

- Simon²; An Zhou²; ¹Waters Corporation, Milford, MA; ²Legacy Research, Portland, OR
- WP 660 **Quantitative Multi-Variable Proteome Analysis Using Difference Gel Electrophoresis and Mass Spectrometry to Study Iron Regulation Pathways in *Staphylococcus aureus***; David B. Friedman¹; Corbin A. Whitwell¹; Devin Stauff¹; Eric P. Skaar¹; ¹Vanderbilt University, Nashville, TN
- WP 661 **Proteomic Study of BDNF Induced Changes in the Membrane-Associated Proteome of Hippocampal Neurons**; Bruno Manadas¹; Spiros D. Garbis²; Michael Fountoulakis²; Carlos B. Duarte¹; ¹Center for Neuroscience and Cell Biology, Coimbra, Portugal; ²Biomedical Research of the Academy of Athens, Athens, Greece
- WP 662 **Analysis and Quantification of Diagnostic Markers and Protein Signatures for Gaucher Disease by Means of LC-MS**; Johannes P.C. Vissers¹; Mark Ritchie¹; Jim L. Langridge¹; Johannes M.F.G. Aerts²; ¹Waters Corporation, Manchester, UK; ²Academic Medical Center, University of Amsterdam, Amsterdam, NL
- WP 663 **Label-Free Differential Quantitation of Relative Peptide Intensities Without Peak Detection in an Orbitrap LC/MS System**; Greg L. Finney¹; Adele R. Blackler²; Michael Hoopmann¹; Christine C. Wu²; Michael MacCoss¹; ¹University of Washington, Seattle, WA; ²University of Colorado Health Sciences Center, Denver, CO
- WP 664 **Quantitative Proteomics: LC- Laser Induced Fluorescence Detector coupled to ESI Mass Spectrometry**; Junichi Masuda¹; Nicole Y. Morgan²; Anthony J. Makusky³; Masayuki Nishimura¹; Shuzo Maruyama⁴; Paul D. Smith²; Terry M. Phillips²; Jeffrey A. Kowalak³; Sanford P. Markey³; ¹Shimadzu Scientific Instruments, Inc., Columbia, MD; ²DBEPS/ORS/NIH, Bethesda, MD; ³NIMH/NIH, Bethesda, MD; ⁴Shimadzu Corporation, Kyoto, Japan
- WP 665 **Rapid Quantitation of Proteins and Peptides Using a LC/MS/MS Based Multiplexed Amino Acid Analysis Method**; Wendy L. White¹; Jon D. Williams¹; ¹GlaxoSmithKline, Research Triangle Park, NC
- WP 666 **Proteomic analysis of drug treated *Mycobacterium smegmatis***; Rong Wang¹; Edward M. Marcotte¹; ¹ICMB, UT Austin, Austin, TX
- WP 667 **pH-Reversible Fluorescent Tags for Quantifying Protein Post-Translational Modifications**; Alan A Doucette¹; Harman Clair¹; ¹Dalhousie University, Halifax, Canada
- WP 668 **Standard Protein Mixtures for Accurate Protein Identification and Expression Measurements**; Jason M. Hogan¹; Roger Higdon¹; Elizabeth V. Landorf²; Frank R. Collart²; Eugene Kolker¹; ¹The Biotech Institute, Bothell, WA; ²Argonne National Lab, Argonne, IL
- Prasad¹; Hartwig Schmidt¹; Robert Gueth¹; Jaya V. Rao¹; Whitney Fort¹; Geoffrey B. Smith¹; Gary A Eiceman¹; ¹New Mexico State University, Las Cruces, NM
- ThP 13 **The Effect of Needle Voltage on the Negative Ion Formation Using Atmospheric Pressure Corona Discharge Ionization (APCDI) in Air**; Kanako Sekimoto¹; Mitsuo Takayama¹; ¹Yokohama City University, Yokohama, Japan

ATMOSPHERIC PRESSURE PHOTO IONIZATION
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| ATMOSPHERIC CHEMISTRY |
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- ThP 14 **Atmospheric Pressure Photoionization: Investigation of Proton Transfer in Complex Mixtures**; Jeremiah M. Purcell¹; Ryan P. Rodgers¹; Christopher L. Hendrickson¹; Donald F. Smith¹; Alan G. Marshall¹; ¹National High Magnetic Field Laboratory, Tallahassee, FL
- ThP 15 **Electrospray-Atmospheric Pressure Laser Ionization (ES-APLI): A New Interface for LC-MS Coupling**; Oliver J. Schmitz¹; Stefan Droste¹; Marc Schellenträger¹; Marc Constapel¹; Ralf Schiewek¹; Siegm. Gäb¹; Matthias Lorenz²; Klaus J. Brockmann²; Thorsten Benter²; ¹University of Wuppertal, Analytical Chemistry, Wuppertal, Germany; ²University of Wuppertal, Physical Chemistry, Wuppertal, Germany
- ThP 16 **Atmospheric-Pressure Laser Ionization (APLI): A New Interface for GC-MS Coupling**; Ralf Schiewek¹; Stefan Droste¹; Marc Constapel¹; Oliver J. Schmitz¹; Siegm. Gäb¹; Matthias Lorenz²; Klaus J. Brockmann²; Thorsten Benter²; ¹University of Wuppertal, Analytical Chemistry, Wuppertal, Germany; ²University of Wuppertal, Physical Chemistry, Wuppertal, Germany
- ThP 17 **Mechanism of [M+H]⁺ Formation in APPI Mass Spectrometry: Identification of an Acetonitrile Impurity and Possible Involvement in the Protonation Phenomenon**; Amin, M Kamel¹; Patrick Jeanville²; Kevin Colizza¹; ¹Pfizer Global Research and Development, Groton, CT; ² Thermo Electron Corporation, West Palm Beach, FL
- ThP 18 **Determination of the Ion Acceptance Volume of Atmospheric Pressure Ionization Sources using APLI**; Klaus J. Brockmann¹; Matthias Lorenz¹; Ralf Schiewek²; Marc Constapel²; Oliver J. Schmitz²; Siegm. Gäb²; Thorsten Benter¹; ¹University of Wuppertal, Physical Chemistry, Wuppertal, Germany; ²University of Wuppertal, Analytical Chemistry, Wuppertal, Germany
- ThP 19 **Determination of Lipophilicity and Solubility Using LC-MS with APPI**; Angelo Filosa¹; Pascal Turcotte¹; ¹AstraZeneca R&D Montreal, St Laurent, Canada
- ThP 20 **Application of Atmospheric Pressure Photoionization Mass Spectrometry in the Aquatic Environment**; Sean M. Backus¹; Suzanne Batchelor¹; John Struger¹; L. Mark Hewitt¹; ¹Environment Canada, Burlington, Canada
- ThP 21 **On the Ionization Mechanisms in APPI vs. APLI**; Matthias Lorenz¹; Klaus J. Brockmann¹; Ralf Schiewek²; Marc Constapel²; Oliver J. Schmitz²; Siegm. Gäb²; Thorsten Benter¹; ¹University of Wuppertal, Physical Chemistry, Wuppertal, Germany; ²University of Wuppertal, Analytical Chemistry, Wuppertal, Germany
- ThP 22 **The Hydrolysis Reaction Mechanism of Alkanox P24: An HPLC-APPI-MS Investigation**; Malvina M. Papanastasiou¹; Adam McMahon²; Norman S. Allen¹; Brian J. Johnson³; Klaus Keck-Antoine³; ¹Manchester Metropolitan University, Manchester, UK; ²University of Manchester, Molecular Imaging Centre, Manchester, UK; ³Chemtura, Herentals, Belgium
- ThP 23 **Investigation of THF as a Dopant in Different Introducing Ways in LC-APPI/MS Analysis**; Yanxuan Cai¹; Oliver McConnell¹; Alvin C. Bach¹; ¹Wyeth Research, Princeton, NJ
- ThP 24 **Investigation into the Suitability of Various Compounds for Promoting Charge Exchange Ionization in Dopant-Assisted Atmospheric Pressure Photoionization for**

THURSDAY POSTERS

ATMOSPHERIC CHEMISTRY

- ThP 9 **TOF-SIMS Study of Individual Marine Particles**; Yuri Desyaterik¹; Daniel Gaspar¹; Alexander Laskin¹; ¹Pacific Northwest National Laboratory, Richland, WA
- ThP 10 **Ozone Reaction Kinetics of the Oxidation of Tyrosine and Histidine Residues**; Julie A. Lloyd¹; Murray V. Johnston¹; ¹University of Delaware, Newark, DE
- ThP 11 **On-Line Real-Time Detection of Oligomers in Secondary Organic Aerosol with the ATOFMS**; Deborah S. Gross¹; Markus Gaelli²; Markus Kalberer³; Andre Prevot⁴; Josef Dommen⁴; Urs Baltensperger⁴; ¹Carleton College, Northfield, MN; ²TSI Incorporated, Shoreview, MN; ³ETH Zürich, Zürich, Switzerland; ⁴Paul Scherrer Institut, Villigen PSI, Switzerland
- ThP 12 **Extraction of Taxonomic Chemical Information from Bacterial Cells Using Differential Mobility Spectrometry and Multi-Way Principal Component Analysis**; Satendra

