on the ProteomeSep MF10**; James A Atwood III[1]; Jeannette Tran[2]; John Andrews[2]; *[1]Bioinquire, Athens, GA; [2]NuSep, Lane Cove, NSW*

MP 141 **Investigation of Sulfo-Glycopeptide Enrichment Strategies for Glycoproteomic Work-Flows;** Sergei Snovida; Sz-Wei Wu; Kay-Hooi Khoo; *Institute of Biological Chemistry, Academia Sinica, Taipei, Taiwan*

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MP 142 **Withdrawn**

MP 143 **Optimizing Competition-Based Kinase Inhibitor Profiling Using Serial Affinity Enrichment and Targeted Quantitative Mass Spectrometry**; Scott Brittain; Edmund Harrington; Ivan Cornella-Taracido; John Tallarico; Markus Schirle; *NIBR, Cambridge, MA*

MP 144 **Chemical Kinomics: Approach Towards Quantitative Profiling of Cellular Small Molecule Targets and Kinase Proximal Signaling;** Kirti Sharma[1]; Christoph Weber[1]; Michaela Bairlein[1]; György Kéri[2]; Chanchal Kumar[1]; Jesper Velgaard Olsen[3]; Jürgen Cox[1]; Henrik Daub[1]; *[1]Max Planck Institute for Biochemistry, Martinsried (Near Munich), Germany; [2]Vichem Chemie Ltd, Budapest, Hungary; [3]Department of Proteomics, University of Copenhagen, Copenhagen, Denmark*

MP 145 **Label-Free Quantification of Protein Co-Immunoprecipitation Experiments**; Marc Gentzel; Zoltan Maliga; Andrej Vasilj; Anthony Hyman; Andrej Shevchenko; *MPI-CBG, Dresden, Germany*

MP 146 **High-Performance Label-Free LC-MS Quantification for Bioprocess Analytics**; Daniel C. Chamrad[1]; Klaus Marquart[1]; Gerhard Koerting[1]; Barbara Sitek[2]; Sebastin Link[2]; Helmut E. Meyer[2]; Kai Stühler[2]; Martin Blueggel[1]; *[1]Protagen AG, Dortmund, Germany; [2]Medizinisches Proteom-Center, Bochum, Germany*

MP 147 **High-Speed Proteomic Signature by Informatics-Assisted Label-Free Quantitation**; Pei-Yi Lin[1]; Chia-Feng Tsai[1]; Chih-Chiang Tsou[2]; Chia-Li Han [1]; Yi-Ting Wang[1]; Ting-Yi Sung[2]; Wen-Lian Hsu[2]; Yu-Ju Chen[1]; *[1]Institute of chemistry, Academia Sinica, Taipei, Taiwan; [2]Inst. Info Sci, Acad. Sinica, Taipei, Taiwan*

MP 148 **Synthetic Peptide Libraries as Internal Standards for Label-Free Quantitative Proteomics**; Randy J. Arnold; Katharine Witkin; Brian Bohrer; Yong Li; David E. Clemmer; Predrag Radivojac; Haixu Tang; *Indiana University, Bloomington, IN*

MP 149 **A Strategy for the Quantification of Protein Polyethylene Glycol Derivatized Sites Using iTRAQ**; Rebecca Monk[1]; Majid Ghassemian[3]; Elizabeth Komives[2]; *[1]University of California San Diego, La Jolla, CA; [2]University of California, La Jolla, CA; [3]UCSD, La Jolla, CA*

MP 150 **Probing the Oligomeric State of Chloroplast Proteome in Arabidopsis Thaliana by Mass Spectrometry: Megadalton-Sized Complexes and the Clp Protease Machinery**; Paul Dominic B. Olinares; Lalit Ponnala; Klaas J. Van Wijk; *Cornell University, Ithaca, NY*

MP 151 **Detecting Differentially Expressed Proteins in Drosophila Testes Using LTQ Orbitrap and Tandem Mass Tag**; Yan Wang; Zi-Feng Jiang; Carlos A. Machado; *University of Maryland, College Park, MD*

MP 152 **Comparison of High pH RP and OGE Fractionation Approaches in 2D-LC Shotgun Analysis of iTRAQ Labeled Potato Extracts**; Yong Yang[1]; Li Li[1]; Qiang Xu[2]; Theodore Thannhauser[1]; *[1]USDA-ARS at Cornell Universi, Ithaca, NY; [2]Cornell University, Ithaca, NY*

MP 153 **High-Resolution Isoelectric FocUsing: A Leap Forward for Intact Protein Separations and Top-Down Mass Spectrometry;** Daniel Smith; Jaekuk Kim; Steven Patrie; *UT Southwestern Medical Center, Dallas, TX*

MP 154 **Quantitative Local False Discovery Rates, Deep Sampling and Protein Abundance Change Using a Model Microbial Proteome**; Tiansong Wang[1]; Qiangwei Xia[2]; David A. C. Beck[1]; Murray Hackett[1]; *[1]University of Washington, Seattle, WA; [2]Univ of Wisconsin, Madison, Madison, WI*

MP 155 **Using ANOVA on Spectra Counts Improves Multidimensional Label-Free Quantitative Proteomic Analysis**; Rachel Adams[1, 2]; Paul Abraham[1, 2]; Robert Hettich[1, 2]; Chongle Pan[1]; *[1]Oak Ridge National Lab, Oak Ridge, TN; [2]GST, University of Tennesee, Knoxville, TN*

MP 156 **Efficiency-Optimized Bioinformatics for Label-Free Quantification**; Andrej Vasilj[1]; Marc Gentzel[2]; Andrej Shevchenko[3]; *[1]MPI-Cell Biology and Genetic, Dresden, Germany; [2]MPI-CBG, Dresden, Germany; [3]MPI of Mol Cell Biology, Dresden, Germany*

MP 157 **Improved Accuracy in Absolute Quantitation of Ricin Extracted From Food Matrices Using a Protein Calibration Curve**; Sara C. 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 Memorial Institute, Atlanta, GA*

MP 158 **Rapid Processing of Peptide MRM Data Using Relative Noise to Identify Errors and Provide a Mechanism for Combination of Results;** Stephen A Tate [1]; Gordana Ivosev[1]; Nick Bisson[2]; Andrew James[2]; Tony Pawson[2]; Lorne E B Taylor [2]; *[1]AB Sciex, Concord , Canada; [2]SLRI, Mt. Sinai, Toronto, Toronto, ON*

MP 159 **PeptideAtlas as a Resource for Measuring Human Proteins Using SRM**; David S Campbell[1]; Terry Farrah [1]; Eric Deutsch[1]; Zhi Sun[1]; Luis Mendoza[1]; Ulrike Kusebauch [1]; Mi-Youn Brusniak[1]; Jeffrey Stevens[1]; Doug Spicer[1]; Paola Picotti[2]; Ruedi Aebersold[2]; Robert Moritz[1]; *[1]Institute for Systems Biology, Seattle , WA; [2]Institute for Molecular Systems Biology (ETH), Zurich, Switzerland*

MP 160 **Comparison of Label-Free Proteome Quantification Methods on Standards and Retinoic Acid Treated Cells**; John D Chapman; Yihsuan Tsai; Soyoung Ryu; Ariel Topletz; Alexandre Panchaud ; Scott A. Shaffer; Nina Isoherranen; David R. Goodlett; *University of Washington, Seattle, WA*

MP 161 **Improved Label-Free Quantitative LC-MS for Biomarker Discovery Efforts**; Tom Taverner[1]; Alan Dabney[2]; Huiyan Sang[2]; Samuel Purvine[1]; Gordon Anderson[1]; Mary Lipton[1]; Richard Smith[1]; *[1]Pacific Northwest National Laboratory, Richland, Wa, WA; [2]Texas A&M University, College Station, TX*

MP 162 **Which Proteins are Really Differentially Displayed? -- iTRAQ Data Evaluation**; Xiaomin Song[1]; Sean L. Seymour[2]; Mark Molloy[1]; *[1]APAF, Sydney, Australia; [2]AB SCIEX, Foster City, CA*

MP 163 **A SILAC Study of Biological Variability in the Mouse: the Murine Cardiac Proteome**; Francesca Zappacosta; John A. Krawiec; Gilbert F. Scott; Mark E. Burgert; John R. Toomey; Roland S. Annan; *GlaxoSmithKline, Collegeville, PA*

MP 164 **IsoQuan: A New SILAC-Based Mass Spectrometry Quantitation Method**; Yunhu Wan; Zhongping Liao; Stefani Thomas; Austin Yang; *Univ of Maryland Baltimore, Baltimore , MD*

MP 165 **Relative Quantification of Proteins by Use of Multiplexed Tandem Mass Tags, Nano-LC and an Ultra-High Resolution Time-of-Flight Mass Spectrometer**; Roslyn Dillon; Carol Nilsson ; Jingjing Ye; Stone D.-H. Shi; Michael Greig; *Pfizer Global R&D - La Jolla, San Diego, CA*

MP 166 **Improving Mass Spectrometer Utilization Time for Low Abundance Protein Identification in Complex Proteome Samples**; Christopher Loran[1]; Kerry Nugent[2]; Peter Kent[3]; Sandy Yates[4]; Christian Klein[4]; Joseph P. Fox[4]; *[1]Michrom Bioresources Inc, Hayward, CA; [2]Michrom Bioresources, Inc., Auburn, CA; [3]Michrom Bioresources, Auburn, CA; [4]Bruker Daltonics, Fremont, CA*

MP 167 **Optimization of Sensitivity, Resolution, Throughput and Robustness in LC-MRM/MS for Protein Quantitation**; Kerry Nugent[1]; Lori Ann Upton[1]; Yixin Zhu[1]; Christopher Loran[1]; Sahana Mollah[2]; Christie L Hunter[2]; Lydia Nuwaysir[2]; *[1]Michrom Bioresources, Auburn, CA; [2]Applied Biosystems, Foster City, CA*

MP 168 **Quantification of Protein Complexes in Time Course Experiments with High Spectral and Temporal Resolution**; Lorne E B Taylor [2]; Stephen A. Tate[1]; Yong Zheng[2]; Cunjie Zhang[2]; Chris Lock[1]; Tony Pawson[2]; *[1]AB SCIEX, Concord, ON, Canada; [2]Samuel Lunenfeld Research Institute, Toronto, ON, Canada*

MP 169 **Improving Selectivity Using MRM3 Quantitation for the Definitive Detection of Human Protein Kinases**; Ulrike Kusebauch[1]; Christie L Hunter[2]; Ruedi Aebersold[1, 3]; Robert L Moritz[1]; *[1]Institute for Systems Biology, Seattle, WA; [2]AB SCIEX, Foster City, CA; [3]ETH Zurich, Zurich, Switzerland*

MP 170 **Enhanced Sensitivity and Accuracy in Protein Quantification with iTRAQ Using a Dual-Cell Linear Ion Trap - Orbitrap Mass Spectrometer**; Guanghui Wang; Marjan Gucek; *Proteomics Core, NHLBI, NIH, Bethesda, MD*

MP 171 **Absolute Quantification of the Proteome of *Chlamydia trachomatis* Using Two-Dimensional Reverse Phase Liquid Chromatography and MS^{E}**; Thérèse McKenna[2]; Chris Hughes [2]; Ian Clarke[1]; James Langridge[2]; C. David O'Connor[1]; Paul J Skipp[1]; *[1]University of Southampton, Southampton, UK; [2]Waters Corporation, Manchester, UK*

MP 172 **Quantitative Proteomics Analysis Using MS-E Data Acquisition of Chlamydomonas Reinhardtii Under Copper-Deficiency Conditions**; Scott Hsieh; Madeli Castruita; Sabeeha S. Merchant; Joseph A. Loo; *UCLA, Los Angeles, CA*

MP 173 **Quantifying the Effects of Ionizing Radiation and Radiprotectors on Lymphoblastoid Cells Using OFFGeLC-MS-E;** Jonathan Erde[1]; A. Jimmy Ytterberg [1]; Shareef A. Nahas[2]; Richard A. Gatti[2]; Joseph A. Loo[1]; *[1]UCLA Department of Chemistry and Biochemistry, Los Angeles, CA; [2]UCLA School of Medicine, Los Angeles, CA*

MP 174 **Application of ETD Fragmentation for Quantitative Analysis of the Relative Composition of Amyloid-Beta Binary Mixtures;** Igor Popov[2]; Maria I. Indeykina[2]; Sergey Kozin[3]; Alexey Kononikhin[1]; Eugene Nikolaev[1]; *[1]The Institute for Energy Problems of Chemical Phys, Moscow, Russian Federation; [2]Institute of Biochemical Physics RAS, Moscow, Russia; [3]Intitute of Biomedical Chemistry RAMS, Moscow, Russia*

MP 175 **A Rapid, Reproducible, On-the-Fly Orthogonal Array Optimization Method for Targeted Protein**

Quantification by LC/MS and its Application in Clinical Analysis; Jun Qu[1]; Xiaotao Duan [1]; Jun Li[1]; Hao Wang[2]; Frank Engler[3]; *[1]University at Buffalo, Amherst, NY; [2]UB_Pharmaceutical Science, Buffalo, NY; [3]Methodist Hosp. Res. Inst., Houston, TX*

MP 176 **Approach of Using Hybrid Ion Trap TOF Mass Spectrometer in Conjunction with Stable Isotope Coding for Protein Quantification and Identification**; Liang Zhao [2]; Haiqiang Yu[3]; Will Bankert[4]; Fan Xiang[1]; *[1]Shimadzu Biotech, Pleasanton, CA; [2]University of the Pacific, Stockton, CA; [3]The Rockefeller University, New York, NY; [4]Shimadzu, Pleasanton, CA*

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MP 177 **Quantitative Analysis of Selected Saliva Proteins**; Nawei Zhang[2]; Nagarajan Chandramouli[1]; Daniel Malamud[3]; Haiteng Deng[1]; *[1]The Rockefeller University, New York, NY; [2]Beijing Chaoyang Hospital affiliated CMSU, Beijing, China; [3]NYU College of Dentistry, New York, New York*

MP 178 **A Highly Selective and Sensitive LC-MS/MS Method for Analysis of Glucagon in Human Plasma**; Veniamin Lapko; Paul Brown; Ridha Nachi; Chris Kafonek; Alan Dzerk; John Rollag; Corey Ohnmacht; Chad Briscoe; *MDS Pharma Services, Lincoln, NE*

MP 179 **Comparison of Peptide Fractionation by Basic pH Reversed Phase, SCX/KCl and SCX/AmFor for Verification of Protein Biomarker Candidates in Plasma;** Michael Burgess; Hasmik Keshishian; Terri Addona; Steven A. Carr; *Broad Institute, Cambridge, MA*

MP 180 **Development of a Sensitive SPE-Immunoaffinity LC-MS/MS Assay for the Quantification of a Biomarker Peptide (CGRP) in Rat and Human Plasma**; Guodong Zhang[1]; Yi (Eve) Su[1]; Jie Guo[1]; Yizhong Zhang[1]; King Lindsay[1]; Douglas Fast[2]; Rick Steenwyk[1]; *[1]Pfizer Inc., Groton, CT; [2]Covance, Madison, WI*

MP 181 **Unbiased Proteomics to Identify Novel Biomarkers for HIV Dementia**; Adriana Bora[1, 3]; Dawn Chen[2, 3]; Ned Sacktor[2, 3]; Justin McArthur[2, 3]; Avindra Nath[2, 3]; Robert Cotter[1, 3]; *[1]Department of Pharmacology and Molecular Sciences, Baltimore , MD; [2]Department of Neurology, Baltimore , MD; [3]Johns Hopkins School of Medicine, Baltimore , MD*

MP 182 **Multiple Reaction Monitoring Verification and Quantitative Analysis of Cathelicidin Biomarker in Human Serum After Automated Sample Cleanup and Deproteinization**; Feliciano Priego-Capote; Mónica Calderón-Santiago; José María Mata-Granados; José Manuel Quesada-Gómez; María Dolores Luque de Castro; *University of Córdoba, Córdoba, Spain*

MP 183 **Investigation of Lot-to-Lot Matrix Variation and Carry-Over for a Small Peptide in Human Serum**; Yifei Liu; Jessica Schofield; *Tandem Labs, a division of Labcorp, West Trenton, NJ*

MP 184 **Comparing Multiple Strategies for Targeted Protein Quantitation in Human Serum**; Uta Ceglarek[1]; Natalie Wielsch[1]; Joerg Dojahn[2]; Matthias Glueckmann[2]; Alexander Leichtle[1]; Linda Kortz[1]; Joachim Thiery[1]; Georg Martin Fiedler[1]; *[1]Institute of Laboratory Medicine, University Hospital and Medical Faculty Leipzig, Germany; [2]AB SCIEX, Darmstadt, Germany*

MP 185 **A Validated LC/MS/MS Assay for the Determination of the Tissue Protective Peptide ARA 290 in Human Plasma**; Adlai E Niggebrugge [1]; Michael Callahan[1]; Michael Yamin[2]; *[1]Charles River Laboratories, Shrewsbury , MA; [2]Araim Pharmaceuticals, Ossining, New York*

MP 186 **N, N-Dimethyl Amino Acids as iTRAQ Alternative Reagents for Neuropeptide towards Quantitation at Multiple Feeding Time Points**; Feng Xiang[1]; Hui Ye[1]; Ruibing Chen[1]; Qiang Fu[2]; Lingjun Li[1]; *[1]UW-Madison, Madison, WI; [2]Schering Plough, North Plainfield, NJ*

MP 187 **Protease Evaluation for Production of Methionine-Deficient Peptides for MRM Quantitation of the Infectious Prion Protein**; Robert Sturm; Clarissa Booth; Christen Smith; Joel Pedersen; Lingjun Li; *University of Wisconsin, Madison, WI*

MP 188 **Identification, Characterization and Quantification of Neuropeptides by LC-ESI/MS/MS in Rat Models of Osteoarthritis**; Catherine E. Ferland; Pascal Vachon; Francis Beaudry; *University of Montreal, St-Hyacinthe, Canada*

MP 189 **Quantitation of Neuropeptides on Different Mass Spectrometry Platforms**; Xiaowen Hou[1]; Fang Xie[2]; Jonathan Sweedler[1]; *[1]University of Illinois Urbana-Champaign, Urbana, IL; [2]Pacific Northwest National Laboratory, Richland, WA*

MP 190 **Secretion Vesicle Proteomics: Glioblastoma Exosome and Modulation by Wild-Type p53 Genetherapy**; Jeremiah Tipton[1]; Carol Nilsson [2]; Mark R. Emmett[1]; Xiaoyeng Sheng[3]; Charles A. Conrad[3]; Alan G. Marshall[1]; *[1]Nat'l High Magnetic Field Lab, Tallahassee, FL; [2]Pfizer Inc., San Diego, CA; [3]M.D. Anderson Cancer Center, Houston, Texas*

MP 191 **Analysis of Human CSF Alzheimer's Disease Samples Using Surface-coupled Antibody Arrays and MALDI-TOF Mass Spectrometry**; Amanda Bulman[1]; Enrique Dalmasso[1]; Steve Roth[1]; Mariana Rusa [1]; Matthew Hammond[1]; Fiona Plows[1]; Martin Schuerenberg[2]; *[1]Bio-Rad Laboratories, Inc., Hercules, CA; [2]Bruker Daltonics, Bremen, Germany*

MP 192 **Truncation of CXCL12, Stromal Cell Derived Factor-1, by Proteolytic Enzymes in Bone Marrow from Patients with Polycythemia Vera**; Sool Yeon Cho[1]; Mingjiang Xu[1, 2]; John Roboz[1]; Ronald Hoffman[1, 2]; *[1]Mount Sinai School of Medicine, New York, NY; [2]Myeloproliferative Disorder Research Consortium, New York, NY*

MP 193 **Stable Isotope Labeling with Amino Acids in Cell Culture (SILAC)-Based Proteomic Analysis to Investigate Ethanol-Induced Protein Expression Profiles in Microglia**; Amanda Edson[1]; David Barber[2]; Bin Liu[2]; Ping Zhang[2]; Stanley M. Stevens, Jr. [1]; *[1]University of South Florida, Tampa, FL; [2]University of Florida, Gainesville, FL*

MP 194 **Quantitative Proteomic Dissection of Epigenetic Changes Associated with LPS-induced Inflammation**; Heather Kuiper; Harsha Gunawardena ; Cui Liu; Xian Chen; *University of North Carolina, Chapel Hill, NC*

MP 195 **Absolute Quantification of Human Embryonic Stem Cell Transcription Factors via Stable Isotope Dilution and Selected Reaction Monitoring Mass Spectrometry;** Gloria Kreitinger[1]; Justin Brumbaugh[1]; Doug Phanstiel[1]; Amol Prakash[2]; Scott Peterman[3]; Joshua J. Coon[1]; *[1]University of Wisconsin, Madison, WI; [2]ThermoFisher Scientific, Cambridge, MA; [3]Thermo Electron, Grimes, IA*

MP 196 **Quantifying Changes in Protein Expression Level in CEM Cells After Anti-Cancer Treatment;** Tomas Ozdian[1, 3]; Dusan Holub[3]; Petr Pompach[1, 2]; Petr Man[1, 2]; Martin Strohalm[1]; Vladimir Havlicek[1, 4]; Petr Dzubak[3];

Marian Hajduch[3]; Petr Novak[1, 2; 1]*Institute of Microbiology, Prague, Czech Republic; [2]Faculty of Science, Charles University in Prague, Prague, Czech Republic; [3]Faculty of Medicine, Palacky University in Olomouc, Olomouc, Czech Republic; [4]Faculty of Science, Palacky University in Olomouc, Olomouc, Czech Republic*

MP 197 **Effect of Toll-Like Receptor Agonists on Thymosin Beta 4 (Tβ4) Production by Chicken Macrophages**; Lakshmi Kannan[3]; Rohana Liyanage [1]; Narayan C Rath[2]; Jackson O Lay, Jr[1]; [1]*Department of Chemistry, University of Arkansas, Fayetteville , Arkansas; [2]PPPSRU/Agricultural Research Service/USDA, Fayetteville, Arkansas; [3]Dept. of Poultry Science, University of Arkansas, Fayetteville, Arkansas*

MP 198 **Quantitative Proteome Analysis of Breast Cancer Tissue Samples for Identification of Putative Cancer Biomarkers**; Lu Chen[1]; Andy Lo[1]; Sambasivarao Damaraju[2]; John Mackey[2]; Liang Li[1]; [1]*University of Alberta, Edmonton, Canada; [2]Cross Cancer Institute, Edmonton, Canada*

MP 199 **Using Mass Spectrometry to Assist the Mechanistic Investigation of DIMM as a Master Regulator in Drosophila Peptidergic Cells**; Ping Yin[1]; Dongkook Park[2]; Paul Taghert[2]; Jonathan Sweedler[1]; [1]*University of Illinois at Urbana-Champaign, Urbana, IL; [2]Washington University in St. Louis, St. Louis, MO*

MP 200 **Fast and Accurate Quantitative Detection of Microcystins and Nodularins in Serum Matrix with LC-ESI-Q-TOF-MS Instrumentation**; Milla-Riina Neffling; Lisa Spoof; Jussi Meriluoto; *Department of Biochemistry, Åbo Akademi University, Turku, Finland*

MP 201 **Multiple Reaction Monitoring Assay for Preeclampsia Related Placental Peptides of Calcyclin;** Coskun Güzel; Lennard Dekker; Nicolette Ursem; Eric Steegers; Theo Luider; *Erasmus Medical Center, Rotterdam , The Netherlands*

MP 202 **Rapid, Large-Scale Multiplexed Protein Quantification on a Timescale and Depth Similar to Cutting-Edge Transcriptomic Technologies**; M. Violet Lee; Scott E. Topper; Audrey P. Gasch; Joshua J. Coon; *University of Wisconsin, Madison, WI*

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MP 203 **Novel Diagnostic and Prognostic Biomarker Panels for Derived by Shotgun and Target Serum Proteomics**; Rong Zeng[1]; Yang-Sheng Liu[1]; Hai-Quan Chen[2]; [1]*Shanghai Institutes for Biological Sciences, Shanghai, China; [2]Shanghai Cancer Hospital, Shanghai, China*

MP 204 **Labeled Label Free Analysis of Estrogen Receptor (ER) Negative Tumors Sensitized to Tamoxifen by Epigenetic Therapy**; Patrick Shaw[2]; Madhavi Billam[3]; Brian L Hood[1, 2]; Yi Huang[1, 2]; Thomas P. Conrads[1, 2]; Nancy Davidson[1, 2]; [1]*Department of Pharmacology and Chemical Biology, Pittsburgh, PA; [2]The University of Pittsburgh Cancer Institute, Pittsburgh, PA; [3]Rutgers University, Newark, NJ*

MP 205 **Developing a Mass Spectrometry-Based Workflow Targeting the Plasma Phosphoproteome for Cancer Biomarker Discovery**; Anna M. Zawadzka[1]; Bensheng Li [1]; Penelope M. Drake[2]; Miles Braten[2]; Birgit Schilling[1]; Lynda Dieckman[3]; Lee Makowski[3]; Susan J. Fisher[2]; Bradford W. Gibson[1]; [1]*Buck Institute for Age Research, Novato, CA; [2]UCSF Mass Spectrometry Core, San Francisco, CA; [3]Argonne National Laboratory, Argonne, IL*

MP 206 **LCM-Proteomics for Breast Cancer Biomarker Discovery: Qualification of Proteins**; Sangwon Cha[1]; Marcin B. Imielinski[2]; Elizabeth A. Richardson[2]; Tomas Rejtar[1]; Dennis C. Sgroi[2]; Barry L. Karger[1]; [1]*Northeastern University, Boston, MA; [2]Massachusetts General Hospital, Charlestown, MA*

MP 207 **Quantification of Prostate Cancer Proteins from Expressed Prostatic Secretion Using a Stable Isotope Labeled Proteome and Selected Reaction Monitoring**; Ting Zhao [1]; Brian L Hood[2]; Nicholas Bateman[1]; Mai Sun[2]; Thomas P. Conrads[1]; [1]*University of Pittsburgh, Pittsburgh, PA; [2]University of Pittsburgh Cancer Institute, Pittsburgh, PA*

MP 208 **Identification of Protein Markers Predicting Chemotherapy Resistance in Breast Cancer**; Malgorzata Jaremko[1]; Rene BH Braakman[2]; Rui Zhao[3]; Michael Tian[3]; Samuel Purvine[3]; Ljiljana Pasa-Tolic[3]; John WM Martens[2]; Theo Marten Luider[4]; John A Foekens[2;]Arzu Umar[2]; [1]*Mount Sinai School of Medicine, New York, NY; [2]Erasmus MC Rotterdam, Dept of Medical Oncology, Rotterdam, The Netherlands; [3]Pacific NW Nat'l Lab, Richland, WA; [4]Erasmus MC Rotterdam, Dept. Neurology, Rotterdam,The Netherlands*

MP 209 **Tissue Protein Biomarker Discovery for Risk of Progression in Barrett's Esophagus**; Brian L Hood[1]; Jon M Davison[1]; Melanie S Flint[1]; Mai Sun[1]; Jacqueline M Jones-Laughner[1]; Amol Prakash[2]; Mary F Lopez[2]; Blair A Jobe[1]; Thomas P Conrads[1<⁄S; 1]*University of Pittsburgh Cancer Institute, Pittsburgh, PA; [2]ThermoFisher Scientific, Cambridge, MA*

MP 210 **Proteomic Biomarker Discovery from Renal Cell Carcinoma Tissue Interstitial Fluid**; Pang-Ning Teng[1, 2]; Brian L Hood[1]; Mai Sun[1]; Rajiv Dhir[3]; Thomas P. Conrads[1, 2]; [1]*The University of Pittsburgh Cancer Institute, Pittsburgh, PA; [2]Department of Parmacology and Chemical Biology, Pittsburgh, PA; [3]Department of Pathology, University of Pittsburgh, Pittsburgh, PA*

MP 211 **Towards a Systematic Understanding of Mechanism-Based Markers for Cancer Prevention: The Functional Convergence of *ex vivo* and *in vivo* Proteomes**; Theodoros I. Roumeliotis[1]; Nicolaie Eugen Damoc[2]; Michaela Scigelova[2]; Thomas Moehring[2]; Martin Hornshaw[2]; Pantelis Rigas[3]; Spiros D. Garbis[1]; [1]*Biomedical Research Foundation-Academy of Athens, Athens, Greece; [2]Thermo Fisher Scientific, Bremen, Germany; [3]Technological Educational Institute-Thessaloniki, Thessaloniki, Greece*

MP 212 **Verification of Ovarian Cancer Biomarker Candidates by Nanoparticle Capture MRM-MS**; Paul Russo[1]; Francesco Meani[1]; Alessandra Luchini[1]; Claudia Fredolini[1]; Davide Tamburro[1]; Temple Douglas[1]; Guido Gambara [1]; Weidong Zhou[1]; Mark Ross[1]; Antonella Ravaggi[2]; Franco Odicino[2]; Sergio Pecorelli[2]; Virginia Espina[1]; Lance Liotta[1]; Emanual F. Petricoin III[1;]*[1]George Mason University, Manassas, VA; [2]Universita' Degli Studia Di Brescia, Brescia, Italy*

MP 213 **Utilizing *ex vivo* Ovarian Cancer Tumor Tissue Secretome for Biomarker Discovery**; Huan Wang[1]; Tony Chang-Wong[1]; Daniel A Powell Jr[2]; George Coukos[2]; David W. Speicher[1]; [1]*The Wistar Institute, Philadelphia , PA; [2]University of Pennsylvania, Philadelphia, PA*

MP 214 **The Identification of Auto-Antibodies in Pancreatic Cancer Patient Sera Using a Naturally Fractionated Panc-1 Cell Line**; Chen Li; Hye-Yeung Kim; Huy

Vuong; Diane Simeone; David M. Lubman; *University of Michigan, Ann Arbor, MI*

MP 215 **Quantitative Global Proteome Profiling of Pancreatic Cancer Stem Cells**; Lan Dai; Chen Li; Diane M Simeone; David M Lubman; *Univ of Michigan, Ann Arbor, MI*

MP 216 **Secretory Proteome of Pancreatic Cancer Reveals Elevation of Parkinson-Related Proteins**; Gagan Singh Thangjam[1]; Vihas Vasu[1]; Christopher Thompson[2]; Damian Fermin[3]; Juhi Ojha[1]; Vadiraja Bhat [4]; Mohsen Shabahang[2]; Arundhati Rao[2]; Judith Giri[1]; James McLoughlin[1]; Preetha Rmalingam[1]; Anil Cashikar[1]; Alexey Nesvizhskii[3]; Aurn Sreekumar[1]; *[1]Medical College of Georgia, Augusta , GA; [2]Scott & White Hospital, Temple, TX; [3]University of Michigan, Ann Arbor, MI; [4]Agilent Technologies, Wilmington, DE*

MP 217 **Identification of CRIP1 as 8.4 kDa Cytosolic Biomarker for the Classification of HER2 Receptor Status in Breast Cancer Tissues**; Sandra Rauser[2]; Claudio Marquardt[2]; Benjamin Balluff[2]; Christian Albers[1]; Eckhard Belau[1]; Ralf Hartmer [1]; Detlev Suckau[1]; Katja Specht[3]; Matthias P. Ebert[5]; Manfred Schmitt[4]; Michaela Aubel[2]; Heinz Hofler[2]; Axel Walch[2]; *[1]Bruker Daltonics, Bremen, Germany; [2]Institute of Pathology, Helmholtz Zentrum München, Neuherberg, Germany; [3]Institute of Pathology, TUM, München, Germany; [4]Department of Obstetrics and Gynecology, TUM, Munich,Germany; [5]Department of Medicine II, TUM, Munchen, Germany*

MP 218 **Discovery and Targeted Proteomics of Ovarian Cancer Ascites: Systematic Assay Development for Biomarker Quantification**; Sarah Elschenbroich; Vladimir Ignatchenko; Igor Jurisica; Thomas Kislinger; *Department of Medical Biophysics, OCI, Toronto, Canada*

MP 219 **Identification of Proteins in Plasma of Lung Cancer Patients and Control Groups Using the Combined LC-ESI-MS/MS and LC-MALDI-MS/MS Approach**; Valeriy Shevchenko; Natalia Arnotskaya; Sergey Kovalev; Andrey Bordulyak; Irina Zborovskaya; Bakhrom Akhmedov; Boris Polotskii; *N. N. Blokhin Russian Cancer Research Center, Moscow, Russian Federation*

MP 220 **Comparison Study on Proteomic Methods for Formalin-Fixed Paraffin-Embedded Tissue and Mass Spectrometry**; Fa-Yun Che; Linda Siconolfi-Baez ; Edward Nieves; Ruth Hogue Angeletti; Thomas E Rohan; *Albert Einstein College of Medicine, Bronx, NY*

MP 221 **Biomarker Discovery in Hepatocellular Carcinoma Using Subcellular Fractionation**; Yong Yook Lee[1]; Kimberly Q McKinney[1]; Sapana U Phatak[1]; David A Iannitti[2]; Mark W Russo[2]; John B Martinie[2]; Deborah H Lundgren[3]; David Han[3]; Herbert L Bonkovsk; Sun-Il Hwang[1,2]; *[1]Proteomics Laboratory, Carolinas Healthcare System, Charlotte, NC; [2]Liver-Biliary-Pancreatic Center, CHS, Charlotte, NC; [3]University of Connecticut Health Center, Farmington, CT*

MP 222 **Evaluating Protein Degradation Products as Serum Biomarkers to Determine the Invasiveness of Breast Carcinoma**; Ron Orlando[1]; Craig Shriver[2]; Bernard Seth[3]; David Kirchner[3]; Richard Mural[3]; James Atwood[4]; Kyle Jones[4]; V.S. Kumar Kolli[3]; *[1]University of Georgia, Athens, GA; [2]Walter Reed Army Medical Center, Washington, DC; [3]Windber Research Institute, Windber, PA; [4]BioInquire, Athens, GA*

MP 223 **Discovery of Human Prostate Cancer Biomarkers from a Xenograft Mouse Model and Formalin-Fixed, Paraffin-Embedded Prostate Cancer Tissue;** Hsin-Yao Tang[1]; Lynn Beer[1]; Tony Chang-Wong[1]; John E. Tomaszewski[2]; Michael D. Feldman[2]; Stephen R. Master[2]; David W. Speicher[1]; *[1]The Wistar Institute, Philadelphia, PA; [2]University of Pennsylvania, Philadelphia, PA*

MP 224 **An *in vivo* Metabolic Labeling Approach for the Early Detection of Colorectal Cancer Protein Biomarkers in Mouse Serum**; Melanie M. Ivancic; Edward Huttlin; Kelli Kline; Xiaodi Chen; Gregory Barrett-Wilt ; Michael R. Sussman; *University of Wisconsin, Madison, WI*

MP 225 **Prostate Androgen Regulated (PAR) Protein and Tumor Differentiation Factor (TDF) as Serum Biomarkers in Sera of Patients with Cancer**; Supriya Mathur[1]; Izabela Sokolowska[1]; Melissa Butkiewicz[1]; Rama Yakubu[1]; Christopher Talbot[1]; Jonathan Samson[1]; Alisa Woods[2]; Costel Darie[1]; *[1]Clarkson University, Potsdam, NY; [2]Padure Biomedical, Potsdam, NY*

MP 226 **Integrative Analysis of Secreted and Membrane Proteomes for Lung Cancer Marker Discovery**; Lichieh Julie Chu[1]; Wuchi Ethan Hsu [1]; Yuwei Vicky Chang[1]; Timothy H. Wu[1]; Hungwei Shu[1]; Minghuie Gu[1]; Rajkumar Ramalingam[1]; Xuefeng Fung[2]; David R. Goodlett3; Wailap Victor Ng[1]; *[1]National Yang Ming University, Taipei, Taiwan; [2]Zhejiang University, Hangzhou , China; [3]University of Washington, Seattle, WA*

MP 227 **Determination and Evaluation of Accessibility to Variable Regions of Immunoglobulins by LC-MS**; Christoph Stingl [1]; Frederike G.I. van Vilsteren[2]; Lona Zeneyedpour[1]; Martijn van Duijn[1]; Lennard Dekker[1]; Jacques J. Bergman[2]; Theo M. Luider[1]; *[1]Erasmus Medical Center, Rotterdam, The Netherlands; [2]Academic Medical Center, Amsterdam, The Netherlands*

MP 228 **Shotgun Proteomics of Breast Cancer Sera to Identify the Markers for Early Cancer Detection**; David Kirchner[1]; Richard Katenhusen[1]; Tapan Maiti[3]; Craig Shriver[2]; Richard Mural[1]; V.S. Kumar Kolli [1]; *[1]Windber Research Institute, Windber , PA; [2]Walter Reed Army Medical Center, Washington , DC; [3]Johns Hopkins University, Baltimore, MD*

MP 229 **Quantitative Proteomic Analysis of HER2 Normal and Overexpressing MCF-7 Breast Cancer Cells**; Yanan Tang[1]; John R. Mackey[2]; Liang Li[1]; *[1]University of Alberta, Edmonton, Canada; [2]Cross Cancer Institute, Edmonton, Canada*

MP 230 **Differential Proteome Profiling of Metastases in Paired Primary and Metastatic Colorectal Cancer**; Un-Beom Kang[1]; Hoguen Kim[2]; Byung-Hee Shin[3]; Sanghwa Kim [3]; Cheolju Lee[1]; *[1]Life Sciences Division, KIST, Seoul, South Korea; [2]Pathology, Yonsei University College of Medicine, Seoul, South Korea; [3]AB SCIEX, Seoul, South Korea*

MP 231 **Differential Secreted Proteome Approach in Murine Model for Candidate Biomarker Discovery in Colon Cancer**; Kannan Rangiah[2]; Montri Tippornwong[2]; Vineet Sangar[2]; David Austin[2]; Marie-Pier Tétreault[1]; Anil K Rustgi[1]; Ian A. Blair[2]; Kenneth H Yu[2]; *[1]UPENN, Philadelphia, PA; [2]Univ. of Penn/SOM/Pharmacol, Philadelphia, PA*

MP 232 **Matrix Assisted Laser Desorption Ionization Mass Spectrometry Analyses of Proteins Obtained from**

Biopsy-Dissected Lung Cancer Cells by Peptide Affinity Columns; Kiyoshi Nokihara[1]; Yasutoshi Taira[1]; Tetsuya Sogon[1]; Akiyoshi Hirata[1]; Takafumi Ohyama[1]; Hiroaki Aoyama[2]; Naeko Miyazato[2]; Yukiko Kodama[2]; Kaori Fujita[3];Tsutomu Kawabata[3]; Kiyoshi Ishikawa[3]; Takeshi Kasama[4]; *[1]HiPep Laboratories, Kyoto, Japan; [2]HiPep Okinawa Laboratory, Uruma, Japan; [3]National Okinawa Hospital, Ginowan, Japan; [4]Tokyo Medical Dental University, Tokyo, Japan*

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MP 233 **Improved Enrichment and Localization Techniques for the Analysis of Sulfopeptides**; Katie Hersberger; Ashley Brant ; Kristina Hakansson; *University of Michigan, Ann Arbor, MI*

MP 234 **Click Chemistry-Based Universal Enrichment Columns for Global Identification of Azide-Modified Proteins**; Xiao-Dong Qian; Tamara Nyberg; Courtenay Hart; Peter Slade; Wenxi Huang; Brian Agnew; *Molecular Probes, Life Technologies, Eugene, OR*

MP 235 **Determine the Influence of the Sequence and 3D Structures on the Rate of Aspartyl-Isoaspartyl Formation by Electron Capture Dissociation**; Yiqun Huang[1]; Chunxiang Yao[1]; Peter O'Connor[2]; Cheng Lin[1]; *[1]Boston University, Boston, MA; [2]University of Warwick, Coventry, UK*

MP 236 **Complete Trimethylation of Lysine Residues and Extension to Quantitation of Lysine Methylation in Proteins**; Anthony Berardinelli; Wendell P. Griffith; *University of Toledo, Toledo , OH*

MP 237 **Retention Time Prediction for Chemically and Post-Translationally Modified Peptides: N-Terminal Cyclization**; Oleg V. Krokhin; Michael Harder; Andriy Yamchuk; Vic Spicer; Kenneth Standing; *University of Manitoba, Winnipeg, Canada*

MP 238 **Distinguishing Endogenous D-Amino Acid-Containing Neuropeptides by Tandem Mass Spectrometry**; Lu Bai[1, 2]; Elena Romanova[1, 2]; Nobutoshi Ota[1]; Jonathan Sweedler[1, 2]; *[1]University of Illinois at Urbana-Champaign, Urbana, IL; [2]Beckman Institute, Urbana, IL*

MP 239 **Evaluation of CID and ECD Fragmentation Behavior of Biotinylated Peptide-Oxylipid Adducts**; Shin-Cheng Tzeng; Claudia Maier; *Oregon state university, Corvallis , OR*

MP 240 **The Role of SUMOylation in BLM (Bloom Syndrome) Regulation**; Omoruyi Osula[1, 2]; Jianmei Zhu[3, 4]; Michael Matunis[3, 4]; Robert J. Cotter[1, 2]; *[1]Johns Hopkins University School of Medicine, Baltimore, MD; [2]Middle Atlantic Mass Spectrometry Laboratory, Baltimore, MD; [3]Bloomberg School of Public Health, Baltimore, MD; [4]Department of Biochemistry and Molecular Biology, Baltimore, MD*

MP 241 **A Biotinylated Analog of the Spin-Trap DMPO Opens New Frontiers in Detection of Low Abundance Protein Radicals by Mass Spectrometry**; Olivier Lardinois; Ronald Mason; Kenneth B. Tomer; Leesa Deterding; *NIEHS, RTP, NC*

MP 242 **Semiquantitative Analysis of an Isoaspartic Acid in Human α-Crystallin by Post Source Decay on Curved Field Reflectron**; Yuzo Yamazaki[1]; Norihiko Fujii[2]; Noriko Fujii[2]; Andrew Wilson[3]; *[1]Shimadzu Corporation, Kyoto, JAPAN; [2]Research Reactor, Institute, Kyoto University, Osaka, Japan; [3]Shimadzu Biotech, Manchester, UK*

MP 243 **Determining the Site of Spin Trapping and Protein Cross-Linking of the Bovine Lactoperoxidase Protein Radical by Mass Spectrometry**; Olivier Lardinois; Ronald Mason; Kenneth B. Tomer; Leesa Deterding; *NIEHS, RTP, NC*

MP 244 **Neutral Loss-Triggered Electron Transfer Dissociation Mass Spectrometry for the Identification of Citrullination of Arginine;** Andrew Creese; Melissa Grant; Iain Chapple; Helen Cooper; *University of Birmingham, Birmingham, UK*

MP 245 **Deamidation and Transamidation of Peptides Revealed by Electron Capture Dissociation Mass Spectrometry**; Luca Fornelli; Adrien W. Schmid; Luigino Grasso; Horst Vogel; Yury O. Tsybin; *Ecole Polytechnique Federale de Lausanne, CH-1015, Lausanne, Switzerland*

MP 246 **Mapping Oxidative Protein Thiol Modifications with Specific Enrichment and Mass Spectrometry: An Integrated Approach to Explore the Cysteine Oxidation**; Chih-Che Wu; *National ChiNan University, Puli, Taiwan*

MP 247 **Oxidation of the Parkin Cysteine-Rich Regions Perturbs its E3 Ligase Activity**; Zezong Gu; Fanjun Meng; *University of Missouri-Columbia Path. & Anat. Sci., Columbia, MO*

MP 248 **Oxidative Stress-Induced Protein Modification: Application of Clickable Linoleic Acid Analogs**; Robert Aggeler; Peter Slade; Tamara Nyberg; Chad Pickens; Upinder Singh; Brian Agnew; *Molecular Probes-Life Technologies, Eugene, OR*

MP 249 **Improved Techniques for Identifying and Quantifying Protein-Hydroxyl Radical Oxidized Products in Peptides and Proteins**; Jessica M. Saladino; Joshua S. Sharp; *Complex Carbohydrate Research Center, Athens, GA*

MP 250 **Mass Spectrometric Investigations on the Kinetics of Histone Modifications**; Barry Zee; Benjamin Garcia; *Princeton University, Princeton, NJ*

MP 251 **A Novel msn MRM-Like Approach for Studying Post-Translational Modifications in Histone H3 Using and Ion Trap**; Andrew David Cronshaw[1]; Jimi-Carlo Bukowski-Wills[2]; Thierry Le Bihan[2]; Juri Rappsilber[3]; *[1]University of Edinburgh, Edinburgh, UK; [2]CSBE, Univ. Edinburgh, Edinburgh, UK; [3]Wellcome Trust Centre for Cell Biology, Edinburgh, UK*

MP 252 **"Middle-Down" Analysis of Histone Acid Digestion Products Using CID and ETD on a LTQ-Orbitrap**; Stephen Swatkoski; Robert J. Cotter; *Johns Hopkins University School of Medicine, Baltimore, MD*

MP 253 **Unrestrictive Identification of Post-Translational Modifications in Yeast Core Histone by Mass Spectrometry**; Kai Zhang; *Nankai University, Tianjin, China*

MP 254 **Toward Comprehensive Studies of Histone PTMs by Chemical Derivatization and OFFGEL Fractionation**; Minjia Tan; Yue Chen; Yingming Zhao; *Ben May Department for Cancer Research, the University of Chicago, Chicago, IL*

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MP 255 **Intact Cell / Intact Spore Mass Spectrometry (MALDI TOF Mass Spectrometry) of Microorganisms on Single-Use Polymer Targets**; Stefan Bugovsky[1]; Wolfgang Winkler[1]; Werner Balika[2]; Manfred Koranda[2]; Marcel Erhard[3]; Stefan Sauermann[3]; Guenter Allmaier[1]; *[1]Vienna University of Technology, Vienna, Austria; [2]Sony DADC Austria AG, Anif, Austria; [3]AnagnosTec, Potsdam, Germany*

MP 256 **Rapid Characterization of Bacterial Lipopeptides by LC/MS/MS**; Armelle Ballade; Corinne Buré; Maria Urdaci; Jean-Marie Schmitter; *University of Bordeaux, Bordeaux, France*

MP 257 **Capture of Bacteria with Various Functionalized Magnetic Nanoparticles for Detection by MALDI-MS**; Zhen-Jun Liu; Cheng-Tung Chen; P. Muralidhara Reddy; Yen-Peng Ho; *National Dong Hwa University Dept. of Chemistry, Hualien, Taiwan*

MP 258 **Characterization of Fungi Using SPME-GC/MS of MVOCs Emitted from *Aspergillus fumigatus*, *Aspergillus nidulans*, *Fusarium solani* and *Penicillium paneum***; Takae Takeuchi[1, 2]; Tomoko Kimura[1]; Haruna Tanaka[1]; Masato Kiuchi[2]; Sachiyo Kaneko[1]; Shin-ichi Iwaguchi[1]; Takahito Suzuki[1]; *[1]Nara Women's University, Nara , Japan; [2]National Institute of Advanced Industrial Science, Ikeda, Osaka, Japan*

MP 259 **Lipids and Peptides on Pseudallescheria/Scedosporium Fungal Spores**; Michael Volny [1]; Petr Novak[1]; Miroslav Sulc[1]; Karel Lemr[2]; Marian Hajduch[2]; Eliana Barreto-Bergter[3]; Vladimir Havlicek[1]; *[1]Institute of Microbiology, Prague 4, Czech Republic; [2]Palacky University, Olomouc, Czech Republic; [3]Universidad de Rio de Janeiro, Rio de Janeiro, Brasil*

MP 260 **Study on Matrix Additives for Sensitive Analysis of Lipid A Using MALDI Mass Spectrometry**; Jianjun Li; Ping Zhou; Malcolm Perry; Eleonora Altman; *National Research Council, Ottawa, Canada*

MP 261 **Laser Desorption/Ionization Mass Spectrometry of Bacterial Quorum Sensing Molecules**; Deepika Dhaware[1]; Ajeet Singh[1]; Nivedita Bhattacharya[1]; Venu Gopal S[2]; Dipankar Ghosh[2]; Venkateswarlu Panchagnula[1]; *[1]National Chemical Laboratory, Pune, India; [2]Jawaharlal Nehru University, New Delhi, India*

MP 262 **Optimization of Experimental Protocols for Cellular Lysis and Proteogenomic Characterizations of Soil Microbial Species**; Ritin Sharma[1]; Karuna Chourey[2]; Manesh Shah[2]; Robert Hettich[1, 2]; *[1]UT/ORNL Graduate Program in Genome Science & Techn, Knoxville , TN; [2]Oak Ridge National Laboratory, Oak Ridge, TN*

MP 263 **Application of Top-Down Mass Spectrometry to the Validation of In-Silico Predicted Protein Mutations and Sequence Errors**; Melinda A. McFarland; John H. Callahan; Denis Andrzejewski; Rebecca Bell; Errol Strain; Steven M. Musser; *FDA-CFSAN, College Park , MD*

MP 264 **Identification of Halobacterium sp. NRC-1 Heat-Shock Adaption Related Proteins**; Rueyhung Roc Weng[1]; Yuchieh Kao[1]; Seewen Chin[1]; Jinzhi Chen[2]; David R. Goodlett [2]; Wailap Victor Ng[1]; *[1]National Yang Ming University, Taipei, Taiwan; [2]University of Washington, Seattle, WA*

MP 265 **Proteome Studies of Clostridium Acetobutylicum from Butanol Fermentation by Mass Spectrometry Approach**; Kumaran Sivagnanam[1]; Mark Lefsrud[1]; Vijaya Raghavan[1]; Manesh Shah[2]; Robert Hettich[2]; Nathan Verberkmoes[2]; *[1]McGill University, Ste-Anne-De-Bellevue, Canada; [2]Oak Ridge National Laboratories, TN*

MP 266 **Yeast Proteome Expression during Ethanol Fermentation**; Eric Huang[1]; Mark Lefsrud[1]; Valérie Orsat[1]; Manesh Shah[2]; Robert Hettich[2]; Nathan C. Verberkmoes [2]; *[1]Bioresource Engineering, McGill University, Ste-Anne-De-Bellevue, Canada; [2]Oak Ridge National Laboratory, Oak Ridge, TN*

MP 267 **Comparative Proteomic Analysis of Holdfast-Positive and Holdfast-Negative Strains of Caulobacter Crescentus**; Yuan Cao; Helen M. Johnson; Seth N. Levin; Carthene R. Bazemore-Walker; *Brown University, Providence, RI*

MP 268 **Defining and Quantifying Individual and Co-Cultured Cellular Proteomes of Two Thermophilic Microorganisms by GeLC-MS/MS and Spectral Counting**; Genna Andrews; Derrick Lewis; Jaspreet Notey; Robert Kelly; David C. Muddiman; *North Carolina State University, Raleigh, NC*

MP 269 **Rapid Detection of Pathogenic Bacteria Using Secondary Electrospray Ionization-Mass Spectrometry (SESI-MS)**; Jiangjiang Zhu; Heather Bean; Yin-Ming Kuo; Jane Hill; *University of Vermont, School of Engineering, Burlington, Vermont*

MP 270 **Unveiling Unique Entamoeba Histolytica Proteophosphoglycans**; Andrea Carpentieri; G. Guy Bushkin; Catherine E. Costello; Phillips W. Robbins; John Samuelson; *Boston University SM, Boston, MA*

MP 271 **Identification of Species Biomarkers of Listeria Bacteria by High Resolution TOF-MS**; David Cox [1]; Stephen A Tate[1]; Alina Dindyal-Popescu[1]; Jacqueline Upham[2]; James MacNeil[2]; Takeo Sakuma[1]; *[1]AB Sciex, Concord , Ontario, Canada; [2]Canadian Food Inspection Agency, Dartmouth, Nova Scotia, Canada*

MP 272 **Pseudallescheria/Scedosporium Fungal Spores Proteomic and Metabonomic Analysis**; Miroslav Sulc[1, 2]; Katerina Pavlaskova[1, 2]; Jan Sklenar[1]; Alexandr Jegorov[3]; Vladimir Havlicek[1]; *[1]Institute of Microbiology, Prague 4, Czech Republic; [2]Department of Biochemistry, Charles University, Prague 2, Czech Republic; [3]TEVA Pharmaceuticals, Ceske Budejovice, Czech Republic*

MP 273 **A High Sensitivity Adenylate Cyclase LC-MS/MS Assay for Anthrax Edema Factor**; Renato Lins[1]; Anne Boyer[2]; Zsuzsanna Kuklenyik[2]; Conrad Quinn[2]; Maribel Gallegos[1]; Clinton Leysath[3]; Zhanchun Chen[3]; Kuang-Huan Chen[3]; Michelle Makiya[3]; Leppla Stephen[3]; James Irkle[2]; John R. Barr[2]; *[1]CDC - Battelle Institute, Atlanta, GA; [2]Center For Disease Control and Prevention, Atlanta, GA; [3]National Institutes of Health, Bethesda, MD*

MP 274 **GC-MS/MS Measurement of Tuberculostearic Acid (TBSA) for Rapid Quantitation of Mycobacterium Tuberculosis in Experimental Infections**; Geping Cai; Guido Pauli; Scott Franzblau; *University of Illinois College of Pharmacy, Chicago, IL*

MP 275 **Methodological Developments in Analysis of Primary Metabolites in Unicellular Eukaryotes by MALDI-MS**; Pawel L. Urban[1]; Andrea Amantonico[1]; Jonathan Ruchti[1]; Stephan Fagerer[1]; Josep Puigmarti[1]; Peter M. Gehrig[2]; Renato Zenobi[1]; *[1]ETH Zurich, Zurich, Switzerland; [2]Functional Genomics Center, Zurich, Switzerland*

MP 276 **Intact Protein Profiling of Pathogens Using LCMS, Protein Feature Extraction Software and Rigorous Differential Analysis**; Denis Andrzejewski[1]; Melinda A. McFarland [1]; Rebecca Bell[1]; John H. Callahan[1]; Steve Musser[1]; Norton Kitagawa[2]; Jose Meza [2]; Greg Kilby[2]; Vadiraja Bhat [2; 1]*FDA-CFSAN, College Park, MD; [2]Agilent Technologies, Santa Clara, CA*

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MP 277 **Single Analyte Mediated Quantitative Determination of Endogenous 5-HETE and 5-OXO-ETE in Plasma Samples**; Ling Morgan; Kris King; Guangyu Zhao; Chris Tran; *Tandem Labs, Woburn, MA*

MP 278 **Quantification of 4-Alpha- and 4-Beta-Hydroxycholesterol in Human Plasma Using Automated Sample Preparation and LC-ESI-MS/MS Analysis**; Angela K. Goodenough; Joelle Onorato; Zheng Ouyang; A. David Rodrigues; Sreeneeranj Kasichayanula; Shu Chang; Marc Bifano; Guodong Chen; Petia Shipkova; Mohammed Jemal; Frank LaCreta; Adrienne Tymiak; David Wang-Iverson; *Bristol-Myers Squibb, Princeton, NJ*

MP 279 **Tandem Mass Tags for Quantification of Steroids**; William James Griffiths[1]; Yuqin Wang[1]; Michael Ogundare[1]; Anna Meljon[1]; Stefan Kienle[2]; Karsten Kuhn[2]; *[1]Swansea University, Swansea, UK; [2]Proteome Sciences, Frankfurt am Main , Germany*

MP 280 **Quantitative Analyses of Sphingolipids Using Amine-Reactive Tagging Reagents**; Takuji Nabetani[1]; Nozomu Okino[2]; Yoko Ohashi[3]; Toshihide Kobayashi[1]; Yoshio Hirabayashi[3]; *[1]Lipid Biology Laboratory, Riken, Wako, Japan; [2]Marine Biological Chemistry, Kyushu University, Fukuoka, Japan; [3]Brain Sci. Inst., Riken, Wako, Japan*

MP 281 **Quantification of Steroids and 25-OH Vitamin D3 in Dried Blood Spots and Serum Using Liquid Chromatography Tandem Mass Spectrometry**; Theresa Lee[1]; Hua-Fen Liu[1]; Susan Leonard[1]; Michael Nova[2]; Robert L. Fitzgerald[3, 4]; David A. Herold[3, 4]; *[1]AB SCIEX, Foster City, CA; [2]Pathway Genomics, Inc., San Diego, CA; [3]University of California-San Diego, La Jolla, CA; [4]3VA Healthcare System, San Diego, CA*

MP 282 **Lipidomic Analysis of Neurological Mitochondria Isolated from Various Lobes as a Function of Alzheimer's Disease Progression**; Michael D. Timmons; Melissa A. Bradley; Mark A. Lovell; Bert C. Lynn; *University of Kentucky, Lexington, KY*

MP 283 **Identification of Lipid Metabolites in the Plasma of the Endangered White-Winged-Wood Duck Infected with Mycobacterium Avium**; Claire. McCarthy; Audrey Anzelik; Michael Majetich; Jooi Vyas; Brittany Palmer; Margaret Pokryfki; Jody M. Modarelli; *Hiram College, Hiram, OH*

MP 284 **Lipid Fingerprint in Plant Leaves with Increased DGAT Expression: Optimization of Plant Biomass for Biofuels**; Anita Brinker[1]; Nikolai Borisjuk[2]; Vyacheslav Andrianov[2]; Natalia Pogrebnyak[2]; Paulina Matyszczuk[2]; Hilary Koprowski[2]; Joseph Dixon[1]; *[1]Dept. of Nutritional Sciences, Rutgers University, New Brunswick, NJ; [2]Biotechnology Foundation Labs,Thomas Jefferson U., Philadelphia, PA*

MP 285 **In-Depth Glycosphingolipidomics Profiling Using nanoHPLC Chip/MS**; Hyeyoung Lee[1]; Caroline S. Chu[1]; Rudolf Grimm[2]; Carlito Lebrilla[1]; J. Bruce German[1]; *[1]University of California, Davis, CA; [2]Agilent Technologies, Santa Clara, CA*

MP 286 **Lipid Analysis of Phagosomal Membranes**; Nicholas Proschogo[1]; Astrid Magenau[1]; Todd W Mitchell[2]; Leila Hejazi[1]; Anthony Don[1]; Wendy Jessup[1]; Katharina Gaus[1]; *[1]University of New South Wales, Sydney, Australia; [2]University of Wollongong, Wollongong, Australia*

MP 287 **MALDI-MS Determination of Apolipoprotein Molecular Stoichiometry in Native High Density Lipoprotein Sub-fractions**; Stephen F. Macha[1]; Kekulawalage Gauthamadasa[2]; Henry J. Pownall[3]; Corina Rosales[3]; Rong Huang[2]; Larry Sallans[1]; R. A. Gangani D. Silva[2]; *[1]Department of Chemistry, University of Cincinnati , OH; [2]Department of Pathology and Laboratory Medicine, University of Cincinnati, OH; [3]Department of Medicine, Atherosclerosis and Vascular Medicine, Baylor College of Medicine, TX*

MP 288 **Towards High-Throughput Targeted Lipid Analysis of Intact Yeast Using MALDI-QqQ for Application in Screening of Genetic Libraries**; Amaury Cazenave-Gassiot[1]; Melvyn Tan[1]; Sepp Kohlwein[2]; Markus Wenk[1]; *[1]University of Singapore, Singapore; [2]University of Graz, Graz, Austria*

MP 289 **S-adenosylmethionine – Essential in Cadmium Stressed Saccharomyces Cerevisiae Cells**; S Mariccor Andresa Batoy[1]; Rohana Liyanage [1]; Peter Kaiser[2]; Charles L. Wilkins[1]; *[1]University of Arkansas, Fayetteville, AR; [2]University of California, Irvine, CA*

MP 290 **Direct Analysis of Phospholipids in Plasma Membrane of an RBL-2H3 Cell by the Live Single Cell Mass Spectrometry**; Toshiki Ueda[1]; Hajime Mizuno[2]; Naohiro Tsuyama [2]; Takanori Harada[2]; Tsutomu Masujima[2]; *[1]Hiroshima Univ. BioMed, Hirosima, Japan; [2]Hiroshima Univ. BioMed., Hiroshima, Japan*

MP 291 **'Targeted' Girard Derivatization to Enable Selective ESI-MS/MS Detection of the Keto Sterol Signature Associated with Cerebrotendinous Xanthomatosis**; Louise S Merkens; Robert D Steiner; Andrea E Debarber; *Oregon Health & Science University, Portland, OR*

MP 292 **Simplified LC/MS/MS Analysis of N-Modified Phosphatidylethanolamines**; Lilu Guo; Venkataraman Amarnath; Sean Davies; *Vanderbilt University, Nashville, TN*

MP 293 **An LC-ESI-Tandem Mass Spectrometry Method for Quantitative Analysis of Phospholipid Structure in Fermenting Yeast to Understand Mechanisms of Ethanol Tolerance;** Clark Henderson; Marjorie Longo; David Block; *Univeristy of California, Davis, CA*

MP 294 **An Approach to the Microdetermination of Labile Estrogen *o*-Quinones by Liquid Chromatography-Electrospray Ionization Tandem Mass Spectrometry**; Kouwa Yamashita; Sachiko Komatsu; Akina Masuda; Yuka Hoshino; Mitsuteru Numazawa; *Tohoku Pharmaceutical University, Sendai , Japan*

MP 295 **Microassay for Quantitation of Corticosteroids in Mouse Plasma Using a nanoLC Microfluidic Device and a Triple Quadrupole Mass Spectrometer**; Gabriel Gugiu; Teresa Hong; Diana Diaz-Arevalo; Markus Kalkum; *City of Hope Beckman Reseach, Duarte, CA*

MP 296 **Analysis of Oxidized Cholesteryl Esters and Phospholipids in Zebrafish Fed a High-Cholesterol Diet**; Richard Harkewicz; Longhou Fang; Karsten Hartvigsen; Tiffany Sayaphupha; Joseph L. Witztum; Edward A. Dennis; Sotirios Tsimikas; Yury I. Miller; *University of California, San Diego, La Jolla, CA*

MP 297 **Novel Strategies for the Rapid Analysis of Cholesteryl Esters and Diglycerides Using Direct-Infusion Electrospray Mass Spectrometry and Tandem Mass Spectrometry**; John Bowden; Robert Brown; David Ford; *St Louis University School of Medicine, St Louis, MO*

MP 298 **Normal Phase LC/MS Analysis of Triglyceride Concentration and Composition in Liver Cells**; Diana R Johnson; Anita Brinker; Joshua Thackray; Joseph Dixon; *Rutgers University, New Brunswick, NJ*

MP 299 **A Mass Spectrometric Method to Monitor Phosphatidylserine Remodeling in Living Cells Using Labeled Serine and Fatty Acids**; Karl R Kevala; Atsuko Kimura; Hee-Yong Kim; *National Institutes of Health, Bethesda, MD*

CLINICAL CHEMISTRY, 300 - 321

MP 300 **Withdrawn**

MP 301 **Potential Interferences in the MS/MS Analysis of Acylcarnitines in Dried Blood Spots Provides Important Clinical Information in Metabolic Screening**; Donald H. Chace[2]; Victor De Jesus[1]; Timothy Lim[1]; W Harry Hannon[1]; Alan Spitzer[2]; *[1]Centers for Disease Control and Prevention, Atlanta, GA; [2]Pediatrix Medical Group, Pittsburgh, PA*

MP 302 **Methylmalonic Acid Quantitation in Serum, Urine and Amniotic Fluid: A Method Modification with Benefits**; Jean M Lacey; Mark J Magera; Dietrich Matern; *Mayo Clinic, Rochester, MN*

MP 303 **Determination of Underivatized Isomeric Short-Chain Acylcarnitines Using UPLC-MS/MS**; Willem Kulik; Henk van Lenthe; Marinus Duran; *Academic Medical Center, Amsterdam, Netherlands*

MP 304 **Neonatal Screening Test for Inherited Metabolic Disorders by Tandem Mass Spectrometry in Korea**; Sung Eun Cho; Yoon Suk Baik; *Eone Reference Laboratory, Seoul, South Korea*

MP 305 **Quantification of Plasma total Cysteine, Homocysteine and Methionine by LC/MS/MS with Ion-Pairing Chromatography**; David Hasman[1]; Sheila Innis[2]; Roger Dyer[2]; *[1]Procyon Research Inc., Vancouver, Canada; [2]University of British Columbia, Vancouver, Canada*

MP 306 **Assay Validation of Endogenous Fatty Acid Ethanolamides in Human Whole Blood;** John Loughney; Xiaoyao Xiao; Richard Hajdu; Mark Rosenbach; Wesley Tanaka; Omar Laterza; *Merck, Rahway, NJ*

MP 307 **MS/MS Simplified Diagnosis of MPS III types A,B,C and D in Dried Blood-Spots**; Brian J. Wolfe; Tanvir Khaliq; C. Ronald Scott; Michael H. Gelb; Frantisek Turecek; *University of Washington, Seattle, WA*

MP 308 **Determination of Glutaric Acid, Ethylmalonic Acid and Methylsuccinic Acid in Blood Spots by Liquid Chromatography-Tandem Mass Spectrometry;** Coleman Turgeon; Mark Magera; Dimitar Gavrilov; Devin Oglesbee; Kimiyo Raymond; Silvia Tortorelli; Matern Dietrich; Piero Rinaldo; *Mayo Clinic, Rochester, MN*

MP 309 **New insights into the Thyroid Endocrine System by HPLC-ESI-MS-MS**; Alessandro Saba [1]; Maja Marchini[2]; Grazia Chiellini[2]; Sabina Frascarelli[2]; Sandra Ghelardoni[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 - UOS Pisa, Pisa, Italy*

MP 310 **Ultra-Sensitive Profiling of Androgenic Steroids in Laser Capture Microdissection Preparations from Prostate Cancer Patients, Using Micro-Scale Enrichment and Isotope-Dilution NanoLC-MS/MS**; Xiaotao Duan[1, 3]; Oka Daizo[2]; Mark A Titus[2]; James L Mohler[2]; Jun Qu[1, 3]; *[1]University at Buffalo, Amherst , NY; [2]Roswell Park Cancer Institute, Buffalo, NY; [3]CoE in Bioinformatics & Life Sciences, Buffalo, NY*

MP 311 **Selectivity Evaluation for Underivatized Steroid Analysis by LC-MS/MS in Clinical Diagnostics**; Jim Bruton; Russell Grant; Patricia Holland; Brian Rappold; *Labcorp, Burlington, NC*

MP 312 **Simultaneous Quantitation of Cortisol and Cortisone in Saliva Using Liquid Chromatography-Tandem Mass Spectrometry**; Valdemir Melechco Carvalho; Odete Hirata Nakamura; José Gilberto Vieira; *Fleury Group, São Paulo, Brazil*

MP 313 **An Automated Procedure for Determining ITSP Sold Phase Extraction Analytical Parameters for the Analysis of Cortisol and Cortisone in Urine**; Rick Youngblood[1]; Kimberly Gamble[1]; Thurman Allsup[2]; Ken Lewis[2]; *[1]MicroLiter Analytical Supplies, Inc., Suwanee, GA; [2]OpAns, LLC, Durham, NC*

MP 314 **Enhancing Limits of Detection of Vitamin D3 and its Metabolites Using a Novel Derivatisation Stratergy**; Subharkar Dey; Brian Williamson; Sasi Pillai; Subhasish Purkayastha; *AB Sciex, Framingham, MA*

MP 315 **A Novel Approach for Rapid Quantitative Analysis of 1a,25-Dihydroxyvitamin D3 in Human Plasma**; Patrick M. Jeanville[1]; Steve Schachterle[2]; Mingda Wang[3]; Chris Kellogg[1]; Lisa Wilson[4]; *[1]Varian Inc., West Palm Beach, FL; [2]Varian, Inc., Walnut Creek, CA; [3]Varian INC, Walnut Creek, CA; [4]Varian Ltd., Yarnton, Oxford, UK*

MP 316 **Comprehensive MRM Analysis of Fat-Soluble Vitamins including 25(OH)-Vitamin D3: Sensitivity and Selectivity by ESI LC/MS/MS**; Doug Heath[1]; Bryan Grimmelt[1]; Qingan Zheng[1]; Wei Jin[1]; Amir Kavianpour[1]; Jordan Van De Vorst[1]; Ellie Majdi[2]; Dragan Vuckovic[2]; *[1]Phenomenome Discoveries, Inc., Saskatoon, Canada; [2]IONICS Mass Spectrometry Group, Inc., Bolton, ON*

MP 317 **Assay of 25-OH Vitamin D: Comparing Extraction, Chromatography, and Ionization Methods**; Alan W. Taylor; Jeffrey Morre; Adrian Gombart; *Oregon State University, Corvallis, OR*

MP 318 **Increasing Throughput by Multiplexing Different Clinical Research Analyses Using a Multiple Parallel LC-MS System;** Adrian Taylor; David Cox ; Min J. Yang ; John Gibbons; *AB SCIEX, Concord, Canada*

MP 319 **Sensitivity Comparison between Triple Quadrupole, Linear Iontrap and Orbitrap Mass Spectrometers for Quantitative Analysis of 1,25-Dihydroxyvitamin D**; Barbora Chindarkarova; Marta Kozak; Julie Horner; Oksana Gvozdyak; *Thermo Fisher Scientific, San Jose , CA*

MP 320 **Automated Detection of Mixed Cultures of Microorganisms from Positive Blood Cultures Using MALDI-TOF Mass Spectrometry**; Thomas Wenzel[1, 2]; Victor Fursey[1, 2]; Stefan Klepel[1, 2]; Beatrix Wegemann[1, 2]; Thomas Maier[1, 2]; Markus Kostrzewa[1, 2]; *[1]Bruker Daltonics, Bremen, Germany; [2]Bruker Daltonics, Billerica, MA*

MP 321 **LC-MSMS Methods for Estrogens and Testosterone Analysis at Low Picogram Detection Limits**; Beth Fernandez[1]; John McFarlane[1]; Tania Sasaki[2]; Judy Stone[3]; Hua-Fen Liu[1]; *[1]AB SCIEX, Foster City, CA; [2]Avee Laboratories, Clearwater, FL; [3]TPMG Kaiser Regional Laboratory, Richmond, CA*

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MP 323 **Database Driven MS Fragment Prediction and Structure Elucidation for Identification of Endogenous Metabolites**; Taisuke Uehara[1, 2]; Yuji Miura[1]; Ikumi Suzuki[1, 2]; Ken Aoshima[1]; Yoshiya Oda[1, 2]; *[1]Eisai Co., Ltd., Tsukuba, Japan; [2]Crest, Saitama, Japan*

MP 324 **Finding the Discriminatory Variables with Low Abundance for Mass Spectrometry Based Metabolomics Using the Dataset Split Method**; Jianghao Sun; Ruiping Zhang; Yanhua Chen; Jiuming He; Zeper Abliz; *Institute of Materia Medica, CAMS & PUMC, Beijing, China*

MP 325 **Finding More Reliable Potential Biomarkers for Dynamic Metabonomics Using XCMS Box-Plots**; Guoqing Shen; Jinfa Bai; Yanhua Chen; Jianghao Sun; Ruiping Zhang; Zeper Abliz; *Institute of Materia Medica, CAMS & PUMC, Beijing, China*

MP 326 **Evaluation of Analytical, Experimental and Biological Variability in a UPLC-MS Liver Metabolic Profiling Study**; Perrine Masson[1]; Konstantina Spagou[1, 2]; Elizabeth J Want[1]; *[1]Imperial College London, London, UK; [2]Aristotle University, Thessaloniki, Greece*

MP 327 **Targeted Metabolomic Approach for Analyzing Carotenoids in Algae Samples Using LC-UV Coupled with ESI-MS**; Fong Lam Chu; Laura Pirastru; Radovan Popovic; Lekha Sleno; *UQAM, Montreal, Canada*

MP 328 **Metabolomic Analysis of Urine from Rats Chronically Dosed with Acrylamide Using NMR and LC/MS**; Jinchun Sun; Laura K. Schnackenberg; Lisa Pence; Daniel R. Doerge; John Bowyer; Richard D. Beger; *NCTR / USFDA, Jefferson , AR*

MP 329 **Metabolic Profiling of Benign Prostate Hyperplasia Urines by Ultra-High Performance Liquid Chromatography/Mass Spectrometry**; Wen-Yu Liao[1]; Yi-Ting Chen[1]; Chien-Lun Chen[2]; Chiun-Gung Juo [1]; *[1]MMRC, Chang Gung University, Taoyuan, Taiwan; [2]Department of Urology, Chang Gung Memorial Hospita, Taoyuan, Taiwan*

MP 330 **Metabolomics and Transcriptomics Studies Confirms an Important Role of HIF-1α in Regulating Energy Metabolism in HCC**; Yuxin Wang; Yan Zhang; Guodong Li; Edyta Tyminski; Xu Xu; Albert B Seymour; Ru Wei; *Pfizer RTC, Cambridge, MA*

MP 331 **New Computer Assisted Metabolite Capturing Method Using Mass Shift Technique**; Mitsuhiro Kanazawa[1]; Masashi Uchida[2]; Hisae Anyoji[1]; Yohei Miyamoto[2]; *[1]Reifycs Inc., Tokyo, Japan; [2]Toray Industries Inc., Kanagawa, Japan*

MP 332 **Metabolic Effects of TNFα HIV Protease Inhibitor, and TZD Treatment on Primary Adipocytes**; Yumei Lucy Sun; Guodong Li; Debra F Nathan; Albert B Seymour; Ru Wei; *Pfizer RTC, Cambridge, MA*

MP 333 **Development of New Metabolomics Method Using GC-TOFMS with Automated Derivatization System**; Fumihiko Tsuchiya [1]; Tomoko Hiraishi[2]; Ryoichi Sasano[3]; Kenichi Suzumura[2]; *[1]LECO Japan Corporation, Tokyo, Japan; [2]Astellas Pharma Inc., Tsukuba, Japan; [3]AiSTI Science, Wakayama, Japan*

MP 334 **A Simple and Fast Method for the Analysis of Water and Fat Soluble Vitamins in Cell Culture Media Using HPLC-ESI-MS/MS**; Hai Pham Tuan; Stephanie Angeben; Therese Koal; *Biocrates AG, Innsbruck , Austria*

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MP 337 **Streamlined LC-MS/MS Methodology involving a Pentoflurophenylpropyl Column and Global 13C Labeled Internal Standards Improves Performance for Quantitative Metabolomics in Bacteria**; Song Yang[1]; Martin Sadilek[2]; Mary Lidstrom[1]; *[1]University of Washington, Chemical Engineering, Seattle, WA; [2]University of Washington, Department of Chemistry, Seattle, WA*

MP 338 **Differential ^{15}N-/^{14}N-Isotope Dansylhydrazine Labeling for Quantitation of Carbonyl Metabolites**; Margot R. Dawe; Kevin Guo ; Liang Li; *University of Alberta, Edmonton , Canada*

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MP 340 **Uncovering Hidden Secondary Metabolites from Myxobacteria Using High-Resolution Chromatography and Mass Spectrometry**; Daniel Krug[1]; Nina Cortina[1]; Gabriela Zurek[2]; Aiko Barsch[2]; Sandy Yates[3]; Rolf Mueller[1]; *[1]University of Saarbruecken, Saarbruecken, Germany; [2]Bruker Daltonik GmbH, Bremen, Germany; [3]Bruker Daltonics, Fremont, CA*

MP 341 **Metabolomic Study of Adonifoline, a Pyrrolizidine Alkaloid, Induced Hepatotoxicity in Rats by UPLC/oaTOF MS^{E}**; Li Yang[1]; Aizhen Xiong[1]; Xiuli Wang[2]; Swee Lee Yap[2]; Kate Yu[3]; Zhengtao Wang[1]; *[1]Shanghai University of TCM, Shanghai, China; [2]Waters China Ltd, Shanghai, China; [3]Waters Corporation, Milford, MA*

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MP 344 **Metabolomics of Soybean Roots**; Zhentian Lei [1]; Laurent Brechenmacher[2]; Gary Stacey[2]; Lloyd W. Sumner[1]; *[1]The Samuel Roberts Noble Foundation, Ardmore , OK; [2]University of Missouri, Columbia, MO*

MP 345 **Efficiency Comparisons of Fused Core and Sub 2 µm HPLC Columns for Increased Metabolomics Depth of Coverage**; David V. Huhman; Lloyd W. Sumner; *The Noble Foundation, Ardmore , OK*

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MP 347 **LC/MS/MS Analysis of Vitamin Levels in Plasma from Children in the Arkansas Delta Region**; Rick Beger[1]; Lisa Pence[1]; Anna Williams[1]; Carolyn Wise[1]; Beverly McCabe-Sellers[2]; *[1]FDA National Center for Toxicological Research, Jefferson, AR; [2]USDA Agricultural Research Service, Little Rock, AR*

MP 348 **A Stress Response Comparison: LC/MS Metabolomics Analysis of *Saccharomyces cerevisiae* Exposed to the Immunosuppressant Drugs FK506 and Cyclosporin A**; Stefan Jenkins[1, 2]; Theodore R. Sana[1]; Lily Chen[2]; *[1]Agilent Technologies, Inc., Santa Clara, CA; [2]San Francisco State University, San Francisco, CA*

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MP 350 **Impact of Plasma Anticoagulant Counterion on Drug Recovery, Stability, Matrix Effect and Ionization Effect during Bioanalysis in LC-MS/MS**; Melanie Bergeron; Mathieu Lahaie; Milton Furtado ; Fabio Garofolo; *Algorithme Pharma Inc., Laval (Montreal), Quebec, Canada*

MP 351 **Combination of Non-Linear Response and Matrix Effect May Cause Assay Failure Even with a Stable Isotope-Labeled Internal Standard**; Guowen Liu; Heidi Snapp; Qin Ji; Mark E. Arnold; *Bristol-Myers Squibb Co., Princeton , NJ*

MP 352 **Approaches to Compensate Matrix Effect in LC-MS/MS – Ochratoxin A in Grains**; Mervi Rokka; Marika Jestoi; *Finnish Food Safety Authority (Evira), Helsinki, Finland*

MP 353 **How the Use of Incurred Samples is Important for the Validation of an Ultra Reproducible Assay for Exemestane**; Geneviève Émond; Nathalie Pelletier; Sylvain Lachance ; Ann Lévesque; Robert Massé; *Anapharm, Québec, Canada*

MP 354 **The Importance of Stopping Enzymatic Activity in Plasma for Accurate Analysis of Fluorouracil by LC/MS/MS**; Nadia Savard; Louis-Charles Boisvert; Marie-Josée Marcoux; Ann Lévesque; Robert Massé; *Anapharm, Québec , Canada*

MP 355 **A Novel Approach to Eliminate Phospholipids for the Analysis of an Acidic Compound Blue Dye in Rat Plasma by LC-MS/MS**; Jiongwei Pan[1]; Lynn Archambault[1]; Eric W. Miele[1]; Yu-Luan Chen[2]; *[1]Charles River, Shrewsbury, MA; [2]Sepracor Inc, Marlborough, MA*

MP 356 **Impact Analysis of the Transesterification of a Metabolite to the Parent Analyte Using Incurred Samples by LC-MS/MS**; Jean-Nicholas Mess[1]; Catherine Dicaire[1]; Virginie Leclaire[1]; Milton Furtado[1]; Nageshwar Thudi[2]; Tausif Monif[3]; Fabio Garofolo [1]; *[1]Algorithme Pharma Inc., Laval Montreal, Quebec , Canada; [2]Ranbaxy, Mississauga Toronto, Ontario, Canada; [3]Ranbaxy, Gurgaon,, Haryana, India*

MP 357 **Quick and Cost Effective Approach to Reduce Interference Due to In Source/Interface Conversion of Glucuronides Metabolites in LC-MS/MS**; Eugénie-Raphaëlle Bérubé; Jean-Nicholas Mess; Milton Furtado; Fabio Garofolo; *Algorithme Pharma Inc., Laval Montreal, Quebec, Canada*

MP 358 **Impact Oxcarbazepine N-Sulfate Metabolite on the Quantitation of Oxcarbazepine by LC-MS/MS**; Catherine Dicaire; Mireille Nora; Milton Furtado; Fabio Garofolo; *Algorithme Pharma Inc., Laval (Montreal), Quebec, Canada*