- Reverse-Phase LC/MS;** Derek Smith¹; Damon Robb¹; Michael Blades¹; ¹University of British Columbia, Vancouver, Canada
- ThP 25 **Detection of Polycyclic Aromatic Hydrocarbon by Liquid Chromatography-Atmospheric Pressure Photoionization-Mass Spectrometry;** Xia Zhang¹; Michelle Somers¹; Jerome Robles¹; Mary J. Wornat¹; ¹Louisiana State University, Baton Rouge, LA
- ThP 26 **Validation of an Assay to Quantitate Vitamin K and Vitamin K Epoxide in Rat Serum Utilizing HPLC/MS/MS with Photo-Ionization;** Kimberly A Navetta¹; Jennifer L Colangelo¹; ¹Safety Sciences Groton, Pfizer Global R&D, Groton, CT
- ThP 27 **Structural Elucidation of Liquid Crystal Display (LCD) Materials by Means of LC-APPI-FT-ICR-MS/MS;** Shigeru Sakamoto¹; Julie Horner²; Rohan Thakur²; Masayuki Kubota¹; ¹Thermo Electron, Yokohama, Japan; ²Thermo Electron, San Jose, CA
- ThP 28 **APPI-LC/MS Analysis of Triacylglycerols – Strategies for Selections of Mobile Phase Solvent Systems and VUV Lamps for Optimum Performance;** Sheng-Suan Cai¹; Luke C. Short¹; Jack A. Syage¹; ¹Syagen Technology, Inc, Tustin, CA
- ThP 29 **Atmospheric Pressure Photo Ionisation Normal Phase Chiral LCMS;** Mark William Harrison¹; ¹AstraZeneca, macclesfield, United Kingdom
- ThP 30 **Evaluation of APPI for the Analysis of Pharmaceutical Compounds in Support of Bioanalytical Research in Drug Discovery;** Asoka Ranasinghe¹; Hongwei Zhang¹; Cecilia L. Chi¹; Georgia Cornelius¹; Steven Wu¹; Timothy V. Olah¹; ¹Bristol-Myers Squibb, Princeton, NJ
- ThP 31 **Use of MALDI matrixes as dopant in Atmospheric Pressure Photoionization;** Alexandre Giuliani¹; Aicha Sabir-Bagag¹; Vincent Guerineau¹; Olivier Lapr evote¹; ¹CNRS-ICSN, Gif-sur-Yvette, France

DIRECT IONIZATION TECHNIQUES II

- ThP 32 **Investigation of Surface-Assisted (SA) LDI-TOFMS for the Characterization of Organometallic and Coordination Compounds;** David Thomas¹; Mark F. Wyatt¹; Bridget K. Stein¹; A. Gareth Brenton¹; ¹EPSRC National Mass Spec. Service Centre, Swansea, U.K.
- ThP 33 **Jet Desorption Ionization - A New Ionization Method for Tissue Analysis;** Zoltan Takats¹; Maria Katona²; Noemi Czuczry¹; Reka Skoumal²; ¹Chemical Research Center of HAS, Budapest, Hungary; ²National Institute of Cardiology, Budapest, Hungary; ³Rational Drug Design CRC, Budapest, Hungary
- ThP 34 **Controlled Fragmentation in Laser Desorption Ionization from Laser-Induced Silicon Microcolumn Arrays;** Yong Chen¹; Akos Vertes¹; ¹The George Washington University, Washington, DC
- ThP 35 **Forensic Applications of ElectroSpray-assisted Laser Desorption Ionization (ELDI) Mass Spectrometry for Direct Chemical Analysis on Solids;** Sy-Chyi Tseng¹; Min-Zong Huang¹; Jentaie Shiea¹; ¹National Sun Yat-Sen University, Kaohsiung, Taiwan
- ThP 36 **Desorption ElectroSpray Ionization and Electrosonic Spray Ionization for Solid- and Solution-Phase Analysis of Industrial Polymers;** Marcela Nefliu¹; Andre Venter¹; R. Graham Cooks¹; ¹Purdue University, West Lafayette, IN
- ThP 37 **ElectroSpray-Assisted Laser Desorption Ionization (ELDI) Mass Spectrometry for Direct Characterization of The Chemical Compounds on The Thin-Layer Chromatography (TLC) Plate;** Min-Zong Huang¹; Shu-Yao Lin¹; Ya-Lin Ma¹; Jentaie Shiea¹; ¹National Sun Yat-Sen University, Kaohsiung, Taiwan

- ThP 38 **A New Matrix-Free SIMS: ElectroSpray Droplet Impact;** Kenzo Hiraoka¹; Daiki Asakawa¹; Kunihiko Mori¹; ¹University of Yamanashi, Kofu 400-8511, Yamanashi
- ThP 39 **ElectroSpray-Assisted Laser Desorption Ionization Mass Spectrometry for Characterizing Proteins in Biological Media under Ambient Conditions;** Min-Zong Huang¹; Jen-Yih Lee³; Hsiu-Jung Hsu¹; Jing-Yueh Jeng²; Jentaie Shiea¹; ¹National Sun Yat-Sen University, Kaohsiung, Taiwan; ²Chia-Nan University of Pharmacy and Science, Tainan, Taiwan; ³Center for Disease Control - Kaohsiung Branch, Kaohsiung, Taiwan

INSTRUMENTATION: ION SOURCES

- ThP 40 **Newly Developed CryoSpray Ionization Device and its Combination with Fourier Transform Ion Cyclotron Resonance Mass Spectroscopy;** Kazunori Saito¹; Yoshihisa Sei²; Daisuke Higo¹; Mitsuo Nakamura³; Ryoji Saho³; Shinichi Miki¹; Kentaro Yamaguchi²; ¹Bruker Daltonics KK, Yokohama, Kanagawa, Japan; ²Tokushima Bunri University, Sanuki, Kagawa, Japan; ³Japan Thermal Engineering Co Ltd, Sagami-hara, Kanagawa, Japan
- ThP 41 **Investigations into ESI Emitter Electrode Potential Control to Optimize Low-end Linear Dynamic Range and Attainable Limits of Detection;** Michael C. Granger¹; David Meyer¹; Qi Zhang¹; Milind P. Nagale¹; Paul Gamache¹; Ian N. Acworth¹; Vilmos Kertesz²; Gary J. Van Berkel²; ¹ESA Biosciences, Inc., Chelmsford, MA; ²Oak Ridge National Laboratory, OBMS, Oak Ridge, TN
- ThP 42 **Transmission Geometry MALDI Mass Microscopy;** Jaekuk Kim¹; Fan Huang¹; Kermit K. Murray¹; ¹Louisiana State University, Baton Rouge, LA
- ThP 43 **Characterization of the Effect of an Atmospheric Pressure Ion Lens on an ElectroSpray Ion Source;** Alison E. Holliday¹; Rong Yi¹; David D.Y. Chen¹; ¹University of British Columbia, Vancouver, Canada
- ThP 44 **Alternately Pulsed Nano-electrospray Ionization/Atmospheric Pressure Chemical Ionization for Ion/Ion Reactions in an Electrodynamic Ion Trap;** Xiaorong Liang¹; Yu Xia¹; Scott A. McLuckey¹; ¹Purdue University, West Lafayette, IN
- ThP 45 **Investigating the Fundamental Mechanisms of ElectroSpray Ionization Using a New ElectroSpray Membrane Probe;** Craig M. Whitehouse¹; Thomas P. White¹; ¹Analytica of Branford, Inc., Branford, CT
- ThP 46 **Very High Sensitivity Cantilever Polysilicium ESI Tips Compatible with Standard Analytical Chromatography Fittings;** S everine Le Gac¹; Steve Arscott¹; Christian Rolando¹; ¹Universit e des Sciences et Technologies de Lille, Villeneuve d'Ascq, France
- ThP 47 **A Temperature Programmable Atmospheric Pressure Interface for LC/MS Analysis;** John (Ed) George¹; August Specht¹; Thierry Faye¹; ¹Varian, Inc., Walnut Creek, CA
- ThP 48 **Aperture Arrays for Atmospheric Pressure Sources;** Edward W Sheehan¹; Ross C Willoughby¹; ¹Chem-Space Associates, Inc., Pittsburgh, PA
- ThP 49 **Silanized Inner-surfaces for Reduced Peptide Adsorption in Nanoelectrospray;** Yongseok Choi¹; Troy D. Wood¹; ¹The State University of New York at Buffalo, Buffalo, NY
- ThP 50 **The Effect of the Laser Beam Profile on MALDI;** Jens Hoehndorf¹; Andreas Haase¹; Markus Kayser¹; Armin Holle¹; ¹Bruker Daltonik GmbH, Bremen, Germany
- ThP 51 **Development of a Pulsed, Multiplexed, nano-Electrospray Ionization Source;** Jared M. Bushey¹; ¹University of North Carolina, Chapel Hill, NC
- ThP 52 **Chaotic Transitions Between ElectroSpray Regimes;** Ioan Marginean¹; Peter Nemes¹; Akos Vertes¹; ¹George Washington University, Washington, DC

- ThP 53 **Low Attomole Sensitivity with Optimised MALDI Zoom Optics**; Mark D Mills¹; Stephen P Thompson¹; Victor C Parr¹; ¹*Scientific Analysis Instruments, Manchester, U.K.*
- ThP 54 **Variable Temperature Target for Infrared and Ultraviolet MALDI MS**; James A. Hill²; Catherine E. Costello¹; ¹*Boston University School of Medicine, Boston, MA*; ²*JAHIS, Arlington, MA*
- ThP 55 **Development of IR-MALDI TOFMS Using a Mid-infrared DFG Laser**; Sachiko Yoshihashi-Suzuki¹; Izuru Sato¹; Hisanao Hazama²; Yoshiaki Takatani²; Kunio Awazu¹; ¹*Osaka University, suite Osaka, Japan*; ²*Kawasaki Heavy Industries, Akashi Hyogo, Japan*
- ThP 56 **Fused-Droplet Electrospray Ionization (FD-ESI) Mass Spectrometry for Samples Temperature Ranging from -100 to +1,000 °C**; Jing-Yueh Jeng²; Jia-Jiun Liu¹; Chia-Cheng Lee¹; Chia-Chi Tsao¹; Jentaie Shiea¹; ¹*National Sun Yat-Sen University, Kaohsiung, Taiwan*; ²*Chia-Nan University of Pharmacy and Science, Tainan, Taiwan*
- ThP 57 **Automated Atmospheric Pressure Photoionization GC/MS on an LC/MS Instrument**; Barbara S. Larsen¹; Richard G. McKay¹; Charles N. McEwen¹; ¹*DuPont Corporate Center for Analytical Sciences, Wilmington, DE*
- ThP 58 **Fabrication of Plastic Microfluidic Devices Containing Monolithic Column Arrays for ESI MS Proteomic Analysis by Hot Embossing with Nickel Masters**; Jian Liu¹; Kyung Won Ro¹; Daniel R. Knapp¹; ¹*Medical University of South Carolina, Charleston, SC, 29425*
- ThP 59 **Evaluation of the Simplified Ion Funnel**; Tanner M. Schaub¹; Christopher L. Hendrickson¹; Alan G. Marshall¹; ¹*National High Magnetic Field Laboratory, Tallahassee, Florida*
- ThP 60 **Fabrication of High Aspect Ratio, Open Tubular and Monolithic Silica Electrospray Emitters by Chemical Etching**; Ryan T. Kelly¹; Jason S. Page¹; Keqi Tang¹; Richard D. Smith¹; ¹*Pacific Northwest National Laboratory, Richland, WA*
- ThP 61 **Accurate Mass Measurement of C-6 Heteroaryl Purine Nucleosides Using AP-MALDI TOF Mass Spectrometry**; Larry M Russon¹; Pallavi Lagisetty²; Mahesh K Lakshman²; Craig M Whitehouse¹; ¹*Analytica of Branford, Inc, Branford, CT*; ²*The City University of New York, New York, NY*
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- ION MOBILITY II**
- ThP 62 **ESI Ion mobility Spectrometry of Carbohydrate Isomers**; Joseph Zaja¹; Iain Campuzano²; Kevin Giles²; Keith Compson²; Robert Bateman²; Catherine Costello¹; ¹*Boston University, Boston, MA*; ²*Waters Corporation, Manchester, UK*
- ThP 63 **Revealing the Mode of Action of Beta-defensins with Ion Mobility Mass Spectrometry**; Perdita E Barran¹; Bryan J McCullough¹; Hayden Eastwood¹; Jason Kalapothakis¹; Karen Taylor²; Julia Dorin²; Robert H Bateman³; Derek MacMillan⁴; Paul Kemper⁵; ¹*The University of Edinburgh, Edinburgh, UK*; ²*MRC-Human Genetics Unit, Edinburgh, UK*; ³*Waters, Manchester, UK*; ⁴*UCL, London, UK*; ⁵*UCSB, Santa Barbara, CA*
- ThP 64 **A Comparison of Travelling Wave and Drift Tube Ion Mobility Separations**; Jason L Wildgoose¹; Kevin Giles¹; Steve D Pringle¹; Stormy L Koeniger²; Stephen J Valentine³; Robert H Bateman¹; David E Clemmer²; ¹*Waters MS Technologies Centre, Manchester, UK*; ²*Indiana University, Bloomington, IN*; ³*Predictive Physiology and Medicine, Bloomington, IN*
- ThP 65 **Metabolomics by MALDI-IMMS**; Kimberly A. Kaplan¹; Prabha Dwivedi¹; Denise Langlais²; Thomas F. Egan²; Agnes Tempez²; Albert J. Schultz²; Amina Woods³; William F. Siems¹; Herbert H. Hill¹; ¹*Washington State University,*
- Pullman, WA*; ²*Ionwerks, Houston, TX*; ³*NIDA, Baltimore, MD*
- ThP 66 **The Effects of Temperature Control in FAIMS Separation**; Christopher K. Hilton¹; Richard A. Yost¹; Michael W. Belford²; ¹*University of Florida, Gainesville, FL*; ²*Thermo Electron Corporation, San Jose, CA*
- ThP 67 **Influence of Methylation on Protein Structures as Revealed by a Combined Ion-Mobility and Mass-Spectrometry Examination**; Yuzhu Guo¹; P. Y. Iris Shek¹; Bruce A. Thomson²; K.W. Michael Siu¹; ¹*York University, Toronto, Ontario, Canada*; ²*MDS SCIEX, Concord, Ontario, Canada*
- ThP 68 **Liquid Chromatography Coupled with a Mass Spectrometer Incorporating a Travelling Wave Ion Mobility Spectrometer for Analysing Complex Tryptic Peptide Mixtures**; Christopher Hughes¹; Steven Pringle¹; James Langridge¹; Kevin Giles¹; Jason Wildgoose¹; Robert H Bateman¹; ¹*Waters Corporation MS Technologies Centre, Manchester, UK*
- ThP 69 **Studying Non-covalent Metalloprotein Complexes by Travelling Wave-based Ion Mobility Mass Spectrometry**; Vibhuti J. Patel¹; Jonathan P. Williams¹; Kevin Giles²; Robert H. Bateman²; Michael T. Bowers³; James H. Scrivens¹; ¹*University of Warwick, Coventry, UK*; ²*Waters MS Technologies, Manchester, UK*; ³*University of California, Santa Barbara, CA*
- ThP 70 **Evaluation of the Effects of Temperature and Pressure on the Transmission of Ions Through a FAIMS Device**; David A. Barnett¹; Michael Belford¹; Jean-Jacques Dunyach¹; Paul Atherton¹; Randy W. Purves¹; ¹*Thermo Electron, San Jose, CA*
- ThP 71 **Evaluation of a Parallel Plate Differential Mobility Analyzer for Protein Mobility Measurements**; John P. van Nostrand¹; Bruce A. Thomson²; K. W. Michael Siu¹; ¹*Centre for Research in Mass Spec, York University, Toronto, Ontario, Canada*; ²*MDS SCIEX, Concord, Ontario, Canada*
- ThP 72 **Gas Phase Chiral Separations by Ion Mobility Mass Spectrometry (IMMS)**; Herbert H. Hill Jr¹; Prabha Dwivedi¹; Ching Wu²; ¹*Washington State University, Pullman, WA*; ²*Excellims Inc., Boston, MA*
- ThP 73 **Effect of FAIMS Electrode Dimensions on Peak Shape, Separation and Transmission Efficiency**; Michael W. Belford¹; Jean-Jacques Dunyach¹; Randy Purves¹; David Barnett¹; ¹*Thermo Electron Corporation, San Jose, CA*
- ThP 74 **Ion Mobility –TOFMS of Phospholipids**; J. Albert Schultz¹; Shelley N. Jackson²; Michael Ugarov¹; Thomas Egan¹; Amina S. Woods²; ¹*Ionwerks Inc., Houston, TX*; ²*NIDA IRP, NIH, Baltimore, MD*
- ThP 75 **Miniature Differential Mobility Spectrometer Interface for Enhanced Performance of an AP MALDI/MS System**; Sergei A. Ilchenko¹; Robert J. Cotter²; Eugeny Krylov³; Raanan Miller³; Erkinjon Nazarov³; ¹*Center for Proteomics, Case Western Reserve Univ., Cleveland, OH*; ²*Middle Atlantic MS Lab., Johns Hopkins Univ., Baltimore, MD*; ³*Sionex Corporation, Bedford, MA*
- ThP 76 **Metabolomics with Ion Mobility Mass Spectrometry (IMMS)**; Prabha Dwivedi¹; Kimberly A. Kaplan¹; Thomas F. Egan²; Agnes Tempez²; Albert J. Schultz²; Herbert H. Hill Jr¹; ¹*Washington State University, Pullman, WA*; ²*Ionwerks Inc., Houston, TX*
- ThP 77 **Characterisation of Isomeric Oligosaccharides and N-linked Glycans by Travelling Wave Based Ion Mobility Mass Spectrometry**; Richard J Holland¹; Jonathan P Williams¹; David J Harvey²; Robert H Bateman³; Kevin Giles³; Michael T Bowers⁴; James H Scrivens¹; ¹*University of Warwick, Coventry, UK*; ²*Oxford Glycobiology Institute,*

Oxford, UK; ³Waters MS Technologies, Manchester, UK;
⁴University of California, Santa Barbara, CA