MP 359 **Isotope-Labeled IS: Acceptable Unlabeled Impurity, Number of Isotopes, IS Concentration and ULOQ/LLOQ Ratio in Quantitative Analysis Using GC-MS and LC-MS**; Yuzhu Xue; *Pfizer, Pearl River, NY*

MP 360 **Determination of Thiols in Urine by Liquid Chromatography and Tandem Mass Spectrometry**; Charmion Cruickshank; Kim Keil; Troy Wood; *University at Buffalo, Buffalo , NY*

MP 361 **Use of Adducts for Quantitation of Compounds by Liquid Chromatography Coupled with Tandem Mass Spectrometry Detection;** Jérôme Bergeron; Sébastien Gagné; Isabelle M. Lévesque; Marie-Josée Marcoux; Ann Lévesque; Robert Massé; *Anapharm, Québec , Canada*

MP 362 **Quantification of Bisphenol-A for Pharmacokinetic Evaluations Using Stable Labeled Dosing Material and LC-ES/MS/MS;** Nathan C. Twaddle[1]; Michelle M. Vanlandingham[1]; Lee D. Williams[2]; Daniel R. Doerge[1]; *[1]NCTR/FDA, Jefferson, AR; [2]Biotage GB Limited, Cardiff, UK*

MP 363 **Overcoming Stability Challenges in the Quantification of Tissue Nucleotides: Determination of 2'-Methylguanosine Triphosphate Levels in Mouse Liver**; Hassan Rashidzadeh; Sanjeev Bhadresa; Steven Good; Kusum Gupta; Marita Larsson Cohen; *Idenix Pharmaceuticals, Cambridge, MA*

MP 364 **Importance of Crosstalk Verification of the Collision Cell in Bioanalysis and its Impact over Assays with Deuterated Internal Standard;** Fabio Garofolo ; Louis-Philippe Morin; Jean-Nicholas Mess; Valérie Vincent; *Algorithme Pharma Inc., Laval Montreal, Quebec, Canada*

MP 365 **Extending LC-MS/MS Linear Dynamic Range for Quantitative Analysis of Drugs in Dried Blood Spot Samples;** Suma Ramagiri[1]; Feng Zhong[1]; Mauro Aiello [1]; Hesham Ghobarah[1]; Neil Spooner[2]; *[1]AB/ SCIEX, Concord, Canada; [2]GlaxoSmithKline Pharmaceutical, Welwyn, UK*

MP 366 **Evaluation of Method Development Parameters in Whole Blood Using Dried Blood Spot (DBS) for the Determination of Naproxen by LC-MS/MS**; Nikolay Youhnovski[1]; Josée Michon[1]; Milton Furtado[1]; Marianne Rufiange[1]; Pascal Guibord[1]; Jean-Nicholas Mess[1]; Sylvain Latour[1]; Marc Lefebvre[1]; Robert B. MacArthur[2]; Fabio Garofolo[1]; *[1]Algorithme Pharma Inc., Laval Montreal, Quebec , Canada; [2]Clinical Horizons Research, Inc., Tenafly, NJ*

MP 367 **Rapid Analysis of Dried Blood Spots for Polyfluoroalkyl by Online Solid-Phase Extraction LC/MS/MS**; Sylvie Beaudet[1]; Suma Ramagiri[1]; Martin Sibum[2]; *[1]AB/ SCIEX, Concord, Canada; [2]Spark Holland Inc, Emmen, Netherlands*

MP 368 **The use of Hybrid Triple Quadrupole Linear Ion Trap Mass Spectrometer to Resolve High Chemical Noise in Tacrolimus Assay**; Louis-Philippe Morin[1]; Marie-Pierre Taillon[1]; Jean Nicholas Mess[1]; Johnny Cardenas[2]; Xavier Misonne [2]; Mauro Aiello[2]; Valerie Vincent[1]; Fabio Garofolo [1]; *[1]Algorithme Pharma Inc., Laval (Montreal), Quebec , Canada; [2]Applied Biosystem, Foster City, CA*

MP 369 **Enzyme Screening Assays Using a MALDI Hybrid Mass Spectrometer**; Maria C. Prieto Conaway [1]; Rakesh Rathore[2]; Huy Bui[1]; Kenneth D. Greis[3]; *[1]Thermo Fisher Scientific, San Jose , CA; [2]GRI,University of Cincinnati, Cincinnati, OH; [3]University of Cincinnati, Cincinnati, OH*

MP 370 **Stable Isotope Labeling Using Essential nutrients in Cell Culture (SILEC): A Novel Methodology to Quantify Intracellular Coenzyme A-Activated Compounds**; Sankha S Basu; Stacy Gelhaus; Clementina Mesaros; Ian A. Blair; *University of Pennsylvania School of Medicine, Philadelphia, PA*

MP 371 **LC-Q-TOF MS with Narrow Full-Mass Detection for Determination of the Urinary 6β-Hydroxycortisol-to-Cortisol Ratio as an Indicator of Human CYP3A4 Activity**; Jun Han [1]; Darryl Hardie[1]; Shirin Kalyan[2]; Christoph H. Borchers[1]; *[1]University of Victoria-Genome BC Proteomics Centre, Victoria , Canada; [2]Division of Endocrinology/Department of Medicine, University of British Columbia, Vancouver, BC, Canada*

MP 372 **Performance of a Novel Algorithm for Reliable LC Peak Integration of Triple Quadrupole MRM Data;** Patrick Quinn-Paquet[1]; Sylvie Beaudet[1]; Feng Zhong[1]; Gordana Ivosev[1]; James Denison[2]; *[1]AB/ SCIEX, Concord, Canada; [2]Abbott Laboratories, Columbus, Ohio*

MP 372 **Increased Ion Sampling Efficiency Allows Streamlining Sample Preparation for the Determination of Fluticasone Propionate in Human Plasma**; Anabel Fandino; Stephan Buckenmaier ; Lester Taylor; *Agilent Technologies, Santa Clara, CA*

MP 374 **DMS-MS and DMS-CID-MS: Alternatives to SRM/MRM in Analytical Methods for Small Molecule Biomarkers**; Stephen L Coy[1]; Evgeny V Krylov[1]; Erkinjon Nazarov[1]; Brad Schneider[2]; Thomas Covey[2]; *[1]Sionex Corp., Bedford, MA; [2]MDS Sciex, Concord, ON*

MP 375 **Comparison between Bioanalytical Analyses from Orbitrap and Triple Quadrupole Mass Spectrometers**; Richard Wong[1]; Petia Shipkova[1]; Christian Caporuscio[1]; Baomin Xin[1]; Timothy Olah[2]; *[1]Bristol-Myers Squibb, Hopewell, NJ; [2]Bristol-Myers Squibb Company, Lawrenceville, NJ*

MP 376 **Using LC Flow Rate as a Method Development Variable for Quantitative LC-MS**; Richard King; *PharmaCadence Analytical Services, LLC, Hatfield, PA*

MP 377 **Overall Evaluation of Different Basic Modifiers to Perform High pH Chromatography by LC-ESI(+)-MS/MS**; Jean-Nicholas Mess; Milton Furtado ; Fabio Garofolo; *Algorithme Pharma Inc., Laval (Montreal), Quebec , Canada*

MP 378 **Automated Liquid Liquid Extraction and Enhanced Mass Resolution Detection for Determination of BMS-764459 and BMS-795566 in Dog Plasma by LC-MS/MS**; Naiyu Zheng; Adela Buzescu; Mark E. Arnold; Jianing Zeng; *Bristol-Myers Squibb Research & Development, Princeton, NJ*

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MP 380 **Effect of Ion Polarity on the Determination of Specific Isoflavone Compounds Using LC-MS**; Avinash Dalmia; Sharanya Reddy; David Negrotti; William Goodman; Wilhad Reuter; Daniel Pentek; *Perkinelmer, Shelton, CT*

MP 381 **An LC-MRM Method Using an Aminopropyl Column for the Quantification of Bound N-Linked Monosaccharides in Glycoproteins and Blood Serum**; Loubna Hammad; Dakota Derryberry; Yazen Jmeian; Yehia Mechref; *Indiana University, Bloomington , IN*

MP 382 **A Selective, Sensitive Liquid Chromatography - Tandem Mass Spectrometry Method for the Determination of Artemether and DHA in Human Plasma**; Gary Gabriels; Katya Govender; Karen Barnes; Jennifer Norman; Peter Smith; Lubbe Wiesner; *University of Cape Town, Cape Town, South Africa*

MP 383 **A Liquid Chromatography-Mass Spectrometric Method for the Determination of Eicosanoid Profiles in Human Colonic Biopsies**; Jianwei Ren[1]; Mary Rapai[1]; Maria Cornellier[1]; Mack Ruffin[1]; D. Kim Turgeon[2]; Dean E. Brenner[2]; Zora Djuric[1]; *[1]Dept of Family Medicine, University of Michigan, Ann Arbor, Michigan; [2]Dept of Internal Medicine, University of Michigan, Ann Arbor, MI*

MP 384 **A New Method for the Quantitation of Febuxostat in Human Plasma by LC/MS/MS**; Dongmei Zhou; David Wilson; Sonny Gunawan; Zancong Shen; Chun Yang; Jennifer Yang; Li-Tain Yeh; Virginia Borges; *Ardea Biosciences, San Diego, CA*

MP 385 **Evaluation of Dried Blood Spots Technique for the Quantitative Analysis of Oxybutynin in Human Blood**; Sheng Wang; Jingguo Hou; Lianying Zhang; Luke Liu; Fei Liu; David Jones; Bibo Xu; *Primera, Metuchen, NJ*

MP 386 **Enantioselective LC-MS/MS Assay for Quantification of (R)- and (S)-Mexiletine in Plasma**; Jingguo Hou; Sheng Wang; Luke Liu; David Jones; Lianying Zhang; Fei Liu; Bibo Xu; *Primera Analytical Solutions, Princeton, NJ*

MP 387 **A Sensitive and Rugged Normal Phase LC/MS/MS Method for Quantitation of Ribavirin in Human Plasma**; James Creegan; Marlking Peay; Tianyi Zhang; Bruce Hidy; Rand Jenkins; *PPD, Richmond, VA*

MP 388 **Assessment of Matrix Effects and Determination of Octreotide in Human Plasma Using Liquid Chromatography–Tandem Mass Spectrometry**; Omnia Ismaiel[1, 2]; Tianyi Zhang[1]; Bruce Hidy[1]; Rand Jenkins[1]; *[1]PPD, Richmond, VA; [2]VCU, Richmond, VA*

MP 389 **SRM Analysis of Intact Biopolymers on Triple Quadrupole Mass Spectrometers**; Oksana Gvozdyak[1, 2]; Taha Rezai[2]; Michael Athanas[3]; Mary Lopez[2]; *[1]Cliniacl and Toxicology / Thermo Fisher Scientific, Franklin, MA; [2]BRIMS / Thermo Fisher Scientific, Cambridge, MA; [3]VAST Scientific, Cambridge, MA*

MP 390 **Detection and Quantitation of Polyphenolic Compounds in Strawberry Powder Using LC-MS/MS**; Katarzyna Banaszewski; Indika Edirisinghe; Britt Burton-Freeman; Jack Cappozzo; *National Center for Food Safety and Technology, Summit-Argo, IL*

MP 391 **Quantitative Analysis of Prostaglandin (PG)H2 and its Metabolic Derivatives Using LC-MS-MS**; Rui Yu[1]; Lei Xiao[2]; John W. Christman[2]; Richard B. van Breemen[1]; *[1]College of Pharmacy, Chicago, IL; [2]College of Medicine, Chicago, IL*

MP 392 **Simultaneous LC-MS Analysis of Acidic and Basic Analytes Using Reverse Phase Ion Pair Chromatography**; Liron Feldberg; Nitzan Tzanani; *Israel Institute for Biological Research (IIBR), Ness Ziona, Israel*

MP 393 **High Throughput Separation of Hypertension Drug Standards by Reversed Phase Chromatography Using TSK-GEL ODS-140HTP 2.3 µm Columns**; Atis Chakrabarti; Kevin J. O'donnell; *Tosoh Bioscienc LLC, Montgomerryville, PA*

MP 394 **Using LC/MS to Monitor the Rate of Amyloid Fibril Formation by β-2 Microglobulin**; Bukola Fatunmbi; Richard Vachet; *University of Massachusetts, Amherst, MA*

MP 395 **Investigation of Turbulent Flow Chromatography Peptide**; Taha Rezai; Oksana Gvozdyak; Amol Prakash; Mary F Lopez; *Thermo Scientific, Cambridge, MA*

MP 396 **Simultaneous Determination of Topiramate and Phentermine in Human Plasma Using Liquid Chromatography Tandem Mass Spectrometry**; Dunmin Mao; Winnie Lui; Grace van der Gugten; Xiufeng Ji; *Cantest, Burnaby, Canada*

MP 397 **Advantages and Challenges of Using Ultra High Performance Kinetex Sorbents with MS Detection**; Monika Kansal[1]; A. Carl Sanchez[2]; Shahana Huq[2]; *[1]Phenomenex Inc., Torrance, CA; [2]Phenomenex, Torrance, CA*

MP 398 **Simultaneous Determination of Nitroglycerin, 1,2-Dinitroglycerin and 1,3-Dinitroglycerin in Human Plasma Using Liquid Chromatography Tandem Mass Spectrometry**; Dunmin Mao; Hong Zhang; Rong Yi; Gina de Boer; *Cantest, Burnaby, BC*

MP 399 **Quantification of Letrozole in Human Plasma by LC-MS/MS Using Core-Shell Technology Column**; Yafei Xu; Jing Ke; Harry Zhao; John Lin; *Frontage Laboratories, Inc, Malvern, PA*

MP 400 **HIstidine Phosphorylation in the Prostatic Human Epithelial Cancer (PhEC) Progression Model**; John Lapek; Alan Friedman; *University of Rochester Medical Center, Rochester, NY*

MP 401 **Optimization of Ionization Efficiency and Signal-to-Noise Ratio in LC-MS Analysis of Biological Macromolecules**; Thomas E. Wheat; Dan Root; Patricia McConville; *Waters Corporation, Milford, MA*

MP 402 **Single Point Calibration in LC/MS/MS Analysis: Assumption and Data Impact**; Tami Zmetra; Tuyen Nguyen; Xin Zhang; *Agilux Labs, Worcester, MA*

MP 403 **Chromatographic Separation and Fragmentation Assignment for Collision Induced Dissociation Patterns of Various Primary Fatty Acid Amides**; Erin Divito; Mitchell Johnson; *Duquesne Univeristy, Pittsburgh, PA*

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MP 444 **Simultaneous Determination of LBH589 (Panobinostat) and One of its Metabolites (M37.8) in Human Plasma Using LC-MS/MS**; Wenkui Li; John Doherty; Shannon Williams; Harold T Smith; Francis LS Tse; *Novartis Institutes for Biomedical Research, East Hanover, NJ*

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MP 495 **Comparison of the Fragmentation of Ionized Asphaltene Model Compounds and Asphaltenes**; David Borton [1]; Hilkka Kenttamaa[2]; Murray Gray[3]; *[1]Purdue University, West Lafayette, IN; [2]Chemistry Department, West Lafayette, IN; [3]Department of Chemical and Materials Engineering, Edmonton, Canada*

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MP 499 **Application of Negative Ion ESI, APCI and APPI FT-ICR MS for Crude Oil Analysis;** Vladislav Lobodin[2]; Amy Mckenna[2]; Ryan P. Rodgers[1, 2]; Alan G. Marshall[1, 2]; *[1]Department of Chemistry and Biochemistry, FSU, Tallahassee, FL; [2]National High Magnetic Field Laboratory, Tallahassee, FL*

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MP 560 **Facile Determination of Double Bond Position in Unsaturated Fatty Acids and Ester Derivatives by Low Temperature Plasma (LTP)**; Jingyao (Isabella) Zhang; Weiguo Andy Tao; R. Graham Cooks; *Purdue University, West Lafayette, IN*

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MP 577 **Dianionic Antimony(III)-Tartrate Traps Neutral Solvent Reaction Intermediates Produced during Negative Mode Electrospray Ionization**; Aruna B. Wijeratne; Samuel H. Yang; Daniel W. Armstrong; Kevin A. Schug; *University of Texas at Arlington, Arlington , TX*

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MP 585 **Clustering Model in Nano Electrospray Ionization Focused on Moleculor Dimerization**; Shuichi Matsuda; Hajime Mizuno; Naohiro Tsuyama ; Takanori Harada; Tsutomu Masujima; *Hiroshima Univ. Biomed., Hiroshima, Japan*

MP 586 **Multiple Charging Variation Method in Nano ESI for Peptide Analysis by the Live Single Cell MS**; Takashi Fujii; Hajime Mizuno; Naohiro Tsuyama ; Takanori Harada; Tsutomu Masujima; *Hiroshima Univ. BioMed., Hiroshima, Japan*

MP 587 **Liquid Chromatography/Dopant Assisted Atmospheric Pressure Chemical Ionization Mass Spectrometry (LC/DA-APCI-MS) for the Analysis of Non-Polar Compounds**; Liguo Song[1]; David S. Cho[1]; Deepak Bhandari[1]; Stephen C. Gibson [1]; Mary Ellen McNally[2]; Ron Hoffman[2]; Kelsey D. Cook [1]; *[1]University of Tennessee, Knoxville, TN; [2]Dupont, Newark, DE*

MP 588 **Why Chemical Bond Scission can be Controlled Well on the Self-Assembled Monolayer Surface?**; Kenichiro Tanaka; *Riken SPring-8 and Hiroshima University, Sayo-Cho, Japan*

MP 589 **Measuring Particle Formation in MALDI from 10 nm to 10 µm**; Thabiso Musapelo; Kermit K. Murray; *Lousiana State University, Baton Rouge, LA*

MP 590 **Modeling Matrix-Assisted Laser Desorption Electrospray Ionization**; Fan Huang; Xing Fan ; Kermit K. Murray; *Louisiana State University, Baton Rouge, LA*

MP 591 **Desorption Threshold and Fragmentation in Laser Desorption Ionization from Silicon Nanopost Arrays**; Jessica A. Stolee; Bennett N Walker; Akos Vertes; *George Washington University, Washington, DC*

MP 592 **The Beer's Law of Mass Spectrometry, Again;** Drew Sauter [1]; John Chakel[2]; R. C. Willoughby[3]; *[1]Nanoliter, LLC, Henderson , NV; [2]LECO Corporation, San Mateo, CA; [3]Chem-Space Associates, Pittsburgh, PA*

MP 593 **Investigation of Surface-Assisted Laser Desorption / Ionization of Small Molecules on Metal Oxide Nanowires: Size Effects on Ionization Efficiency**; Sang Yun Han[1]; Won Jik Shin[1, 2]; Jeong Ho Shin[1, 3]; Jae Yong Song[1, 3]; *[1]Korea Research Institute of Standards and Science, Daejeon, Republic of Korea; [2]Chungbuk National University, Cheongju, Republic of Korea; [3]University of Science and Technology, Daejeon, Republic of Korea*

MP 594 **Internal Energies of Ions in Laser Ablation Electrospray Ionization**; Hehua Huang[1]; Peter Nemes[1, 2]; Akos Vertes[1]; *[1]George Washington University, Washington; [2]University of Illinois at Urbana-Champaign, Urbana, IL*

MP 595 **Solvent Optimization Procedures in Desorption Electrospray Ionization**; Abraham K Badu Tawiah; R. Graham Cooks; *Purdue University, West Layette , IN*

MP 596 **The Effect of Electrospray Solvent Composition on Desorption Electrospray Ionization (DESI) Efficiency and Spatial Resolution**; Felicia Green[1]; Tara Salter[1]; Ian Gilmore[1]; Peter Stokes[2]; Gavin O'Connor[2]; *[1]National Physical Laboratory, Teddington, UK; [2]LGC Limited, Teddington, UK*

MP 597 **Independent Mechanistic Investigations into Desorption and Ionization Steps in Desorption Electrospray Ionization;** Andre Venter; Afrand Kamali Sarvestani; Shashank Jain; *Western Michigan University, Kalamazoo, MI*

MP 598 **Indirect Electrospray Ionization Using Micro-funnel Sample Plate**; Hoi Sze Yeung; Tak-Wah Dominic Chan; *The Chinese Univ. of Hong Kong, Hong Kong Sar, China*

MP 599 **Desorption/Ionization Capabilities of Ambient Low-Temperature Plasma (LTP) Mass Spectrometry for Small Molecule Applications**; Juan F Garcia-Reyes [1]; Jason Harper[2]; Nicholas Charipar [2]; Ayanna Jackson[2]; Mario Benassi Neto[3]; Zheng Ouyang[2]; R. Graham Cooks [2]; *[1]University of Jaen, Jaen , Spain; [2]Purdue University, West Lafayette, IN; [3]ThoMSon Lab - UNICAMP, Campinas, Brazil*

MP 600 **Reactions of Radical Species Formed in the Helium Metastable Beam of a Direct Analysis in Real Time Ion Source**; Matthew Curtis; O. David Sparkman; Patrick R. Jones; *University of the Pacific, Stockton, CA*

ION SOURCES: ESI, 601 - 619

MP 601 **Pneumatically Assisted Electrospray Needle Array For High Throughput High Flow Rate Liquid Chromatography - Mass Spectrometry**; Eloy R. Wouters; Mark Hardman; Paul Atherton; Jean-Jacques Dunyach; *Thermo Fisher Scientific, San Jose, CA*

MP 602 **Precision Engineering, CFD and DOE Used for the Design, Fabrication and Evaluation of an Ion Focusing Device for ESI**; Guillaume Robichaud; R. Brent Dixon ; Amarnatha Potturi; Daniel Cassidy; Jack R. Edwards; Alex Sohn; Thomas A. Dow; David C. Muddiman; *North Carolina State University, Raleigh, NC*

MP 603 **Characterization of an Improved API Source Enclosure**; Mark Hardman; Christopher Mullen; Jean-Jacques Dunyach; Eloy R. Wouters; Paul Atherton; *Thermo Fisher Scientific, San Jose, CA*

MP 604 **Real Time in situ Analysis of Biological Samples Using Probe Electrospray Ionization (PESI) Mass Spectrometry**; Kentaro Yoshimura[2]; Lee Chuin Chen[1]; Zhan Yu[1]; Hiroaki Tagawa[2]; Kenzo Hiraoka[1]; Sen Takeda[2]; *[1]University of Yamanashi, Kofu, Japan; [2]Fac. Medicine, University of Yamanashi, Chuo, Yamanashi, Japan*

MP 605 **A Multiplex MicroLC-MS Source for High Throughput, High Sensitivity DMPK Analyses**; Arthur Fogiel[1]; Sau Lan Tang Staats [1]; John Janiszewski [2]; *[1]Phoenix S & T, Inc, Chester , PA; [2]Pfizer Inc., Groton, CT*

MP 606 **Bridging the Gap Between Nanospray and ESI with Capillary Spray**; Amanda Berg; Carla Marshall-Waggett; Gary Valaskovic; *New Objective, Inc., Woburn, MA*

MP 607 **Automated Dual Probe Assembly for High Throughput Sample Processing on an ESI-TOF Mass Spectrometer**; Jared Drader[1]; Jose Gutierrez[1]; Shida Shen[2]; Craig M. Whitehouse[2]; Steven Hofstadler[1]; *[1]Ibis Biosciences, Inc., Carlsbad, CA; [2]PerkinElmer, Inc., Branford, CT*

MP 608 **Development of Microfluidic Paper Spray Devices for Ambient Chemical Analysis Using Mass Spectrometry**; Qian Yang; He Wang; Jeff Maas ; Nicholas Manicke; R. Graham Cooks ; Zheng Ouyang; *Purdue University, West Lafayette, IN*

MP 609 **Improving and Coupling Electrospray Ion Funnel Interface to Ion Mobility-Mass Spectrometry**; Junho Jeon; Chaminda M. Gamage; David H. Russell; *Texas A&M University, College Station, TX*

MP 610 **Development of an Orthogonal Ion Injection Method Coupled to Dual Ion Funnel Source for High Sensitive and High-Throughput MS Analysis**; Ruwan T. Kurulugama; Richard D. Smith; Mikhail E. Belov; *PNNL, Richland, WA*

MP 611 **Increasing Electrospray Throughput Using a Dual Probe Coaxial Flow Ion Source**; Sha Joshua Ye; Ellie Majdi; George Scott; *Ionics Mass Spectrometry Group, Bolton , Canada*

MP 612 **Conversion of an Agilent Chip Cube System for the Analysis of Proteomics Samples Using a LTQ-FT Ultra Mass Spectrometer;** Alexander B. Schilling; Carrie Crot; Larry Helseth; Rod Davis; Hua Xu; *University of Illinois, PISF, Chicago, IL*

MP 613 **An Alternative Electrospray Source Based on Dielectric Polarisation – Dielectric Barrier Electrospray (DBE)**; Ann-Kathrin Stark; Michael Schilling; Dirk Janasek; Joachim Franzke; *Leibniz-Institut für Analytische Wissenschaften, Dortmund, Germany*

MP 614 **Achieving >50% Ion Utilization Efficiency in ESI-MS**; Ioan Marginean; Jason Page; Aleksey Tolmachev; Keqi Tang; Richard D. Smith; *Pacific Northwest National Laboratory, Richland, WA*

MP 615 **Design of a Nano-ESI Interface to Minimize Contamination of the MS**; Ralf Schiewek; Rawi Ramautar; Andrè M. Deelder; Oleg A. Mayboroda; *Leiden University Medical Centre (LUMC), Leiden, Netherlands*

MP 616 **Characterization of Spray Formation in an Electrospray Having a Co-Flowing Gas**; Farhan Sultan[1]; Amirreza Amighi[1]; Nasser Ashgriz[1]; Lisa Cousins [2]; Gholamreza Javahery[2]; *[1]University of Toronto, Toronto, Canada; [2]Ionics Mass Spectrometry Group, Inc., Bolton, ON*

MP 617 **Surface Sampling of Dried Blood Spots for Haemoglobin Variant Analysis by Direct infusion Chip-Based Nano-Electrospray MS and MS/MS**; Josephine Bunch; Helen Cooper; *University of Birmingham, Birmingham, UK*

MP 618 **Identification of Isomeric Phase II Drug Metabolites From Mouse Thin Tissue Sections Using Liquid-Extraction Based Surface Sampling Mass Spectrometry**; Vilmos Kertesz; Gary J. Van Berkel; *Oak Ridge National Laboratory, Oak Ridge, TN*

MP 619 **On-line Detection of Semi Volatile and Nonvolatile Compounds in Breath Aerosols**; Christian Berchtold; Lukas Meier; Renato Zenobi; *ETH Zürich, Zürich, Switzerland*

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

MP 620 **Role of Conformation in H Transfer During ECD of Peptides**; Carlos Afonso[1]; Severine Zirah[2]; Ledoux Lucie[1, 2]; Uwe Linne[3]; Mohamed Marahiel[3]; Thomas Knappe[3]; Sylvie Rebuffat[2]; Jean-Claude Tabet[1]; *[1]Université Paris 6/UMR7201, Paris, France; [2]National Museum of Natural History / CNRS, Paris, France; [3]Philipps University, Marburg, Germany*

MP 621 **Activated Ion Electron Capture Dissociation Pathways of Peptides and Phosphopeptides**; Aleksey Vorobyev [1]; Fabien Chirot[2]; Florian Aldrieux[2]; Rodolphe Antoine[2]; Philippe Dugourd[2]; Jérôme Lemoine[2]; Yury Tsybin [1]; *[1]Ecole Polytechnique Federale, Lausanne, Switzerland; [2]CNRS, University Lyon 1, Villeurbanne, France*

MP 622 **ECD in an Electromagnetostatic Cell on a Quadrupole/Time-of-Flight Mass Spectrometer**; Valery G. Voinov[1, 2]; Lei Chen[1]; Joseph Beckman[1]; Max L. Deinzer[1]; Mel Park[3]; Thomas Knudsen[3]; Douglas F. Barofsky[1]; *[1]Oregon State University, Corvallis, OR; [2]The Pacific Institute for Bioorganic Chemistry, Vladivostok, Russia; [3]Bruker Daltonics, Merrimack, NH*

MP 623 **Peptide Conformation Control with Intramolecular Cross-Linking Probed by Electron Capture/Transfer Dissociation**; Hisham Ben Hamidane [1]; Florian Albrieux[2]; Fabien Chirot[2]; Rodolphe Antoine[2]; Philippe Dugourd[2]; Jérôme Lemoine[2]; Yury Tsybin [1]; *[1]Ecole Polytechnique Federale, Lausanne, Switzerland; [2]CNRS & Univ Lyon 1, Villeurbanne, France*

MP 624 **Activation of Positive Ion Oligonucleotides by SORI-CID and EID/hot-ECD**; Viet Hung Nguyen; Carlos Afonso; Jean-Claude Tabet; *Université Paris, Paris, France*

MP 625 **Direct Comparison of Ion/Electron and Ion/Ion Dissociation Methods for Biomolecule Analysis in a**

RF Linear Ion Trap; David Crizer; Mark Ridgeway; Takashi Baba; Gary L. Glish; *UNC-Chapel Hill, Chapel Hill, NC*

MP 626 **Collision Induced Dissociation Yield ECD-like Backbone Fragmentation via an Aminoketyl Radical Intermediate**; Benjamin Moore; Tony Ly; Ryan R. Julian; *University of California, Riverside, Riverside, CA*

MP 627 **Electron Capture by Peptide Anions**; Hyun Ju Yoo[1]; Shuyi Zhuang[2]; Ning Wang[1]; Kristina Hakansson[1]; *[1]University of Michigan, Ann Arbor, MI; [2]Tsinghua University, Beijing, China*

MP 628 **Enhanced Electron Transfer Dissociation of Peptides Modified at Carboxylate Functionalities with Fixed Charges**; Byoung Joon Ko[2]; Scott Robotham[1]; Jennifer Brodbelt[1]; *[1]The University of Texas, Austin, TX; [2]UT-Austin, Austin, TX*

MP 629 **ETD Product Distributions from Mixed Charge-Sites Model Peptides**; William Mcgee[1]; Marija Mentinova[1]; David Erickson[2]; Scott A. Mcluckey[1]; *[1]Purdue University, West Lafayette, IN; [2]Bowling Green State University, Bowling Green, OH*

MP 630 **Structural Characterization of Sulfated Bio-Ions via Gas-Phase Ion/Ion Reactions**; Teng-Yi Huang; Anastasia Kharlamova; Scott A. Mcluckey; *Purdue University, West Lafayette, IN*

MP 631 **Top-Down Proteomics Using Negative Electron Transfer Dissociation (NETD)**; Derek Bailey; Graeme Mcalister; Joshua J. Coon; *University of Wisconsin, Madison, WI*

MP 632 **Metastable Atom-Activated Dissociation Mass Spectrometry (MAD-MS) of Peptidic and Non-Peptidic Species;** Shannon Cook; Glen Jackson; *Ohio University, Athens , OH*

MP 633 **Dissociation Mechanism of Excited CH_3X (X= Cl, Br and I) Formed by High-Energy Electron Transfer Using Alkali Metal Targets**; Shigeo Hayakawa; Taiga Tsujinaka; Kenichi Iwamoto; Hiroshi Matsubara; *Osaka Prefecture Univ., Sakai, Osaka, Japan*

ION ACTIVATION/DISSOCIATION, 634 - 650

MP 634 **Infrared Spectroscopy of Peptide CID Products Using an OPO Laser**; Da Wang; Kerim Gulyuz; Nicolas Polfer; *University of Florida, Gainesville, FL*

MP 635 **Excitation and Ionization of Trichlorobenzenes with REMPI and MATI Methods**; Frank Witte[1]; Frank Gunzer[2]; Mikko Riese[3]; Jurgen Grotemeyer[1]; *[1]Christian-Albrechts-Univ, Kiel, Germany; [2]Physics Department, German University in Cairo, Cario, Egypt; [3]Photon Science Institute, University of Manchester, Manchester, UK*

MP 636 **Photodissociation of Protonated Polycyclic Aromatic Hydrocarbon (PAH) Cations**; Yi Fu[1]; John R. Eyler [2]; Nicolas Polfer[2]; *[1]Department of Chemistry, University of Florida, Gainesville, FL; [2]University of Florida, Gainesville, FL*

MP 637 **Ultraviolet Photodissociation of Chromophore-Labeled Oligosaccharides Via Reductive Amination and Hydrazide Conjugation**; Byoung Joon Ko[1]; Jennifer Brodbelt[2]; *[1]UT-Austin, Austin, TX; [2]The University of Texas, Austin, TX*

MP 638 **Ultrafast Ultraviolet Photodissociation at 193 nm for Proteomic Workflows**; James Madsen; Jennifer Brodbelt; *University of Texas Austin, Austin, TX*

MP 639 **Improved Efficiency of Ultraviolet Photodissociation at 193 nm via N-Terminal Aromatic Derivatization of Peptides**; Lisa A Vasicek[1]; Jennifer Brodbelt[2]; *[1]University of Texas, Austin, TX; [2]The University of Texas, Austin, TX*

MP 640 **VUV Activation and Spectroscopy of Peptides in the Gas Phase Probed by Synchrotron Radiation**; Alexandre Giuliani [1, 2]; Aleksandar Milosavljevic[1, 4]; Christophe Nicolas[1]; Joel Lemaire[3]; Matthieu Réfrégiers[1]; Laurent Nahon[1]; *[1]Synchrotron Soleil, Gif-Sur-Yvette , France; [2]Cepia, INRA, Nantes, Frances; [3]LCP CNRS - Université Paris Sud 11, Orsay, France; [4]Institute of Physics, Belgrade, Serbia*

MP 641 **Monte Carlo / RRKM / Classical Trajectories Modeling of Collisional Excitation and Dissociation of Ions in Multipole Collision Cells**; Vadim Knyazev[1, 2]; Stephen Stein[1]; *[1]National Institute of Standards and Technology, Gaithersburg, MD; [2]The Catholic University of America, Washington, DC*

MP 642 **Protonated N-Methylthioacetamide as a Model Amino Acid Linker in Studying the Mechanism of Peptide Fragmentation;** Joshua A Gregersen; Magdalena Zimnicka; Frantisek Turecek; *University of Washington, Seattle , WA*

MP 643 **Alternate Dissociation Pathways Identified in Charge-Reduced Protein Complex Ions**; Kevin Pagel[1]; Suk-Joon Hyung[2]; Brandon Ruotolo[2]; Carol Robinson[1]; *[1]University of Oxford, Oxford, UK; [2]University of Michigan, Ann Arbor, Michigan*

MP 644 **Fragmentation Order Determined by Linkage Site Isomer at Remote Moeity: Experimental and Theoretical Studies II**; Daryl Giblin[1, 3]; Dian Su[1, 3]; Samuel Qiu[2]; Weidong Cui[1, 3]; Michael L. Gross[1, 3]; *[1]Washington University, St Louis, MO; [2]South China Botanical Garden, Guangzhou, China; [3]Washington University, St. Louis, Missouri*

MP 645 **The Cyclization of Deprotonated N-(2,4-Dinitropheyl)Amino Acids Occurs in Both the Condensed and Gas Phases**; George Mathai[2]; Justin Paulose[2]; Ragampeta Srinivas[3]; Venna Ramesh[3]; Daryl Giblin[1]; Michael L. Gross[1]; *[1]Washington University, St Louis, MO; [2]Sacred Heart College, Kochi, India; [3]Indian Institute of Chemical Technology, Hyderabad, India*

MP 646 **Degradation of Sugars via Ambient Ion Dissociation and Soft-Landing**; Zhixin Miao[1]; Jennifer Colla[1]; Zongqian Yuan[1]; Graham Cooks[2]; Hao Chen[1]; *[1]Ohio University, Athens, OH; [2]Purdue University, West Lafayette, IN*

MP 647 **Investigation of Fast Unimolecular Dissociation Reactions Using Surface-Induced Dissociation Implemented in a Modified Commercial MALDI-TOF;** Sung Hwan Yoon; Mowei Zhou; Arpad Somogyi; Chaminda M. Gamage; Vicki H. Wysocki; *University of Arizona, Tucson, AZ*

MP 648 **Novel Switching Mechanism for the Fragmentation of Protonated, Nitrile-Terminated PPI Dendrimer Elucidated with DFT**; William D. Price; Josh Hendrix; Jacob Kilgore; *Marshall University, Huntington, WV*

MP 649 **Dissociation Kinetics of Activated Hydrated Metal Ion Clusters Investigated with Master Equation Modeling**; Maria Demireva; Evan R. Williams; *University of California, Berkeley, CA*

MP 650 **Comparative Internal Energy Distributions Reached into a LTQ Orbitrap under CID, PQD and HCD Activation Modes;** Denis Lesage; Sandra Alves; Adélaïde De Viguerie; Ljubica Svilar; Jean-Claude Tabet; *University Paris VI, Paris, France*

INSTRUMENTATION: FTMS, 651 - 664

MP 651 **Design Considerations for External Ion Injection FT-ICR MS at 21 Tesla**; Steven C. Beu[1]; Christopher L. 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*

MP 652 **High-Field FT-ICR MS Applied to Laserspray Ionization**; Leonard Nyadong[1, 2]; Ellen D. Inutan [3]; Thushani N. Herath [3]; Sarah Trimpin[3]; Alan G. Marshall[1, 2]; *[1]Florida State University, Tallahassee, FL; [2]National High Magnetic Field Laboratory, Tallahassee, FL; [3]Wayne State University, Detroit, MI*

MP 653 **Characterization of Axial Motion Frequency Analyses in Harmonized Cylindrical Penning Traps as Potential Mass Spectrometry Method**; Eugene Nikolaev[1]; Ivan Boldin [1]; Pavel Ryumin[1]; Igor Popov[2]; *[1]Institute for Energy Problems of Chemical Physics, Moscow, Russian Federation; [2]Russian Academy of Sci, Moscow, Russian Federation*

MP 654 **Calibration of FTMS Mass Spectrometer to Sub-Ppm Level of Mass Measurement Accuracy: Orbitrap and ICR Comparison**; Mikhail V. Gorshkov[1]; Yaroslav Lyutvinskiy[2]; David M. Good[2]; Hongqian Yang[2]; Roman Zubarev [2]; *[1]Institute for Energy Problems of Chemical Physics, Moscow, Russian Federation; [2]Karolinska Institute, Stockholm, Sweden*

MP 655 **Injection of Externally-Generated Low Mass Ions into High Magnetic Field in Q/FT-ICR Instruments: SIMION Simulations and Experimental Observations**; Behrooz Zekavat; Touradj Solouki; *University of Maine, Orono, ME*

MP 656 **Coulombic Shielding during Ion Cyclotron Excitation in FT-ICR Mass Spectrometry**; Brian M. Ruddy[1]; Steven C. Beu[2]; Nathan K. Kaiser [3]; Christopher L. Hendrickson[3]; Alan G. Marshall[4]; *[1]Florida State University, Tallahassee , FL; [2]S C Beu Consulting, Austin, TX; [3]National High Magnetic Field Laboratory, Tallahassee, FL; [4]Ion Cyclotron Resonance Prog, Tallahassee, FL*

MP 657 **Effects of Ion Introduction in the FT ICR Cell on Frequency Shifts, Mass Accuracy, and Resolution**; Andriy Kharchenko; Ron M.A. Heeren; *FOM Institute for Atomic and Molecular Physics, Amsterdam, Netherlands*

MP 658 **Investigation of Collision Cross Section Effects on ion Motion in ICR Cell Under Influence of Bath Gas and Quadrupolar Excitation**; Alexander Misharin[1]; Alexander Popov[2]; Vladimir Doroshenko[1]; *[1]MassTech, Inc., Columbia, MD; [2]MSU, Moscow, Russia*

MP 659 **Automated Broadband Phase Correction for Improved FT-ICR Mass Spectra of Complex Mixtures**; Feng Xian[1]; Chris Hendrickson[2]; Greg T. Blakney[3]; Steve Beu[4]; Alan G. Marshall[5]; *[1]NHMFL, Tallahassee, FL; [2]National High Magnetic Field Laboratory, Tallahassee, FL; [3]National ICR Program at NHMFL, Tallahassee, FL; [4]S C Beu Consulting, Austin, TX; [5]Ion Cyclotron Resonance Prog, Tallahassee, FL*

MP 660 **A Walking Mass Calibration Equation for Complex Mixture Analysis by FT-ICR Mass Spectrometry**; Joshua J. Savory; Nathan K. Kaiser ; Amy M. McKenna; Greg T. Blakney; Christopher L. Hendrickson; Ryan P. Rodgers; Feng Xian; Alan G. Marshall; *National High Magnetic Field Laboratory, Tallahassee, FL*

MP 661 **Influence of Different Components of Magnetic Field Inhomogeneity on Cyclotron Motion Coherence at very High Magnetic Field**; Gleb Vladimirov[1]; Yury Kostyukevich[1]; Alan G. Marshall[4]; Chris Hendrickson[2]; Greg T. Blakney[3]; Eugene Nikolaev[1, 5]; *[1]The Institute for Energy Problems of Chemical Phys, Moscow, Russian Federation; [2]National High Magnetic Field Laboratory, Tallahassee, FL; [3]National ICR Program at NHMFL, Tallahassee, FL; [4]Ion Cyclotron Resonance Prog, Tallahassee, FL; [5]Institute of Biochemical Physics RAS, Moscow, Russia*

MP 662 **Use of LTQ-Orbitrap Mass Spectrometer to Differentiate between 3H and 35Cl/37Cl Isotope Pattern for Metabolite Identification**; Violet Stoycheva; Parnali Chatterjee; *MPI Research, Portage, MI*

MP 663 **Broadband Gas Analysis at High Resolution with a Small FTICR**; Joel Lemaire[1]; Clotilde Le Vot[1]; Essyllt Louarn[1]; Christophe Dehon[1]; Hélène Mestdagh[1]; Julien Leprovost[2]; Moussa Bouaziz[2]; Michel Heninger[2]; *[1]LCP CNRS - Université Paris Sud 11, Orsay, France; [2]AlyXan, Orsay, France*

MP 664 **Transformative Effects of Higher Magnetic Field in Fourier Transform Ion Cyclotron Resonance Mass Spectrometry**; N. Murat Karabacak[1]; Michael L. Easterling[2]; Jeffrey N. Agar[1]; *[1]Brandeis University, Waltham, MA; [2]Bruker Daltonics, Inc., Billerica, MA*

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

BIOINFORMATICS II, 001 - 035

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

TP 002 **Comprehensive Bioinformatical Analysis of Yeast Proteome;** Martin Damsbo[1]; Christian Ravnsborg Ingrell[1]; Jacob Kristensen[1]; Michael Barrett Andersen; Alexandre Podtelejnikov [1]; *[1]Proxeon A/S, Odense, Denmark; [2]Proxeon Biosystems, Odense, Denmark*

TP 003 **Fast Detection of Abundant Protein Modifications and Other Events from LC-MS/MS Data Using the DeltAMT Algorithm**; Yan Fu[1]; Liyun Xiu[1]; Wei Jia[2]; Haipeng Wang[1]; Ruixiang Sun[1]; Xiaohong Qian[2]; Si-Min He[1]; *[1]Institute of Computing Technology, CAS, Beijing, China; [2]Beijing Proteome Research Center, Beijing, China*

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

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

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

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

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

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

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

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

TP 012 **Spectral Archives: A Novel Approach to Analyzing Tandem Mass Spectra**; Ari Frank[1]; Matthew Monroe; Anuj Shah[2]; Ron Moore [2]; Gordon Anderson[2]; Richard D. Smith[2]; Pavel Pevzner[1]; *[1]UCSD, La Jolla, CA; [2]PNNL, Richland, WA*

TP 013 **Nonlinear Classification for On-The-Fly Fractional Mass Filtering and Targeted Precursor Fragmentation in Mass Spectrometry Experiments;** Marc Kirchner [1]; Wiebke A Timm[1]; Peying Fong[2]; Philine Wangemann[2]; Hanno Steen[1]; *[1]Children's Hospital Boston/Harvard Medical School, Boston, MA; [2]Kansas State University, Manhattan, KS*

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

TP 015 **A Strategy to Predict Retention Time for Targeted Proteomics**; Luminita Moruz[1]; Daniela Tomazela[2]; Lukas Käll [1]; *[1]Stockholm University, Stockholm, Sweden; [2]University of Washington, Seattle, WA*

TP 016 **Accurate Prediction of Repeatability of Peptide Identification from a Single Shotgun Proteomics Experiment**; Yong Fuga Li[1]; Randy J. Arnold[2]; Haixu Tang[2]; Predrag Radivojac[2]; *[1]Indiana University School, Bloomington, IN; [2]Indiana University, Bloomington, IN*

TP 017 **CPTAC Study 1: Integrating LC-MS/MS Data Among Diverse Instrument Platforms for a Common Sample**; David Tabb [1]; Lorenzo Vega-Montoto[1]; Xia Wang[2]; Paul Rudnick[3]; Daniel C. Liebler[1]; Chris Kinsinger[4]; Henry Rodriguez[4]; Nell Sedransk[2]; Stephen Stein[3]; *[1]Vanderbilt University, Nashville, TN; [2]National Institute of Statistical Sciences, Research Triangle Park, NC; [3]NIST, Gaithersburg, MD; [4]National Cancer Institute, Bethesda, MD*

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

Vladislav A. Petyuk; Anoop M. Mayampurath; Matthew E. Monroe; Ashoka D. Polpitiya; Samuel O. Purvine; Gordon A. Anderson; David G. Camp II; Richard D. Smith; *Pacific Northwest National Lab, Richland, WA*

TP 019 **BLinks: A Software Tool for Analysis of PIR-Linked Proteins to Identify Structure and Interactions Using Statistical Evaluation of Chromatographic Profiles**; Michael R. Hoopmann; Chad Weisbrod; James Bruce; *University of Washington, Seattle, WA*

TP 020 **Using Isotopic Peak Distribution Information to Improve Annotation in MS Proteomics Experiments**; Nikolaos Berntenis; *Roche, Basel, Switzerland*

TP 021 **STRAP PTM: Open-Source Software for Differential Characterization of Post-Translational Modifications**; Vivek N. Bhatia; David H. Perlman; Catherine E. Costello; Mark E. Mccomb; *Boston University School of Medicine, Boston, MA*

TP 022 **In Depth Analysis on the Utility of Combined CID and HCD Fragmentation Spectra Pre-Proteomic Processing;** Ahmed Elbaggari[1]; Ali Pervez[2]; Allis S. Chien[3]; Chris Adams[3]; *[1]Sage-N Research, Milpitas, CA; [2]Sage-N Research, Inc, San Jose, CA; [3]Stanford University, Stanford, CA*

TP 023 **Mass Mapper: Aid to High Resolution Peptide Data Interrogation**; Nadezhda Galeva; David Tai; Jianwen Fang; Todd Williams; *University of Kansas, Lawrence, KS*

TP 024 **The Effects of Mass Accuracy on the Validation of MS/MS Proteomic Database Search Results**; Art Nuccio; George Zohrabyan; Brent Weatherly; Ron Orlando; *University of Georgia, Athens, GA*

TP 025 **Development of Similarity Metrics for Analysis of Replicate Temporal Protein Expression Profiles**; Nambirajan Rangarajan; M. Violet Lee; Scott E. Topper; Audrey Gasch; Joshua Coon; *University of Wisconsin, Madison, WI*

TP 026 **Quantifying Incidence of Peptide Sequence Scrambling Induced by Tandem Mass Spectrometry**; Yanglan Tan[1]; Xian Chen[1]; Yihsuan Tsai[2]; David R. Goodlett [2]; Nicolas Polfer[1]; *[1]University of Florida, Gainesville, FL; [2]University of Washington, Seattle, WA*

TP 027 **Resolution as a Function of M/Z for TOF, FT-ICR, and Orbitrap: Predicted and Confirmed**; Bernhard X. Kausler[1]; Marc Kirchner [2]; Anna Kreshuk[1]; Bernhard Y. Renard[1]; Hannes Hahne[3]; Bernhard Küster[3]; Judith A. J. Steen[4]; Hanno Steen[4]; Fred A. Hamprech[5]; *[1]University of Heidelberg, Heidelberg, Germany; [2]Children's Hospital Boston / Harvard Medical, Boston, MA; [3]Technical University of Munich, Munich, Germany; [4]Harvard Medical School/Children's Hospital Boston, Boston, MA; [5]Univ. of Heidelberg, Heidelberg, Germany*

TP 028 **Measures of Similarity of Di- and Tri-Peptide MS/MS Spectra**; Xiaoyu Yang; Pedatsur Neta; Songfeng Wu; Yamil Simon; Stephen Stein; *NIST, Gaithersburg, MD*

TP 029 **Synchronising MS/MS Analysis with the Chromatographic Peak Apex Enables More Precise and Accurate Isobaric Tag Quantification**; Gavain M. Sweetman; Mikhail Savitski; Manja Lang; Marcus Bantscheff; *Cellzome AG, Heidelberg, Germany*

TP 030 **RockerBox: Extracting the Gold from Your Mascot Result Files**; Henk W.P. Van Den Toorn[1, 2]; Danny Navarro[1, 2]; Reinout Raijmakers[1, 3]; Javier Muñoz[1, 3]; Shabaz Mohammed[1, 3]; Albert J.R. Heck [1, 3]; Bas van Breukelen[1, 2]; *[1]Utrecht University, Utrecht, Netherlands; [2]Netherlands Bioinformatics Centre, Utrecht, Netherlands; [3]Netherlands Proteomics Centre, Utrecht, Netherlands*

TP 031 **Improved Specificities in Selected Reaction Monitoring (SRM) Experiments with Peptide Retention Time Information for Proteomic Studies**; Jian Liu; Ashoka Polpitiya; Waibhav Tembe; Tony Tegeler; Matthew Rosenow; Linda Nagore; Konstantinos Petritis; *Translational Genomics Research Institute, Phoenix, AZ*

TP 032 **Next Generation Data Exchange Format for Mass Spectrometry**; Anuj Shah; Matthew Monroe; Yan Shi; Brian Lamarche; Kevin Crowell; Gordon Slysz; Gordon Anderson; Richard D. Smith; *Pacific Northwest National Laboratory, Richland, WA*

TP 033 **The DeconTools Framework: An Application Programming Interface Enabling Flexibility in Accurate Mass and Time Tag Workflows for Proteomics and Metabolomics**; Gordon Slysz; Erin Baker; Anuj Shah; Yan Shi; Navdeep Jaitly; Gordon Anderson; Richard Smith; *Pacific Northwest National Laboratory, Richland, WA*

TP 034 **Effects of MS/MS Fragment Ion Filters for Proteomic-Scale Orbitrap Data on Mascot Database Search Results**; Michael J Sweredoski; Sonja Hess; *Caltech, Pasadena, CA*

TP 035 **Use of Quality Control Parameters to Optimize Proteomics Experiments Using Orbitrap and LTQFT Mass Spectrometers**; Michael J Sweredoski; Geoffrey Smith; Anastasia Kalli; Robert Lj Graham; Sonja Hess; *Caltech, Pasadena, CA*

PROTEINS: MEMBRANCES, 036 - 060

TP 036 **An Integrated Strategy for Quantitative Membrane Proteomic and Sialylated N-Glycoproteomic Analysis during Human Embryonic Stem Cell Differentiation**; Wei-Wei Chang[1]; Yi-Ting Wang[2]; Chia-Li Han[2]; Yi-Chuan Tsai[2]; Yu-Ju Chen[2]; John Yu[1]; *[1]ICOB, Academia Sinica, Taipei, Taiwan; [2]IC, Academia Sinica, Taipei, Taiwan*

TP 037 **Sequential Gel-Assisted Digestion for Concomitant Analysis of Phosphorylated and N- and O-Glycosylated Membrane Proteome**; Chih-Wei Chien[1]; Chia-Li Han [2]; Chia-Feng Tsai[2]; Yi-Ting Wang[2]; Yu-Ju Chen[2]; *[1]National TsingHua University, Taipei, Taiwan; [2]Institute of Chemistry, Academia Sinica, Taipei, Taiwan*

TP 038 **High Resolution Analysis of Lipid Raft Proteomes**; Chia-Fang Lee; Xiahui Xiong; *Nevada Cancer Institute, Las Vegas, NV*

TP 039 **Performance of Different Fractionation Methods for Quantitative Proteomics Analyses of Membrane Proteins from Control and TNF-α Activated Mouse Macrophages**; Christina Bell[1, 2]; Matthias Trost [1, 2]; Michel Desjardins[2]; Pierre Thibault[1, 2]; *[1]IRIC, Montreal, Canada; [2]Universite de Montreal, Montreal, Canada*

TP 040 **Quantitative Proteomics to Elucidate the Cellular Response of Antimicrobial Peptides**; Benjamin Fränzel; Dirk Wolters; *Bochum, Germany*

TP 041 **An Approach to Personalized Membrane Tissues Proteomics: Case Study on Colorectal Cancer**; Chia-Li Han[1]; Jinn-Shiun Chen[2]; Err-Cheng Chan[3]; Chien-Peng Wu[1]; Kun-Hsing Yu[4]; Chia-Feng Tasi[1]; Kuei-Tien Chen[3]; Chih-Wei Chien[5]; Yung-Bin Kuo[6]; Pei-Yi Lin[1]; Jao-Song Yu[3]; Yu-Ju Chen[1]; *[1]Academia Sinica, Taipei, Taiwan; [2]Chang Gung Memorial Hospital, Taoyuan, Taiwan; [3]Chang Gung University, Taoyuan, Taiwan; [4]National Taiwan University School of Medicine, Taipei, Taiwan; [5]National Tsing Hua University, Hsinchu,*

Taiwan; [6]National Chiao Tung University, Hsinchu, Taiwan

TP 042 **Mapping the Brain Microvessel Membrane Proteome**; Mike Scott[1]; Hyun Bae Chun[2]; Sherry Niessen[1]; Heather Hoover[1]; John Yates[1]; Brian Eliceiri[2]; Bruce Torbett[1]; *[1]The Scripps Research Institute, La Jolla, CA; [2]Department of Surgery, University of California, San DIego, California*

TP 043 **Revealing the Intricate Membrane Protein Interaction Network of Yeast Peroxisomes via Quantitative Mass Spectrometry and Statistics**; Silke Oeljeklaus[1]; Benedikt S. Reinartz[1]; Inga Michels[1]; Sebastian Wiese[2]; Katharina Podwojski[1]; Christian Stephan[1]; Sophie Merich[3]; Wolfgang Schliebs[1]; Helmut E. Meyer[1]; Ralf Erdmann[1]; Cecile Brocard[3]; Bettina Warscheid[2]; *[1]Ruhr University of Bochum, Bochum, Germany; [2]University of Duisburg-Essen, Essen, Germany; [3]University of Vienna, Vienna, Austria*

TP 044 **Comparative Proteome Analyses of Outer Membrane Proteins and their Effect on Strain-Level Discrimination Using Mass Spectrometry-Based Proteomics Approach**; Rabih Jabbour[1]; Mary Wade[2]; Samir Deshpande[3]; Michael F. Stanford[2]; Charles Wick[2]; Alan Zulich[2]; *[1]SAIC INC., Apg, MD; [2]Edgewood Chemical and Biological Center, APG, MD; [3]Science Technology Corporation, Edgewood, MD*

TP 045 **Quantitative Proteomic Analysis of *trichomonas vaginalis* Membrane Proteins**; Fu-An Li[1]; Hong-Ming Hsu[1]; Yet-Ran Chen[2]; Jung-Hsiang Tai[1]; *[1]Institute of Biomedical Sciences, Academia Sinica, Taipei, Taiwan; [2]Agricultural Biotechnology Research Center, Academia Sinica, Taipei, Taiwan*

TP 046 **A Proteomic Platform for the Analysis of Inner and Outer Membranes Proteomes in *escherichia coli***; Gianluca Maddalo[1]; Filippa Stenberg[1]; Hanna Eriksson[1, 2]; Annalisa Ambrosi[1]; Janne Lehtiö[2]; Daniel Daley[1]; Leopold L. Ilag[1]; *[1]Stockholm University, Stockholm, Sweden; [2]Karolinska Universitetssjukhuset, Stockholm, Sweden*

TP 047 **Deep Coverage of a Tightly-Disulfided Membrane Protein Complex**; Wayne Chou; Gustavo Zardeneta; Luis DeLa Maza; Paul Gershon; *UC-Irvine, Irvine, CA*

TP 048 **Comprehensive Characterization of the Inner Membrane Proteome of *Escherichia coli* Using a nanoLC-LTQ Orbitrap MS**; Malvina Papanastasiou; Marios Frantzeskos-Sardis; Michalis Aivaliotis; Spyridoula Karamanou; Anastassios Economou; *IMBB-FoRTH, Iraklio-Crete, Greece*

TP 049 **A Liver Mitochondrial Outer Membrane (MOM) Fatty Acid Transfer Complex**; Kwangwon Lee; Janos Kerner; Charles L. Hoppel; *Case Western Reserve University, Cleveland, Ohio*

TP 050 **Characterization of Photosystem I Super Complexes Induced by State Transitions Using Stable Isotope Labeling and Phosphopeptide Isolation**; Hendrik O. Petersen[1]; Marta Powikrowska[2]; Poul E. Jensen[2]; Ole N. Jensen[1]; A. Jimmy Ytterberg [1]; *[1]Univ. of Southern Denmark, Odense, Denmark; [2]Univ. of Copenhagen, Copenhagen, Denmark*

TP 051 **Characterization of Subunits of Photosystem II, a Large Integral Membrane Protein Complex, UsingTop-Down Fourier-Transform Mass Spectrometry**; Balakumar Thangaraj[1]; Christopher Ryan[2]; Puneet Souda[2]; Kym Faull[2]; Petra Fromme[1]; Julian Whitelegge[2]; *[1]Arizona State University, Tempe, AZ; [2]University of California, Los Angeles, CA*

TP 052 **The Ananlysis of the Structural Features of the Cannabinoid Receptor Using Top Down Proteomics**; Dennis Szymanski[1]; Malvina Papanastasiou[2]; Alexander Makriyannis[1]; *[1]Center for Drug Discovery, Boston, MA; [2]Inst of Molecular Biology, Heraklion, Greece*

TP 053 **Chromatographic Separation of Transmembrane Domain Peptides with Hyper-Crosslinked Stationary Phases at High Temperature Improves Their Mass Spectrometric Identification**; Rongxiao Sa; Yu Zhang; Zheng Jin Tu; Matt Stone; Pete W. Carr; Edgar A. Arriaga; *University of Minnesota, Minnespolis, MN*

TP 054 **TMT Labelled Elastase Digests – Informational Gain by Identification of Hydrophobic, Very Acidic and Small Peptides**; Dominic Baeumlisberger; Tabiwang Arrey; Marion Rohmer; Benjamin Rietschel; Tobias Beckhaus; Bjoern Meyer; Michael Karas; *Goethe University, Frankfurt Am Main, Germany*

TP 055 **Topology Studies of Membrane Proteins with Known Structure Using Mass Spectrometry Based Techniques**; Maria Bendz[1]; Lukas Käll[1]; Susana Cristobal[1]; Peter James[2]; Arne Elofsson[1]; *[1]CBR, Stockholm University, Stockholm, Sweden; [2]Protein Technology, Lund University, Lund, Sweden*

TP 056 **Mass Spectrometry Reveals that the Two Forms of Lpp Represent Distinct Membrane Topologies in *Escherichia coli*;** Charles E. Cowles; Martin F. Semmelhack; Thomas J. Silhavy; Ileana M. Cristea; *Princeton University, Princeton, New Jersey*

TP 057 **Distinct Ligand-Induced β2 Adrenoceptor Conformations Revealed by Quantitative Structural Proteomics**; Alem W. Kahsai; Kunhong Xiao; Sudarshan Rajagopal; SeungKirl Ahn; Christopher M. Lam; Arun Shukla; Jinpeng Sun; Terrence G. Oas; Robert J. Lefkowitz; *Duke University Medical Center, Durham, NC*

TP 058 **Novel Post-Translational Modifications of the Human Sigma-1 Receptor Identified by Mass Spectrometry**; Hongbo Gu; Carthene R. Bazemore-Walker; *Brown University, Providence, RI*

TP 059 **Enrichment of Intact Presenilin 1 by Sequential Membrane Solubilization and GELFREE Electrophoresis for LC-MRM MS**; Reed Peavy[1]; Landon Wilson[1, 2]; Stephen Barnes[1, 2]; Helen Kim[1, 2]; *[1]University of Alabama at Birmingham, Birmingham, AL; [2]Targeted Metabolics/Proteomics Laboratory, Birmingham, AL*

TP 060 **MRM Assay Development for Quantification of Cytochrome P450 11A1 and Adrenodoxin Reductase in the Bovine Adrenal Cortex and Retina**; Wei-Li Liao[1]; Gun Young Heo[2]; Nathan G. Dodder [3]; Irina A. Pikuleva[2]; Illarion Turko[1]; *[1]UMBI/CARB, Rockville, MD; [2]Case Western Reserve University, Cleveland, OH; [3]NIST, Gaithersburg, MD*

PROTEINS: NON-COVALENT INTERACTIONS, 061 - 093

TP 061 **Structural Studies on Bacterial Replisome Protein Complexes Using Electrospray Ionization Mass Spectrometry**; José Afonso[1]; Kiran Chintakayala[2]; Iain Campuzano[3]; Panos Soultanas[2]; Adam McKay[4]; Neil Oldham[1]; *[1]School of Chemistry, University of Nottingham, Nottingham, UK; [2]CBS, University of Nottingham, Nottingham, UK; [3]Waters Corporation, Manchester, UK; [4]Dept of Chemistry, University College London, London, UK*

TP 062 **Detecting Large Noncovalent Protein Complexes by ESI-QTOF MS and ESI-IMS**; Shirley H. Lomeli;

Carly N. Ferguson; Joseph A. Loo; *UCLA, Los Angeles, CA*

TP 063 **Study of Non-Covalent Protein Complexes Using a Top-Down Approach on a Hybrid LTQ-Orbitrap Mass Spectrometer;** Michalis Aivaliotis; Malvina Papanastasiou; Anastassios Economou; *IMBB-FoRTH, Heraklion, Greece*

TP 064 **Nanospray and FTICR MS of Protein Complexes**; Weidong Cui; Hao Zhang; Jianzhong Wen; Robert E. Blankenship; Michael L. Gross; *Washington University, St. Louis, MO*

TP 065 **Two Smoking Barrels: Revealing the Role of the Membrane Usher Protein in Pilus Biogenesis by Electrospray Ionisation Mass Spectrometry**; Bethny Morrissey[1]; Aneika C. Leney[1]; Ana Toste Rego[2]; Denis Verger[2]; Gabriel Waksman[2]; Sheena E. Radford[1]; Alison E. Ashcroft[1]; *[1]University of Leeds, Leeds, UK; [2]Birkbeck and University College London, London, UK*

TP 066 **Characterization of Highly Heterogeneous Protein Systems with ESI MS: Hemoglobin-Haptoglobin Interaction**; Rinat Abzalimov; Igor A. Kaltashov; *University of Massachusetts, Amherst, MA*

TP 067 **Characterization of Antithrombin Binding to Heparin Oligomers Using Size Exclusion Chromatography and ESI-MS**; Burcu Baykal; Rinat Abzalimov; Paul L. Dubin; Igor A. Kaltashov; *University of Massachusetts, Amherst, MA*

TP 068 **Spectacular Conformational Change from Desolvated and Cationized sBBI/Trypsin Non Covalent Complex during CID Process;** Ekaterina Darii[1, 2]; Carlos Afonso[1]; Sandra Alves[1]; Guanalini Saravanamuthu[2]; Ivo G. Gut[2]; Jean-Claude Tabet[1]; *[1]Université Paris 6/UMR7201, Paris, France; [2]CEA/DSV/IG - CNG, Evry, France*

TP 069 **Characterizing Protein-Fatty Acid Interactions**; Lan Liu[2]; Klaus Michelsen[1]; Elena Kitova[2]; Paul Schnier[1]; John Klassen[2]; *[1]Amgen, Thousand Oak, CA; [2]University of Alberta, Edmonton, AB*

TP 070 **Mass Spectrometry of a Novel DNA-Protein Complex**; Lynda J. Donald; Misty D. Balcewich; Harry W. Duckworth; Peter C. Loewen; Brian L. Mark; Kenneth G. Standing; *University of Manitoba, Winnipeg, Canada*

TP 071 **Studying Actin Binding Proteins and the Interaction of Drugs with the Actin Hydrophobic Cleft by ESI-MS**; Sabrina A. Benchaar; Shirley H. Lomeli; Alexander Shvetsov; Emil Reisler; Joseph A. Loo; *University of California Los-Angeles, Department of Chemistry and Biochemistry, CA*

TP 072 **Overcoming Challenges in Native Mass Spectrometric Analysis of Labile Non-Covalent Complexes Containing Natively Unfolded Protein Domains**; Zachary T. Quinkert; Jacyln Tetenbaum-Novatt; Loren Hough; Michael P. Rout; Brian Chait; *The Rockefeller University, New York, NY*

TP 073 **Metal-Induced Calmodulin-Peptide Interactions Studied by ESI-MS: Detection of Unsaturated Intermediates**; Jingxi Pan; Lars Konermann; *University of Western Ontario, London, Canada*

TP 074 **Comparing Apparent ESI-MS Binding Affinities of Noncovalent Protein Complexes with Solution-Phase Measurements**; Jenna-Jiangjiang Liu; Lars Konermann; *Univ. of Western Ontario, London, Canada*

TP 075 **Probing the Stoichiometry of Supramolecular Complexes Stabilized by Hydrophobic Interactions with Soft Ionization Mass Spectrometry**; Konstantin Barylyuk[1]; Dan Grünstein[2]; Renato Zenobi[1]; *[1]ETH Zurich, Zurich, Switzerland; [2]Max Planck Institute of Colloids and Interfaces, Berlin, Germany*

TP 076 **Quantifying Labile Protein-Ligand Interactions Using Electrospray Ionization Mass Spectrometry**; Amr El-Hawiet; Elena Kitova; Lan Liu; John Klassen; *University of Alberta, Edmonton, Canada*

TP 077 **Characterization and Investigation of the Interaction between Erythrocyte Band 3 and Hemoglobin: A Combined ESI-MS and X-Ray Crystallography Approach;** Jingshu Guo; Timothy Mueser; Wendell P. Griffith; *university of toledo, Toledo, OH*

TP 078 **Molecular Insights into Oligomeric Intermediates in Amyloid Assembly Revealed Using ESI-TWIMS-MS**; Lucy A. Woods; Sheena E. Radford; Alison E. Ashcroft; *University of Leeds, Leeds, UK*

TP 079 **A Conformational Study of the Hepatitis B Virus Capsid Protein and its Higher Order Oligomers**; Dale A. Shepherd; Kris K. Holmes; Victoria L. Morton; Nicola J. Stonehouse; Alison E. Ashcroft; *University of Leeds, Leeds, UK*

TP 080 **Thermodynamic and Kinetic Study of the Mutant Human ABO(H) Blood Group Glycosyltransferases Using ES-MS**; Naoto Soya[2]; Monica Palcic[1]; John Klassen[2]; *[1]Carlsberg Laboratory, Copenhagen, Denmark; [2]The University of Alberta, Edmonton, Canada*

TP 081 **Direct Quantification of Protein-Metal Ion Affinities by Electrospray Ionization Mass Spectrometry**; Lu Deng; Nian Sun; Elena Kitova; John Klassen; *University of Alberta, Edmonton, Canada*

TP 082 **Direct Detection of Gramicidin A Assembly**; Jacquelyn R. Jhingree; Christopher M. Sadek; Christopher W. Cairo; John S. Klassen; *University of Alberta, Edmonton, Canada*

TP 083 **Comparison of Self-Assembly of Calix[6]arenes Analogues in Solution/Gas Phase by ESI-MS and in Solid Phase by X-ray Crystallography**; Michael Blanda; Mehdi Moini; Taylor Barker; *Texas State University, San Marcos, TX*

TP 084 **Electrospray Mass Spectrometry to Measure Relative Binding Affinities of Procyanidin Diastereomers with Salivary Mimetic Peptides**; Nalaka Rannulu; Richard B. Cole; *University of New Orleans, New Orleans, LA*

TP 085 **Beyond Thymine Quintet: Ammonium Ion Induced Thymine Pentamer**; Bo Qiu; Hai Luo; *Peking University, Beijing, China*

TP 086 **Composition and Stability of the Non-Covalent Complexes between Polyetyleneimine and Nucleic Acid Components**; Danijela Smiljanic; Chrys Wesdemiotis; *The University of Akron, Akron, OH*

TP 087 **Inhibition of Protein-Protein Interaction: Direct Analysis of Inhibitors of the MDM2/p53 Interactions by High-Mass MALDI Mass Spectrometry**; Alexis Nazabal; Julien Weber; Ryan Wenzel; *CovalX, Schlieren, Switzerland*

TP 088 **Investigations on the Application Range of Chemical Cross-Linking with NHS Esters for the Analysis of Noncovalent Complexes with MALDI-MS**; Stefanie Mädler[1]; Markus Seitz[2]; John Robinson[2]; Renato Zenobi[1]; *[1]ETH Zurich, Zurich, Switzerland; [2]University of Zurich, Zurich, Switzerland*

TP 089 **Unbiased Detection of *in vivo* Protein Interactions and Topologies**; James Bruce[1]; Michael R. Hoopmann [1]; Chad Weisbrod [1]; Li Yang[2]; Chunxiang Zheng[2];

[1]University of Washington, Seattle, WA; [2]Washington State University, Seattle, WA

TP 090 **ESI MS Study of Ir4-Based Calixarene Clusters**; Rita Nichiporuk; Namal de Silva; Ulla Norklit Andersen; Alexander Katz; *University of California, Berkeley, CA*

TP 091 **Characterization of the Metal-Binding Sites of Metallothioneins and Structural Changes between Metal-Free and Metal-Bound Forms by Mass Spectrometry**; Shu-Hua Chen; Zhaoxiang Wu; David H. Russell; *Texas A&M University, College Station, TX*

TP 092 **Metals in Medicine: Drug Isomer Separation and Sequence-Specific Metallation of Peptides Using CID, ETD and Ion Mobility-MS**; Jonathan P. Williams[4]; Jeff Brown [2]; Iain D G Campuzano[3]; Peter Sadler[1]; *[1]University of Warwick, Chemistry Dept, Coventry, UK; [2]Waters Micromass MS Technologies, Manchester, UK; [3]Waters Corporation, Manchester, UK; [4]University of Warwick Chemistry Dept., Coventry, UK*

TP 093 **The Effect of Chromium on the Proteome of *Geobacter metallireducens*;** Partha Basu [1]; Peter Chovanec[1]; Courtney Sparacino-Watkins[1]; John Stolz[1]; Vadiraja Bhat [2]; *[1]Duquesne University, Pittsburgh, PA; [2]Agilent Technologies, Wilmington, DE*

PROTEINS: PHOSPHOPROTEINS, 094 - 115

TP 094 **Complementary Metal-directed Immobilized Metal Ion Affinity Chromatography for Phosphoproteomic Profiling**; Yu-Ni Sun; Chia-Feng Tsai; Chuan-Chih Hsu; Yi-Ting Wang; Yu-Ju Chen; *Institute of Chemistry, Academia Sinica, Taipei, Taiwan*

TP 095 **Optimization and Validation of Phosphotyrosine Protein Enrichment for the Identification and Validation of Drug Response in Acute Myeloid Leukemia**; Jia You; Shujun Liu; Guido Marcucci; Michael A. Freitas; *Ohio State University, Columbus, OH*

TP 096 **Efficient Enrichment of Multiply Phosphorylated Peptides Using a Combination of Two Metal Oxide Resins**; Tonny Johnson[1]; Becky Godat[1]; Dipankar Bhattacharya[2]; Rod Flemming[1]; Dan Simpson[1]; Marjeta Urh[1]; *[1]Proteomics R&D, Promega Corporation, Madison, WI; [2]University of Wisconsin at Madison, Madison, WI*

TP 097 **Enrichment of Phosphopeptides from p65 Immunoprecipitates Using a TiO2-Modified Nylon Membrane**; Yujing Tan; Weihan Wang; Merlin Bruening; *Michigan State University, East Lansing, MI*

TP 098 **An Informatics-Assisted Label-Free Quantitation Strategy that Depicts Phosphoproteomic Profiles in Lung Cancer Cell Invasion**; Yi-Ting Wang[1, 2]; Chia-Feng Tsai[2]; Tzu-Chan Hong[3]; Chih-Chiang Tsou[4]; Pei-Yi Lin[2]; Sih-Hua Pan[3]; Tse-Ming Hong[3]; Pan-Chyr Yang[3]; Ting-Yi Sung[4]; Wen-Lian Hsu[4]; Yu-Ju Chen[2]; *[1]CBMB Program, TIG Program,Academia Sinica, Taipei, Taiwan; [2]Institute of chemistry, Academia Sinica, Taipei, Taiwam; [3]Ins. of Biomedical Science, Academia Sinica, Taipei, Taiwan; [4]Inst. Info Sci, Acad. Sinica,Taipei, Taiwan*

TP 099 **Mass Spectrometry Analysis of *Francisella tularensis* Bacterial Phosphoproteome Using Different Enrichment Techniques**; Pavel Rehulka[1]; Petra Spidlova[1]; Benjamin Mann[2]; Ales Tichy[1]; Helena Rehulkova[1]; Jiri Stulik[1]; Milos Novotny[2]; Lenka Hernychova[1]; *[1]Faculty of Military Health Sci., Uni. of Defence, Hradec Kralove, Czech Republic; [2]Dept. of Chemistry, Indiana University, Bloomington, IN*

TP 100 **A New Matrix Suitable for MALDI-ISD of Phosphorylated Peptides**; Motoshi Sakakura; Mitsuo Takayama; *Yokohama City University, Yokohama,*

TP 101 **Double Pseudo-Neutral Loss Extraction Coupled with Specific Derivatization for Analysis of Phosphoproteins**; Nariyasu Mano[1, 2]; Takuma Yamazaki[2]; Sayaka Aoki[2]; Masaru Mori[2]; Takaaki Goto [2]; Miki Shimada[1, 2]; *[1]Tohoku University Hospital, Sendai, Japan; [2]Tohoku University, Sendai, Japan*

TP 102 **Detection of a Critical Phospho-Histidine Residue in Cancer Metabolism Required Offline Fractionation, Rapid Processing, and the Orbitrap-XL's HCD Cell**; John M Asara[1, 2]; Matthew G Vander Heiden[2, 3]; *[1]Beth Israel Deaconess Medical Center, Boston, MA; [2]Harvard Medical School, Boston, MA; [3]Massachusetts Institute of Technology, Cambridge, MA*

TP 103 **Optimized Enrichment and LC-MS/MS Setup for Comprehensive Characterization of the Phosphotyrosine Proteome in the K562 Leukemia Cell Line**; Konstantin Artemenko [1]; Sara Bergström Lind[1]; Lioudmila Elfineh[1]; Corina Mayrhofer[3]; Jonas Bergquist[1]; Roman Zubarev [2]; Ulf Pettersson[1]; *[1]Uppsala University, Uppsala, Sweden; [2]Karolinska Institute, Stockholm, Sweden; [3]University of Veterinary Medicine, Vienna, Austria*

TP 104 **Quantitative Stoichiometry of Phosphorylation of the Regulatory C-Terminus in Mutant *Arabidopsis* Plasma Membrane Proton Pumps**; Kelli G. Kline[1]; Sheher Mohsin[2]; Miyoshi Haruta[1]; Rachel Nelson[1]; Gregory Barrett-Wilt [1]; Michael R. Sussman[1]; *[1]University of Wisconsin, Madison, WI; [2]Agilent Technologies, Schaumburg, IL*

TP 105 **Analysis of HLA-A2 MHC Phosphopeptides with Titanium Dioxide IMAC, Peptide Charge Derivatization and Electron Transfer Dissociation**; Patrick James [1]; A. Michelle English[1]; Kara Cummings[2]; Jeffrey Shabanowitz[1]; Victor Engelhard[2]; Donald F. Hunt[1, 3]; *[1]Dept. of Chemistry, UVA, Charlottesville, VA; [2]Dept. of Microbiology, School of Medicine, UVA, Charlottesville, VA; [3]Dept. of Pathology, UVA, Charlottesville, VA*

TP 106 **Hyper Auto-Phosphorylation in the GTPase Domain of the Parkinson's Disease Associated Protein LRRK2;** Archer Smith IV; Philip Webber; Matthew B. Renfrow; James Mobley; Andrew B. West; *University of Alabama at Birmingham, Birmingham, AL*

TP 107 **Investigating the Role of Phosphorylation in Regulating the Functions of Mammalian Sirtuin 6**; Yana V. Miteva; Fang Yu; Ileana M. Cristea; *Princeton University, Princeton, NJ*

TP 108 **Characterization of Auto-Phosphorylation Sites in IRAK-4 and Their Role in IRAK-4 Activation**; Yan-Hui Liu; Jia Zhao; Xiaoda Niu; Hong Bian; Birendra Pramanik; *Merck, Kenliworth, New Jersey*

TP 109 **Top-Down Mass Spectrometry of Cardiac Troponin T Revealed a Conserved Phosphorylation Pattern between Human and Mouse**; Jiang Zhang; Serife Ayaz-Guner; Xintong Dong; Lisa Xu; Huseyin Guner; Ying Ge; *University of Wisconsin-Madison, Madison, WI*

TP 110 **Label-Free LC/MS^E Quantification of *in vivo* Phosphorylation Sites in Arabidopsis Receptor Kinase BRI1 in Response to Brassinolide Treatment**; Uma Kota; Steven Clouse; Michael Goshe; *NC State University, Raleigh, NC*

TP 111 **Matrine Blocks the Autophagic Degradation via Trafficking Process of Lysosomal Components**; Zhaohui Wang[1]; Jun Zhang[1]; Rui Xing[1]; Yuan Wang[1]; Siqi Liu[1]; Youyong Lu[2]; *[1]Beijing Institute of Genomics, CAS, Beijing, China; [2]Peking University, School of Oncology, Beijing, China*

TP 112 **Quantitative *in vivo* Measurements of ABA-Induced Changes in the Phosphoproteome of *Arabidopsis thaliana***; Kelli G. Kline; Gregory Barrett-Wilt; Michael R. Sussman; *University of Wisconsin, Madison, WI*

TP 113 **Mass Spectrometry Characterization of Functional Phosphorylations of the Membrane Protein PfCRT from the Digestive Vacuole of the Malaria Parasite;** Daniel Ayoub[1]; Christine Carapito[1]; Cecilia Sanchez[2]; Michael Lanzer[2]; Alain Van Dorsselaer[1]; *[1]IPHC-DSA, LSMBO, ULP-CNRS (UMR7178), Strasbourg, France; [2]Hygiene Institut, Universitätsklinikum Heidelberg, Heidelberg, Germany*

TP 114 **Phosphoproteomics Characterization of Cell Cycle Dependent Changes in HeLa Cells Using iTRAQ® Reagents and LC/MS/MS System**; Takeshi Shibata[1]; Akira Nakanishi[2]; Brigitte Simons[3]; Ryo Yokoyama[1]; Masato Aoshima[1]; Takuichi Tsubata[1]; Sumie Ando[1]; Yoshio Miki[2]; *[1]K.K. AB Sciex, Tokyo, Japan; [2]Tokyo Medical and Dental University, Tokyo, Japan; [3]AB Sciex, Tronto, Canada*

TP 115 **Mass Spectrometry Study of mTOR Phosphorylation in TORC1 and TORC2 Complexes**; Stone D.-H. Shi; Zhihua Tao; Shaoxian Sun; Michael Greig; *Pfizer Global R&D- La Jolla, San Diego, CA*

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TP 116 **Optimizing Gelfree Technology and External Ion Accumulation to Increase Proteome for Top Down Mass Spectrometry**; John F. Kellie [1]; Philip D. Compton[2]; Adam D. Catherman[1]; Jeremy L. Norris[3]; Chuck Witkowski [3]; John Paul Quinn[4]; Jeremiah D. Tipton[4]; Chris L. Hendrickson[4]; Alan G. Marshall[4,5]; Neil L. Kelleher[1,2]; *[1]University of Illinois, Urbana, IL; [2]Northwestern University, Chicago, IL; [3]Protein Discovery, Inc., Knoxville, TN; [4]NHMFL, Tallahassee, FL; [5]Florida State University, Tallahassee, FL*

TP 117 **Top-Down Characterization of a Native Highly Intra-Linked Protein: Concurrent Cleavages of Disulfide and Backbone Bonds**; Jianzhong Chen [1, 2]; Pavel Shiyanov[1]; Liwen Zhang[2]; John Schlager[1]; Kari Green-Church [2]; *[1]AFRL, Dayton, OH; [2]The Ohio State Universtiy, Columbus, OH*

TP 118 **Top Down Proteomics at High Magnetic Field: Posttranslational Modifications and High Molecular Weight Proteins from M-Phase Arrested HeLa Cells**; Jeremiah D. Tipton[1]; Ji Eun Lee [2]; Adam D. Catherman[2]; Ken R. Durbin[2]; Christopher L. Hendrickson[1]; Mark R. Emmett[1]; Alan G. Marshall[1]; Neil L. Kelleher[2]; *[1]National High Magnetic Field Laboratory, Tallahassee, FL; [2]University of Illinois, Urbana, IL*

TP 119 **Ultra-High-Resolution Top-Down Proteomics Analysis**; Carsten Baessmann [1]; Markus Lubeck[1]; Ralf Hartmer [1]; Evert-Jan Sneekes[2]; Remco Swart[2]; *[1]Bruker Daltonik GmbH, 28359 Bremen, Germany; [2]Dionex Corporation, Amsterdam, Netherlands*

TP 120 **A Top-Down Mass Spectrometry Approach for the Identification of Metallothionein Isoforms**; Sandra Mounicou; Laurent Ouerdane; Ryszard Lobinski; *CNRS UMR 5254 LCABIE IPREM, Pau, France*

TP 121 **Novel Efficient Alternatives for Essential Sample Preparation Techniques in Functional Proteomics**; Emily Freeman; Alexander R. Ivanov; *Harvard University HSPH, Boston, MA*

TP 122 **Preparation and Application of Open Tubular Capillary Columns Coated with Zirconium Phosphonate for Enrichment and Analysis of Phosphopeptides by MS**; Wei Jie Qin; Yan Feng Xue; Yang Jun Zhang; Xiao Hong Qian; *State Key Laboratory of Proteomics, Beijing Proteome Research Center, Beijing, China*

TP 123 **Efficient Enrichment of Intact Phosphoproteins Prior to Mass Spectrometric Analysis**; He-Hsuan Hsiao; Henning Urlaub; *Bioanalytical Mass Spectrometry Group, MPIbpc, Goettingen, Germany*

TP 124 **Identification and Quantification of Proteins Adsorbed to Microdialysis Membranes Using Mass Spectrometry**; Magnus Wetterhall[2]; Klas Hjort[1]; Konstantin Artemenko [2]; Marcus Sjödin[2]; Jonas Bergquist[2]; Lars Hillered[3]; Andreas Dahlin[1]; *[1]Dept. Engineering Science,The Ångström Laboratory, Uppsala University, Sweden; [2]Dept. of Physical and Analytical Chemistry, Uppsala University, Sweden; [3]Dept. of Neuroscience, Neurosurgery, Uppsala University, Sweden*

TP 125 **Optimization of Cell Lysis and Protein Digestion Protocols for the Analysis of HELA S3 Cells by LC-MS/MS**; Dominic Winter; Judith Steen; Hanno Steen; *Harvard Medical School/Children's Hospital Boston, Boston, MA*

TP 126 **Novel Approaches for Primary Sample Preparation Prior to LC-MS/MS Analysis**; Anna Krowczynska[2]; Hamid Khoja[1]; Jim Laugharn[3]; *[1]Covaris, Inc., Woburn, MA; [2]Covaris, Inc, Woburn, MA; [3]Covaris, Woburn, MA*

TP 127 **Application of High Pressure and Highly Stable Trypsin-Aggregate Coating on Superparamagnetic Magnetite/Silica Nanoparticles for High Performance Proteomics**; Daniel Lopez-Ferrer[1]; Byoungsoo Lee[2]; Karl K. Weitz[1]; Jungbae Kim[2]; Richard D. Smith[1]; *[1]PNNL, Richland, WA; [2]Korea University, Seoul, Korea*

TP 128 **Less Specific In-Gel Proteolysis: A New Perspective in Peptide Mass Fingerprinting**; Demitrios Papasotiriou; Thorsten Wolfgang Jaskolla; Stavroula Markoutsa; Dominic Baeumlisberger; Björn Meyer; Michael Karas; *Goethe University, Frankfurt/Main, Germany*

TP 129 **Protein Identification with High Sequence Coverage Achieved by a Simple Limited Digestion Method Inducing Miss Cleavages;** Gabriel D Mazzucchelli[1]; Nicolas Smargiasso[1]; Marie-Alice Meuwis[1]; Edwin De Pauw[2]; *[1]MS Lab, GIGA, Liege, Liege, Belgium; [2]Liege University, Liege, Belgium*

TP 130 **High Throughput Analysis of Protein Tryptic Digests by TM-DESI Coupled with UVPD in a Linear Ion Trap Mass Spectrometer**; Jared Shaw; Jennifer Brodbelt; *The University of Texas at Austin, Austin, TX*

TP 131 **Quantitative Analysis of Protein Adsorption on Materials Developed for Soft Tissue Engineering**; Madalis Casiano; Xiaopeng Li; Goy Teck Lim; Judit Puskas; Chrys Wesdemiotis; *The University of Akron, Akron, OH*

TP 132 **Proteome Wide Determination of True Turnover Rates in Mice**; Aaron Ruhs; Anne Konzer; Silvia Jeratsch; Marcus Krüger; Thomas Braun; *Max-Plank-Institute for Heart and Lung Research, Bad Nauheim, Germany*

TP 133 **Proteomic Analysis of Oxidative Damage to Epithelium by Ultraviolet Light**; Richard A.

Eigenheer; Jennifer T. Smilowitz; Brett S. Phinney; *UC Davis, Davis, CA*

TP 134 **Proteolytic O18-Labeling For Quantitative Protein Biomarkers Discovery Using PALeO Strategy**; Min Du; Charles P Emerson; Markus Hardt; *Boston Biomedical Research Institute, Watertown, MA*

TP 135 **Development and Refinement of an iTRAQ-Based "Tagless" Strategy for High-Throughput Purification and Identification of Soluble Protein Complexes**; Haichuan Liu[1]; Ming Dong[2]; Lee L Yang[2]; Evelin D Szakal[1]; Simon Allen[1]; Steven C Hall[1]; Susan J Fisher[1]; Terry C Hazen[2]; Jil T Geller[2]; Marry E Singer[2]; Jian Jin[2]; Mark D Biggin[2]; H. Ewa Witkowska[1]; *[1]UCSF Sandler-Moore Mass Spectrometry Core Facility, San Francisco, CA; [2]Lawrence Berkeley National Lab, Berkeley, CA*

TP 136 **Improved Methodology for Stable Isotope Labeling and LC-MS/MS Analysis for Proteomic Scale Measurement of Protein Turnover in Plants**; Wen-Ping Chen[1]; Xiaoyuan Yang[1, 3]; Peng Yu[3]; Adrian D. Hegeman [1, 3]; Aaron K. Rendahl[5]; Thomas F. McGowan[2]; Shahar Journo[1, 4]; William M. Gray[3]; Jerry D. Cohen[1]; *[1]Dept.Horti Sci and Microbial/Plant Genomics Inst., St. Paul, MN; [2]Center for Mass Spectrometry and Proteomics -UofMN, St. Paul, MN; [3]Dept. Plant Biology - U of MN, St. Paul, MN; [4]Dept. Computer Science and Engineering, Minneapolis, MN; [5]School of Statistics-UMN, St. Paul, MN*

TP 137 **Non-Protein Based Enrichment of Cross-Linked Peptides for Mass Spectrometric Analysis of Protein Complexes**; Funing Yan; *Albert Einstein College Med, Bronx, NY*

TP 138 **Affinity Purification of Covalently-Linked Peptides Following CNBr Cleavage of Proteins**; Tujin Shi; *University of Toronto, Toronto, Canada*

TP 139 **Development of a Novel Cross-Linking Strategy for Mapping Protein-Protein Interactions of Protein Complexes**; Athit Kao[1]; Chi-li Chiu[1]; Danielle Vellucci[2]; Yingying Yang[1]; Shenheng Guan[3]; Scott Rychnovsky[2]; Lan Huang[1]; *[1]Depts. P&B/D&C, University of California, Irvine, Irvine, CA; [2]Dept. Chem., University of California, Irvine, Irvine, CA; [3]Dept. Pharm. Chem., University of California, S.F., San Francisco, CA*

TP 140 **PALeO-Based Characterization of the Enzymatic Mechanism of ECE-1**; Dan Andersson; Markus Hardt; *Boston Biomedical Research Institute, Watertown, MA*

TP 141 **15N Immonium Ion Precursor Scanning: A Novel Strategy for the Targeted Analysis of Proteins and Peptides Present in Complex Matrices**; Nicholas A. Williamson[1]; Charles Reilly[1]; Sri-Harsha Ramarathinam[1]; Chor-Teck Tan[1]; Alun Jones[2]; Christie L. Hunter[3]; Frank Rooney[3]; Anthony W. Purcell[1]; *[1]University of Melbourne, Melbourne, Australia; [2]University of Queensland, Brisbane, Australia; [3]Applied Biosystems, Foster City, CA*

TP 142 **Stable Isotope Shifted Matrices Enables the Use of Low Mass Ion Precursor Scanning for Targeted Metabolite Identification;** Charles Reilly[1]; Nicholas Williamson[2]; Anthony W. Purcell[1]; *[1]University of Melbourne, Melbourne, Australia; [2]Bio21 Institute, University of Melbourne, Parkville, Australia*

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TP 143 **MS/MS Combined with Rapid Chip-Based PNGase-F Digestion for the Elucidation of Structural Isomers of Glycans from Glycoproteins;** Maggie Bynum; Javier Satulovsky; Hongfeng Yin; Kevin Killeen; *Agilent Laboratories, Santa Clara, CA*

TP 144 **Glycomic Approach for Biomarker Quest in Bodily Fluids**; Ute Distler; Jamal Souady; Sebastien Gallien; Laura Bindila; Bruno Domon; *Luxembourg Clinical Proteomics, CRP-Sante, Strassen, Luxembourg*

TP 145 **Fast and Efficient Release of Glycoprotein O-Glycans Prior to Mass Spectrometric Analysis through Microwave-Assisted Enzymatic Digestion (MAED)**; Dakota Derryberry; Yazen Jmeian; Zaneer Segu; Yuening Zhang; Yehia Mechref; *METACyt Biochemical Analysis Center, Indiana Unive, Bloomington, IN*

TP 146 **Fast and Efficient Release of Glycoprotein N-Glycans Prior to Mass Spectrometric Analysis through Microwave-Assisted Enzymatic Digestion (MAED)**; Yuening Zhang; Yazen Jmeian; Dakota Derryberry; Yehia Mechref; *Indiana University, Bloomington, IN*

TP 147 **Analysis of N-linked Glycans from Rat Plasma**; Beth Gillece-Castro; Erin E. Chambers; Kenneth J Fountain; *Waters Corporation, Milford, MA*

TP 148 **Integrated MALDI MS Approach for Structural Characterization of Intact N-Linked Glycopeptides Using *de novo* Sequencing and Protein Database Search**; Masaki Murase[1]; Sadanori Sekiya [1]; Masaki Yamada[1]; Shigeki Kajihara[1]; Koichi Tanaka [1]; Chee-Hong Wong[2]; Hong Wang[2]; Samir Hanash[2]; *[1]Shimadzu Corporation, Kyoto, Japan; [2]PHS, Fred Hutchinson Cancer, Seattle, WA*

TP 149 **Relative Quantification of N-Linked Glycosylation Site Profiles**; Daniel Clark; Eden Go; Heather Desaire; *University of Kansas, Lawrence, KS*

TP 150 **Online Effective Identification of Glycopeptides Using LC/MS**; Ling Xin; Hui Liu; Zhili Li; *Chinese Academy of Medical Sciences, Beijing, China*

TP 151 **N-Linked Glycan Profile and Identification by HPLC-FL/ESI-QTOF MS Using Procainamide Tag**; Song Klapoetke; Jian Zhang; Steven Becht; Xuelin Gu; *cGMP lab, PPD, Middleton, WI*

TP 152 **Microwave-Assisted Enzymatic Digestion for Rapid and Efficient Glycoprotein Identification**; Zaneer Segu; Loubna Hammad; Yehia Mechref; *Deparment of Chemistry, Indiana university, Bloomington, IN*

TP 153 **Investigation of Complex Oligosaccharides from Glycopeptides and Glycoproteins Using A Hybrid Ion Trap/TOF Mass Spectrometer Coupling with MALDI**; Fan Xiang[1]; Liang Zhao [2]; Andreas Franz[3]; *[1]Shimadzu Biotech, Pleasanton, CA; [2]University of the Pacific, Stockton, CA; [3]Department of Chemistry, University of the Pacific, Stockton, CA*

TP 154 **Improvements in the Glyco-Capture Protocol Using Hydrazide-Modified Magnetic Beads**; Ten-Yang Yen; Leslie Timpe; Chris Alleyne-Chin; Bruce Macher; *San Francisco State University, San Francisco, CA*

TP 155 **Glycoprotein Profiling Simplified Using an Ion Trap Mass Spectrometer**; Mark E. Jennings II; Jolanta Krudysz-Amblo; Saulius Butenas; Kenneth G. Mann; Dwight E. Matthews; *University of Vermont, Burlington, VT*

TP 156 **Rapid Glycoprotein Analysis by Hybrid Lectin-phenylboronic Acid Functionalized Magnetic Nanoprobe-based Affinity Mass Spectrometry**; Ying-Wei Lu[1]; Chang-Yang Chen[2]; Li-De Huang[1]; Chih-Wei Chien[1]; Chia-Li Han[3]; Chun-Cheng Lin[1]; Yu-Ju Chen[3]; *[1]National Tsing Hua University, Hsinchu, Taiwan; [2]National Taiwan Normal University, Taipei, Taiwan; [3]Academia Sinica, Taipei, Taiwan*

TP 157 **Chemoenzymatic Synthesis and Mass Spectrometry-Based Analysis of a Homogeneous Glycoprotein**; John Schiel; Mark Lowenthal; Karen Phinney; *National Institute of Standards and Technology, Gaithersburg, MD*

TP 158 **Combining CID and HCD Fragmentation with Bioinformatics Facilitates the Automated Identification of N-Linked Glycoproteins in Complex Protein Mixtures;** Morten Rasmussen[1]; Morten Thaysen-Andersen[2]; Simon Mysling[2]; Peter Hojrup[3]; *[1]BMB, Odense, Denmark; [2]BMB, University of Southern Denmark, Odense M, Denmark; [3]University of Southern Denmark, Odense M, Denmark*

TP 159 **Development of Mass Spectrometric Methods for Glycoproteomic Analysis of Progranulin**; Kriangsak Songsrirote[1]; Zhi Li[2]; David Ashford[3]; Andrew Bateman[2]; Jane Thomas-Oates[1]; *[1]Department of Chemistry, University of York, York, UK; [2]Department of Medicine, McGill University, Montreal, Quebec, Canada; [3]Department of Biology, University of York, York, UK*

TP 160 **Development of Glycopeptide Selected Reaction Monitoring for Quantitative Characterization of Site-Specific Protein Glycosylation**; Dongdong Wang; Marina Hincapie; Tomas Rejtar; Fateme Tousi; Barry L. Karger; *Barnett Instituite, Northeastern University, Boston, MA*

TP 161 **Determination of Structural Isomers in Site-Specific Glycosylation Using NanoLC/MS**; Serenus Hua[1]; Charles C. Nwosu[1]; John S. Strum[1]; Hyun Joo An[1]; Ning Tang[2]; Keith Waddell[2]; Carlito B. Lebrilla[1]; *[1]University of California, Davis, CA; [2]Agilent Technologies, Santa Clara, CA*

TP 162 **Targeted Glycoproteomic Analysis Of Human Serum Proteins Using Lectin Affinity Chromatography**; Grace Ro[1]; Hyun Joo An[1]; Rudolf Grimm[2]; Carlito Lebrilla[1]; *[1]Department of Chemistry, University of California, Davis, CA; [2]Agilent Technologies, Santa Clara, CA*

TP 163 **Characterization of Neutral and Acidic Glycopeptides by ZIC-HILIC Enrichment and Mass Spectrometry**; Sven Andrecht [1]; Jessica Wohlgemuth[1]; Ralf Schäfer[2]; Arndt Asperger[2]; Anja Resemann[2]; Andrea Schneider[2]; *[1]Merck KGaA, Darmstadt, Germany; [2]Bruker Daltonics, Bremen, Germany*

TP 164 **Enrichment and Analysis of Bacterial Glycopeptides from Total Proteome Extracts of *Francisella tularensis***; Kelly Fulton[1]; Luc Tessier[1]; Wen Ding[1]; Sara Kilmury[1]; Joann Prior[2]; Rebecca Thomas[2]; Susan Twine[1]; *[1]National Research Council, Ottawa, Canada; [2]Defence Science and Technology Laboratory, Porton Down, UK*

TP 165 **A Capillary Monolithic Boronate Affinity Column for Enrichment of cis-diol Type Glycans and Glycopeptides**; Fang-Chi Liu; Chun-Chi Tsai; Chung-Lin Liao; *Academia Sinica, Taipei, Taiwan*

TP 166 **Enrichment and Identification of Sulfated Glycoproteins for Biomarker Discovery**; Masaaki Toyoda; Hiroyuki Kaji; Hiromichi Sawaki; Hisashi Narimatsu; Akihiko Kameyama; *AIST, Tsukuba, Japan*

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TP 167 **Quantitative Analysis of Protein Expression with Isobaric Tags Using LTQ Orbitrap;** Takashi Shinkawa; Kuniyasu Kato; Nami Yabuki; Kohji Nagano; Noriyuki Inomata; Masayuki Haramura; *Chugai Pharmaceutical, Kamakura, Japan*

TP 168 **Design of a Low Energy Gas Phase Cleavable Linker as the Basis for Versatile Isobaric Tags for Protein Quantification**; Chang Ho Sohn; J. Eugene Lee; Michael J. Sweredoski; Robert L. Graham; Geoffrey T. Smith; Sonja Hess; Raymond J. Deshaies; J. L. Beauchamp; *Caltech, Pasadena, CA*

TP 169 **A Novel Cysteine-Reactive Tandem Mass Tags for Subproteome Labeling, Enrichment and Quantitation**; Michael Rosenblatt[2]; Ryan Bomgarden[2]; Eric Hommema[2]; Karsten Kuhn[1]; Stefan Kienle[1]; Ian Pike[1]; John C. Rogers [2]; *[1]Proteome Sciences, Cobham, UK; [2]ThermoFisher Scientific, Rockford, IL*

TP 170 **Enrichment and Six-Plex Profiling of the DNA Damage Response Pathway Using Amine- and Cysteine-Reactive Tandem Mass Tags**; Ryan D. Bomgarden; Michael M. Rosenblatt; John C. Rogers; *Thermo Fisher Scientific, Rockford, IL*

TP 171 **An Attempt to Quantitative Analysis for Clinical Proteomics by Liquid Chromatography/ESI-Ion Trap MS Using Stable Isotope-Labeled Iodoacetanilide**; Sadamu Kurono[1, 2]; Yuka Kaneko[1, 2]; Satomi Niwayama[3]; *[1]Osaka University Graduate School of Medicine, Suita-shi, Osaka, Japan; [2]Wako Pure Chemical Industries, Ltd., Chuo-ku, Osaka, Japan; [3]Texas Tech Univ., Lubbock, TX*

TP 172 **Novel Deuterium Coded Reagents for Protein Quantitation**; Junxiang Zhang; Shuwei Li; *Center for Advanced Research, Rockville, MD*

TP 173 **The *B. subtilis* Proteome under Glycolytic or Gluconeogenic Conditions: Discovery and Verification of Quantitative Differences in Key Metabolic Pathways**; Andrea Hartmann[2]; Jan Muntel[1]; Donna Potts[3]; Doerte Becher[1]; Hunter Christie[3]; Michael Hecker[1]; Matthias Glueckmann[3]; Christof Lenz[3] ; *[1]Inst.of Microbiology, University of Greifswald, Greifswald, Germany; [2]Sandoz, Kundl, Austria; [3]AB Sciex, Various locations, UK, U.S.A. and Germany*

TP 174 **Aliphatic H/D-Isotope Dipeptide Tags for Multi 2-plex Protein Quantification**; Seung Koo Shin; Min-Soo Suh; Jongcheol Seo; Hye-Joo Yoon; *POSTECH, Pohang, South Korea*

TP 175 **Isotope-Coded Dimethyl Labeling for Differential Quantitation of Posttranslational Protein Modification by 4-Hydroxy-2-nonenal, An End Product of Lipid Peroxidation**; Navin Rauniyar; Laszlo Prokai; *University of North Texas Health Sc Center, Fort Worth, TX*

TP 176 **Robust Integrated Approach for High-Throughput Quantitative Proteome Analysis by ^{18}O Labeling**; Elena Bonzon-Kulichenko[1]; Daniel Pérez-Hernández[1]; Estefanía Núñez[1]; Pablo Martínez-Acedo[1]; Pedro Navarro[1]; Marco Trevisan-Herraz[1]; María del Carmen Ramos[2]; Saleta Sierra[2]; Sara Martínez-Martínez[3]; Marisol Ruiz-Meana[4]; Elizabeth Miró-Casas[4]; David García-Dorado[4]; Juan Miguel Redondo[3]; Javier S. Burgos[2]; Jesús Vázquez[1] *[1]Lab of Protein Chemistry and Proteomics, CBM-SO, Madrid, Spain; [2]Neuron Biopharma S.A., Granada, Spain; [3]Centro Nacional Investigaciones Cardiovasculares, Madrid, Spain; [4]Hospital Universitari Vall d'Hebron, Barecelona, Madrid*

TP 177 **Quantitative Performance of a Novel Trypsin-Catalyzed 18O-Single Labeling Method for Serum Proteomics**; Masaru Mori[1]; Miki Shimada[1, 2]; Nariyasu Mano[1, 2]; *[1]Tohoku University, Sendai, Japan; [2]Tohoku University Hospital, Sendai, Japan*

TP 178 **Targeted Quantitative Proteomics Using Selected Reaction Monitoring (SRM)-Mass Spectrometry Coupled with an 18O-Labeled Reference as Internal Standards**; Jong-Seo Kim; Errol Robinson; Boyd L. Champion; Brianne O. Petritis; Thomas L. Fillmore; Ronald J. Moore; Tao Liu; David G. Camp II; Richard D. Smith; Wei-Jun Qian; *Pacific Northwest National Laboratory, Richland, WA*

TP 179 **Investigation of H2[18]O as a Tracer for Measuring Apolipoprotein Turnover in Mice**; James Conway[1]; Stephen Previs[2]; Nykia Walker[1]; Thomas McAvoy[1]; Haihong Zhou[1]; Thomas Roddy[2]; Douglas Johns[2]; Nathan Yates[1]; Ronald Hendrickson[1]; *[1]Merck Research Laboratories - Proteomics, Rahway, NJ; [2]Merck Research Laboratories - Atherosclerosis, Rahway, NJ*

TP 180 **Integrating Lys-N Proteolysis and N-Terminal Guanidination for Improved Fragmentation and Relative Quantification of Singly-Charged Ions**; Valerie J. Carabetta; Tuo Li; Anisha Shakya; Todd M. Greco; Ileana M. Cristea; *Princeton University, Princeton, NJ*

TP 181 **Withdrawn**

TP 182 **Phosphoproteomics Based on PolyMAC and Label-Free Quantitation**; Liang Xue[1]; Lianshui Wang[2]; Lianghai Hu[1]; Anton Iliuk[1]; Predrag Radivojac[2]; Randy Arnold[2]; Haixu Tang [2]; W. Andy Tao[1]; *[1]Purdue University, West Lafayette, IN; [2]Indiana University, Bloomington, IN*

TP 183 **Label-Free Quantification of Protein Phosphorylation Using a Combination of ERLIC, IMAC, and LC/MS/MS: Application to Marek's Disease Virus Infection**; Ko-Yi Chien; Kevin Blackburn; Hsiao-Ching Liu; Michael Goshe; *NC State University, Raleigh, NC*

TP 184 **Phosphatase-Based Phosphopeptide Quantitation (PPQ) for Accurate Determination of Phosphorylation Stoichiometry**; Dominik Domanski; Christoph H. Borchers; *UVic-GBC Proteomics Centre, Victoria, BC*

TP 185 **Mass Spectrometry-Based Quantitative Approaches Toward Lysine Acetylation In Huntingtin**; Xin Cong[1]; Jason Held[2]; Bradford W. Gibson[3]; Lisa Ellerby[2]; *[1]Buck Institute, Novato, CA; [2]Buck Institute for Age Research, Novato, CA; [3]Buck Inst. for Age Research, Novato, CA*

TP 186 **Application of SILAC and LC-MS/MS to Determine Histone Modifications Cross-Talk in Yeast;** Xiaoyan Guan; Neha Rastogi; Mark R. Parthun; Michael A. Freitas; *Ohio State University, Columbus, OH*

TP 187 **Highly Sensitive, Accurate and High Though-Put Simultaneously Quantify Multiple Histone Modification Sites by LC/MS/MS-MRM**; Agus Darwanto; Matthew Curtis; Matthew Schrag; Wolff Kirsch; Jonathan Neidigh; Kangling Zhang; *Loma Linda University, Loma Linda, CA*

TP 188 **Quantitation of Proteomic Markers of Glyco-Oxidation Using Multiple Reaction Monitoring**; Michael J. Kimzey [1]; Hussein N. Yassine[2]; Michael A. Galligan[1]; Craig S. Stump[2, 3]; George Tsaprailis[1]; Serrine S. Lau[1]; *[1]Southwest Environmental Health Sciences Center, University of Arizona, Tucson, AZ; [2]College of Medicine, University of Arizona, Tucson, AZ; [3]Southern Arizona VA Healthcare System, University of Arizona, Tucson, AZ*

TP 189 **Targeted Absolute Quantification of Intact Proteins by Reverse Phase Liquid Chromatography-Mass Spectrometry, Charge Reduced Electrospray, and Condensation Particle Counting**; Kouame Adou; Murray V. Johnston; *University of Delaware, Newark, DE*

TP 190 **Quantitation of Intact Biotherapeutic Proteins without Fragmentation – Targeted Ion Parking**; J. Larry Campbell; J.C. Yves Leblanc; *AB SCIEX, Concord, Canada*

TP 191 **Quantitative Analysis for Comparative Top-Down Proteomics**; Adaikkalam Vellaichamy; Leonid Zamdborg; Kenneth R. Durbin; Mingxi Li; Adam D. Catherman; John F. Kellie; John C. Tran; Neil L. Kelleher; *University of Illinois at Urbana-Champaign, Urbana, IL*

TP 192 **High Sensitivity LC-ESI-SRM MS Analysis Using Multi-Capillary Inlet/Tandem Electrodynamic Ion Funnel Interface**; Errol Robinson; Keqi Tang; Mahmud Hossain; Richard D. Smith; *Pacific Northwest National Laboratory, Richland, WA*

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TP 193 **Target-Based Approaches Using Data Dependent and Independent Schemes on LTQ/Orbitrap and Comparison with QTrap 5500 Results**; Wells Wu [1]; Craig Dufresne[2]; Rong-Fong Shen[1]; *[1]NIH (NIA), Baltimore, MD; [2]Thermo Fisher Scientific, West Palm Beach, FL*

TP 194 **A Novel Method for Analyzing Protein Terminals**; Taro Kishimoto[1, 2]; Jun Kondo[1, 2]; Takako Takai-Igarashi[3]; Hiroshi Tanaka[3]; *[1]Molecuence Corporation, Kanagawa, Japan; [2]Mitsubishi Tanabe Pharma Corporation, Kanagawa, Japan; [3]Tokyo Medical and Dental University, Tokyo, Japan*

TP 195 **Improvements in Protein Identifications in Data-dependent Acquisition Experiments by Use of Novel Precursor Selection and Fragmentation Strategies**; Christine Miller; Jose Meza; Norton Kitagawa; Wilfred Tang; Joseph Roark; Javier Satulovsky; Patrick D. Perkins; *Agilent Technologies, Inc., Santa Clara, CA*

TP 196 **Differentially Expressed Proteins Detected on Chromatographic Retentive Surface Capture by Mass Spectrometry**; Enrique Dalmasso[2]; Amanda Bulman[2]; Fiona Plows[2]; Mariana Rusa [1]; Detlev Suckau[3]; Martin Schuerenberg[3]; *[1]Bio-Rad Laboratories, Inc, Hercules, CA; [2]Bio-Rad Laboratories, Inc., Hercules, CA; [3]Bruker Daltonics, Bremen, Germany*

TP 197 **Integrating Gel Electrophoresis and Microwave-Accelerated Acid Cleavage for Analysis of Plasma Membrane Proteins**; Joe Cannon; Waeowalee Choksawangkarn; Catherine Fenselau; *University of Maryland, College Park, MD*

TP 198 **Optimization of OFFGEL Fractionation-Based Shotgun Proteomic on QTOF and LTQ-Orbitrap**; Cexiong Fu; Cristian I. Ruse; Darryl J Pappin; *Cold Spring Harbor Lab, Cold Spring Harbor, NY*

TP 199 **Orbitrap LC-MS/MS Data Acquisition Method to Increase the Depth of Analysis for Low Amounts of Proteins in Complex Protein Mixtures**; Wenzhu Zhang; Elizabeth Heller; Nathaniel Heintz; Brian Chait; *The Rockefeller University, New York, NY*

TP 200 **Functional Polymer Membranes for Protein Digestion and Peptide Separation Prior to Analysis by Mass Spectrometry**; Weihan Wang; Fei Xu; Merlin Bruening; *Michigan State University, East Lansing, MI*

TP 201 **Withdrawn**

TP 202 **Energetic Manipulation of Peptide Secondary Structure Boosts ETD Fragmentation Efficiency**;

Aaron Ledvina; Graeme McAlister; Joshua J. Coon; *University of Wisconsin, Madison, Wisconsin*

TP 203 **Comprehensive Investigation into Ion Types Produced in Higher Energy Collisional Dissociation (HCD)**; Annette Michalski; Nadin Neuhauser; Juergen Cox; Matthias Mann; *MPI for Biochemistry, Martinsried, Germany*

TP 204 **Peptide Identification Using Electron Capture Dissociation Combined with Subsequent Radical-Ion/Molecule Reactions on a Chromatographic Time Scale**; Masaki Watanabe[1, 2]; Takashi Baba[1]; Gary L. Glish[1]; *[1]University of North Carolina, Chapel Hill, NC; [2]Hitachi High-Technologies, Hitachinaka, Ibaraki-ken, Japan*

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TP 206 **Middle-Down Proteomics with High Mass Accuracy Tandem Mass Spectrometry and Mass Accuracy Sensitive Database Search Engine**; Roderick Davis[1]; Jia You[2]; Michael A. Freitas[2]; Hua Xu [1]; *[1]Univ Illinois at Chicago, Chicago, IL; [2]Ohio State University, Columbus, OH*

TP 207 **SQID: An Intensity-Incorporated Peptide Identification Algorithm for Tandem Mass Spectrometry**; Wenzhou Li; Li Ji; Jonathan Goya; Vicki H. Wysocki; *University of Arizona, Tucson, AZ*

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TP 211 **An Automated LC-free Platform for Comprehensive Coverage of Mammalian Proteomes**; Johannes Hewel; Charles Yoon; Jian Liu; Peter W Zandstra; Andrew Emili; *University of Toronto, Toronto, Canada*

TP 212 **Isolation and Characterization of Novel Serum Lectins from the American Alligator (*Alligator mississippiensis*)**; Lancia Darville[1]; Venkata Ramana Machha[2]; Mark E Merchant[2]; Syed Azeem Hasan[1]; Kermit K. Murray[1]; *[1]Louisiana State University, Baton Rouge, LA; [2]McNeese State University, Lake Charles, Louisiana*

TP 213 **Proteomics of Human Lymph and Plasma Reveals a Unique Self Peptidome Associated with the Lymph**; Cristina Clement[1]; Laura Santambrogio[2]; *[1]Albert Einstein CollegeMed, Bronx, NY; [2]Albert Einstein College of Medicine, Pathology, Bronx, NY*

TP 214 **Determination of the pH1N1 Vaccine Proteome;** Daryl G.S. Smith; Marybeth Creskey; Terry D. Cyr; *Health Canada, Ottawa, Canada*

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TP 221 **Rapid Identification of *Listeria* Bacteria by Proteomics Approaches Using MALDI Mass Spectrometry**; Patrick Pribil[1]; Jacqueline Upham[2]; James MacNeil[2]; Takeo Sakuma[1]; *[1]AB/ SCIEX, Concord, Canada; [2]Canadian Food Inspection Agency, Dartmouth, Canada*

TP 222 **DMPO Provides Resistance to Necrosis for Murine Macrophages Exposed to Anthrax LeTx and Serves as a Marker for Proteomic Studies**; Allison N Schorzman [1]; Jeffrey F. Kuhn[2]; Kenneth B. Tomer[1]; *[1]NIEHS, Research Triangle Park, NC; [2]NIEHS/SRA, Garner, NC*

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TP 230 **UV-Induced Human Epidermal Protein Expression Changes are Explored with iTRAQ®; Technology and ProteinPilot Descriptive Statistical Template**; Elhabib Benlhabib; Leeann Higgins; Lorraine Anderson; Maria K. Hordinsky; Ana Carina A JunqueiraBertin; Ioanna G. Panoutsopoulou; Gwen Wendelschafer-Crabb; William R. Kennedy; George L. Wilcox; *University of Minnesota, Minneapolis, MN*

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NC; [2]Wake Forest University Health Sciences, Winston-Salem, NC

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TP 292 **Studying Changes in the Global Proteome in Response to Altered Cdc42 Expression by Quantitative Mass Spectrometry**; Cordula Klockenbusch; Sebastian Dilly; Juergen Kast; *University of British Columbia, Vancouver, Canada*

TP 293 **Differential Proteome Analysis Applied to the Human Neural Stem Cell**; Kun Cho; Gun Wook Park; Jin Young Kim; Kyung-Hoon Kwon; Jong Shin Yoo; *KBSI, Chungbuk, South Korea*

TP 294 **High-Throughput IP/MS For Discovery Of The Endogenous Regulatory Protein Complex Networks**; Anna Malovannaya; Doug Chan; Sung Yun Jung; Nguyen Le; Chen Ding; Yaroslava Bulynko; Yi Shi; Bert O'Malley; Rainer Lanz; Jun Qin; *Baylor College of Medicine, Houston, TX*

TP 295 **Systems Biology of Conus: Identification of ER Chaperones Involved in Toxin Biosynthesis**; Helena Safavi-Hemami[1]; Grzegorz Bulaj[2]; Nicholas A. Williamson[1]; Pradip Bandyopadhyay[2]; Baldomero M. Olivera[2]; Anthony W. Purcell[1]; *[1]University of Melbourne, Melbourne, Australia; [2]University of Utah, Salt Lake City, Utah*

TP 296 **Proteogenomics of *Pristionchus pacificus* Reveals Distinct Proteome Structure of Nematode Models**; Nadine Borchert[1]; Christoph Dieterich[2]; Karsten Krug[3]; Wolfgang Schütz[3]; Stephan Jung[3]; Alfred Nordheim[4]; Ralf J. Sommer[1]; Boris Macek[3]; *[1]Max-Planck-Institute for Developmental Biology, Tübingen, Germany; [2]Max-Delbrueck-Center for Molecular Medicine, Berlin, Germany; [3]Proteome Center Tübingen, University of Tübingen, Tübingen, Germany; [4]Department of Molecular Biology, Univ. of Tubingen, Tubingen, Germany*

TP 297 **Interactome of the Nuclear Basket Proteins of the Yeast Nuclear Pore Complex**; Kelly Molloy[1]; Mario Niepel[4]; Ileana M. Cristea[2]; Rosemary Williams[1]; Jeremy Luban[3]; Brian Chait[1]; Michael Rout[1]; Caterina Strambio De Castillia[3]; *[1]The Rockefeller University, New York, NY; [2]Princeton University, Princeton, NJ; [3]University of Geneva, Geneva, Switzerland; [4]Harvard Medical School, Boston, MA*

TP 298 **The Yeast Interactome Under Oxidative Stress**; Qiang Gao; Xiuping Liu; Jiri Adamec; Mira Sedlak; Fred Regnier; *Purdue University, West Lafayette, IN*

TP 299 **Proteomic Analysis of the Functional Significance of tRNA Wobble Base Thiolation;** Kshitiz Tyagi[3]; Alexander Schmidt[2]; Vanessa Rezgui[3]; Sebastian Leidel[3]; Ruedi Aebersold[3]; Matthias Peter[3]; Patrick Pedrioli[1]; *[1]The Scottish Institute for Cell Signalling, Dundee, UK; [2]Biozentrum, University of Basel, Basel, Switzerland; [3]Institute of Biochemistry, ETH Zurich, Zurich, Switzerland*

TP 300 **Proteomic Analysis of *Mycobacterium vanbaalenii* PYR-1 for the Elucidation of the Biodegradation Network of Polycyclic Aromatic Hydrocarbons**; Ricky D. Holland[1]; Oh-Gew Kweon[2]; Seong-Jae Kim[2]; Yuan Gao[1]; Carl E. Cerniglia[2]; Li-Rong Yu[1]; *[1]Center for Proteomics, NCTR/FDA, Jefferson, AR; [2]Division of Microbiology, NCTR/FDA, Jefferson, AR*

TP 301 **Proteomic Investigation of Lipid Metabolism in Microalgae**; Tara Schumacher; Kenneth F. Reardon; *Colorado State University, Fort Collins, CO*

TP 302 **Proteomic Profiling of Gametophytic Self Incompatibility in *Prunus avium***; Douglas A Whitten; *Michigan State University, East Lansing, MI*

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TP 303 **Monitoring Counterfeit and Imitations of PDE-5 Inhibitors in Herbal Products by LC-MS/MS**; Lai-Chuan Chang [1]; Chi-Yang Lee[1]; Yu-Chuan Liu[2]; Kuo-Lung Wang[2]; Yu-Wen Chao[1]; *[1]Biotech Total Solutions Co., Ltd., Taipei, Taiwan; [2]BioServices Co., Taipei, Taiwan*

TP 304 **Mass Defect Filtering: A New Tool to Expedite the Dereplication and Identification of Natural Products**; Li-Quan Wang; Zheming Gu; *XenoBiotic Laboratories, Inc, Plainsboro, NJ*

TP 305 **Structural Determination of Glucosylceramides Isolated from Marine Sponge by Fast Atom Bombardment-Collision Induced Dissociation-Tandem Mass Spectrometry**; Young Min Ahn[1]; Won-Woong Lee[1]; Jee H. Jung[2]; Sang-gi Lee[3]; Jongki Hong[1]; *[1]College of Pharmacy, Kyung-Hee University, Seoul, South Korea; [2]College of Pharmacy, Pusan National University, Pusan, South Korea; [3]Department of Chemistry, Ewha Womans University, Seoul, South Korea*

TP 306 **Withdrawn**

TP 307 **LC-FTICR-MS for Targeted Proteomics: Characterization of Tetrahydroquinoline Natural Product Biosynthetic Proteins of Symbiotic Bacteria from Macroorganismal Assemblies**; Christopher M Rath[1]; Fengan Yu[1]; Benjamin Janto[3]; Makato Inai[2]; Robert Williams[2]; Garth Ehrlich[3]; Kristina Hakansson[1]; David Sherman[1]; *[1]University of Michigan, Ann Arbor, MI; [2]Colorado State, Fort Collins, CO; [3]Drexel University, Pittsburgh, PA*

TP 308 **Sum Formula Calculation and Identification of an Bacterial Metabolite with m/z > 1100**; Wiebke Lohmann; Petra Decker; Aiko Barsch; *Bruker Daltonik GmbH, Bremen, Germany*

TP 309 **Identification and Quantification of Phenolic Compounds in Leaves of *Byrsonima crassifolia* by HPLC-HRMS**; Marie-France Hérent[1]; Aubert Maquille[1]; Jesus Souza[2]; Hervé Rogez[2]; Yvan Larondelle[1]; Jean-Louis Habib Jiwan[1]; *[1]Université catholique de Louvain, Brussels, BELGIUM; [2]Universidade Federal do Para, Belém, Brazil*

TP 310 **Identification of Medicinal Plants Bioactive Compounds through ESI-MS/MS by Direct Infusion**; Elaine Cristina Cabral[1]; Marcos N Eberlin[2]; Jose M. Riveros[3]; *[1]São Paulo University, São Paulo, Brazil; [2]ThoMSon Lab UNICAMP, Campinas, Sp, BRAZIL; [3]Instituto De Quimica-USP, Sao Paulo, BRAZIL*

TP 311 **Identification of Natural Compounds from an Antimalarial Plant Candidate Using Centrifugal Partition Chromatography and LCMS-IT-TOF**; Flaubert Mbeunkui[1]; Rocky Graziose[2]; Mary Grace[1]; Kelly Chibale[3]; Peter Smith[3]; Ilya Raskin[2]; Mary Ann Lila[1]; *[1]North Carolina State Univers, Kannapolis, NC;*

[2]Rutgers University, New Brunswick, NJ; [3]University of Cape Town, Cape Town, South Africa

TP 312 **Identification of Cyclooxygenase-2 inhibitors in Cocoa (Theobroma cacao) Using Ultrafiltration LC-MS**; Shunyan Mo[1]; Linlin Dong [1]; Dejan Nikolic[1]; W. Jeffrey Hurst[2]; Richard B. van Breemen[1]; *[1]University of Illinois College of Pharmacy, Chicago, IL; [2]The Hershey Company, Mt. Gretna, PA*

TP 313 **Characterization of Phytoecdysteroids by Positive and Negative Ion LC-MS/MS after Derivatization with Hydroxylamine Reagents**; Ralph Reed; Jeffrey Morre; Fred Stevens; *Oregon State University, Corvallis, OR*

TP 314 **Correlation between Hydrolyzable and Condensed Tannin Composition and the Ability of Tannin Extracts to Inhibit Starch Hydrolysis**; Carina Minardi[1]; Lorenzo Reyes[1]; Anuradha Prakash[1]; Ann Barrett[2]; Christine Straut[3]; Amy Howell[4]; Christine A. Hughey[1]; *[1]Chapman University, Orange, CA; [2]US Army Natick Soldier RD&E Center, Natick, MA; [3]Battelle Natick, Natick, MA; [4]Rutgers University, Chatsworth, NJ*

TP 315 **Nano-Electrospray LTQ Orbitrap MS, Using Very High Mass Resolution, for the Determination of the Polyether Marine Phycotoxins, Pectenotoxins**; Zuzana Skrabakova[1, 2]; Bebhine Carey[1, 2]; Frank vanPelt[2]; John O'Halloran[2]; Kevin James[1, 2]; *[1]PROTEOBIO, Cork Institute of Technology, Cork, Ireland; [2]Environmental Research Institute, UCC, Cork, Ireland*

TP 316 **Withdrawn**

TP 317 **Identification of Cellular Targets of the Natural Product OSW-1 by Quantitative Chemoproteomics**; Jason Murphy[1]; David Schwalb[1]; Anthony Burgett[2]; D Ryan Anderson[2]; Matthew Shair[2]; Eugenio Petrella[1]; John Tallarico[1]; Markus Schirle[1]; *[1]Novartis Institutes for Biomedical Research, Inc., Cambridge, MA; [2]Harvard University, Cambridge, MA*

TP 318 **Pharmacokinetics of Epicatechin in Humans After Ingestion of Cocoa Products**; Brian Wright[1]; Shunyan Mo[1]; Linlin Dong [1]; W. Jeffrey Hurst[2]; Richard B. Van Breemen[1]; *[1]University of Illinois College of Pharmacy, Chicago, IL; [2]The Hershey Company, Mt. Gretna, PA*

TP 319 **Screening for Natural Chemoprevention Agents that Reversibly Alkylate Human Keap1**; Chenqi Hu; Dejan Nikolic; Aimee Eggler; Andrew Mesecar; Richard B. Van Breemen; *University of Illinois, Chicago, IL*

TP 320 **Simultaneous Quantification of 10 Bioactive Polyphenolic Compounds in Menerba by a High Throughput LC-MS/MS Method**; Xiaochuan Li [1, 3]; Kim B. Plath[3]; Hong Zhou[3]; Richard Staub[2]; Uwe Christians[1, 3]; Isaac Cohen[2]; Yan Ling Zhang [1, 3]; *[1]Univ. of Colorado Health Science, Aurora, CO 80262; [2]bioNovo Inc., Emeryville, CA 94608; [3]bioNovo, Aurora, CO 80045*

TP 321 **Mass Spectrometric Identification and Characterization of Cytochrome P4502D6 Inhibitors from Black Cohosh (*Actaea racemosa L.*)**; Dejan Nikolic; Jinghu Li; Tanja Goedecke; Shao-Nong Chen; Pauli Guido; Richard B. van Breemen; *University of Illinois College of Pharmacy, Chicago, IL*

TP 322 **Anti-Allergic Effects of Tea Catechins Detected in Mast Cell Model RBL-2H3 by LC-MS and Live Single-Cell MS**; Shoko Inoue[1]; Iwao Sakane[2]; Hajime Mizuno[1]; Takahiro Harada[1]; Naohiro Tsuyama [1]; Tsutomu Masujima[1]; *[1]Hiroshima Univ. BioMed., Hiroshima City, Japan; [2]ITO EN, Ltd., Tokyo, Japan*

TP 323 **A Novel Target for Pulsed Ultrafiltration Mass Spectrometry: Vitamin D Receptor**; Sigrid Baumgarten; Jerry White; Richard B. Van Breemen; *University of Illinois, Chicago, IL, Chicago, IL*

TP 324 **Molecular localization analysis of Chinese Herbal Drugs Ingredients by Live Single-Cell Mass Spectrometry**; Shushi Kiseki; Naohiro Tsuyama; Hajime Mizuno; Takanori Harada; Tsutomu Masujima; *Hiroshima Univ. BioMed., Hiroshima, Japan*

TP 325 **Capturing Transient Biosynthetic Intermediates on the Post-Translationally Modified Polyketide Synthase Responsible for the Biosynthesis of Lovastatin by FT-ICR-MS;** Michael Meehan; Pieter Dorrestein; *University of California, San Diego, La Jolla, CA*

TP 326 **Withdrawn**

TP 327 **Characterisation of Bioactive Compounds from Plant Extracts by LCMS-Ion-Trap TOF Technology**; Sven Vedder [1]; Marcus Mreyen[1]; Klaus Bollig[2]; *[1]Shimadzu Europe GmbH, Duisburg, Germany; [2]Shimadzu Germany GmbH, Duisburg, Germany*

TP 328 **Identification and Characterization of Steroidal Saponins from Paris Polyphylla var. Yunnanensis by UPLC/oa-TOF MSE**; Liping Kang[1]; Kate Yu[2]; Yixun Liu[1]; Heshui Yu[1]; Yang Zhao[1]; Chenqi Xiong[1]; Dawi Tan[1]; Yue Gao[1]; Feng Wang[3]; John P. Shockcor[2]; Alan L Millar[2]; Baiping Ma[1]; *[1]Beijing Institute of Radiation Medicine, Beijing, China; [2]Waters Corporation, Milford, MA; [3]Waters China Ltd, Shanghai, China*

TP 329 **Profiling the Chemical Differences of Green Tea leaves and Green Tea Dietary Supplements by LC/MS Fingerprint and Principle Component Analysis**; Jianghao Sun; Pei Chen; Longze Lin; James Harnly; *FCMDL, BHNRC, USDA-ARS, Beltsville, MD*

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TP 330 **Proteomic Toxicity Profiling in Human Cells Using Micro-High Performance Liquid Chromatography and Linear Ion Trap - Orbitrap Mass Spectrometry**; Silke Ruzek[1]; Paul Jennings[2]; Christian G. Huber[1]; *[1]University of Salzburg, Salzburg, Austria; [2]Innsbruck Medical University, Innsbruck, Austria*

TP 331 **Evaluation of Hydrazine Toxicity in Hepatoma Cells, HepG2, by LC-MS and the Live Single-Cell MS**; Akinori Hosokawa [1]; Naohiro Tsuyama [1]; Kazuki Mikata[2]; Hajime Mizuno[1]; Takanori Harada[1]; Tsutomu Masujima[1]; *[1]Hiroshima Univ. BioMed., Hiroshima, Japan; [2]Sumitomo Chemical Co.,Ltd., Oosaka, Japan*

TP 332 **A Proteomics Method to Detect Acrolein Adduction: Effects on Redox Proteins *in vitro***; Page Spiess; Bin Deng; Robert Hondal; Dwight Matthews; Albert van der Vliet; *University of Vermont, Burlington, VT*

TP 333 **The Effects of Silver Nanoparticles on Zebrafish Embryos: A Proteomics View**; Ksenia J. Groh; Rik I.L. Eggen; Renata Behra; Marc J.-F. Suter; *Eawag, Duebendorf, Switzerland*

TP 334 **Proteomics Analysis of Herbicide Exposure Effects in *Chlamydomonas reinhardtii***; Holger Nestler; René Schoenenberger; Marc J.-F. Suter; *Eawag, Duebendorf, Switzerland*

TP 335 **Analysis of Drug Facilitated Sexual Assault (DFSA) Drugs in Case Samples by Gas Chromatography-Time of Flight Mass Spectrometry (GC-TOFMS)**; Joe Binkley; John R. Heim; *LECO Corporation, St. Joseph, MI*

TP 336 **GC-MS/MS Support for Contact Hazard Studies of VX in New Zealand White Rabbits**; Jeffrey M.

Mcguire; Jeffry S. Forster; Sharon A. Reutter-Christy; E. Michael Jakubowski, Jr.; *US Army ECBC, Aberdeen Proving Ground, MD*

TP 337 **Inhibition of Arachidonic Acid (AA) Metabolism by Glucocorticoids in Equine Plasma;** Dipti Mangal[1]; Cornelius Uboh [1, 2]; Lawrence R Soma[1]; *[1]University of Pennsylvania, Kennett Square, PA; [2]PA Equine Toxicology and Research Center, West Chester, PA*

TP 338 **Mass Spectral Studies of Quinones from Flavonoids Reveals Their Structure-Related Stability, DNA Depurination Ability and Potential Toxicological and Health Effects**; Tingting Tu; Daryl Giblin; Jeff Lung-Fa Kao; Michael L. Gross; *Washington University, Saint Louis, MO*

TP 339 **Identification of More Reactive Nitrated Products Generated from the *Pseudomonas aeruginosa* Cytotoxin Pyocyanin by Airway Peroxidases**; Larry Sallans; Krzysztof J. Reszka; Bradley E. Britigan; Stephen F. Macha; *University of Cincinnati, Cincinnati, OH*

TP 340 **A Simple Method for Screening and Quantitating Mitragynine in Urine with a Linear Ion Trap-Orbitrap and Triple Quadrupole Mass Spectrometer**; Eshwar Jagerdeo; Madeline Montgomery; Marc LeBeau; *FBI, Springfield, VA*

TP 341 **A Screening and Simultaneous Quantitation of Anti-doping Drugs Using Positive/Negative Switching Workflow on a Hybrid Quadrupole Linear Ion Trap System**; Renee Huang[1]; David Fu[2]; Sarah Zhao[2]; Hua-Fen Liu[1]; *[1]AB SCIEX, Foster City, CA; [2]Cantest Ltd. Canada Way, Burnaby, BC*

TP 342 **Associations between 8-oxo-7, 8-Dihydro-2'-Deoxyguanosine (8-oxo-dG) and Some Pesticide Metabolites in Urine Analyzed by LC/MS/MS**; Christian Lindh[1]; Berna van Wendel de Joode[2]; Karin Broberg[1]; Margareta Littorin[1]; Bo Jönsson[1]; *[1]Occupational and Environmental Medicine, Lund University, Sweden; [2]Instituto Reg. de Estudios en Sustancias Tóxicas, Universidad Nacional, Heredia, Costa Rica*

TP 343 **The use of F-SPE/ Fast LC-MSMS for Analyzing Low Levels of THC in Oral Swabs**; Michael Telepchak[1]; Jeffery Hackett[1]; Albert Elian[2]; *[1]UCT,LLC, Bristol, PA; [2]Massachussetts State Police Crime Laboratory, Sudbury, MA*

TP 344 **Structural Analysis of Trace Level Genotoxic Impurities in Drug Substances Using LC/MS/MS and High Resolution LC/MS Analysis**; Li-Kang Zhang; Birendra Pramanik; *Merck Research Laboratories, Kenilworth, NJ*

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TP 345 **High Speed UHPLC-MS/MS Analyses of 13 Pain Management and 11 SAMSHA Drugs in Human Urine**; A. Carl Sanchez; Monika Kansal; Michael Campognone; *Phenomenex, Torrance, CA*

TP 346 **Optimizing Speed and Quality in Acute Clinical Toxicology Unknown Screening Using a Push-Button LC-MSMS Approach**; Christoph Gebhardt[1]; Birgit Schneider[1]; Petra Decker[1]; Sebastian Goetz[1]; Jens Vagts[1]; Carsten Baessmann[1]; Pierre-Alain Binz[2, 4]; Nicolas Budin[2]; Yann Mauron[4]; Roman Mylonas[4]; Alexandre Masselot[2]; Veronique Viette[3, 5]; Marc Fathi[5]; Denis Hochstrasser[5,6]; *[1]Bruker Daltonik GmbH, Bremen, Germany; [2]Geneva Bioinformatics (GeneBio), Geneva, Switzerland; [3]ADMed Fondation, La Chaux-de-Fonds, Switzerland; [4]Swiss Institute of Bioinformatics, Geneva, Switzerland; [5]Department of Genetics and Laboratory Medicine, Geneva, Switzerland; [6]School of Pharmaceutical Sciences, University of G, Geneva, Switzerland*

TP 347 **LC-MSMS Library Search Approach for Toxicological Screening: Comparison of the Use of Two Different MS Instruments for Routine Analyses**; Pierre-Alain Binz [1, 2]; Marc Fathi[3, 4]; Véronique Viette[5]; Severine Hughes[3]; Abderrahim Karmime[3]; Denis F Hochstrasser[3, 4]; Roman Mylonas[1, 2]; Yann Mauron[1, 2]; Alexandre Masselot[1]; Nicolas Budin[1]; *[1]Geneva Bioinformatics (GeneBio), Geneva, Switzerland; [2]Swiss Institute of Bioinformatics, Geneva, Switzerland; [3]Geneva University Hospital, Geneva, Switzerland; [4]Swiss Center for Human Applied Toxicology, Geneva, Switzerland; [5]ADmed Foundation, La Chaux-de-Fonds, Switzerland*

TP 348 **Quantitative Determination of Clozapine and N-desmethylclozapine in Serum by a High Performance Liquid Chromatography 3D Ion Trap Mass**; Rodolfo Bongiovanni[1]; John Wright [2]; George Jaskiw[1]; *[1]Louis Stokes Dept. of Veterans Affairs Med. Center, Brecksville, OH; [2]Varian Inc., Wood Dale, IL*

TP 349 **Method Development for the Determination of Lamotrigine, Topiramate, Phenytoin, and Phenobarbital in Human Serum Using Isotope-Dilution Liquid Chromatography-Mass Spectrometry**; Susan Tai[1]; Jocelyn Prendergast[1]; Karen Phhinney[1]; Chia-Yi Yeh[2]; *[1]NIST, Gaithersburg, MD; [2]ITRI, Hsinchu, Taiwan, R.O.C.*

TP 350 **Direct Measurement of Tetrahydrobiopterin, Dihydrobiopterin and Biopterin in Human Plasma and Breast Milk by Liquid Chromatography-Tandem Mass Spectrometry (LC-MS/MS)**; Huiyu Zhou[1]; Oriane Scholler[1]; Fumin Li[2]; Ying-He Li[2]; Erik Foehr[1]; *[1]BioMarin Pharmaceutical Inc., Novato, CA; [2]Covance Inc., Madison, WI*

TP 351 **Detection of Smoking and Nutrient Factor in Human Saliva and Plasma by Directory Trapped Nano-Mass Spectrometry**; Kanako Honda[1]; Hajime Mizuno[1]; Iwao Sakane[2]; Takanori Harada[1]; Naohiro Tsuyama [1]; Tsutomu Masujima[1]; *[1]Hiroshima Univ. BioMed., Hiroshima, Japan; [2]ITO EN, Ltd., Tokyo, Japan*

TP 352 **Pico-Drop Direct Mass Spectrometry of Sweat from a Single Sweat Gland on a Finger**; Harue Hiramoto[1]; Kanako Honda[1]; Naohiro Tsuyama [1]; Hajime Mizuno[1]; Iwao Sakane[2]; Takanori Harada[1]; Tsutomu Masujima[1]; *[1]Hiroshima Univ. BioMed., Hiroshima, Japan; [2]ITO EN. Ltd., Tokyo, Japan*

TP 353 **Species Analysis of Platinum Based Cytostatic Drugs and their Reaction Products**; Christine Brauckmann; Björn Meermann; Uwe Karst; *University of Münster, Münster, Germany*

TP 354 **HILIC/ICP-MS and CE/ESI-TOF-MS for Analysis of Gd-Based MRI Contrast Agents and Potential Transmetalation Products**; Lena Telgmann[1]; Jens Kuennemeyer[1]; Faruk Tokmak[2]; Uwe Karst[1]; *[1]University of Münster, Muenster, Germany; [2]University of Bochum, Bochum, Germany*

TP 355 **Development of "Mail-In" Low-Cost High-Throughput Diabetes Assay from Dried Blood Spots;** Evgeniy V. Petrotchenko; Christoph H. Borchers; *UVic-GBC Proteomics Centre, Victoria, Canada*

TP 356 **Development of Low-Cost High-Throughput Screening Method for Hemoglobin Variants;** Evgeniy V. Petrotchenko; Leanne B. Ohlund; Christoph H.

Borchers; *UVic-GBC Proteomics Centre, Victoria, Canada*

TP 357 **Development and Validation of a Urinary Leukotriene E4 Assay to Support Osteo-Arthritis (OA) Clinical Studies**; Joe Palandra; Kimberly Wade; *Pfizer, Chesterfield, MO*

TP 358 **New Marker Exploration of Neoplastic Neuroplasma by LC-MS**; Yukina Hirai[1]; Naohiro Tsuyama [1]; Hajime Mizuno[1]; Eiso Hiyama[2]; Tsutomu Masujima[1]; *[1]Hiroshima Univ. BioMed., Hiroshima, Japan; [2]Hiroshima Univ.,N-BARD, Hiroshima, Japan*

TP 359 **Validation of a Gas Chromatography-Isotope Dilution Mass Spectrometry Reference Measurement Procedure for Serum Cholesterol Measurement**; Selvin H. Edwards[1]; Susan D. Pyatt[1]; Shelton L. Stribling[2]; Kara D. Dobbin[2]; Mary K. Kimberly[1]; Gary L. Myers[1]; *[1]Centers for Disease Contr, Atlanta, GA; [2]Battelle Memorial Institute, Atlanta, GA*

TP 360 **Detection of Impaired Lung Function/ Infection in Critical Care and Respiratory Medicine Using Gas Chromatography Time-Of-Flight Mass Spectrometry (GC-TOF)**; Maria Basanta Sanchez[1]; Baharudin Ibrahim[1]; Paul Dark[1]; Dave Singh[1]; Ashley Woodcock[1]; David S Douce[2]; Mike Morris[2]; Stephen Fowler[1]; *[1]The University of Manchester, Manchester, UK; [2]Waters (MS Technologies), Manchester, UK*

TP 361 **Metabolic Peptide Biomarkers: From Blood Collection to Assay Development**; Jizu Yi; Zhaoxia Liu; Priyanka Apte; David Warunek; David Craft; *BD Diagnostics, Franklin Lakes, NJ*

TP 362 **Proteomic Profiling of Individual Sera for Discovery of Potential Biomarkers of Alcohol Abuse**; Xianyin Lai[1]; Suthat Liangpunsakul[1]; David W. Crabb[1]; James W. Clack[2]; Frank A. Witzmann[1]; *[1]Indiana University School of Medicine, Indianapolis, IN; [2]Indiana University - Purdue University at Indianap, Columbus, IN*

TP 363 **Glycosylation Profiling of Total Plasma IgG and anti-Jo-1 Autoantibody in Patients with Myositis**; Irina Perdivara[1]; Frederick Miller[2]; Shyamal Peddada[3]; Kenneth B. Tomer[1]; Leesa Deterding[1]; *[1]NIEHS, Rtp,; [2]NIEHS/NIH/DIR, Bethesda, MD; [3]NIEHS/DIR/EDMP/BB, RTP, North Carolina*

TP 364 **Validation and Clinical Application of High-throughput MALDI-TOF Assay for Hepcidin in Human Plasma**; Damon Anderson[1, 4]; Mark Kellogg[2, 4]; Matthew Heeney[3, 4]; Dean Campagna[3]; Mark Fleming[3, 4]; Hanno Steen[1, 4]; *[1]Proteomics Center, Children's Hospital, Boston, MA; [2]Dept. of Laboratory Medicine, Children's Hospital, Boston, Ma; [3]Dept. of Pathology, Children's Hospital, Boston, MA; [4]Dept. of Pathology, Harvard Medical School, Boston, MA*

TP 365 **Improved Identification of Multicellular Fungi Using Liquid Culturing and MALDI-TOF Mass Spectrometry Profiling**; Thomas Maier[2]; Viktoria Boettcher[2]; Sam Fu[1]; Markus Kostrzewa[2]; *[1]Bruker Daltonics, Billerica, MA; [2]Bruker Daltonik GmbH, Bremen, Germany*

TP 366 **Two Years Experience with MALDI-TOF Mass Spectrometry in a Routine Microbiology Laboratory**; Christiane Bogen[2]; Jens Hoehndorf[1]; Markus Kostrzewa[1]; Ulrich Weller[2]; *[1]Bruker Daltonics, Bremen, Germany; [2]Labor Boogen, Cologne, Germany*

METABOLOMICS II, 367 - 396

TP 367 **Predictive Metabolism Based Model of Cardiomyopathy Using Human Embryonic Stem Cell Derived Cardiac Precursors**; Alan Smith[1]; Paul R. West[1]; April Weir[1]; Gabriela Cezar[1, 2]; *[1]Stemina Biomarker Discovery, Madison, WI; [2]University of Wisconsin, Madison, Wisconsin*

TP 368 **Metabolic Heterogeneity in Populations of Microalgae**; Andrea Amantonico; Pawel Lukasz Urban; Stephan Fagerer; Roman M. Balabin; Renato Zenobi; *ETH Zurich, Zürich, Switzerland*

TP 369 **A Metabolic Atlas of *Medicago truncatula* Root Tissues**; Mohamed Bedair; Bonnie Watson; Lloyd W. Sumner; *Samuel Roberts Noble Foundation, Ardmore, OK*

TP 370 **Global Metabolome Profiling in Prostate Cancer**; Corey Broeckling[1]; Matthew R. Lewis[1]; Fredrik Wiklund[2]; Jonathan Prince[2]; Robert Szulkin[2]; Jessica Prenni[1]; *[1]Colorado State University, Fort Collins, CO; [2]Karolinska Institutet, Stockholm, Sweden*

TP 371 **Dynamic Correlation of Metabolite Concentrations with Time Reveals Functionality in Cellular Processes**; Ewa Kalisiak[1]; Ralf Tautenhahn[1]; Sunia Trauger[1]; Linh Hoang[1]; Steven Yannone[4]; Michael Adams[2]; Nitin Baliga[3]; Gary Siuzdak[1]; *[1]The Scripps Research Institute, La Jolla, CA; [2]University of Georgia, Athens, GA; [3]Institute for Systems Biology, Seattle, WA; [4]Lawrence Berkeley National Laboratory, Berkeley, CA*

TP 372 **Development and Evaluation of an Accurate Mass LC/MS/MS Spectral Library for Metabolomics**; Cindy Lai; Theodore Sana; Stefan Jenkins; Steven M. Fischer; *Agilent Technologies, Santa Clara, CA*

TP 373 **An LC-ESI-MS/MS Targeted Metabolomics Approach to Determine the Effects of Xanthohumol in HepG2 Cells;** Jay Kirkwood[1, 2]; Ralph Reed[1, 2]; Jeff Morre[1, 2]; Fred Stevens[1, 2]; *[1], Corvallis, OR; [2]Oregon State University, Corvallis, Oregon*

TP 374 **Finding Potential Biomarkers of Multiple Sclerosis by a Label-Free LC-MS Approach**; Vera Mendes[1]; Ana Lourenço[2]; Bruno Manadas[1]; Inês Baldeiras[1]; Sónia Batista[3]; Mário Grãos[2]; Lívia Sousa[3]; Maria do Carmo Macário[3]; Catarina Oliveira[1];Alverto Pais[4]; Carlos Duart[1,2; 1]*Centre for Neuroscience and Cell Biology, Coimbra, Portugal; [2]Biocant, Biotechnology Innovation Centre, Cantanhede, Portugal; [3]Neurology Service, Coimbra University Hospital, Coimbra, Portugal; [4]Department of Chemistry, University of Coimbra, Coimbra, Portugal*

TP 375 **A Paired LC-MS Metabolomics Investigation of Plasma from Patients on Warfarin Finds Changes in Endogenous Lipid Metabolites**; Sunia Trauger; Huimin Zhang; Hiroshi Deguchi; Ralf Tautenhahn; Darlene Elias; John Griffin; Gary Siuzdak; *The Scripps Research Institute, La Jolla, CA*

TP 376 **Evaluating the Ethanol Tolerance of Cellulose-Digesting Microbes Using UPLC/MS**; Joshua Emory; Bruce Tomkins; Nancy Engle; Timothy J. Tschaplinski; Gary J. Van Berkel; *Oak Ridge National Laboratory, Oak Ridge, TN*

TP 377 **MALDI-Analysis of Phospho-Sugars Using Ionic Liquid Matrices**; Masoud Zabet Moghaddam; Susan San-Francisco; *Texas Tech University, Box 43132 Lubbock, TX*

TP 378 **Determination of Human Plasma Phospholipid Signatures of Metabolic Syndrome by Mass Spectrometry-Based Metabolomics**; Rachel

Kozlowski; Jun Han; Christoph H. Borchers; *GBC UVic Proteomics Centre, Victoria, Canada*

TP 379 **Non-targeted GC/MS Metabolomics Using a Large Volume Inlet, Mid-Column Backflushing, and a Retention Time Locked Spectral Library**; Stephan Baumann[1]; Harry Prest[1]; Steven M. Fischer[1]; Michael Muehlbauer[2]; James Bain[2]; *[1]Agilent Technologies, Inc., Santa Clara, CA; [2]Sarah W. Stedman Nutrition & Metabolism Center, Durham, NC*

TP 380 **Tracing Metabolic Processes in a Single Organelle of a Mast Cell Model by the Live Single-Cell Mass Spectrometry**; Hajime Mizuno; Naohiro Tsuyama; Takanori Harada; Tsutomu Masujima; *Hiroshima Univ. BioMed., Hiroshima, Japan*

TP 381 **Study of the Metabolite Flux during the Plant Stress Using Temporal and Distal Metabolomics Approach**; Ying Lan Chen[1, 2]; Yit-Wai Mak[1]; Yet-Ran Chen[1]; *[1]Agricultural Biotechnology Research Center, Academ, Taipei,; [2]National Taiwan University, Taipei, Taiwan*

TP 382 **Optimization of Analysis Conditions to Perform a Valuable High-Throughput Metabolomic MS-Fingerprinting Using High Resolution Mass Spectrometer**; Estelle Rathahao-Paris[1]; Nawel Boussaid[1]; Ludovic Muller[2]; Christophe Junot[3]; Nicole Hagen-Picard[4]; Véronique Gayrard[4]; Pierre-Louis Toutain[4]; Jean-Claude Tabet[2]; Douglas Rutledge[1]; Alain Paris[5]; *[1]INRA, GENIAL, Paris, France; [2]UPMC,CNRS-UMR, LCSOB, Paris, France; [3]CEA/Saclay, LEMM, Gif-sur-Yvette, France; [4]INRA - ENV Toulouse, Toulouse, France; [5]INRA, Met@rist, Paris, France*

TP 383 **The Use of an Integrated MicroFluidic LC Device and OA-TOF MS for Metabolomics Studies**; Ian Wilson[1]; Rob Plumb[2]; *[1]Astra Zeneca DMPK, Maccelfield, Manchester, UK; [2]Imperial College, London, UK*

TP 384 **Rapid Metabolomic Profiling of Biological Fluids Using Atmospheric Sample Analysis Probe for Disease State Monitoring**; Rob Plumb[1]; Ian Wilson[2]; Marian Twohig[3]; John P. Shockcor[4]; *[1]Imperial College, London, UK; [2]Astra Zeneca, Maccelsfield, UK; [3]Waters Corporation, Milford, MA; [4]Waters Corp, Milford, MA*

TP 385 **Quantification of Biomarkers in Discovery: Probing PK/PD Effect Using Multi-Component Analysis and High Resolution Mass Spectrometry;** Asoka Ranasinghe; Celia D'Arienzo; Hongwei Zhang; Qian Ruan; Li Ma; Mingshe Zhu; Timothy Olah; *Bristol-Myers Squibb Company, Princeton, NJ*

TP 386 **Metabolomic Profiling of Teas Using HPLC-QTOFMS Coupled with Statistical Tools**; Ying Ms. Wang; *Agilent Technologies (China), Shanghai,*

TP 387 **Feasibility of Ovarian Cancer Detection by Direct Analysis in Real Time Mass Spectrometry Coupled to Functional Support Vector Machine Classification;** Manshui Zhou[1]; Wei Guan[1]; L. DeEtte Walker[1]; Roman Mezencev[1]; Benedict B. Benigno[2]; Alexander Gray[1]; John F. McDonald[1]; Facundo M. Fernandez[1]; *[1]Georgia Institute of Technology, Atlanta, GA; [2]Ovarian Cancer Institute, Atlanta, GA*

TP 388 **A Combined Approach of Imaging Mass Spectrometry (IMS) and Capillary Electrophoresis Mass Spectrometry (CE−MS) Accomplishes Region-Specific Metabolomics during Epileptic Seizure;** Yuki Sugiura[1]; Mitsutoshi Setou[2]; *[1]Tokyo Tech, Yokohama, Japan; [2]Hamamatsu school of medicine, Hamamatsu, Shizuoka, Japan*

TP 389 **Withdrawn**

TP 390 **Global Metabolic Profiling of *E. coli* Cell-Free Translation System**; Sunil Bajad; Evan Green; Christine Roos; James Zawada; Henry Heinsohn; Sushmita Mimi Roy; *Sutro Biopharma Inc, South San Francisco, CA*

TP 391 **Metabolic Biomarkers Discovery Project for the Development of Improved Fanleaf Virus Resistant Chardonnay Rootstock;** Vladimir Tolstikov [1]; Cecilia Agüero[2]; Chin-Feng Hwang[2]; Andrew Walker[2]; *[1]UC Davis Genome Center, Davis, CA; [2]UC Davis, Davis, CA*

TP 392 **Cellular Characterization of Protein Prenylation via Mass Spectrometric Tools**; Jiao Song [1]; Andrew Placzek[2]; Marietta Harrison Harrison[1]; Richard Gibbs[1]; *[1]MCMP Purdue University, W Lafayette, IN; [2]Oregon Health and Science University, Portland, OR*

TP 393 **Characterizing Small Molecules Bound to Plasma Proteins from Patients with Huntington Disease (HD) Using Liquid Chromatography/Electrochemical Array (LCECA) and LCMS^n**; Erika N. Ebbel [1]; Swati Sharma[2]; Wayne R. Matson[2]; Catherine E. Costello[1]; *[1]Boston University School of Medicine, Boston, MA; [2]Bedford VA Medical Center, Bedford, MA*

TP 394 **Differentiation between Malign/Benign Conditions and Tumor Classification through LC- MS Based Metabolomics Analysis of Clinical Plasma Samples**; Anders Nordstrom[1]; Hasanuzzaman Bhuiyan[1]; Luigi de-Petris[1]; Anna Lindahl[1]; Hirsh Koyi[2]; Eva Branden[2]; Janne Lehtio[1]; Rolf Lewensohn[1]; *[1]Karolinska Institutet, Stockholm, Sweden; [2]Karolinska University Hospital, Stockholm, Sweden*

TP 395 **Hydrophilic Interaction Chromatography (HILIC) Coupled to ESI-MS for Metabolic Profiling of Drug Sensitive/Resistant Cancer Cell Lines**; Hasanuzzaman Bhuiyan; Anna Lindahl; Anders Nordstrom; *Karolinska Institute, Stockholm, Sweden*

TP 396 **A Noval HILIC LC-MS Method for the Detection and Quantification of Polar Cellular Metabolites**; Henry Y. Shion [2]; John P. Shockcor[2]; Kenneth J Fountain[2]; Evan Bernier[1]; Stephen Mcdonald[1]; Alan L Millar[2]; *[1]Waters Corporation, Beverly, MA; [2]Waters Corp., Milford, MA*

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TP 397 **The Use of LC-MS/MS to Support Percutaneous Absorption Studies**; Aleyamma Abraham; Yangzhen Ciringh; Martin Snyder; *Pfizer, Groton, CT*

TP 398 **An Improved Quantitative Method for Analyses of Eicosanoids and Endocannabinoids in Mouse Colon Tissue by Electrospray Tandem Mass Spectrometry**; Mitsumasa Sakamoto; David G. Menter; Raymond N. DuBois; Peiying Yang; *University of Texas MD Anderson Cancer Center, Houston, Texas*

TP 399 **LC-MS-MS Determination of Zapotin from *Casimiroa edulis* in Rat Serum and Tissues**; Jinghu Li[1]; Mark Cushman[2]; John M. Pezzuto[3]; Richard B. van Breemen[1]; *[1]University of Illinois College of Pharmacy, Chicago, IL; [2]Purdue University, West Lafayette, IN; [3]University of Hawaii at Hilo, Hilo, HI*

TP 400 **Quantitative Nano-ESI-QTOF-MS-MS for the Analysis of alpha-Galactosidase A Activity in Rat Brain Tissue**; Timothy Fahrenholz[1]; Michael Passineau[2]; Hm Skip Kingston[1]; *[1]Duquesne University, Pittsburgh, PA; [2]Allegheny General Hospital, Pittsburgh, PA*

TP 401 **Prediction of *in vivo* Uptake of N-Methylseorotonin Using *in vitro* Cell Assays**; Soyoun Ahn; Richard B. Van Breemen; *University of Illinois, Chicago, IL*

TP 402 **Validation of an LC/MS/MS Method for the Determination of Ibuprofen in Miniature Swine Synovial Fluid**; Lawrence Andrade; Adam Grenier; Amber Awad; Teresa Pekol; *Synomics Pharma, Wareham, MA*

TP 403 **LC/MS/MS Method Developmenmt of Clonidine Quantitation in Pig Tissue Samples**; Rachel Sun; Jason Plassard; *BASi, West Lafayette, IN*

TP 404 **Determination of Assymetric Dimethylarginine in Human Plasma by HPLC-MS/MS: Application to a Hemodialysis Study**; Melissa D. Carter; M. Wade Calcutt; Annis Marney; Nancy J. Brown; David L. Hachey; *Vanderbilt University, Nashville, TN*

TP 405 **Development of an LC-MS Method for the Quantitation of Cigarette Smoke Components in Cell Culture Medium**; Angela Y Wehr[1]; Kenneth Yu[2]; Ian A. Blair[3]; *[1]Univ. of Pennsylvania, Philadelphia, PA; [2]University of Pennsylvania, Philadelphia, PA; [3]Univ. of Penn/SOM/Pharmacol, Philadelphia, PA*

TP 406 **A New Liquid Chromatography/Mass Spectrometry Method for 4-(methylnitrosamino)-1-(3-pyridyl)-1-butanol (NNAL) in Urine**; Showket H. Bhat[1]; Stacy Gelhaus[1]; Clementina Mesaros[1]; Anil Vachani[2]; Ian A. Blair[1]; *[1]Univ. of Penn/SOM/Pharmacol, Philadelphia, PA; [2]University of Pennsylvania, Penn Lung Center, Philadelphia, PA*

TP 407 **Quantitative Analysis of a Structure-symmetric Molecule, Chlorhexidine in Rat Plasma by Using Doubly Charged Ions with LC-Tandem Mass Spectrometric Detection**; Jiongwei Pan[1]; Susan C. Netsch[1]; Sara Fair[1]; Mark A. Nestch[1]; Yu-Luan Chen[2]; *[1]Charles River, Shrewsbury, MA; [2]Sepracor Inc., Marlborough, MA*

TP 408 **Sensitive and Selective LC/MS/MS Method for Determination of Endogenous Cholestan-3β,5α,6β-triol in Human Plasma after Derivatization with N,N-Dimethylglycine**; Xuntian Jiang; Hideji Fujiwara; Rohini Sidhu; Dave Scherrer; Jean Schaffer; Daniel Ory; *Washington University in St. Louis, St. Louis, MO*

TP 409 **A Novel High Throughput LC/MS/MS Method for Analysis of Isobaric Adenosine-5'-Triphosphate (ATP) and Deoxyguanosine Triphosphate (dGTP) Using QTRAP5500**; Ling Xu; Mattew Jones; David Lok; David Matheka; Nina Molchanova; Chris Blackburn; *Millennium Pharmaceutical Inc., Cambridge, MA*

TP 410 **Chromatographic Separation of Endogenous Level of Hypoxanthine for the Analysis of Allopurinol and Oxypurinol in Human Plasma in Gout Patients**; Valérie Montminy; Nadine Lafontaine; Nathalie Pelletier; Sylvain Lachance; Ann Lévesque; Robert Massé; *Anapharm Inc., Québec, Canada*

TP 411 **Quantitative Determination of Dansylated Amino Acid in Food Beverage by Tandem Mass Spectrometry and Isotope Dilution Method**; Fabio Mazzotti; Hicham Benabdelkamel; Leonardo Di Donna; Anna Napoli; Giovanni Sindona; *Università della Calabria, Dipartimento di Chimica, Arcavacata Di Rende, Italy*

TP 412 **Development and Application of UHPLC-MS/MS Method for the Determination of Phenolic Compounds in Chamomile Flowers and Chamomile Tea**; Lucie Nováková[1]; Anna Vildová[2]; Joana Patricia Mateus[3]; Tiago Goncalves[4]; Petr Solich[1]; *[1]Charles University, Faculty of Pharmacy, Hradec Králové, Czech Republic; [2]Czech University of Life Science Prague, Prague, Czech Republic; [3]Egas Moniz, Lisabon, Portugal; [4]University of Porto, Faculty of Pharmacy, Porto, Portugal*

TP 413 **Rapid Quantification of Plant Hormones in Various Plant Tissues by UPLC/MS/MS**; Xiumei Han; Vera Cekic; Monika Lafond; Stacey Owen; Steve Ambrose; L.Irina Zaharia; Suzanne Abrams; *NRC-Plant Biotechnology Institute, Saskatoon, Canada*

TP 414 **Simultaneous Determination of Twelve Water-Soluble Vitamin Compounds in Fortified Infant Formula by UPLC-ESI-MS/MS**; Evelyn Goh[1]; Eleanor Riches[2]; Mark Ritchie[1]; *[1]Waters Pacific Pte Ltd, Singapore, SINGAPORE; [2]Waters Corporation, Manchester, UK*

TP 415 **Improving Quantitative Analysis of Water-Soluble Vitamins in Cell Culture Media by a LC-MS (MRM) Method**; Catalin Doneanu; Elizabeth L Gildea; Weibin Chen; Jeff Mazzeo; *Waters Corporation, Milford, MA*