ESI/NANOSPRAY SAMPLE PREPARATION

- ThP 78 **Fully Automated Sample Pre-Concentration and Chip Based Nanoelectrospray**; Reinaldo Almeida¹²; Mark Baumart¹²; Mark Allen¹²; Tom Corso¹²; Colleen van Pelt¹²; ¹Advion BioSciences, Norwich, UK; ²Advion BioSciences, Ithaca, NY
- ThP 79 **Nanospray Emitters of Entrapped ODS Particles For Efficient Electrospray and Online Preconcentration of Analytes**; Terry B. Koerner¹; Feng Sheng¹; Richard D. Oleschuk¹; ¹Queen's University, Kingston, Ontario
- ThP 80 **Multilayer Microfabricated Electrospray Emitter for On-Line Sample Manipulation and ESI-MS Analysis**; Jamie M. Iannacone¹; Jennifer A. Jakubowski¹; Paul W. Bohn¹; Jonathan V. Sweedler¹; ¹University of Illinois at Urbana-Champaign, Urbana, IL
- ThP 81 **Use of nano-Liquid Chromatography-Electro Spray Mass Spectrometry in Drug Discovery**; Gunnar Stenhagen¹; Hasse Karlsson²; ¹AstraZeneca R&D, Mölndal, Sweden; ²Medical Biochemistry, Göteborg, Sweden
- ThP 82 **High Sensitivity Nanospray Chip Nozzles for Direct Infusion and Online NanoLC**; Sau Lan T. Staats¹; Ike Ajagba¹; ¹Phoenix S&T, Inc., Elkton, Maryland
- ThP 83 **A Comparative Study of ESI, nano ESI and Polymer Chip Nano ESI Ion Sources for Optimum Sensitivity and Sample Throughput**; Craig Love¹; Uwe Effelsberg¹; Alex Mordehai¹; ¹Agilent Technologies, Santa Clara, CA
- ThP 84 **Optimizing the Use of Chip-based Infusion Nanoelectrospray Tandem Mass Spectrometry for the Rapid Analysis of Complex Proteomes**; Ana G. Pereira-Medrano¹; Alistair Sterling²; Ambrosius PL. Snijders¹; Kenneth F. Reardon³; Phillip C. Wright¹; ¹University of Sheffield, Sheffield, UK; ²Advion BioSciences Ltd, Norwich, UK; ³Colorado State University, Fort Collins, CO
- ThP 85 **Reduction of Phospholipid Matrix Effects in Electrospray Ionization by Adding Colloidal Silica and Manganese Chloride**; Dale Schoener¹; Marzena Noren¹; Jim Lehman¹; Patrick Lin¹; ¹Alta Analytical Laboratory, El Dorado Hills, CA
- ThP 86 **A Direct Observation on the Formation of Ordered Clusters in Solution by Cold-spray Ionization Mass Spectrometry**; Masatoshi Kawahata¹; Yoshihisa Sei¹; Kentaro Yamaguchi¹; Hiroko Seki²; ¹Tokushima Bunri University, Sanuki-city, Kagawa; ²Chiba University, Chiba-city, Chiba
- ThP 87 **Unique Decomposition Pathways of Brevetoxins Enabled by Fluoride Anion Attachment in Negative Ion Electrospray**; Weiqun Wang¹; Richard B. Cole¹; ¹University of New Orleans, New Orleans, LA
- ThP 88 **Porous Polymer Monolith Emitters Produce Cold Nanospray**; David V. Dearden¹; Nannan Fang¹; Binghe Gu¹; Milton L. Lee¹; ¹Brigham Young University, Provo, UT
- ThP 89 **Cold-spray Ionization: A Mass Spectrometric Reaction Tracking**; Yoshihisa Sei¹; Hiroshi Danjo¹; Masatoshi Kawahata¹; Tomoko Hatakeyama¹; Jun Tamura²; Kentaro Yamaguchi¹; ¹Tokushima Bunri University, Sanuki-city, Japan; ²JEOL Ltd., Akishima-city, Japan

MICRO AND NANO SCALE SEPARATIONS

- ThP 90 **Indication of Peptide Charge State in CE-MALDI-MS Data for Proteolytic Digests of Escherichia Coli Heparin-binding Proteins**; Brad J. Williams¹; William K. Russell¹; David H. Russell¹; ¹Texas A&M University, College Station, TX
- ThP 91 **Interrogation of Post Translational Modifications on Transcription Factors by nano-LC-LTQ-FTMS/MS**; Lihua Jiang¹; Michael T. Boyne II¹; Paul M. Thomas¹; Andrew J. Forbes¹; Ling Wang²; Varsha Likehite¹; John Ervin³; Gary A.

Valaskovic⁴; Philip A. Cole²; John A. Katzenellenbogen¹; Neil L. Kelleher¹; ¹University of Illinois at Urbana-Champaign, Urbana, IL; ²the Johns Hopkins University, Baltimore, MD; ³Eksigent Technologies, LLC, Dublin, CA; ⁴New Objective, Inc, Woburn, MA

- ThP 92 **Developing Polymer Microchips for CE-ESI-MS**; April L. Dupre¹; Justin S. Mecomber¹; Collin Wetzel¹; H. Brian Halsall¹; William R. Heineman¹; Carl J. Seliskar¹; Kenneth R. Wehmeyer²; Patrick A. Limbach¹; ¹University of Cincinnati, Cincinnati, OH; ²Procter and Gamble Pharmaceuticals, Mason, OH
- ThP 93 **Comparison of Gradient Slope, Column Length, and Particle Sizes for Analysis of Peptides on a 10,000 psi nanoLC/MS/MS Platform**; Jeffrey W. Finch¹; Hongji Liu¹; Keith Fadgen¹; Geoff Gerhardt¹; James P. Murphy¹; John C. Gebler¹; ¹Waters Corporation, Milford, MA
- ThP 94 **Integration of Microfluidics to Electrospray Ionization Mass Spectrometry Using a Chip-embedded SU-8 Electrospray Tip**; Seung-min Park¹; ¹Cornell University, Ithaca, NY
- ThP 95 **High Pressure, Transparent Microfluidic Coupling Method for Nanobore LC-MS**; Jeffrey Wynn¹; Adam W. Perala¹; Christopher J. Toher¹; Gary A. Valaskovic¹; ¹New Objective Inc., Woburn, MA
- ThP 96 **Fast and High Quality Peptide Mapping Using Silica Nano-Monoliths in On- and Off-line Capillary LC-ESI- and LC-MALDI-MS/MS**; Sven Andrecht¹; Dieter Lubda¹; Almut Rapp¹; Robertus Hendriks¹; Karin Cabrera¹; ¹Merck KGaA, Darmstadt, Germany
- ThP 97 **Drastic Increase in Resolution and Sensitivity in Complex Proteomic Analysis by a Novel Ultra-High-Pressure Splitless Nano-HPLC System**; Frank Yang¹; Diane Cripps²; Stefani Thomas²; Austin Yang²; Richard Xu¹; Gordon Hsu¹; ¹Micro-Tech Scientific, Vista, CA; ²University of Southern California, Los Angeles, CA
- ThP 98 **Fully Integrated Chip-based LC-ESI Systems with Flow Sensor and Feedback Control**; Yunan Miao¹; Jason Shih²; Yu-Chong Tai²; Terry D. Lee¹; ¹Beckman Research Institute of the City of Hope, Duarte, CA; ²California Institute of Technology, Pasadena, CA
- ThP 99 **High Performance Reverse Phase Monolithic Capillary Columns for Direct Injection of Crude Proteomics Sample**; Séverine Le Gac¹; Kamal Tobal¹; Christian Rolando¹; ¹Universite des Sciences et Technologies de Lille, Villeneuve d'Ascq, France
- ThP 100 **Analyses of Intact Proteins from Complex Cell Extracts Using an Integrated Microfluidic Devices Coupled to a Time-of-Flight Instrument**; Mihaela Ghitun¹; Eric Bonneil¹; Christelle Pomies¹; Reid Brennen²; Hongfeng Yin²; Kevin Killeen²; Pierre Thibault¹; ¹IRIC, Université de Montréal, Montréal, Canada; ²Agilent Technologies, Palo Alto, CA
- ThP 101 **Using Chromatographic Resolution to Increase Sensitivity and Spectral Information in LC/MS Peptide Mapping**; Ziling Lu¹; Beth L. Gillece-Castro¹; Thomas E. Wheat¹; Jeffrey R. Mazzeo¹; ¹Waters Corporation, Milford, MA
- ThP 102 **Microfluidic Chip for Biomarker Screening in Cancer Cell Extracts**; Hetal Sarvaiva¹; Iulia M. Lazar¹; ¹Virginia Polytechnic Institute & State University, Blacksburg, VA
- ThP 103 **Performance of Polystyrene-Divinylbenzene Monolithic ESI Needles for nanoLC-MS/MS Peptide Sequencing**; Mark van Gils¹; Robert van Ling²; Bjorn de Haan²; Bas Dolman²; Remco Swart²; ¹Dionex Corp., Sunnyvale, CA; ²LC Packings - Dionex, Amsterdam, Netherlands
- ThP 104 **Withdrawn**
- ThP 105 **A Comparison of Matrix Effects, Speed and Sensitivity in UPLC™ and HPLC**; Erin E. Chambers¹; Claude Mallet¹;