TP 416 **LC-MS/MS Method for the Determination of Endogenous Desmosine/Iso-desmosine in Human Plasma**; Anders Blomgren[1]; Henrik Lindberg[2]; Claes Lindberg[2]; *[1]AstraZeneca R&D Lund, Discovery DMPK&BA, Lund, Sweden; [2]AstraZeneca R&D Lund, Translational Science, Lund, Sweden*

TP 417 **Quantification of Cellular Glycosphingolipids by Metabolic Labeling with Isotope-Labeled Serine Plus Serine Inhibitor**; Huan He[1]; Mark R. Emmett[1]; Yongjie Ji[2]; Waldemar Priebe[2]; Charles A. Conrad[2]; Timothy L. Madden[2]; Alan G. Marshall[1]; *[1]Nat'l High Magnetic Field Lab, Tallahassee, FL; [2]M.D. Anderson Cancer Center, Houston, TX*

TP 418 **Quantitative Analysis of Lysophosphatidylcholine in Human Bronchoalveolar Lavage Fluid**; Yang Yuan[1]; Hazel Lum[2, 2]; Mark A. Yoder[2]; Richard B. Van Breemen[1]; *[1]University of Illinois, Chicago, IL; [2]Rush University, Chicago, IL*

TP 419 **Determination of Ethinyl Estradiol in Human Plasma by Dansyl Chloride Derivatization followed by Automated On-Line SPE combined with LC MS/MS**; David Lewiston; Bruce Babson; Gil Lam; David Beyerlein; *MicroConstants Inc., San Diego, CA*

TP 420 **Simultaneous Determination of Progesterone, Allopregnanolone and Medroxyprogesterone Acetate in Rat Serum by Liquid Chromatography/Tandem Mass Spectrometry**; Xiaoqian Liu[1]; Petr Frycak[1, 2]; Heather A. Bimonte-Nelson[3]; Laszlo Prokai[1]; *[1]University of North Texas Health Science Center, Fort Worth, TX; [2]Palacky University, Olomouc, Czech Republic; [3]Arizona State University, Tempe, AZ*

TP 421 **Modified SPME Sampling Method for Fatty Acid Analysis by Spray Desorption Collection and GC-MS**; Afrand Kamali Sarvestani; Jesse Thompson; John Miller; Andre Venter; *Western Michigan University, Kalamazoo, MI*

TP 422 **Analysis of Acitretin in Plasma Using MS^3-Based Quantification**; Leandro Santos[1]; Loren Olson[2]; Hansen Wong[1]; Rolf Kern[2]; Xue Ge[1]; *[1]Stiefel, a GSK company, Palo Alto, CA; [2]ABSCIEX, Foster City, CA*

TP 423 **Ultra-Low Detection Limits of Estrogenic Compounds and their Metabolites via Gas Chromatography-Tandem Mass Spectrometry;** Anthony Macherone[2]; René Bérubé[1]; Melissa Churley [2]; Chantal Guillemette[1]; *[1]Bioanalytical Services CHUQ*

Research Center, Quebec, Canada; [2]Agilent Technologies, Wilmington, DE

TP 424 **Enhancing the Sensitivity of Microflow LC/MS Discovery PK Assays Using Thermal Gradient Focusing ESI with Active Nebulizer Cooling**; Craig Love; *Agilent Technologies, Inc, Santa Clara, CA*

TP 425 **Using Scan-free MS3 for Quantitation of Ions with a Linear Ion Trap**; J. Larry Campbell; Bruce Collings; J.C. Yves Leblanc; James Hager; Chris Lock; *AB SCIEX, Concord, Canada*

TP 426 **Simultaneous Determination of AUY922 and its Glucuronide Metabolite in Human Blood by LC-MS/MS**; Wei Zhou; Shaoyong Li; Harold T Smith; Francis Tse; *Novartis Institutes for Biomedical Research, East Hanover, NJ*

TP 427 **Application of Dried Spot Sampling Technique in Cerebrospinal Fluid Sample Analysis**; Brian Rago; Lisa Buchholz; Christopher Holliman; Beijing Tan; JianHua Liu; *Pfizer, Groton, CT*

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TP 428 **Using Electrical Current to Monitor Nanospray During an LC Gradient for Robust and Reproducible High Throughput Nano-Liquid Chromatography**; Katherine Heaton [1]; Lee Heineman[1]; Arthur Fogiel [1]; Arthur Fogiel, Jr[1]; Sau Lan Tang Staats [2]; *[1]Phoenix S&T, Chester, PA; [2]Phoenix S & T, Inc, Chester, PA*

TP 429 **Design and Characterization of a Nanoelectrospray Ionization Source for Analysis of Mars Analog Extract Liquid Samples**; Peter A. Willis[1]; Thomas N. Corso[2]; Maria F. Mora[1]; Anita Fisher[1]; Luther Beegle[1]; Robert Hodyss[1]; Xenia Amashukeli[1]; James P. Kirby[1]; Thomas Langel[1]; *[1]Jet Propulsion Lab, Caltech, Pasadena, CA; [2]Cornell, Groton, NY*

TP 430 **Integrated Beveled Edge Nano ESI Interface and Polymeric Thin-Film Microchip for Mass Spectrometry**; Yan Zin Chang; *Chung Shan Medical University, Taichung City, Taiwan*

TP 431 **Development of an Intergrated Microscale Ceramic Separation Device to Address Limited Sample Volumes in Bioanalysis**; Paul Rainville[1]; Michael Tomany[2]; James Murphy[2]; Norman Smith[1]; Joanne Mather[2]; Robert Plumb[3]; *[1]King College, London, UK; [2]Waters Corporation, Milford, MA; [3]Imperial College, London, UK*

TP 432 **On-Line cHiPLC Based Digestion in nanoLC-MS for Increased Reproducibility**; Remco Van Soest; Don Arnold; J. Bryce Young; Nicole Hebert; David Neyer; *Eksigent Technologies, Dublin, CA*

TP 433 **A Micro-fluidic Platform for High Sensitivity Hydrogen-Deuterium Exchange Mass Spectrometry**; Terry D. Lee[1]; Yunan Miao [1]; Kossi Lekpor[1]; Reid A. Brennen[2]; Hongfeng Yin[2]; Kevin Killeen[2]; Sheng Li[3]; Virgil L. Woods, Jr. [3]; David Stranz[4]; *[1]City of Hope, Duarte, CA; [2]Agilent Labs, Palo Alto, CA; [3]University of California, San Diego, La Jolla, CA; [4]Sierra Analytics, Inc., Modesto, CA*

TP 434 **Improving Separation Performance of a Microfluidic HPLC/MS Chip**; Hongfeng Yin[1, 2]; Reid A. Brennen[1, 2]; Debbie Ritchey[1, 2]; Kevin Killeen[1, 2]; *[1]Agilent Technologies, Santa Clara, CA; [2]Agilent Laboratories, Santa Clara, CA*

TP 435 **Use of Mass Triggered Peak Parking to Increases MS Analysis Time for Targeted Ions**; Alice L Pilo[2]; Katie Southwick[1]; Helene Cardasis[1]; Weixun Wang[1]; Nathan Yates[1]; Ronald Hendrickson[1]; *[1]Merck Research Laboratories, Rahway, NJ; [2]University of North Carolina, Chapel Hill, NC*

TP 436 **Up Two Speed: Rapid Sample Characterization by Combining RePlay and UPLC-MS for Duplicate Analysis in Half the Time;** Richard R. Sprenger; Ole N. Jensen; *University of Southern Denmark, Odense, Denmark*

TP 437 **Influence of Temperature in nano-LC column Preparation and Performance: Application to LC-MS;** Pierangela Palma; Fabiana Capriotti; Irene Leonardis; Giorgio Famiglini; Achille Cappiello; *Universita di Urbino, Urbino, Italy*

TP 438 **A Tunnel Frit: a Robust and Low Backpressure On-Column Frit for nanoUPLC-MS/MS Applications**; Chao-Jung Chen[1]; Mei-Chun Tseng[2]; Yet-Ran Chen[3]; *[1]China Medical University Hospital, Taichung, Taiwan; [2]Institute of Chemistry, Academia Sinica, Taipei, Taiwan; [3]Academia Sinica, Taipei, Taiwan*

TP 439 **Comprehensive Study of Significant nanoLC-MS/MS Parameters for Proteomic Analysis on Q-TOF Mass Spectrometers Thanks to Design of Experiments**; Nicolas Barthélemy[1]; René Brennetot[2]; Christine Carapito[1]; Christine Schaeffer[1]; Alain Van Dorsselaer[1]; *[1]LSMBO, IPHC-DSA, Strasbourg, France; [2]CEA Saclay DEN/DANSDPC/SECR/ LANIE, Gif sur Yvette, France*

TP 440 **High Pressure nano-LC/MS Platform for High Resolution Peptide Mapping in Human Plasma;** Vilem Guryca; Sabine Kux van Geitenbeek; Daniel Roeder; Paul Cutler; Hanno Langen; Axel Ducret; *F.Hoffmann-La Roche (TRS), Basel, Switzerland*

TP 441 **Improving Protein Identification on a Microfluidic HPLC/MS Chip**; Tom Van De Goor; Lukas Trojer; Jose Mora; Daniel Thielsch; *Agilent Technologies, Waldbronn, Germany*

TP 442 **Quantitative Analysis of Biological Peptides Using an Integrated Chip Based nanoLC Triple-Quadrupole Mass Spectrometry**; Zhongzhou (Andrea) Shen[1]; Wenlin Li[1]; Andy Gieschen[2]; Yanan Yang[2]; Nathan Miller[2]; Sadayappan V. Rahavendran[1]; *[1]Pfizer, Global R&D, San Diego, CA; [2]Agilent Technology, Santa Clara, CA*

TP 443 **Optimization of Sample Loading Capacity for Absolute Peptide Quantification by Nanobore LC-MS/MS**; Chuck Witkowski [1]; Gary Valaskovic[2]; Jeremy L. Norris[1]; Mike S. Lee[3]; *[1]Protein Discovery, Inc., Knoxville, TN; [2]New Objective, Inc., Woburn, MA; [3]Milestone Development Services, Newtown, PA*

TP 444 **Temperature Optimized nanoLC/MS/MS for Improved Quantification of Neuropeptides;** David P. Budac [1]; Mark J. Hayward[2]; Gary Valaskovic[3]; *[1]Lundbeck Research US, Paramus, NJ; [2]Lundbeck Research USA, Stockton, NJ; [3]New Objective, Inc., Woburn, MA*

TP 445 **Rapid LC-MS/MS Analysis of Neuropeptides with Monolithic Column and Improved Nanoelectrospray Emitter**; Junhua Wang; Feng Xiang; Zichuan Zhang; Lingjun Li; *UW-Madison, Madison, WI*

TP 446 **Reduction of Sample Carry-Over in Proteomics LC-MS Experiments**; Evert-Jan Sneekes; Mark van Gils; Marco Karsten; Remco Swart; Bjorn de Haan; *Dionex Corporation, Amsterdam, Netherlands*

TP 447 **Optimizing Mass Spectrometry for Ultra High Performance Nano LC in Proteomics**; EvertJan Sneekes; Guillaume Tremintin; Bjorn de Haan; Marco Karsten; Remco Swart; *Dionex, Sunnyvale, CA*

TP 448 **Validation of Longer Reverse Phase Columns for the Separation of Complex Tryptic Digests in a LC-MS Approach**; Linda IJsselstijn [1]; Lennard J. Dekker[1]; Christpoh Stingl[1]; Evert-Jan Sneekes[2]; Remco Swart[2]; Theo M. Luider[1]; *[1]Erasmus University Medical Center, Rotterdam, Netherlands; [2]Dionex Benelux B.V., Amsterdam, Netherlands*

TP 449 **Enabling Data-Dependent Gas-Phase Fractionation in a Single Chromatographic Based Shotgun Proteomics Analyses**; Reinaldo Almeida; *Advion, Arnsberg, Germany*

TP 450 **Improving Throughput for Phosphoproteomics Research**; Therese Clauss; Marina Gritsenko; Ron Moore; Rui Zhao; Anil K Shukla; Yuexi Wang; Feng Yang; Richard D. Smith; *Pacific Northwest National Laboratory, Richland, WA*

TP 451 **Online Nanoflow RP-RP-MS Reveals Dynamics of Multi-component Ku Complex in Response to DNA Damage**; Feng Zhou; Job D. Cardoza; Guillaume O. Adelmant; Scott B. Ficarro; Jean-Bernard Lazaro; Jarrod A. Marto; *Dana Farber Cancer Institute, Boston, MA*

TP 452 **Mass Spectrometric Analysis of Melamine, Ammeline and Uric Acid in Human Kidney Stones**; Catherine E Petersen[2]; James A. Campbell[1]; Peter Markwell[3]; *[1]Battelle-PNNL, Richland, WA; [2]Battelle/ PNNL, Richland, WA; [3]MARS, Incorporated, McLean, Virginia*

TP 453 **Quantification of 8-isoprostaglandin F2α in Human Urine Using Microfluidic Chip-Based Liquid Chromatography/Mass Spectrometry**; Hsin-Yu Bai[1]; Yu-Ting Chung[3]; Shu-Ling Lin[1]; Tsung-Yun Liu[2]; Shan-An Chan[3]; Ming-Ren Fuh[1]; *[1]Department of Chemistry, Soochow University, Taipei, Taiwan; [2]National Yang-Ming University, Taipei, Taiwan; [3]Agilent Techologies,Inc, Taipei, Taiwan*

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TP 454 **Analysis of Nelfinavir Metabolites in Rat Hepatic Microsomes Using LC-MS/MS, UV Photodissociation and Collision-Induced Dissociation;** Changtong Hao [1]; J.C. Yves Leblanc[2]; Alexandre Loboda [2]; Udo Verkerk[1]; K W Michael Siu[1]; *[1]Center for Research in Mass Spectrometry, Toronto, ON; [2]AB Sciex, Concord, ON, Canada*

TP 455 **Human Glucuronidation Enzyme Activities Evaluate by a Single Liquid Chromatography Tandem Mass Spectrometry Method Using *in vitro* Cocktail Approach;** Anne-Laure Gagez; *INSERM UMR-S850, Limoges Cedex, France*

TP 456 **Decreased Urinary Excretion of Hydroxylated Metabolites of Voriconazole in CYP2C19 Poor Metabolizers**; Joo-Youn Cho; Hyang Hee Yang; Seo Hyun Yoon; Kyung-Sang Yu; In-Jin Jang; *Dept of Clin Pharmacol, Seoul National University, Seoul, South Korea*

TP 457 **Xenobiotic Metabolite Identification at Ultra-trace Levels Using Alternate Separation and Ionization Techniques Including Nanospray, NALDI-TOF-MS, and Chip-based Nanoseparations;** Jeffrey Gilbert; Jesse Balcer; Suresh Annangudi Palani; David Mccaskill; Michael Hastings; Yelena A. Adelfinskaya; Brian Wendelburg; *Dow AgroSciences, Indianapolis, IN*

TP 458 **The Use of ^{18}O-Exchange and Base-Catalyzed *N*-Dealkylation with LC/MS/MS to Identify Carbinolamide Metabolites;** Andrew Bessire; Alfin Vaz; Gregory Walker; WeiWei Wang; Raman Sharma; *Pfizer, Inc., Groton, CT*

TP 459 **Accurate Mass Profiling and Isotope Tracing of Polar Metabolites by HILIC LC and High Resolution MS**; Rory Rohm; Thomas Roddy; Stephen Previs; Michael Lassman; *Merck & Co., Rahway, NJ*

TP 460 **Comparative Evaluation of HCD MS/MS and Non-mass Selective HCD Fragmentation Experiments on Orbitrap-based Mass Analyzer for Metabolite Identification**; Chiuwa Emily Luk; Petia Shipkova; Jonathan L. Josephs; *Bristol-Myers Squibb Co, Pennington, NJ*

TP 461 **Use of High-Resolution QTOF with Enhanced Ion Mobility Capabilities for Facile Identification of Metabolites Using UPLC-IMS-MSE**; Stephen McDonald[1]; Joseph Marini[2]; Andrew Baker[1]; *[1]Waters Corporation, Beverly, MA; [2]Covance Laboratories Inc., Madison, WI*

TP 462 **Tool for Structural Characterization of Metabolites from Accurate Mass Data**; Eva Duchoslav; Lyle Burton; Tanya Gamble; *AB Sciex, Concord, Canada*

TP 463 **The Identification of Novel Phase II Diconjugate Metabolites of Acetaminophen in Urine**; Jordan Richardson [1]; David S Douce[2]; Martin Palmer[2]; Catherine Duckett[1]; *[1]Keele University, Stoke-On-Trent, UK; [2]Waters (MS Technologies), Manchester, UK*

TP 464 **Characterization of Brevetoxin Metabolites in Clam by LC-MS/MS**; Ann Abraham; Kathleen El Said; Yuesong Wang; Edward Jester; Jennifer Hooe-Rollman; Hudson Granade; Steven Plakas; *FDA, Dauphin Island, AL*

TP 465 **Comparison of *in vitro* Intestinal and Hepatic Metabolism of Diltiazem by Ultra-Performance Liquid Chromatography Accurate Mass Spectrometry**; Joanna Barbara; Faraz Kazmi; Mark Horrigan; Paul C. Toren; Andrew Parkinson; *XenoTech, LLC, Lenexa, KS*

TP 466 **6-2 Fluorotelomer Alcohol Metabolic Pathways in Rat, Mouse and Human Hepatocytes**; Timothy Snow[1]; Shawn Gannon[1]; Diane Nabb[1]; Tessa Serex[1]; Robert Buck[2]; *[1]DuPont Haskell Laboratory, Newark, DE; [2]DuPont Surface Protection Solutions, Wilmington, DE*

TP 467 **Simulating Oxidative Metabolism Using On-Line Electrochemistry/Mass Spectrometry**; Joann Purkerson[1]; Agnieszka Kraj[2]; Hendrik-Jan Brouwer[2]; Martin Eysberg[2]; *[1]Antec (USA), Palm Bay, FL; [2]Antec Leyden BV, Zoeterwoude, The Netherlands*

TP 468 **Paradoxical Down-Regulation of benzo[a]pyrene-Mediated DNA-Adduct Formation by 2,3,7,8-tetrachlorodibenzo-p-dioxin in Human Lung Cells**; Stacy L. Gelhaus; Trevor M. Penning; Ian A. Blair; *UPENN, Philadelphia, PA*

TP 469 **Investigation of Metabolism of TZP-101 in Healthy Volunteers after Multiple Intravenous Doses Applying Complementary LC/MS/MS Using API 4000-Qtrap and LTQ-Orbitrap**; Ming Qi[1]; Mark Gohdes[1]; Ryan Berko[1]; Timothy Musick[1]; Laura Egnash[1]; Donald McKenzie[1]; Patrick Bhérer[2]; Lilian Clohs[2]; *[1]Covance Laboratories, Madison, WI; [2]Tranzyme Pharma Inc., Sherbrooke, Quebec, Canada*

TP 470 **Metabolism of Unique Vitamin D Analogs with 16-ene-23-yne Modifications by Cytochrome P450 24A1 Hydroxylase**; Rose Gathungu[1]; Steve Rhieu[2]; Satyanarayana Reddy[2]; Paul Vouros[1]; *[1]Barnett Institute, Northeastern University, Boston, MA; [2]Brown University, Providence, RI*

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TP 471 **A Novel Triplex Stable-Isotope Labeling Method for Quantitative Analysis of Metabolites in Biological Samples by LC/MS**; Ruokun Zhou; Kevin Guo; Liang Li; *University of Alberta, Edmonton, AB*

TP 472 **Potential CD36 Ligands Identified from Vitmamin C Mediated Decomposition of 15(S)-Hydroperoxy-Eicosatetraenoic Acid**; Xiaojing Liu; Suhong Zhang; Clementina Mesaros; Ian A. Blair; *University of pennsylvania, Philadelphia, PA*

TP 473 **Teleost Scale Metabolite Profiling Reveals Differential Changes in Response to Gravitational Stress**; Masahiro Maeda [1]; Akio Hayashi[1]; Sadao Nakamura[1]; Takeshi Serino[4]; kei-Ichiro Kitamura[2]; Nobuo Suzuki[3]; *[1]Agilent Technologies Japan, Tokyo, Japan; [2]School of Medical Science, Kanazawa University, Kanazawa, Japan; [3]Kanazawa University, Ishikawa, Japan; [4]Agilent International, Tokyo, Japan*

TP 474 **Analysis of Isotope Labeled Amino Acids by UPLC/ESI/TOFMS to Determine Nitrogen Fluxes**; Annika I. Johansson[1, 3]; Camila Aguetoni Cambui[1, 3]; Catherine Campbell[2, 3]; Vaughan Hurry[2, 3]; Torgny Näsholm[1, 3]; Thomas Moritz[1, 3]; *[1]Swedish University of Agricultural Sciences (SLU), Umeå, Sweden; [2]Umeå University, Umeå, Sweden; [3]Umeå Plant Science Centre, Umeå, Sweden*

TP 475 **Metabolic Profiling of Pentabromodiphenyl Ether Exposed Rat**; Jungju Seo [1]; Eun Jung Bang[1]; Jeounghwa Shin[1]; Seo Eun Lee[2]; *[1]Korea Basic Science Institute, Seoul, South Korea; [2]Hanyang University, Seoul, Korea*

TP 476 **Profiling Metabolites of Cranberry in Rats Using Liquid Chromatography Tandem Mass Spectrometry**; Rajani Rajbhandari[1]; Ning Peng[1]; Ray Moore[2]; Alireza Arabshahi [2]; Stephen Barnes[1]; Jeevan Prasain [1]; *[1]University of Alabama at Birmingham, Birmingham, AL; [2]UAB, Birmingham, AL*

TP 477 **Analysis of Small Cell Populations of Saccharomyces Cerevisiae on Silicon Nanopost Arrays (NAPA) by Laser Desorption Ionization Mass Spectrometry**; Cory Antonakos; Bennett N Walker; Akos Vertes; *George Washington University, Washington, DC*

TP 478 **An Analysis of Anthocyanins and Resveratrol in Cold-Hardy Grapes Using UPLC-DAD-MS and LDI-MS**; Jesse G. Meyer; Mikel R. Roe; Adrian D. Hegeman; *University of Minnesota, Saint Paul, MN*

TP 479 **Profiling Alcoholic Liver Lipid Profiles Using High Mass Accuracy MSn Analysis**; Simon Ashton[1]; Neil Loftus[1]; Alan Barnes[1]; Georgios Theodoridis[2]; Ian Wilson[2]; Filippos Michopoulos[2]; Gika Eleni[2]; Neil Kaplowitz[3]; *[1]Shimadzu ISS, Manchester, UK; [2]Astra Zeneca, Alderley Edge, UK; [3]University of Southern California, Los Angeles, CA*

TP 480 **Cell Cycle Specific Metabolite Profiling of NIH3T3 by Live Single Cell Mass Spectrometry**; Yuka Miho; Naohiro Tsuyama; Hajime Mizuno; Takanori Harada; Tsutomu Masujima; *Hiroshima Univ. BioMed., Hiroshima, Japan*

TP 481 **Towards Quantitative Mass Spectral Profiling of Phenolic Compounds in Red Wine via Selective Solid-Phase Enrichment and Isotope Dilution Analysis**; Mikel R Roe; Jesse Meyer; Erica Rokke; Adrian D. Hegeman; *University of Minnesota, Saint Paul, MN*

TP 482 **Quantitative Analysis of Small Molecules in a Fluorescence-Labeled Apoptotic Lymphocyte by the Live Single Cell MS;** Naohiro Tsuyama [1]; Hajime Mizuno[1]; Takanori Harada[1]; Iwao Sakane[2]; Tsutomu Masujima[1]; *[1]Hiroshima Univ. BioMed., Hiroshima, Japan; [2]ITO EN Co. Ltd., Tokyo, Japan*

TP 483 **Metabolic Profiling of Biological Samples by Gas Chromatography-Mass Spectrometry, Liquid Chromatography-Tandem Mass Spectrometry and Nuclear Magnetic Resonance Spectroscopy**; Sam Li; *National University of Singapore, Singapore, Singapore*

TP 484 **Single-cell Metabolic Profiling of the Aplysia Californica Nervous System by Capillary Electrophoresis Electrospray Ionization Mass Spectrometry**; Peter Nemes; Ann M. Knolhoff; Stanislav S. Rubakhin; Jonathan V. Sweedler; *University of Illinois at Urbana-Champaign, Urbana, IL*

TP 485 **Profiling System for Carotenoids and their Oxidized Products Using Supercritical Fluid Chromatography Coupled with Mass Spectrometry**; Atsuki Matsubara[1]; Yusuke Wada[1]; Hiroki Ishida[2]; Kazuo Harada[2]; Kazumasa Hirata[2]; Eiichiro Fukusaki[1]; Takeshi Bamba[1]; *[1]Dept. Biotech., Grad. Sch. Eng., Osaka Univ., Suita, Japan; [2]Grad. Sch. Pharm. Sci., Osaka Univ., Suita, Japan*

TP 486 **Integration of Screening Assays and Ion Trap-Time of Flight Mass Spectrometry; Chemical and Biological Characterization of N-Alkylated Neomycin Derivatives;** Jon S.B. de Vlieger; Martin Giera; Henk Lingeman; Wilfried M.A. Niessen; Hubertus Irth; *VU University, Biomolecular Analysis Group, Amsterdam, Netherlands*

TP 487 **Mass Spectrometric Examination of Metabolic Changes following Emerald Ash Borer Invasion; Examination of Volatile Emissions, Leaf Extracts, and Phloem Samples**; Raymond E. March[1]; Michael Doran[1]; Naomi Stock[1]; Shaogang Chu[2]; Taylor Scarr[3]; *[1]Trent University, Peterborough, Canada; [2]Environment Canada, Ottawa, Canada; [3]Ontario Ministry of Natural Resources, Sault Ste. Marie, Canada*

TP 488 **Simultaneous Lipid Profiling and Lipid Marker Characterization in Fish Eggs by UPLC/TOF MS Coupled with Multi Variant Statistical Analysis**; Hayley Crowe[1]; Kate Yu[1]; Stephen O'Shea[2]; Nancy Breen[2]; John Shockcor[1]; Henry Y. Shion [1]; Harold Pomeroy[2]; Alan Millar[1]; *[1]Waters Corporation, Milford, MA; [2]Roger Williams University, Bristol, RI*

TP 489 **Quantitative Analysis of Underivatized Glutamine, Glutamic Acid, Asparagine, and Aspartic Acid in Cell Media Using LC/MS/MS**; Na Pi[1]; Yanan Yang[1]; Lisa Zang[1]; David Hawke[2]; Philip Lorenzi[2]; *[1]Agilent Technologies, Inc, Santa Clara, CA; [2]UT-M.D Anderson Cancer Center, Houston, TX*

TP 490 **Liquid Chromatography Atmospheric Pressure Ionization Mass Spectrometry Identifies Novel Hypochlorous Acid Reaction Products of Lycopene**; Jaeman Byun[1]; Dhiman Maitra[2]; Inga Sliskovic[2]; Michael P. Diamond[2]; Husam M. Abu-Soud[2]; Subramaniam Pennathur[1]; *[1]University of Michigan, Ann Arbor, MI; [2]Wayne State University, Detroit, MI*

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M. Sikanen[1]; Maria-Elisa Moilanen[1]; Susanna Aura[2]; Tapio Kotiaho[1]; Sami Franssila[2]; Risto Kostiainen[1]; *[1]University of Helsinki, Helsinki, Finland; [2]Aalto University, School of Science and Technology, Espoo, Finland*

TP 493 **A Low Solvent Consumption Microbore UPLC/MS/MS Method to Support Cocktail CYP P450 Drug - Drug Inhibition Sample Analysis**; Sascha Freiwald; Heather Skor; Sue Zhou; Sadayappan V. Rahavendran; *Pfizer Global R&D, San Diego, CA*

TP 494 **Automated Screening of Phase I and II Metabolism Using On-Line Electrochemistry/LC/MS**; Jean-Pierre Chervet [1]; Agnieszka Kraj[1]; Hendrik-Jan Brouwer[1]; Martin Eysberg[1]; Joann Purkerson[2]; *[1]Antec Leyden BV., Netherlands; [2]Antec (USA), Palm Bay, FL*

TP 495 **The Application of Accurate Mass Towards an Automated Workflow for Metabolite Identification and Structural Elucidation in Biological Matrixes;** Mark Szewc [2, 3]; Rose Herbold[2, 3]; Tim J Stratton[1]; Shichang Miao[1]; Thomas Mcclure[2, 3]; Yingying Huang [2, 3]; *[1]ChemoCentryx Inc., Mountain View, CA; [2]Thermo Fisher Scientific, Somerset, NJ; [3]Thermo Fisher Scientific, San Jose, CA*

TP 496 **Driving Efficiency in a High-throughput Metabolic Stability Assay through a Generic High Resolution/Accurate Mass Method and Automated Data Processing**; Wenqing Shui[1]; Song Lin[2]; Allen Zhang[1]; Yan Chen[1]; Caroline Ding[1]; Yingying Huang[1]; Mark Sanders[1]; *[1]Thermo Fisher Scientific, San Jose, CA; [2]Novartis, Emeryville, CA*

TP 497 **Improving the Throughput of *in vitro* ADME Screens Using Cassette Analysis and Polarity Switching**; Hui Zhang; Veronica Zelesky; Richard Schneider; *Pfizer Global R&D, Groton, CT*

TP 498 **Evaluation of Accurate Mass TOF-MS for Use in High Throughput PAMPA Screening**; Michelle Romm; Nikunj Parikh; Vaughn Miller; William A. Lamarr; Can "Jon" Ozbal; *BIOCIUS Life Sciences, Inc., Woburn, MA*

TP 499 **Evaluation of Drug Plasma Stability Using an Ultra-High Throughput Laser Diode Thermal Desorption (LDTD) Methodology**; Ming-Chih D. Ho[1]; Ming-Xiang Liao[2]; Cindy Xia[2]; Lily Li[1]; *[1]Tandem Labs New England, Woburn, MA; [2]Millennium Pharmaceuticals, Cambridge, MA*

TP 500 **Comparison of LC/MS/MS and a Fully Integrated Autosampler/Solid Phase Extraction System for the Analysis of Permeability Samples**; Adam C Amaral; Christopher Caldwell; Panos Hatsis; Jakal Amin; Shawn Harriman; *Novartis, Cambridge, MA*

TP 501 **High Resolution LC-MS Analysis of Compounds for Early Drug Discovery: Quantitative and Qualitative Screening in One Pass**; Xiaojie C. Ding[1]; James Shofstahl[1]; Karen Salomon[1]; Hans Pfaff[2]; Thomas Mcclure[1]; *[1]Thermo Fisher Scientific, San Jose, CA; [2]Thermo Fisher Scientific (Bremen) GmbH, Bremen, Germany*

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TP 503 **A Systematic Study of Phospholipids Removal by various resins in Multi-Impurity Adsorption Methods (MAS) and the Impacts on LC-MS Analysis**; Wan Wang; Yong Han; Wei Huang; Jianwang Li; Jerry Wang; *Bonna Agela Technologies Inc, Newark, DE*

TP 504 **Quantifying Glipizide in Human Plasma by LC-MS, Using a Novel Sample Clean-Up Method, Multi-Function Impurity Adsorption SPE (MAS)**; Qihui Ni; Yong Han; Wan Wang; *Agela Technologies, Inc., Newark, DE*

TP 505 **Evaluation of High Throughput / High Sensitivity Tuning Algorithm for Quantitative LC/MS/MS Method Development;** Karina Wong[1]; Bud Maynard[1]; Loren Olson [2]; *[1]Elan Pharmaceuticals, South San Francisco, CA; [2]AB SCIEX, Foster City, CA*

TP 506 **Advantages of Multiple Time-Slice Injections in Sensitive, High-Throughput LC-MS Analyses**; David Neyer; Don Arnold; *Eksigent Technologies, Dublin, CA*

TP 507 **Hyphenation of Mass Spectrometry and a p38 Kinase Binding Assay for Screening of Active Compounds in Mixtures**; David Falck[1]; Jon S B de Vlieger[1]; Martin Giera[1]; Jeroen Kool[1]; Henk Lingeman[1]; Wilfried M A Niessen[1]; Maarten Honing[2]; Hubertus Irth[1]; *[1]Division of Biomolecular Analysis VU University, Amsterdam, Netherlands; [2]MSD Research Laboratories, Oss, Netherlands*

TP 508 **Comparison of Automated MS/MS Tuning Algorithms for HT- Methods Development in Drug Discovery**; Veronica Zelesky[1]; John Janiszewski [1]; Anthony Romanelli[2]; Thomas Mcdonald[1]; Richard Schneider[1]; Kevin Shirey[3]; Lisa Buchholz[1]; Erik A. Soderstrom[1]; *[1]Pfizer Inc., Groton, CT; [2]AB SCIEX, Framingham, MA; [3]Sound Analytics, LLC, Niantic, CT*

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TP 511 **Characteristics and Analytical Methods for Acetyl Metabolites of Sulfonamide Antibiotics in Wastewater**; Young Yeul Kang; Seung-Ryul Hwang; Ki-Bong Song; Woo-Il Kim; Su-Yeong Lee; Sun-Kyoung Shin; Tae Seung Kim; So Hyun Koo; *National Institute of Environmental Research, Incheon, South Korea*

TP 512 **Determination of Oseltamivir and its Metabolite under Pandemic Season in Surface Water by LC-MS/MS**; Sun Kyoung Shin; Seung Ryul Hwang; Young Yeul Kang; Jin-Soo Park; Woo-Il Lim; Young Hee Kim; So Hyun Koo; Hak Joo Kim; *National Institute of Environmental Reseach, Incheon, South Korea*

TP 513 **Use of Accurate-Mass Databases of Molecules and Diagnostic Ions for LC/MS-Based Targeted and Untargeted Screening of Emerging Contaminants in Environment**; Juan F. García-Reyes[1]; José Robles-Molina[1]; Juan C. Domínguez-Romero[1]; Bienvenida Gilbert-López[1]; Antonio Molina-Díaz[1]; Ana Agüera[2]; M. José Gomez-Ramos[2]; M. Mar Gómez-Ramos[2]; Milagros Mezcua[2]; Amadeo R. Fernandez-Alba[2]; *[1]University of Jaen. Dep. Physical and Anal. Chem., Jaén, Spain; [2]University of Almería. Dep. Analytical Chemistry, Almeria, Spain*

TP 514 **Simultaneous Analysis of the Endocrine Disruptors from Water Samples by GC-PCI-Tandem Mass Spectrometry;** Yu-Kyung Jung[1]; Ki-Jung Peang[1]; Parinya Panuwet[2]; M. Angela Montesano[2]; Dana Boyd Barr[2]; *[1]Department of Chemistry, Yonsei University, Wonju, Korea; [2]Centers for Disease Control and Prevention, Atlanta, GA*

TP 515 **The Simultaneous Analysis of Macrolides Pharmaceuticals in Aqueous Environmental Sample by LC/ESI-MS/MS**; Mi Sun Park[1, 1]; Seung-Woon Myung[1, 2]; *[1], Suwon, South Korea; [2]Kyonggi University, Suwon-Si, South Korea*

TP 516 **Determination of Pharmaceuticals in Sulface Water and Drinking Water Resources by LC/ESI-MS/MS**; Kim Byung Ju; Seung-Woon Myung; *Kyonggi University, Suwon, South Korea*

TP 517 **The Analysis of Streptomycin Residues in Environmental Aqueous Sample by LC-MS/MS**; Lee Jong Hyuk[1]; Seung-Woon Myung[2]; *[1]Kyeonggi Univ., Suwon, South Korea; [2]Kyonggi University, Suwon-Si, South Korea*

TP 518 **Monitoring of Metabolite Production by Indoor Microbial Isolates Using Liquid and Gas Chromatography Coupled to Mass Spectrometry**; Vinay Vishwanath[1]; Michael Sulyok[1]; Georg Weingart[1]; Bernhard Kluger[1]; Beata Gutarowska[2]; Rudolf Krska[1]; *[1]Universität für Bodenkultur, IFA-Tulln,Center for Analytical Chemistry, Austria; [2]Technical University of Lodz, Institute Technology Fermentation and Microbiology, Poland*

TP 519 **Endocrine Disrupting Chemicals in New Orleans Surface Waters and Mississippi Sound, Gulf of Mexico Marine Sediments**; Guangdi Wang [1]; Peng Ma[1]; Qiang Zhang[1]; John Lewis[1]; Yoko Fukukawa[2]; Susan O'Reilly[2]; *[1]Xavier University of Louisiana, New Orleans, LA; [2]Naval Research Laboratory, Code 7431, Stennis Space Center, Mississippi*

TP 520 **Oxidation of Bacteriophage MS2 Virus Proteins during UV254 and Singlet Oxygen Mediated Inactivation**; Laure Menin[1]; Krista Wigginton[2]; Jonathan Paz Montoya[2]; Tamar Kohn[2]; *[1]EPFL SB ISIC-GE, Lausanne, Switzerland; [2]EPFL - ENAC - LCE, Lausanne, Switzerland*

TP 521 **Investigation of Matrix Effects Regarding Microcystin LR Analysis by Electrospray Tandem Mass Spectrometry**; Russell Chinn[1, 2]; Melissa Dale[1, 2]; *[1]Metropolitan Water District of Southern California, La Verne, CA; [2]Metropolitan Water District of Southern California, La Verne, CA*

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TP 524 **Real-Time Correction of Retention Time Shift for Multiple Residues Screening by LC-MS/MS**; Louis Maljers; Chunang (Christine) Gu; Ze Zhang; Mark Sanders; *ThermoFisher Scientific, San Jose, CA*

TP 525 **Sub ppt Limits of Quantitation with New Setup for Water Analysis Using ESI-TOF Full Scan Accurate Mass Screening**; Oliver Raether; Petra Decker; *Bruker Daltonik GmbH, Bremen, Germany*

TP 526 **Ultra-Fast LC/MS Analysis of Acidic Herbicides in Water by Direct Injection: Evaluation of Different MRM Techniques Combined with Polarity Switching**; Wolfram Seitz[2]; Jianru Stahl-Zeng[1]; Detlev Schleuder[1]; Birgit Schlutt[1]; Walter Weber[2]; Wolfgang Schulz[2]; *[1]AB Sciex, Frankfurterstr. 129 B, Darmstadt, Germany; [2]Zweckverband Landeswasserversorgung, Langenau, Germany*

TP 527 **Accurate Mass Screening and Quantitation of 510 Pesticides with Polarity Switching on High Resolution Benchtop Orbitrap Mass Spectrometry**; Ze Zhang; Chunang (Christine) Gu; James Chang; Mark Sanders; *ThermoFisher Scientific, San Jose, CA*

TP 528 **Assessing Dietary Exposure to Pyrethroid Insecticides by LC/MS/MS of Food Composites**; Denise MacMillan[1]; R. Dan Zehr[1]; Adam Swank[1]; Marsha Morgan[2]; *[1]USEPA/NHEERL, Research Triangle Park, NC; [2]USEPA/NERL, Research Triangle Park, NC*

TP 529 **Trace Analysis of Potable and Environmental Water by on-line SPE LC/MSMS Employing Thermal Gradient Focusing and Dual Ion Funnel Technologies**; Michael Flanagan; *Agilent Technologies, Santa Clara, CA*

TP 530 **LC-APPI-MS/MS for Multi-Residue Analysis of "Difficult" Pesticides in Vegetables and Fruits**; Sheng-Suan (Victor) Cai [1]; Roland Carlson[2]; Jack A. Syage[1]; Karl Hanold[1]; *[1]Syagen Technology, Inc., Tustin, CA; [2]California Department of Food and Agriculture, Sacramento, CA*

TP 531 **Development of Simultaneous Analysis Method on Organophosphorous Pesticides and Quaternary Ammonium Herbicides Using LC/MS**; Jun Watanabe; Haruo Hosoda; *Bruker Daltonics K. K., Yokohama, Japan*

TP 532 **Rapid Screening of Breakdown Products of Triclosan Under Simulated Environmental Conditions by LC-MS/MS**; Stacy Tremintin[1]; Loren Olson [2]; *[1]AB Sciex, Foster City, CA; [2]Applied Biosystems, San Jose, CA*

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TP 534 **Ultra-high Molecular Weight Polyethylene (PE-UHMW) Joint Implants – Choosing the Most Valuable Desorption Process (i/vMALDI and DESI) for Imaging MS**; Martina Marchetti-Deschmann[1]; Julia Galehr[1]; Vasiliki-Maria Archodoulaki[2]; Guenter Allmaier[1]; *[1]Vienna University of Technology, CTA, Vienna, Austria; [2]Vienna Unversity of Technology, IMST, Vienna, Austria*

TP 535 **Chemically Selective Imaging Using Mass Spectrometry: The Modified-Bead Stretched Sample Method**; Kevin Tucker; Leonid Serebryannyy; Jonathan Sweedler; *University of Illinois, Champaign, IL*

TP 536 **Improved Wavelet Analysis of Mass Spectral Imaging Data for Feature Selection and Data Compression through Incorporation of Spatial Information**; Nico Verbeeck; Raf Van de Plas; Bart De

Moor; Etienne Waelkens; *K.U.Leuven, Leuven - Heverlee, BELGIUM*

TP 537 **Optimization of Gold Nanoparticles as a Matrix for MALDI Imaging Mass Spectrometry**; Andrew Smith[1]; Matt Spencer [1]; Tom Darlington[1]; Richard Baldwin [1]; Elizabeth Ward [2]; Steven Oldenburg[1]; *[1]nanoComposix, San Diego, CA; [2]Claremont Mckenna, Claremont, CA*

TP 538 **Fourier Transform Mass Spectrometry Imaging of Biological Samples at Cellular Resolution**; Andreas Roempp; Sabine Günther; Yvonne Schober; Zoltan Takats; Bernhard Spengler; *Justus Liebig University, Giessen, Germany*

TP 539 **Monitoring and Quantifying Chlorophyll *a* at the Single Organelle Level Using MALDI MS Imaging**; Ji Hyun Jun[1, 2]; Wei Sun[1, 2]; Basil J. Nikolau[1, 3]; Edward S. Yeung[1, 2]; Young Jin Lee[1, 2]; *[1]Ames Laboratory-US DOE, Ames, IA; [2]Department of Chemistry, Iowa State University, Ames, IA; [3]Department of Biochemistry, Iowa State University, Ames, IA*

TP 540 **Surface Mapping Using Individual Cluster Impacts**; Francisco Alberto Fernandez Lima[1]; Michael J. Eller[1]; Stanislav V. Verkhoturov[1]; John D. DeBord[1]; Serge Della-Negra[2]; Emile A. Schweikert[1]; *[1]Texas A&M University, College Station, TX; [2]Institut de Physique Nucléaire d'Orsay, Orsay, France*

TP 541 **Giant Fullerenes as *in-situ* Internal Calibrants for High Mass Accuracy MALDI-IM-oTOFMS Tissue Imaging;** Ernest K. Lewis [1]; Thomas F. Egan[1]; Sasa Miladinovic[2]; Shelley N Jackson[3]; Amina S. Woods [3]; Charles L. Wilkins[2]; J. Albert Schultz[1]; *[1]Ionwerks, Inc., Houston, TX; [2]University of Arkansas, Fayetteville, AR; [3]NIDA-IRP, NIH, Baltimore, MD*

TP 542 **Practical Considerations on Normalization in MALDI Imaging**; Soeren Oliver Deininger; Michael Becker; Eryk Wolski; Herbert Kaminski; Rainer Paape; Shannon Cornett; *Bruker Daltonik GmbH, Bremen, Germany*

TP 543 **Multidimensional Spectroscopy Combining ToF-SIMS, Synchrotron-FTIR and -UV Microspectroscopies on the Same Tissue Section**; Vanessa Petit[1]; Matthieu Réfrégiers[2]; Catherine Guettier[3, 4]; Alain Brunelle[1]; Olivier Laprévote[1, 5]; Paul Dumas[6]; François Le Naour [3, 4]; *[1]Centre de Recherche de Gif, ICSN-CNRS, Gif-sur-Yvette, France; [2]DISCO, Synchrotron Soleil, Gif-sur-Yvette, France; [3]INSERM U785, Villejuif, France; [4]Faculté de médecine Paris-Sud, Kremlin-Bicêtre, France; [5]Universite Paris-Descartes, Paris, Fance; [6]SMIS, Synchrotron Soleil, Gif-sur-Yvette, France*

TP 544 **Improving MALDI Signal Reproducibility Using a Deuterated Internal Standard and Wide–Isolation Tandem Mass Spectrometric Imaging**; David Pirman; Peggy R. Borum; Richard A. Yost; *University of Florida, Gainesville, FL*

TP 545 **MALDI vs. Laser Desorption Vacuum Ultraviolet Postionization MS for Imaging of Bacterial Biofilms**; Peter J. Koin[1]; Berdan Aydin Sevinc[1]; Chhavi Bhardwaj[1]; Artem Akhmetov[1]; Gerald Gasper [1]; Melvin Blaze M.T. [1]; Jerry F. Moore[2]; Luke Hanley[1]; *[1]University of Illinois at Chicago, Chemistry, Chicago, IL; [2]MassThink LLC, Naperville, IL*

TP 546 **Imaging Mass Spectrometry Data Reduction: Enabling Molecular Histology of Clinical Datasets**; Liam McDonnell [1]; Alexandra van Remoortere[1]; René van Zeijl[1]; Nico de Velde[2]; André Deelder[1]; *[1]LUMC, Leiden, the Netherlands; [2]Hogeschool Leiden, Leiden, the Netherlands*

TP 547 **Analysis of Painting Cross Sections by Secondary Ion Mass Spectrometry**; Michael P. Napolitano[1]; Julie Arslanoglu[2]; Andras Kiss[3]; Donald F. Smith[3]; Ron M.A. Heeren[3]; Richard A. Yost[1]; *[1]University of Florida, Gainesville, FL; [2]The Metropolitan Museum of Art, New York, New York; [3]FOM Institute AMOLF, Amsterdam, Netherlands*

TP 548 **Laser Microdissection Inductively Coupled Plasma Mass Spectrometry (LMD-ICP-MS) – A Novel Tool for Bioimaging of Metals in Single Cells**; Johanna Sabine Becker; *Forschungszentrum Juelich, Juelich, Germany*

TP 549 **Laser Desorption-Ionization of Lipid Transfers: Tissue Mass Spectrometry Imaging without Ionization Matrix**; Michael Volny [1]; Veronika Vidova[1,2]; Petr Novak[1, 3]; Martin Strohalm[1]; Jaroslav Pol[1, 4]; Vladimir Havlicek[1, 2]; *[1]Institute of Microbiology, Prague, Czech Republic; [2]Palacky University, Olomouc, Czech Republic; [3]Charles University, Prague, Czech Republic; [4]University of Helsinki, Helsinki, Finland*

TP 550 **Direct Nano MS with Spatial Micro-Trapping of Single Dividing Frog (Xenopus) Egg**; Atsushi Kurisu[1]; Siyu Zhang[1]; Naohiro Tsuyama [1]; Hajime Mizuno[1]; Atsushi Suzuki[2]; Kimiko Takebayashi-Suzuki[2]; Takanori Harada[1]; Tsutomu Masujima[1]; *[1]Hiroshima Univ. BioMed., Hiroshima, Japan; [2]Hiroshima Univ. Sci., Higashihiroshima, Japan*

TP 551 **The Use of Hydrazine Based Derivatisation Reagents for Improved Sensitivity and Detection of Carbonyl Containing Compounds "In Tissue" Using MALDI-MS**; Bryn Flinders[1]; Peter S. Marshall[2]; Josie Morrell[2]; Lisa E. Ranshaw[2]; M. Akram Khan[1]; Malcolm R. Clench[1]; *[1]Sheffield Hallam University, Sheffield, UK; [2]GlaxoSmithKline, Stevenage, UK*

TP 552 **Enhancing MALDI MS Signals through Chemistry: Analysis of Isoniazid Dosed Animals in Tuberculosis Studies**; M. Lisa Manier [1]; Michelle L. Reyzer[1]; Joey C. Latham[1]; Laura E. Via[2]; Clifton E. Barry, III[2]; Richard M. Caprioli[1]; *[1]Vanderbilt University, Nashville, TN; [2]NIH/NIAID, Bethesda, MD*

TP 553 **Direct Tissue Profiling and Imaging of Human Skin by MALDI-MS: A Potential Tool For Classification of Chemical Irritants and Sensitizers**; Philippa J. Hart; David M. G. Anderson; Simona Francese; M. Nicola Woodroofe; Malcolm R. Clench; *Sheffield Hallam University, Sheffield, UK*

TP 554 **FT-ICR Mass Spectrometry Imaging: Method Development for Vacuum and Atmospheric Pressure Biological Tissue Analysis**; Donald F. Smith; Marc C. Duursma; Andriy Kharchenko; Ron M.A. Heeren; *FOM-AMOLF, Amsterdam, Netherlands*

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TP 556 **Improvements and Applications of the Flowing Atmospheric-Pressure Afterglow Ambient Ionization Source**; Jake Shelley[1]; Justin Wiseman[2]; Gary M. Hieftje[3]; *[1]Indiana Univeristy, Bloomington, IN; [2]Prosolia, Inc., Indianapolis, IN; [3]Indiana University, Bloomington, IN*

TP 557 **Compact Design of Handheld Mass Spectrometer Equipped with Ambient Ionization Source for *in situ***

Analysis; Guangming Huang[1]; Michelle A. Visbal-Onufrak[2]; Jason Harper[1]; yang Zhou [2]; R. Graham Cooks [1]; Zheng Ouyang[2]; *[1]Department of Chemistry, Purdue University, West Lafayette, IN; [2]Weldon School of Biomedical Engineering, Purdue university, West Lafayette, IN*

TP 558 **Thermal Separations of Mixtures by Controlled Heating in the Direct Analysis in Real Time Ion Source**; Patrick R. Jones; Matthew Curtis; O. David Sparkman; *University of the Pacific, Stockton, CA*

TP 559 **Sample Preparation and Sample Presentation for Direct Analysis in Real Time (DART)**; Robert B. Cody[1]; John Dane [1]; Drew Sauter [2]; A. D. Sauter, III[2]; *[1]JEOL USA, Inc., Peabody, MA; [2]Nanoliter, LLC, Henderson, NV*

TP 560 **Implementation of a Laser Ablation by IR Coupled with DART-based Ionization Source for Analysis of Pharmaceutical Samples**; Lu Zeng[1]; Daniel B. Kassel[2]; Brian D. Musselman [3]; Mark Little[4]; *[1]Takeda San Diego, Inc., San Diego, CA; [2]Takeda San Diego, Inc, San Diego, CA; [3]IonSense, Inc., Saugus, MA; [4]Opotek, Inc., Carlsbad, CA*

TP 561 **Development of an Ion Transfer Tether for Non-Proximate Ion Formation and Detection in Direct Analysis In Real Time (DART) MS**; Brian D. Musselman; Elizabeth Crawford; Jordan Krechmer; *IonSense, Inc., Saugus, MA*

TP 562 **Electrolytic Reduction of Disulfide Bonds of Proteins/Peptides with Online Mass Spectrometric Detection**; Yun Zhang; Howard Dewald; Hao Chen; *Ohio University, Athens, OH*

TP 563 **High Throughput Analysis of Capture Cards with a Liquid Microjunction Surface Sampling Probe/Electrospray Ionization Mass Spectrometry System**; Matthew J. Walworth[1]; Joseph J. Stankovich[1]; Chuck Witkowski [2]; Jeremy L. Norris[2]; Vilmos Kertesz[1]; Gary J. Van Berkel [1]; *[1]Oak Ridge National Laboratory, Oak Ridge, TN; [2]Protein Discovery, Inc., Knoxville, TN*

TP 564 **Paper Spray Mass Spectrometry for Ambient Analysis of Tissue Samples**; He Wang; Nicholas Manicke; R. Graham Cooks; Zheng Ouyang; *Purdue University, West Lafayette, IN*

TP 565 **Desorption Ionization by Charge Exchange (DICE) – A New Technique Using a Conventional ESI Probe for Generating Multiple Ion Types;** Changching Chan[1]; Mark S. Bolgar[2]; Scott A Miller[2]; Athula B. Attygalle[3]; *[1]Stevens Institute of Tech, New Brunswick, NJ; [2]Bristol-Myers Squibb, New Brunswick, NJ; [3]Stevens Institute of Technology, Hoboken, NJ*

TP 566 **A Membrane Based Ion Source for SALDI Mass Spectrometry**; Sergey Nikiforov[1]; Vladimir Karavanskii[2]; *[1]Advanced Energy Technology, Moscow, Russia; [2]General Physic Institute, Moscow, Russia*

TP 567 **Direct Analysis of Dry Powders by Desorption Electrospray Ionization Mass Spectrometry**; Marcela Nefliu; *Merck Sharp & Dohme Co., Inc., West Point, PA*

TP 568 **Optimization of Conditions for Rapid Analysis of the Proverbial "White Powders" Using Metal Substrates and Ambient Pressure Desorption Ionization**; Jordan Krechmer; Elizabeth Crawford; Joseph Tice; Brian D. Musselman; *IonSense, Inc., Saugus, MA*

TP 569 **Thin Layer Chromatography and Mass Spectrometry Coupled Using Proximal Probe Thermal Desorption with Electrospray or Atmospheric Pressure Chemical Ionization**; Olga S. Ovchinnikova; Gary J. Van Berkel; *Oak Ridge National Laboratory, Oak Ridge, TN*

TP 570 **Thin-Layer Chromatography (TLC) Coupled with Electrospray Laser Desorption Ionization (ELDI) Mass Spectrometry for High-Throughput Analysis of Mixture**; Jentaie Shiea; Li-Jay Wu; Min-Zong Huang; *National Sun Yat-Sen Univ., Kaohsiung, Taiwan*

TP 571 **Coupling DESI-MS/MS and SPME for Rapid Analysis of Opiates in Urine**; Joseph H Kennedy [1]; Craig Aurand[2]; Justin Wiseman[1]; Brian C. Laughlin[1]; Robert Shirey[2]; Brenda Sweeney[3]; *[1]Prosolia, Inc, Indianapolis, IN; [2]Sigma Aldrich, Bellefonte, PA; [3]AIT laboratories, Indianapolis, IN*

TP 572 **Desorption Atmospheric Pressure Photoionization with PDMS as *in situ* Sample Preparation Method for DAPPI**; Anu Vaikkinen; Tapio Kotiaho; Risto Kostiainen; Tiina J. Kauppila; *University of Helsinki, Helsinki, Finland*

TP 573 **Optimizing Capture Agent Density and Electrospray Transmission in Surface-Enhanced Transmission Mode Desorption Electrospray Ionization**; John O'Brien; Joe Chipuk; Jennifer Brodbelt; *The University of Texas, Austin, TX*

TP 574 **Creation and Use of Reagent Ions with an Atmospheric Solids Analysis Probe (ASAP)**; Frederick Strobel; *Emory University, Atlanta, GA*

TP 575 **Laserspray Ionization Using the Atmospheric Pressure Solids Analysis Probe and New Tissue Imaging Approaches**; Andrew Harron; Tongwen Wang; Charles N. McEwen; *University of the Sciences in Philadelphia, Philadelphia, PA*

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TP 576 **Newly synthesized Liquid matrices for high sensitivity UV-MALDI-MS**; Mark W Towers[1]; Thorsten Wolfgang Jaskolla[2]; Michael Karas[2]; Rainer Cramer[1]; *[1]The University of Reading, Reading, UK; [2]Goethe University, Frankfurt/Main, Germany*

TP 577 **Hydrogen/Deuterium Exchange combined to MALDI Mass Spectrometry : The Importance of the Choice of the Matrix**; Pascale Lemaire; Delphine Debois; Loic Quinton; Nicolas Smargiasso; Valerie Gabelica; Edwin De Pauw; *Mass Spectrometry Laboratory, University of Liege, Liege, BELGIUM*

TP 578 **Matrix Effect in MALDI-ToF Mass Spectra of Derivatized Glycerol Ethoxylates**; Roman Borisov; Nikolai Polovkov; Dmitry Zhilyaev; Vladimir Zaikin; *Topchiev Institute of Petrochemical synthesis, Moscow, Russian Federation*

TP 579 **Matrix Optimization for MALDI-TOF MS Lipid Fingerprinting of Single Bovine Embryos**; Christina Ramires Ferreira[1]; Juliano Rodrigues Sangalli[3]; Luiz Fernando Arruda Santos [2]; Sergio Adriano Saraiva[1]; Fabio Cesar Gozzo[2]; Felipe Perecin[3]; Flávio Vieira Meirelles[3]; Eduardo Jorge Pilau[2]; Marcos Nogueira Eberlin[1]; *[1]ThoMSon MS Laboratory - UNICAMP, Campinas, Brazil; [2]Dalton MS Laboratory - UNICAMP, Campinas, São Paulo; [3]FZEA - USP, Pirassununga, Brazil*

TP 580 **Positive to Negative Ion Ratios of Peptides in MALDI TOFMS: The Role of Acid/ Base Properties of Matrices and Analytes**; Andy Mahan [1]; Kevin G. Owens[1]; Richard Knochenmuss[2]; Jonathan Haulenbeek[1]; April Holcomb [3]; *[1]Drexel University, Philadelphia, Pennsylvania; [2]Novartis, Basel, Switzerland; [3]Ethicon, Inc, Philadelphia, PA*

TP 581 **Evaluation of 4-Chloro-Alpha-Cyanocinnamic Acid (Cl-CCA) Using MALDI-TOF and MALDI-QIT-TOF**; Matthew Openshaw[1]; Yuzo Yamazaki[2]; John Leszyk[3]; *[1]Shimadzu Biotech, Manchester, UK; [2]Shimadzu Corporation, Kyoto, Japan; [3]University of Massachusetts Medical School, Shrewsbury, MA*

TP 582 **Metal Ions Loaded Polymer Encapsulating Gold Nanoparticles for LDI-MS**; Phillip T. Lang; Edward T. Castellana; David H. Russell; *Texas A&M University, College Station, TX*

TP 583 **Measuring the Intracellular Stability of Monolayer-protected Nanoparticles Using Laser Desorption/Ionization Mass Spectrometry**; Zheng-Jiang Zhu; Oscar R. Miranda; Vincent M. Rotello; Richard Vachet; *University of Massachusetts, Amherst, MA*

TP 584 **Nanoparticle-Assisted Seed-Layer Sample Preparation for Quantification of Small Molecule by MALDI-TOF MS**; Ying-Ru Luo[1]; Mei-Chun Tseng[2]; Ying-Wei Lu[3]; Chun-Cheng Lin[3]; Yu-Ju Chen[2]; Ming-Ren Fuh[1]; *[1]Department of Chemistry, Soochow University, Taipei, Taiwan; [2]Institute of Chemistry, Academia Sinica, Taipei, Taiwan; [3]Department of Chemistry, Tsing Hua University, Hsinchu, Taiwan*

TP 585 **Matrix-Free LDI Mass Spectrometry on SAM Patterned Nanostructured Gold Thin Film;** Ranu Nayak; Daniel R. Knapp; *Medical University of SC, Charleston, SC*

TP 586 **Laser Ablation Mass Spectrometry Studies of the Chromium Trioxide Oxidation Mechanisms**; Freneil Jariwala; Alina D. Bayer; Athula B. Attygalle; *Stevens Institute of Technology, Hoboken, NJ*

TP 587 **Laser Desorption/Ionization Mass Spectrometry (LDI-MS) for the Detection and Characterization of Core-Shell Nanoparticles**; Bo Yan; Zhengjiang Zhu; Oscar Miranda; Yi-Cheun Yeh; Youngdo Jeong; Vincent Rotello; Richard Vachet; *University of Massachusetts, Amherst, MA*

TP 588 **Matrix Pre-Coated Targets for MALDI Imaging Mass Spectrometry**; Kerri J. Grove; Richard M. Caprioli; *Vanderbilt University, Nashville, TN*

TP 589 **Optimization in Mass Spectrometry Analysis of [6,6]-Phenyl C61-Butyric Acid Methyl Ester**; Evgenia Akhmetovaq; Santosh Narasimhachary; Ashock Saxena; Charles L. Wilkins; *University of Arkansas, Fayetteville, AR*

TP 590 **Selective Analyte Capture Using Lipid Bilayer Functionalized Gold Nanorods for MALDI-MS Analysis**; Roberto C. Gamez; Edward T Castellana; David H. Russell; *Texas A&M University, College Station, TX*

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TP 592 **Selective Isolation and Detection of Peptides According to pI value and AminoAcid Content Using Polymeric Reverse Micelles and MALDI MS**; Andrea Gomez-Escudero; Yangbin Chen; Sankaran Thayumanavan; Richard Vachet; *University of Massachusetts, Amherst, MA*

TP 593 **Selective Enrichment and Detection of Low pI Peptides Using Polymeric Reverse Micelles and MALDI- MS Analysis**; Nadnudda Rodthongkum; Yangbin Chen; Sankaran Thayumanavan; Richard W. Vachet; *University of Massachusett, Amherst, MA*

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TP 595 **Structural Analysis of Glycopeptides Using a Novel Tandem Time-Of-Flight Mass Spectrometer with a Spiral Ion Trajectory "MALDI Spiral-TOF/TOF"**; Shuichi Shimma[1]; Michisato Toyoda[1]; Jun Tamura[2]; Yoshiyuki Itoh[2]; James Doug Meinhart[3]; Takaya Satoh[4]; *[1]Osaka University, Toyonaka, Osaka, Japan; [2]JEOL Ltd., Akishima, Japan; [3]JEOL USA, Inc, Peabody, MA; [4]JEOL Ltd. MSBU R&D Group1 Team1, Akishima, Japan*

TP 596 **Sequence Analysis of Silencing RNA Oligonucleotides by MALDI QTOF**; Tasneem Bahrainwala[1]; Martin Gilar[2]; Vera Ivleva [2]; Nicholas Ellor[1]; *[1]Waters Corporation, Beverly, MA; [2]Waters, Milford, MA*

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TP 598 **Optimization of a Field Free APCI Ion Source**; Thomas White; Avinash Dalmia; Craig M. Whitehouse; *PerkinElmer, Inc., Branford, CT*

TP 599 **Robust Capillary Electrophoresis–Mass Spectrometry Interface Using a Miniature Flowing Atmospheric-Pressure Afterglow Ion Source**; Stefan Schmid; Pawel Lukasz Urban; Matthias Jecklin; Andrea Amantonico; Renato Zenobi; *ETH Zürich, Zürich, Switzerland*

TP 600 **Implementation of a Glow Discharge Reagent Ion Source for the Introduction of ETD Reagent Anions into a Mass Spectrometer;** Lee Earley[1]; Christopher Mullen[1]; Jean-Jacques Dunyach[1]; John E. P. Syka[1]; Philip Compton[2]; Jeffrey Shabanowitz[3]; Donald F. Hunt[3]; *[1]Thermo Fisher Scientific, San Jose, CA; [2]Northwestern University, Chicago, IL; [3]University of Virginia, Charlottesville, VA*

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TP 602 **Enhanced APCI on a Novel Ion Source Design**; Steve Bajic; Sukhdev S. Bangar; *Waters Corporation, Manchester, UK*

TP 603 **Using Electric Discharge Sources to Induce both Atmospheric Pressure Photo-Ionization and Atmospheric Pressure Chemical Ionization;** Rob O'Brien[1]; Hendrik Kersten[2]; Davin Carter[1]; Thorsten Benter [2]; *[1]UBC Okanagan, Kelowna, Canada; [2]University of Wuppertal, Wuppertal, Germany*

TP 604 **Acetone as the Best Dopant for APPI Ionization in the Negative-Ion Mode**; Andreas Fredenhagen; Juergen Kuehnoel; *Novartis Institutes fro BioMedical Research, Basel, Switzerland*

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through the Analysis of Steroids in Biological Fluids; Ross McCulloch; Damon Robb; Michael Blades; *University of British Columbia, Vancouver, Canada*

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TP 607 **Development and Application of Ambient Sampling Chemi/Chemical Ion Source Using Dielectric Barrier Glow Discharge**; Lee Chuin Chen[1]; Zhan Yu[1]; Hiroko Furuya[2]; Yutaka Hashimoto[1]; Kenichi Takekawa[2]; Hiroaki Suzuki[3]; Osamu Ariyada[3]; Kenzo Hiraoka[1]; *[1]University of Yamanashi, Kofu, Japan; [2]Forensic Science Laboratory, Yamanashi Prefectural, Fuefuki, Japan; [3]Arios Inc, Akishima, Japan*

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TP 609 **Wavelength Resolved Atmospheric Pressure Photoionization**; Valérie Rouam[1]; Julie Allegrand[2]; Alexandre Giuliani [1, 4]; David Touboul[2]; Olivier Laprévote[3]; Matthieu Réfrégiers[1]; *[1]Synchrotron SOLEIL, Gif-Sur-Yvette, France; [2]CNRS-ICSN, Gif-Sur-Yvette, France; [3]CNRS France, Gif-Sur-Yvette, France; [4]CEPIA, INRA, Nantes, France*

TP 610 **VUV Photoionization within Transfer Capillaries of Atmospheric Pressure Ion sources**; Hendrik Kersten[1]; Walter Wissdorf[1]; Klaus J. Brockmann[1]; Thorsten Benter [1]; Rob O'brien[2]; *[1]University of Wuppertal, Wuppertal, Germany; [2]UBC Okanagan, Kelowna, BC*

TP 611 **Study of In-Source Fragmentation Pathways of Lipids via Atmospheric Pressure Photo-Ionization (APPI)**; Julie Allegrand[1, 2]; David Touboul[1, 2]; Alexandre Giuliani [3]; Olivier Laprévote[1, 2]; *[1]CNRS-ICSN, Gif-sur-Yvette, France; [2]CNRS-ICSN, Gif-Sur-Yvette, France; [3]Synchrotron Soleil, Gif-Sur-Yvette, France*

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TP 613 **Comparison of Infrared Multiple Photon Dissociation Spectra of Protonated Diglyme Generated Using a CO_2 Laser and a Free Electron Laser**; Mohammad Ehsan; Wright Pearson; John R. Eyler; *Department of Chemistry, University of Florida, Gainesville, FL*

TP 614 **Investigation of Gas-Phase Metal-Salen Complexes via Tandem Mass Spectrometry and IRMPD Spectroscopy**; Kelsey Witherspoon[1]; Ryan Dain [1]; Sam Molesworth[1]; Jeffrey Steill[2]; Jos Oomens[2]; Michael J. Van Stipdonk [1]; *[1]Wichita State University, Wichita, KS; [2]FOM Rijnhuizen, Nieuwegein, Netherlands*

TP 615 **IRMPD Spectroscopy of Protonated, Lithium and Silver Cationized Peptides**; Michael J. Van Stipdonk [1]; Sarah Young[1]; Stephanie Curtice[1]; Sam Molesworth[1]; Jeffrey Steill[2]; Jos Oomens[2]; *[1]Wichita State University, Wichita, KS; [2]FOM Rijnhuizen, Nieuwegein, Netherlands*

TP 616 **Investigation of Model BOC-Hydroxylamine/Metal Complexes via IRMPD Spectroscopy and DFT Modeling**; Ryan Dain [1]; Jeffrey Steill[2]; Jos Oomens[2]; Garold L. Gresham[3]; 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*

TP 617 **Infrared Multiple Photon Dissociation Spectroscopy of Cationized Cysteine: Effects of Metal Cation Size on Gas-Phase Conformation**; Murat Citir[1]; Elena M. S. Stennett[1]; Jos Oomens[2]; Jeffrey Steill[2]; Mary T. Rodgers [3]; Peter B. Armentrout[1]; *[1]University of Utah, Salt Lake City, UT; [2]FOM Rijnhuizen, Nieuwegein, Netherlands; [3]Wayne State University, Detroit, MI*

TP 618 **Mass Selected Resonant (1+1)-Photodissociation Spectroscopy of $C_2H_5I^{+\cdot}$ and $C_2D_5I^{+\cdot}$**; Hannes Schüttig; Jurgen Grotemeyer; *Christian-Albrechts-Univ, Kiel, Germany*

TP 619 **Photoelectron Spectroscopy of Methoxy-Substituted Phenylnitrenes**; Neloni Wijeratne; Paul G. Wenthold; *Purdue University, West Lafayette, IN*

TP 620 **Electrospray Mass Spectrometry and Ultraviolet-Visible Spectroscopy Studies of the Formation and Degradation of Diphosphine Ligand-Protected Gold Nano-Clusters**; Jeffrey W. Hudgens; Denis Bergeron; Ryan Bratton; *NIST, Rockville, MD*

TP 621 **Infrared Characterization of Protonated Formic Acid Clusters: Tracking the Proton Across a Molecular Scaffold**; Christopher Leavitt[1]; Helen Gerardi[1]; Solveig Olesen[2]; Gary H. Weddle[3]; Mark Johnson[1]; *[1]Yale University, New Haven, CT; [2]University of Copenhagen, Copenhagen, Denmark; [3]Fairfield University, Fairfield, CT*

TP 622 **Probing Helix Stability in Gas-Phase Peptides by Fluorescence Measurement of Trapped Ions**; Huihui Yao; Rebecca A. Jockusch; *Department of Chemistry, University of Toronto, Toronto, Canada*

TP 623 **Electronic Action Spectroscopy of Protonated Nile Red in the Gas Phase**; Robert J. Nieckarz; Konstantin Chingin; Vladimir Frankevich; Rui Wang; Renato Zenobi; *ETH Zürich, Zürich, Switzerland*

TP 624 **Determination of the Non-covalent Interactions Required to Restore Fluorescence to Gaseous Fluorescein ions via Step-Wise Solvation**; Sandeep Sagoo; Peter D. Mcqueen; Rebecca A. Jockusch; *University of Toronto, Toronto, ON*

TP 625 **Infrared Multiphoton Dissociation Spectroscopy of Crown Ether-Ammonium Complexes**; Kyle Rawle; David V. Dearden; *Brigham Young University, Provo, UT*

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TP 627 **Fluorescence Resonance Energy Transfer Measurements to Probe the Structure of Gaseous Ions**; Rebecca A. Jockusch; Francis Talbot; Anthony Rullo; Huihui Yao; *Department of Chemistry, University of Toronto, Toronto, Canada*

TP 628 **Gas-Phase H/D Exchange of Non-protein Amino Acids**; Justine Arrington[1]; Rita Straus[1]; Elaine M. Marzluff[2]; John C. Poutsma[1]; *[1]College of William & Mary, Williamsburg, VA; [2]Grinnell College, Grinnell, IA*

TP 629 **Rearrangement and Fragmentation Reactions of Different Estrogen and Indole Ethers: New Aspects Found with a FT-ICR**; Christoph Freudenhammer; Jurgen Grotemeyer; *Christian-Albrechts-Univ, Kiel, Germany*

TP 630 **Characterization of Complex Organic Aerosols as Analogues to Titan Haze Materials by ESI/LDI FT-ICR Mass Spectrometry and NMR Spectroscopy;** Tamara Munsch; Arpad Somogyi; Guangxin Lin; Mark Smith; *University of Arizona, Tucson, AZ*

TP 631 **Study of Radical z Ions Produced by ECD**; Daniel A. Thomas; Natalie J. Thompson; Takashi Baba; Gary L. Glish; *University of North Carolina, Chapel Hill, NC*

TP 632 **Evidence of Remote Double Hydrogen Transfer from Aromatic Hydrogen for Unimolecular Dissociation of *N*-[3-(2,6-Dichlorophenyl)propanoyl]-1-azacycloalkan(e)-2-(thi)ones Using Four-Sector Tandem Mass Spectrometer**; Hiroshi Yamaoka [1]; Yusuke Matsuo[1]; Kimio Isa[2]; Ryuji Nakata[2]; Nico M.M. Nibbering[3]; *[1]Osaka Prefecture University, Osaka, Japan; [2]University of Fukui, Fukui, Japan; [3]Vrije Universiteit, Amsterdam, The Netherlands*

TP 633 **Effects of Amide-to-Ester Bond Substitution in the Peptide Backbone on the Cleavage Frequency in Electron Transfer Dissociation and Collision-Activated Dissociation**; Eva C. Østerlund; Hye Ryung Jung; Frank Kjeldsen; *BMB, Odense M, Denmark*

TP 634 **An Investigation of Neutral and Charged Fragments from Metastable Protein Ion Decomposition Using an Energy Sensitive Superconducting Cryodetector Mass Spectrometer**; George Leonard; Mark E. Bier; *Carnegie Mellon University, Pittsburgh, PA*

TP 635 **Fragmentation Pathways of Singly and Doubly Charged Molecular Ions of Emetine**; Rong-Sheng Yang[1]; Larry Heimark[2]; Pradip R. Das[1]; Birendra Pramanik[1]; *[1]Merck Research Laboratories, Kenilworth, NJ; [2]retired, Tacoma, WA*

TP 636 **Does Acetylation and Methylation Change Fragmentation Mechanisms in Resonance Electron Capture by Neutral Peptides?**; Yury V Vasil'ev; Douglas F. Barofsky; Max L. Deinzer; *Oregon State University, Corvallis, OR*

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TP 638 **Pathways of Folding and Unfolding Prior to a quasi-Equilibrium Distribution of States in the Bradykinin $[M+3H]^{3+}$ System**; Nicholas Pierson; David E. Clemmer; *Indiana University, Bloomington, IN*

TP 639 **Glycosylation Stabilizes Compact Conformations of Ribonuclease**; Huilin Shi; Stephen J. Valentine; David E. Clemmer *Indiana University, Bloomington, IN*

TP 640 **Ion Mobility Spectrometry (IMS) for Trace Analysis of Genotoxic Impurity in Pharmaceutical Products**; Yaning Ma; *Pfizer Inc., Groton, CT*

TP 641 **Protein Ion Conformation Changes and Fragmentation caused by Ion Heating during Ion Trap Extraction**; Derrick L. Morast[1]; Gregg Schieffer[1]; Qin Zhao[1]; Ethan R. Badman[2]; R. Sam Houk[1]; *[1]Iowa State University, Ames, IA; [2]Hoffmann-La Roche Inc., Nutley, NJ*

TP 642 **Characterization of the Resolving Power and Resolution of a Monolithic Resistive Glass Drift Time Ion Mobility Spectrometer**; Mark Kwasnik; Facundo Fernandez; *Georgia Institute of Technology, Atlanta, GA*

TP 643 **High-throughput Proteomics Platform and Software for Improved Biomarker Discovery**; Erin Baker; Yehia Ibrahim; David Prior; William F. Danielson; Karl Weitz; Anuj Shah; Gordon Slysz; Brian Lamarche; Kevin Crowell; Jeffrey Stanley; Gordon Anderson; Janani Shutthanandan; Richard D. Smith; Mikhail Belov; *Pacific Northwest National Laboratory, Richland, WA*

TP 644 **Crown Ether as Shift Reagent for Petroleomics Investigation with Ion Mobility Spectrometry**; Zhiyu Li[1]; Stephen Valentine[2]; David E. Clemmer[2]; *[1]Indiana University - Bloomington, Bloomington, IN; [2]Indiana University, Bloomington, IN*

TP 645 **Evaluation of a nanoLC-IMS-TOF Platform for Broad and Sensitive Quantitative Proteomics Measurements**; Yehia Ibrahim; Erin Baker; William F. Danielson; David Prior; Richard D. Smith; Mikhail Belov; *Pacific Northwest National Laboratory, Richland, WA*

TP 646 **Enhanced Ion Mobility Shift Reagents for Proteomic Applications**; Thomas J. Kerr; Randi L. Gant-Branum; John A. Mclean; *Vanderbilt University, Nashville, TN*

TP 647 **Analysis of Heart Lipids Using MALDI-Ion Mobility–TOFMS**; Shelley N Jackson[1]; Jeremy D Post[1]; Alice Delvolve[1]; Benoit Colsch[1]; Thomas Egan[2]; J. Albert Schultz[2]; Amina S Woods[1]; *[1]NIDA-IRP, NIH, Baltimore, MD; [2]Ionwerks, Inc., Houston, TX*

TP 648 **A Study of the Interaction of Quaternary Amines and Phospholipids by Ion Mobility Mass Spectrometry**; Amina S. Woods [1]; Shelley N Jackson[1]; Jeremy Post [1]; Ernest K. Lewis [2]; Thomas Egan[2]; J. Albert Schultz[2]; *[1]NIDA IRP, NIH, Baltimore, MD; [2]Ionwerks, Inc., Houston, TX*

TP 649 **Exploring the Formation of Gas-Phase B-Hairpin by Ion Mobility-Mass Spectrometry and Molecular Dynamics**; Liuxi Chen; Qiang Shao; Yi-Qin Gao; David H. Russell; *Texas A&M University, College Station, TX*

TP 650 **A Periodic-focusing DC-only Ion Funnel for a Cryogenic Ion Mobility-Mass Spectrometer**; Joshua Silveira[1]; Chaminda M. Gamage[1]; Jody May[2]; David H. Russell[1]; *[1]Texas A&M University, College Station, TX; [2]Vanderbilt University, Nashville, TN*

TP 651 **Site-Specific Glycosylation Analysis Using Isoelectric Trapping Separations and MALDI-IM-TOF MS**; Pei-Jing Pai; Stephanie M. Cologna; William K. Russell; Gyula Vigh; David H. Russell; *Texas A&M University, College Station, TX*

TP 652 **Enhanced Sensitivity and Coverage in Large-Scale Phosphoproteomics Studies Using High Field Asymmetric Waveform Ion Mobility Spectrometry and Decision Tree Fragmentation**; Eric Bonneil[1]; Gaëlle Bridon [1]; Tara L Muratore-Schroeder[1]; Brenda Kesler[2]; Pierre Thibault[1]; *[1]Université de Montréal, Montréal, QC; [2]Thermo Fisher Scientific, Redwood City, CA*

TP 653 **Modification and Optimization of a Plug and Play Microspray FAIMS System**; Michael Belford; Jean-Jacques Dunyach; *Thermo Fisher Scientific, San Jose, CA*

TP 654 **Small Molecule Characterization and Method Development Using High-Field Asymmetric Ion Mobility Spectrometery (FAIMS) and Mass Spectrometry**; Cris Lapthorn; *Pfizer Global Research and Development, Sandwich, Kent*

TP 655 **Selective Analysis of Pharmaceutical Compounds in Complex Mixtures Using a Miniature High-Field FAIMS-MS Device**; Danielle E Toutoungi[1]; Anthony Bristow[2]; Andrew D Ray[3]; Daniel Weston[4]; *[1]Owlstone Ltd, Cambridge, UK; [2]Pharmaceutical Development, AstraZeneca., Macclesfield, UK; [3]Pharmaceutical Development, AstraZeneca, Charnwood, UK; [4]Clinical Pharmacology & DMPK, AstraZeneca, Charnwood, UK*

TP 656 **Advantages of Using a DMS Ion Pre-filter on Field-deployable Atmospheric Pressure Ionization(API) Mass Spectrometers**; Erkinjon G Nazarov[1]; Stephen L Coy[1]; Evgeny V Krylov[1]; Manuel J Manard[2]; Rusty Trainham[2]; Stephan Weeks[2]; *[1]Sionex Corp., Bedford, MA; [2]NSTec, Santa Barbara, CA*

TP 657 **Detection of Naled and Malathion Using GC/Differential Mobility Spectrometry**; Erick Molina [1]; Richard A. Yost[1]; Ulrich R. Bernier[2]; Erkinjon Nazarov[3]; *[1]University of Florida, Gainesville, FL; [2]USDA-ARS-CMAVE, Gainesville, FL; [3]Sionex Corp., Bedford, MA*

TP 658 **Differential Ion Mobility Spectrometry (FAIMS) with Resolving Power Up to 300 and its Application to Lipid and Peptide Analyses**; Alexandre A. Shvartsburg [1]; Giorgis Isaac Mezengie[2]; William F. Danielson [1]; David Prior[3]; Keqi Tang[4]; Tom Metz[1]; Richard D. Smith[2]; Nathalie Leveque[5]; *[1]Pacific Northwest National Laboratory, Richland, WA; [2]PNNL, Richland, WA; [3]Battelle PNNL, Richland, WA; [4]Pacific NW National Laboratory, Richland, WA; [5]Universite Paris-Sud XI, Plateau du Moulon, Orsay, France*

TP 659 **Influence of Electrode Length, and Analytical Gap Dimensions on Ion Transmission and Resolution in a Planar FAIMS Device**; Mark Ridgeway[1]; Alessandra Ferzoco[1]; Desmond Kaplan[2]; Melvin A. Park[2]; Gary L. Glish[1]; *[1]University of North Carolina, Chapel Hill, NC; [2]Bruker Daltonics, Inc., Billerica, MA*

TP 660 **Exploring the Integration of IMS-FAIMS-MS for Study of Explosives**; Marilyn Prieto; Chia-Wei Tsai; Richard A. Yost; *University of Florida, Gainesville, FL*

TP 661 **Solvent Vapor Effects in Planar FAIMS**; Leonard Rorrer; Richard A. Yost; *University of Florida, Gainesville, FL*

TP 662 **Automated Deconvolution of Complex Two-Dimensional Mass-Mobility Spectra of Multiply Charged Globular Ions into their Associated Mass-Charge Distributions**; Juan Fernandez Garcia[1]; Alejandro Casado[2]; Carlos Larriba Andaluz[1]; Chris Hogan [3]; Juan Fernandez de la Mora[1]; *[1]Yale University, New Haven, CT; [2]SEADM, Valladolid, Spain; [3]University of Minnesota, Minneapolis, MN*

TP 663 **Distinct Kinetic Folding and Unfolding Pathways of Ubiquitin Revealed by Time-Resolved ESI Coupled to Ion Mobiliy-MS**; John Van Nostrand [1]; Tamanna Rob[1]; Bruce Thomson[2]; Derek Wilson [1]; K W Michael Siu[1]; *[1]York University - CRMS, Toronto, Canada; [2]MDS Analytical Technologies, Concord, ON*

TP 664 **Ion Mobility Measurement of the GroEL Tetradecameric Complex by Tandem Differential Mobility Analysis Mass Spectrometry**; Chris Hogan [1]; Brandon Ruotolo[2]; Carol Robinson[3]; Juan Fernandez De La Mora[4]; *[1]University of Minnesota, Minneapolis, MN; [2]University of Michigan, Ann Arbor, MI; [3]University of Oxford, Oxford, UK; [4]Yale University, New Haven, CT*

TP 665 **Electrospray IMS-MS Analysis of Large Polymers: Escaping from the Crowded Fully-Stretched into the Globular Region**; Carlos Larriba Andaluz[1]; Juan Fernandez Garcia[1]; Chris Hogan [2]; Juan Fernandez De La Mora [1]; *[1]Yale University - Mechanical Engineering Departmen, New Haven, CT; [2]University of Minnesota, Minneapolis, MN*

INSTRUMENTATION: TOF, 666 - 682

TP 666 **Development of a Tandem Time-Of-Flight Mass Spectrometer with an ESI Ion Source for Probing High-Energy CID and ETD;** Hirofumi Nagao[1]; Shuichi Shimma[1]; Michisato Toyoda[1]; Shigeo Hayakawa[2]; Kunio Awazu[1]; *[1]Osaka University, Toyonaka, Japan; [2]Osaka Prefecture University, Sakai, Japan*

TP 667 **A Novel Multiple-Coincidence Method to Make Accurate Mass-Identifications from Multi-Turn Time-of-Flight Spectra Complicated by Overtaking**; Osamu Furuhashi[1]; Shigeki Kajihara[1]; Kiyoshi Ogawa[1]; Tohru Kinugawa[2]; *[1]Shimadzu Corporation, Kyoto, Japan; [2]Kobe University, Kobe, Japan*

TP 668 **Development of a Ultra-High Performance Multi-Turn TOF-SIMS System with a Femto-Second Laser for Post-Ionization**; Shingo Ebata[1]; Morio Ishihara[1]; Kousuke Kumondai[1]; Ryo Mibuka[2]; Kiichiro Uchino[2]; Hisayoshi Yurimoto[3]; *[1]Osaka University, Toyonaka, Japan; [2]Kyushu University, Kasuga, Japan; [3]Hokkaido University, Sapporo, Japan*

TP 669 **Analysis of Polychlorinatedbiphenyls with an Electron Impact Ionisation Source on an IMS enabled High-Resolution QToF Mass Spectrometer**; Gareth R Jones; Keith Worrall; Robert Bateman; Kyle D'silva; *Waters, Manchester, UK*

TP 670 **Use of a Multi-Reflecting Time of Flight Mass Analyzer for Accurate Quantitation of Narrow (Sub-Second) Liquid Chromatographic Peaks**; Kevin Siek; Matthew Giardina; John Chakel; Scott Pugh; Mark Libardoni; Viatcheslav Artaev; *LECO Corporation, Saint Joseph, MI*

TP 671 **Doughnut Multi-reflecting Time-of-Flight Mass Spectrometer**; Vyacheslav Shchepunov[1]; Alexander Berdnikov[2]; Hideaki Izumi[1]; Roger Giles[1]; Nicolay Gall[2]; *[1]Shimadzu Research Laboratory, Manchester, UK; [2]Institute for Analytical Instrumentation of RAS, St. Petersburg, Russia*

TP 672 **Isolating the Effects of Microchannel Plate Parameters on the Ultimate Resolution in Time of Flight Mass Spectrometers**; Stephen Ritzau; Paul Mitchell; Paula Holmes; *Photonis USA, Inc., Sturbridge, MA*

TP 673 **Design and Performance of New High Resolution MALDI-TOF Mass Spectrometers**; Kevin Hayden; Marvin Vestal; *VIC Instruments Corp., Sudbury, MA*

TP 674 **Development of a Stigmatic Mass Microscope with High Mass and Spatial Resolving Power Using a Multi-Turn Time-of-Flight Mass Spectrometer**; Jun Aoki[1, 6]; Hisanao Hazama[2, 6]; Michisato Toyoda[1, 6]; Kunio Awazu[2, 6]; Katsuyoshi Masuda[4, 6]; Kenichi Fujii[5, 6]; Yasuhide Naito[3, 6]; *[1]Graduate School of Science, Osaka University, Toyonaka, Osaka, Japan; [2]Graduate School of Engineering, Osaka University, Suita, Osaka, Japan; [3]GPI, Hamamatsu, Shizuoka, Japan; [4]Suntory Institute for Bioorganic Research, Mishima-gun, Osaka, Japan; [5]Osaka Institute of Technology, Hirakata, Osaka, Japan; [6]JST, CREST, Chioda-ku, Tokyo, Japan*

TP 675 **Physical Signal Modulation on TOF Mass Analyzers Reduces Error in Centroid Peak Assignment and Improves Signal-To-Noise;** Jonathan Hilmer[1]; Brian Bothner[2]; *[1]Montana State University, Mass Spectrometry Facility, Bozeman; [2]Montana State University, Bozeman, MT*

TP 676 **Tunable Postionization of Laser Desorbed Neutrals by Synchrotron Radiation to Detect Antibiotics in *S. epidermidis* Bacterial Biofilms**; Gerald L. Gasper [1]; Lynelle K. Takahashi[2, 3]; Jia Zhou[3]; Musahid Ahmed[3]; Luke Hanley[1]; *[1]University Illinois Chicago, Chicago, IL; [2]University of California, Berkeley, Berkeley, California; [3]Chemical Sciences Division, LBNL, Berkeley, Berkeley, California*

TP 677 **Enlargement of Effective Area of M2 Ion Detector by Electron Optics**; Motohiro Suyama; Hiroshi Kobayashi; Masahiro Kotani; Takayuki Ohmura; Akio Suzuki; Yuuya Washiyama; *Hamamatsu Photonics K.K., Iwata, Japan*

TP 678 **Development and Application of Miniaturized High-Resolution Time-Of-Flight Mass Spectrometer "MULTUM-S II" with an Infinite Flight Path**; Shuichi Shimma[1]; Keiji Takahashi[2]; Shinichi Miki[2]; Michisato Toyoda[1]; *[1]Osaka University, Toyonaka, Japan; [2]MSI Tokyo Inc., Chofu-shi, Japan*

TP 679 **Charge-State-Discrimination TOF Analyzer by Nano-Second Superconducting Molecule Detector**; Kouji Suzuki[1]; Masataka Ohkubo [1]; Shigehito Miki[2]; Kaori Chiba[1]; Shigetomo Shiki[1]; Masahiro Ukibe[1]; Zhen Wang[2]; *[1]AIST, RIIF, Tsukuba, Japan; [2]NICT, Kobe, Japan*

TP 680 **Optimizing the Microchannel Plate Detector Assembly to Improve Time-Of-Flight Mass Resolution**; Paul Mitchell; Stephen Ritzau; Bruce Laprade; *[1]Photonis USA, Inc., Sturbridge, MA*

TP 681 **Multi-Anode Detector in Mass Spectrometer**; Yi He; John F. Poehlman; Kirk Boraas; James P. Reilly; *Indiana University, Bloomington, IN*

TP 682 **A Serpentine Extraction Ion Source for a Laser Desorption Postionization Microprobe Imaging MS**; Jerry F. Moore[1]; Gerald Gasper [2]; Artem Akhmetov[2]; Luke Hanley[2]; *[1]MassThink LLC, Naperville, IL; [2]University of Illinois at Chicago, Chicago, IL*

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

BIOINFORMATICS, 001 - 026

WP 001 **Precursor Monoisotopic Mass and charge Determination with Almost 100% Accuracy**; Xi Han[1]; Baozhen Shan[2]; Bin Ma[1]; *[1]University of Waterloo, Waterloo, Canada; [2]Bioinformatics Solutions Inc., Waterloo, ON, Canada*

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

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

WP 004 **Deconvolution of Complex Tandem Mass Spectra of Intact Proteins: A Combinatorial Approach**; Xiaowen Liu[1]; Yuval Inbar[1]; Sara Weitz[2]; Pieter Dorrestein [2]; Puneet Souda[3]; Julian Whitelegge[3]; Vineet Bafna[1]; Pavel Pevzner[1]; *[1]Dept. of Comp. Sci. and Eng., UCSD, La Jolla, CA; [2]Skaggs School, UCSD, La Jolla, CA; [3]Pasarow Mass Spectrometry Laboratory, UCLA, Los Angeles, CA*

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

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

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

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

WP 009 **mzServer: Remote Mass-Informatics through a Web-Based mzAPI**; Manor Askenazi[1]; James Webber[2]; Saurav Singh[2]; Jarrod Marto[2]; *[1]Dana-Farber Cancer Institute and Hebrew University, Boston, MA; [2]Dana Farber Cancer Institute, Boston, MA*

WP 010 **First Demonstration on NSE Biomarker of a Computational Environment Dedicated to Lab-on-Chip Based Cancer Diagnosis**; Pierre Grangeat[1]; Laurent Gerfault[1]; Caroline Paulus[1]; Vangelis Kritsotakis[2]; Manolis Tsiknakis[2]; Frédérique Lisacek[3]; Pierre-Alain Binz[4]; Manuel M Perez-Perez[5]; Mathieu Trauchessec[6]; Virginie Brun[6]; *[1]CEA, LETI, MINATEC, DTBS, LE2S, Grenoble, France; [2]FORTH, ICS, Heraklion, Greece; [3]SIB, Proteome Informatics Group, Geneva, Switzerland; [4]GeneBio SA, Geneva, Switzerland; [5]ATOS Research and Innovation, Madrid, Spain; [6]CEA/INSERM/UJF U880, LEDyP, Grenoble, France*

WP 011 **Beyond Monoisotopic Mass II : Prediction of Peptide PTMs by Isotope Cluster Analysis**; Jonathan A Epstein[1]; Matthew T. Olson[2]; Peter S. Backlund[1]; Paul S. Blank[1]; Aaron Catlin[1]; Alfred L. Yergey [1]; *[1]NICHD, NIH, Bethesda, MD; [2]JHMI, Baltimore, MD*

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

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

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

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

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

WP 017 **Evaluation of Methods for Unsupervised Classification of MALDI Mass Spectra**; Joseph Salisbury[1]; Emmanuel Obasuyi[1]; Nicole Zaia[1]; Kristin Boggio[1]; Nathalie Agar[2]; Jeffrey Agar[1]; *[1]Brandeis*

University, Waltham, MA; [2]Brigham and Women's Hospital, Harvard University, Boston, MA

WP 018 **Outlier Analysis of Protein Microarray Data for Biomarker Discovery**; Huy Vuong[1]; David M. Lubman [1]; Michael S. Sabel[1]; Sara Forrester[2]; Timothy Barder[2]; *[1]University of Michigan, Ann Arbor, MI; [2]Eprogen, Inc, Darien, IL*

WP 019 **Automated Analysis of Hydrogen/Deuterium Exchange-Mass Spectrometry Data of Large Proteins to Determine Exchange Rate Constant with Near Single-Residue Resolution**; Zhongqi Zhang; Gang Xiao; *Amgen, Thousand Oaks, CA*

WP 020 **Strategy for Automatic Interpretation of MS Data in Target Compound Analysis: Evaluation Methods for Comparing Data Against Acceptance Criteria**; David N. Heller; Hui Li; *FDA/CVM, Laurel, MD*

WP 021 **Biomarker Discovery by Automatic Annotation of N-glycan Species in MALDI-TOF-TOF Spectra**; Chuan-Yih Yu; Anoop M. Mayampurath; Yehia Mechref; Haixu Tang; *Indiana University, Bloomington, IN*

WP 022 **Improving Wavelet Denoising of HPLC-MS Data by Adaptive Thresholding in the Retention Time Domain**; Salvatore Cappadona[1, 2]; Linda Pattini[3]; Fredrik Levander[4]; Reinout Raijmakers[1, 2]; Shabaz Mohammed[1, 2]; Albert J.R. Heck [1, 2]; Bas van Breukelen[1, 2]; *[1]Biomolecular MS & Proteomics - Utrecht University, Utrecht, Netherlands; [2]Netherlands Proteomics Centre, Utrecht, Netherlands; [3]Bioengineering Department - Politecnico di Milano, Milano, Italy; [4]Immunotechnology Dept, Lund University, Lund, Sweden*

WP 023 **mMass Reloaded - Advances in the Popular Cross-Platform Software for Precise Analysis Of Mass Spectrometric Data**; Martin Strohalm[1]; Daniel Kavan[1, 2]; Petr Novak[1, 2]; Vladimir Havlicek[1, 3]; *[1]Institute of Microbiology, Prague, Czech Republic; [2]Faculty of Science, Charles University, Prague, Czech Republic; [3]Palacky University, Olomouc, Czech Republic*

WP 024 **Digging Deeper into a Million-Spectral Dataset: Analysis of 3D-Fractionated Salivary Proteome by Using Search Algorithms for High-Mass-Accuracy Data;** Pratik Jagtap[1]; Sricharan Bandhakavi[2]; Sean L. Seymour[3]; Tim Griffin[2]; *[1]Minnesota Supercomputing Institute, UMN, Minneapolis, MN; [2]University of Minnesota, Minneapolis, MN; [3]AB SCIEX, Foster City, CA*

WP 025 **A Mathematical Algorithm for Estimation Protein Dynamics Using Mass Spectrometry**; Sergei Ilchenko [2]; Nadia Rachdaoui [2]; Ling Li[1]; Belinda Willard[1]; Arthur McCullough[1]; Takhar Kasumov[1]; *[1]CCF, Cleveland, OH; [2]Case Western Reserve University, Cleveland, OH*

WP 026 **Probabilistic Scoring of Protein-Protein Interactions from Label-Free Quantitative AP-MS Data**; Hyungwon Choi[1]; Ashton Breitkreutz[2]; Dattatreya Mellacheruvu[1]; Damian Fermin[1]; Mike Tyers[2, 3]; Zhaohui Qin[1]; Anne-Claude Gingras[2, 4]; Alexey Nesvizhskii[1]; *[1]University of Michigan, Ann Arbor, MI; [2]Samuel Lunenfeld Research Institute, Toronto, Canada; [3]University of Edinburgh, Edinburgh, UK; [4]University of Toronto, Toronto, Canada*

PROTEINS: MODIFIED, 027 - 060

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

WP 028 **Acetaldehyde Adducts as a Biomarker of Exposure**; Alina Costin; Maria Ospina; Hubert Vesper; *Centers for Disease Control and Prevention, Atlanta, GA*

WP 029 **Characterization of Intact Complexes of Recombinant Albumin Domains with ON 01910, an Antineoplastic Benzylstyryl Sulfone, Using Electrospray Mass Spectrometry**; John Roboz; Sool Yeon Cho; *Mount Sinai School of Medicine, New York, NY*

WP 030 **Interaction Site of Periplasmic Metal-Resistance Proteins CusF/CusB Determined by Chemical Cross-Linking and Mass Spectrometry**; Tiffany Mealman[1]; Pragya Singh[2]; David R. Goodlett [2]; Megan McEvoy[1]; Vicki H. Wysocki[1]; *[1]University of Arizona, Tucson, AZ; [2]University of Washington, Seattle, WA*

WP 031 **Reporter Ion Signature for Cross-Linked Peptides**; Lutz Fischer; Helena Barysz; Zhuo Chen; Lau Sennels; Salman Tahir; Juri Rappsilber; *Wellcome Trust Centre for Cell Biology, Edinburgh, UK*

WP 032 **Structural Characterization of Chemically Stabilized, ALS-Associated Variants of Cu, Zn Superoxide Dismutase;** Jared R. Auclair; Kristin J. Boggio; Dagmar Ringe; Gregory A. Petsko; Jeffrey Agar; *Brandeis University, Waltham, MA*

WP 033 **Cysteine Rich Protein Segments: A Comparison of Disulfide Mapping Methods**; Cedric Bobst[1]; Adriana Z. Kita[1]; Igor A. Kaltashov[1]; Melanie Lin[2]; Paul Salinas[2]; John J. Thomas[2]; Philip J. Savickas[2]; *[1]University of Massachusetts, Amherst, MA; [2]Shire HGT, Cambridge, MA*

WP 034 **Disulfide Mapping of Therapeutic Proteins by Differential Mass Spectrometry (dMS)**; Yi Du; Van M. Hoang; *Merck Research Laboratories, West Point, PA*

WP 035 **Insights into Formaldehyde Cross-Linking of Proteins and Cross-Link Reversal by Mass Spectrometry Based Time-Course Analysis**; Xuan Ding; Juergen Kast; *University of British Columbia, Vancouver, BC*

WP 036 **BPL Modifications in Viruses: Reactions with Model Peptides;** Joost Uittenbogaard; Bert Zomer; Peter Hoogerhout; Hugo D. Meiring; Ad de Jong; Bernard Metz; *Netherlands Vaccine Institute, Bilthoven, Netherlands*

WP 037 **Determination of the Binding Sites of Dimethylphenylisocyanate on Human Serum Albumin**; Justin M. Hettick; Tinashe B. Ruwona; Paul D. Siegel; *NIOSH, Morgantown, WV*

WP 038 **Identification of MDI Albumin Adducts with Liquid Chromatography Tandem Mass Spectrometry and Mascot Software**; Fagen Zhang; Michael J. Bartels; *The Dow Chemical Company, Midland, MI*

WP 039 **Characterization of Challenging PEGylated Therapeutics Utilizing Advanced MS Technology and Novel Preparation Techniques**; Tonya Pekar Second[1]; Rosa Viner[1]; Andrew Carr [2]; Chad Cummins[2]; John E. P. Syka[1]; Lihua Huang[2]; *[1]Thermo Fisher Scientific, San Jose, CA; [2]Eli Lilly and Company, Indianapolis, IN*

WP 040 **Effect of Fluorescent Dye Labeling on Electrospray Ionization Efficiencies of Peptides and Proteins**; Suraj Saraswat; Dragan Isailovic; *University of Toledo, Toledo, OH*

WP 041 **Formation of Carbamino Groups with Peptides and Proteins Studied by Mass Spectrometry**; Donald J. Douglas; Peran Terrier; *University of British Columbia, Vancouver, Canada*

WP 042 **Use of Label-Free Quantitative Mass Spectrometry to Identify Lyric Ubiquitylation Sites: Towards the Determination of Lyric Functional Modulation**; Karin Barnouin[1]; Hayley Thirkettle[2, 3]; Sarah Hanrahan[1]; Nick Totty[1]; David Neal[2]; Hayley Whitaker[2]; *[1]London Research Institute, Cancer Research UK, London, UK; [2]Cambridge Research Institute, Cancer Research UK, Cambridge, UK; [3]Paterson Institute for Cancer Research, Manchester, UK*

WP 043 **Characterization of Trisulfide -- A Common Modification in Antibodies**; Sheng Gu; Dingyi Wen; R.Blake Pepinsky; Paul H. Weinreb; Yaping Sun; Lihe Zhang; Susan Foley; Sha Mi; Werner Meier; *Biogen Idec, Cambridge, MA*

WP 044 **MS Analysis of Differentially Acetylated Species of CheY, Response Regulator in Chemotaxis of *E.coli*. From Top-Down to Bottom-Up**; Tevie Mehlman; Bassem Ziadeh; Orna Liarzi; Rina Barak; Michael Eisenbach; Alla Shainskaya; *Weizmann Institute of Science, Rehovot, Israel*

WP 045 **Mass Spectrometric Identification of Human CENP-A Post-Translational Modifications**; Aaron Bailey[1]; Tatyana Panchenko[2]; Ben Black[2]; Daniel Foltz[1]; Jeffrey Shabanowitz[1]; Donald Hunt[1]; *[1]University of Virginia, Charlottesville, VA; [2]University of Pennsylvania, Philadelphia, PA*

WP 046 **Role of Methionine Sulfoxide Reductase in Repairing Catalase of *Helicobacter pylori***; ViLinh Tran[1]; Manish Mahawar[2]; Robert J. Maier[2]; Joshua S. Sharp[1]; *[1]Complex Carbohydrate Research Center, UGA, Athens, GA; [2]Department of Microbiology, UGA, Athens, GA*

WP 047 **Identification of H-Ras Posttranslational Modifications under Oxidative Stresses**; Yuhuan Ji[1]; Dagmar J. F. Haeussler[2]; Markus M. Bachschmid[2]; David Perlman[1]; Richard A. Cohen[2]; Cheng Lin[1]; *[1]Department of Biochemistry, Boston University, Boston, MA; [2]Department of Medicine, Boston University, Boston, MA*

WP 048 **Mapping Free Radical Initiated Oxidation of apo B-100 Low Density Lipoprotein by LC-MS/MS**; Sourav Sourav Chakraborty[1]; Yang Cai[2]; Matthew A. Tarr[1]; *[1]Department of Chemistry, University of New Orleans, New Orleans, LA; [2]The Research Institute for Children, New Orleans, LA*

WP 049 **Semi-Quantitative Analysis of Combinatorial Post-Translational Modifications on Full-Length Histone H4 of Cow, Mouse and Chicken**; Li Zhou [1]; Michael Parra [1]; Yuan-Yu Lee[1]; Yanbao Yu[1]; Yi Huang[2]; Brian D. Strahl [1]; Xian Chen[1]; *[1]University of North Carolina - Chapel Hill, Chapel Hill, NC; [2]Fudan University, Shanghai, China*

WP 050 **Localization and Quantification of Free Sulfhydryl in Monoclonal Antibodies by Top-Down HPLC/MS Analysis**; Pavel V. Bondarenko; Gang Xiao; Thomas M. Dillon; Zhongqi Zhang; *Amgen, Inc., Thousand Oaks, CA*

WP 051 **Fourier Transform Mass Spectrometry of Antiproliferative Agents and Their Protein Targets**; Jeremy J. Wolff[1]; DongEun Lee[2]; Matthew L. Meketa[2]; Andrew G. Myers[2]; *[1]Bruker Daltonics, Billerica, MA; [2]Harvard University, Cambridge, MA*

WP 052 **Discovery of New Protein Methyltransferases and Relative Quantitation of the Methylation State of Their Translational Machinery Substrates Using Mass Spectrometry**; Kristofor Webb; Rebecca Lipson; Julian Whitelegge; Steve Clarke; *University of California LA, Los Angeles, CA*

WP 053 **Analysis of Fluorescently Labeled Proteins by MALDI-MS**; Dragan Isailovic; Suraj Saraswat; Nidhi Jaiswal; *University of Toledo, Toledo, OH*

WP 054 **Top-Down Sequencing of Intact Histones by MALDI-TOF In Source Decay**; Elaine Stephens; Sew Peak Chew; *Medical Research Council, Cambridge, UK*

WP 055 **Top-Down ECD Analysis of Beta 2 Microglobulin Protein Deamidation**; Xiaojuan Li [1]; Cheng Lin [1]; Peter B. O'connor[2]; *[1]Boston University School of Medicine, Boston, MA; [2]University of Warwick, Coventry, UK*

WP 056 **Identification of Different Protein Isoforms in *C. elegans* Using the Molecular Weight Fractionation and Shotgun Proteomics**; Gennifer Merrihew; Sanna Oddone; Michael J. Maccoss; *University of Washington, Seattle, WA*

WP 057 **HDAC3 and HDAC8 Alkylation by a Selective Photoaffinity Labeling Inhibitor**; Yongsoo Choi [1]; Bai He[1]; Raghupathi Neelarapu[1]; Subash Velaparthi[2]; Sylvie Blond[1]; Pavel A Petukhov[1]; Richard B van Breemen[1]; *[1]University of Illinois College of Pharmacy, Chicago, IL; [2]The Scripps Research Institute, La Jolla, CA*

WP 058 **Localization of the Specific Site of Enzyme-Mediated Covalent Binding of Phycoerythrobilin to C-Phycoerythrin**; M. Nazim Boutaghou; Avijit Biswas; Richard B. Cole; Wendy M. Schluchter; *University of New Orleans, New Orleans, LA*

WP 059 **Use of Hybrid LTQ-Orbitrap to Detect Ubiquitin and Polyubiquitin-Chain-Derived Peptides in Unenriched Whole-Cell and Tissue Lysates**; Thomas A. Shaler[1]; Brigit Riley[2]; Steve Kaiser[2]; Ron Kopito[2]; Chris Becker[1]; *[1]Caprion Proteomics U.S. LLC, Menlo Park, CA; [2]Stanford University, Stanford, CA*

WP 060 **Mapping the Chromatin Structure Controlling Life Cycle Progression of Plasmodium Falciparum**; Anita Saraf[2]; Serena Cervantes[1]; Michael Washburn[2]; Karine Le Roch[1]; Laurence Florens[2]; *[1]University of California Riverside, Riverside, CA; [2]Stowers Institute for Medical Research, Kansas City, MO*

PROTEIN CONFORMATION: (HDX), 061 - 088

WP 061 **Localizing Binding-Induced Folding in Disordered Proteins CBP and ACTR with H/D-MS**; Theodore Keppel; David Weis; *University of Kansas, Lawrence, KS*

WP 062 **Structure/Dynamics Studies of Dodecameric DPS-like Cages from Bacteria and Archaea (Mesophilic vs. Thermophilic)**; Navid Movahed[1]; Geoff Blatter[1]; Jonathan Hilmer[2]; George Gauss[1]; Martin Lawrence[1]; Mark Young[1]; Trevor Douglas[1]; Brian Bothner[1]; *[1]Montana State University, Bozeman, MT; [2]Montana State University, Mass Spectrometry Facili, Bozeman, MT*

WP 063 **Histidine Hydrogen-Deuterium Exchange Mass Spectrometry for Probing Structural Changes in Rhodopsin**; Masaru Miyagi; David Lodowski; Krzysztof Palczewski; *Case Western Reserve Univ., Cleveland, OH*

WP 064 **Understanding the Transferrin Binding Protein B – Porcine Transferrin Interaction and its Role in Iron Release and Transfer**; Leslie Silva; Ronghua Yu; Tony B. Schryvers; David C. Schriemer; *University of Calgary, Calgary, Canada*

WP 065 **An Integrated Microfluidic Chip for Spatially Resolved Measurements of Millisecond Time-Scale**

Conformational Dynamics in Proteins; Tamanna Rob; Derek Wilson; *York University, Toronto, Canada*

WP 066 **Understanding Oncogenic Activation and Inhibitor Binding of the Epidermal Growth Factor Receptor by Hydrogen Exchange Mass Spectrometry**; Kasper D. Rand[1]; Cai-hung Yun[2, 3]; Michael J. Eck[2, 3]; John R. Engen[1]; *[1]Northeastern University, Boston, MA; [2]Harvard Medical School, Boston, MA; [3]Dana-Farber Cancer Institute, Boston, MA*

WP 067 **Investigation of the Protein Dynamics of AMP-Activated Protein Kinase with Hydrogen/Deuterium Exchange Mass Spectrometry**; Rachelle R. Landgraf[1]; Michael J. Chalmers[1]; Bruce D. Pascal[1]; Francis Rajamohan[2]; Melissa S. Harris[2]; Ravi G. Kurumbail[2]; Patrick R. Griffin[1]; *[1]The Scripps Research Institute, Jupiter, FL; [2]Pfizer Inc., Groton, CT*

WP 068 **HDX Reveals DNA Binding Modulates Ligand-Dependent Co-Activator Interaction with the VDR/RXRα Nuclear Receptor Complex**; Jun Zhang [1]; Michael J. Chalmers[1]; Bruce D. Pascal[1]; Scooter Willis[1]; Keith R. Stayrook[2]; Jeffrey A. Dodge[2]; Patrick R. Griffin[1]; *[1]The Scripps Research Institute, Scripps Florida, Jupiter, FL; [2]Lilly Research Laboratories, Eli Lilly and Company, Indianapolis, IN*

WP 069 **Screening for Unique RXRα-rexinoid Interactions by Automated Hydrogen/Deuterium Exchange**; Leeann Boerma; Gang Xia; Donald Muccio; Matthew B. Renfrow; *University of Alabama at Birmingham, Birmingham, Al*

WP 070 **Cross Comparison of Differential HDX MS Datasets**; Bruce D. Pascal[1]; Michael J. Chalmers[1]; Scooter Willis[1]; Jeffrey A. Dodge[2]; Stephen J. Iturria[2]; Jun Zhang[1]; Patrick R. Griffin[1]; *[1]The Scripps Research Institute, Scripps Florida, Jupiter, FL; [2]Eli Lilly and Company, Indianapolis, Indiana*

WP 071 **Allostery and Feedback Regulation in the Cyclic AMP Pathway Unravelled by Amide Hydogen/Deuterium Exchange Mass Spectrometry**; Ganesh S. Anand; Balakrishnan S. Moorthy; Suguna Badireddy; *NUS, Singapore*

WP 072 **Development of an HXMS Workflow and its Application to Epitope Mapping**; Keith Fadgen; Michael Eggertson; Martha Stapels; Joomi Ahn; *Waters Corp., Milford, MA*

WP 073 **Combination of Top-Down and Bottom-Up Approaches to HDX MS: On-Line Digestion and Continuous Flow Injection Followed by Peptide Ion ECD/ETD**; Rinat Abzalimov[1]; Cedric Bobst[1]; Michael Easterling[2]; Igor A. Kaltashov[1]; *[1]University of Massachusetts, Amherst, MA; [2]Bruker Daltonics, Inc., Billerica, MA*

WP 074 **Interactions of Various Modulators with Human FXR-LBD Studied by Hydrogen/Deuterium Exchange with LC-ESI Mass Spectrometry**; Liping Yang[1]; Claudia Maier[1]; *[1]Oregon State University, Corvallis, OR*

WP 075 **Investigating Novel Molecular Events Involved in Calcium-Calmodulin Activation of Smooth Muscle Myosin Light Chain Kinase Using Hydrogen-Deuterium Exchange Mass Spectrometry**; Madonna Lily Choi[1]; Michael Walsh[1]; John Chik[1, 2]; *[1]University of Calgary, Calgary, Canada; [2]Mount Royal University, Calgary, AB*

WP 076 **The Transport Cycle of a Membrane ABC Transporter Probed by HDX MS;** Shahid Mehmood; Jean-Michel Jault; Eric Forest; *Inst. for Structural Biology, Grenoble, France*

WP 077 **Measurement of pKa Values and C2 H/D Exchange Rates of Individual Histidine Residues in Proteins Using MALDI-MS**; Naoka Hayashi[1]; Hiroki Kuyama[2]; Chihiro Nakajima[2]; Osamu Nishimura[2]; Masaru Miyagi[3]; Hisayuki Matsuo[4]; Takashi Nakazawa[1]; *[1]Nara Women's University, Nara, Japan; [2]Institute for Protein Research, Osaka, Japan; [3]Case Western Reserve University, Cleveland, Ohio; [4]National Cardiovascular Center Research Institute, Osaka, Japan*

WP 078 **Using Hydrogen/Deuterium Exchange Mass Spectrometry to Study the Conformation of Myoglobin Adsorbed on Silver Nanoparticles**; Yaoling Long; Barber David; David Powell; John Eyler; *University of Florida, Gainesville, FL*

WP 079 **The Potential for "Synergistic" Protein Digestion Using Multiple, Immobilized Protease for Hydrogen/Deuterium Exchange Mass Spectrometry**; Anne Yang[2]; John Chik[1, 2]; *[1]Mount Royal University, Calgary, Canada; [2]University of Calgary, Calgary, AB*

WP 080 **Slow H/D Exchange of Histidine Residues as a Probe of Protein Folding and Stability**; Duc Tran; Michael C. Fitzgerald; *Duke University, Durham, North Carolina*

WP 081 **Recognizing False EX1 Signatures Caused by Peptide Carryover during HXMS Analyses**; Jing Fang; Kasper D. Rand; Penny J. Beuning; John R. Engen; *Northeastern University, Boston, MA*

WP 082 **Apolipoprotein-E Oligomerization Investigated by Hydrogen/Deuterium Exchange Mass Spectrometry**; Richard Yu-Cheng Huang; Brian C. Gau; Kanchan Garai; Carl Frieden; Michael L. Gross; *Washington University, St.Louis, MO*

WP 083 **Front-End Automation for Solution-Phase H/D Exchange FT-ICR Mass Spectrometry**; Qian Zhang[1, 2]; Greg T. Blakney[1]; Mark R. Emmett[1]; Huimin Zhang[1]; B. Kerry Maddox[3]; Scott M. Stagg[2, 3]; Alan G. Marshall[1, 2]; *[1]Ion Cyclotron Resonance Program, NHMFL, Tallahassee, Florida; [2]Department of Chemistry and Biochemistry, FSU, Tallahassee, Florida; [3]Institute of Molecular Biophysics, FSU, Tallahassee, Florida*

WP 084 **Investigating Conformational Changes in Oxidized Interferon alpha-2b by Hydrogen/Deuterium Exchange Mass Spectrometry (HX MS)**; Joomi Ahn[1]; Keith Fadgen [2]; John R. Engen[1]; *[1]Northeastern University, Boston, MA; [2]Waters Corporation, Milford, MA*

WP 085 **Probing the HIV-1 Vif:Cullin 5 Interaction Using Hydrogen Exchange Mass Spectrometry**; Sean R. Marcsisin; John R. Engen; *Northeastern University, Boston, MA*

WP 086 **Conformational Changes of an Integral Membrane Protein Studied by Hydrogen/Deuterium Exchange Mass Spectrometry**; Yan Pan[1]; Leonid Brown[2]; Lars Konermann[1]; *[1]University of Western Ontario, London, Canada; [2]University of Guelph, Guelph, Canada*

WP 087 **Membrane-Assisted Hydrogen/Deuterium Exchange Mass Spectrometry for Protein Dynamics and Protein/Protein Interaction Studies**; Juan Astorga-Wells; Michael Fitzen; Hans Jörnvall; *Karolinska Institutet, Stockholm, Sweden*

WP 088 **Mapping the Interfaces of Insulin Oligomers by H/D Amide Exchange and Top-Down Mass Spectrometry**; Yining Huang[1]; Weidong Cui [2]; Michael L. Gross[2]; *[1]WUSTL, St. Louis, MO; [2]Washington University, St. Louis, MO*

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WP 090 **Unlocking the Proteome of Formalin-Fixed CNS Tissue: Optimisation and Application to the Study of Multiple Sclerosis**; Linda Ly[1]; Ben Crossett[2]; John W. Prineas[1]; Michael Barnett[1, 3]; *[1]Central Clinical School, University of Sydney, Australia; [2]School of Molecular and Microbial Biosciences, University of Sydney, Australia; [3]Brain and Mind Research Institute, University of Sydney, Australia*

WP 091 **Chamber-Related Variation in Phosphorylation State of Cardiac Troponin Revealed by High Resolution Top-Down Mass Spectrometry**; Xintong Dong; Jiang Zhang; Timothy Hacker; Holly Norman; Jitandrakumar Patel; Takushi Kohmoto; Richard Moss; Ying Ge; *University of Wisconsin-Madison, Madison, WI*

WP 092 **Differential Proteomics Analysis in Ischemic Cardiac Disease**; Evelyn H. Kim[1]; Vladimir I. Galchev[1]; Sharlene M. Day[1]; Francis Pagani[1]; JinYoung Kim[2]; Yangsun Kim[3]; David E. Misek[1]; Margaret V. Westfall[1]; *[1]University of Michigan, Ann Arbor, MI; [2]Korea Basic Science Institute, Ochang, South Korea; [3]Hudson Surface Technology, Newark, NJ*

WP 093 **Proteomic Analysis of Formalin-Fixed Paraffin-Embedded (FFPE) Her2 Positive Breast Cancer Tissue Using Differential Mass Spectrometry**; Ekaterina G. Deyanova; Qinghua Song; Nathan Yates; Ronald Hendrickson; *Merck & Co. Inc., Rahway, NJ*

WP 094 **Global Proteomics of Early-Stage Recurrent Breast Cancer**; Nicholas Bateman[1]; Jenny Heidbrink Thompson [2]; Marlene M. Darfler[2]; Mai Sun[1]; Brian L Hood[1]; Sheeno Thyparambil[2]; Todd Hembrough[2]; Thomas P. Conrads[1]; David Krizman[2]; *[1]University of Pittsburgh Cancer Institute, Pittsburgh, PA; [2]Expression Pathology Inc., Rockville, MD*

WP 095 **Handling of Clinical Samples for Improved Proteomics**; John Lindsay[1]; Marcus Svensson[1]; Mats Borén[1]; Per Svenningsson[2]; Per Andrén[3]; Karl Sköld[1]; *[1]Denator AB, Gothenburg, Sweden; [2]Inst. for Physiology and Pharmacology, Karolinska Institute, Stockholm, Sweden; [3]Biological and Medical Mass Spectrometry, Uppsala University, Uppsala, Sweden*

WP 096 **Label-Free LC-MS-Based Proteomics for Integrated Preclinical Pharmaceutical Toxicology: Experience from the FP6 InnoMed PredTox Consortium**; Ben Collins[1]; Christine Miller[2]; Martin Wells[3]; William Gallagher[1]; Stephen Pennington[1]; *[1]UCD Conway Institute, University College Dublin, Dublin, Ireland; [2]Agilent Technologies, Santa Clara, CA; [3]Nonlinear Dynamics, Newcastle upon Tyne, UK*

WP 097 **A Quantitative Proteomic Study on the Inhalable Nanoparticle-Induced Lung Injury Animal Model**; Mei Ling Wu[1]; Chia-Hua Chen[2]; Jui-Ping Li[2]; Yi-Ting Wu[2]; Jen-Kun Chen[2]; Chung-Shi Yang[2]; Yi-Ting Chen[1]; *[1]Chang Gung University, Taoyuan, Taiwan; [2]National Health Research Institutes, Miaoli, Taiwan*

WP 098 **Quantitative Proteomic Analysis of Gill in Zebrafish (*Danio rerio*) Exposed to Naphthenic Acids from Oils Sands Process Water**; Andrea De Souza; Tyson MacCormack; Greg Goss; Liang Li; *University of Alberta, Edmonton, Canada*

WP 099 **Quantitative Analysis of the brain Synaptic Plasma Membrane Proteins from the DHA-Deficient and Adequate Mice Using 16O/ 18O Labeling**; Vishaldeep Sidhu; Bill Huang; Hee-Yong Kim; *NIAAA/NIH, Rockville, MD*

WP 100 **Effect of Botanicals on Regulation of Insulin Action in Primary Human Skeletal Muscle Culture Using Mass Spectrometry**; Peter Scherp; Indu Kheterpal; Ku Ginger; Zhong Wang; William Cefalu; *Pennington Biomedical Research Center, Baton Rouge, LA*

WP 101 **Broad-Scale Proteomic Analysis from Less Than 3ug Protein Derived from Human Prostate Epithelium Isolated Using Laser Capture Microdissection**; Kristin West[1]; Nikhil Garge[1]; Zhi Huang[2]; Andra Frost[2]; Maureen Bunger[1]; *[1]Research Triangle Institute, Research Triangle Park, NC; [2]University of Alabama at Birmingham, Birmingham, AL*

WP 102 **Immune-Related Changes in Oxidative Stress of SAMP8 Mice following *in vivo* N-acetylcysteine Treatment: A Proteomics Assessment**; Renã A. S. Robinson[1]; D. Allan Butterfield[3]; William A. Banks[2]; William M. Pierce[4]; *[1]University of Pittsburgh, Pittsburgh, PA; [2]Saint Louis University, Saint Louis, MO; [3]University of Kentucky, Lexington, KY; [4]University of Louisville, Louisville, KY*

WP 103 **2-DE-MALDI-TOF Tandem MS for Evaluation of Protein Expression Patterns in Tissues of the Model Fish Species, *Fundulus grandis***; Naga Abbaraju; M. Nazim Boutaghou; Richard B. Cole; Bernard B. Rees; *University of New Orleans, New Orleans, LA*

WP 104 **Rat Muscle Proteome and Transcriptome: Differential Analysis According to Changes in Fuel Partitionning**; Thierry Wasselin; Chrystel Husser; Alain van Dorsselaer; Fabrice Bertile; *LSMBO, IPHC-DSA, Strasbourg, France*

WP 105 **Proteomic Comparison of the Peritoneal Dialysates in Chronic Diabetic and Glomerulonephritic Patients**; Hsin-Chieh Wu[2]; Hung Su[2]; Ming-Hui Yang[1]; Yu-Chang Tyan[2]; *[1]National Sun Yat-Sen University, Kaohsiung, Taiwan; [2]Kaohsiung Medical University, Kaohsiung, Taiwan*

WP 106 **Exploration of Resveratrol's Target Profile Using Chemical Proteomics**; Mary Shannon Duggan; Hua Tang; Paul L. Richardson; Violeta Marin; Timothy Esbenshade; Diana Donnelly-Roberts; Lance Lee; Shaun Mcloughlin; *Abbott Labs, Abbott Park, IL*

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WP 107 **A Combined Proteomic and Lipidomic Approach for Biomarker Discovery of Obstetric Disorders in Individual Patient Plasma during the First Trimester**; Susan E. Slade [1]; Eamonn Breslin[1]; John P. Shockcor[2]; Hayley Crowe[2]; Stephen Mcdonald[2]; Ranjit Akolekar[3]; Kypros Nicolaides[3]; Steven Thornton[1]; James Scrivens[1]; *[1]University of Warwick, Coventry, UK; [2]Waters Corp, Milford, MA; [3]Kings College Hospital, London, UK*

WP 108 **A Comprehensive Analysis of Swine Plasma Proteome Using Combinatorial Peptide Ligand Libraries (CPLL), Dual-Enzyme Digestion and Dual-Activation Sequencing with LTQ/Orbitrap/ETD**; Jun Li; Marc S. Halfon; Jun Qu; *University at Buffalo, Buffalo, NY*

WP 109 **Deep Quantitative Profiling Reveals a Substantial Effect of Post Menopausal Hormone Therapy on the**

Serum Proteome; Sharon Pitteri[1]; Aaron Aragaki[1]; Hiroyuki Katayama[1, 3]; Sophie Paczesny[1, 2]; Lynn Amon[1]; Hong Wang[1]; Qing Zhang[1]; Tina Busald Buson[1]; Melissa Johnson[1]; Lin Chen[1]; Pei Wang[1]; Martin Mcintosh[1]; Ross Prentice[1]; Samir Hanash[1]; *[1]Fred Hutchinson Cancer Research Center, Seattle, WA; [2]University of Michigan, Ann Arbor, MI; [3]Eisai Inc., Andover, MA*

WP 110 **Optimizing Plasma Digestion for Quantitative Proteomic Studies: Diagnostic Peptides as Endogenous Markers of Incomplete Digestion**; Naomi R. Choodnovskiy[1]; Margaret Pyle[1]; Susan E. Abbatiello[1]; Leigh Anderson[2]; Derek Smith[3]; Steven A. Carr[1]; *[1]Broad Institute, Cambridge, MA; [2]Plasma Proteome Institute, Washington, DC; [3]UVic-Genome BC Proteomics, Victoria, BC*

WP 111 **Plasma Proteome Profiling of HIV-1/HCV Mono and Co-Infected Individuals by Multiplex iTRAQ Quantitative Proteomics**; Vivekananda Shetty[1]; Sinnathamby Gomathinayagam[1]; Zacharie Nickens [1]; Edward Acheampong[2]; Pooja Jain[2]; Ramila Philip[1]; *[1]Immunotope, Inc., Doylestown, PA; [2]Drexel Inst of Biotechnology and Virology Research, Doylestown, PA*

WP 112 **Enhancement in MALDI Profiling of the Low Molecular Weight Human Serum Proteome Using Ultrafiltration**; Christine Bunai[1]; Krista White[2]; Christopher Wilkins[2]; Richard R Drake[2]; Maureen B. Tracy [1]; Dariya Malyarenko[1]; *[1]College of William and Mary, Williamsburg, VA; [2]Eastern Virginia Medical School, Norfolk, VA*

WP 113 **Combining Abundant Plasma Protein Depletion and the ALiPHAT Method for Quantitative Global and Targeted Proteomic Studies**; Christopher M. Shuford [1]; Adam M. Hawkridge [1]; John C. Burnett Jr. [2]; David C. Muddiman[1]; *[1]North Carolina State University, Raleigh, NC; [2]Mayo Clinic College of Medicine, Rochester, MN*

WP 114 **Identification and Quantification of Plasma Biomarkers for Metabolic Syndrome in Ossabaw Swine**; Jacob A. Galan[1]; Hui-Jie Zhang[1]; Lianshui Wang[2]; Haixu Tang[2]; Michael Sturek[3]; Weiguo Andy Tao[1]; *[1]Purdue University, West Lafayette, IN; [2]Indiana University, Bloomington, IN; [3]Indiana University School of Medicine, Indianapolis, IN*

WP 115 **Sickle Cell Disease-Associated Alterations in Human Plasma**; David H. Perlman; Wantao Ying; Lei Li; Marianna Budnik; Vivek N. Bhatia; Lynda M. Reid; Elizabeth S. Klings; Martin H. Steinberg; Catherine E. Costello; Mark E. Mccomb; *Boston University School of Medicine, Boston, MA*

WP 116 **Characterization of Secreted Human Complement Component C3 in Breast Cancer to Reveal the Related Enzyme Activity and Pathway**; Zhi Zeng; Shiaw-Lin Wu; William Hancock; *Barnett Institute, Northeastern University, Boston, MA*

WP 117 **A Reproducible and Sustainable Two Dimensional HPLC Method that Removes Highly and Moderately Abundant Plasma Proteins Stepwise and Continuously**; Weixun Wang; Jun Man; Nathan Yates; Ronald Hendrickson; *Merck Research Labs, Rahway, NJ*

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WP 118 **Kinase Activity Assay for Kinome profiling (KAYAK): A Versatile Multiplexed Mass Spectrometry Based Assay for Measuring Kinase Activity**; Fiona E Mcallister[1, 2]; Ryan Kunz[1]; Kazuishi Kubota[1]; Mat Sowa[1]; Yonghao Yu[1]; Ramin Rad[1]; Wilhelm Haas[1]; Steven Gygi[1]; *[1]Harvard Medical School, Boston, MA; [2]Chemistry Department, Edinburgh University, Edinburgh, Scotland*

WP 119 **Comparative Phosphoproteomics of the Nematode Models *P. pacificus* and *C. elegans***; Nadine Borchert[1]; Karsten Krug[2]; Silke Wahl[2]; Ralf J. Sommer[1]; Boris Macek[2]; *[1]Max-Planck-Institute for Developmental Biology, Tübingen, Germany; [2]Proteome Center, Tübingen, Germany*

WP 120 **The Myocardial Phosphoproteome**; Alistair V. G. Edwards[1]; Melanie Y. White[1]; Benjamin L. Parker[1]; Melanie Schulz[2]; Kasper Engholm-Keller[2]; Brett D. Hambly[1]; Martin R. Larsen[2]; Stuart J. Cordwell[1; 1]*The University of Sydney, Sydney, Australia; [2]Univ. Southern Denmark, Odense, Denmark*

WP 121 **Phosphorylation Detection by MudPIT Separation;** Daniela Mavrici[1]; Andrew Schumacher[2]; Stuart C. Feinstein[2]; Lori Kohlstaedt[1]; *[1]QB3, University of California at Berkeley, Berkeley, CA; [2]Neuroscience Research Institute, UC Santa Barbara, Santa Barbara, CA*

WP 122 **Phosphoproteomic Analyses of Phosphorylation Sites in Membrane Fractions of 400 mM High-Salt-Stressed Arabidopsis Thaliana**; Ing-Feng Chang[1]; Shu-Ying Wang[1]; Lan-Yu Wang[2]; Jue-Liang Hsu[3]; *[1]National Taiwan U, Taipei, Taiwan; [2]Mass Solutions Technology Co. Ltd., Taipei, Taiwan; [3]National Pingtung University, Pingtung, Taiwan*

WP 123 **Quantitative Synthesis/Degradation Proteomic Analysis of Vps4B-Mediated Perturbations in EGFR Signaling in Breast Cancer Cells under Hypoxic Conditions**; Zhongping Liao[1]; Yunhu Wan [1]; Stefani Thomas[1]; David Ann[2]; Austin Yang[1]; *[1]Univ of Maryland at Baltimore, Baltimore, MD; [2]City of Hope, Duarte, CA*

WP 124 **Phosphoproteomic Analysis of Human Embryonic Stem Cells**; Laurence M. Brill [1]; Wen Xiong[3]; Ki-Bum Lee[2]; Scott Ficarro[4]; Andrew Crain[1]; Yue Xu[3]; Alexey Terskikh[1]; Evan Snyder[1]; Sheng Ding[3]; *[1]Burnham Instit for Med Res, La Jolla, CA; [2]Rutgers University, Piscataway, NJ; [3]The Scripps Research Institute, La Jolla, CA; [4]Dana-Farber Cancer Instit, Boston, MA*

WP 125 **Proteome and Phosphoproteome Revealed Unique Features of Mouse Embryonic Stem Cells**; Qing-Run Li; Xiao-Bin Xing; Tao-Tao Chen; Rong Zeng; *Shanghai Institutes for Biological Sciences, CAS, Shanghai, China*

WP 126 **Changes in Protein Phosphorylation and Abundance in a Drought Sensitive Rice MAP Kinase Mutant Using Gel- and Liquid-Based Proteomics Approach;** Sophie Alvarez[1]; Ellen Marsh[1]; Jing Ning[2]; Lizhong Xiong[2]; Daniel Schachtman[1]; Leslie M. Hicks[1]; *[1]Danforth Center, St Louis, MO; [2]Huazhong Agricultural University, Wuhan, China*

WP 127 **Identification of Kinases and Phosphorylation Sites Involved in MicroRNA Biogenesis**; Erica Jacobs; Brian Chait; *Rockefeller University, New York, NY*

WP 128 **Characterization of Csn5/Jab1 Phosphorylation by the IKK Complex and Its Biological Roles in TNF-α Induced Signaling Pathway**; Lei Fang; Lan Huang; *University of California, Irvine, CA*

WP 129 **Study of T-cell Receptor (TCR) Complex Signaling Using Proteomic Approach**; Wei-Yun Chen[1]; Meng-Chieh Chen[1]; Mei-Chun Tseng[2]; Wen-Chin Yang[1]; Yet-Ran Chen[1]; *[1]Agricultural Biotechnology Research Center, Academia Sinica, Taipei, Taiwan; [2]Institute of Chemistry, Academia Sinica, Taipei, Taiwan*

WP 130 **Elucidating ROCK Signaling Network through Quantitative Phosphoproteomics Using 8-plex Isobaric Tags, High Resolution Tandem Mass Spectrometry, and Alternative Fragmentation Technologies;** Qiangwei Xia; Joshua J. Coon; Guokai Chen; James Thomson; *Univ of Wisconsin-Madison, Madison, WI*

WP 131 **Fyn Promotes Phosphorylation of Collapsin Response Mediator Protein 1 at Tyrosine 504, a Novel, Isoform-Specific Regulatory Site**; Gwen Buel[1]; John Rush[2]; Bryan Ballif[1]; *[1]University of Vermont, Burlington, VT; [2]Cell Signaling Technology, Danvers, MA*

WP 132 **Nucleotides and Growth Factors Modulate EGFR Activation Distinctively**; Amanuel Kehasse; David H. Perlman; Giuseppe Infusini; Mark E. McComb; Vickery Trinkaus-Randall; Catherine E. Costello; *Boston University School of Medicine, Boston, MA*

WP 133 **Phosphoproteomics Analysis in Human Metastasis-Related Gene-Manipulated Breast Cancer Cells**; Xiaolei Xie [1]; Jintang He [4]; Yashu Liu [1]; Na Yang [5]; Fan Xiang[2]; Steven Goodison[3]; David M. Lubman [1]; *[1]University of Michigan, Ann Arbor, MI; [2]Shimadzu Biotech, Pleasanton, CA; [3]M. D. Anderson Cancer Center - Orlando, Orlando, FL; [4]Department of Surgery, University of Michigan, Ann Arbor, MI;[5]Universiyt of Michigan, Medical Center, Ann Arbor, MI*

WP 134 **Phosphoproteomics Analysis of *Leishmania mexicana* Major Life Stages, Wild Type and Kinase Deletion Mutants by Multistage Activation LC-MS/MS**; Heidi Rosenqvist[1, 2]; Martin Wiese[1]; Ole N. Jensen[2]; *[1]SIPBS, University of Strathclyde, Glasgow, UK; [2]Univ. of Southern Denmark, Odense, Denmark*

WP 135 **Study of Prostate-Specific G Protein-Coupled Receptor Signalling in Human LNCaP Cells by Quantitative Phosphoproteomics: From Method Evaluation to Biological Data;** Heike Piechura[1]; Katja Kuhlmann[1]; Silke Oeljeklaus[1]; Martin Eisenacher[1]; Christian Stephan[1]; Helmut E. Meyer[1]; Hanns H. Hatt[2]; Eva M. Neuhaus[3]; Bettina Warscheid[1]; *[1]Ruhr-Universität, Medizinisches Proteom-Center, Bochum, Germany; [2]Ruhr-Universität, Department for Cellphysiology, Bochum, Germany; [3]Charite, Neurowissenschaftliches Forschungszentrum, Berlin, Germany*

WP 136 **Mode of Action Analysis of Sorafenib by Integrating Chemical Proteomics and Phosphoproteomics**; Andreas Tebbe; Marc Kaminsk; Sebastian Wandinger; Christian Eckert; Stefan Müller; Christoph Schaab; Klaus Godl; Martin Klammer; *KINAXO Biotechnologies, Munich, Germany*

WP 137 **Phosphoproteome of PTEN-Null and PTEN-Expressing U-87 MG Human Glioblastoma Cells Using a Phosphochip Coupled to a QTOF and ETD trap**; Vaibhav Chumbalkar[1]; Vadiraja Bhat [2]; Khatri Latha[1]; Oliver Bogler[1]; *[1]UT MD Anderson Cancer Center, Houston, TX; [2]Agilent Technologies, Wilmington, DE*

WP 138 **High Resolution Mass Spectrometry Based Profiling of Phosphoproteome in Breast Epithelial Cells with PIK3CA Knock-In Mutants**; Xinyan Wu; Raghothama Chaerkady; Jun Zhong; Yi Yang; Kumaran Kandasamy; Min-Sik Kim; Ben Ho Park; Akhilesh Pandey; Min Ling; *Johns Hopkins University, Baltimore, MD*

WP 139 **Identification and Functional Characterization of Pheromone Induced Fus3 Specific Phosphorylation Sites of the Yeast 26S Proteasome by Quantitative Mass Spectrometry**; Robyn Kaake; Lan Huang; *University of California, Irvine, CA*

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WP 140 **Quantitation of Insoluble/Low Level *Escherichia coli* Proteins Under Acid Adaptation Conditions Using ^{15}N Labeling, Subtractive Protein Solubilization and ProteaseMAX™ Digestion**; Grzegorz Sabat; Gregory Barrett-Wilt; Heather L. Burch; Michael R. Sussman; Amy C. Harms; *University of Wisconsin, Madison, WI*

WP 141 **Construction of a Protein Assembly Timeline for Spliceosomes by Relative MS-Based Quantification**; Carla Schmidt; Monika Raabe; Klaus Hartmuth; Mads Gronborg; Reinhard Luhrmann; Henning Urlaub; *MPI for Biophysical Chemistry, Goettingen, Germany*

WP 142 **How Deep Can We Go? Stable-Isotope Labeling for Quantitative Proteomics of Neuronal Cells**; Martin Hornshaw[1]; Jenny Ho[1]; Ian Gilmore[2]; William James Griffiths[2]; Yuqin Wang[2]; *[1]Thermo Fisher Scientific, Hemel Hempstead, UK; [2]Swansea University, Swansea, UK*

WP 143 **Use of Multiplex SILAC Labeling to Study NT3 Signaling in Primary Neurons**; Guoan Zhang[1]; Katrin Deinhardt[1]; Moses Chao [1]; Thomas Neubert[2]; *[1]New York University, New York, NY; [2]Skirball Institute, NYUMC, New York, NY*

WP 144 **Label-Free Quantitative Proteomic Studies on an Environmentally Important Methanotroph**; Nisha A. Patel; Konstantinos Thalassinos; Yin Chen; Andrew Crombie; Susan E. Slade; J. Colin Murrell; James H. Scrivens; *University of Warwick, Coventry, UK*

WP 145 **Proteomics of Adipose-Derived Human Stem Cells under Hyperosmotic Treatment**; Elizabeth S. Oswald; Lewis M. Brown; J. Chloë Bulinski; Clark T. Hung; *Columbia University, New York, NY*

WP 146 **Characterizing Human Respiratory Cilia Using Data-Independent LC/MS^E Provides Component Level Protein Stoichiometry Measurements**; Kevin Blackburn[1]; Kristin Thompson[2]; Michael Goshe[1]; Lawrence Ostrowski[2]; *[1]NC State University, Raleigh, NC; [2]University of North Carolina at Chapel Hill, Chapel Hill, NC*

WP 147 **Proteomic Analysis of Environmental Stress**; Chumithri Gayani Gammulla; Karlie Neilson; Mehdi Mirzaei; Sridevi Muralidharan; Dylan Xavier; Dana Pascovici; Brian Atwell; Paul A. Haynes; *Macquarie University, North Ryde, Sydney, Australia*

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WP 149 **Large Scale Label-Free Quantitative Proteomics of an Obligate Biosymbiotic System**; Anton Poliakov; Calum Russell; Angela Douglas; Klaas J. Van Wijk; *Cornell University, Ithaca, NY*

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WP 240 **Unspecific Products of Specific Cleavage: Implications for Phosphorylation Analysis;** Anna Shevchenko; Henrik Thomas; Andrea Knaust; Andrej Shevchenko; *MPI of Molecular Cell Biology and Genetics, Dresden, Germany*

WP 241 **Top-Down High Resolution Electron Capture Dissociation Mass Spectrometry for Characterization of Post-Translational Modifications in Non-Human Primate Cardiac Troponin**; Fangmin Xu; Lisa Xu; Xintong Dong; Timothy Hacker; Ying Ge; *University of Wisconsin-Madison, Madison, WI*

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WP 243 **Improved Phosphoproteome Analysis by Multi-Enzymatic Digestions Targeting the Trypsin-Resistant Proteome (TReP)**; Bao Tran[1]; Celine Hernandez[1, 2]; Alexandra Potts[1]; Patrice Waridel[1]; Frederique Lisacek[2]; Manfredo Quadroni[1]; *[1]University of Lausanne, Lausanne, Switzerland; [2]Swiss Institute of Bioinformatics, Geneva, Switzerland*

WP 244 **FeOx, ZrOx, HfOx and TiOx Nano-Enhanced MALDI Plates for Selective Capture of Phosphorylated and Sialylated Peptides;** Paolo Soffientini[1]; Andrea Di Fonzo[1]; Emanuele Barborini[2]; Roberta Carbone[2]; Simone Vinati[2]; Gabriela Grigorean[3]; *[1]COGENTECH, Milan, Italy; [2]Tethis s.r.l., Milan, Italy; [3]IFOM-IEO, Milan, Italy*

WP 245 **Large-Scale Phosphoproteomics with High Mass Accuracy at the MS and MS/MS Level Using HCD on an LTQ Orbitrap Velos**; Nagarjuna Nagaraj[1]; Rochelle D'souza[1]; Juergen Cox[2]; Jesper V Olsen[3]; Matthias Mann[4]; *[1]MaxPlanck Institute for Biochemistry, Munich, Germany; [2]Max-Planck-Institute of Biochemistry, Martinsried, Germany; [3]Copenhagen University, Copenhagen, Denmark; [4]Max Planck Institute for Biochemistry, D Martinsried, Germany*

WP 246 **Does Ion-trap CID Intramolecular Phosphate Transfer Compromise Site Localization in Large-Scale Phosphoproteomics Studies? Is ETD a Viable Alternative?**; Mike Aguiar[1]; Wilhelm Haas[1]; Sean Beausoleil[1]; John Rush[2]; Steven Gygi[1]; *[1]Harvard Medical School, Boston, MA; [2]Cell Signaling Technology, Danvers, MA*

WP 247 **Highly Efficient Online Enrichment Method for the Selective Analysis of Phospho-Epitopes in Complex HLA Elution Samples**; Geert Mommen; Ad de Jong; *Netherlands Vaccin Institute, Bilthoven, The Netherlands*

WP 248 **Human Beta Defensin 3 Alters Activated T Cell Responses Via Tyrosine Phosphorylation of STAT1**; Xiaolin Li; Jeffrey Meisch; Daniela M. Schlatzer; Giri Gokulragan; Janna Kiselar; Alan D. Levine; Mark R. Chance; *Case Western Reserve University, Cleveland, OH*

WP 249 **Exploring the Human Leukocyte Phosphoproteome Using a Microfluidic RP-TiO2-RP HPLC Phosphochip Coupled to a Q-ToF Mass Spectrometer**; Reinout Raijmakers[1]; Karsten Kraiczek[3]; Ad De Jong[2]; Shabaz Mohammed[1]; Albert J.R. Heck [1]; *[1]Utrecht University, Utrecht, netherlands; [2]Netherlands Vaccine Institute, Bilthoven, The Netherlands; [3]Agilent Technologies, Waldbronn, Germany*

WP 250 **Large-Scale Enrichment and Analysis of GlcNAcylated peptiDes from Arabidopsis Thaliana**; Sushmit Maitra[1]; Yung-Chun Kim[2]; Neil Olszewski[2]; Jeffrey Shabanowitz[1]; Donald F. Hunt[1]; *[1]Dept. of Chemistry, University of Virginia, Charlottesville, VA; [2]Dept of Plant Biology, University of Minnesota, St. Paul, MN*

WP 251 **Characterizing Post-Translational Modifications by Mass Spectrometry for Protein Specific Activity Study**; David Wong; Marina Chow; Bill Cuevas; Jackie Huitink; Mariliz Johnson; Pooja Patel; Matt Reboli; *Genencor Division of Danisco US Inc., Palo Alto, CA*

WP 252 **Differential Mass Spectrometric Analysis of Paxillin O-glcNAcylation Using Chemical Labeling and IMAC Enrichment**; Erin D Jeffery; Pablo Grigera; J. Thomas Parsons; Donald F. Hunt; *University of Virginia, Charlottesville, VA*

WP 253 **Progress in the Characterization of Glycosylation Microheterogeneity in *Xenopus laevis* Vitelline Envelope Glycoprotein ZPA**; Liang Zhao [1]; Fan Xiang[2]; Jerry L. Hedrick[3]; Andreas H. Franz[1]; *[1]Department of Chemistry, University of the Pacific, Stockton, CA; [2]Shimadzu Biotech, Pleasanton, CA; [3]Department of Animal Science, UC Davis, Davis, CA*

WP 254 **Glycosylation and Sialylation of Macrophage-Derived Human Apolipoprotein E Analysed by 1- and 2-D SDS-PAGE and Mass Spectrometry;** Youra Lee[2]; Mark J. Raftery[1]; Wendy Jessup[2]; Maaike Kockx[2]; Renate Griffith[3]; Len Kritharides[4]; *[1]Bioanalytical Mass Spectrometry, Sydney, Australia; [2]Centre for Vascular Research, SOMS, UNSW, Sydney, Australia; [3]Pharmacology, SOMS, UNSW, Sydney, Australia; [4]Department of Cardiology, Concord Hospital, University of Syndey, Sydney, Australia*

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WP 256 **Synthesis and Structural Characterization of a Proteolytic Parkinson-Related Fragment of α -Synuclein, α -Syn(71-140)**; Kathrin Lindner; Camelia Vlad; Michael Przybylski; *Universitat Konstanz, Konstanz, Germany*

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WP 258 **Structural Characterization of Aβ Protein Crosslinking Using Ion Mapping and Tandem Mass Spectrometry**; Jennifer G. Bryant[1]; William M. Tay[2]; A. Jeremy Nix[2]; Patricia K. Martin[2]; Terrone L. Rosenberry[2]; *[1]University of North Florida, Jacksonville, FL; [2]Mayo Clinic, Jacksonville, Florida*

WP 259 **Ecdysis Triggering Hormone Profiles in Endocrine Inka Cells Using Single Cell MALDI-MS**; Li Dai[1, 2]; Michael Adams[2]; *[1]University of Utah, Salt Lake City, UT; [2]Depts. of Entomology, Cell Biology & Neuroscience, Riverside, CA*

WP 260 **Electron Ionization Mass Spectra Obtained for Amino Acids and Peptides by Using Laser-Induced Acoustic Desorption (LIAD)**; Benjamin C. Owen; Lindsey M. Kirkpatrick; Hilkka I. Kenttämaa; *Purdue University, West Lafayette, IN*

WP 261 **A Systematic Study for Determining Optimal Protein Digest Conditions in Disulfide-Containing Proteins**; Kathryn Rebecchi; Eden Go; Heather Desaire; *University of Kansas, Lawrence, KS*

WP 262 **Measurement of Major Urinary Protein Synthesis Rate in Mice by Heavy Water Labeling and Peptide Mass Spectrometry;** Mahalakshmi Rudrabhatla[1]; Mahalakshmi Shankaran[1]; Tom Hirst[1]; Scott Turner[1]; Robert Beynon[2]; Richard Neese[3]; Marc Hellerstein[3]; *[1]Kinemed, Inc., Emeryville, CA; [2]University of Liverpool, Liverpool, UK; [3]Nutritional Science and Toxicology, UC Berkeley, Berkeley, CA*

WP 263 **Selective ESI-MS Detection of Basic Peptides Using Crown Ethers and Proton Transfer Reactions**; Michelle Sweeney; Megan Macnaughtan; *Louisiana State University, Baton Rouge, LA*

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WP 265 **Toxicological Pathway Protein Analysis Using Highly Multiplexed Multiple Reaction Monitoring (MRM) Measurements**; Hua Lin; Thomas A. Shaler; Sophia Chen; Chris Becker; *Caprion Proteomics U.S. LLC, Menlo Park, CA*

WP 266 **Large Scale Quantitative Analysis of Adipose and Liver Tissue of Obese Mice Using an LTQ Orbitrap XL**; Dorothea Rutishauser[1]; Hadi al Hasani[2]; Ralf Herwig[3]; Michal Okoniewski[1]; Jonas Grossmann[1]; Ralph Schlapbach[1]; *[1]Functional Genomics Center, ETH Zurich, Zurich, Switzerland; [2]German Institute for Human Nutrition, DIfE, Potsdam-Rehbruecke, Nuthetal, Germany; [3]Max Planck Institute for Molecular Genetics, Berlin, Germany*

WP 267 **Quantitative Proteome Analysis of Pluripotent Cells by iTRAQ Mass Tagging Identifies Post-Transcriptional Regulation of Proteins Required for ES Cell Self-Renewal**; Robert N. O'Brien; Zhouxin Shen; Kiyoshi Tachikawa; Angel Lee; Steven P. Briggs; *University of California San Diego, La Jolla, CA*

WP 268 **Profiling Human Transcriptional Regulators with Shotgun Nucleoproteomics**; Andrew Stergachis; Eric Rynes; Greg Finney; Michael MacCoss; John Stamatoyannopoulos; *University of Washington, Seattle, WA*

WP 269 **Quantitative Proteomics Analysis of Human Adenovirus Infections by iTRAQ-8plex**; Hung Viet Trinh[1]; Peter Gehrig[2]; Hansruedi Baetschmann[2]; Jonas Grossmann[2]; Ralph Schlapbach[2]; Urs Greber[1]; Silvio Hemmi[1]; *[1]IMLS, University of Zurich, Zurich, Switzerland; [2]Functional Genomics Center, Zurich, Switzerland*

WP 270 **Proteomic Analysis of 3t3-LI Adipocyte Mitochondria during Differentiation, Maturation, and Hypertrophic Enlargement**; William K. Russell; Stephanie Cologna; Billy Newton; Arul Jayaraman; David H. Russell; *Texas A&M University, College Station, TX*

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WP 272 **Global Analysis of Protein Expression Dynamics in Human Tumor Cells upon Treatment with the Raf Inhibitor Sorafenib**; Sven Nahnsen[1]; Oliver Kohlbacher[2]; Alfred Nordheim[3]; Boris Macek[1]; *[1]Proteome Center, University of Tübingen, Tübingen, Germany; [2]Center for Bioinformatics, University of Tübingen, Tübingen, Germany; [3]Department of Molecular Biology, Univ. of Tübingen, Tübingen, Germany*

WP 273 **Proteomic Profiling of Cellular Reprogramming: Are Human Induced Pluripotent Stem Cells (hiPSCs) Indistinguishable from Human Embryonic Stem Cells (hESCs)?**; Javier Munoz[1]; Teck Yew Low[1]; Yee Jiun Kok[2]; Andre Choo[2]; Albert J.R. Heck [1]; *[1]Utrecht University, Utrecht, Netherlands; [2]Bioprocessing Technology Institute, Singapore, Singapore*

WP 274 **A Systems Biology View of the HeLa Proteome: Mapping 4000+ Proteins to Their Cellular Pathways**; Robert Lj Graham; Michael J Sweredoski; Sonja Hess; *CalTech, Pasadena, CA*

WP 275 **An Integrated Proteomic Approach to Decipher Cell Type-Specific Proteasome Structures and Functions**; Charity Aiken[1, 2]; Lan Huang[1, 2]; *[1]Dept. of Physiology and Biophysics, University of California, Irvine, Irvine, CA; [2]Dept. of Developmental and Cell Biology, University of California Irvine, Irvine, CA*

WP 276 **Localization of Organelle Proteins by Isotope Tagging (LOPIT) in the HEK293T Cell Line**; Andrew Christoforou[1]; Matthew Trotter[2]; Phil Charles[1]; Alfonso Martinez Arias[3]; Kathryn Lilley[1]; *[1]Cambridge Centre for Proteomics, Cambridge, UK; [2]Laboratory for Regenerative Medicine, Cambridge, UK; [3]Department of Genetics, University of Cambridge, Cambridge, UK*

WP 277 **A Comprehensive Strategy to Maximize the Analysis of Substrates of the Ubiquitin Proteasome Pathway by LC-MS/MS**; Geoffrey Smith; Michael J Sweredoski; Sonja Hess; *Caltech, Pasadena, CA*

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WP 279 **Virus and Host Proteomics of the Lactic Acid Bacteria *Streptococcus thermophilus* and Its Phage D2972**; Jacque Young[1, 2]; Manesh Shah[1]; Brian Dill[1]; Philippe Horvath[4]; Christine Sun[3]; Christophe Fremaux[5]; Jillian Banfield[3]; Rodolphe Barrangou[5]; Nathan C. Verberkmoes[1]; *[1]Oak Ridge National Labs, Oak Ridge, TN; [2]Univ. of Tennessee, Knoxville, TN; [3]University of California, Berkeley, CA; [4]Danisco France SAS, Dangé-Saint-Romain, France; [5]Danisco USA, Inc., Madison, WI*

WP 280 **Expanding the Protein Library and Knowledge of Relative Protein Abundances for M. Tuberculosis**; Thomas A. Shaler[1]; Hua Lin[1]; Sophia Chen[1]; Julian Richards[2]; James Galagan[3]; Chris Becker[1]; *[1]Caprion Proteomics U.S. LLC, Menlo Park, CA; [2]Broad Institute, Cambridge, MA; [3]Boston University, Boston, MA*

WP 281 **Elucidating the Parasitic/Symbiotic Association between the *Archaea ignicoccus hospitalis* and *Nanoarchaeum equitans* via Differential Proteomics;** Richard J. Giannone; Mircea Podar; Robert Hettich; *Oak Ridge National Laboratory, Oak Ridge, TN*

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Jana Stöckel[2]; Carrie D. Nicora[1]; Himadri B. Pakrasi[2]; David W. Koppenaal[1]; Louis A. Sherman[3]; Richard D. Smith[1]; *[1]Biological Science Division, Pacific Northwest Nat, Richland, WA; [2]Department of Biology, Washington University, St Louis, MO; [3]Dept. of Biological Sciences, Purdue University, West Lafayette, IN*

WP 283 **Identification of Host Species from the Blood Meal of Tick Nymphs Using LC/MSMS**; Ünige A. Laskay[1]; Erin M. Johnson [1]; Alan G. Barbour[2]; Vicki H. Wysocki[1]; *[1]University of Arizona, Tucson, AZ; [2]University of California Irvine, Irvine, CA*

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WP 285 **Proteomic Profiling of a Wild-Type and a Translation Defective Strain in *Escherichia coli* for Understanding Regulatory Mechanisms in Protein Synthesis**; Debnath Pal; Umesh Varshney; Arnab Roy; Pratip Saha; Goutam Kar; Aluri Srinivas; *Indian Institute of Science, Bangalore, India*

WP 286 **Integrating Metagenomics and Metaproteomics Provides Insight into the Molecular Activities and Biosignature(s) of the Human Gut Microbiota in Crohn's Disease**; Alison Russell[1, 2]; Nathan C. Verberkmoes[2]; Manesh Shah[2]; Brandi Cantarel[3]; Emmanuel Mongodin[3]; William Hsiao[3]; Regina Lamendella[4]; Claire Fraser-Liggett[3]; Janet Jansson[4]; Robert Hettich[2]; *[1]University of Tennessee-Knoxville, Knoxville, TN; [2]Oak Ridge National Lab, Oak Ridge, TN; [3]University of Maryland School of Medicine, Baltimore, MD; [4]Lawrence Berkeley National Lab, Berkeley, CA*

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WP 291 **Proteomics of Leaf Tissues from *Populus***; Gregory Hurst; Xiaohan Yang; Timothy Tschaplinski; Gerald Tuskan; Trish Lankford; Manesh Shah; Sara Jawdy; Lee Gunter; Nancy Engle; *Oak Ridge National Laboratory, Oak Ridge, TN*

WP 292 **Deep Proteome Characterization and Comparison of *Populus* Species under Wild-Type vs. Tensional Stress Environmental Conditions**; Paul Abraham[1, 2]; Udaya Kalluri[1]; Rachel Adams[1, 2]; Gerry Tuskan[1]; Bob Hettich[1]; *[1]Oak Ridge National Lab, Oak Ridge, TN; [2]GST, University of Tennessee, Knoxville, TN*

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WP 296 **Rapid Deglycosylation of Proteins for Carbohydrate and Protein Characterization by Mass Spectrometry Using EndoH-Bound Magnetic Beads**; Casey Madinger; Ellen Guthrie; Jack S. Benner; *New England BioLabs, Ipswich, MA*

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WP 304 **Negative-Ion MALDI-MS^n for Discrimination of α2,3- and α2,6-sialylation on Glycopeptides Labeled with a Pyrene Derivative**; Takashi Nishikaze; Toshio

Nakamura; Hiroshi Jinmei; Junko Amano; *The Noguchi Institute, Tokyo, Japan*

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WP 306 **Ionic liquid for Ionization Efficiency Improvement of Polysaccharides in ESI-MS**; Yu-Ling Chang; Chung-Hsuan Chen; *The Genomics Research Center, Academia Sinica, Taipei, Taiwan*

WP 307 **The Interplay of Permanent Charge and Hydrophobicity with Respect to Electrospray Ionization of Glycans**; Hunter Walker; Brian Papas; Daniel Comins; David C. Muddiman; *North Carolina State University, Raleigh, NC*

WP 308 **Improvement of ESI Behavior of Heparan Sulfate Oligosaccharides by Using a Chip-based Pulsed Post-Column Makeup Flow for Online LC/MS**; Yu Huang[1]; Xiaofeng Shi [1]; Hongfeng Yin[2]; Kevin Killeen[3]; Joseph Zaia[4]; *[1]Boston University School of Medicine, Boston, MA; [2]Agilent Labs, Santa Clara, CA; [3]Agilent Laboratories, Santa Clara, CA; [4]Boston University, Boston, MA*

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WP 310 **A Separation-Free Quantitative MS-Based Profiling Approach Using 2-AA Isotopically Labeled Substrates for High-Throughput Glycan Screening**; Justin M Prien; Lorna Maheu; Brad Prater; Qiang Qin; Steve Cockrill; *Amgen, Longmont, CO*

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WP 315 **Mass Spectrometric Analysis of N-linked Glycans from Folate Receptor**; Nidhi Jaiswal; Suraj Saraswat; Mahohar Ratnam; Dragan Isailovic; *University of Toledo, Toledo, OH*

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WP 318 **N-Glycan Profile Comparison of Serum and Cancer Cell Culture Lysate Using Liquid Chromatography Mass Spectrometry**; Kathryn Cindric; Ting Ye; Kinjal Amin; Qinfeng Liu; *Campbell University, Buies Creek, NC*

WP 319 **A Mass Spectrometry Based Glycomic Approach for Identification of Carbohydrate Dependant Virulence Factors Using Caenorhabditis Elegans as a Surrogate Host**; Md Mizanur Rahman [1]; Jonathan Hodgkin[2]; John F Cipollo[1]; *[1]Food and Drug Administration/ CBER, Bethesda, MD; [2]Departmnent of Biochemistry, University of Oxford, Oxford, UK*

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WP 322 **Different Distribution of Individual Molecular Species in Mouse Organs Obtained by Automated Lipid Search Engine and Multivariate Analyses**; Ryo Taguchi; Hiroki Nakanishi; Moonjin Ra; *The University of Tokyo, Tokyo, Japan*

WP 323 **Triacylglycerol Profiling and Positional Isomer Analysis in Omega-3 Enriched Fish Oil by Mass Spectrometry**; Lisandra Cubero Herrera[1]; Karen M. Glenn[1]; Tobias Karakach[1]; Michael A. Potvin[2]; Jeremy E. Melanson[1]; *[1]NRC Institute for Marine Biosciences, Halifax, Canada; [2]Ocean Nutrition Canada, Dartmouth, Canada*

WP 324 **Lipidomics and Neurodegeneration**; Sarita Hebbar; Dominik Schwudke; *National Centre for Biological Sciences, TIFR, Bangalore / Bengaluru, India*

WP 325 **Integrating Shotgun Lipidomics and HPLC Separation of Lipids into a New Platform for Total Lipid Analysis**; Reinaldo Almeida[1]; Christer Ejsing[2]; *[1]Advion BioSciences Ltd., Arnsberg, Germany; [2]University of Southern Denmark, Odense, Denmark*