- Diane Diehl¹; Jeffrey Mazzeo¹; ¹Waters Corporation, Milford, MA
- ThP 106 **Integration of Microfluidic Devices and FTICR Mass Spectrometry;** Mariam S ElNaggar¹; Richard A Mathies¹; Evan R Williams¹; ¹University of California, Berkeley, CA
- ThP 107 **Using the Inherent Electrochemistry in a Microfabricated Nanospray Emitter System for Analytical Advantage;** Vilmos Kertesz¹; Gary J. Van Berkel¹; ¹Oak Ridge National Laboratory, Oak Ridge, TN
- ThP 108 **Electrocapture-based Separation for Mass Spectrometry of Biomolecules;** Juan Astorga-Wells¹; Susanne Vollmer¹; Tomas Bergman¹; Hans Jörnvall¹; ¹Karolinska Institutet, Stockholm, Sweden
- ThP 109 **Open-Channel Silicon-Based Electrospray Emitter Tips for Coupling with PDMS Microfluidic Systems;** Matthew D. Robbins¹; Yiqi Luo¹; Griffin K. Barbula¹; Oh Kyu Yoon¹; Ignacio A. Zuleta¹; ¹Stanford University, Stanford, CA
- ThP 110 **Confident Identification of Proteins Analyzed by One Sequenced Peptide from Tryptic Digests of pH Fractions Using Monolithic HPLC/MS/MS;** Chul S. Yoo¹; Tasneem Patwa¹; Paweena Kreunin¹; Fred R. Miller²; Christian G. Huber³; David M. Lubman¹; ¹University of Michigan, Ann Arbor, MI; ²Babara Ann Karmanos Cancer Institute, Detroit, MI; ³Saarland University, Saarbrücken, Germany
- ThP 111 **Microchip LC-MALDI-MS Using Multiple Monolithic Column Arrays;** Kyung Won Ro¹; Jian Liu¹; Daniel R. Knapp¹; ¹Medical University of South Carolina, Charleston, SC
- ThP 112 **A Sheathless PMMA chip-CE/ESI/MS Interface Utilizing a Wire-assisted Epoxy-gluing Method;** Fu-An Li¹; Guor-Rong Her¹; ¹Dept. of Chemistry, National Taiwan University, Taipei, Taiwan
- ThP 113 **Nano-LC-FTMS Analysis of Native and Chemically Modified Nucleic Acids;** Alexei Gapeev¹; Zhi Shi Guo¹; Daniel Fabris¹; ¹University of Maryland Baltimore County, Baltimore, MD
- ThP 114 **Optimization of Nanobore Capillary Trapping Column Geometries for the Analysis of Peptide Mixtures;** John M Neveu¹; William S Lane¹; Gary A Valaskovic²; ¹Harvard Univ. Microchem. and Proteomics Analysis, Cambridge, MA; ²New Objective Inc., Woburn, MA
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- MALDI SAMPLE PREPARATION II**
- ThP 115 **MALDI TOF Mass Spectrometry of Cucurbiturils;** Zbynek Spalt¹; Shaban Elost¹; Josef Havel¹; ¹Masaryk University, Brno, Czech Republic
- ThP 116 **Sub-microliter Volume Online Concentration/Fractionation of Phosphopeptides Prior to MALDI MS Analysis;** Haixia Zhang¹; Kashmira Rustomji¹; Ken K.-C. Yeung¹; ¹The University of Western Ontario, London, ON, Canada
- ThP 117 **Derivatized Carbon Nanotubes as Matrix for MALDI-TOF MS Analysis;** Graham A. McGibbon¹; Ming Xue¹; Huaming Li¹; Alex Adronov¹; ¹McMaster University, Hamilton, ON, Canada
- ThP 118 **Direct lipids Analyses in Brain Tissue and E. Coli Extract Using Graphite-Assisted Laser Desorption/Ionization Mass Spectrometry;** Sangwon Cha¹; Edward S. Yeung¹; ¹Ames Laboratory-US DOE, Iowa State University, Ames, IA
- ThP 119 **PiezoLC Microdispenser for LC Separation and MALDI-TOF Analysis;** Patrick W. Cooley¹; Ting Chen¹; David B. Wallace¹; Femia Hopwood²; Andrew Gooley²; Frantisek Svec³; ¹MicroFab Technologies, Inc., Plano, TX; ²Proteome Systems, Ltd., North Ryde, Australia; ³The Molecular Foundry, LBNL, Berkeley, CA
- ThP 120 **Microfluidic Polymeric Integrated Selective Enrichment Target for Sample Preparation and MALDI MS Sample Presentation;** Simon Ekström¹; Lars Wallman¹; Gyorgy Marko-Varga²; Göran Heldin³; Thomas Laurell¹; ¹Lund University, Lund Institute of Technology, Lund, Sweden; ²Lund University, Lund, Sweden; ³Microplast AB, Skara, Sweden
- ThP 121 **Application of Solvent-free Sample Preparation Methods for MALDI-TOFMS to Organometallic and Coordination Compounds;** Laura Hughes¹; Mark F. Wyatt¹; Bridget K. Stein¹; A. Gareth Brenton¹; ¹EPSRC National Mass Spec. Service Centre, Swansea, U.K.
- ThP 122 **Rapid and Efficient Sample Clean up on Hydrophobic Probe Surface for MALDI Analysis;** Appavu K. Sundaram¹; Gavin E. Black¹; Nelli I. Taranenko¹; Vladimir M. Doroshenko¹; ¹MassTech, Inc., Columbia, MD
- ThP 123 **Use of Nitrocellulose Membranes for Protein Characterization by Matrix-Assisted Laser Desorption/Ionization Mass Spectrometry;** Jose L. Luque-Garcia¹; Ge Zhou²; Tung-Tien Sun²; Thomas A. Neubert¹; ¹Skirball Institute, New York University, New York, NY; ²Epithelial Biology Unit, New York University, New York, NY
- ThP 124 **Using Fe₃O₄ Particles as the Matrix and Concentrating Probe for SALDI-MS Analysis of Peptides and Proteins;** Wei-Yu Chen¹; Yu-Chie Chen¹; ¹National Chiao Tung University, Hsinchu, Taiwan
- ThP 125 **Comparative Study of Separation Methods for Human Whole Saliva by MALDI-TOF-MS;** Linda Nagore¹; Conor Mullens¹; Robert Christy²; John Kalns²; Lexi Mitchell²; Stephan Bach¹; ¹University of Texas at San Antonio, San Antonio, Texas; ²Hyperion Biotechnology Inc., San Antonio, Texas
- ThP 126 **Using magnetic Particles Coated with Alumina as the Concentrating Probes to Rapidly Enrich Phosphopeptides from Complex Samples;** Cheng-Tai Chen¹; Yu-Chie Chen¹; ¹National Chiao Tung University, Hsinchu, Taiwan
- ThP 127 **Affinity Capture Using Fluorescent Dye-Embedded Magnetic Nanoparticles for the Analysis of Pathogens;** Ya-Shiuan Lin¹; Yu-Chie Chen¹; ¹National Chiao Tung University, Hsinchu, Taiwan
- ThP 128 **Novel Nanoparticle Preparations as Adaptable and Selective Probes for Biological MALDI Mass Spectrometry;** Katherine A Stumpo¹; Edward T Castellana¹; David H Russell¹; ¹Texas A&M University, College Station, TX
- ThP 129 **Further Investigations Into the Use of Pencil Lead as a MALDI-TOFMS Matrix;** G John Langley¹; Julie M Herniman¹; Marc S Townell¹; Claudie Black²; Chris Poile²; ¹University of Southampton, Southampton, UK; ²AWE Aldermaston, Reading, UK
- ThP 130 **Investigation of a Fast, Reproducible LC and Spotting System for Protein Id and Biomarker Discovery;** Dominic Gostick¹; Matthew Willetts¹; Brian Williamson¹; Peter Kovarik²; ¹Applied Biosystems, Framingham, MA; ²MDS Sciex, Concord, ON
- ThP 131 **Trypsin Digestion of Proteins Immobilized on the Hydrophobic Surface of an Elastomeric Device;** Xiaoxi (Kevin) Chen¹; Anthony Murawski¹; Guannan Kuang²; Dan Sexton²; William Galbraith¹; ¹BD Biosciences, Bedford, MA; ²Dyax Corp., Cambridge, MA
- ThP 132 **Dirt Cheap High Precision Automated LC MALDI Plate Spotting;** Steven H. Seeholzer¹; ¹Fox Chase Cancer Center, Philadelphia, PA
- ThP 133 **Novel Solventless Sample Preparation Method for MALDI-TOF MS Analysis of Synthetic Polymers;** Patricia M. Peacock¹; ¹Dupont, Wilmington, DE
- ThP 134 **Sample Concentrator for AP-MALDI Plate;** Mukta M. Shukla¹; Ashok K. Shukla¹; Nelli I. Taranenko²; Vladimir M. Doroshenko²; ¹Glygen Corp., Columbia, MD; ²Mass Tech Inc., Columbia, MD

ThP 135 **Development and Application of Affinity MALDI Plates;** Andre P. Seale¹; Hyoung Soon Park²; Jeong Heon Lee¹; Lucia A. de Jesus¹; Yangsun Kim¹; ¹Proteonik Inc., Ansan, South Korea; ²Probond Co. Ltd., Seoul, South Korea

ThP 136 **Isotopic Analysis of Actinides Using MALDI TOF MS and Pencil Lead as a Matrix;** Claudie K Black¹; Chris Poile¹; G John Langley²; Julie Herniman²; ¹AWE Aldermaston, Reading, Berkshire, UK; ²University of Southampton, Southampton, UK

INSTRUMENTATION: NEW CONCEPTS II

ThP 137 **Detection of Intact Proteins with DESI-MS: Application to Microorganism Biomarker Detection;** Yong-Seung Shin¹; Franco Basile¹; ¹University of Wyoming, Laramie, WY

ThP 138 **Reduction of Chemical Background Interferences in API LC-MS using Exclusive Chemical Reactions with a Reagent;** Xinghua Guo¹; Andries P. Bruins¹; Tom Covey²; ¹University of Groningen, Groningen, The Netherlands; ²MDS Sciex, Concord, Canada

ThP 139 **Laser-driven Acoustic Desorption of Organic Molecules from Back-Irradiated Solid Foils;** Alexander V. Zinovev¹; Wallis F. Calaway¹; Michael J. Pellin¹; Igor V. Veryovkin¹; ¹Argonne National Laboratory, Argonne, IL

ThP 140 **Eliminating Post-Purification Liquid Handling Through Immediate Fraction Analysis Using a MUX Purification Factory™** Michael M. Kwok¹; John Isbell¹; Ding Yuan¹; ¹Genomics Institute of the Novartis Research Founda, San Diego, CA

ThP 141 **Surface Induced Dissociation (SID) in a Quadrupole Time of Flight Mass Spectrometer - Towards the Study of Larger Biomolecules;** Asiri S. Galhena¹; Shai Dagan¹; Christopher M. Jones¹; Richard L. Beardsly¹; Vicki H. Wysocki¹; ¹University of Arizona, Tucson, Arizona

ThP 142 **Using Collision Activation Disassociation (CAD) and Electron Transfer Disassociation (ETD) to Identify Peptides and Proteins;** Paul C. Goodley; Ning Tang; David Horn; ¹Agilent Technologies, Santa Clara, California