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WP 327 **The Identification and Quantification of Molecular Lipid Species by Higher Energy Collisional Dissociation on Orbitrap Instruments;** Kai Schuhmann[1, 2]; Ronny Herzog[2]; Stefan R. Bornstein[1]; Andrej Shevchenko[2]; *[1]Department of Internal Medicine III, TU Dresden, Dresden, Germany; [2]Max Planck Institute CBG, Dresden, Germany*

WP 328 **Characterization of Nonpolar Lipids by Using Laser-Induced Acoustic Desorption/Chemical Ionization, APCI, and ESI**; Zhicheng Jin; Shavani Daiya; Hilkka Kenttamaa; *Purdue University, West Lafayette, IN*

WP 329 **Analysis of a New Immunomodulatory Milk Lipid Particle Using Top-Down Lipidomics on a Hybrid**

Triple Quadrupole FT-ICR Mass Spectrometer; Larry Lerno[1]; Jennifer T. Smilowitz[2]; J. Bruce German[2]; Carlito Lebrilla[1]; *[1]UC Davis, Dept. of Chemistry, Davis, California; [2]UC Davis, Dept. of Food Science, Davis, California*

WP 330 **Lipid Analysis from Biological Samples by Normal-Phase Chromatography / Atmospheric Pressure Photoionisation Mass Spectrometry;** Mathieu Gaudin[1, 4]; Laurent Imbert[2]; Danielle Libong[2]; Pierre Chaminade[2]; Philippe Loiseau[3]; Julie Allegrand[4]; Auzeil Nicolas[1]; David Touboul[4]; Olivier Laprévot[1,4]; *[1]C-TAC, Paris Descartes University, Paris, France; [2]Paris-Sud Analytical Chemistry Group, Chatenay-Malabry, France; [3]BIOCIS, Paris-Sud Faculty of Pharmacy, Chatenay-Malabry, France; [4]CNRS-ICSN, Gif-Sur-Yvette, France*

WP 331 **Reversed Phase Liquid Chromatography Coupled to ESI Mass Spectrometry for Separation, Detection of Polar Lipids in Biological Samples**; Ying Zhou[1]; Julian Ollesch[2]; Holger Wille[2]; David S. Newburg[3]; Catherine E. Costello[1]; *[1]Boston University School of Medicine, Boston, MA; [2]University of California, San Francisco, San Francisco, CA; [3]Harvard University, Massachusetts General Hospital, Boston, MA*

WP 332 **Identification of Triacylglycerol in Oils Using LTQ-Orbitrap Mass Spectrometer**; CheongTae Kim[2]; DaeHyun Kim[2]; WooSeok Kang[2]; Jongsoo Park[1]; *[1]Euro Science Co., Ltd., Sungnam City, South Korea; [2]NongShim Co., Ltd, Seoul, South Korea*

WP 333 **Rapid Liquid Chromatography-Mass Spectrometry Screening for Lipids in the Unicellular Red Alga Porphyridium cruentum**; Behnaz Shafii; A. Daniel Jones; *Michigan State University, East Lansing, MI*

WP 334 **Nascent HDL from ABCA1: Using the Lipid Composition of Nascent HDL to Deduce the Intracellular Lipid Source**; Shaila Bhat; Mary G. Sorci-Thomas; John S. Owen; Dharika Shah; Michael P. Samuel; Manal Zabalawi; Michael J. Thomas; *WFU School of Medicine, Winston-Salem, NC*

WP 335 **NP-HPLC/MS/MS Analysis of Neutral Lipid Oxidation in Human Atherosclerosis**; Patrick Hutchins[1]; Robert C. Murphy[2]; *[1]Univ of Colorado, Denver, CO; [2]University of Colorado Den, Aurora, CO*

WP 336 **HPTLC-MALDI MS and MS/MS Analysis of Lipid Mixtures**; Martin Schuerenberg[1]; Beate Fuchs[2]; Andrea Bischoff[2]; Rosemarie Suess[2]; Detlev Suckau[1]; Ulrike Anders[1]; Gertrud Morlock[3]; Juergen Schiller[2]; *[1]Bruker Daltonics, Bremen, Germany; [2]University Leipzig, Medical School, Leipzig, Germany; [3]University of Hohenheim, Inst. of Food Chemistry, Stuttgart, Germany*

WP 337 **A Novel Method for Analysis of Diversities in Ceramides and Glycosphingolipids by MALDI-TOFMS and MS2 Equipped with High-Energy CID**; Kouji Tanaka[1, 2]; Masaki Yamada[3]; Yuzo Yamazaki[3]; Andrew Eaton[4]; Toshifumi Aoyama[5]; Atsushi Hara[5]; Reiji Kannagi[1]; Mamoru Kyogashima[1, 2]; *[1]Aichi Cancer Center Research Institute, Nagoya, Japan; [2]Nagoya City University, Nagoya, Japan; [3]Shimadzu Corporation, Kyoto, Japan; [4]Kratos Analytical, Manchester, UK; [5]Shinshu University, Graduate School of Medicine, Matsumoto, Japan*

WP 338 **Regioisomeric Characterization of Triacylglycerols Using Atmospheric Pressure Chemical Ionization Mass Spectrometry and Silver-Ion Liquid Chromatography**; Michal Holcapek; Hana Velinska; Miroslav Lisa; *University of Pardubice, Pardubice, Czech Republic*

WP 339 **Ozone Induced Dissociation for Lipidomics Workflows**; Berwyck Poad[1]; Huong Pham Thu[3]; Todd W Mitchell[1]; J. Larry Campbell[2]; Stephen J Blanksby[1]; *[1]University of Wollongong, Wollongong, Nsw, Australia; [2]MDS Analytical Tech, Sciex, Concord, ON; [3]School of Chemistry, University of Wollongong, Wollongong, Australia*

WP 340 **Double Bond Localization in Wax Ester Molecular Species by HPLC/APCI-MS Utilizing CID of the Acetonitrile Adducts**; Vladimir Vrkoslav; Martina Háková; Josef Cvačka; *Institute of Organic Chemistry and Biochemistry, Prague, Czech Republic*

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WP 341 **Metabonomic Approaches for Identification of Urinary Phospholipids as Markers of Drug-Induced Phospholipidosis**; Petia Shipkova; Serhiy Hnatyshyn; Nelly Aranibar; Michael Reily; Monicah Otieno; Lois Lehman-McKeeman; Don Robertson; *Bristol-Myers Squibb, Princeton, NJ*

WP 342 **Characterising Functionalised Surfaces for Studying Metabolite-Protein Interaction, Using ToF-SIMS**; Malinda Salim; Phillip C Wright; Seetharaman Vaidyanathan; *The University of Sheffield, Sheffield, UK*

WP 343 **Discovery of Cancer Stem Cell Biomarkers Using Metabolomics**; Paul R. West; Alan Smith; April Weir; Gabriela Cezar; *Stemina Biomarker Discovery, Madison, WI*

WP 344 **Metabolomics and Integrated Functional Genomics for the Discovery and Elucidation of Saponin Biosynthesis**; Lloyd W. Sumner; John H. Snyder; David V. Huhman; Stacy Allen; Yuhong Tang; *The Noble Foundation, Ardmore, OK*

WP 345 **Targeted and Non-Targeted Profiling and Quantification of Plant Hormones and Related Compounds by Mass Spectrometry**; Baichen Zhang[1]; Leslie M. Hicks[2]; *[1]Donald Danforth Center, St Louis, MO; [2]Danforth Center, St. Louis, MO*

WP 346 **Identification of Derivatized Components of Standard Reference Material (SRM) 1950 Metabolites in Human Plasma by Linear Quadrupole Gas Chromatography/Mass Spectrometry;** Bruce A. Benner[1]; Gauthier Eppe[2]; Nathan G. Dodder [1]; Edward White[1]; *[1]NIST, Gaithersburg, MD; [2]Liege University, Liège, Belgium*

WP 347 **Metabolomic Analysis Reveals Metabolic Conditionality of Antibiotic Resistance in *Staphylococcus aureus***; Steven M. Fischer[1]; Elizabeth Alexander[2]; Kyu Rhee[2]; *[1]Agilent Technologies, Santa Clara, CA; [2]Cornell Medical College, New York, NY*

WP 348 **Combined use of HILIC and RPLC Increases Metabolite Coverage in LC-MS Analyses of Yeast Metabolome**; Anna Lindahl; Hasanuzzaman Bhuiyan; Anders Nordstrom; *Karolinska Institute, Stockholm, Sweden*

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WP 350 **GCxGC-TOFMS Elucidation of Differences in the Metabolome of Strains of the Pathogen *Stagonospora nodorum***; Robert Trengove [1, 3]; Joel Gummer[2]; Catherine Rawlinson[3]; Garth Maker[1]; Christian Krill[2]; Peter Solomon[4]; Richard Oliver[2]; *[1]Murdoch University, Murdoch, Australia; [2]ACNFP, Murdoch University,*

Murdoch, Australia; [3]Metabolomics Australia, Murdoch University, Murdoch, Australia; [4]The Australian National University, Canberra, Australia

WP 351 **LC/MS Based Metabolomics Approach for the Study of Salicylic Acid Response in *Arabidopsis thaliana***; Jong Bok Seo[1]; Kwang Chul Kwon[1]; Hak Chul Jin[2]; Yu Ran Kim[1]; Ohkmae K Park[2]; Myung Hee Nam[1]; *[1]Korea Basic Science Institute, Seoul, South Korea; [2]Korea University, Seoul, South Korea*

WP 352 **A Rapid Method for Estimating Triglyceride Synthesis *in vivo* Using Stable Labeled Fatty Acids and Analysis by UPLC-MS/MS**; Timothy He; David G. McLaren; Jose Castro-Perez; Stephen Previs; Sheng-ping Wang; Ray Rosa; Vivienne Mendoza; Douglas G. Johns; Thomas P. Roddy; *Merck & Co., Rahway, NJ*

WP 353 **Comparison of Metabolomic Profiles between the Androgen-Dependent and -Independent Prostate Cell Lines by Using Liquid Chromatography and Mass Spectrometry (LC-MS)**; Nagireddy Putluri[1]; Shaiju Vareed[1]; Theodore Sana[2]; Steven Fischer[2]; Gagan Thangjam[1]; Vasanta Putluri[1]; Ling Lan[3]; Judith Giri[4]; Arun Sreekumar[1]; *[1]Cancer Center, Medical College of Georgia, Augusta, GA; [2]Metabolomics Laboratory Application Group, Agilent Technologies, Santa Clara, CA; [3]Department of Biostatistics, Medical College of Georgia, Augusta, GA; [4]Pathology, Biomedical and Radiological Technologies, Medical College of Georgia, Augusta, GA*

WP 354 **Searching the Hydrophobic Cargo of Human Serum Albumin to Gain Insights into Type II Diabetes**; Jared Bowden[1]; Penggao Duan[2]; Edward Dratz[1]; *[1]Montana State University, Bozeman, Montana; [2]Bruker Daltonics, Billerica, MA*

WP 355 **Changes in the Serum Metabolome Caused by Inflammation**; Erin G. Prestwich[1]; Ramesh Babu Indrakanti[2]; Koli Taghizadeh[1]; Peter Dedon[3]; *[1]Massachusetts Institute of Tech, Cambridge, MA; [2]MIT, Cambridge, MA; [3]MIT, Dept. of Biological Engineering, Cambridge, MA*

WP 356 **Flux Analysis of Central Metabolic Pathways in Thermoanerobacter Tengcongensis**; Wei Tong[1]; Qian Wang[1]; Zhe Cao[3]; Zhuowei Wang[1]; Zhen Chen[1]; Chuanqi Zhou[1]; Quanhui Wang[1]; Rong Wang[1, 2]; Siqi Liu[1]; *[1]Beijing Institute of Genomics, CAS, Beijing, China; [2]Mount Sinai School of Medicine, New York, NY; [3]Agilent Technologies Co. (China), Beijing, China*

WP 357 **Improving the Performance of AccQ•Tag Amino Acid Quantitation in Biological Samples by UPLC-ESI-MS/MS Using the Xevo TQ Mass Spectrometer**; Carolina Salazar[1]; Jenny M. Armenta[2]; Diego F. Cortes [1]; Vladimir Shulaev[1]; *[1]Virginia Bioinformatics Inst., Blacksburg, VA; [2]Waters Corporation, Beverley, MA*

WP 358 **Cigarette Smoke Exposure Induces Metabolome Alterations in Uterine Tissue of Pregnant Mice**; Rachel Neal[1]; Jing Chen[1]; Robert M. Greene[2]; M. Michele Pisano[2]; *[1]EOHS, SPHIS, University of Louisville, Louisville, KY; [2]Birth Defects Center, University of Louisville, Louisville, KY*

WP 359 **Metabolomics of Hypobaric Hypoxia: Oxidative Stress and Its Metabolic Signature**; Denise U. Sonntag[1]; Jacqueline Pichler Hefti[2]; Urs Hefti[3]; Lorenz Risch[4]; Tobias M. Merz[5]; Andreas Huber[2]; Klaus M. Weinberger[1]; *[1]BIOCRATES Life Sciences AG, Innsbruck, Austria; [2]Center of Laboratory Medicine, Kantonsspital, Aarau, Switzerland; [3]Department of Orthopedic Surgery, Kantonsspital, Liestal, Switzerland; [4]VIVIT-Institute, Feldkirch, Austria; [5]Dept of Intensive Care Med., University Hospital, Bern Switzerland*

WP 360 **Evaluation of the LTQ-Orbitrap Technology for Quantitative Metabolite Profiling in Cell Extracts**; Ludovic Muller[1]; Jean Labarre[2]; Sandra Alves[1]; Eric Ezan[3]; Jean-Claude Tabet[1]; Christophe Junot[3]; *[1]IPCM, UPMC Paris Universitas, Paris, France; [2]DSV/iBiTec-S/SBIGeM, CEA/Saclay, Gif-sur-Yvette, France; [3]DSV/iBiTec-S/SPI, CEA/Saclay, Gif-sur-Yvette, France*

WP 361 **Mass Spectrometric Detection of Nucleotides in Single Muscle Cells and Development of an LDI-Based Signal Amplification Assay**; Stephan Rupert Fagerer[1]; Pawel Lukasz Urban[1]; Fabian Dettwiler[1]; David Aguayo[1]; Claudio Signorell[1]; Jachen Denoth[1]; Yu-Chie Chen[2]; Renato Zenobi[1]; *[1]ETH Zurich, Zurich, Switzerland; [2]NCTU, Hsinchu, Taiwan*

WP 362 **Two pH Optimized LC-MS Methods for Metabolomics Analysis of Hydrophilic Compounds on Silica Hydride Stationary Phase**; Theodore R. Sana [1]; Steven M. Fischer[1]; Stefan Jenkins[1]; Maria Matyska[2]; Joseph J. Pesek[3]; *[1]Agilent Technologies, Santa Clara, CA; [2]MicroSolv Technologies, Eatontown, NJ; [3]San Jose State University, San Jose, CA*

WP 363 **Isotopomics: A Tool for Mapping Dynamic Metabolism in Rats**; Jean-Philippe Godin; *Nestlé Research Center, Lausanne, Switzerland*

WP 364 **Plant Metabolomics: Tomato Metabolite Profiling and Identification Employing High Resolution MS Strategies**; Helen Welchman[1]; David Portwood[2]; Mark Seymour[2]; Mark Earll[2]; Gary Woffendin[1]; Martin Hornshaw[1]; Michael Athanas[3]; Madalina Oppermann[1]; *[1]Thermo Fisher Scientific, Hemel Hempstead, UK; [2]Syngenta, Bracknell, UK; [3]VAST Scientific, Boston, MA*

WP 365 **LC-MS Analysis of Hydrophilic Metabolites in Guinea Pig Lungs Infected with Mycobacterium Tuberculosis**; Justin Searcy; Gavin Ryan; Courtney Hastings; Dean Crick; *Colorado State University, Fort Collins, CO*

WP 366 **A Differential Isotope-Coded Mass Defect Label for Metabolite Discovery and Relative Quantitation**; Jacobo Iglesias; Albert Koulman; Dietrich Volmer; *Medical Research Council, Cambridge, UK*

WP 367 **Antioxidants in Carob Bean Extracts: Evaluation of Extraction Methods Using High Resolution Mass Spectrometry**; Catharina Crone[1]; Michaela Scigelova[1]; Olaf Scheibner[1]; Martin Hornshaw[2]; Luis Duarte[3]; Luísa B. Roseiro[3]; Francisco Girio[3]; M.Gabriela Bernardo-Gil[4]; *[1]Thermo Fisher Scientific (Bremen), Bremen, Germany; [2]Thermo Fisher Scientific (Hemel Hempstead), Hemel Hempstead, UK; [3]Laboratório Nacional de Energia e Geologia, Lisboa, Portugal; [4]Centro de Engenharia Química e Biologica, Lisboa, Portugal*

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WP 368 **Withdrawn**

WP 369 **The Analysis of Free and Total Amino Acids in Food Matrices Using aTRAQ Technology Chemistry and LC/MS/MS Specificity**; Jim Krol; Scott B. Daniels; Babu Purkayastha; *Applied Biosystems, Framingham, MA*

WP 370 **2-Methyl-2-nitrosopropane, A Promising Label for Biological Thiol Targets: A Combined Electronic Paramagnetic Resonance and Electrospray Tandem Mass Spectrometry Study;** Mathilde Triquigneaux; Beatrice Tuccio; Laurence Charles; *laboratoire chimie provence, Marseille, France*

WP 371 **The Characterization and Differentiation of Sorbitan Esters by LC-MS-MS Combined with Statistical Data Processing;** Stephen Rumbelow[1]; Johnie Brown[2]; *[1]Croda Inc, New Castle, DE; [2]Applied Biosystems, Framingham, MA*

WP 372 **LC/MS/MS Approach to Determine *in vivo* Receptor Occupancy of CNS Drugs at GABAA and D2 Receptors in Rat Brain**; Farzin Gharahdaghi; John Zysk; Teng Peng; John Roberts; Reto Gadient; Vijay Chhajlani; Min Ding; Donna Maier; *Astrazeneca, Wilmington, DE*

WP 373 **Comparison of LC-MS, LC-CAD and Indirect CE as the Assay Technique for a Non-Chromophoric Impurity in an Active Pharmaceutical Ingredient**; Hong Gao; *Merck & Co. Inc., Rahway, NJ*

WP 374 **The Odds are in Your Favour: An Investigation of the Unusual Fragmentations of Quinazolines Using ESI-QIT-MS and DFT Calculations;** Angelika Galezowska[1]; Mark W. Harrison[2]; G. John Langley[1]; *[1]University of Southampton, Southampton, UK; [2]Analytical Chemistry Group, AstraZeneca, Macclesfield, UK*

WP 375 **Pesticide Screening and Quantitation in Cotton Goods**; Anna Marques[1]; April L. Thomas[1]; Jose Costa[2]; Daniel Lebre[3]; Andre Schreiber[4]; *[1]AB Sciex USA, Framingham, MA; [2]AB Sciex Brazil, Sao Paulo, Brazil; [3]CEMSA, Sao Paulo, Brazil; [4]AB Sciex Canada, Concord, Canada*

WP 376 **Quantitation of Nitroglycerin, Glyceryl 1,2-dinitrate and Glyceryl 1,3-dinitrate in Human Plasma via HPLC with MS/MS Detection**; Paul Connolly; Jingduan Chi; Jennifer Ammarman; Denise Hemminger; Emily Barrey; *MPI Research Inc., State College, PA*

WP 377 **Evaluation of Accurate Mass and Dynamic Range Capabilities of Low and High-Resolution Instrumentation in Compound Identification in Drug Discovery;** Vladimir Capka[1, 2]; Sharon Tentarelli[1, 2]; *[1]Astra Zeneca R&D Boston, Waltham, MA; [2]Astra Zeneca R&D Boston, Waltham, MA*

WP 378 **When Stability, Solubility, and Chiral Selectivity Intertwine: A Quantitative Assay for Dexlansoprazole**; Ryan S. Adler; Brad Bessette; Min Meng; Spencer Carter; Scott A. Reuschel; Patrick Bennett; *Tandem Labs, Salt Lake City, UT*

WP 379 **Characterization of Potentially Bioactive Peptides and Small Molecules in *Tetraponera rufonigra* Using HPLC-Chip Cube - Accurate-Mass Q-TOF MS and MS/MS**; Hooi Ling Liew[1]; Aishah A. Latiff[1]; Michael Harvey[2]; Chow-Yang Lee[3]; Chee Yuen Gan[1]; *[1]Doping Control Centre, Minden, Malaysia; [2]Oasis Biologics Sdn Bhd, Damansara Perdana, Malaysia; [3]School of Biological Sciences, USM, Minden, Malaysia*

WP 380 **The SALDI-MS Screening and LC-MS/MS Identification of Amino Acids and Amines from the Miller Volcanic Spark Discharge Experiment**; Zdenek Spacil[1, 2]; Ly Jiang[3]; Pawel Dziedzic[3]; Frank Turecek[1]; Armando Cordova[3, 4]; *[1]University of Washington, Seatte, WA; [2]Charles University in Prague, Hradec Kralove, Czech Republic; [3]Stockholm University, Stockholm, Sweden; [4]Mid Sweden University, Sundsvall, Sweden*

WP 381 **Verification of the Origin of Whisky by Electrospray FT-ICR Mass Spectrometry and Statistical Methods**; Matthias Witt [1]; Rainer Paape[1]; Jens Fuchser[1]; Gary Kruppa[2]; *[1]Bruker Daltonik GmbH, Bremen, Germany; [2]Bruker Daltonics Inc., New York, NY*

WP 382 **Analysis of Black Tea Thearubigins: An Electrospray-FT-ICR Mass Spectrometric Study**; Matthias Witt [1]; Nikolai Kuhnert[2]; Michael Clifford[3]; M Gokhan Baykut[1]; *[1]Bruker Daltonik GmbH, Bremen, Germany; [2]Jabocs University, Bremen, Germany; [3]University of Surrey, Guilford, UK*

WP 383 **Differentiation of Diastereomeric Phosphoramidate Prodrugs with Electrospray LC-MS**; Donghui Bao; P. Ganapati Reddy; Bruce Ross; Michael J. Sofia; *Pharmasset, Princeton, NJ*

WP 384 **TLC-MS/MS: Integrated Liquid Surface Sampling-Nano Electrospray Determination of Small Drug Molecules from Thin Layer Chromatography Plates;** Jack D. Henion[1]; Daniel Eikel[2]; Chris Alpha; Simon J. Prosser[4]; Geoffrey S. Rule[6]; Joseph Ebel[5] ; Mark Allen[1]; *[1]Advion BioSciences, Inc, Ithaca, NY; [2]AdvionBioSystems, Ithaca, NY; [3]Advion Biosystems Inc., Ithaca, NY; [4]Advion BioSciences, Inc., Ithaca, NY; [5]Analytical Toxicology, Cornell University, Ithaca, NY; [6]Advion Biosystems, Salt Lake City, UT*

WP 385 **Highly Sensitive LC/MS/MS Method for Quantitation of Bronchodilators in Dried Blood Spot Samples**; Suma Ramagiri[1]; Mauro Aiello [1]; Hesham Ghobarah[1]; Neil Spooner[2]; *[1]AB/ SCIEX, Concord, Canada; [2]GlaxoSmithKline Pharmaceutical, Welwyn, UK*

WP 386 **Formation and Biological Activity of 11-oxo-eicosatetraenoic Acid, a Novel 15-hydroxyprostagladin Dehydrogenase-Derived Arachidonic Acid Metabolite**; Cong Wei; Suhong Zhong; Xiaojing Liu; Ian Blair; *Center for Cancer Pharmacology, University of Penn, Philadelphia, PA*

WP 387 **Rapidly Screening of Melamine in Milk Using Liquid Electrospray Laser Desorption / Ionization Mass Spectrometry**; Ming-Hui Yang[1]; Chu-Nian Cheng[1]; Yu-Chang Tyan[2]; Jentaie Shiea [1]; *[1]National Sun Yat-Sen Univ., Kaohsiung, Taiwan; [2]Kaohsiung Medical University, Kaohsiung, Taiwan*

WP 388 **Analysis of Impurities in α-zearalanol by High Performance Liquid Chromatography/Ion Trap/Time-of-Flight Mass Spectrometry**; Kang Ma[1]; Jing Dong [2]; Jinjing Xing[3]; *[1]National Institute of Metrology of China, Beijing, China; [2]Shimadzu International Trading(Shanghai)Co., Limit, Beijing, China; [3]Jiangsu Institute of Metrology, Nanjing, China*

WP 389 **Fragmentation Pathway Study of Rhein by Ion Trap Combined Time-of-Flight Mass Spectrometer;** Jing Dong; Lei Cao; *Shimadzu International Trading (Shanghai) Co., Limit, Beijing, China*

WP 390 **Gas Chromatography-Atmospheric Pressure Chemical Ionisation Time of Flight Mass Spectrometry Optimisation and Application to Impurity Identification in Drug Development**; Mark W. Harrison[1, 1]; Anthony W.T. Bristow[1, 2]; Martin Sims[1, 2]; Athen-Engeland Thomas[1, 3]; Barsch Aiko[1, 3]; *[1], Macclesfield, UK; [2]AstraZeneca, Macclesfield, UK; [3]Bruker Daltonics GmbH, Bremen, Germany*

WP 391 **Detection and Identification by LC-MS of an Extractable/Leachable Impurity Essential for Ophthalmic Formulation Stability;** Audrey Tousignant; Yvonne Lear; Éric Vincent; Anne Danion; Alain Carrier; *Sandoz Canada Inc., Boucherville, Canada*

WP 392 **Analysis of the Formation of Novel Melphalan Hydrolysis Products under Isolated Lung Perfusion Conditions Using LC-MSMS**; Jasper Boschmans[1];

Willem den Hengst[4]; Paul Van Schil[4]; Ernst de Bruijn[3]; Filip Lemière[1]; Erwin Witters [1, 2]; *[1]University of Antwerp, Antwerp, Belgium; [2]Flemish Institute for Technological Research, Antwerp, Belgium; [3]KULeuven, Leuven, Belgium; [4]University Hospital Antwerp, Antwerp, Belgium*

WP 393 **Identification and Confirmation of an Unknown Degradation Product in the Stability Samples of a Pharmaceutical Dosage Form**; Charles Pan [1]; Jack Guan[2]; Melissa Lin[1]; *[1]Novartis, East Hanover, NJ; [2]Sandoz, East Hanover, NJ*

WP 394 **Isomer Differentiation of Hydroxypyridine N-oxides Using Metal Complexation and Electrospray Ionization Mass Spectrometry**; Matías Butler; Pau Arroyo Mañez; Gabriela Cabrera; *Universidad de Buenos Aires, Buenos Aires, Argentina*

WP 395 **Analysis of an Expired Opthalmic Solution of Polymycin B Sulfate and Trimethoprim by LC-MS**; Sharanya Reddy; David Negrotti; Avinash Dalmia; Daniel Pentek; William Goodman; *PerkinElmer, Shelton, CT*

WP 396 **Dried Blood Spot Analysis - Utilizing the Technique to Develop Assays in Rare or Limited Matrices**; Chad Christianson; Casey Johnson; Jennifer Zimmer; Shane Needham; *Alturas Analytics, Inc., Moscow, ID*

WP 397 **SFC/MS and LC/MS Analysis of Bio-Diesel Fuels**; Anna Marques[1]; Debora Santos[2]; Rogerio C. Rodrigues[3]; Alexandre S. Machado[3]; David J. Tognarelli[4]; Becky Wittrig[5]; Robert Ellis [6]; Stephen Tate[6]; Mauro Aiello[6]; Tadeo Sakuma[6]; *[1]ABSciex USA, Framingham, MA; [2]ABSciex Brazil, Sao Paulo, Brazil; [3]SENAI/CETIND, Lauro de Freitas, Brazil; [4]JASCO, Easton, MA; [5]Restek Corporation, Bellefonte; [6]ABSciex Canada, Concord, CA*

WP 398 **Adding Empirical Formula Rules to Accurate Mass and Exact Isotope Modeling for Elemental Composition Determination**; Ming Gu; Yongdong Wang; *Cerno Bioscience, Yardley, PA*

WP 399 **LC-MS/MS Method Improvement Using Dried Blood Spot Technology: Evaluation of Extraction Efficiency, HPLC Column Life Span and Automation**; Jie Zhang; Shimin Wei; Harold T Smith; Francis LS Tse; *Novartis Institutes for BioMedical Research, East Hanover, NJ*

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WP 401 **Assessment of Protein Digestion Protocols by Combining Standard (LTQ-Orbitrap-MS) and unbiasEd (QToF-MSE) Tandem Mass Spectrometry**; Ileana R. León; Richard R. Sprenger; Simone Sidoli; Clifford Young; Ole N. Jensen; *Univ. of Southern Denmark, Odense, Denmark*

WP 402 **Qualification of Automation Procedures for Preparation of Calibration Standards and QCs in Biological Matrices**; Jie Zhang; David Ayres; Shimin Wei; Harold T Smith; Francis LS Tse; *Novartis Institutes for BioMedical Research, East Hanover, NJ*

WP 403 **Extraction of Tamoxifen and Metabolites from Urine and Plasma Using Supported Liquid Extraction (SLE) prior to LC-MS/MS Analysis**; Elena Gairloch; Lee Williams; Rhys Jones; Helen Lodder; Geoff Davies; Steve Jordan; Richard Calverley; Claire Desbrow; Gary Dowthwaite; *Biotage GB Limited, Cardiff, UK*

WP 404 **Mixed Mode Polymeric SPE for the Fractionation of Acidic, Basic and Neutral Combination Therapeutics in Plasma**; Paul Boguszewski; William Hudson; Yung-lin Chen; *Varian, Inc., Lake Forest, CA*

WP 405 **Extraction of Paraquat and Diquat from Urine: Method Optimisation Using a New Resin-based Mixed-Mode Weak Cation Exchange SPE Sorbent;** Lee Williams; Rhys Jones; Geoff Davies; Helen Lodder; Gary Dowthwaite; Claire Desbrow; Richard Calverley; Steve Plant; Steve Jordan; *Biotage GB Limited, Cardiff, UK*

WP 406 **Rapid and Generic Sample Clean-up of Clinical Samples for Quantitation of a Drug Candidate**; S. Nicholas Potter; Michael Boudreaux; Janet Tam; Julie Zalikowski; *Amgen Inc., Seattle, WA*

WP 407 **Microcrystalline Cellulose Degradation with a Cellulase Enzyme Employing LC-MS to Follow Glucose Formation and Degradation Impurities;** Louis-Philippe Labranche[1]; Jonathan Drapeau[1]; Anne Danion[1]; Alain Carrier[2]; *[1]Sandoz, Boucherville, Canada; [2]Sandoz Canada, Boucherville, QC*

WP 408 **Optimizing Tissue Analysis For LC-MS/MS in Support of Drug Distribution Studies**; Nalini Anand; Michael Koleto; Rohan Thakur; Tong Wu; *Taylor Technology, Princeton, NJ*

WP 409 **Quantification of Clindamycin in Human Plasma by LC/MS/MS Using an Isotopically Labelled Versus Structurally Related Internal Standard**; Scott Kragerud; Autumn Dinnel; Chelsie Grochow; Ardeshir Khadang; Chinna Pamidi; *Cetero Research, Fargo, ND*

WP 410 **Development of an Ultra Fast Online-SPE-LC-ESI-MS/MS Approach for Pharmacokinetic Studies**; Nils Helge Schebb; Bora Inceoglu; Bruce Hammock; *University of California, Davis, CA*

WP 411 **The Phospholipid Fix: Quantitative Measurement and Analytical Solutions for Phosphilipid Depletion**; Russell Grant; Patricia Holland; Brian Rappold; *Labcorp, Burlington, NC*

WP 412 **A Specific 3D Conformation that Can Cause Bioanalytical Challenges**; Yizhong Zhang; Rick Steenwyk; *Pfizer Inc., Groton, CT*

WP 413 **Determination of Malonyl-CoA Levels and Distribution in Rat Brain Tissue Using Liquid-Liquid Extraction and LC/MS/MS**; Joelle Onorato; Luping Chen; Petia Shipkova; Zhengping Ma; Anthony Azzara; James Devenny; Ningning Liang; Tasir Haque; Dong Cheng; *Bristol-Myers Squibb, Princeton, NJ*

WP 414 **Determination of Trace Sulfonamides in Swine Waste Water by Three-Phase Liquid-Phase Microextraction Combined with Liquid Chromatography-Tandem Mass Spectrometry**; Chien-Chun Shen; Chung-Yu Chen; Maw-Rong Lee; *National Chung-Hsing University, Taichung, Taiwan*

WP 415 **Sensitive Femtogram Determination of Aflatoxins B1, B2, G1 and G2 in Food Matrices Using Tandem LC-MS/MS**; Yang Chen[1]; Peter Stone[2]; Jack Cappozzo[1]; *[1]National Center for Food Safety and Technology/IIT, Summit-Argo, IL; [2]Agilent Technologies, Inc., Santa Clara, CA*

WP 416 **Mercury and Arsenic Speciation Analysis by IC-ICP/MS**; Jörg Kleimann[1]; Jay Gandhi[2]; Laura H. Reyes[3]; H.M. Skip Kingston[3]; *[1]Metrohm International Headquarters, Herisau, Switzerland; [2]Metrohm USA, Tampa, FL; [3]Duquesne University, Pittsburgh, PA*

WP 417 **A Highly Sensitive Method for the Quantitation of Testosterone and Dihydrotestosterone in Human Serum Using LC-MS/MS**; Ginny B. James; Jonathan Rathe; Curtis Sheldon; Chad Briscoe; Ridha Nachi; *MDS Pharma Services, Lincoln, NE*

WP 418 **Increased Protein Coverage and Tyrosine Cleavage of Chymotrypsin In-Gel Digestions**; Tatiana N. Boronina; Robert N. Cole; *Johns Hopkins School of Medicine, Baltimore, MD*

WP 419 **Extraction of THC and Metabolites from Urine and Plasma Using Supported Liquid Extraction (SLE) Prior to LC-MS/MS Analysis**; Rhys Jones; Lee Williams; Helen Lodder; Geoff Davies; Steve Jordan; Richard Calverley; Claire Desbrow; Gary Dowthwaite; *Biotage GB Limited, Cardiff, UK*

WP 420 **Efficiency Assay of Detergent Removal Columns on Protein and Peptide Samples for Mass Spectrometric Analysis**; Sophie Alvarez[1]; Aftab Alam[2]; Leslie M. Hicks[1]; *[1]Danforth Center, St Louis, MO; [2]G-Biosciences/Genotech, Maryland Heights, MO*

WP 421 **The Use of a New Automated Blood Analyzer for the Determination of Immunosuppressants in Whole Blood**; Meike Baden[1]; Norbert Helle[1]; Fredrick D. Foster [2]; Dirk Bremer[2]; Juergen Wendt[3]; *[1]TeLA GmbH, Bremerhaven, Germany; [2]Gerstel GmbH & Co KG, Mülheim an der Ruhr, Germany; [3]Agilent Technologies, Waldbronn, Germany*

WP 422 **Quantification of Lipids and the Challenge of Developing LC/MS Methods for Compounds with Both Hydrophilic and Hydrophobic Characteristics;** Lin Tan; Troy Voelker; Yue Zhao; Ryan S. Adler; Cassie Ye; Min Meng; Patrick Bennett; Scott Reuschel; *Tandem Labs, Salt Lake City, UT*

WP 423 **Simultaneous Determination of Plasma Catecholamines Using an Integrated Strategy of an Automated Protein Precipitation Technique, Reductive Ethylation Labeling and UPLC-MS/MS**; Chengjie Ji; Max Tella; *Pfizer Inc, Groton, CT*

WP 424 **Analysis of Drugs of Abuse Using Automated Disposable Pipette Extraction and LC/MS/MS**; Fred Foster [1]; John Stuff[1]; Edward Pfannkoch[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 425 **Determination of Nitrofuran Metabolites in Shrimp by Liquid Chromatography-Tandem Mass Spectrometry in APCI mode Using 1 Hr Sonication Extraction**; Haejung An; Mark Henry; Teresa Cain; Darin Files; Han Chol Paek; Dennis Farley; *US FDA, Irvine, CA*

WP 426 **Method Development for Polar Embedded Polymeric SPE**; William Hudson; Paul Boguszewski; Yung-lin Chen; *Varian, Inc., Lake Forest, CA*

WP 427 **A Novel Concept for Sample Collection and Sample Preparation**; Stefan König; Werner Döbelin; *Inovalab AG, Reinach, Switzerland*

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WP 428 **Simultaneous Determination of Nicotinic Acid and Its Three Metabolites in Human Urine with Different Calibration Curve Ranges by LC/MS/MS**; Jiang Luo; Jia Liu; Xiaohang Shen; Jinsong Xing; *WuXi AppTec, Shanghai, China*

WP 429 **A Quantitative UPLC-MS/MS Method for Determining Human Metabolites of Ellagic Acid in Urine**; Ken Riedl; Pratiq Patel; Jim Fuchs; Li-Shu Wang; Gary Stoner; Steven Schwartz; *The Ohio State University, Columbus, OH*

WP 430 **Approaches in Method Development and Determination of Endogenous 25-Hydroxyvitamin D3 in Rat Serum by Electrospray LC-MS/MS**; Rong Yi; Hong Zhang; Gina de Boer; Xuejun Peng; *Can Test Ltd, Burnaby, Canada*

WP 431 **Lycopene Sub-Cellular Localization in Primary Prostate Epithelial and Stromal Cells**; Yongchao Li[1]; Avani Vaishnav[2]; Linlin Dong [1]; Larisa Nonn[2]; Richard B. Van Breemen[1]; *[1]University of Illinois College of Pharmacy, Chicago, IL; [2]University of Illinois College of Medicine, Chicago, IL*

WP 432 **Development of LC-APPI-MS/MS Methods for the Rapid Quantitation of Retinyl Esters**; Thomas Mcdonald; Beijing Tan; Jennifer Laperle; Christopher Holliman; *Pfizer Inc., Groton, CT*

WP 433 **A New Methodology for Determination of Tretinoin in Rat Plasma Using Column Switching and LC-MS/MS Techniques**; Yansheng Liu; Moo-Young Kim; Yu-Hui Fu; Chen-Yu Chung; Sarah Swenson; Darioush Dadgar; *KCAS Laboratory, Shawnee, KS*

WP 434 **LC-MS/MS Method for Simultaneous Determination of L-Arginine (ARG), L-Citrulline (CIT), and Asymmetric Dimethylarginine (ADMA) in Human Plasma**; Yuwen Zhao[1]; Hsun Wen Chou[1]; Lina Tang[1]; Yuan-Shek Chen[1]; Kumar Ramu[1]; James Hui[2]; *[1]QPS, LLC, Newark, DE; [2]Gilead Sciences, Inc., Durham, NC*

WP 435 **Simultaneous Quantitation of Histamine and 1-methylhistamine Using Pre-Column Derivatization Prior to HILIC-MS/MS Analysis. Application to a Rat Brain Microdialysis Study**; Emmanuel Bourgogne; François Xavier Mathy; David Boucaut; Hilmar Boekens; Steven Smith; *UCB pharma, Braine L'alleud, Belgium*

WP 436 **Simultaneous Quantitation of Three Major Acrylonitrile Mercapturic Acids and Cotinine by an Isotope-Dilution UPLC-MS/MS Method**; Chia-Fang Wu; Kuen-Yuh Wu; *National Taiwan University, Taipei, Taiwan*

WP 437 **A Systematic Approach to Targeted Analysis of Carotenoids in the Skin of False Percula Anemone Fish Using LC/MS**; Hayley Crowe[1]; Lucy Fernandes[2]; Kate Yu[1]; Nancy Breen[3]; John Shockcor[1]; Henry Shion[1]; Harold Pomeroy[3]; Bradford Bourque[3]; Alan Millar[1]; Stephen Oshea[3]; *[1]Waters Corporation, Milford, MA; [2]Waters Corp., Manchester, UK; [3]Roger Williams University, Bristol, RI*

WP 438 **A Mass Spectrometry Platform to Quantitatively Profile Cancer Cell Metabolism from Cell Lines to Tissues**; John M Asara[1, 2]; Jason Locasale[1]; Xuemei Yang[1]; Rami Rahal[2]; Matthew G Vander Heiden[3]; *[1]Beth Israel Deaconess Medical Center, Boston, MA; [2]Harvard Medical School, Boston, MA; [3]Massachusetts Institue of Technology, Cambridge, MA*

WP 439 **Yeast Elemental, Molecular and Isotopic Fractionation Fingerprinting: An Original Mass Spectrometry Strategy**; Johann Far; Hugues Preud'homme; Sylvain Berail; Ryszard Lobinski; *LCABIE-UMR5254-IPREM, University of Pau, Pau, France*

WP 440 **Analysis of Urinary Organic Acids by GC Tandem Mass Spectrometry for the Accurate Diagnosis of Inborn Errors of Metabolism**; Lisa Bates-Dubrow; Aaron Wheat; Patricia Whittecar; Amy Daniel; Carolyn Sparks; Leslie Wheat; Jessalyn Permenter; Stephen

Kahler; Frances Soderberg; *Arkansas Children's Hospital, Little Rock, AR*

WP 441 **Metabolic Profiling of Adult Urine Using Head Space- SPME-GC/MS and 1H NMR: Characterization of Gender**; Shucha Zhang[1]; Lingyan Liu[1]; Debbie Steffen[2]; Tao Ye[1]; Daniel Raftery[1]; *[1]Purdue University, West Lafayette, IN; [2]Center for Authentic Science Practice in Education, West Lafayette, IN*

WP 442 **Quantitative Analysis of Cyanobacterial Free Fatty acids by Direct Infusion ESI**; Daniel C. Brune; Shuqin Li; Xinyao Liu; James A. Garcia; Roy Curtiss III; Wim Vermaas; *Arizona State University, Tempe, AZ*

WP 443 **Characterization of the *Populus* Metabolome with an LTQ-Orbitrap Mass Spectrometer**; Maria Ahnlund-Hansson[1, 2]; Thomas Moritz[1, 2]; *[1]Swedish University of Agricultural Sciences (SLU), Umeå, Sweden; [2]Umeå Plant Science Center, Umeå, Sweden*

WP 444 **Metabolic Profiling of Corn (Zea mays) Roots by Mid-Infrared Laser Ablation Electrospray Ionization Mass Spectrometry**; Jennifer A Day[1]; Bindesh Shrestha[1]; Peter Nemes[1, 2]; Akos Vertes[1]; *[1]George Washington University, Washington, DC; [2]University of Illinois at Urbana-Champaign, Urbana, IL*

WP 445 **Confirmation of Metabolite Identification in LC-FTMS Metabolomics Experiments Using an In-Line Triple Quadrupole**; Nicholas Carruthers[1]; Gilles Lajoie[1]; *[1]University of Western Ontario, London, Canada*

WP 446 **Accurate Mass Spectrometry Based Quantification and Characterization of Hepatic Microsomal Metabolism of the Thiopeptide Antibiotic GE 37468A**; Mustafa Varoglu; Xiaowei He; Min Chu; Scott Coleman; *Cubist Pharmaceuticals, Lexington, MA*

WP 447 **Application of High Resolution Orbitrap Mass Analyzer to Quantitation and Profiling of Amino Acids and Short Peptides after Derivatization**; Pavel Aronov; Rabindra Tirouvanziam; Allis S. Chien; *Stanford Univ., Stanford, CA*

WP 448 **Determination of 16 Anabolic Steroids Esters in Equine Plasma by Liquid Chromatography-Electrospray-Tandem Mass Spectrometry**; Youwen You[1]; Cornelius Uboh [2]; Lawrence Soma[1]; Fuyu Guan[1]; Xiaoqing Li[1]; Ying Liu[1]; Jeffrey Rudy[2]; Jinwen Chen[1]; *[1]University of Pennsylvania, West Chester, PA; [2]West Chester University, West Chester, PA*

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WP 450 **Metabolism and Transport of the Glutathione Conjugate of 4-Hydroxy-2-nonenal in Human Monocytic THP-1 Cells Studied by Electrospray LC-MS/MS**; Brandi L. Langsdorf; Cristobal L. Miranda; Jan F. Stevens; *Oregon State University, Corvallis, OR*

WP 451 **Atrazine Metabolism: Characterization of Novel Metabolites and Glutathione Adducts Detected by LC-TOF-MS**; André Leblanc; Lekha Sleno; *UQAM, Montreal, Canada*

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WP 453 **On-Line Coupling of Electrochemistry/HPLC/MS as an Effective Tool for the Simulation of the Oxidative Metabolism of Alkaloids**; Sandra Jahn[1]; Anne Baumann[1]; Torsten Vielhaber[1]; Bettina Seiwert[2]; Uwe Karst[1]; *[1]University of Münster, Münster, Germany; [2]University of Leipzig, Leipzig, Germany*

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WP 455 **Simulation of the Oxidative Metabolism of Triclocarban in an Electrochemical Thin Layer Cell Coupled Online to LC/ESI-ToF-MS**; Anne Baumann[1]; Nils-Helge Schebb[2]; Ki Chan Ahn[2]; Tristan Rose[2]; Bruce D. Hammock[2]; Uwe Karst[1]; *[1]University of Münster, Münster, Germany; [2]University of California, Davis, CA*

WP 456 **Structural Identification of Oxidative Metabolites and Reactive Intermediates of Trizodone by Ultra High-Resolution Q-TOF Mass Spectrometry**; Qian Ruan; Li Ma; Asoka Ranasinghe; Hongwei Zhang; W. Griffith Humphreys; Timothy Olah; Mingshe Zhu; *Bristol-Myers Squibb, Princeton, NJ*

WP 457 **Investigating the use of Electrochemistry with Mass Spectrometry To Detect Reactive Metabolites**; Matthew Lochansky[1]; Annie Moran[2]; Randy Rutkowske[1]; Luke Miller[1]; *[1]GlaxoSmithKline, Research Triangle Park, NC; [2]University of North Carolina, Chapel Hill, NC*

WP 458 **Bioactivation of 2-Acyl-5-chlorothiophene-containing Compounds by Human Liver Microsomes**; Weiqi Chen; Haiying zhang; Donglu Zhang; William Humphreys; Jinping Gan; *Bristol-myers Squibb, Princeton, NJ*

WP 459 **Investigation of Free Radical Metabolism of Raloxifene by NADPH-fortified Human Liver Microsomes Using Liquid Chromatography/ LTQ-Orbitrap**; Heng-Keang Lim; Ke Yang; Silva Jose; *DMPK, GPCD, Johnson and Johnson PRD, Raritan, NJ*

WP 460 **Detection and Characterization of Covalent Protein Adducts by Liquid Chromatography-LTQ/Orbitrap**; Heng-Keang Lim; Wing W Lam; Jose Silva; *DMPK, GPCD, Johnson and Johnson PRD, Raritan, NJ*

WP 461 **Live Single-Cell Drug (Tamoxifen) Metabolism and Transport in an Organelle of a HepG2 Cell**; Sachiko Date; Kiyoshi Takeshima; Hajime Mizuno; Naohiro Tsuyama; Takanori Harada; Tsutomu Masujima; *Hiroshima Univ. BioMed., Hiroshima, Japan*

WP 462 ***in-vitro* Metabolic Profile of Investigational Anticancer Agents by LC-Ion Trap Mass Spectrometry;** Mohamed Attwa; Adnan Kadi; *King Saud University, College of Pharmacy, Riyadh, Saudi Arabia*

WP 463 **Chirality Study of Homolytic Decomposition Metabolites from 15-Hydroperoxy-Eicosatetraenoic Acid (15-HPETE) and 11-HPETE by LC-MS/MS**; Suhong Zhang; Xiaojing Liu; Cong Wei; Clementina

Mesaros; Ian A. Blair; *Center for Cancer Pharmacology, University of Penn, Philadelphia, PA*

WP 464 **Use of Deuterated Napthalene and Orbitrap LC-MS for Identification of *in vivo* Biomarker Protein Adducts in Urine;** William T. Jewell; Nathalie Pham; Alan Buckpitt; *UC Davis, Davis, CA*

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WP 467 **Mining the Small Proteome of the Biotrophic Fungal Pathogen *Blumeria graminis* to Reveal Effectors Delivered to its Host Barley**; Laurence V. Bindschedler[1]; Tim A. Burgis[2]; Pietro D. Spanu[2]; Rainer Cramer[1]; *[1]University of Reading, Reading, UK; [2]Imperial college London, London, UK*

WP 468 **Differential Quantitation of Protein Markers in Plant Tissue: A Proteomic Case Study for Agriculture**; Leah Riter[1]; Pamela Jensen[1]; Olga Vitek[2]; Ping Feng[1]; Susan MacIsaac[1]; *[1]Monsanto Company, St Louis, MO; [2]Purdue University, West Lafayettte, Indiana*

WP 469 **A Quantitative Method for Seven Polypeptide Antibiotic Residues in Animal Tissues and miLk by Liquid Chromatography-Tandem Mass Spectrometry**; Joe O. Boison; Ron Gedir; Stephen Lee; Johanna Matus; *Canadian Food Inspection Agcy, Saskatoon, Canada*

WP 470 **High-Throughput Cyclolinopeptide and Triacylglycerol (TAG) Profiling of Linum usitatissimum Using LDTD-MS/MS**; Julie Marr [1]; Patrice Tremblay[2]; Pierre Picard[3]; Peta-Gaye Burnett[4]; Denis Paskal Okinyo Owiti[4]; Martin J.T. Reaney[4]; *[1]Agilent Technologies, Mississauga, Canada; [2]Phytronix Technologies, Quebec, QC; [3]Phytronix Technologies, Inc., Quebec, QC; [4]University of Saskatchewan, Saskatoon, Canada*

WP 471 **Dicamba O-demethylase Monooxygenase (DMO) Substrate Specificity Studies Using UPLC-Mass Spectrometry**; Yanfei Wang; Mason Hughes; Ryan Bartlett; *Monsanto Company, Chesterfield, MO*

WP 472 **Determination and Risk Assessment of Arsenic Compounds in Agricultural Products by Anion-Exchange Liquid Chromatography with Inductively Coupled Plasma-Mass Spectrometry**; Sung-Kug Park; Hoon Choi; Hee-Ra Park; Ock-Jin Paek; Young-Woon Kang; Cheon-Ho Jo; Dong-Sul Kim; *Korea Food and Drug Administration, Seoul, South Korea*

WP 473 **Applications of UHPLC Orbitrap-MS for the Multiresidue Screening of Pesticides in Agricultural Commodities**; James Chang[1]; Jon Wong[2]; *[1]Thermo Fisher Scientific, San Jose, CA; [2]FDA-CFSAN, College Park, MD*

WP 474 **Screening for Pesticides in Food and Water Samples with Identification based on Library Searching Using Accurate Mass LC/MS/MS**; Andre Schreiber[1]; Yun Yun Zou[1]; Doina Caraiman[1]; Tanya Gamble[1]; Rebecca Wittrig[2]; Paul Yang[3]; *[1]AB SCIEX, Concord, Canada; [2]Restek, Bellefonte, PA; [3]Minstry of Environment, Toronto, Ontario, Canada*

WP 475 **Comparative Assessment of ToF Profiling and Tandem Quadrupole Mass Spectrometric Screening of Pesticides in a Vegetable Matrix;** Stephen Wong[1]; Evelyn Goh[1]; Mark Ritchie[1]; Eleanor Riches[2]; Peter Hancock[2]; James Morphet[2]; *[1]Waters Pacific Pte Ltd, Singapore, Singapore; [2]Waters Corporation, Northwich, UK*

WP 476 **Multi Residue Pesticide Screening and Confirmation in Food Using LC/MS/MS System and Library Searching**; Hyunjeong Cho[1]; Gijun Park[1]; Byungchul Son[1]; Youngbae Son[1]; Sunghoon Yeo[2]; Hansoon Kwon[2]; *[1]National Agricultural Products Quality Management, Seoul, South Korea; [2]AB SCIEX Korea, Seoul, South Korea*

WP 477 **Study of Qualitative Screening Analysis of Organophosphorus Pesticides Residues in Foods Using a GC-TOFMS with Fast GC Technique**; Masaaki Ubukata[1]; Yoshiyuki Itoh[1]; Jun Tamura[1]; Yoshihisa Ueda[1]; Jun Onodera[1]; Bob DiPasquale[3]; Robert Hertsens[2]; *[1]JEOL Ltd., Akishima, Japan; [2]JEOL (Europe) B. V., Zaventem, Belgium; [3]JEOL USA Inc., Boston, MA*

WP 478 **Electrospray MS as an Effective, Quantitative Method for Tracking Root Exudates Throughout a Plant's Growth Cycle**; Sharon Curtis[1]; Paul Mayer[1]; Savka Orozovic[2]; Morris Switzer[2]; Carlos Monreal[2]; Justin Renaud[1]; *[1]University Of Ottawa, Ottawa, Canada; [2]Agriculture and Agri-Food Canada, Ottawa, Canada*

WP 479 **Distribution of Almond Phenolics in Skins and Water during Blanching as Quantified by LC-TOF MS**; Christine A. Hughey[1]; Carina Minardi[1]; Lorenzo Reyes[1]; Anuradha Prakash[1]; Bruce Wilcox[2]; *[1]Chapman University, Orange, CA; [2]Applied Proteomics, Inc., Orange, CA*

WP 480 **Analysis of Organic Volatile Compounds in Brazilian Stingless Bee Honey**; Ildenize Cunha[1]; Jose L. P. Jará[2]; Marcos N Eberlin[2]; *[1]ThoMSon Mass Spectrometry Laboratory - UNICAMP, Campinas, Brazil; [2]ThoMSon Lab UNICAMP, Campinas, Sp, Brazil*

WP 481 **Single Kernel Method for Detection of 2-acetyl-1-pyrroline in Aromatic Rice Germplasm Using SPME-GC/MS**; Rolfe Bryant[1, 2]; Anna Mcclung[1, 2]; Casey C. Grimm[3]; *[1]USDA-ARS-DB NRRC, Stuttgart, AR; [2]USDA-ARS-DB NRRC, Stuttgart, AR; [3]USDA-ARS-SRRC, New Orleans, LA*

WP 482 **Structural Investigation of Synthetic Lignins by Nano-Electrospray Ionization Quadrupole Time-of-Flight Tandem Mass Spectrometry**; Chamnongsak Chanthamontri[1]; Timothy Zwier[1]; John Ralph[2]; Scott A. Mcluckey[1]; *[1]Purdue University, West Lafayette, IN; [2]University of Wisconsin-Madison, Madison, Wisconsin*

WP 483 **High Throughput Analysis of Melamine in Infant Milk Powder Formula Using LDTD-MS/MS**; Serge Auger; Pierre Picard; Patrice Tremblay; Gregory Blachon; Sylvain Letarte; *Phytronix Technologies inc., Québec, Canada*

WP 484 **Effect of Internal Standard on the Accuracy of Vitamin D Measurement by Liquid Chromatography Tandem Mass Spectrometry (LC/MS/MS)**; Min Huang; Doug Winters; *Covance, Nutrition Chemistry and Food Safety, Madison, WI*

WP 485 **LC-MS/MS Based Targeted Profiling of Plant Hormones in Stressed Arabidopsis and Tomato Leaves**; Chao-Jung Chen[1]; Yit-Wai Mak[2]; Yet-Ran Chen[1]; Sheng-Yu Huang[3]; Kefei Wang[4]; *[1]Agricultural Biotech Research Ct, Academia Sinica, Taipei, Taiwan;*

[2]Scientific Instrument Ct, Academia Sinica, Taipei, Taiwan; [3]Mass Solutions Technology, Taipei, Taiwan; [4]Thermo Fisher Scientific, San Jose, CA

WP 486 **Determination of the Secondary Metabolite Bikaverin from Maize by LC-MS/MS**; Mark Busman; *USDA-ARS, Peoria, IL*

WP 487 **Multi-Residue Analysis of Veterinary Drugs in Animal Produce by Hybrid Triple Quadrupole Linear Ion Trap LC-MS/MS**; Pavel Metalnikov; Irina Bogdanova; Alexander Komarov; Alexander Panin; *VGNKI, Moscow, Russian Federation*

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WP 488 **A GC/MS Tailored Multivariate Approach to the Analysis of Trace Odor Compounds in Green Tea**; Takeshi Serino[1]; Sadao Nakamura[1]; Anthony Gray[2]; David Peterson[2]; *[1]Agilent Technologies, Tokyo, Japan; [2]Agilent Technologies, Santa Clara, CA*

WP 489 **Volatile Composition and Organoleptic Qualitative Evaluation of Rose Species by Live Single Cell Direct Mass Spectrometry**; Mónica Lorenzo Tejedor; Hajime Mizuno; Naohiro Tsuyama; Takanori Harada; Tsutomu Masujima; *Hiroshima Univ. BioMed., Hiroshima, Japan*

WP 490 **Identification of Non-Volatile Congeners by Accurate Mass LC-TOF to Determine Bourbon Product Authenticity**; Luke Adam[1]; Sue Dantonio[2]; Lynne Marshall[2]; Andre Szczesniewski[2]; *[1]Beam Global Spirits, Louisville, KY; [2]Agilent Technologies, Schuamburg, IL*

WP 491 **Quantitative Analysis and Confirmation of Presence of Some Migrants in Food Packaging**; Philippe Tourelle[1]; Gilles Jarry[1]; Cécile Busset[2]; Stephen Lock[2]; *[1]Impress Metal Packaging, La Flèche, France; [2]AB SCIEX, Paris, France*

WP 492 **Distinguishing Among Three Luteolin Glycoside Isomers by Using Host-Guest Chemistry and LC-MS/MS**; Canan Ozer; Dil Ramanathan; *Kean University, Union, NJ*

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WP 493 **Development of Ion Mobility Separation and Mass Spectrometric Conditions in a Q-Tof Instrument for the Analysis of Chemical Warfare Agents**; Paul D'agostino; Claude Chenier; *DRDC Suffield, Medicine Hat, Canada*

WP 494 **Improving Selectivity and Sensitivity of Anti-Terrorism Detection Equipment with FAPA-IMS-IMS**; Jonathan Dilger[1, 2]; Jeff Everett[1]; Jake Shelley[1]; Stephen Valentine[1]; Gary M. Hieftje[1]; David E. Clemmer[1]; *[1]Indiana University, Bloomington, IN; [2]Naval Surface Warfare Center, Crane Division, Crane, IN*

WP 495 **Ambient Direct Analysis in Real Time with a Monolithic Ion Mobility Spectrometry (DART-IMS) Platform for Chemical Agent Monitoring**; Glenn A Harris; Facundo Fernandez; *Georgia Institute of Technology, Atlanta, GA*

WP 496 **Quantitation of Alkyl Methylphosphonic Acids as Free Metabolites of Organophosphorus Nerve Agents in Rat and Human Urine by LC/ESI/MS/MS**; Sophie Gougeon; Cécile Montauban; Didier Christin; Laurent Taysse; Anne Bossee; *DGA NRBC Defence, Vert-Le-Petit, France*

WP 497 **Withdrawn**

WP 498 **Advances in Mobile GC/MS Technology for Homeland Security and Defense**; Garth Patterson; Cynthia Liu; Mark Gregory; Mitch Wells; Dennis Barket; *ICx Griffin, West Lafayette, IN*

WP 499 **Use of RAMFAC (Rapid Multivariate Factorization) Deconvolution Algorithm In a Portable GC/MS Instrument for Compound Identification**; Joe Oliphant[1]; Edgar Lee[1]; Dennis Tolley[2]; Cory Grant[1]; Chad Grant[1]; *[1]Torion Technologies, American Fork, UT; [2]Brigham Young University, Provo, Utah*

WP 500 **A LVI– GC– EI/MS - Selective Detectors Apparatus for Enhanced Sensitivity in Detection and Identification of Chem.-Terror Agents**; Nitzan Tzanani; Dana Marder; Hagit Prihed; *Israel Inst. for Biological Research, Ness Ziona, Israel*

WP 501 **Effect of Prednisolone for Mitigation of Neovascularization of the Cornea Following Exposure to HD by use of Quantitative Shotgun Proteomics**; Mitchell Meade[1]; Pavel Shiyanov[1]; Michael Babin[2]; *[1]AFRL, Dayton, OH; [2]Battelle, Columbus, OH*

WP 502 **Comparison of LC-MS/MS Strategies for Nerve Agent Metabolites Analysis**; John Tokarz; Kevin J. Shefcheck; Joy M. Ginter; *US Army - ECBC, Aberdeen Proving Ground, MD*

WP 503 **Detection of Ribosomal Inactivating Proteins via Immuno-precipitation and MALDI-TOF MS**; James Robertson; Roman Aranda IV; Shauna M Dineen; Jason Bannan; *FBI Laboratory, Quantico, VA*

WP 504 **Forensic Characterization and Source Apportionment of Endogenous Peptides Derived from Biological Threat Agents**; Brian H. Clowers; Cinnamon D. Bolz; Heather Engelmann; David S. Wunschel; Angela M Melville; Nancy B. Valentine; Christina Sorensen; Karen L. Wahl; *Pacific Northwest National Laboratory, Richland, WA*

WP 505 **Simultaneous Profiling and Quantitation of Phosphonic Acids**; Keith Goodman[1]; Anthony Romanelli[1]; Patrick South[2]; Mark Bauer[2]; *[1]AB SCIEX, Framingham, MA; [2]Battelle, Columbus, OH*

WP 506 **Investigation Using SIMION on the Implementation of a Cubic Ion Trap as an Ionization Chamber on a GC/LIT**; Sarah Vitcher[1, 2]; Claude Beaugrand[3]; Laurens Dudragne[2]; Roberta Collino[2]; Jean-Claude Tabet[1]; *[1]University Paris VI (UPMC), Paris, France; [2]Thales Security Solutions & SystemS, Vélizy-Villacoublay, France; [3]ALPHA-MOS, Toulouse, France*

WP 507 **GC-MS Analysis of Carbohydate and Fatty Acid Marker Abundance in Ricin Toxin Preparations**; Kate C. Antolick; David S. Wunschel; Heather A. Colburn; Helen W. Kreuzer; James J. Moran; Angie M. Melville; *Pacific Northwest National Laboratory, Richland, WA*

WP 508 **Gas Chromatographic-Negative Ion Chemical Ionization Mass Spectrometric Analysis of Sulfur Mustard-Plasma Protein Adducts in Rabbits from Ocular Vapor Exposure**; Richard Lawrence; Bethany Williams; Denise Milhorn; Benedict Capacio; *US Army MRICD, Aberdeen Proving Ground, MD*

WP 509 **Comparison and Evaluation of Sample Preparation Methods for Identification of Highly Pathogenic Bacteria Using MALDI–ToF Mass Spectrometry**; Michal Drevinek[1]; Jiri Dresler[2]; Hana Placakova[1]; Martin Hubalek[3]; *[1]Natl Inst for NBC Protection, Milin, Czech Republic; [2]Central Military Institute of Health, Prague, Czech Republic; [3]Institute of Molecular Pathology, Univ. of Defense, Hradec Kralove, Czech Republic*

WP 510 **Quantification of Botulinum Neurotoxins A and B: From Method Development to Applications in Clinical Samples**; Bryan Parks; Jakub Baudys; Wanda

Santana; Suzanne Kalb; John R. Barr; *Centers for Disease Control and Prevention, Atlanta, GA*

WP 511 **High-Salt Washing Significantly Improves the Detection of BoNT/A in Stool Matrix by Mass Spectrometry**; Dongxia Wang; Jakub Baudys; Suzanne Kalb; John R. Barr; *Centers for Disease Control and Prevention, Atlanta, GA*

WP 512 **Application of a Label-Free Mass Spectrometry Method to Measure Relative Quantities of Proteins within Botulinum Neurotoxin Complexes**; Hercules Moura; Adrian R Woolfitt; Rebecca R Terilli; Maria Solano; John R. Barr; *Centers for Disease Control & Prevention, Atlanta, GA*

WP 513 **The Use of Mass Spectrometry to Determine the Enzymatic Target of Clostridium baratii Type F Neurotoxin**; Suzanne R. Kalb[1]; Jakub Baudys[2]; Christina Egan[3]; Theresa J. Smith[4]; Leonard A. Smith[4]; John R. Barr[1]; *[1]CDC, Atlanta, GA; [2]Battelle Memorial Institute, Atlanta, GA; [3]Wadsworth Center, New York State Dept. of Health, Albany, NY; [4]Integrated Toxicology, USAMRIID, Ft. Detrick, MD*

WP 514 **Carbohydrate Analysis by MALDI-MS and GC-MS to Detect Potential Markers of Organism Processing and Preservation**; Angela M. Melville; David S. Wunschel; Heather A. Colburn; Christina M. Sorensen; Casey L. Stamper; Nancy B. Valentine; Heather E. Engelmann; Kate C. Antolick; Karen L. Wahl; *Pacific Northwest National Laboratory, Richland, WA*

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WP 515 **Complementary Mass Spectrometric Techniques for the Characterization of Intractable Polymers**; Patricia M. Peacock; *Dupont, Wilmington, DE*

WP 516 **Characterization of Butyl Rubber Thermal-Oxidative Decomposition Products**; James Hochrein; Robert Bernstein; Michael White; Shawn Dirk; Steven Thornberg; Cody Washburn; *Sandia National Laboratories, Albuquerque, NM*

WP 517 **A Study of Structure and Thermal Degradation of Flame Retardant Polycarbonate**; Yoshiyuki Itoh[1]; Hiroaki Sato[2]; Masaaki Ubukata[1]; Kanae Teramoto[1]; Jun Tamura[1]; *[1]JEOL Ltd., Akishima, Japan; [2]AIST, Tsukuba, Japan*

WP 518 **Dual Measurement of Polymer and Peptide Thermal Decomposition by Calorimetry and Laser Desorption Ionization Using a Single Microfabricated Device Platform**; Curtis Mowry; Matthew Moorman; John Anderson; Jeffrey Reich; *Sandia National Laboratories, Albuquerque, NM*

WP 519 **Time of Flight Secondary Ion Mass Spectrometric Determination of Molecular Weight Distribution of Low Polydispersity Poly(Dimethylsiloxane) with Polyatomic Primary Ions**; Hye Kyoung Moon; David D. Wells; Joseph A. Gardella, Jr; *State University of New York at Buffalo, Buffalo, NY*

WP 520 **Fragmentation of Polyacrylates by Tandem ESI-FTMS**; Sasa Miladinovic[1]; Cynthia Kaeser[2]; Charles L. Wilkins[1]; *[1]University of Arkansas, Fayetteville, AR; [2]University of the Cumberlands, Williamsburg, KY*

WP 521 **Mechanistic Study of the Collision-Induced Dissociation of Sodium-Cationized Polylactide Oligomers : A Joint Experimental and Theoretical Investigation**; Julien De Winter; Vincent Lemaur; Philippe Marsal; Olivier Coulembier; Jérôme Cornil; Philippe Dubois; Pascal Gerbaux; *University of Mons, Mons, Belgium*

WP 522 **CAD Versus ETD Fragmentation Pathways of Polyesters**; Vincenzo Scionti; Chrys Wesdemiotis; *The University of Akron, Akron, OH*

WP 523 **Characterization of Copolymers by Mass and Tandem Mass Spectrometry**; Aleer M. Yol; Roderic P. Quirk; Chrys Wesdemiotis; Jon E. Janoski; *The University of Akron, Akron, OH*

WP 524 **Influence of the End-Group on the MS/MS Dissociation of Electrosprayed Poly(Dimethylsiloxane) Oligomers: Hydride vs Trimethylsilyl End-Groups**; Thierry Fouquet; Stéphane Humbel; Laurence Charles; *University Aix-Marseille I & III, Marseille, France*

WP 525 **Mass Spectrometric Investigations of Bisphenol A and Other Migrants in Canned Food**; Luke K. Ackerman; Gregory Noonan; John Roach; Eugene Mazzola; Pierluigi Delmonte; Timothy Begley; *FDA Center for Food Safety, College Park, MD*

WP 526 **Selectivities Estimation of tritonX-114-Co(II) Complex by Electrospray Ionization Fourier Transform Ion Cyclotron Resonance (ESI-FTICR) Mass Spectrometry**; Khaled Edbey [1]; Grainne Moran[2]; Gary D. Willett[2]; *[1]University of Garyounis, Benghazi, Libya; [2]University of New South Wales, Sydney, Australia*

WP 527 **Qualitative Analysis of the Additives in Polypropylene Film by MALDI-MS Combined with Micro HPLC Fractionation**; Hirotaka Shioji; Yoshihiko Taguchi; Nobuyuki Sato; *Toray Research Center, Inc., Otsu, Japan*

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WP 528 **5975-SMB - A New Type of GC-MS with Advanced Capabilities**; Aviv Amirav[1]; Alexander B. Fialkov[2]; Alexander Gordin[2]; Tal Alon[2]; *[1]Tel-Aviv University, Tel-Aviv, Israel; [2]Tel Aviv University, Tel Aviv, Israel*

WP 529 **Quantitative Solid Phase Microextraction Analysis of Volatiles and Semivolatiles Using field Portable Gas Chromatography-Toroidal Ion Trap Mass Spectrometry (SPME-GC-TMS)**; Christopher R. Bowerbank; Joseph L. Oliphant; Edgar D. Lee; Douglas W. Later; *Torion Technologies Inc., American Fork, UT*

WP 530 **Reduced Sample Preparation for Determination of *N*-Nitrosamines in Food and Beverages with Heart-Cutting GC/MS**; Andrew Tipler; Adam J. Patkin; William Goodman; *PerkinElmer, Shelton, CT*

WP 531 **Removing the Need for Extractions in the Analysis of Pesticides Using Triple Quadrupole GC/MS System**; Eric Phillips; *ThermoFisher Scientific, Austin, TX*

WP 532 **Mars Organic Molecule Analyzer: Detecting Organics in Extra-Terrestrial Soil via Low Power Gas Chromatography-Mass Spectrometry**; Veronica Pinnick [1]; Arnaud Buch[2]; Friso H. W. Van Amerom[3]; Ryan M. Danell[4]; Luann Becker[5]; Robert J. Cotter[1]; *[1]Middle Atlantic MS Laboratory, Baltimore, MD; [2]Ecole Centrale Paris, Paris, France; [3]SRI International, St. Petersburg, Florida; [4]Danell Consulting, Greenville, NC; [5]John's Hopkins University, Baltimore, MD*

WP 533 **Withdrawn**

WP 534 **Mass Spectra of the Derivatives of Biological Buffer Components by GC-MS**; Yufang Zheng; Edward White V; Stephen E. Stein; *NIST, Gaithersburg, MD*

WP 535 **Methods for the Detection of Benzenedithiols and Their Analogs by GC-MS**; Kirill Tretyakov[1]; Roman Borisov[2]; Nino Todua[1]; Vladimir Zaikin[2]; Stephen Stein[1]; Anzor Mikaia[1]; *[1]National Institute of Standards*

and Technology, Gaithersburg, MD; [2]Topchiev Institute of Petrochemical Synthesis RAS, Moscow, Russia

WP 536 **Determination of Indole in Seafood by Headspace SPME GC-MS**; F. Aladar Bencsath; Ann Abraham; Ronald A. Benner, Jr; *FDA, Gulf Coast Seafood Lab, Dauphin Island, AL*

WP 537 **Electron Ionization Mass Spectra of Derivatives of Sulfabenzamide and Related Compounds: Unusual Rearrangement Involving Migration of Carbonyl O-Atom**; Nino Todua[1]; Kirill Tretyakov[1]; Roman Borisov[2]; Dmitry Zhilyaev[2]; Vladimir Zaikin[2]; Stephen Stein[1]; Anzor Mikaia[1]; *[1]National Institute of Standards and Technology, Gaithersburg, Maryland; [2]Topchiev Institute of Petrochemical Synthesis RAS, Moscow, Russia*

WP 538 **Use of Deuterated O-*n*-butyl-hydroxylamines in the Analysis of Fructosylamino Acids Provide GLC/MS Characteristics that Improve Separation, Identification and Verification**; Thomas P. Mawhinney; Deborah Chance; Valeri Mossine; Nancy Cassity; James Waters; *University of Missouri, Columbia, MO*

WP 539 **Low-Pressure Positive Chemical Ionization GC/MS for the Analysis of Lipids from Chromulina freibugensis Defl., A Potential Biofuel Source;** Douglas Cameron; Ashley Stewart; *Montana Tech, Butte, MT*

WP 540 **Development of a Sensitive and Reliable Method for the Measurement of Drugs of Abuse comparing GC-TOF/MS vs. GC- Quadrupole/MS**; Petra Gerhards[1]; Juergen Sawazki[3]; Gerhard Horner[2]; Pierre Schanen[2]; *[1]ALMSCO International, Llantrisant, UK; [2]five technologies, Munich, Germany; [3]Apotheke der LVR Klinik Viersen, Viersen, Germany*

WP 541 **Headspace-GC/MS Quantification of Furan in Rat Blood and Liver**; Mona I. Churchwell; Linda S. Von Tungeln; Daniel R. Doerge; *Nat. Ctr. Tox. Res., Jefferson, AR*

WP 542 **Analysis of Polybrominated Biphenyls in Pharmaceutical Manufacturing Process Samples Using GC-MS**; Chen Ding; Adrian Anderson; Gang Zhao; Russel Cink; Qunying Zhang; Nancy Benz; *Abbott Laboratories, North Chicago, IL*

WP 543 **Trace Level Determination of Phenyl Chloroformate as a Potential Genotoxic Impurity in Process Related Intermediates and Drug Substance**; Qizhi (Kelly) Hu; Susanna Lai; Sheng Cui; David Yeung; Xiao-Keng Liu; Fang Wang; Tiffany Correll; *Amgen, Inc., Thousand Oaks, CA*

WP 544 **Electron Ionization Mass Spectra and Retention Indices of Phthalate Monoesters and Derivatives**; Yuxue Liang; Yufang Zheng; Edward White V; Stephen Stein; *National Institute of Standards and Technology, Gaithersburg, MD*

WP 545 **Investigation of Hazardous, Volatile Hydrocarbons in Commercial Beverages**; Sarah J Saylor[1]; Catherine Bentzley[1]; Alexander V. Kachur[1, 2]; *[1]University of the Sciences in Philadelphia, Philadelphia, PA; [2]University of Pennsylvania, Philadelphia, PA*

WP 546 **High Sensitivity Multi-Residue Pesticide Analysis in Fruit Preserve Using GC-MS/MS**; Hans J. Huebschmann; *Thermo Fisher Scientific, Austin, TX*

WP 547 **The Application of APGC TOF MS in the Analysis of Archeological Biomarkers Associated with Bitumens in Egyptian Mummies**; Steve Smith[1]; Hilary J. Major[1]; Keith Hall[2]; Natalie McCreesh[3]; Andrew Gize[3]; Tony Newton[1]; *[1]Waters Corporation, Manchester, UK; [2]Hall Analytical, Manchester, UK; [3]The University of Manchester, Manchester, UK*

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WP 548 **Direct Molecular Analysis of Biomass Samples Using MALDI Imaging Mass Spectrometry**; Yanfeng Chen; Jung Seokwon; Mark Cameron Sullards; Arthur Ragauskas; *Georgia Institute of Technology, Atlanta, GA*

WP 549 **Analysis of *in situ* Trypsin-Digested Amyloid Beta Peptides by MALDI-LIT-MS^n for Mass Spectral Imaging**; 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*

WP 550 **Comparative Study of the Molecular Content of Islets of Langerhans between ob/ob and Normal Mouse Pancreas with MALDI-IMS and LC/MS;** Laurens Minerva; Kurt Boonen; Geert Baggerman; Lut Arckens; *K.U.Leuven, Leuven, Belgium*

WP 551 **High-Mass Accuracy MALDI Imaging of Trypic Peptides - Identification by On-Tissue MS/MS and LC/MS Measurements**; Yvonne Schober[1]; Kerstin Strupat[2]; Spengler Bernhard[1]; Andreas Römpp[1]; *[1]Justus Liebig University, Giessen, Giessen, Germany; [2]Thermo Fisher Scientific, Bremen, Germany*

WP 552 **MALDI Mass Spectrometry Imaging of Penile Cancer Tissue**; Brian Flatley[1]; Peter Malone[2]; Rainer Cramer[1]; *[1]University of Reading, Reading, UK; [2]Royal Berkshire NHS Foundation Trust Hospital, Reading, UK*

WP 553 **MALDI Imaging of Post Mortem Human Spinal Cord in Amyotrophic Lateral Sclerosis**; Jörg Hanrieder; *Analytical Chemistry, Uppsala University, Uppsala, Sweden*

WP 554 **The Distribution of the alphaA-crystallin Protein and Its Truncation Products in Tissue Sections from a rodent Model of Cataracts**; David R. Stella[1]; Kyle A. Floyd[1]; Angus C. Grey[2]; Matthew B. Renfrow[1]; Kevin L. Schey [3]; Stephen Barnes[1]; *[1]University of Alabama at Birmingham, Birmingham, Alabama; [2]University of Auckland, Auckland, New Zealand; [3]Vanderbilt University, Nashville, TN*

WP 555 **Brain Alterations of Neuropeptides in an Experimental Mouse Model of Parkinson's Disease**; Nicoletta Schintu[1]; Anna Nilsson[2]; Per Svenningsson[1]; Per E. Andren[2]; *[1]Karolinska Institute, Stockholm, Sweden; [2]Uppsala University, Uppsala, Sweden*

WP 556 **Imaging MS in Studies of Pancreatic Cancer**; Patrícia V. Abdelnur[1, 2]; Michelle L. Reyzer[1]; Lisa M. Manier [1]; Erika E. Frazier[1]; Nipun Merchant[1]; Marcos N. Eberlin[2]; Richard M. Caprioli[1]; *[1]Vanderbilt Univ Sch of Med, Nashville, TN; [2]ThoMSon Lab UNICAMP, Campinas, SP, Brazil*

WP 557 **Mass Spectrometric Imaging of Lysophosphatyidylcholines in Various Tissue Types**; Robert F. Menger[1]; Whitney L. Stutts[1]; John A. Bowden[2]; Dhanam Anbukumar[2]; David A. Ford[2]; William W. Dawson[3]; Timothy J. Garrett[4]; Richard A. Yost[1]; *[1]University of Florida, Department of Chemistry, Gainesville, FL; [2]St Louis University School of Medicine, St Louis, MO; [3]University of Florida, Department of Ophthamology, Gainesville, FL; [4]University of Florida, College of Medicine, Gainesville, FL*

WP 558 **High Field FTMS as a Tool in the Identification of Neuroncological Lipid Biomarkers**; Katherine A. Kellersberger[1]; Nathalie Y.R. Agar[2]; *[1]Bruker Daltonics,*

Billerica, MA; [2]Brigham and Womens Hospital Harvard Medical School, Boston, MA

WP 559 **High Mass Resolution Imaging and Metabolic Profiling of Flowers of Arabidopsis Cuticle Mutant**; Zhihong Song [3]; Natasha D. Brohier[2]; Ji Hyun Jun[2]; Edward S. Yeung[1]; Young Jin Lee[2]; Basil J. Nikolau[2]; *[1]Ames Lab of US DOE, Ames, IA; [2]Iowa State University, Ames, IA; [3]Ames Lab of US DOE/Iowa State University, Ames, IA*

WP 560 **Molecular Pathology Using Desorption Electrospray Ionization Imaging Mass Spectrometry From the Lipid Profiles of Human Bladder and Kidney Cancers**; Allison Dill[1]; Livia S Eberlin [1]; Anthony Costa[1]; Cheng Zheng[1]; Demian R. Ifa[1]; Liang Cheng[2]; Timothy Masterson[2]; Michael Koch[2]; Olga Vitek[1]; R. Graham Cooks[1]; *[1]Purdue University, West Lafayette, IN; [2]Indiana University School of Medicine, Indianapolis, IN*

WP 561 **Differentiation of Soft Tissue Tumors Using Imaging Mass Spectrometry**; Stefan Willems; Alexandra van Remoortere; René van Zeijl; André Deelder; Liam Mcdonnell; Pancras Hogendoorn; *LUMC, Leiden, Netherlands*