ThP 143 **Acoustic Desorption/Ionization with Room Temperature Ionic Liquids (RTIL) as a Source for MS;** Peter R. Harris¹; Christine L. Gatlin-Bunai¹; K. Aurelia Ball²; Eugene R. Tracy¹; William E. Cooke¹; ¹College of William & Mary, Williamsburg, VA; ²Middlebury College, Middlebury, VT

ThP 144 **On-line Atmospheric Pressure Sampling Laser Desorption Ionization;** Damien A. Narcisse¹; Kermit K. Murray¹; ¹Louisiana State University, Baton Rouge, Louisiana

ThP 145 **Reactive Landing of Peptide Ions on Surfaces: A Novel Approach for Preparation of Peptide Arrays Using Soft Landing;** Peng Wang¹; Omar Hadjar¹; Jean H. Futrell¹; Paul L. Gassman¹; Julia Laskin¹; ¹Pacific Northwest National Laboratory, Richland, WA

ThP 146 **Applying Superfluid Helium Nanodroplets to the Study of Ions: New Possibilities;** Travis M. Falconer¹; William K. Lewis III¹; Aaron M. Johnson¹; Raymond J. Bemish²; Gary L. Glish¹; Roger E. Miller¹; ¹University of North Carolina, Chapel Hill, NC; ²Pfizer Inc., Groton, CT

ThP 147 **Design and Performance of a Novel Instrument for Soft-Landing of Bio-Molecular Ions on Surfaces;** Omar Hadjar¹; Peng Wang¹; Yury Dessiatierik¹; Jean H. Futrell¹; A. Scott Lea¹; Jason Green²; R. Graham Cooks²; Julia Laskin¹; ¹Pacific Northwest National Laboratories, Richland, WA; ²Purdue University, West Lafayette, IN

ThP 148 **Toward Soft-Landing of Protein Complexes as Sample Preparation for Imaging by Electron Microscopy;** Douglas A. Simmons¹; Brandon T. Ruotolo¹; Justin L. P. Benesch¹; Carol V. Robinson¹; ¹University of Cambridge, Cambridge, United Kingdom

ThP 149 **The Identification and Characterization of Heavily Posttranslationally Modified Proteins on Chips Through Chemical Modification;** Bernard F. Gibbs¹; Robert Masse²;

Mike Aguiar¹; ¹McGill University, Montreal, Canada; ²MDS Pharma Services, Saint Laurent (Montreal), Canada

ThP 150 **Surface-Surface (Ping-Pong) Neutralization-Reionization Mass Spectrometry;** Luke E. Adams¹; Xinli Yang¹; František Tureček¹; ¹University of Washington, Seattle, WA

PORTABLE INSTRUMENTATION

ThP 151 **Calibration of a Field-Portable GC/MS for Chemical Warfare Agents and Toxic Industrial Chemicals;** Jon Onstot¹; Corrie Carnes¹; Robert Walton²; Charles Sadowski³; Jacqueline Piotrowski²; Jonathan Chambers¹; Richard Ludwick¹; David Hodgson¹; ¹Midwest Research Institute, Kansas City, MO; ²Navy Environmental Health Center, Portsmouth, VA; ³Inficon Corporation, Syracuse, NY

ThP 152 **Hand-portable Gas Chromatograph-Mass Spectrometer System Based on a Miniature Toroidal RF Ion Trap for Detection and Identification of Threat Agents;** Edgar D. Lee¹; Jeffrey L. Jones¹; Randall W. Waite¹; Samuel E. Tolley¹; Steven R. Lo Forte¹; Kenneth D. Nemelka¹; Harold D. Tolley¹; Gary B. Collins¹; Jesse A. Contreras²; James R. Oliphant¹; Jacolin A. Murray²; Gregory E. Henry¹; H. Dennis Tolley²; Alan L. Rockwood³; Stephen A. Lammert²; Milton L. Lee²; ¹Palmar Technologies, Highland, UT; ²Brigham Young University, Provo, UT; ³ARUP Inst. for Clinical and Experimental Pathology, Salt Lake City, UT

ThP 153 **Handheld Rectilinear Ion Trap Mass Spectrometer;** Liang Gao¹; Qingyu Song¹; Charles D. Fico¹; Zheng Ouyang¹; Garth E. Patterson²; Brent Knecht²; Jason L. Springston²; Adam D. Keil¹; Robert J. Noll¹; R. Graham Cooks¹; ¹Aston Lab/Purdue University, West Lafayette, IN; ²Griffin Analytical Technologies Inc., West Lafayette, IN

ThP 154 **Detection of Novel Biomarkers with the TinyTOF: Potential for Point-of-Care Mass Spectrometry;** Christine A. Jelinek¹; Sara C. McGrath¹; Theresa G. Evans-Nguyen¹; Robert J. Cotter¹; ¹Johns Hopkins University School of Medicine, Baltimore, MD

ThP 155 **High-Throughput Chemical and Biological Weapon Screening by Portable Py/GC/QitTof MS;** Jianwei Li¹; Matt Evans¹; Sheng-Suan Cai¹; Jack Syage¹; ¹Syagen Technology Inc, Tustin, CA

ThP 156 **Axial Time of Flight Mass Spectrometry (Axial-TOF-MS);** Brian G. Frederick¹; Jay LeGore¹; Robert Jackson¹; Bronson Crothers¹; Daniel Martin¹; ¹Stillwater Scientific Instruments, Orono, ME

ThP 157 **Characterization of the Biological Agent Detection and Identification Capabilities of a Field Portable Mass Spectrometer;** Kevin J. Hart¹; Cyril V. Thompson¹; Arpad A. Vass¹; Marcus B. Wise¹; Wayne H. Griest¹; ¹Oak Ridge National Laboratory, Oak Ridge, TN

ThP 158 **Performance Characterization of High Pressure Electron Multipliers Under Poor (30 Milli-Torr) Vacuum Conditions;** Raymond Cochran¹; Bruce N Laprade¹; ¹BURLE Electro-Optics, Sturbridge, MA

ThP 159 **Investigations of Membrane Introduction Transport Phenomena in an Underwater Mass Spectrometer;** Ryan J. Bell¹; Friso H.W. van Amerom²; Peter G. Wenner¹; Strawn K. Toler²; R. Timothy Short²; Robert H. Byrne¹; ¹University of South Florida, St Petersburg, FL; ²Center for Ocean Technology, St Petersburg, FL

ThP 160 **Desorption Electrospray Ionization with a Portable Mass Spectrometer: In-situ Analysis of Ambient Surfaces;** Christopher C. Mulligan¹; Nari N. Talaty¹; R. Graham Cooks¹; ¹Purdue University, West Lafayette, IN

FLAVORS AND FRAGRANCES

ThP 161 **Characterization of Reaction Products and Kinetics of Maillard Reactions of Dark Malts with Amino Acids by Chromatography and Mass Spectrometry;** Katrina E. Vaitkun¹; Victor Ryzhov¹; Andrea Weinecke²; Robert

Sobel²; ¹Northern Illinois University, De Kalb, IL; ²Flavors of North America, Inc., Geneva, IL

- ThP 162 **A 3-Stage Preconcentrating Inlet for Trace Analysis of Volatile Headspace Organics by Gas Chromatography / Electron-Impact Ionization Mass Spectrometry**; Daniel B. Cardin¹; Chris Casteel¹; ¹Entech Instruments, Inc, Simi Valley, CA
- ThP 163 **Rapid Testing of Olive Oil Quality Using SIFT-MS**; Murray McEwan¹; Brett M Davis¹; ¹University of Canterbury, Christchurch, New Zealand
- ThP 164 **Early Detection of Fire by Smoldering Odor**; Takashi Nohmi¹; ¹Nohmi Bosai Co Ltd, Shinjuku, Tokyo Japan
- ThP 165 **Using Chemometrics to Show a Direct Relationship between Analytical and Sensory Data**; Wayne F. Wargo¹; Susan M. Fawcett¹; Michael E. Larson¹; Janis E. Dugle¹; ¹Abbott Laboratories - RPD, Columbus, OH

DRUG METABOLISM: REACTIVE INTERMEDIATES AND ADDUCTS

- ThP 166 **The Development of a Strategy for Unambiguous Identification of Reactive Intermediate/Metabolite**; Xue Snow Ge¹; Jun Shen¹; Babu Subramanyam¹; Jih-Lie Tseng¹; ¹Berlex Biosciences, Richmond, CA
- ThP 167 **Covalent Binding of a p38 MAP Kinase Inhibitor AMG 476 to Rat Hemoglobin**; Chun Li¹; Sekhar Surapaneni¹; Jeana Warren¹; Gondi Kumar¹; Dawei Zhang¹; Celia Dominguez¹; ¹Amgen Inc., Thousand Oaks, CA
- ThP 168 **Comparison of Mass Spectrometry Methods for the Detection of Glutathione Conjugates**; Yuan Chen¹; Gargi Choudhary²; Quynh Ho¹; Diane Cho²; Fitch William¹; ¹Roche Palo Alto LLC, Palo Alto, CA; ²Thermo Electron Corporation, San Jose, CA
- ThP 169 **Identification the Reactive Site of Wortmannin with Respect to Covalent Protein Binding**; Jianyao Wang¹; Lin Deng¹; William DeMaio¹; Fangbiao Li¹; Rasmey Talaat¹; ¹Wyeth, Collegeville, PA
- ThP 170 **Studies of the Protein Adducts of Carbamazepine and Phenytoin Reactive Metabolites**; Ling Xu¹; Wei Lu²; Ying Yang¹; Jack Uetrecht²; ¹PMSC, Faculty of Medicine, U of Toronto, Toronto, Canada; ²Faculty of Pharmacy & Faculty of Medicine, Toronto, Canada
- ThP 171 **Ultrafiltration LC-MS-MS Identification of Alkyl Phenols in Prempro that Form Electrophilic Metabolites**; Aarti D. Sawant¹; Hong Liu¹; Benjamin M. Johnson¹; Judy L. Bolton¹; Richard B. van Breemen¹; ¹University of Illinois College of Pharmacy, Chicago, IL
- ThP 172 **Alkylation of DNA by Electrophilic Metabolites of p-Cresol from Prempro**; Long Yuan¹; Judy L. Bolton¹; Richard B. van Breemen¹; ¹University of Illinois College of Pharmacy, Chicago, IL
- ThP 173 **Detection of Reactive Metabolites by Isotope-Pattern and Neutral Loss of 129 Da Triggered Data-Dependent Accurate Mass Measurements Using LTQ/Orbitrap**; Jie Chen¹; Carlo Sensenhauser¹; Kevin L. Cook¹; Vangala Subrahmanyam¹; H. K. Lim¹; ¹J & J Pharmaceutical Research & Development, Raritan, NJ
- ThP 174 **Reactive Intermediate Screening Using Negative Ion Tandem Mass Spectrometry**; Yau Yi Lau¹; Robert Steffek¹; Peter Dandliker¹; ¹Abbott Laboratories, Abbott Park, IL
- ThP 175 **Monoamine Oxidase (MAO) Mediated Formation of Enamine from a Tertiary Amine**; Karthick Vishwanathan¹; David Chin²; Kathlene Babalola¹; Jianyao Wang¹; Rasmey Talaat¹; ¹Wyeth Research, Collegeville, PA; ²Carleton College, Northfield, MN

CHIRAL ANALYSIS

- ThP 176 **Chiral Analysis of and Investigation of Matrix Effects on Ifosfamide and its Dechloroethylated Metabolites in Human Plasma by LC/MS**; Regina V Oliveira¹; Joelle

Onorato¹; Irving W. Wainer¹; ¹National Institute on Aging, NIH, Baltimore, Maryland

- ThP 177 **LC/MS Method for the Simultaneous Determination of Buprenorphine, Norbuprenorphine and the Enantiomers of Methadone and EDDP in Human Plasma**; Maria E. Rodriguez-Rosas¹; Michelle R. Lofwall²; Eric C. Strain²; Irving W. Wainer¹; ¹National Institute on Aging, NIH, Baltimore, MD; ²Johns Hopkins University School of Medicine, Baltimore, MD
- ThP 178 **Quantitative Analysis of R-(+)- and S-(-)-Amlodipine in Human Plasma by Liquid Chromatography Coupled to Tandem Mass Spectrometry**; Moon-Sun Jang¹; Hyun Jin Bae¹; Kyu Young Chang¹; Kyung Ryul Lee²; Hee Joo Lee¹; Seungwoo Kang¹; ¹BioCore Co., Ltd., Seoul, Korea; ²Seoul Medical Science Institute, Seoul, Korea
- ThP 179 **Microsomal Metabolism, Plasma Protein Binding, Plasma and Urine Concentrations of Methadone and EDDP by a Validated Enantiomeric LC/ESI-MS-MS**; Shen-Nan Lin¹; Lollita Lamm¹; Yan Chang¹; Ryan Nielsen¹; Mark K. Greenwald³; Todd Hieronymus²; Mahmoud S. Ahmed²; David E. Moody¹; ¹University of Utah, Salt Lake City, UT; ²The University of Texas Medical Branch, Galveston, TX; ³Wayne State University, School of Medicine, Detroit, MI
- ThP 180 **Evaluation of Chiral Differentiation Using Chemical Ionization in a Hybrid Quadrupole Ion Trap Mass Spectrometer**; Teresa M. Vail¹; O. David Sparkman¹; Patrick R. Jones¹; ¹University of the Pacific, Stockton, CA
- ThP 181 **LC/MS Chiral Methods and its Application in Bioanalysis**; Dawei Zhou¹; Yong-Xi Li¹; Zhe-ming Gu¹; ¹XenoBiotic Laboratories, Inc., Plainsboro, NJ
- ThP 182 **Improving Chromatographic Performance and Throughput in Bioanalysis with Supercritical Fluid Chromatography-MS/MS (SFC-MS/MS)**; Luca C. Matassa¹; Chris R. Bowerbank¹; Ti Zhang¹; ¹Tandem Labs, Salt Lake City, Utah, 84124
- ThP 183 **New Enhancements in Parallel SFC/MS for Automated Chiral Method Development**; Lu Zeng¹; Rongda Xu¹; Derek B. Laskar¹; Daniel B. Kassel¹; ¹Takeda SD, Inc., San Diego, CA

SMALL MOLECULE ANALYSIS

- ThP 184 **Unequivocal Identification of Ortho Isomers of 1,2-disubstituted Benzenes by Collision-Induced Dissociation Mass Spectra of Electrospray-Generated Positive and Negative Ions**; Athula Attygalle¹; Josef Ruzicka¹; Deepu Varughese¹; Jafri Sayed¹; ¹Stevens Institute of Technology, Hoboken, NJ
- ThP 185 **Elemental Composition Elucidation Method and Software for Identifying Low Molecular Weight Chemicals by Exact Mass MS/MS**; Shigeru Suzuki¹; Yukio Oonishi²; ¹Chubu University, Kasugai, JAPAN; ²Environmental Research Institute Inc., Osaka, JAPAN
- ThP 186 **Application of Speciation Analysis Using HPLC-ICP-MS and HPLC-ESI-MS for the Investigation of Metal-Containing Species in Pharmaceutical Process Research**; Qiang Tu¹; Tiebang Wang¹; Christopher Welch¹; Peng Wang¹; Xiujuan Jia¹; Michael Doyle²; ¹Merck & Co., Inc., Rahway, NJ; ²University of Maryland, College Park, MD
- ThP 187 **Lipidomics in Leech Brain Regeneration by Cluster TOF-SIMS Imaging**; Karim Arafah¹; Maxence Wisztorski¹; Delphine Debois²; Remi Lemaire¹; Alain Brunelle²; Olivier Laprevote²; Isabelle Fournier¹; Michel Salzet¹; ¹MALDI Imaging Team, FRE CNRS 2933, Univ. of Lille, Villeneuve d'Ascq, France; ²Laboratoire de Spectrométrie de Masse, ICNS-CNRS, Gif-sur-Yvette, France
- ThP 188 **Distinguishing Stereo- and Structural Isomers with Time-of-Flight Secondary Ion Mass Spectrometry (ToF-SIMS) and Principle Component Analysis**; Elena SF Berman¹;