WP 562 **Mapping Lipid Alterations in Traumatically Injured Rat Spinal Cord by desorption Electrospray Ionization Imaging Mass Spectrometry**; Marion Girod; Yunzhou Shi; Ji-Xin Cheng; R. Graham Cooks; *Purdue University, West Lafayette, IN*

WP 563 **Abnormal Alteration of Brain Lipids in the *Scrapper*-Gene Knockout Mice Revealed by Imaging Mass Spectrometry Coupled with Principle Component Analysis**; Ikuko Yao[1]; Yuki Sugiura[2]; Mitsutoshi Setou[3]; *[1]Kansai Medical University, Osaka, Japan; [2]Tokyo Tech, Yokohama, Japan; [3]Hamamatsu School of Medicine, Hamamatsu, Japan*

WP 564 **Mass Spectrometric Imaging of Glycosphingolipids from Breast Cancer Tissue Sections in Ion Mobility Separation Mode**; Kamila Czornak[1]; Tiffany R. Blackwell[2]; Lu Jiang[2]; Kristine Glunde[2]; Ron M.A. Heeren[1]; *[1]AMOLF, Amsterdam, Netherlands; [2]Johns Hopkins University School of Medicine, Baltimore, MD*

WP 565 **MALDI Imaging of Sub-20 Micron Lipid Distribution in Tissue Using Lasers Operating Between 1kHz and 10kHz**; Jeff Brown; Paul Murray; Emmanuelle Claude; Daniel Kenny; *Waters Micromass MS Technologies, Manchester, UK*

WP 566 **Investigation of Tuberculosis Infection and Response to Therapy by Imaging Mass Spectrometry**; Michelle L. Reyzer[1]; Jamie L. Allen[1]; Laura Via[3]; JoAnne L. Flynn[2]; Clifton E. Barry, III[3]; Richard M. Caprioli[1]; *[1]Vanderbilt University, Nashville, TN; [2]University of Pittsburgh, Pittsburgh, PA; [3]NIAID, NIH, Bethesda, MD*

WP 567 **Lipid Topography of Colonic Mucosa by TOF-SIMS Imaging in Cftr Knockout Mice**; Mario Ollero[1, 2]; Alexandre Seyer[1]; Marc Brulet[1]; Alain Brunelle[1]; Janine Fritsch[2, 3]; Aleksander Edelman[2, 3]; Olivier Laprévote[1, 3]; *[1]Centre de Recherche Gif, ICSN-CNRS, Gif-sur-Yvette, France; [2]INSERM, U845, Paris, France; [3]Université Paris Descartes, Paris, France*

WP 568 **Enhanced Visualization of Phospholipids in Animal and Plant Tissue Sections by Using Ionic Liquid Matrixes in MALDI Mass Spectrometry**; Kamlesh Shrivas; Takahiro Hayasaka; Mitsutoshi Setou; *Hamamatsu University School of Medicine, Hamamatsu, Japan*

WP 569 **Visualizing Sphingolipids in Porcine Ocular Lens by MALDI High-Resolution Mass Spectrometry Imaging**; Jaroslav Pol[1, 2]; Veronika Vidova[1]; Michael Volny [1]; Petr Novak[1]; Vladimir Havlicek[1]; Susanne K Wiedmer[2]; Juha Holopainen[2]; *[1]Institute of Microbiology, Prague, Czech Republic; [2]University of Helsinki, Helsinki, Finland*

WP 570 **Identification and Visualization of Phospholipids in Tissue Sections Using MALDI, NALDI and DESI Mass Spectrometry Imaging: A Comparative Study**; Veronika Vidova[1, 2]; Michael Volny [1]; Petr Novak[1, 3]; Martin Strohalm[1]; Jaroslav Pol[1, 4]; Vladimir Havlicek[1, 2]; *[1]Institute of Microbiology, Prague, Czech Republic; [2]Palacky University, Olomouc, Czech Republic; [3]Charles University, Prague, Czech Republic; [4]University of Helsinki, Helsinki, Finland*

WP 571 **Imaging of Abundant Human Lens Lipids by Desorption Electrospray Ionization Mass Spectrometry**; Shane Ellis[1]; Chunping Wu[2]; Jane M. Deeley[1]; Xiangjia Zhu[3]; Roger Truscott[3]; Todd W Mitchell[1]; R. Graham Cooks [2]; Stephen J Blanksby[1]; *[1]University of Wollongong, Wollongong, Australia; [2]Purdue University, West Lafayette, IN; [3]Save Sight Institute, University of Sydney, Sydney, Australia*

WP 572 **Selective MALDI Imaging Mass Spectrometry of Lipids by Adding Lithium Salts to the Matrix Solution**; Vincent Guérineau[1]; David Touboul[1]; Alain Brunelle[1]; Olivier Laprévote[1, 2]; *[1]Centre de Recherche de Gif, ICSN-CNRS, Gif-sur-Yvette, France; [2]Université Paris Descartes, Paris, France*

WP 573 **Optimization of the Collection Efficiency of Secondary Ions for Spatially Resolved Secondary Ion Mass Spectrometry in Crossbeam Devices**; Dirk Preikszas[1]; Michel Aliman[1]; Hubert Mantz[1]; Albrecht Brockhaus[2]; Alexander Laue[2]; *[1]Carl Zeiss NTS GmbH, Oberkochen, Germany; [2]University of Wuppertal, Wuppertal, Germany*

WP 574 **Imaging of Neuropeptides with High Lateral Resolution and High Mass Accuracy by Matrix Assisted Laser Desorption/Ionization Mass Spectrometry (MALDI MS)**; Sabine Günther; Andreas Roempp; Wolfgang Kummer; Bernhard Spengler; *Justus Liebig University, Giessen, Germany*

WP 575 **ImmunoImaging: Quantitative Investigation of Tissue-Less Tissue Imaging and Simplification of the Tissue Proteome Using Alzheimer's Disease Model**; Fiona Plows[1]; Mariana Rusa [1]; Matt Hammond[1]; Steve Roth[1]; Amanda Bulman[1]; Enrique Dalmasso[1]; Martin Schuerenberg[2]; Detlev Suckau[2]; *[1]Bio-Rad Laboratories, Inc., Hercules, CA; [2]Bruker Daltonics, Bremen, Germany*

WP 576 **Localization and Identification of Novel Peptides in Hirudo Medicinalis Using MALDI Imaging;** Jocelyne Bruand[1]; Srinivas Sistla[1]; Pieter Dorrestein [2]; Majid Ghassemian[1]; Maxence Wisztorski[3]; Michel Salzet[4]; Terry Gaasterland[1]; Eduardo Macagno[1]; Vineet Bafna[5]; *[1]UCSD, La Jolla, CA; [2]University of California, San Diego, Skaggs School, La Jolla, CA; [3]University of Lille 1, Villeneuve D'ascq, France; [4]University, Villeneuve D'ascq Cedex, France; [5]University of California San Diego, San Diego, CA*

WP 577 **Development of Methods for Quantitative MALDI Imaging by MRM for Absolute Spatial Quantitation of Proteins: Application to Breast Cancer Tissues**; Elizabeth Clemis[1]; Derek Smith[1]; Ryan M. Danell[2]; Christoph Borchers[1]; *[1]UVic Genome BC Proteomics Centre, Victoria, Canada; [2]Danell Consulting, Greenville, North Carolina*

WP 578 **3D Spatial Distribution of Synthetic Oligodeoxynucleotide in Tumor-Bearing Mice: An Imaging Mass Spectrometry Study**; Rita Casadonte [1]; Joseph M. Amman [1]; Jennifer Grandis[2]; David Carbone [1]; Richard M. Caprioli[3]; *[1]Vanderbilt University, Nashville, TN; [2]University of Pittsburgh School of Medicine, Pittsburgh, Pennsylvania; [3]Vanderbilt Univ Sch of Med, Nashville, TN*

WP 579 **Application of MALDI Mass Spectrometry Tissue Imaging to Discovery Biomarkers for Diagnosis and Prognosis of Alzheimer's Disease**; Sun Yong Jeong [1, 2]; Eric Hamlett[1]; Oscar Alzate[1, 2]; *[1]Department of Cell and Development Biology, UNC, Chapel Hill, NC; [2]UNC-Systems Proteomics Center, Chapel Hill, NC*

WP 580 **Uncovering the Proteome of Late Stage Prostate Cancer by Imaging Mass Spectrometry**; Kristina Schwamborn[1]; Peter Wild[2]; Richard M. Caprioli[1]; *[1]Vanderbilt University, Nashville, TN; [2]Institute of Surgical Pathology, Zurich, Switzerland*

WP 581 **Investigation of the Cutaneous Proteome in Humans: Imaging MS of Biopsies from Skin Ulcers**; Domenico Taverna[1]; Alonda C. Pollins[2]; Lillian B. Nanney[2]; Giovanni Sindona[1]; Richard M. Caprioli[2]; *[1]University of Calabria, Arcavacata Di Rende, Italy; [2]Vanderbilt University, Nashville, TN*

WP 582 **Sub-Micrometer ToF-SIMS Mass Spectrometry Imaging of Lipid Droplets during Intestinal Absorption**; Alexandre Seyer[1]; David Touboul[1]; Christine Coméra[2]; Xavier Collet[2]; Alain Brunelle[1]; Olivier Laprévote[1, 3]; *[1]Centre de Recherche de Gif, ICSN-CNRS, Gif-Sur-Yvette, France; [2]INSERM U563, Toulouse, France; [3]Université Paris-Descartes, Paris, France*

WP 583 **Differentiation of Human Brain Gliomas by Lipid Analysis Using Desorption Electrospray Ionization Imaging Mass Spectrometry**; Livia S. Eberlin [1]; Allison Dill[1]; Alexandra Golby[2]; Keith Ligon[2]; Justin Wiseman[3]; Nathalie Agar[2]; R. Graham Cooks [1]; *[1]Purdue University, West Lafayette, IN; [2]Brigham & Women's Hospital, Harvard Medical School, Boston, MA; [3]Prosolia, Inc., Indianapolis, IN*

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WP 584 **Investigating the Sensitivity of Laserspray Ionization of an Orbitrap Exactive**; Diana L. Sardelis; Catherine Bentzley; Charles N. Mcewen; *University of the Sciences in Philadelphia, Philadelphia, PA*

WP 585 **Sensitivity in MALDI with Small Spot Sizes**; Andriy Yamchuck; Victor Spicer; Werner Ens; *University of Manitoba, Winnipeg, Canada*

WP 586 **In-Capillary Protein Methyl Esterification at Sub-Microliter Volumes**; Ashley N. St. Pierre; Ken K.-C. Yeung; *The University of Western Ontario, London, Canada*

WP 587 **Nanoliter-Volume Protein Desalting and Enrichment with Capillary Isoelectric Trapping**; Christina J Booker; Jose S. Mejia; Samuel Sun; Sarah Woolsey; Ken K.-C. Yeung; *University of Western Ontario, London, Canada*

WP 588 **Polymer Segregation in MALDI Spots Investigated by MALDI-TOF Imaging MS**; Steffen M. Weidner; Katrin Hoffmann; Andreas Thuenemann; Jana Falkenhagen; *Fed.Inst.f.Mat.Research, Berlin, Germany*

WP 589 **Solid State Nuclear Magnetic Resonance as a Tool to Explore MALDI Samples**; Caroline Barrere[1]; Hélène Pizzala[1]; Michael Mazarin[2]; Fabio Ziarelli[3, 4]; Laurence Charles [5]; *[1]University Aix-Marseille, Marseille, France; [2]TOTAL FRANCE - CReS, Solaize, France; [3]Sciences Chimiques Federation–CNRS, Marseille, France; [4]Spectropole, Marseille, France; [5]University Aix-Marseille I & III, Marseille, France*

WP 590 **Detection of Monolayer/Multilayer Transition at Surfaces by Laser-Desorption Mass Spectrometry**; Hans Joachim Räder; Nataliya Mavrinskaya; Klaus Müllen; *MPI for Polymer Research, Mainz, Germany*

WP 591 **Sublimed MALDI-Matrix Supports Large Biomolecule Detection and High Density Arrays with SAMDI-TOF MS**; Alex Swaim[1]; Daniel Smith[2]; Jaekuk Kim[2]; Steven Patrie[2]; *[1]UT Dallas, Kingwood, TX; [2]UT Southwestern Medical Center, Dallas, TX*

WP 592 **New Frontiers in MALDI-TOF-MS Sample Preparation for Peptides Analysis Using Electric Field Enhanced Deposition**; Parul Jain; Julie Harmon; *University of South Florida, Tampa, FL*

WP 593 **High Intra- and Inter-Sample Precision Obtained for Electrospray Deposited MALDI TOFMS Samples of Controlled Spot Size**; Jonathan Haulenbeek; Kevin G. Owens; *Drexel University, Philadelphia, PA*

WP 594 **RF Plasma Polymerized Ethylenendiamine Modified MALDI Target for Enhanced *E. coli* Proteomic Analysis**; Lijuan Peng [1]; Gary R. Kinsel[1]; *[1]Southern Illinois University, Carbondale, IL*

WP 595 **Chip-Based Open Channel Preconcentration for Mass Spectrometry Analysis of Biosamples**; Johan Jacksén; Åsa Emmer; *Royal Institute of Technology, Stockholm, Sweden*

WP 596 **The Need for Constant Review of Laboratory Consumables**; Celia Smith; Rainer Cramer; *University of Reading, Reading, UK*

WP 597 **Correlating Histochemistry and Mass Spectrometry for Single Cell-Type Analysis: To Stain or Not to Stain**; Jamie Allen[1]; Erin Seeley[1]; Kristina Schwamborn[1]; Ray Mernaugh[1]; Richard M. Caprioli[2]; *[1]Vanderbilt University, Nashville, TN; [2]Vanderbilt Univ Sch of Med, Nashville, TN*

WP 598 **Improved Method for Identification of Low Abundance Proteins Using 2D-gel Electrophoresis, MALDI-TOF and TOF/TOF**; Witold M Winnik[1]; Oscar Alzate[2]; Maribel Bruno[1]; Lyle Burgoon[1]; Yue Ge[1]; Gary R. Klinefelter[1]; Prasada R. Kodavanti[1]; Jennifer B. Robinette[2]; Juan Suarez[1]; Kathleen Wallace[1];*[1]US EPA, NHEERL, Research Triangle Park, NC; [2]UNC-Chapel Hill, Chapel Hill, NC*

WP 599 **High Resolution MALDI Plates for the Direct Coupling of PAGE Separations and Tissue Analysis with MALDI Mass Spectrometry**; Stephen J. Hattan; Kenneth C. Parker; Marvin L. Vestal; *VIC Instruments Corporation, Sudbury, MA*

WP 600 **Evaluation and Optimization of Protein Recovery from Gels for MALDI-MS Analysis**; Kandalama Priyasantha; Mary Elizabeth Gimon-Kinsel; Gary R. Kinsel; *Southern Illinois University Carbondale, Carbondale, Illinois*

WP 601 **Rapid Automated Off-Line LC-MALDI Analyses Using a Liquid Matrix Optimized for Uniformity and Durability of Ionization**; Yuko Fukuyama; Shinichi Iwamoto; Natsumi Funakoshi; Kenichi Taniguchi; Koichi Tanaka; *Shimadzu Corporation, Kyoto, Japan*

WP 602 **Polymer-Based Single-Use Targets for Protein Characterization for NanoLC-MALDI Mass Spectrometry**; Wolfgang Winkler[1]; Werner Balika[2]; Manfred Koranda[2]; Guenter Allmaier[1]; *[1]Vienna*

University of Technology, Vienna, Austria; [2]Sony DADC Austria AG, Anif, Austria

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WP 603 **Cluster Compositions of Acetonitrile and Acetonitrile-Water Studied by Liquid-Ionization MS/MS and Optimized Structures by Computer Calculation**; Haruhiko Fukaya[1]; Yasuo Shida[1]; Masahiko Tsuchiya[2]; *[1]Tokyo University of Pharmacy and Life Science, Tokyo, Japan; [2]Yokohama National University, Yokohama, Japan*

WP 604 **Withdrawn**

WP 605 **Driving Atmospheric Pressure Ion Sampling Efficiency to the MAX**; Alex Mordehai[1]; Paul Momoh[1]; Michael Ugarov [1]; Anabel Fandino[1]; Gangqiang Li[2]; Stuart Hansen[2]; Peter Williams [2]; John Fjeldsted[1]; *[1]Agilent Technologies, Santa Clara, CA; [2]Agilent Laboratories, Santa Clara, CA*

WP 606 **Modular Computational Toolset for Atmospheric Pressure Ionization Method Development: SIMION Meets FEM**; Walter Wissdorf[1]; Larissa Pohler[1]; Thorsten Pöhler[2]; Herwart Hönen[2]; Klaus J. Brockmann[1]; Thorsten Benter[2]; *[1]University of Wuppertal, Wuppertal, Germany; [2]RWTH Aachen, Aachen, Germany*

WP 607 **Novel Laminar Flow Ion Sources for LC- and GC-API MS**; Ian Barnes[1]; Hendrik Kersten[1]; Walter Wissdorf[1]; Thorsten Pöhler[2]; Herwart Hönen[2]; Sonja Klee[1]; Klaus J. Brockmann[1]; Thorsten Benter[1]; *[1]University of Wuppertal, Wuppertal, Germany; [2]RWTH Aachen, Aachen, Germany*

WP 608 **A Comparison of the Performance of Diode Pumped Solid State Lasers and Excimer Lasers in LC- and GC-APLI MS**; Sonja Klee; Hendrik Kersten; Matthias Lorenz; Walter Wissdorf; Klaus J. Brockmann; Thorsten Benter; *University of Wuppertal, Wuppertal, Germany*

WP 609 **Fundamental Characterization of Ion Transfer Capillaries Used in Atmospheric Pressure Ionization Sources**; Klaus J. Brockmann; Walter Wissdorf; Lukas Hyzak; Hendrik Kersten; Thorsten Benter; *University of Wuppertal, Wuppertal, Germany*

WP 610 **Spatially and Temporally Resolved Atmospheric Pressure Laser Ionization as a Powerful Tool for the Characterization of Ion Sources: An Overview**; Matthias Lorenz; Walter Wißdorf; Sonja Klee; Hendrik Kersten; Klaus J. Brockmann; Thorsten Benter; *University of Wuppertal, Wuppertal, Germany*

WP 611 **Progress in the Development and Characterization of In-source Atmospheric Pressure-Electron Capture Dissociation (AP-ECD)**; Damon Robb; Jason Rogalski; Juergen Kast; Michael Blades; *University of British Columbia, Vancouver, BC*

ION STRUCTURES/ENERGETICS II, 612 - 636

WP 612 **Mass Spectrometry Study of Cobalt(III) Porphyrins Fragmentation Patterns and Their Ligand Binding Strength**; Ekta Mishra[1]; Victor Ryzhov[1]; Jill L. Worlinsky[2]; Christian Brückner[2]; *[1]Northern Illinois University, Dekalb, IL; [2]University of Connecticut, Storres, CT*

WP 613 **Reinvestigation of the Thermochemistry of Sulfuric Acid-Related Ions**; Sara Koepke; Thomas M. Gilbert; Lee S. Sunderlin; *Northern Illinois University, DeKalb, Illinois*

WP 614 **Thermochemical Properties of Fluorinated Alanes**; Jamelle K.P. Williams; Paul G. Wenthold; *Purdue University, West Lafayette, IN*

WP 615 **Investigation of the O-O Dissociation Energy of Peroxycarboxyl Anions**; Alex A. Nickel; Jerry G. Lanorio; Kent M. Ervin; *University of Nevada, Reno, Reno, NV*

WP 616 **Collision-Induced Dissociation of Protonated and Group I Metallated Lysine Complexes: Binding Energies, Transition State Energies, and Theoretical Structures**; Amy A. Clark; Peter B. Armentrout; *University of Utah, Salt Lake City, UT*

WP 617 **Group I Metal – Ligand Thermochemistry of N-Methyl Proline (NMP) – An Experimental and Theoretical Approach**; Abhigya Mookherjee; Peter Armentrout; *University of Utah, Salt Lake City, UT*

WP 618 **Gas-Phase Acidities and Mass Spectral Fragmentation Processes of Anions from *N*-Benzoylamino Acids**; Robert L. White; J. Stuart Grossert; Lana E. Greene; *Dalhousie University, Department of Chemistry, Halifax, Canada*

WP 619 **Structures and Energetics of [Uracil*n*Ca]$^{2+}$ (*n*=14-4) Clusters by BIRD and Theoretical Studies**; Elizabeth A.L. Gillis; Travis D. Fridgen; *Memorial University of Newfoundland, St. John's, Newfoundland and Labrador, Canada*

WP 620 **Energetics of Cation-Phosphate Interactions in Biological Systems**; Julia Laskin[1]; Zhibo Yang [2]; Amina S. Woods[3]; *[1]Pacific NW National Laboratory, Richland, WA; [2]University of Colorado, Boulder, CO; [3]NIDA IRP, NIH, Baltimore, MD*

WP 621 **Complexation of α,ï-alkyldiammonium Ions with Cucurbit[7]uril in the Gas Phase: Dependence of Bond Strength on Alkyl Chain Length**; Daniel Mortensen; David V. Dearden; *Brigham Young University, Provo, UT*

WP 622 **Influence of Weak Interactions on Supramolecular Binding: Characterization of Cucurbit[6]uril Complexes with Alkylmonoammonium Ions via Experiment and Theory**; Ruijun Shi; David V. Dearden; *Brigham Young University, Provo, UT*

WP 623 **A New Method To Measure Relative Collision Cross Sections Using Fourier Transform Ion Cyclotron Resonance Mass Spectrometry**; Fan Yang; David V. Dearden; *Brigham Young University, Provo, UT*

WP 624 **First and Second Hydration Shell Energies of Barium Dications**; Oscar Wheeler; Theresa Cooper; Peter B. Armentrout; *University of Utah, Salt Lake City, Utah*

WP 625 **Transition Metal Hydration Studies: Experimental and Theoretical Investigation of Binding Energies for the $Cu^{2+}(H_2O)_n$, n=7-10 Complexes**; Andrew Sweeney; Theresa Cooper; Peter B. Armentrout; *University of Utah, Salt Lake City, UT*

WP 626 **ESI-MS Estimation of the Acidities of Polyfunctional Groups by the Kinetic Method: Hydroxycinnamic Acids**; Juan Davalos; Andres Guerrero; Antonio Chana; Rebeca Herrero; *Instituto de Quimica-Fisica Rocasolano-CSIC, Madrid, Spain*

WP 627 **Experimental and Computational Studies of Gas-Phase Acidities Related to Deprotonation of Tripeptide Backbones Using FT-ICR Mass Spectrometry**; Samantha Bokatzian-Johnson; John Killian; Myrna Hernandez-Matus; David Dixon; Carolyn J. Cassady; *University of Alabama, Tuscaloosa, AL*

WP 628 **Experimental Determination of the Gas-Phase Heat of Formation of 2,3 and 3,4-Pyridyne**; Nathan Rau; Paul Wenthold; *Purdue University, Lafayette, IN*

WP 629 **Polar Groups Induced Acidity Enhancements of Carboxylic Acids in the Gas Phase and in Solution**;

Yuan Tian[1]; Jianhua Ren [1]; [1]*University of the Pacific, Stockton, CA*

WP 630 **Gas Phase Acidities of Short Cysteine-Containing Peptides**; Jialin Shen; Jianhua Ren; *University of the Pacific, Stockton, CA*

WP 631 **Proton Affinities of Charged Peptides**; Xiaoning Zhao; Noah Fang; Jianhua Ren; *Uinversity of the Pacific, Stockton, CA*

WP 632 **Gas-Phase Proton Affinity of N-heterocyclic Carbenes (NHCs)**; Min Liu [1]; Jeehiun K. Lee[1]; [1]*Rutgers University, Piscataway, NJ*

WP 633 **Investigation of Nanoparticle Surface Chemistry for Laser Desorption Ionization Mass Spectrometry Applications**; Mario E. Gomez; Edward T. Castellana; David H. Russell; *Texas A&M University, College Station, TX*

WP 634 **Synthesis and Enhanced Reaction Selectivity of the Mixed-Metal $RCCMgLiCl_3^{-}$**; George N. Khairallah; Edward Whiting; Charlene C. L. Thum; Richard A. J. O'hair; *Bio21 Inst,Univ of Melbourne, Melbourne, Australia*

WP 635 **Charge State Stability of PAMAM Dendrimers in the Gas Phase**; Aura Tintaru[1]; Sabrina Pricl[2]; Jiangyu Wu[3]; Ling Peng[3]; Laurence Charles[1]; [1]*Aix-Marseille University, Marseille, France;* [2]*University of Trieste, Trieste, Italy;* [3]*Université de la Méditeranée, Marseille, France*

WP 636 **An *ab-initio* Study on Guanidination of Peptides in Matrix-Assisted Laser Desorption Ionization**; Francesco L Brancia[1]; Roberto Marchese[3]; Mauro Stener[2]; Simone Raugei[3]; [1]*Aarhus University, Tjele, Denmark;* [2]*University of Trieste, Trieste, Italy;* [3]*SISSA, Trieste, Italy*

ION MOBILITY II, 637 - 665

WP 637 **Improving the Resolution of Ion Mobility Spectrometry**; Glenn E. Spangler; *Technispan LLC, Lutherville, MD*

WP 638 **New Ion Mobility Spectrometry with a novel Flow-Rectification Nozzle for Mass Spectrometry**; Masaru Nishiguchi; Yoshihiro Ueno; Fujio Inoue; Daisuke Okumura; Hiroaki Waki; Hiroto Itoi; *Shimadzu Corporation, Kyoto, Japan*

WP 639 **Development of a "Ping-Pong" Drift Tube: Theoretical Considerations of Resolving Power**; Sunyoung Lee; Stephen Valentine; David E. Clemmer; *Indiana University, Bloomington, IN*

WP 640 **Conformational Studies of Melittin Using Electrospray Ion Mobility-Mass Spectrometry: The Effects of Temperature and Solvent Composition**; Sevugarajan Sundarapandian[1]; Jody May[1]; Brandon T. Ruotolo[2]; David H. Russell[3]; John A. Mclean[1]; [1]*Department of Chemistry, Vanderbilt University, Nashville, TN;* [2]*Department of Chemistry, University of Michigan, Ann Arbor, MI;* [3]*Department of Chemistry, Texas A&M University, College Station, TX*

WP 641 **Simulation of Ion Mobility at Reduced Pressures Based on Revised Ion-Molecule Collision Models**; Dimitris Papanastasiou[1]; Mikhail Sudakov[2]; Roger Giles[3]; Emmanuel Raptakis[1]; [1]*Fasmatech, Athens, Greece;* [2]*Ryazan State Radioengineering University, Ryazan, Russia;* [3]*Shimadzu Research Laboratory, Manchester, UK*

WP 642 **Protein Complexes as Ion Mobility Standards: Strategies for Reducing Their Uncertainties and Benefits for Gas-Phase Structural Biology**; Zoe Hall[1]; Kevin Giles[2]; John B. Hoyes[2]; Matthew F. Bush[1]; Carol V. Robinson[1]; [1]*Department of Chemistry, University of Oxford, Oxford, UK;* [2]*Waters Corporation, Manchester, UK*

WP 643 **Characterization of Insulin Oligomers Using Ion Mobility Mass Spectrometry**; Rune Salbo[1, 2]; Ingrid Pettersson[1]; Helle Naver[1]; Thomas J.D. Jørgensen[2]; Kim F. Haselmann[1]; [1]*Novo Nordisk, Måløv, Denmark;* [2]*BMB, University of Southern Denmark, Odense, Denmark*

WP 644 **Determining the Topological Arrangements of Protein Complexes by Combining Ion Mobility Mass Spectrometry and Molecular Modelling**; Argyris Politis[1, 2]; Ahyoung Park [1, 2]; Suk-Joon Hyung[2, 3]; Daniel Barsky[2, 4]; Brandon Ruotolo[2, 3]; Carol V. Robinson[1, 2]; [1]*University of Oxford, Oxford, UK;* [2]*University of Cambridge, Cambridge, UK;* [3]*University of Michigan, Ann Arbor, MI;* [4]*Lawrence Livermore National Laboratory, Livermore, CA*

WP 646 **Traveling-Wave Ion Mobility Mass Spectrometry Studies of Gas-Phase Conformations of CC and CXC Chemokines: Monocyte Chemoattractant Protein-1,-2, and Interleukin-8**; Zhiyin Xun; Julie A. Leary; *UC Davis, Davis, CA*

WP 647 **Development of a Hofmeister Series Analogue for Gas-phase Protein Complexes: Evidence from Ion Mobility-Mass Spectrometry**; Suk-Joon Hyung; Han Linjie; Alex Pagliaro; Brandon Ruotolo; *University of Michigan, Ann Arbor, MI*

WP 648 **Ion-Mobility Mass Spectrometry Enables the Structure Determination of Heterogeneous Protein Assemblies**; Justin Benesch; *University of Oxford, Oxford, UK*

WP 648 **New Avenues in Natural Product Discovery Using Ion Mobility-Mass Spectrometry**; Cody Goodwin; Larissa S. Fenn; Brian O. Bachmann; John A. Mclean; *Vanderbilt University Department of Chemistry, Nashville, TN*

WP 649 **Assembly Pathways of Islet Amyloid Polypeptide and Aggregation Inhibition with a Designed Peptide, IAPP-GI**; Nicholas F. Dupuis; Chun Wu; Michael T. Bowers; *University of California, Santa Barbara, CA*

WP 650 **Collision Cross-Section Determination of Isomeric Carotenoids Using Electrospray Ion Mobility Time-of-Flight Mass Spectrometry**; Linlin Dong [1]; Henry Y. Shion [2]; Roderick Davis[3]; Brent Terry-Penak[1]; Richard B. van Breemen[1]; [1]*University of Illinois College of Pharmacy, Chicago, IL;* [2]*Waters Corp., Milford, MA;* [3]*Univ.of Illinois at Chicago Research Resources Ctr, Chicago, IL*

WP 651 **Bottom Up Approaches for Protein Characterization by Laserspray Ionization – Ion Mobility Spectrometry – Mass Spectrometry**; Darrell Marshall; Thushani N. Herath; Ellen D. Inutan; Sarah Trimpin; *Wayne State University, Detroit, MI*

WP 652 **Characterization of Proteins by Laserspray Ionization-Ion Mobility Spectrometry-Mass Spectrometry**; Fadia Cudry; Ellen D. Inutan; Tamara Hendrickson; Sarah Trimpin; *Wayne State University, Detroit, MI*

WP 653 **Folding Analysis of Carbonic anhydrase2 Using Ion Mobility and Subsequent Collision-Induced Dissociation**; Kenji Hirose [1]; Yoshiaki Nabuchi[2]; Mitsuo Takayama[2]; [1]*Nihon Waters K.K., Osaka, Japan;* [2]*Yokohama City University, Yokohama, Japan*

WP 654 **Laserspray Ionization (LSI) Ion Mobility Spectrometry (IMS) Mass Spectrometry (MS) of**

Proteins; Ellen D. Inutan; Sarah Trimpin; *Wayne State University, Detroit, MI*

WP 655 **Higher Resolving Power and Ion Mobility Significantly Reduces the Effects of Over Lapping Ion Clusters in "Systems" Samples**; Scott Geromanos; Dan Golick; Marc V. Gorenstein; Jim Langridge; *Waters Corporation, Milford, MA*

WP 656 **MALDI Ion Mobility-Mass Spectrometry for Post-Ionization Fractionation of Peptides Containing Posttranslational Modifications**; Whitney B. Ridenour; John A. Mclean; Kevin L. Schey; Richard M. Caprioli; *Vanderbilt University, Nashville, TN*

WP 657 **High-Throughput Ion Mobility-Mass Spectrometry Strategies for Monitoring Cellular Response in Real Time**; Jody C. May; Jeffrey R. Enders; Sevugarajan Sundarapandian; Kevin T. Seale; John P. Wikswo; John A. Mclean; *Vanderbilt University, Nashville, TN*

WP 658 **Use of Traveling-Wave Ion Mobility Mass Spectrometry to Analyze Dead-End Isomers from Peptide Cross-Linking: Application to Lys Intrinsic Reactivity**; Fabio C Gozzo[1]; Luiz Fernando Arruda Santos [1]; Amadeu H Iglesias[2]; Eduardo J Pilau [1]; Alexandre F. Gomes[1]; *[1]IQ - University of Campinas, Campinas, Brazil; [2]Brazilian Synchrotron Light Source, Campinas, Brazil*

WP 659 **Ion Mobility Analyses of Peptide Ions Produced By CID and ETD Fragmentation**; Ross Chawner[1]; Jeff Brown [2]; Kevin Giles[2]; Simon J. Gaskell[3]; Claire Eyers[1]; *[1]University of Manchester, Manchester, UK; [2]Waters Corporation, Manchester, UK; [3]Queen Mary, University of London, London, UK*

WP 660 **Separation of Fragment Ions of Lipids in Gaucher Disease Tissues Using High/Low Energy Function Switching MALDI IMS Imaging**; Marten Snel[1]; Paul J Trim[1]; Emmanuelle Claude[2]; Jim Langridge[2]; Maria Fuller[1]; *[1]Lysosomal Diseases Research Unit, SA Pathology, North Adelaide, Australia; [2]Waters Corporation, Manchester, UK*

WP 661 **Investigating Aniline Isomer Separation Utilizing Travelling Wave Ion Mobility and Polarizable Drift Gases**; Gustavo HMF Souza[1, 3]; Iain D G Campuzano[1, 3]; Priscila M Lalli[2]; Fabiane M Nachtigall[2]; Maria Francesca Riccio [2]; Gilberto de Sa[2]; Romeu J Daroda[2]; Vanderlea de Souza[2]; Marcos N. Eberlin[2]; *[1]Waters Corporation, Barueri, Sao Paulo, Brazil; [2]ThoMSon Mass Spectrometry Laboratory, UNICAMP, Campinas, Brazil; [3]Waters Corporation, Manchester, UK*

WP 662 **Thermally-Assisted Extractive Electrospray Ion Mobility Mass Spectrometry Characterisation of Medicinal Spray Formulations**; James Scrivens; Charlotte Scarff; Jonathon Snelling; *Univ of Warwick, Coventry, UK*

WP 663 **Intrinsic Mobility of Gaseous Cationic and Anionic Aggregates of Ionic Liquids by Ion Mobility Mass Spectrometry**; Priscila M Lalli[1]; Yuri E Corilo[1]; Gilberto Sa[2]; Romeu J Daroda[2]; Vanderlea Souza[2]; Gunter Ebeling[3]; Jairton Dupont[3]; Marcos N Eberlin[1]; *[1]ThoMSon Mass Spectrometry Laboratory, UNICAMP, Campinas, Brazil; [2]National Institute of Metrology, Inmetro, Duque de Caxias, RJ, Brazil; [3]Laboratory Of Molecular Catalysis, UFRGS, Porto Alegre, Brazil*

WP 664 **Cage Flight! Ion Mobility-Mass Spectrometry of Self-Assembling 3-D Architectures;** Martin De Cecco[1]; Chris Moffat[1]; Nick Tomczyk[2]; Sarah Pike[1]; Paul Lusby[1]; Perdita Barran[1]; *[1]University of Edinburgh, Edinburgh, UK; [2]Waters Corporation, Manchester, UK*

WP 665 **Characterization of Self-Assembled Zinc Terpyridine Macrocycles Using Traveling Wave Ion Mobility Mass Spectrometry**; Xiaopeng Li; Yi-Tsu Chan; George Newkome; Chrys Wesdemiotis; *The University of Akron, Akron, OH*

INSTRUMENTATION: NEW CONCEPTS I, 666 - 680

WP 666 **Yttria / Rhenium Alloy Emission Filaments for Mass Spectrometers**; John Manura; Ronald Shomo; Christopher W. Baker; *Scientific Instrument Services, Ringoes, NJ*

WP 667 **Electrospray Ionization Mass Spectrometry from Discrete Nanoliter-Sized Droplets**; Patrik Ek; Mårten Stjernström; Åsa Emmer; Johan Roeraade; *KTH Royal Institute of Technology, Stockholm, Sweden*

WP 668 **Microfabrication of On-Line Micro-Reactors for Gas Chromatography Isotope Ratio Mass Spectrometry (GC-IRMS)**; Herbert Tobias; J Thomas Brenna; *Cornell University, Ithaca, NY*

WP 669 **A Pulsed-Valve Mass Spectrometric Approach to Measuring Trace Gas Permeation at Ambient Atmospheric Conditions**; Dana Reed; Fred DeRoos; Mark Mueller; Mark Roehrig; *3M Corporation, St. Paul, MN*

WP 670 **Novel DMS/MS Coupling for a Triple Quadrupole Mass Spectrometer**; Bradley B Schneider[1]; Thomas Covey[1]; Stephen L Coy[2]; Evgeny V Krylov[2]; Erkinjon Nazarov[2]; *[1]AB SCIEX, Concord, Canada; [2]Sionex Corp., Bedford, MA*

WP 671 **Analyzing Liquids via Direct Injection Proton-Transfer-Reaction Mass Spectrometry (PTR-MS)**; Simone Jürschik[1]; Philipp Sulzer[1]; Lukas Maerk [1]; Alfons Jordan[1]; Ralf Schottkowsky[1]; Eugen Hartungen[1]; Gernot Hanel[1]; Hans Seehauser[1]; Stefan Jaksch[1]; Stefan Haidacher[1]; Tilmann D. Märk[1, 2]; *[1]IONICON Analytik, Innsbruck, Austria; [2]Institut für Ionenphysik und Angewandte Physik, Innsbruck, Austria*

WP 672 **A New Sample Introduction Technique for Mass Spectrometry That Allows for Dried Blood Spot Analysis and Online SPE**; Lena Knegt; Emile Koster; *Spark Holland, Emmen, Netherlands*

WP 673 **Laminar Flow Assisted Ion Transfer for Mass Analysis**; Sandilya Garimella; Jason Harper; Guangming Huang; Wei Xu; R. Graham Cooks; Zheng Ouyang; *Purdue University, West Lafayette, IN*

WP 674 **Characterization of Protein and Labile Protein Modifications Using Laserspray Ionization on a LTQ - Electron Transfer Dissociation Mass Spectrometer**; Thushani N. Herath; Darrell Marshall; Alicia Richards; Ellen D. Inutan; Sarah Trimpin; *Wayne State Univ., Detroit, MI*

WP 675 **Determination of 41Ca Using the Isobar Separator for Anions Coupled to an Accelerator Mass Spectrometer**; Jean-Francois Alary[1]; Lisa M. Cousins [2]; John Eliades[3]; Reza Javahari[2]; William E. Kieser[4]; Albert E. Litherland[3]; Sha Ye[2]; Xiao-Lei Zhao[3]; *[1]Isobarex Corp., Bolton ON, Canada; [2]Ionics Mass Spectrometry Group Inc., Bolton ON, Canada; [3]IsoTrace, University of Toronto, Toronto ON, Canada; [4]University of Ottawa, Ottawa ON, Canada*

WP 676 **Withdrawn**

WP 677 **Chip-Based Electrospray Interface for nanoLC-MS**; Don Arnold; Remco Van Soest; David Neyer; J. Bryce Young; Nicole Hebert; *Eksigent Technologies, Dublin, CA*

WP 678 **Interfacing Ion Funnel Trap (IFT) to Triple Quadrupole Analyzer for Enhancing Sensitivity in**

Multiple Reaction Monitoring (MRM) Mode;
Satendra Prasad; David Prior; Bill Danielson; Karl Weitz; Yehia Ibrahim; Richard D. Smith; Mikhail Belov; *Pacific Northwest National Laboratory, Richland, WA*

WP 679 **Optimization of the Electrodynamic Ion Funnel for Enhanced Low Mass Transmission: Influence of Funnel Operational Pressure on Ion Transmission**; Paul Momoh; Michael Ugarov; Mark Werlich; Tom Knotts; Alex Mordehai; *Agilent Technologies, Santa Clara, CA*

WP 680 **A Novel Low Power, Real Time Pre-Concentrator for Use in Laboratory and Field Portable Chemical Detection Systems**; Thomas Bowden[1]; Aaron Jesseph[2]; Pedro Ojeda[1]; David Rafferty[1]; Abrar Riaz[1]; Michael Spencer[1]; Guido F. Verbeck[2]; James Wylde[1]; *[1]1st Detect Corp., Houston, TX; [2]University of North Texas, Denton, TX*

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

BIOINFORMATICS IV, 001 - 021

ThP 001 **Quantitating Agilent Q-TOF Data Using MSQuant**; Joost W. Gouw[1]; Peter Mortensen[2]; Leonard J. Foster[1]; *[1]University of British Columbia, Vancouver, Canada; [2]University of Southern Denmark, Odense, Denmark*

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

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

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

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

ThP 006 **GProX - A Graphical Platform for Integrated Bioinformatics Analysis of Quantitative Proteomics Data**; Kristoffer T. G. Rigbolt; Jens T. Vanselow; Blagoy Blagoev; *Uni. of Southern Denmark, Odense, Denmark*

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

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

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

ThP 010 **Automatic Relative Quantification for High-Resolution LC/MS 16/18O Labeling Experiments**; Anna Kreshuk[1]; Marc Kirchner [2]; Bernhard Y Renard[1]; Dominic Winter[2]; Bernhard X Kausler[1]; Xinghua Lou[1]; Michael Hanselmann[1]; Judith A.J. Steen[2]; Hanno Steen[2]; Wolf D. Lehmann[3]; Fred A Hamprecht[4]; *[1]University of Heidelberg, Heidelberg, Germany; [2]Harvard Medical School/Children's Hospital Boston, Boston, MA; [3]German Cancer Research Center, Heidelberg, Germany; [4]Univ. of Heidelberg, Heidelberg, Germany*

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

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

ThP 013 **Effect of Normalization on Diagnostic Protein Detection in 2-200 kDa TOF Mass Spectra from Leukemia Serum**; Maureen B. Tracy [2]; Dariya Malyarenko[2]; Dennis Weaver[1]; Karl Kuschner[2]; Christine Bunai[2]; Eugene Tracy[2]; Dennis Manos[2]; William Cooke[2]; *[1]St. Leo University, Hampton, VA; [2]College of William and Mary, Williamsburg, VA*

ThP 014 **Fragment Ion Repositories and Quantitative Protein Identifications**; Johannes PC Vissers[1]; Stefan Tenzer[2]; Antoine H America[3]; Georgios Efstathiou[4]; Konstantinos Thalassinos[4]; Yishai Levin[5]; Andreaa Bodnari[6]; Jim Langridge[1]; Scott Geromanos[1]; *[1]Waters Corporation, Manchester, UK; [2]University of Mainz, Mainz, Germany; [3]PRI - Plant Research International, Wageningen UR,, Wageningen, Netherlands; [4]University of Warwick, Coventry, UK; [5]University of Cambridge, Cambridge, UK; [6]University of Massachusetts Medical School,Worcester, MA*

ThP 015 **Variations in Human Serum Albumin Peptide Intensities and Identifications Originating from the Sample and LC-MS/MS Platform**; Lisa E. Kilpatrick[1]; Amy-Joan L. Ham[2]; Daniel C. Liebler[2]; Yuri Mirokhin[1]; Jeri Roth[1]; Paul Rudnick[1]; Dmitrii V. Tchekhovskoi[1]; Corbin Whitwell[2]; Xinjian Yan[1]; Stephen Stein[1]; *[1]NIST, Gaithersburg, MD; [2]Vanderbilt Univ. School of Medicine, Nashville, TN*

ThP 016 **Systematic Assessment of the Reproducibility of Relative Quantification Based on LC-MS with Replicates**; Baozhen Shan[1]; Clark Chen[2]; Bin Ma[3]; *[1]BSI,*

Waterloo, Canada; [2]Bioinformatics Solutions Inc., Waterloo, ON; [3]University of Waterloo, Waterloo, ON

ThP 017 **Quantitative Protein Expression Analysis of Glucose-Lactose Diauxie in *Escherichia coli*;** Ekaterina Mostovenko; Hans Dalebout; Rene J. M. van Zeijl; André M. Deelder; Magnus Palmblad; *Leiden University Medical Center, Leiden, Netherlands*

ThP 018 **Improved Label-Free Quantitation Algorithms to Analyze High Complex Biological Samples**; Ken Aoshima [1, 3]; Satoshi Tanaka[1, 3]; Hiroyuki Katayama[1]; Kentaro Matsuura[1]; Tatsuji Nakamura[1]; Hideki Watanabe[1]; Khin Than Myint[1]; Keith Wilcoxen[2]; Yoshiya Oda[1,3]; *[1]Eisai Co., Ltd, Tsukuba, Japan; [2]Eisai Research Institute, Andover, MA; [3]CREST, Japan Science and Technology, Saitama, Japan*

ThP 019 **New functionality for the Trans-Proteomic Pipeline: Tools for the Analysis of Proteomics Data**; Luis Mendoza[1]; David Shteynberg[1]; Joseph Slagel[1]; Natalie Tasman[2]; Brian S Pratt[2]; Henry H. Lam [3]; Jimmy Eng[4]; Alexey Nesvizhskii[5]; Andrew Keller[1]; Eric Deutsch[1]; Ruedi Aebersold[6]; Robert Moritz[1]; *[1]Institute for Systems Biology, Seattle, WA; [2]Insilicos LLC, Seattle, WA; [3]Hong Kong University of Science and Technology, Clear Water Bay, Hong Kong; [4]University of Washington, Seattle, WA; [5]University of Michigan, Ann Arbor, MI; [6]ETH Zurich, Switzerland*

ThP 020 **MRMPath: A Web-Based Tool that Identifies Peptide Transitions for LC-MRM-MS Analysis and Its Application to Biological Pathways;** Chiquito Crasto; Chandrahas Narne; Landon Wilson; Stephen Barnes; *University of Alabama at Birmingham, Birmingham, AL*

ThP 021 **Evolutionary Architecture for High Performance Proteomics Research**; Claudiu Farcas ; To-Ju Huang; Pavel Pevzner; Ingolf Krueger; Vineet Bafna; Nuno Bandeira; *Center for Computational Mass Spectrometry, UCSD, La Jolla, CA*

PROTEINS: RECOMBINANT, 022 - 043

ThP 022 **A Rapid Method to Identify Sites of Low Level Glycation in Recombinant Antibodies by Isotopic Labeling with 13C6- reducing Sugars**; Jennifer Zhang[1]; Taylor Zhang[1]; Lihua Jiang[2]; Daniel Hewitt[1]; YungFu Huang[1]; Yung-Hsiang Kao[1]; Viswanatham Katta[1]; *[1]Genentech Inc., South San Francisco, CA; [2]Thermo Fisher Scientific, San Jose, CA*

ThP 023 **LC-MS Analysis of a Non-Natural Amino Acid Uptake and Its Incorporation Into a Recombinantly Expressed Protein in *Pseudomonas fluorescens*;** Greg Cantin[1]; Diane Retallack[1]; Kat Woodard[1]; Tsotne Javahishvili[2]; Shailaja Srinagesh[2]; Trung Phuong[2]; Mark Shimazu[2]; Jeff Allen[1]; *[1]Pfenex Inc., San Diego, CA; [2]Ambrx, Inc., La Jolla, CA*

ThP 024 **Investigation of Differential Methionine and Trytophan Oxidation in Antibody Complementarity Determining Region Sequences**; Lowell J. Brady; Becky Scott; Capy Thwin; Julia Bach; Alison Wallace; Amy Guo; Lisa Connell-Crowley; Alain Balland; *Amgen, Inc., Seattle, WA*

ThP 025 **Investigating Aspartate Isomerization of Sequence Motifs in Complementarity-Determining Regions of Monoclonal Antibodies Using High-Resolution Mass Spectrometry**; Sean Mathewson; Boyan Zhang; Charlene Li; Vikas Sharma; *Genentech, Inc., South San Francisco, CA*

ThP 026 **MS Analysis Reveals Differences in a Humanized mAb Protein Drug (Trastuzamab) and a Biosimilar Version**; Martin Gilar[1]; Hongwei Xie[1]; Asish Chakraborty[1]; Deepalakshmi P. Dakshinamoorthy[2]; Weibin Chen [1]; Ying-Qing Yu [1]; St John Skilton[1]; Scott Berger[1]; *[1]Waters Corporation, Milford, MA; [2]Waters India Pvt Ltd., Bangalore, India*

ThP 027 **Changes in Media Composition due to Expression of IgG1 in HEK 293 and CHO-S Cells**; Peter Slade[1]; Defne Koch[1]; Daniela Hutanu[1]; David Judd[2]; Ming Lei[1]; Cheryl Bartel[1]; Steve Gorfien[2]; *[1]Life Technologies (Eugene), Eugene, OR; [2]Life Technologies (Grand Island), Grand Island, NY*

ThP 028 **Determine Monoisotopic and Average Mass for Intact Proteins Using a high resolution Quadrupole Time-of-Flight Mass Spectrometry and Improved Deconvolution Algorithms**; Ning Tang[1]; Xiaoling Wu[1]; Xiangdong Li[1]; Joe Roark[1]; Anthony Ferrige[2]; Keith Waddell[1]; *[1]Agilent Technologies, Santa Clara, CA; [2]PPL, Isleham, UK*

ThP 029 **Quality Control of Intact Recombinant Proteins Using Sensitive High-Resolution Mass Spectrometry**; Wolfgang Jabs; Dirk Wunderlich; Karsten Michelmann; Christian Albers; Carsten Baessmann; *Bruker Daltonik GmbH, Bremen, Germany*

ThP 030 **MS as an Orthogonal Method to 2AB NP-HPLC for the Quantitative Determination of Glycans of Recombinant Monoclonal Antibodies**; Wolfgang Wieder; Alfred Rupprechter; Werner Brunner; Mark Schiefermeier; Andreas Premstaller; Hansjoerg Toll; *Sandoz GmbH, Kundl, Austria*

ThP 031 **Platform Independent Analysis System for Characterization of Chemical Liability in Biotherapeutics**; Steven C. Pomerantz; Dariusz Janecki; Jennifer F. Nemeth; *Centocor Research and Development, Radnor, PA*

ThP 032 **Analysis of N-linked Glycans from Recombinant and Human Plasma Derived Coagulation Factor IX Using HILIC LC/FLR/QTof MS**; Ying Qing Yu [1]; Weibin Chen[1]; Martin Gilar[1]; Cory Sutherland[2]; Anur Kumar[2]; Leland Paul[2]; *[1]Waters Corporation, Milford, MA; [2]CMC ICOS Biologics, Bothell, WA*

ThP 033 **Intact Protein Analysis Combining Micro-High Performance Liquid Chromatography and LTQ Orbitrap Mass Spectrometry**; Remco Swart[1]; Jens Mohr[2]; Gunther Bohm[3]; Christian Huber[2]; *[1]Dionex Corporation, Amsterdam, Netherlands; [2]Paris-Lodron University, Salzburg, Austria; [3]Thermo-Fisher Scientific, Reinach, Switzerland*

ThP 034 **PRG 2010 Study: Tackling Unforeseen Problems in Otherwise 'Straight-Forward' Proteomics Analyses**; David B. Friedman[2]; Tracy Andacht[1]; Maureen K. Bunger [3]; Allis S. Chien[4]; David Hawke[5]; Jeroen Krijgsveld[6]; Robert Moritz[7]; Robert Settlage[8]; Chris Turck[9; *[1]Centers for Disease Control and Prevention, Athens, GA; [2]Vanderbilt University School of Medicine, Nashville, TN; [3]RTI International, Research Triangle Park, NC; [4]Stanford University, Stanford, CA; [5]UT-M.D. Anderson Cancer Center, Houston, TX; [6]EMBL Heidelberg, Heidelberg, Germany; [7]InstituteFor Systems Biology, Seattle, WA; [8]Virginia Bioinformatics Institute, Blacksburg, VA; [9]Max Planck Institute, Munich, Germany*

ThP 035 **Mass Spectrometric Analysis of UV-A Light-Induced Cross-linking of the Lens Protein alphaB-crystallin with Antioxidant Supplementation;** Kyle A. Floyd; David R. Stella; Ray Moore; Matthew B. Renfrow; Om

P. Srivastava; Stephen Barnes; *University of Alabama at Birmingham, Birmingham, AL*

ThP 036 **Characterization of Bacteriophage Derived Anti-*staphylococcal* Protein(P128) from Production to Purification Using Micro-Fluidic Based LC System Coupled to an Advanced QTOF-MS**; Ravindra Gudihal[1]; Sundaram P.M[2]; Madhavi H.N[2]; Jiya Asrani[2]; *[1]Agilent Technologies India Pvt. Ltd, Bangalore, India; [2]GangaGen Biotechnologies Pvt. Ltd, Bangalore, India*

ThP 037 **ETD Mass Spectrometry for Determination of Disulfide Site and Scrambling Linkages: A Software Tool for Disulfide Mapping**; Shiaw-Lin Wu[1]; Rovshan Sadygov[3]; Chen Li[1]; Tonya Second[2]; Zhiqi Hao[2]; David Horn[2]; Andreas F Huhmer[2]; Barry L. Karger[1]; *[1]Northeastern University, Boston, MA; [2]Thermo Fisher Scientific, San Jose, CA; [3]University of Texas, Galveston, TX*

ThP 038 **Unrevealing Protein Modifications via Top-Down Fragmentation and Ion-mobility Time-of-flight Mass Spectrometry**; Asish Chakraborty; Weibin Chen ; Jeff Mazzeo; *Waters Corporation, Milford, MA*

ThP 039 **Fine Characterization of Therapeutic Antibodies for Batch Release Using Mass Spectrometry**; Fabrice Cantais; Anicet Catrain; Géry Van Vyncht; Arnaud Delobel; *Quality Assistance SA, Donstiennes, Belgium*

ThP 040 **Comparison of Detector Technologies for LC/QTof MSE Biotherapeutic Protein Peptide Mapping Studies;** Jeff Mazzeo; Weibin Chen ; Scott Geromanos; Scott Berger; *Waters Corporation, Milford, MA*

ThP 041 **Simultaneous Characterisation and Quantification of Hemaglutinin Proteins in a Vaccine Candidate with an LC-MS Assay**; St John Skilton[1]; Joseph Rininger[2]; Weibin Chen[1]; Hongwei Xie[1]; Yinqing Yu[1]; *[1]Waters, Milford, MA; [2]Protein Sciences, Meriden, CT*

ThP 042 **Quantitative Analysis of Host Cell Proteins in Biologics Derived from Different Cell Lines and Purification Schemes by a LC-MS Assay**; Catalin Doneanu[1]; Manbir Labhan[2]; Alex Xenopoulos[3]; Holly Prentice[3]; Keith Fadgen [1]; Weibin Chen [1]; Martha Stapels[1]; St John Skilton[1]; William Haskins[2]; Jeff Mazzeo[1]; *[1]Waters, Milford, MA; [2]University of Texas, San Antonio, TX; [3]Millipore, Bedford, MA*

ThP 043 **Mapping the Surface Charge Pattern of a Recombinant Monoclonal Antibody Using Chemical Labeling and Mass Spectrometry**; Liangyi Zhang; Charelene Li; Charles Eigenbrot; Boyan Zhang; *Genentech Inc., South San Francisco, CA*

PROTEIN CONFORMATION AND CHEMICAL CROSS-LINKING, 044 - 077

ThP 044 **Design and Evaluation of a Temperature-Controlled Nano-ESI Source for the Studies of Thermal Denaturation of Proteins and Their Assemblies**; Guanbo Wang; Rinat Abzalimov; Igor A. Kaltashov; *University of Massachusetts, Amherst, MA*

ThP 045 **Comparison of Structure Stability between Biosimilar and Innovator Drugs Under Stressed Conditions by LC-MS analysis**; Suli Liu; Haitao Jiang; Shiaw-Lin Wu; William Hancock; *Barnett Institute,Northeastern University, Boston, MA*

ThP 046 **Resolving Alternative Structures of Intact Proteins by High-Field Asymmetric Ion Mobility Spectrometry**; Julian Saba; Tonya Second; *Thermo Fisher Scientific, San Jose, CA*

ThP 047 **Laser Spectroscopy of Trapped Green Fluorescent Protein Ions**; Vladimir Frankevich; Konstantin Chingin; Robert J. Nieckarz; Renato Zenobi; *ETH, Zurich, Switzerland*

ThP 048 **Optimizing Gaseous Protein Conformations for Top-Down Proteomics and Binding Energy Measurements**; Sergio Castro[1]; Xianglei Kong [1]; Steve Beu[2]; Kathrin Breuker[3]; Fred W. Mclafferty[1]; *[1]Cornell University, Ithaca, NY; [2]S C Beu Consulting, Austin, TX; [3]University of Innsbruck, Innsbruck, Austria*

ThP 049 **Immunological and Mass Spectrometric Study of Structural Changes in Ara h 2 in Roasted Peanuts**; Jinxi 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*

ThP 050 **Secondary Structures of Soft- and Reactively Landed Multiply Charged Protein Ions**; Qichi Hu; Peng Wang; Julia Laskin; *Pacific Northwest National Laboratory, Richland, WA*

ThP 051 **Withdrawn**

ThP 052 **Ion Mobility and Cross-Linking Approaches to Structure Determination of Protein Complexes by Mass Spectrometry**; Antonio Calabrese; Jingjia He; Tara Pukala; *University of Adelaide, Adelaide, Australia*

ThP 053 **A Mass Spectrometric View at the in Transcription Involved Protein Complexes RNA Polymerase and Mediator**; Kristina Lorenzen[1]; Sebastian Geiger[2]; Tobias Koschubs[2]; Patrick Cramer[2]; Albert J.R. Heck[1]; *[1]University Utrecht, Utrecht, Netherlands; [2]Ludwig-Maximilians-Universität München, München, Germany*

ThP 054 **Development of Ion Mobility-Mass Spectrometry as a High-throughput Approach for Structural Genomics**; Yueyang Zhong; Suk-Joon Hyung; Brandon Ruotolo; *University of Michigan, Ann Arbor, MI*

ThP 055 **Conformational Changes Associated with the Removal of Zinc Ions from Proteins in a Cyanobacterial Zn^{2+} Homeostatic System**; Frances D. L. Kondrat; Charlotte A. Scarff; Oksana I. Leszczyszyn ; Gregory R. Kowald; Claudia A. Blindauer; James H. Scrivens; *University of Warwick, Coventry, UK*

ThP 056 **Probing Transferrin-Metal Interactions by Means of Traveling-Wave Ion Mobility Mass Spectrometry**; Charlotte A. Scarff; Frances D. L. Kondrat; Claire Booyjzsen; Arindam Mukherjee; Peter J. Sadler; James H. Scrivens; *University of Warwick, Coventry, UK*

ThP 057 **A Critical Comparison of Positively and Negatively Charged Peptide Ion Structures Using Ion Mobility-Mass Spectrometry**; Nkiruka Arinze; Michal Kliman; Larissa S. Fenn; Sevugarajan Sundarapandian; Cody Goodwin; John A. Mclean; *Vanderbilt University, Nashville, TN*

ThP 058 **Oxidative Footprinting and Hydrogen/Deuterium Exchange Mass Spectrometry for Epitope Mapping of Cancer Therapeutic Immunotoxins**; Erin D. Hopper[1]; Masanori Onda[2]; Johanna Hansen[2]; Ira Pastan[2]; Kenneth B. Tomer[1]; *[1]NIEHS, Research Triangle Park, NC; [2]NCI, Bethesda, MD*

ThP 059 **Submillisecond Time-Resolved Temperature-Jump Induces Protein Conformational Change as Probed by Fast Photochemical Oxidation of Proteins (FPOP)**; Jiawei Chen; Don L. Rempel; Michael L. Gross; *Washington University, St. Louis, MO*

ThP 060 **Collision Cross Sections of Monomer, Dimer and Tetramer Gas-phase Ions from Human Hemoglobin**; Yang Kang; Peran Terrier ; Donald J. Douglas; *University of British Columbia, Vancouver, BC*

ThP 061 **Development of a New Flow Cell System for Short-Duration Oxidative Protein Footprinting Using**

Ultraviolet Laser Flash Photolysis; Jason S. Sampson [1]; Jinglan Wang[1]; James G. Smedley, III[2]; Kenneth B. Tomer[1]; *[1]NIEHS, Research Triangle Park, NC; [2]KBI Biopharma, Durham, NC*

ThP 062 **Structural Analysis of Neurodegenerative Disease Protein Aprataxin by Chemical Surface Mapping and Mass Spectrometry**; Jinglan Wang; R. Scott Williams; Kenneth B. Tomer; Leesa Deterding; *NIEHS, Research Triangle Park, NC*

ThP 063 **pH Dependence the Chemical Labeling of *Thermus thermophilus* HB8 Ribosomes**; William Running; James P. Reilly; *Indiana University, Bloomington, IN*

ThP 064 **Covalent Labeling with Mass Spectrometry Identifies Subtle Structural Changes Associated with Protein Binding to Different Divalent Metal Ions**; Vanessa Leah Mendoza; Jia Dong; Richard Vachet; *University of Massachusetts, Amherst, MA*

ThP 065 **Probing of Functional Regions on Coagulation Factor VIII**; Esther Bloem[1]; Henriet Meems[1]; Jacqueline Klein Gebbinck[1]; Koen Mertens[1, 2]; Alexander B. Meijer[1, 2]; *[1]Department of Plasma Proteins, Sanquin Research, Amsterdam, The Netherlands; [2]Pharmaceutical Sciences, Utrecht University, Utrecht, The Netherlands*

ThP 066 **Structural Allostery and Binding Interface of Actin-Human Adenovirus Proteinase Complex**; Rhijuta D'Mello[1]; Sayan Gupta[1]; Vito Graziano[2]; William McGrath[2]; Mark Chance[1]; Walter Mangel[2]; *[1]Case Western Reserve University, Cleveland, OH; [2]Biology Department- Brookhaven National Laboratory, Upton, NY*

ThP 067 **Conformational Mapping of Proteins Using an IR-Chromogenic Crosslinker and Infrared Multiphoton Dissociation**; Lisa A Vasicek; Scott Robotham; Jennifer Brodbelt; *The University of Texas, Austin, TX*

ThP 068 **Characterization of Protein Structure Using Electron Transfer Dissociative Chemical Cross-Linker and Tandem Mass Spectrometry**; Myles Gardner; Lisa Vasicek; Colin Kubarych; Eric Anslyn; Jennifer Brodbelt; *The University of Texas, Austin, TX*

ThP 069 **How to Efficiently Find a Needle in a Haystack: Method Optimization for Shotgun Chemical Cross-Linking Mass Spectrometry**; Adam Klein[1, 2]; Young-Jin Lee[1, 2]; *[1]Iowa State University, Ames, IA; [2]US-DOE Ames Laboratory, Ames, Iowa*

ThP 070 **Human Regulatory Protein 14-3-3 and Its Interactome by MS3D and H/D Exchange Techniques**; Katerina Pavlaskova[1, 2]; Hynek Mrazek[1, 2]; Petr Man[1]; Vladimir Havlicek[1]; Tomas Obsil[3]; Petr Novak[1]; Miroslav Sulc[1, 2]; *[1]Institute of Microbiology, v.v.i., Prague, Czech Republic; [2]Faculty of Science, Charles University, Prague, Czech Republic; [3]Institute of Physiology, v.v.i., Prague, Czech Republic*

ThP 071 **Mapping the Spatial Assembly of Enzymatic Complex Using MS3D Technique;** Petr Pompach[1, 2]; Petr Man[1, 2]; Karel Bezouska[1, 2]; Vladimir Havlicek[1, 3]; Petr Novak[1, 2]; *[1]Institute of Microbiology, Prague, Czech Republic; [2]Charles University,Prague, Prague, Czech Republic; [3]Palacky University, Olomouc, Czech Republic*

ThP 072 **Chemical Cross-linking and H/D Exchange Combined with Mass Spectrometry: A Tool to Validate and Refine Protein Crystal Structure;** Daniel Rozbesky[1, 2]; Petr Pompach[1, 2]; Petr Man[1, 2]; Vladimir Havlicek[1, 3]; Karel Bezouska[1, 2]; Petr Novak[1, 2]; *[1]Institute of Microbiology, Prague, Czech Republic; [2]Charles University, Prague, Czech Republic; [3]Palacky University, Olomouc, Czech Republic*

ThP 073 **Tandem Affinity Selective Enrichment of Inter-Peptide Crosslinks for Complex Structural Proteomics Crosslinking Applications;** Evgeniy V. Petrotchenko; Christoph H. Borchers; *UVic-GBC Proteomics Centre, Victoria, Canada*

ThP 074 **Novel Mass Defect-Labeled Mass-Spectrometry Identifiable Cross-linker Applied to the 34kDa-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*

ThP 075 **Characterization of Structure and Interactions of Transthyretin Using Chemical Cross-Linking and Top-Down Mass Spectrometry**; Xiaobin Xu[1]; Giuseppe Infusini [2]; Nancy Leymarie [2]; David H. Perlman[2]; Mark E. Mccomb[2]; Catherine E. Costello[2]; *[1]Boston University, Boston, MA; [2]Boston University School of Medicine, Boston, MA*

ThP 076 **An Isotopically-coded CID-Cleavable Biotinylated Crosslinker CBDPS;** Evgeniy V. Petrotchenko; Jason J. Serpa; Christoph H. Borchers; *UVic-GBC Proteomics Centre, Victoria, Canada*

ThP 077 **A New Category of Protein Crosslinkers for Protein Complexes**; Billy Clifford-Nunn; Janine R. Maddock; H.D. Hollis Showalter; Philip C. Andrews; *University of Michigan, Ann Arbor, MI*

PROTEOMICS: PTM DETERMINATION, 078 - 100

ThP 078 **Spot the Difference: Proteomic Epigenetic Reference Maps for Discovery of Differential Histone Modifications among Disparate Cellular States**; Jacob D. Jaffe; Namrata Udeshi; Sally Peach; D. R. Mani; Steven A. Carr; *The Broad Institute, Cambridge, MA*

ThP 079 **Probing the Global PTM Profile of Histones H4 and H3: Label Dependent Shot-Gun Proteomics**; Elisabeth Hersman; Christine Jelinek; Junbiao Dai; Dwella Moton Nelson; Rocio Montes de Oca; Katherine Wilson; Jef Boeke; Robert Cotter; *Johns Hopkins School of Medicine, Baltimore, MD*

ThP 080 **Quantitative Cross-Species Comparison of Global Histone H3 Modification States between *Drosophila melanogaster* and *Homo sapiens* Using SILAC**; Sally E. Peach[1]; Yuri B. Schwartz[2]; Yincenzo Pirrotta[2]; Steven A. Carr[1]; Jacob D. Jaffe[1]; *[1]The Broad Institute, Cambridge, MA; [2]Rutgers Univ. Dept. of Mol. Biol. & Bioch., Piscataway, NJ*

ThP 081 **Improved Methods for Comprehensive Assignment of Epigenetic Modification Configurations of Core Histone Proteins by High-Resolution ETD and HCD Mass Spectrometry**; Namrata Udeshi; Sally Peach; Steven A. Carr; Jacob D. Jaffe; *The Broad Institute, Cambridge, MA*

ThP 082 **Mapping of Lysine Methylation and Acetylation in Core Histones in Neurospora crassa**; Lei Xiong; Fan Zhang; Yinsheng Wang; *Chemsitry Department, UCRiverside, Riverside, CA*

ThP 083 **Insight into the Mechanism of Polycomb Mediated Gene Silencing by Use of Quantitative Mass Spectrometry Analyses of Histone Modifications**; Shannon M Eliuk[1]; Feixia Chu[2]; Barbara Panning[1]; Al Burlingame[1]; *[1]University of California San Francisco, San Francisco, CA; [2]University of New Hampshire, Durham, NH*

ThP 084 **Top-Down Characterization of Core Histones Using an Online Two-Dimensional Nanocapillary Liquid**

Chromatography System; Zhixin Tian; Rui Zhao; Nikola Tolić; Ronald J. Moore; David L. Stenoien; Errol W. Robinson; Richard D. Smith; Ljiljana Paša-Tolić; *Pacific Northwest National Laboratory, Richland, WA*

ThP 085 **Combining Post-Translational Modification Specific Antibodies and Mass Spectrometry to Study PTMs on Histone H4**; Katherine L. Stamper [1]; Robert J. Cotter[2]; *[1]Johns Hopkins University, Baltimore, MD; [2]Middle Atlantic MS Laboratory, Baltimore, MD*

ThP 086 **An Informatics Pipeline for the Detection of Protein Modifications from Proteomics Mass Spectrometry Data**; James Wright; Jyoti Choudhary; *Wellcome Trust Sanger Institute, Hinxton, UK*

ThP 087 **On-Line, Salt-Free, Three-Dimensional Nanoflow-LCMS for Comprehensive Epitope-Mining**; Ad de Jong; Geert Mommen; *Netherlands Vaccin Institute, Bilthoven, The Netherlands*

ThP 088 **Effect of Mitochondrial Superoxide Dismutase (SOD2) RNA Interference Knockdown on Mitochondrial Protein Carbonylation in *Drosophila melanogaster***; David Simpson; Ian Martin; Mike Grotewiel; Scott Gronert; *Virginia Commonwealth University, Richmond, VA*

ThP 089 **The First Global Screening of Protein Substrates Bearing Protein-bound 3,4-dihydroxyphenylalanine in *E. coli* and Human Mitochondria**; Sang Kyu Lee; Yue Chen; Hao Luo; Yingming Zhao; *Ben May Department for Cancer Research, The Univsersity of Chicago, Chicago, IL*

ThP 090 **Modification and Inactivation of Mitochondrial Aconitase by 4-Hydroxy-2-Nonenal**; Qingyuan Liu [1]; Scott Gronert[2]; *[1]Virginia Commonwealth University, Richmond, VA; [2]Virginia Commonwealth Uni, Richmond, VA*

ThP 091 **Site-Specific Characterisation of Hydroxyproline Residues in Collagen by MALDI-QIT-TOF MSn Analysis;** Helen Montgomery[1]; Nitin Rustogi[2]; Koichi Tanaka [3]; Chris Sutton[2]; *[1]Shimadzu, Koichi Tanaka MS Research laboratory, Manchester, UK; [2]Institute of Cancer Therapeutics, Univ.of Bradford, Bradford, UK; [3]Shimadzu Corporation, Kyoto, Japan*

ThP 092 **Identification and Assignment of Protein Citrullination Sites after Chemical Derivatization Using Alternating CID and ETD on a Spherical Ion Trap**; Maria Stensland[2]; Anders Holm[2]; Burkhard Fleckenstein[2]; Andrea Kiehne[1]; Arnd Ingendoh[1]; Andrea Schneider[1]; *[1]Bruker Daltonics, Bremen, Germany; [2]Centre for Immune Regulation, University of Oslo, Oslo, Norway*

ThP 093 **Integration of Top-Down and Bottom-Up Proteomic Approaches: Applications of Protein/Peptide Identifications by On-Line Post-Column Digestions, Enzymatic Reactions, and High-Resolution MS**; Matthew A. Rosenow; Tony Tegeler; Jian Liu; Linda Nagore; Ashoka Polpitiya; Konstantinos Petritis; *Translational Genomics Research Institute, Phoenix, AZ*

ThP 094 **Comprehensive Identification of Nitroxyl (HNO)-reactive Cysteines in Human Platelet Proteins by Quantitative Mass Spectrometry**; Liwen Lin[1, 2]; Juergen Kast [1, 2]; *[1]Dept. of Chemistry, University of British Columbia, Vancouver, Canada; [2]Biomedical Research Centre, Vancouver, Canada*

ThP 095 **Identification of Post Translational Modification Sites in Dynamin-Related Protein 1**; Weitao Jia; Laura L. Lackner; Marjin G. Ford; Jodi Nunnari; Julie A. Leary; *Dept. of Molecular and Cellular Biology, U.C.Davis, Davis, CA*

ThP 096 **Characterization of Oxidative Stress-Induced Protein Nitration in the Mitochondrial α-ketoglutarate Dehydrogenase Complex**; Haiqiang Yu[1]; Qingli Shi[2]; Hui Xu[2]; Haiteng Deng[1]; Gary Gibson[2]; *[1]The Rockefeller University, New York, NY; [2]Weill Med College of Cornell University, White Plains, New York*

ThP 097 **Identification of Animal Species by the MALDI-MS of Collagen in Animal Glues Used in Archaeological Materials**; Takashi Nakazawa[1]; Atsuko Miyaji[1]; Yoshiki Matsuo[1]; Yuzo Yamazaki[2]; *[1]Nara Women's University, Nara, Japan; [2]Shimadzu Corporation, Kyoto, Japan*

ThP 098 **Comparing the Efficiency of Hydrazide Labels in the Study of Protein Carbonylation: Human Serum Albumin as a Test System**; Zafer Ugur; Scott Gronert; *Virginia Commonwealth Uni., Richmond, VA*

ThP 099 **Identification of Novel Interaction Partners for Chromo, Tudor and MBT Domains by Heavy-Methyl SILAC-Based Proteomics**; Sina Pleiner; Gerhard Mittler; *Max-Planck-Institute of Immunobiology, Freiburg, Germany*

ThP 100 **Comparative Redox Proteomics to Target Oxidatively Modified Cysteines in *Fusarium graminearum* Using Liquid Chromatography/Mass Spectrometry;** Manisha Joshi[1]; Christof Rampitsch[2]; R Subramaniam[3]; *[1]Department of Biochemistry and Medical Genetics, Winnipeg, Canada; [2]Agriculture and Agri-Food Canada, CRC, Winnipeg, Canada; [3]Agriculture and Agri-Food Canada, Ottawa, Canada*

PROTEOMICS: NEW APPROACHES III, 101 - 130

ThP 101 **Advances in Capillary Liquid Chromatography for High-Throughput Top Down Proteomics**; Adam D. Catherman[1]; John C. Tran[1]; Lee Sawdey[2]; Kenneth R. Durbin[1]; Adaikkalam Vellaichamy[1]; Gary Valaskovic[2]; Neil L. Kelleher[1]; *[1]University of Illinois, Urbana, IL; [2]New Objective, Inc., Woburn, MA*

ThP 102 **Proteomic Profiling of Complex Samples Using Multidimensional Protein and Peptide Separation Strategy and Accurate Mass Mass Spectrometry**; Vadiraja B. Bhat; Haiying Chen; James Martosella; *Agilent Technologies, Wilmington, DE*

ThP 103 **Mass Spectrometric Analysis of the Efficiency of Displacement Chromatography for the Chromatographic Separation of Complex Protein Mixtures**; Marcel Kwiatkowski [1]; Moritz Wagner [3]; Robert Ahrends [1]; Björn Lichtner[1]; Andreas Bertsch [2]; Oliver Kohlbacher [2]; Maria Trusch [1]; Hartmut Schlüter[1]; *[1]University Medical Center Hamburg-Eppendorf, Hamburg, Germany; [2]University of Tübingen, Wilhelm Schickard Institut, Tübingen, Germany; [3]Agilent Technologies, Waldbronn, Germany*

ThP 104 **Segmented 1D-nanoLC Combined with CID/ETD for Increased Sequence Coverage in Biomarker Discovery**; Thomas Hagedorn; Andrea Kiehne; Markus Lubeck; Carsten Baessmann; Arnd Ingendoh; *Bruker Daltonik GmbH, Bremen, Germany*

ThP 105 **Online RP-RP Two Dimensional Liquid Chromatography for Shotgun Proteomics Using Peak-Parking and Partial-Loop Injection**; Maggie P. Y. Lam[1]; S. O. Siu[1]; Edward Lau[1]; J. Zhang[1]; Simon M. Y. Lee[2]; Ivan K. Chu[1]; *[1]The University of Hong Kong, Hong Kong, China; [2]University of Macau, Macau, China*

ThP 106 **Integrated Microfluidic nanoESI-MS Platform for Sample Preparation and Analysis of Single Cells**;

Nitin Agrawal; Ryan Kelly; Xuefei Sun; Richard D. Smith; *Pacific Northwest National Laboratory, Richland, WA*

ThP 107 **Investigating Chromatographic and Mass Spectrometric Resolution and Accuracy on Relative and Absolute Quantification of Proteins Associated with Cellular Hypoxia**; Joanne B. Connolly [1]; Chris Hughes [1]; Thérèse Mckenna[1]; Jim Langridge[1]; Susan Critchlow[2]; Rachel Rowlinson[2]; Lorna Tate[2]; Tom Dunkley[2]; *[1]Waters Manchester UK, Manchester, UK; [2]AstraZeneca, Alderley Park, UK*

ThP 108 **Preparation of a New Type of Packed Capillary Column with a Monolithic Emitter and Its Application in Proteomic Studies**; Yangjun Zhang[1]; Jingxin Xie[2]; Weijie Qin[1]; Xiaohong Qian[1]; *[1]Beijing Institute of Radiation Medicine, Beijing, China; [2]Shenyang Pharmaceutical University, Shenyang, China*

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ThP 110 **Optimal and Robust Analysis of High-Mass-Accuracy Orbitrap Datasets Using MaxQuant and ProteinPilot Search Algorithms;** Rongxiao Sa[1]; Leeann Higgins [1]; Sean L. Seymour[2]; Sricharan Bandhakavi[1]; Edgar A. Arriaga[1]; Tim Griffin[1]; Pratik Jagtap[3]; *[1]University of Minnesota, Minneapolis, MN; [2]AB SCIEX, Foster City, CA; [3]Minnesota Supercomputing Institute, UMN, Minneapolis, MN*

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ThP 112 **Data-Independent Acquisition for Effective Proteome Profiling on Three Different Linear Ion Trap Configurations**; Jesse D. Canterbury; Scott A. Shaffer; Jarrett Egertson; David R. Goodlett ; Michael J. Maccoss; *University of Washington, Seattle, WA*

ThP 113 **Comparative HPLC and Ultra High Performance nanoLC-MS/MS analysis of iTRAQ Labeled Cancer Tissue with Exclusion List Generation**; X. Simon Wang[1]; Udo. H Verkerk[1]; Leroi. V DeSouza[1]; Remco. V Soest[2]; K. W. Michael Siu[1]; *[1]York University, Toronto, Canada; [2]Eksigent Technologies, Inc, Dublin, California*

ThP 114 **Separation Free Proteomics: Coupling of a microfluidic Proteolytic Reactor to Electrospray Ionization Mass Spectrometry to Analyze Protein Mixtures;** Karan Hingorani; Derek Wilson; *York University, Toronto, Canada*

ThP 115 **Rapid High-Resolution Reversed-Phase LC-MS Analyses of Peptides and Tryptic Digests Using New Fused-Core Particle Columns**; Barry Boyes[1, 2]; Darryl Johnson[2]; Stephanie Schuster[1]; Jack Kirkland[1]; Ron Orlando[2]; *[1]Advanced Materials Technology Inc, Wilmington, DE; [2]University of Georgia, Athens, GA*

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ThP 125 **One-Dimensional Capillary Liquid Chromatographic Separation Coupled with Tandem Mass Spectrometry Unveils Entire Proteome Expressed in *Escherichia coli* cells**; Mio Iwasaki [1]; Shohei Miwa[3]; Oleg V. Krokhin[2]; Masaru Tomita[1]; Nobuo Tanaka[3]; Yasushi Ishihama[1]; *[1]Keio University, Yamagata, Japan; [2]University of Manitoba, Winnipeg, MB; [3]Kyoto Institute of Technology, Kyoto, Japan*

ThP 126 **Characterisation of a Bacterial Proteome by Means of Ion Mobility Mass Spectrometry-Based Proteomics;** Konstantinos Thalassinos[1]; Nisha Patel[1]; Susan E. Slade [1]; Jim Langridge[2]; Chris Hughes [2]; Scott Geromanos[2]; Marc V. Gorenstein[2]; Dan Golick[3]; Andrew Crombie[1]; J. Colin Murrell[1]; James Scrivens[1]; *[1]University of Warwick, Coventry, UK; [2]Waters Corporation, Manchester, UK; [3]DanGo Designs Inc, Newton, MA*

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ThP 133 **Quantitative Proteomic Analysis of Human Monocyte-Derived Dendritic Cells after Exposure to Live *Brugia malayi microfilariae***; Zhaojing Meng[1]; Roshanak T. Semnani[2]; Thomas B. Nutman[2]; Timothy D. Veenstra[1]; *[1]SAIC-Frederick, Inc., Frederick, MD; [2]NIAID, NIH, Bethesda, MD*

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ThP 159 **Effect of mTOR-Inhibitor Rapamycin on U87MG Glioblastoma Cell Line Proteome;** Marcela Gimenez[1]; Anelisa Ramao[1]; Helen Julie Laure[1]; Clarice Izumi[1]; Sueli Mieko Oba Shinjo[2]; Suely Kazue Nagahashi Marie[2]; Jose Cesar Rosa[1]; *[1]University of Sao Paulo, Ribeirao Preto, Sao Paulo - Brazil; [2]Medical School of Sao Paulo, Sao Paulo, Sao Paulo - Brazil*

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ThP 174 **Quantitative Analysis of STAT3 in Cardiac Tissue Using Multiple Reaction Monitoring**; Angel Aponte[1]; Darci Phillips[2]; Guanghui Wang[1]; Robert Balaban[2]; Marjan Gucek[1]; *[1]Proteomics Core, NHLBI/NIH, Bethesda, MD; [2]Laboratory of Cardiac Energetics, NHLBI/NIH, Bethesda, MD*

ThP 175 **Sensitive, Reproducible, Robust and High Speed MRM Assay for Absolute Quantitation of 75 Proteins in Human Plasma**; Derek S. Smith[1]; Michael A. Kuzyk[1]; Tyra J. Cross[1]; Jennifer L. Proc[1]; Juncong Yang[1]; Dominik Domanski[1]; Christie L. Hunter[2]; Matthew M. Champion[2]; Christoph H. Borchers[1,3; 1]*UVic Genome BC Proteomics Centre, Victoria, BC, Canada; [2]AB Sciex, Foster City, CA; [3]University of Victoria, Victoria, BC, Canada*

ThP 176 **Targeted Approach to the Identification of Theoretical Proteins from Mycoplasma Hyopneumoniae Strain 232**; Sarah Kruger[1]; Matthew Padula[2]; Steven Djordjevic[2]; *[1]AB SCIEX, Keperra, Australia; [2]UTS, Sydney, Australia*

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ThP 178 **SRM-Based Quantitative Analysis of IGF-1R and IRS1 Directly in FFPE Tissues for Objective Pathological Analysis in Cancer Related Signaling Pathway;** Amol Prakash[1]; Bryan Krastins[1]; David Sarracino [1]; Michael Athanas[2]; Taha Rezai[1]; Todd Hembrough[3]; Jenny Hiedbrink-Thompson[3]; Sheeno Thyparambil[3]; Jon Burrows[3]; David Krizman[3]; Mary F. Lopez[1]; *[1]Thermo Fisher Scientific, Cambridge, MA; [2]VAST Scientific, Cambridge, MA; [3]Expression Pathology Inc., Rockville, MD*

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ThP 185 **Mass Spectrometrical Analysis of Senescence-Associated Protein Changes in Cultured Human Fibroblasts Using a Label-Free Proteomics Approach**; Daniel Waldera[1]; Ana-Maria Florea[2]; Sebastian Link[1]; Birgit Korte[1]; Barbara Sitek[1]; Helmut E. Meyer[1]; Guido Reifenberger[2]; Kai Stühler[1]; *[1]Medizinisches Proteom-Center, Bochum, Germany; [2]Institut für Neuropathologie, Duesseldorf, Germany*

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ThP 187 **Implementation of 18O Labelling for Urine Proteome Quantification Using Accurate Mass Tag Retention Time data Base**; Eugene Nikolaev[1]; Ilya A Agron [2]; Dmitry M. Avtonomov[2]; Igor Popov[4]; Alexey

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ThP 267 **Invariant Chain Regulates the Major Histocompatibility Complex Class II Peptide Repertoire of Cell-Based Cancer Vaccines;** Olesya Chornoguz; Lydia Grmai; Alexei Gapeev; Suzanne Ostrand-Rosenberg; *UMBC, Baltimore, MD*

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Schlatzer; Lakshmi Ramachandra; *Case Western Reserve Univ, Cleveland, OH*

ThP 276 **Surfaceome Analysis of a T cell Population Using Cell Surface Specific Protein Labeling and Global ICPL-Based Differential Proteomic;** Baptiste Leroy[1]; Nathalie Mari[2]; Sébastien Denanglaire[2]; Oberdan Leo[2]; Ruddy Wattiez[1]; Fabienne Andris[2]; *[1]Dept of Proteomic and Microbiology, UMONS, Mons, Belgium; [2]Laboratoire de Physiologie Animale, ULB, Gosselies, Belgium*

ThP 277 **Characterisation of Protein-Ligand Interaction by SAW-ESI-MS and dPLIMSTEX**; Mihaela Drăguşanu[1]; Brînduşa-Alina Petre[1]; Tingting Tu[2]; Don Rempel[2]; Michael L. Gross[2]; Michael Przybylski[1]; *[1]University of Konstanz, Germany, Baden Wuerttemberg; [2]Washington University, St. Louis, MO*

ThP 278 **Subcellular Proteome Profiling of Influenza A Virus Infected Human Macrophages**; Niina Lietzén[1]; Tiina Öhman[1]; Johanna Rintahaka[2]; Tero Aittokallio[3]; Sampsa Matikainen[2]; Tuula A. Nyman[1]; *[1]University of Helsinki, Helsinki, Finland; [2]Finnish Institute of Occupational Health, Helsinki, Finland; [3]University of Turku, Turku, Finland*

ThP 279 **A Proteomic Method to Understand Protein Ubiquitination in Mammalian cells**; Yi Shi; Jun Qin; *Baylor College OF Medicine, Houston, TX*

ThP 280 **Direct Detection of Antibody/Antigen Complexes by MALDI-TOF Mass Spectrometry: Application to the NCI Clinical Proteomic Technologies for Cancer (CPTC) Initiative**; Jack Simpson; Simona Colantonio; Robert Fisher; Gordon Whiteley; *Advanced Technology Program, SAIC/NCI-Frederick, Frederick, MD*

ThP 281 **Therapeutic Metabolomics Identifies Fatty Acid Metabolism as a Therapeutic Target for Treating Multiple Sclerosis**; Leah Shriver[1]; Gary J Patti [2]; Bridgit Crews [3]; Oscar Yanes[4]; Gary Siuzdak[2]; Marianne Manchester[1]; *[1]University of California, San Diego, La Jolla, CA; [2]The Scripps Research Institute, La Jolla, CA; [3]Millenium Laboratories, San Diego, CA; [4]Scripps Research Institute, La Jolla, CA*

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ThP 282 **Formation and Recognition of G-Quadruplex Structure in Proximal Promoter of Vascular Endothelial Growth Factor Gene by ESI Mass Spectrometry**; Gu Yuan[1]; Hui Hui Li[2]; *[1]Peking University, Beijing, China; [2]Nanjing Normal University, Nanjing, China*

ThP 283 **Collisionally Activated Dissociation (CAD) and Electron Detachment Dissociation (EDD) for Top-Down Mass Spectrometry of Ribonucleic Acids up to 61 nt**; Monika Taucher; Kathrin Breuker; *University of Innsbruck, Innsbruck, Austria*

ThP 284 **Characterization of Interstrand Oligonucleotide Crosslinking Sites of Substituted-Aziridinylbenzoquinones by Infrared Multiphoton Dissociation**; Catherine J. Silvestri; Sarah E. Pierce; Frank Guziec Jr.; Lynn Guziec; Jennifer Brodbelt; *The University of Texas, Austin, TX*

ThP 285 **An In-Depth Parallel Study on Using Various MALDI Matrices for MicroRNA Analysis**; Chue H. Yang; Dickson M. Wambua; Norman H. L. Chiu; *University of North Carolina at Greensboro, Greensboro, NC*

ThP 286 **Analysis of Dicer-substrate Oligonucleotides in Mouse Liver by Liquid Chromatography/Mass Spectrometry**; Kaisheng Jiao; Lou Lamphere; Roberto Guerciolini; *Dicerna Pharmaceuticals, Watertown, MA*

ThP 287 **An LC-Orbitrap Mass Spectrometry Assay for Quantitative Bioanalysis of Therapeutic Small Interfering RNA (siRNA)**; Randall C. Armour; David J. Borts; Rudy L. Juliano; Michael H. Fisher; Leaf Huang; William C. Zamboni; *University of North Carolina, Chapel Hill, North Carolina*

ThP 288 **Enhanced In-Source Fragmentation in MALDI-MS of Oligonucleotides**; Nathan Hagan; Christine Smith; Miquel Antoine; Jeffrey Lin; Andrew Feldman; Plamen A. Demirev; *JHU Applied Physics Lab, Laurel, MD*

ThP 289 **Strategies Towards the Indirect Detection of Therapeutic siRNAs Using Cleavable Small Molecule Mass Tags;** Jo-Anne Riley[1]; Tom Brown[1]; Graeme T. Clark[2]; G. John Langley[1]; *[1]University of Southampton, School of Chemistry, Southampton, UK; [2]Pfizer Global Research and Development, Sandwich, UK*

ThP 290 **Evaluation of DNA Intercalators Using Electrospray Ionization Tandem Mass Spectrometry**; Sarah Pierce; Julia Aponte; Jennifer Brodbelt; *The University of Texas, Austin, TX*

ThP 291 **Probe-Dependent Capture and Analysis of microRNA by MALDI-TOF Mass Spectrometry;** Dickson M. Wambua; Chue H. Yang; Norman H. L. Chiu; *University OF North Carolina at Greensboro, Greensboro, NC*

ThP 292 **Mass Spectrometric Analysis of Modified DNA Bases in Telomers**; Ilan Vidavsky[1]; Michael L. Gross[1]; Phillip Smiraldo[2]; Woodring E. Wright[2]; *[1]Washington University, St Louis, MO; [2]University of Texas Southwestern Medical Center, Dallas, TX*

ThP 293 **Fragmentation of Nucleotides and Nucleosides in a Helium Metastable-Beam Open-Air-Ion-Source Mass Spectrometer**; Liang Xue; Matthew Curtis; Mikael A. Minier; Priyanka Chitranshi; O. David Sparkman; Patrick R. Jones; *University of the Pacific, Stockton, CA*

ThP 294 **Synthesis and MS Characterization of Oligodeoxyribonucleotides Containing N^6-carboxymethyl-2'-deoxyadenosine and N^4-carboxymethyl-2'-deoxycytosine;** Jianshuang Wang[1]; Yinsheng Wang[2]; *[1]UC Riverside, Riverside, CA; [2]University of California, Riverside, CA*

ThP 295 **Comparison of Liquid/Liquid and Solid-Phase Extraction for the Quantitative Analysis OF Phosphorothioate Oligonucleotides IN Human Plasma Using LC-MS/MS**; Weiwei Yuan; Laixin Wang; Yue Zhao; Yao Shi; Ryan Adler; Min Meng; Scott Reuschel; Patrick Bennett; *Tandem Labs, Salt Lake City, UT*

ThP 296 **LC-MS Analysis of siRNA for the Validation of a Novel Target for Prostate Cancer Therapeutics**; A. Cary McGinnis; Buyun Chen; Brian S. Cummings; Michael G. Bartlett; *University of Georgia, Athens, GA*

ThP 297 **Fully Automated Analysis of PCR Products by High Performance ESI-TOF Mass Spectrometry: A Novel Platform for Clinical Research**; Jose Gutierrez; Jared Drader; Steven Hofstadler; *Ibis Biosciences, Inc., Carlsbad, CA*

ThP 298 **Differentiation and Sequencing of Three mer-18 DNA Isobaric Oligomers Using Low-Energy CID-MS/MS and the Oligo Mongo Mass Calculator Software;** Farid Jahouh; Joseph H. Banoub; *Memorial University of Newfoundland, Saint John's, Canada*

ThP 299 **Analysis and Quantitation of Oligonucleotides Using MALDI TOFTOF**; Shixin Sun; Christie L Hunter; Fadi Abdi; *Applied Biosystems, Framingham, MA*

ThP 300 **New Urinary Biomarkers of DNA Damage and RNA Metabolism Using a Non-Target LC-MS/MS Approach**; Daniel Beach; Alina Lyagusha; Wojciech Gabryelski; *University of Guelph, Guelph, Canada*

ThP 301 **Evaluating Strong Anion Exchange (SAX) Chromatography for On-Line LC-MS Analysis of Nucleic Acids**; Joshua Wilhide; Kevin B. Turner ; Timothy Garrett Jr; Alberto Berton; Daniele Fabris; *University of Maryland Baltimore County, Baltimore, MD*

ThP 302 **Monitoring Changes in the Expression Levels of Transfer RNAs by LC-MS**; Siwei Li; Colette Castleberry; Patrick A. Limbach; *University of Cincinnati, Cincinnati, OH*

ThP 303 **ESI-FTICR Evaluation of Recurrent Structural Motifs as Possible Building Modules for Homology Modeling of Ribonucleoprotein Assemblies**; Kevin B. Turner; Arie Hawkins; Daniele Fabris; *U. of Maryland, Baltimore County, Baltimore, MD*

ThP 304 **Novel CID and IRMPD Fragmentation of a Hydrated *C*-glycoside of 5-fluorouridine Formed by the Action of Pseudouridine Synthase RluA**; Bogdan Bogdanov[1]; Edward J. Miracco[1, 2]; Eugene G. Mueller[1]; *[1]University of Louisville, Louisville, KY; [2]University of Delaware, Newark, DE*

ThP 305 **An Easy-to-Use Program for Mass Calculation of Chemically-Modified Oligonucleotides**; Fanyu Meng[1]; Peter Leopold[2]; Amran Gowani[1]; Roy Helmy[1]; Huimin Yuan[1]; Bing Mao[1]; *[1]Merck & Co., Inc, Rahway, NJ; [2]BioAnalyte Inc., Portland, ME*

ThP 306 **Development of Mixed Metal Intercalators and Multifunctional Crosslinkers for *in vivo* Investigation of Ribonucleoprotein Assemblies;** Timothy Garrett Jr; Seungkyung Lee; Kevin B. Turner ; Daniele Fabris; *University of Maryland Baltimore County, Baltimore, MD*

ThP 307 **Novel Isolation and Analysis Method for Oligonucleotide Therapeutics and their Metabolites from Biological Matrices by LC/MS**; Michael Mcginley[1]; Greg Scott[1]; Mark E. Hail[2]; *[1]Phenomenex, Torrance, CA; [2]Novatia LLC, Monmouth Junction, NJ*

ThP 308 **Determination of a Phosphorothioate Oligonucleotide and its 3'n-1 Metabolite by LC-MS from Rat Plasma**; Buyun Chen; Michael Bartlett; *University of Georgia, Athens, GA*

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ThP 309 **Development of N-Glycan Serum Library for Rapid Identification and Quantitation in Disease Biomarker Discovery Using nanoLC/MS**; Danielle Aldredge[1]; Hyun Joo An[1]; Ning Tang[2]; Keith Waddell[2]; Carlito Lebrilla[1]; *[1]University of California, Davis, CA; [2]Agilent Technologies, Santa Clara, CA*

ThP 310 **Software-Assisted Peak Annotation and Isomer Detection for Oligosaccharide Mass Spectra: A Case Study**; David Ashline[1]; Jake Fournier[1]; Tonya Second[2]; *[1]Glycome Technologies Inc., Lee, NH; [2]Thermo Fisher Scientific, San Jose, CA*

ThP 311 **Permethylated Oligosaccharide Isomers Elucidation by Polymeric Porous layer Open-Tubular Nanoliquid Chromatography/Tandem Mass Spectrometry**; Ming-Yi Ho; Chung-Lin Liao; *Genomics Research Center, Academia Sinica, Taipei, Taiwan*

ThP 312 **RP-nano-LC-ESI-MS/MSMS of Permethylated Glycans and Data Analysis Thereof**; Ilja Ritamo[1]; Hannu Peltoniemi[2]; Suvi Natunen[1]; Jarkko Räbinä[1]; Leena Valmu[1]; *[1]Finnish Red Cross Blood Service, Helsinki, Finland; [2]Applied Numerics Ltd, Helsinki, Finland*

ThP 313 **Structure Analysis of Derivatized Chondroitin Sulfate Oligosaccharides Using Reverse Phase LC/MS**; Rongrong Huang; Joshua S. Sharp; *University of Georgia, CCRC, Athens, GA*

ThP 314 **Fragmentation Behavior of Oligosaccharides Using the MALDI Orbitrap and 3-Aminoquinoline as Matrix and Derivatizing Agent**; Marion Rohmer[1]; Bernd Stahl[2]; Ute Bahr[1]; Michael Karas[1]; *[1]Goethe University, Frankfurt Am Main, Germany; [2]Danone Research Centre for Specialised Nutrition, Friedrichsdorf, Germany*

ThP 315 **Investigations of Structures and Fragmentation Pathways by Electron Transfer Dissociation of Permethylated Milk Sugars**; Liang Han[1]; Catherine E. Costello[2]; *[1]Boston University, Boston, MA; [2]Boston University School of Medicine, Boston, MA*

ThP 316 **Multivariate Analysis Of Electron Detachment Dissociation (EDD) Mass Spectra For Heparan Sulfate (HS) Tetrasaccharides Differing Only In Hexuronic Acid Stereochemisty**; Han Bin Oh[1]; Franklin E. Leach Iii[2]; Sailaja Arungundram[2]; Kanar Al-Mafraji[2]; Andre Venot[2]; Geert-Jan Boons[2]; Jon Amster[2]; *[1]Sogang University, Seoul, South Korea; [2]University of Georgia, Athens, GA*

ThP 317 **Electron Detachment Dissociation (EDD) of Fluorescently Labeled Oligosaccharides**; Wen Zhou; Kristina Hakansson; *University of Michigan, Ann Arbor, MI*

ThP 318 **Electron Induced Dissociation (EID) of Singly Protonated Glycans**; Di Gao; Wen Zhou ; Kristina Hakansson; *University of Michigan, Ann Arbor, MI*

ThP 319 **Electron Detachment Of Chondroitin Glycosaminoglycan Carbohydrates**; Mellisa Ly[1]; Franklin E. Leach III[2]; Tatiana Laremore[1]; Jeremy Wolff[3]; Robert J. Linhardt[1]; Jon Amster[2]; *[1]Renesselaer Polytechnic Institute, Troy, NY; [2]University of Georgia, Athens, GA; [3]Bruker Daltonics, Billerica, MA*

ThP 320 **Profiling Fetuin Glycans Composition by HILIC-LC/MSE**; Vera Ivleva [1]; Ying-Qing Yu [1]; Jonathan Bones[2]; Martin Gilar[1]; *[1]Waters Corporation, Milford, MA; [2]Conway Institute, University College Dublin, Dublin, Ireland*

ThP 321 **Metal Adduction Has a Remote Effect in the Electron Capture Dissociation of Permethylated Glycans**; Xiang Yu; Yiqun Huang; Cheng Lin; Catherine Costello; *Boston University, Boston, MA*

ThP 322 **Alternative to Chemical Denaturation for Efficient Deglycosylation of glycoproteins – Applications for Characterization of Vaccines Glycoproteins by Mass Spectrometry**; Jean Dubayle; Sandrine Vialle; Philippe Talaga; *Biochemistry Research, Campus Mérieux, Marcy L'etoile, France*

ThP 323 **Distinguishing HMOS Pure Isomers and Mixtures by IRMPD MALDI-FTMS**; Carlito Lebrilla[2]; Andrés Guerrero[1]; Juan Davalos[1]; *[1]Rocasolano Physical Chemistry Institute, Madrid, Spain; [2]University of California, Davis, CA*

ThP 324 **Lactose Determination in Low Lactose and Lactose Free Dairy Products by ZIC-HILIC-LC-MS**; Petrus

Hemstrom; Patrik Appelblad; *MerckSeQuant AB, Umea, Sweden*

ThP 325 **A Study on Structural Analysis of Neutral Oligosaccharides by Using MALDI-FT ICR Mass Spectrometry**; Shuying Liu; Hongmei Yang; *Changchun Inst Appl Chem, Changchun, China*

ThP 326 **Differentiation of Stereochemistry and Anomeric Configuration of Structurally Diagnostic Carbohydrate Anions, m/z 221, by Infrared Photodissociation at 10.6 Microns;** Brad Bendiak; Tammy Fang; *University of Colorado Health Sciences Center, Aurora, CO*

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ThP 327 **Analysis of Urinary Isoprostanes by Chiral Liquid Chromatgraphy-Electron Capture Atmospheric Pressure Chemical Ionization/Mass Spectrometry**; Clementina Mesaros[1]; Seon Hwa Lee [2]; Ian A. Blair[3]; *[1]UPenn, Philadelphia, PA; [2]Tohoku University, Sendai, Japan; [3]Univ. of Penn/SOM/Pharmacol, Philadelphia, PA*

ThP 328 **Tandem Mass Spectrometric Analysis of Oxidized Glycerophospholipids by MALDI Using a Linear Ion Trap**; Whitney L. Stutts[1]; Kerolyn S. Valente[2]; Timothy J. Garrett[3]; Richard A. Yost[1]; *[1]Department of Chemistry, University of Florida, Gainesville, FL; [2]Department of Biochemistry,University of Sãn Paulo, Sãn Paulo, Brazil; [3]College of Medicine, University of Florida, Gainesville, FL*

ThP 329 **Imaging and Structural Analysis of Phospholipids and Sulfatides in Brain Lipid;** Alice Delvolvé; Benoit Colsch; Amina S Woods; *NIH/NIDA/IRP, Baltimore, MD*

ThP 330 **An Orthogonal Approach to Lipidomic Analysis by Fraction Collection Followed by Ion Mobility Mass Spectrometry**; Jose Castro-Perez; David G. McLaren; Paul Miller; Doug Johns; Sheng-ping Wang; Brian K. Hubbard; Thomas P. Roddy; *Merck Co & Inc, Rahway, NJ*

ThP 331 **Label free Differential Lipid Analysis For Rat Brain Samples Affected By Stroke Using a Linear Ion Trap Orbitrap Mass Spectrometer**; Sucharita Dutta[1]; Alice Delvolve[2]; Shelley N Jackson[2]; Mikko Airavaara[2]; Brandon K. Harvey[2]; Yun Wang[2]; Amina S. Woods [2]; *[1]Thermo Fisher, San Jose, CA; [2]NIDA-IRP, NIH, Baltimore, MD*

ThP 332 **Complementary Acquisition Strategies for Comprehensive Lipid Profiling of Microbes for Biofuel Applications**; Sahana Mollah[1]; Eva Duchoslav [2]; Brigitte Simons[2]; *[1]AB Sciex, Foster City, CA; [2]AB/Sciex, Concord, ON*

ThP 333 **A Strategy For The Quantitative Analysis of All Lipids With A Single Acquisition Method**; Brigitte Simons; Stephen Tate; *AB Sciex, Concord, Ontario*

ThP 334 **Quantitation of Ceramides in Plasma and Tissues Using HPLC On-Line Electrospray Ionization Tandem Mass Spectrometry**; Renliang Zhang; Yoon-Mi Chung; Hazel Huang; Takhar Kasumov; John Kirwan; *Cleveland Clinic, Cleveland, OH*

ThP 335 **Quantification of Triacylglycerols Regioisomers Present in Lipid Extracts by CID and CID/OzID Techniques;** Huong Pham Thu[1]; Stephen Blanksby[1]; Todd Mitchell[2]; *[1]School of Chemistry, University of Wollongong, Australia; [2]School of Health Sciences, University of Wollongong, Australia*

ThP 336 **Quantitative Analysis of 1-Deoxydihydroceramides Using Normal Phase Liquid Chromatography Coupled to a Quadrupole Linear-ion Trap Mass Spectrometer**; Sibali Bandyopadhyay[1]; Hyejung Park[2]; Rebecca Shaner[1]; Christopher A. Haynes[1]; Mark Cameron Sullards[1]; Alfred H. Merrill[1]; *[1]Georgia Institute of Technology, Atlanta, GA; [2]Boston University School of Medicine, Boston, MA*

ThP 337 **Quantitative Analysis of Phospholipids Using NALDI Target Plates**; Simona Colantonio[1]; Jack Simpson[1]; Robert J. Fisher[1]; Anu Puri[2]; Amichai Yavlovich[2]; Robert Blumenthal[2]; Julie M. Belanger[2]; *[1]SAIC/NCI-Frederick, Frederick, MD; [2]National Cancer Institute, Frederick, MD*

ThP 338 **Development of Global and High Sensitive 2D-Phospholipidomics**; Yoshiaki Sato[1]; Tatsuji Nakamura[1]; Ken Aoshima [1]; Keith Wilcoxen[2]; Yoshiya Oda[2]; *[1]Eisai Co., Ltd, Tsukuba, Japan; [2]Eisai Inc., Andover, MA*

ThP 339 **Targeted Metabolomics - Validated Analysis of Free and Bonded Fatty Acids in Biofluids without Fractionation Using GC-MS After Methylation**; Hai Pham Tuan; Stephanie Angeben; Therese Koal; *Biocrates Life Sciences AG, Innsbruck, Austria*

ThP 340 **Targeted Lipidomics – High-Throughput Analysis of Lipid Metabolites in Biological Samples via Flow Injection ESI-MS/MS**; Diane Schmiederer; Hai Pham Tuan; Doreen Kirchberg; Therese Koal; *Biocrates Life Sciences AG, Innsbruck, Austria*

ThP 341 **Application of Supercritical Fluid Chromatography/Mass spectrometry to Lipid Profiling of Soybean**; Takeshi Bamba [1]; Jae Won Lee[1]; Takato Uchikata[1]; Atsuki Matsubara[1]; Takuji Nakamura[2]; Eiichiro Fukusaki[1]; *[1]Dept.Biotech., Grad. Sch.Eng., Osaka Univ., Suita, Japan; [2]National Institute of Crop Science, Naro, Tsukuba, Japan*

ThP 342 **Development of LC-MRM Method for a Rapid Screening of Rhamnolipids Produced by *Pseudomonas* Strains**; Leonardo Sastoque-Cala[1, 3]; Cecilia Silva-Sanchez[2]; Refugio Rodriguez-Vazquez[2]; Alba Marina Cotes-Prado[3]; Aura Marina Pedroza-Rodriguez[1]; *[1]Pontificia Universidad Javeriana, Bogota, Colombia; [2]CINVESTAV-IPN, Mexico, D.F., Mexico; [3]corpoica, Bogota, Colombia*

ThP 343 **Integrated MS2/MS3 Spectra Database Facilities Data-Dependent Mouse Heart Cardiolipin Analyses with the LipidQA Software Platform**; Haowei Song; Jack Ladenson; John Turk; *Washington University school of medicine, St. Louis, MO*

ThP 344 **Lipid Identification Using a MS/MS Database of 120,000 Tandem Mass Spectra**; Tobias Kind; Kwang-Hyeon Liu; Do Yup Lee; Oliver Fiehn; *UC Davis - Metabolomics, Davis, CA*

ThP 345 **Spectral Processing of QQQ Scans for Lipidomics Preserving All Features in a Spectrum;** Todd Williams[1]; Lawrence Seib[1]; Mary Michaelis[1]; Asma Zaidi[2]; *[1]University of Kansas, Lawrence, KS; [2]Kansas City University of Medicine and Biosciences, Kansas City, Missouri*

ThP 346 **Benchmarking of Shotgun Lipidomics Software tools**; Ronny Herzog[1, 3]; Dominik Schwudke [2]; Andrej Shevchenko[1, 3]; *[1]Max Planck Institute CBG, Dresden, Germany; [2]National Centre for Biological Sciences, Tata Inst, Bangalore / Bengaluru, India; [3]Max Planck Institute CBG, Dresden, Germany*

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ThP 347 **Determination of Metformin in Rat Plasma by HILIC-MS/MS Combined with Tecan Automation and Direct Injection**; Wei Zhang[1]; Futian Han [1]; Harry Zhao[1]; Zhongping John Lin[1]; Qingtao (Mike) Huang[2]; Naidong Weng[2]; *[1]Frontage Laboratories, Inc., Malvern, PA; [2]Johnson & Johnson Pharmaceutical Research & Dev, Raritan, NJ*

ThP 348 **Determination of Metformin in Human Plasma Using Hydrophilic Interaction Liquid Chromatography-Tandem Mass Spectrometry**; Ang Liu; Stuart Coleman; *Matrix BioAnalytical Laboratories, New Haven, CT*

ThP 349 **Simultaneous Determination of Bezafibrate and Diflunisal in Human Plasma Using Liquid Chromatography-Tandem Mass Spectrometry**; Ang Liu; Stuart Coleman; *Matrix BioAnalytical Laboratories, New Haven, CT*

ThP 350 **Validation of an LC/MS/MS Method for the Determination of Ibuprofen in Miniature Swine Plasma**; Lawrence Andrade; Adam Grenier; Teresa Pekol; *Synomics Pharma, Wareham, MA*

ThP 351 **New Method for Rapid detection of Low Levels of Beta-Lactam Antibiotics in Recombinant Protein Therapeutics**; Melissa Zolodz; James Carroll; Ned Mozier; *Pfizer, Chesterfield, MO*

ThP 352 **Quantification of a Very Polar Small Molecule, Guanfacine, in Human Plasma Using an Acquity UPLC and a 50 pg/mL LLOQ;** Troy Voelker; Lin Tan; Min Meng; Spencer Carter; Scott Reuschel; *Tandem Labs, Salt Lake City, UT*

ThP 353 **Simultaneous Determination of Naloxone, 6β-naloxol, and Naloxone-3β-D-glucuronide in Mouse Plasma Using Liquid Chromatography-Tandem Mass Spectrometry**; Hongliang Jiang[1]; Manjunath Shet[2]; Yurong Wang[1]; *[1]Covance Laboratories Inc., Madison, WI; [2]Purdue Pharma L.P., Stamford, CT*

ThP 354 **Full Validation of LC-MS/MS Method for Determination of Phloroglucinol in Human Plasma**; Jin young Kim[1]; Hyeon Jin Bae[1]; Sun Koung Joung[1]; Kyung Hee Cho[1]; Sookie La[1]; Hee Joo Lee[1, 2]; *[1]BioCore Co.,Ltd, Seoul, Korea; [2]Seoul Clinical Laboroatories, Seoul, Korea*

ThP 355 **Quantification of Bambuterol in Human Plasma by LC-MS/MS Using Electrospray Ionization Sources**; Ju-Hong Lee; Eunmi Ban; Jong-Oh Lee; *Bio-Medieng, Seongnam, South Korea*

ThP 356 **Sensitive HPLC/MS/MS Assay for Bioequivalence Test of Anastrozole and Letrozole of Anti-Estrogen in Human Plasma**; Bohee Lim[1]; Jooyeon Park[1]; Haesook Bok[1]; Soo-Youn Lee[2, 3]; Wooseong Huh[1, 5]; Hojoong Kim[1]; Sung Hwa Hong[1]; Jaewook Ko[1, 4]; *[1]Clinical Trial Center,Samsung Medical Center, Seoul, South Korea; [2]Department of Laboratory Medicine and Genetics, Samsung Medical Center,Seoul, South Korea; [3]Sungkyunkwan University School of Medicine, Seoul, South Korea; [4]Division of Clinical Pharmacology, Seoul, South Korea; [5]Department of Medicine, Samsung Medical Center, Seoul, South Korea*

ThP 357 **Sensitive Assay for Determination of Entecavir in Human Plasma Using LC/MS-MS**; Yifei Liu; Erika Hess; *Tandem Labs, a division of Labcorp, West Trenton, NJ*

ThP 358 **Quantitative Analysis of Sirolimus in Mouse Whole Blood Using UPLC-MS/MS**; Linh Tran; Hongyan Li; Mark Rose; Christopher A. James; *Amgen, Inc., Thousand Oaks, CA*

ThP 359 **Quantification of Tacrolimus in Human Whole Blood by Dry Blood Spot (DBS)-LC-MS/MS**; Haiqing Ding; Kathryn Piening; Tian-Sheng Lu; Guangchun Zhou; Yan Xu; John-Paul Gutierrez; Kristin Miller; Yong-Xi Li; *Medpace Bioanalytical Laboratories, Cincinnati, OH*

ThP 360 **A Simple and Sensitive Method for the Determination of Cinacalcet in Human Dried Blood By Reverse Phase LC-MS/MS**; Philip S. Wong; Bernd Bruenner; Christopher James; *Amgen, Thousand Oaks, CA*

ThP 361 **Determination of p-Phenylenediamine in Hair dyes by Using Microwave-Assisted Derivatization and Gas Chromatography-Mass Spectrometry**; Tzu-Ying Lin; Jing-Yi Huang; Maw-Rong Lee; *National Chung-Hsing University, Taichung, Taiwan*

ThP 362 ***In vivo* Determination of Polyamines in Human Serum by Using Liquid Chromatography-Tandem Mass Spectrometry**; Ling-Chun Liao[1]; Soo-Ray Wang[2]; Maw-Rong Lee[1]; *[1]National Chung-Hsing University, Taichung, Taiwan; [2]Chung Shan Medical University, Taichung, Taiwan, ROC*

ThP 363 **Determination of Leukotriene B4 in Human Plasma by UFLC-MS/MS – A Novel Approach to Evaluate LTB4 as a Pharmacodynamic Biomarker**; Qingtao (Mike) Huang[1]; Naidong Weng[1]; Futain Han[2]; Weisheng Lin[2]; Zhongping (John) Lin[2]; Hsiaoju Lin[2]; Anne Fourie[1]; Xiaohua Xue[1]; Kirk Bertelsen[1]; Jan de Jong[1]; Ann Welton[1]; *[1]Johnson & Johnson, Princeton, NJ; [2]Frontage Lab, Marven, PA*

ThP 364 **Determination of Serum Ribavirin Content Using Tandem Mass Spectrometry (LC-MS/MS): An Accurate, Precise, Selective and Sensitive Method;** Claudia Meek [1]; Mamta K. Jain[2]; Tawanda Gumbo[2]; Richard Leff[1, 2]; *[1]Texas Tech University Health Sciences Center, Dallas, TX; [2]University of Texas Southwestern Medical Center, Dallas, TX*

ThP 365 **Differential Isotope Labeling for Quantitation of Acylglycines in Human Urine**; Avalyn Lewis; Kevin Guo; Liang Li; *University of Alberta, Edmonton, Canada*

ThP 366 **A Rapid and Sensitive Chiral LC-MS/MS Method for the Determination of Warfarin Enationmers in Human Plasma**; Chen-Yu Wang; Yan Xu; John Paul Gutierrez; Kristin Miller; Yong-Xi Li; *Medpace Bioanalytical Laboratories, Cincinnati, OH*

ThP 367 **A Validated Method by LC-MS/MS with Electrospray Ionization for Chiral Determination of R-Lipoic Acid and S-Lipoic Acid in Human Plasma**; Hwa Suk Kim; Seo Hyun Yoon; Joo-Youn Cho; Kyung Sang Yu; In-Jin Jang; *Seoul National University, Seoul, South Korea*

ThP 368 **GLP Validation for a Quick and Sensitive Analysis of Lidocaine in Rat and Minipig Plasma**; Matthew Pollard; Derek Laine; Chad Christianson; Shane Needham; *Alturas Analytics, Inc., Moscow, ID*

ThP 369 **Quantification of Caffeine Metabolites in Human Urine via a Simple and Rapid Liquid Chromatography-Tandem Mass Spectrometry Method**; Yao Shi; Laixin Wang; Jian Chen; Lisa Rohde; Spencer Carter; Min Meng; Scott Reuschel; Patrick Bennett; *Tandem Labs, Salt Lake City, UT*

ThP 370 **Validation of a Liquid Chromatography Tandem Mass Spectrometry Assay Method for the Determination of R-Modafinil in Human Plasma**;

Gina de Boer; Xiufeng Ji; Winnie Lui; Rong Yi; Grace van der Gugten; Xuejun Peng; *Can Test Ltd, Burnaby, BC, Canada*

ThP 371 **Comprehensive Typing of Unknown Microorganisms Based on Quantitative Analysis of Targeted Long Chain Fatty Acids by Mass Spectrometry**; Hongying Zhong; *Central China Normal University, Wuhan, China*

ThP 372 **Quantitative Analysis of HM30181A in Human Plasma by Liquid Chromatography-Tandem Mass Spectrometry (LC-MS/MS)**; Bora Kim; Seul Oh ; Seo Hyun Yoon; Joo-Youn Cho; Kyung-Sang Yu; In-Jin Jang; *Seoul National university, Seoul, Republic of Korea*

ThP 373 **Matrix Effect Correlation for Multiple Analytes Using a Single Internal Standard**; Masuyuki Sugiyama; Shuhei Hashiba; Kazuki Tanaka; Hideki Hasegawa; Yuichiro Hashimoto; *Hitachi, Ltd, Central Research Lab, Kokubunji, Tokyo, Japan*

ThP 374 **Relative Noise: A Novel Method for Determining Signal to Noise Ratios for Peaks in Quantitative LC-MS Applications**; Gordana Ivosev; Ron Bonner; Lyle Burton; John Gibbons; *AB SCIEX, Concord, Canada*

ThP 375 **Simultaneous Quantitative Determination of Terbutaline and Its Prodrug Bambuterol in Human Plasma**; Jong-Dae Kim[1]; Sun Koung Joung[1]; Kyung Hee Cho[1]; Sookie La[1]; Hee Joo Lee[1, 2]; *[1]BioCore Co.,Ltd, Seoul, Korea; [2]Seoul Clinical Laboratories, Seoul, Korea*

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ThP 381 **Structure Elucidation with an Ultra-High Resolving TOF Instrument by Alternating MS and Broad-Band CID Analyses**; Peter Sander; Ilmari Krebs; Sebastian Goetz ; Birgit Schneider; *Bruker Daltonik, Bremen, Germany*

ThP 382 **Detection of Small Biological Molecules by LDI-TOF-MS Using Self-Assembled Molecules on Silicon Surfaces**; Ömür Çelikbıçak[1]; Gökhan Demirel[2]; Erhan Pişkin[1]; Bekir Salih[1]; *[1]Hacettepe University, Ankara, Turkey; [2]Gazi University, Ankara, Turkey*

ThP 383 **GC/MS Analysis of Bisphenol A and Other Potential Leachables from Container Closure Systems Used for Biopharmaceutical Therapeutics**; Sherry Castle; May Joy Miller; Katherine Taylor; Vinh Nguyen; *Shire Human Genetic Therapies, Cambridge, MA*

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ThP 385 **Chemically Modified Porous Silicon for Laser Desorption/Ionization Mass Spectrometry**; Irina Shmigol[1]; Sergei Alekseev[2]; Vladimir Zaitsev[2]; Valeriy Pokrovsky[1]; *[1]O.O. Chuiko Institute of Surface Chemistry NASU, Kiev, Ukraine; [2]National Taras Shevchenko University, Kiev, Ukraine*

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ThP 387 **Electron Induced Dissociation (EID) of Small, Singly Charged Ions of Pharmaceutical Importance;** Jackie Mosely[1]; Michael Smith[1]; Zied Kaabia[1]; Aruna Prakash[1]; Glenn Hurst[1]; Martin Sims[2]; Anthony W.T. Bristow[2]; *[1]Durham University, Durham, UK; [2]AstraZeneca, Macclesfield, UK*

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ThP 396 **Analysis of Urinary 8-Oxo-7,8-dihydro-2`-deoxyguanosine by Liquid Chromatography/Mass Spectrometry**; Ashley Wohler[1]; Dipti Mangal[1]; Clementina Mesaros[2]; Laura Phillips[3]; Ian A. Blair[4]; *[1]University of Pennsylvania, Philadelphia, PA;*

[2]UPENN, Philadelphia, PA; [3]Agilent Technologies, Wilmington, DE; [4]Univ. of Penn/SOM/Pharmacol, Philadelphia, PA

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ThP 430 **High-resolution LC-MS for the Characterization of Intact Proteins Using Poly(styrene-co-divinylbenzene) Monolithic Capillary Columns**; Sebastiaan Eeltink[1]; Bert Wouters[1]; Gert Desmet[1]; Mario Ursem[2]; Achim Treumann[3]; *[1]Vrije Universiteit Brussel, Brussels, Belgium; [2]Dionex Benelux, Amsterdam, The Netherlands; [3]NEPAF, North East Proteome Analysis Facility, Newcastle upon Tyne, UK*

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ThP 451 **A Simultaneous Analysis of Multiple Classes of Veterinary Medicine Residues in Whole Blood and Blood Plasma by SPE-LC-MS/MS;** Richard Schriner; Jason Clague; Bruce Morris; *Hill Laboratories, Hamilton, New Zealand*

ThP 452 **Development of a Synthetic Protein Quality Control (QC) Standard for the Assessment of Sample Proteolysis Reproducibility**; Bryan Krastins[1]; Amol Prakash[2]; Scott Peterman[3]; David Sarracino [1]; Michael Athanas[4]; Taha Rezai[1]; Mary F Lopez[5]; *[1]Thermo Fisher Scientific, Cambridge, MA; [2]ThermoFisher Scientific, Cambridge, MA; [3]Thermo Electron, Grimes, IA; [4]VAST Scientific, Cambridge, MA; [5]ThermoFisher, Cambridge, MA*

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ThP 454 **Characterization of Intact Antibodies by Pre-Fractionation Using Gel Electrophoresis and ESI-MS;** James B. Harkins, III; Cindy Brown; Chris Dill; Nghia Chiem; Charles E. Witkowski, II; Jeremy L. Norris; *Protein Discovery, Inc., Knoxville, TN*

ThP 455 **Ultra Performance Liquid Chromatography-Tandem Mass Spectrometric (UPLC-MS/MS) Technique for Quantitation of Protein Free Efavirenz in Human Seminal Plasma**; Lindsay B. Avery; Teresa L. Parsons; Meyers David J.; Walter C. Hubbard; *Johns Hopkins Hospital, Baltimore, MD*

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ThP 462 **Stability Implications for Quantitative Determination of Bortezomib in Human Plasma Using LC/MS/MS**; Linge Li; William Mylott; Bruce Hidy; Rand Jenkins; *PPD, Richmond, VA*

ThP 463 **Investigation of Extraction Recovery for a Novel Anti-cancer Agent in Rat and Beagle Whole Blood**; Yifei Liu[1]; Carl Bates Ii[2]; Martin Paton[3]; *[1]Tandem Labs, a division of Labcorp, West Trenton, NJ; [2]Tandem Labs, West Trenton, NJ; [3]Millennium Pharmaceuticals, Inc., Cambridge, MA*

ThP 464 **Interfacing the Droplet Compartmentalization of High-Efficiency Separations with Mass Spectrometry**; J. Scott Edgar; Gloria S. Yen; Robert M. Lorenz; Thomas Schneider; Daniel T. Chiu; *University of Washington, Seattle, WA*

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ThP 467 **Determination of 13 Quinolones in Bovine Milk by Liquid Chromatography with Tandem Mass Spectrometry**; Chae-mi Lim Lim; Hyun-Jeong Kwon; Byung-hoon Cho; Su-Jeong Park; Myeong Ae Kim; Seong-Wan Son; *National Veterinary Research & Quarantine Service, Anyang, South Korea*

ThP 468 **Using Zebrafish to Study the Impact of the Pharmaceuticals Caffeine, Erythromycin, and Fluoxetine Present as Environmental Pollutants to Mammals**; Samantha Weber; Rebeca Pinhancos; Molly Gill; Dil Ramanathan; *Kean University, Union, NJ*

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ThP 567 **LC/MS of Compound DMSO Solutions Acoustically Dispensed in Nanoliter Volumes**; Mark J. Hayward; Paul M. McCoy; Kristine M. Maurer; Bodil Ibsen Marstrand; Emily J Reinhard; Qing Ping Han; *Lundbeck Research USA, Stockton, NJ*

ThP 568 **Rapid Screening of Degradation Products from Lignocellulosic Biomass Processing Using LC/MS/MS on a Hybrid Triple Quadrupole Linear Ion Trap**; Ramin Vismeh; Shishir Chundawat ; James Humpula ; Balan Venkatesh; Bruce E. Dale; A. Daniel Jones; *Michigan State University, East Lansing, MI*

ThP 569 **A Fully Automated Online Extraction Method for Determination of Raltegravir in Plasma by LC/MS/MS**; Yifan Shi; Min Meng ; Lisa Rohde; Troy Voelker; Lin Tan; Scott Reuschel; Patrick Bennett; Kc Van Horne; *Tandem Labs, Salt Lake City, UT*

ThP 570 **Towards Automated Evaluation of Result Accuracy for LC/MS/UV/ELSD/CLND Substance Screening – Supporting Library Management and Medicinal Chemistry**; Mark Bayliss; Joseph Simpkins; *Virscidian Inc., Raleigh, NC*

ThP 571 **Quantitation of Plasma Endocannabinoids by UFLC-MS/MS; Biochemical Fate of 2-Arachidonylglycerol**; Matthew Blatnik; Jason Barricklow; Yizhong Zhang; *Pfizer Inc., Groton, CT*

ThP 572 **Development of a High-Throughput MS-Based Bioanalytical Method for Assessment of P-Glycoprotein Inhibition**; Andrew Wagner[1, 2]; Janet Kolb[1, 2]; John Herbst[1, 2]; Tatyana Zvyaga[1, 2]; Conway Charlie[1, 2]; Harold Weller[1, 2]; Wilson Shou [1, 2]; Can "Jon" Ozbal[3]; [1]*Bristol-Myers Squibb Company, Wallingford, CT;* [2]*Bristol-Myers Squibb Company, Princeton, NJ;* [3]*BIOCIUS Life Sciences, inc, Woburn, MA*

ThP 573 **The Approach to Improve Recovery in Caco-2 Permeability Suite Supported by LC-MS/MS**; Xianmei Cai; Aaron Walker; Charles Cheng; Anthony Paiva; Ying Li; Janet Kolb; John Herbst; Juan Cadavid; Wilson Shou; *Bristol-Myers Squibb Company, Wallingford, CT*

ThP 574 **Two-Dimensional Preparative SFC/MS System for Combined Achiral/Chiral Separations**; Yinong Zhang; John Eve; Rongda Xu; Lu Zeng; Daniel B. Kassel; *Takeda San Diego, Inc., San Diego, CA*

ThP 575 **Detection of Active Ingredients in Pharmaceutical and Quasi Drugs with DART Ion Source and TOF-MS**; Haruo Hosoda[1]; Jouji Seta[1]; Jun Watanabe[1]; Takashi Nirasawa[1]; Noriyuki Iwasaki[1]; Yoshiyuki Takahashi[2]; Teruhisa Shiota[2]; [1]*bruker Daltonics KK, Yokohama, Japan;* [2]*AMR, Inc., Tokyo, Japan*

ThP 576 **Solvent/Sample Interaction in the GC/MS Analysis of Amines**; O. David Sparkman; Matthew Curtis; Patrick R. Jones; *University of the Pacific, Antioch, CA*

IMAGING MS: SMALL MOLECULES, 577 - 599

ThP 577 **Quantitative Imaging of Cocaine and Its Metabolites in Brain Tissue Using MALDI-MS/MS with a Multi-Notch SWIFT Waveform**; Richard F. Reich; Richard A. Yost; *Department of Chemistry, University of Florida, Gainesville, Florida*

ThP 578 **Quantitative MALDI Imaging: Glucosinolates on Leaf Surfaces**; Ales Svatos[1]; Rohit Shroff[1, 2]; [1]*Max Planck Institute for Chemical Ecology, Jena, Germany;* [2]*ETH Institute of Molecular Systems Biology, Zurich, Switzerland*

ThP 579 **Fine mapping the Spatial Distribution and Concentration of Unlabeled Drugs within Tissue Micro-Compartments Using Imaging Mass Spectrometry**; Anna Nilsson[1]; Thomas Fehniger[2]; Lena Gustavsson[2]; György Marko-Varga[2]; Per E. Andren[1]; [1]*Uppsala University, Uppsala, Sweden;* [2]*AstraZeneca R&D, Lund, Sweden*

ThP 580 **Microscopic Imaging Mass Spectrometry on Hepatic Micrometastasis of Human Colon Cancer Xenografts in Superimmunodeficient NOG Mice**; Akiko Kubo[1]; Mitsuyo Ohmura[1]; Masatoshi Wakui[1]; Kenji Kawai[2]; Chiyoko Nishime[2]; Takako Hishiki[1]; Mitsuru Murata[1]; Kiyoshi Ogawa[3]; Mitsutoshi Setou[4]; Makoto Suematsu[1]; [1]*Keio University, Tokyo, Japan;* [2]*Central Institute for Experimental Animals, Kanagawa, Japan;* [3]*Shimadzu Corporation, Kyoto, Japan;* [4]*Hamamatsu University School of Medicine, Okazaki, Japan*

ThP 581 **MALDI Imaging of Retinoids in RPE-Choroid Tissue**; Kevin L. Schey [1]; Rosalie Crouch[2]; Anne Hanneken[3]; Patrice Goletz[2]; Lorie Blakeley[2]; Yiannis Koutalos[2]; Angus Grey[1]; Zsolt Ablonczy[2]; [1]*Vanderbilt University, Nashville, TN;* [2]*Medical University of South Carolina, Charleston, SC;* [3]*The Scripps Research Institute, La Jolla, CA*

ThP 582 **Capturing Bacterial Metabolic Exchange Using DESI-Imaging Mass Spectrometry**; Jeramie Watrous[1]; Pieter Dorrestein [2]; [1]*University of California, San Diego, San Diego, CA;* [2]*University of California, San Diego, Skaggs School, La Jolla, CA*

ThP 583 **Mapping the Effect of Chemotherapy on Positron Emission Tomography (PET) Tracer Uptake in Tumour Micro-Environments Using Imaging Mass Spectrometry**; Emrys A Jones; Nicholas Lockyer; Adam McMahon; Kaye Williams; *University of Manchester, Manchester, UK*

ThP 584 **Utilizing Complimentary *in-situ* Imaging Platforms to Understand Tumor Penetration for Oncology Drug Discovery**; Stacey R. Oppenheimer; David C. Gale; Dean Wilkie; Leslie A. Obert; *Pfizer Inc., Groton, CT*

ThP 585 **The Application of Mass Spectrometry Imaging to Determine Biodistribution of a Small Molecular Agent, RTA 769, in Rat Brain Tissue**; Jihai Pang; Rhea Robyn; Edd Filex; Quanyuan Xu; Mary Johansen;

Tim Madden; *UT, M.D. Anderson Cancer Center, Houston, TX*

ThP 586 **Exploration of the Metabolome from Medicago Truncatula roots and Nodules by MALDI Mass Spectral Imaging**; Hui Ye[1]; Ruibing Chen[1]; Maegen Howes-Podoll[2]; Jean-Michel Ané[2]; Lingjun Li[1]; *[1]School of Pharmacy, UW-Madison, Madison, WI; [2]Department of Agronomy, UW-Madison, Madison, WI*

ThP 587 **Profiling of Polyamine Distribution in the Mouse Embryo Using MALDI-Q-IM-TOF MS**; Han-Jia Lin[2]; Chia-Wei Wen[1, 2]; Yet-Ran Chen[1]; *[1]Agricultural Biotechnology Research Ceneter, Taipei, Taiwan; [2]Taiwan Ocean University, Keelung, Taiwan*

ThP 588 **Successful Application for Distribution Image of Chloroquine in Ocular Tissue of Pigmented Rat Using MALDI-Imaging Quadrupole Time-of-Flight Mass Spectrometry**; Yasuhiro Yamada[3]; Hidefumi Kaji[3]; Henry Y. Shion [1]; Motoji Oshikata[2]; Yukari haramaki[2]; Alan L Millar[1]; John P. Shockcor[1]; *[1]Waters Corp., Milford, MA; [2]Nihon Waters, Tokyo, Japan; [3]Mitsubishi Tanabe Pharmaceuticals Corporation, Saitama, Japan*

ThP 589 **SIMS and MALDI Mass Spectrometry Imaging of Drugs and Metabolites in Whole-Body Mouse Sections**; Erika Amstalden Van Hove[1]; Donald Smith[1]; Lieve Dillen[2]; Filip Cuyckens[2]; Katelijne Anciaux[2]; Ron M.A. Heeren [1]; *[1]FOM Institute AMOLF, Amsterdam, Netherlands; [2]Johnson & Johnson PRD, Beerse, Belgium*

ThP 590 **Visualization of Spatiotemporal Metabolic Behaviors by in situ Metabolomic Imaging with MALDI-MS**; Daisuke Miura; Yoshinori Fujimura; Mayumi Yamato; Fuminori Hyodo; Hirofumi Tachibana; Hiroyuki Wariishi; *Kyushu University, Fukuoka, Japan*

ThP 591 **Direct Observation of Drug Delivery Using MALDI FT-ICR MS Imaging Method**; Kyu Hwan Park[1]; Ji-Yeon Suh[1, 2]; Hyo-Jik Yang[1]; Jeong Kon Kim[2]; Gyunggoo Cho[1]; Hyun Sik Kim[1]; *[1]Korea Basic Science Institute, Ochang-Myun Cheongwon-Gun, South Korea; [2]Asan Medical Center, University of Ulsan, Seoul, South Korea*

ThP 592 **Fast Determination of Drugs of Abuse in Human Tissue Sections by MALDI Mass Spectrometric Imaging**; Tiffany Porta[1]; Thomas Kraemer[2]; Emmanuel Varesio[1]; Gérard Hopfgartner[1]; *[1]School of Pharmaceutical Sciences, EPGL, LSMS, Geneva, Switzerland; [2]Institute of Legal Medicine, University of Zurich, Zurich, Switzerland*

ThP 593 **Imaging of Toxic Small Molecules in Potato Using Matrix-Assisted Laser Desorption/ionization Mass Spectrometric Imaging**; Miyoung Ha[1, 2]; Hyesun Maeng[1, 2]; Jong Hwan Kwak[3]; Yangsun Kim[1, 2]; OkPyo Zee[3]; *[1]Hudson Surface Technology, Inc., Newark, DE; [2]Applied Surface Technologly, Inc.,, Suwon, South Korea; [3]Sungkyunkwan University, Suwon, South Korea*

ThP 594 **Affects of Anesthesia on Rat Tail Cross-Sections Imaged by TOF-SIMS**; Itsuko Ishizaki[1]; Yoshiharu Ohasi[1]; John Hammond[3]; Scott Bryan[3]; Akiharu Kubo[2]; *[1]ULVAC-PHI, Chigasaki, Japan; [2]Keio University, Tokyo, Japan; [3]Physical Electronics, Chanhassen, MN*

ThP 595 **LDI-MS Imaging of Flavonoid Metabolites in Genetically Mutated Arabidopsis**; Andrew Korte[1, 2]; Young-Jin Lee[1, 2]; Zhihong Song[1, 2]; Edward Yeung[2]; Basil Nikolau[1]; *[1]Iowa State University, Ames, IA; [2]Ames Laboratory, US Department of Energy, Ames, Iowa*

ThP 596 **Identification and Distribution of a Reserpine Metabolite in Dosed Whole-Body Rat Tissue Using MS and MS/MS Mass Spectrometric Imaging;** John McNamara[1]; Patrick Pribil[1]; Sheerin Shahidi-Latham[2]; *[1]AB SCIEX, Concord, ON; [2]Genentech Inc, San Francisco, CA*

ThP 597 **Integrating Quantitation and Multiple Imaging Modalities for Mass Spectrometry Imaging Applications in Drug Discovery**; Stormy Koeniger[1]; Nari Talaty[1]; Yanping Luo[1]; Jane Fagerland[2]; Damien Ready[1]; Margery Stark Altman[2]; Xiaoming Hu[1]; Martin Voorbach[1]; Terese Seifert[1]; Steven Cepa[1]; Jennifer Bouska[3]; Robert W Johnson[1]; Stephen Spanton[1]; *[1]Advanced Technology, GPRD, Abbott Laboratories, Abbott Park, IL; [2]Preclinical Safety, GPRD, Abbott Laboratories, Abbott Park, IL; [3]Cancer Reasearch, GPRD, Abbott Laboratories, Abbott Park, IL*

ThP 598 **MALDI-MS Imaging of Small Molecule Drugs in Animal Eye, Brain, Lung, Liver and Tumor**; Fangbiao Li; Yunsheng Hsieh; Walter Korfmacher; *Merck Research Laboratories, Kenilworth, NJ*

ThP 599 **MALDI MS Imaging and LDI MS Imaging of Analyte Distribution in Mammalian Peripheral Sensory-Motor Circuit**; Stanislav Rubakhin[1]; Jonathan Sweedler[2]; *[1]Beckman Institute, UIUC, Urbana, IL; [2]University of Illinois, Urbana, IL*

ION MOLECULE REACTIONS, 600 - 622

ThP 600 **Adsorption of Aldehydes on Trapped Biomolecular Ions**; Xiangguo Shi[1]; Jianhua Ren [2]; Ryan M. Danell[3]; Joel H. Parks[1]; *[1]Harvard University, Cambridge, MA; [2]University of the Pacific, Stockton, CA; [3]Danell Consulting, Greenville, NC*

ThP 601 **Ion-Molecule Reactions for Detecting the Low Molecular Weight Toxic Industrial Compound Ammonia Using Miniature Cylindrical Ion Trap Mass Spectrometers**; Jonell Smith; Adam Keil; Robert J. Noll; R. Graham Cooks; *Purdue University, West Lafayette, IN*

ThP 602 **Effects of Inherent Receptor Chirality on the Recognition of Aminosugars**; Matthias C. Letzel; Caterina Fraschetti; Marlene Paletta; Jochen Mattay; *University of Bielefeld, Bielefeld, Germany*

ThP 603 **Production, Isolation and Reactivity Studies of Metal(IV)-Oxo Species with Biomimetic Ligands: A Tandem Mass Spectroscopic and Density Functional Theory Study**; Ivan F Taylor[1]; Stephen J Blanksby[2]; Stephen B Colbran[1]; Gary D Willett[1]; *[1]University of New South Wales, Sydney, Australia; [2]University of Wollongong, Wollongong, Australia*

ThP 604 **Gas-phase Reactivity of the 4,5-Didehydroquinolium and 4,5-Didehydroisoquinolinium Biradicals Toward Amino Acids and Dipeptides**; Enada F Archibold[1]; Mingkun Fu [2]; Nelson Vinueza[1]; George Pates[1]; John Nash[1]; Hilkka Kenttamaa[1]; *[1]Purdue University, West Lafayette, IN; [2]The Takeda Oncology Company, Cambridge, MA*

ThP 605 **A Study on the Generation of a Pyridine-Based Tetraradical by SORI-CAD**; Jennifer Reece[1]; Bartłomiej Jankiewicz[2]; Vanessa Gallardo[1]; John Nash[1]; Hilkka Kenttamaa[1]; *[1]Purdue University, West Lafayette, IN; [2]Military University of Technology, Warsaw, Poland*

ThP 606 **Kinetic Reactivity of an Aromatic σ,σ,σ-Triradical: the 2,3,5-Tridehydropyridinium Cation**; Mohammad Sabir Aqueel[1]; Nelson Vinueza[1]; Bartłomiej Jankiewicz[2]; John Nash[1]; Hilkka Kenttamaa[1]; *[1]Purdue*

University, West Lafayette, IN; [2]Military University of Technology, Warsaw, Poland

ThP 607 **A Gas-Phase Study on Two *para*-Benzynes in an FT-ICR Mass Spectrometer**; Lindsey M. Kirkpatrick[1]; Bartłomiej J. Jankiewicz[2]; Nelson R. Vinueza[1]; John J. Nash[1]; Hilkka Kenttamaa[1]; *[1]Purdue University, Department of Chemistry, West Lafayette, IN; [2]Military University of Technology, Warsaw, Poland*

ThP 608 **Substituent Effects on the Reactivity of 3-X-2,4,6-Tridehydropyridinium and 3-X-2,4-Didehydropyridinium Ions (X = Substituent)**; Jinshan Gao; Anyin Li; John Nash; Hilkka Kenttamaa; *Chemistry Department, West Lafayette, IN*

ThP 609 **Measurement of the Proton Affinities of Dehydro- and Didehydropyridines by Using Gas-Phase Ion-Molecule Reactions**; Anyin Li[1]; Jinshan Gao[1]; Mingkun Fu[2]; Bartłomiej Jankiewicz[3]; John Nash[1]; Hilkka Kenttamaa[1]; *[1]Chemistry Department, West Lafayette, IN; [2]Millennium, Cambridge, MA; [3]Military University of Technology, Warsaw, Poland*

ThP 610 **Comparison of the Reactivity of Isomeric Charged Phenyl Radicals toward Tetrahydrofuran in Solution and in the Gas Phase**; Fanny Widjaja[1]; Anthony Adeuya[2]; Hilkka Kenttamaa[3]; *[1]Purdue University, West Lafayette, IN; [2]FDA, Little Rock, AR; [3]Chemistry Department, West Lafayette, IN*

ThP 611 **Guided Ion Beam Mass Spectrometry Determination of Thorium Carbide and Thorium Oxide Cation Bond Energies**; Richard Cox; Peter B. Armentrout; *University of Utah, Salt Lake City, UT*

ThP 612 **Generation of Distonic Dehydrophenoxide Radical Anions From In-Source Dissociation**; Kiran Kumar Morishetti[1]; Prabhakar Sripadi[2]; Vairamani Mariappanadar[2]; Jianhua Ren[1]; *[1]University of The Pacific, Stockton, CA; [2]Indian Institute of Chemical Technology, Hyderabad, India*

ThP 613 **Moved to oral presentation**

ThP 614 **A Radical Approach to Ion Conformation Determination: Electron Transfer Dissociation, ion Mobility and Molecular Modelling**; Iain D G Campuzano[1]; Frantisek Turecek[2]; Jeff Brown [1]; Keith Richardson[1]; *[1]Waters Corporation, Manchester, UK; [2]University of Washington, Seattle, WA*

ThP 615 **Mass Spectrometric Studies of Complex Organocatalyzed Reactions in Solution and Gas Phase Using Triple Quadrupole MS and FT-ICR MS**; Mhd Wasim Alachraf; Wolfgang Schrader; *Max-Planck Inst Coal Res., Mülheim / Ruhr, Germany*

ThP 616 **How the Shape of an H-Bonded Network Controls Proton-Coupled Water Activation in HONO Formation**; Michael Kamrath[1]; Rachael Relph[1]; Timothy Guasco[1]; Ben Elliot[1]; Anne McCoy[2]; Ryan Steele[1]; Daniel Schofield[3]; Kenneth Jordan[3]; Albert Viggiano[4]; Eldon Ferguson[5]; Mark Johnson[1]; *[1]Yale University, New Haven, CT; [2]The Ohio State University, Columbus, Ohio; [3]University of Pittsburgh, Pittsburgh, Pennsylvania; [4]AFRL, Hanscom Afb, MA; [5]National Oceanic and Atmospheric Administration, Boulder, CO*

ThP 617 **Revealing Evidences for a Non-concerted Mechanism in a Aza-Diels-Alder Reaction: an Electrospray Ionization Mass spectrometry Investigation**; Adão Sabino; Ângelo de Fátima; Rodinei Augusti; Maria Diniz; Daniel da Silva; *Federal University of Minas Gerais, Belo Horizonte, Brazil*

ThP 618 **Charged-Reagents for Mechanism Studies of Organic Reactions by ESI-MS/MS – Insights into the Hantzsch Reaction;** Vanessa Gonçalves Dos Santos[1]; Boniek G Vaz[1]; Rodrigo O M A de Souza[2]; Simon J Garden[2]; Marcos N Eberlin[1]; *[1]ThoMSon Mass Spectrometry Laboratory - UNICAMP, Campinas, Brazil; [2]Federal University of Rio de Janeiro, Rio de Janeiro, Brazil*

ThP 619 **Gas-Phase and Computational Studies of SN2 and E2 Reactions of Alkyl Halides**; Keyanna Conner; Andrew Alexander; Scott Gronert; *Virginia Commonwealth, Richmond, VA*

ThP 620 **FT-ICR-MS studies of Metal Cluster Ions of Insoluble Metal Sulfides formed Externally by Electrospray and Ion Chemistry**; Kaitlin Papson [1]; Jeffrey Spraggins[2]; Douglas P. Ridge[1]; *[1]University of Delaware, Elkton, MD; [2]Vanderbilt University, Nashville, TN*

ThP 621 **Solvent-Nickel Complexes Coordination Reaction in Collision-Induced Dissociation Process**; Xiaoji Cao; *Zhejiang University of Technology, Hangzhou, China*

ThP 622 **The Iron Cation Catalyzed Dissociation of the EDTA-Fe(III) Complex in Gas Phase: A Combined CID-MS Experimental and Theoretical Investigation**; Ke Zhi Jiang[2]; Leren Wan [3]; Yuki Hashi[3]; Yuanjiang Pan[1]; Guoqiao Lai[2]; *[1]Department of Chemistry, Zhejiang University, Hang Zhou, China; [2]Hangzhou Normal University, Hang Zhou, China; [3]Shimadzu Shanghai Office, Shang Hai, China*

INSTRUMENTATION: NEW CONCEPTS II, 623 - 641

ThP 623 **Ruggedized Miniature Cylindrical Ion Trap Mass Spectrometer for Field Deployable MS and MS/MS Analysis**; James Fox; Guido F. Verbeck; *University of North Texas, Denton, TX*

ThP 624 **Soft-Landing of Metal-Carbide Clusters by Rectilinear Ion Trap Mass Spectrometry**; William Hoffmann; Stephen Davila; Guido F. Verbeck; *University of North Texas, Denton, TX*

ThP 625 **Electrospray Ionization Using a Miniature Mass Spectrometer to Model *in situ* Analysis of Bio-organic Materials in Planetary Ices**; Ewa Sokol[1]; Robert J. Noll[1]; R. Graham Cooks [1]; Luther W. Beegle[2]; Hugh Kim[2]; Isik Kanik[2]; *[1]Purdue University, West Lafayette, IN; [2]Jet Propulsion Laboratory, Pasadena, CA*

ThP 626 **Fast, High Resolution Imaging Mass Spectrometry Using a Medipix Pixilated Detector**; Julia Jungmann; Luke Macaleese; Ronald Buijs; Frans Giskes; Ad de Snaijer; Ron M.A. Heeren; *FOM-Institute Amolf, Amsterdam, Netherlands*

ThP 627 **Charge Detection Mass Spectrometry of Protein Complexes**; John Smith; Craig Hollars; Joshua Maze; Martin Jarrold; *Indiana University, Bloomington, Indiana*

ThP 628 **High Pressure Ion Detection for Miniaturized Mass Spectrometers**; Travis M. Falconer[1]; Derek Wolfe[1]; Collin McKinney[1]; M. Bonner Denton[2]; J. Michael Ramsey[1]; *[1]University of North Carolina, Chapel Hill, NC; [2]University of Arizona, Tucson, AZ*

ThP 629 **Focal Plane Array Detectors on a Multi-collector ICPMS – Preliminary Results**; Charles J. Barinaga[1]; David W. Koppenaal[1]; George Hager[1]; Anthony Carado[1]; M. Bonner Denton[2]; Roger Sperline[2]; Gary M. Hieftje[3]; Steven Ray[3]; Jeremy Felton[3]; Gregory Schilling[4]; Gene Atlas[5]; *[1]Pacific Northwest Nat'l Laboratory, Richland, WA; [2]University of Arizona, Tucson, AZ; [3]Indiana University, Bloomington, IN; [4]Leco Corporation, St. Joseph, MI; [5]ImagerLabs, Monrovia, CA*

ThP 630 **Development of Tripole-Multipole Rotational Ion Mobility Mass Spectrometer by Ion Simulations**; Takanori Harada; Tsutomu Masujima; *Hiroshima Univ. BioMed., Hiroshima, Japan*

ThP 631 **Immobilization of Organometallic Complexes on Self Assembled Monolayers through Ligand Stripping and Reactive Landing of Mass Selected Ions**; Grant Johnson[1]; Julia Laskin[2]; *[1]Pacific Northwest National Laboratory, Richland, WA; [2]Pacific NW National Laboratory, Richland, WA*

ThP 632 **Biomolecular Ion Accelerator**; Yun-Fei Hsu[1, 2]; Jung-Lee Lin[2]; Yi-Sheng Wang[2]; Chung-Hsuan Chen[1, 2]; *[1]Department of Chemistry,National Taiwan University, Taipei, Taiwan; [2]Genomics Research Center, Academia Sinica, Taipei, Taiwan*

ThP 633 **Surface Studies Using Soft- and Reactively Landed Ions on Plasma Pretreated Silver Targets**; Karl E. Jackson; Christopher Moss; Frantisek Turecek; *University of Washington, Seattle, WA*

ThP 634 **A New Conjoined RF Ion Guide for Enhanced Ion Transmission**; Kevin Giles; David Gordon; *Waters Corporation, Manchester, UK*

ThP 635 **Engineered Nanofilms for improved MCP performance in Mass Spectrometry applications**; David Beaulieu; Philippe de Rouffignac; Dmitry Gorelikov; Kourosh Saadatmand; Ken Stenton; Neal Sullivan; Anton Tremsin; *Arradiance Inc, Sudbury, MA*

ThP 636 **VUV Synchrotron Radiation: a new activation technique for Quadrupole Ion Trap Tandem Mass Spectrometry**; Aleksandar Milosavljevic[1, 3]; Alexandre Giuliani [1, 2]; Christophe Nicolas[1]; Jean-Francois Gil[1]; Matthieu Refregiers[1]; Laurent Nahon[1]; *[1]Synchrotron SOLEIL, Gif-Sur-Yvette Cedex, France; [2]Cepia, INRA, Nantes, France; [3]Institute of Physics, Belgrade, Serbia*

ThP 637 **Charge Retention and Neutralization Kinetics during Ion Soft Landing**; Guangtao Li; Liang Gao ; R. Graham Cooks; *Purdue University, West Lafayette, IN*

ThP 638 **Pulsed Multiple Reaction Monitoring Mode: A Novel Sensitive Approach to Biomolecule Quantitation**; Mikhail Belov; Satendra Prasad; David Prior; William F. Danielson ; Karl Weitz; Vladislav A Petyuk; Yehia Ibrahim ; Richard D. Smith; *Pacific Northwest National Laboratory, Richland, WA*

ThP 639 **Analysis of Mammalian Cell Suspensions Using Aerosol Time-of-Flight Mass Spectrometry**; Matt Spencer[1]; Thomas Darlington[1]; John Holecek[1]; Oanh Nguyen[1]; Andy Smith[1]; Steve Oldenburg[1]; Kimberly Prather[2]; *[1]Nanocomposix Inc., San Diego, CA; [2]University of California San Diego, San Diego, CA*

ThP 640 **One-Dimensional Detector Array (IonCCD™) as Position-Sensitive Anode for a Multi-Channel Plate (MCP);** Omar Hadjar; Gottfried Kibelka; Chad Cameron; Scott Kassan; Scott Shill; *O.I. Analytical, Pelham, AL*

ThP 641 **LC-MRM3 and LC-MS3: Alternative Strategies for Highly Selective Quantitation and for Sensitive Additional Structural Elucidation**; Roland Geyer[1]; Axel Besa[2]; Christof E. Lenz[2]; *[1]Tecan Group Ltd., Männedorf, Germany; [2]AB Sciex, Darmstadt, Germany*

INSTRUMENTATION QUADRUPOLES AND TRAPS, 642 - 672

ThP 642 **Hybrid ESI-Q-Ion Trap-TOF for Infrared Photodissociation Experiments**; Kerim Gulyuz; Nathan P. Roehr; Da Wang; Nick C. Polfer; *University of Florida, Gainesville, FL*

ThP 643 **Tutorial: Prototyping Architectures for Ion Trap Mass Spectrometers**; Matthew A Kirleis; Wei Xu; R. Graham Cooks ; Zheng Ouyang; *Purdue University, West Lafayette, IN*

ThP 644 **A Tightly Curved Collision Cell with High MSMS Efficiency**; Felician Muntean; *Varian Inc., Walnut Creek, CA*

ThP 645 **Tandem Linear Ion Traps – A Novel Technique to Analyze Large Populations of Ions**; Mircea-Michael Guna; Frank A. Londry; *AB SCIEX, Concord, Canada*

ThP 646 **A New Linear Quadrupole Ion Trap with Axial Ejection;** David Langridge; Jason L Wildgoose; *Waters Corporation, Manchester, UK*

ThP 647 **Exploring the Limits of High Resolution Excitation in a Low Pressure Linear Ion Trap**; Bruce Collings; *AB SCIEX, Concord, Canada*

ThP 648 **Linear Ion Trap Mass Spectrometry for Large Biomolecular Ions by MALDI**; I-Chung Lu; Jung-Lee Lin; Chung-Hsuan Chen; *Genomics Research Center, Academia Sinica, Taipei, Taiwan*

ThP 649 **Mass Spectrometric Capabilities of a Novel Instrument for the Spectroscopic Characterization of Biomolecular Ions;** James Redwine; Scott A. Mcluckey; *Purdue University, West Lafayette, IN*

ThP 650 **Rapid Detection of Positive and Negative Electrospray Ions Using Millisecond Polarity Switching and a Static Unifield Detector**; Lisa M. Cousins; Heather Gamble; Charles Jolliffe; Victor Titov; Dmitry Valyaev; *IONICS Mass Spec Group, Inc., Bolton, ON*

ThP 651 **ScanWave Enabled MS^3 Analysis on a Tandem Quadrupole Mass Spectrometer**; Daniel J Kenny; *Waters Corporation, Manchester, UK*

ThP 652 **Implementation of ETD Reactions in a Linear Quadrupole Collision Cell Utilizing a Static DC Gradient for Dual Ion Trapping**; Dirk Nolting; Jens Griep-Raming; Robert Malek; Alexander Makarov; *Thermo Fisher Scientific (Bremen) GmbH, Bremen, Germany*

ThP 653 **Rectilinear Quadrupole Ion Guides: Effect of Rod Size and RF Frequency on Transmission as a Function of Mass**; Christopher Taormina; Randy Pedder; *Ardara Technologies L.P., Ardara, PA*

ThP 654 **A Linear-type Ion Trap Realized with Two Lithographically Patterned Substrates**; Brett Hansen; Hannah Quist; Brandon Barney; Aaron Hawkins; Daniel Austin; *Brigham Young University, Provo, Utah*

ThP 655 **A Digital Linear Ion Trap based on Ceramic Printed Circuit Boards**; Mu Hui; GongYu Jiang; Tao Lin; XiaoHui Yang; JunSheng Zhang; Li Ding; *Shimadzu Research Laboratory (Shanghai), Shanghai, China*

ThP 656 **Modeling the Ion Funnel Trap for Ion Mobility Spectrometry**; Aleksey V. Tolmachev[1]; Yehia Ibrahim [2]; Richard D. Smith[3]; Mikhail Belov[4]; *[1]Pacific Northwest National Lab, Richland, WA; [2]Pacific Northwest National Laboratory, Richland, WA; [3]PNNL, Richland, WA; [4]Pacific Northwest Nat Lab, Richland, WA*

ThP 657 **Short-Pulse Ion Extraction from a Quadruple Ion Trap into a Time-of-Flight Mass Spectrometer for Trapped Ion Cloud Diagnostics**; Beni B. Dangi; Nicholas A. Sassin; Kent M. Ervin; *University of Nevada, Reno, Reno, NV*

ThP 658 **Simultaneous Injection and Ejection with a Linear Ion Trap for High Detection Efficiency**; Yuichiro Hashimoto; Hiroyuki Satake ; Masuyuki Sugiyama;

Hideki Hasegawa; *Hitachi, Ltd, Central Research Lab, Kokubunji, Tokyo, Japan*

ThP 659 **Profiling Two-Dimensional Ion Cloud Distribution in a Quadrupole Ion Trap Mass Spectrometer with Infrared Multiphoton Photodissociation**; G. Asher Newsome; Alfred Z. Zhong; Gary L. Glish; *University of North Carolina, Chapel Hill, NC*

ThP 660 **Withdrawn**

ThP 661 **Kinetic Energies of Ions Ejected Radially from LIT at High q;** Viatcheslav V. Kovtoun; *Thermo Fisher Scientific, San Jose, CA*

ThP 662 **Optimization of Multipole Components in a Planar Paul Trap**; Zhiping Zhang; Ying Peng; Hannah Quist; Junting Wang; Brett J. Hansen; Aaron R. Hawkins; Daniel E. Austin; *Brigham Young University, Provo, UT*

ThP 663 **Miniaturization of an Axially Focusing Linear Ion Trap for Mass Spectrometry;** Gareth Dobson[1]; Christie Enke[2]; *[1]SRI International, Menlo Park, CA; [2]University of New Mexico, Albuquerque, New Mexico*

ThP 664 **A Full Featured, Flexible, and Inexpensive 2D and 3D Ion Trap Control Architecture and Software Package**; Ryan M. Danell[1]; Friso H.W. Van Amerom[2]; Veronica Pinnick[3]; Timothy J. Cornish[4]; Joel H. Parks[5]; Luann Becker[6]; *[1]Danell Consulting, Greenville, NC; [2]SRI International, St Petersburg, FL; [3]Johns Hopkins School of Medicine, Baltimore, MD; [4]C&E Research, Inc., Columbia, MD; [5]Harvard University, Cambridge, MA; [6]Johns Hopkins University, Baltimore,MD*

ThP 665 **Development of an Atmospheric Mass Spectrometer for Universal Real-Time Monitoring Applications**; Karl Weitz[1]; Ronald Moore[1]; Kim K. Hixson[1]; Daniel Lopez-Ferrer[1]; C. Mark Taylor[2]; Smith Richard[1]; *[1]Pacific Northwest National Laboratory, Richland, WA; [2]Shimadzu Scientific, Inc.,, Columbia, Maryland*

ThP 666 **Development and Improvement of Miniature Quadrupole Array Mass Spectrometers**; Kohei Sasai[1, 3]; Jun Aoki[1]; Hideyuki Iwata[2]; Michisato Toyoda[1]; *[1]Osaka University, Toyonaka, Japan; [2]Implant Sciences Corp., San Diego, CA; [3]HORIBA Stec, Kyoto, Japan*

ThP 667 **Reduced Scale Rectilinear Ion Trap Arrays**; Paul Hendricks[1]; Jeff Maas[2]; William Chappell[2]; Zheng Ouyang[1]; R. Graham Cooks [1]; *[1]Dept. Chemistry Purdue University, West Lafayette, IN; [2]Dept. EE Purdue University, West Lafayette, IN*

ThP 668 **In situ Optimization of Microscale Cylindrical Ion Trap Geometry**; Derek W. Wolfe[1]; Travis M. Falconer[1]; Joe Matteo[2]; J. Michael Ramsey[1]; *[1]University of North Carolina, Chapel Hill, NC; [2]MicroTypes, Walland, TN*

ThP 669 **Development of a Backpack Mass Spectrometer with an Extended Probe**; Keyong Hou[1]; Wei Xu[2]; Jian Xu[2]; Tsung-Chi Chen[2]; R. Graham Cooks[1]; Zheng Ouyang[2]; *[1]Department of Chemistry,Purdue University, West Lafayette,, IN; [2]Weldon School of BME, Purdue University, West Lafayette, IN*

ThP 670 **Planar Technologies for Optimized Realizations of Quadrupole Ion Guides and Quadrupole ion Wave Guides**; Albrecht Glasmachers[1]; Alexander Laue[1]; Albrecht Brockhaus[1]; Ralph Pulwey[2]; Michel Aliman[2]; *[1]University of Wuppertal, Wuppertal, Germany; [2]Carl Zeiss NTS GmbH, Oberkochen, Germany*

ThP 671 **Multiplexed MS/MS in a Miniature Rectilinear Ion Trap**; Adam M Graichen; Richard Vachet; *University of Massachusetts, Amherst, MA*

ThP 672 **Compact and High Efficient Secondary Ion Mass Spectrometer with Quadrupole Traps for Electron Microscopes to Combine Structural and Analytical Imaging**; Alexander Laue[1]; Albrecht Glasmachers[1]; Albrecht Brockhaus[1]; Michel Aliman[2]; Hubert Mantz[2]; *[1]University of Wuppertal, Wuppertal, Germany; [2]Carl Zeiss NTS GmbH, Oberkochen, Germany*

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