- Kristen S. Kulp¹; Mark G. Knize¹; Kuang Jen Wu¹; ¹Lawrence Livermore Nat Lab, Livermore, CA
- ThP 189 **Enhanced Metabolite Profiling Through Affinity Capture and Isotope Labeling**; Grace O'Maille¹; Linh Hoang¹; Anders Nordström¹; Eden Go¹; Paul O'Maille²; Chuan Qin¹; Gary Siuzdak¹; ¹The Scripps Research Institute, La Jolla, CA; ²The Salk Institute for Biological Studies, La Jolla, CA
- ThP 190 **Advanced Software for Multi Analyte Screening of ToF-MS Data Using Library Searching and Accurate Mass Confirmation**; Jeff Goshawk¹; Peter Hancock¹; Daniel McMillan¹; ¹Waters Corp., MS Technologies Centre, Manchester, UK
- ThP 191 **High-Throughput Small Molecule Determination: A Comparison of MUX-LC and UPLC with LC/UV/ELSD/TOFMS Systems**; Jim Conboy¹; Navin Varshney¹; Michele Kelly¹; ¹Pfizer Inc, Groton, CT
- ThP 192 **A Generic Quantitative Analysis of Nucleoside Analogs by LC/MS/MS**; Tuyen Nguyen¹; Xin Zhang¹; Jakal Amin¹; Christopher Marlor²; Gohar Mushtaq²; Doug Buechter²; ¹Charles River Labs, Bioanalytical Chemistry, Worcester, MA; ²Achillion Pharmaceuticals, New Haven, CT
- ThP 193 **An Approach for the Analytical Evaluation of a Large, Small-molecule, Chemical Database**; Christopher C. Lai¹; Holly L. Haley¹; Lawrence R. Phillips²; John H. Cardellina²; Marc C. Nicklaus³; Johannes H. Voight¹; Joseph J. Barchi¹; Nouri Neamati³; James A. Kelley¹; ¹Center for Cancer Research, NCI, NIH, Frederick, MD; ²Developmental Therapeutics Program, NCI, NIH, Frederick, MD; ³School of Pharmacy, USC, Los Angeles, CA
- ThP 194 **Identification of a Trace Colored Impurity in Drug Substance by Preparative Liquid Chromatography and Mass Spectrometry**; Peng Wang¹; Y.-J. Shi¹; Roy Helmy¹; Robert Reamer¹; Anant Vailaya¹; ¹Merck Research Laboratories, Rahway, NJ
- ThP 195 **Structure and Mechanism of Formation of Conversion Products of Caspase Inhibitors in Aqueous Media**; Mei-Yi Zhang¹; Wayne Childers¹; Uday Jain¹; Vasilios Marathias¹; Paul Dollings¹; Edward H. Kerns¹; Albert Robichaud¹; ¹Chemical and Screening Sciences, Wyeth Research, Princeton, NJ
- ThP 196 **Characterization of Bis(diaryl)Aminoxy, Tetramethylpyrrolidineaminoxyl Substituted Peptides and Tetramethylpiperidineaminoxyl Based Biradicals by EI MS**; Boris V. Rozynov¹; ¹Aspen Research Corporation, St Paul, MN
- ThP 197 **Use of LC-MS/MS for the Evaluation of the Presence of Impurities in Two Novel PET Tracers**; Kerry A. Riffel¹; Terence Hamill¹; Eric Hostetler¹; H. Donald Burns¹; ¹Merck Research Laboratories, West Point, PA
- ThP 198 **The Use of ESI-LCMS and MALDI Mass Spectrometry in the Analysis and Characterisation of Synthetic Phospholipids and Betaines**; Stephen J Rumbelow¹; Kevin W Penfield¹; ¹Uniqema Technical Center, New Castle, Delaware
- ThP 199 **Diversity of Photo-Labeling/Crosslinking on Small Molecules: A Liquid Chromatography/Tandem Mass Spectrometric Investigation**; Takemichi Nakamura¹; Naoki Kanoh²; Kaori Honda²; Hiroyuki Osada²; ¹RIKEN, Biomolecular Characterization, Wako, Saitama, Japan; ²RIKEN, Antibiotics Lab, Wako, Saitama, Japan
- ThP 200 **Does Resolution Actually Impact on Accurate Mass Determinations?**; Federico Riccardi Sirtori¹; Maristella Colombo¹; ¹Nerviano Medical Sciences, Nerviano (Milan), Italy
- ThP 201 **Investigation and Characterization of Bis-Retinoid Pyridinium Compound Photooxidation Products by HPLC-MS**; Aleksey S. Kononikhin²; Marina A. Jakovleva²; Mikhail A. Ostrovskiy²; Eugene N. Nikolaev¹; ¹The Institute for Energy Probl. Chem. Physics, Moscow, Russia; ²The Institute for Biochemical Physics, Moscow, Russia
- ThP 202 **Automated LC-MSMS Impurity Analysis**; Alina Dindyal-Popescu¹; J.C. Yves Le Blanc¹; Julie Wingate¹; Jean-Claude Wolff²; ¹Applied Biosystems|MDS Sciex, Concord, Canada; ²GlaxoSmithKline, Stevenage, United Kingdom
- ThP 203 **Multiresidue Pesticide Screening by LC-ESI-TOF MS**; Petra Decker¹; Christian Neusuess¹; Matthias Pelzing¹; ¹Bruker Daltonik, Bremen, Germany
- ThP 204 **True Automated Exact Mass of Pharmaceutically Relevant Synthetic Compounds – Is it Ready for Prime Time?**; Justin G. Stroh¹; Christopher Petucci¹; Scott Brecker¹; Yanxaun Cai¹; ¹Wyeth Research, Collegeville, PA
- ThP 205 **Automated Chemical Logic to Improve Prediction of Chemical Formula**; Eva Duchoslav¹; J.C. Yves Le Blanc¹; Julie Wingate¹; Alina Dindyal-Popescu¹; ¹Applied Biosystems|MDS Sciex, Concord, Canada
- ThP 206 **Qualitative Analysis of the Fragmentation Reactions of Negative Organic Ions in Drug Discovery**; Christopher Petucci¹; Scott Brecker¹; Justin Stroh¹; ¹Wyeth Research, Collegeville, PA
- ThP 207 **Use of LC-MS and Hydrogen/Deuterium Exchange to Distinguish N-Oxides and Hydroxylated Forms of Analgesic Drugs**; R. Randy Wilhelm¹; Robert C. Klute¹; Frank W. Moser¹; John E. Johnson¹; Rick L. Fenton¹; ¹Tyco Healthcare Pharmaceutical Group R&D, St. Louis, MO
- ThP 208 **Structural Elucidation by Composition Formula Predictor Software Using MSⁿ Data**; Holly M. Shackman¹; Joy M. Ginter¹; Joseph P. Fox¹; Masayuki Nishimura¹; ¹Shimadzu Scientific Instruments, Columbia, MD
- ThP 209 **Alkyloxyacylation as an Alternative Method for Liquid Chromatographic-Mass Spectrometric Analysis of Urinary Diuretics**; Junghyun Son¹; Jong-Dae Kim¹; Ju-Yeon Moon¹; Dong-Hyun Kim¹; Man Ho Choi¹; ¹Korea Institute of Science and Technology, Seoul, Korea
- ThP 210 **Barbiturate Analysis by USP 28 -NF23 General Chapter <361>, Isn't It Time for an Upgrade?**; Mark Jacyno¹; Reno Nguyen¹; Mark Waksmonski¹; ¹Grace Davison, Deerfield, IL
- ThP 211 **Evaluation of Using MALDI -TOF/MS and Electrospray TOF/MS for Biomarker Discovery**; Yulin Huang¹; David Ho¹; Keith Ohm¹; Lily Li¹; ¹PharmaKD Inc., Woburn, MA
- ThP 212 **Analysis of Fullerene Derivatives by Ion Trap and Time-of-Flight Mass Spectrometry**; K. Janota¹; Christopher Smart²; ¹Agilent Technology, Paramus, NJ; ²Vassar College, Poughkeepsie, NY
- ThP 213 **Energy-resolved Fragmentation of Acyl Homoserine Lactones**; Nathan D. Leigh¹; ¹University of Missouri - Columbia, Columbia, MO
- ThP 214 **The Characterization of Phenolic Content in Almond Industry "Waste" by Negative Ion ESI Capillary LC/MS**; Bruce Wilcox¹; Christine Hughey²; Lilian Were²; ¹Eksigent Technologies, Dublin, CA; ²Chapman University, Orange, CA
- ThP 215 **Automated Elemental Composition Determination and Correlation of Precursor with Product Ions Based on Orthogonal Acceleration, Time-of-Flight Mass Spectra**; G. Wayne Sovocool¹; Michael C. Zumwalt²; Andrew H. Grange¹; ¹U.S. EPA, ORD, NERL, ESD, Las Vegas, NV; ²Agilent Technologies, Englewood, CO
- ThP 216 **Speciation of Selenium-Enriched Samples by Parallel Elemental and Molecular Mass Spectrometry (PEMMS) and Peak Parameterization**; J. Thomas Brenna¹; Gavin L. Sacks¹; Louis A. Derry¹; Gerald F. Combs²; ¹Cornell University, Ithaca, NY; ²USDA- Human Nutrition Research Center, Grand Forks, ND
- ThP 217 **Characterization of Di- and Tri-substituted Sulfonated Azo Dyes by LC/ESI/MS/MS, LC/EI/MS and LC/CI/MS**

James M. Chapman¹; Cagney Bennett¹; Andrea Dolezal¹;
Scott Niemann²; ¹Rockhurst University, Kansas City, MO;
²CSS Analytical Company, Shawnee, KS

TOXICOLOGY

- ThP 218 **Detection and Identification of Ricin and Abrin Using SELDI-TOF Mass Spectrometry**; Rajaseger Ganapathy¹; Vidhya Novem¹; Jessica Huizhen Woo¹; ¹Defence Medical & Environmental Research Institute, Singapore
- ThP 219 **Synthesis and Characterization of Oligodeoxynucleotides Containing Tandem Lesions of Thymidine Glycol and 8-oxo-2'-Deoxyguanosine**; Yuesong Wang¹; Yinsheng Wang¹; ¹Department of Chemistry, University of California, Riverside, CA
- ThP 220 **Plasma Source Differential Ion Suppression During Routine Sample Analysis By A Validated LC-MS/MS Bioanalytical Method**; Anahita Keyhani¹; Tim Samuels¹; Kevin Harbol²; ¹Charles River Laboratories, Montreal, Canada; ²ICOS Corporation, Seattle, WA
- ThP 221 **Effects of the Environmental Contaminant Bisphenol A on the Rat Pituitary Proteome**; Francesco Giorgianni¹; Amira Wohabrebbi¹; Laura Canesi²; Yingxin Zhao¹; Dominic M. Desiderio¹; Achille Cappiello³; Pierangela Palma³; Sarka Beranova-Giorgianni¹; ¹University of Tennessee Health Science Center, Memphis, TN; ²University of Genoa, Genoa, Italy; ³University of Urbino, Urbino, Italy
- ThP 222 **Determination of Heterocyclic Aromatic Amines in Cooked Muscle Tissue by Electrospray Ionization HPLC/MS/MS**; Michael Erickson¹; Thomas Fillmore¹; ¹Columbia Analytical Services, Kelso, WA
- ThP 223 **A Novel Approach to the Quantitation of 1,3-Butadiene Gas in Human Exhalate**; Kirk Newland¹; Toby Julian¹; Ridha Nachi¹; Lee Zhu¹; ¹MDS Pharma Services, Lincoln, NE
- ThP 224 **Toxicological Studies on Mimics of EHC-93 Particle Types on a Human Lung Epithelial Cell-line (A549) in vitro**; Ndukauba M. Eleghasim²; Goerge R. Agnes²; Stephen F. Van Eeden³; ¹Simon Fraser University, Burnaby, BC, Canada; ²Simon Fraser University, Burnaby, BC, Canada; ³University of British Columbia, Vancouver, BC, Canada
- ThP 225 **ReLiquid Chromatography-Tandem Mass Spectrometry Method using Heated Electro-spray Ionization for the Determination of Specific Metabolites of Contemporary Pesticides in Urine**; Roberto Bravo¹; Jessica Norrgran¹; Paula A Restrepo¹; Amanda M. Bishop²; Ralph D. Jr. Whitehead¹; Larry L. Needham¹; Dana B. Barr¹; ¹Centers For Disease Control and Prevention, Atlanta, Georgia; ²Battelle, Atlanta, Georgia
- ThP 226 **Determination of Extractable Formaldehyde in Metered-Dose Packaging Components by HPLC-MS**; Anulfo Valdez¹; F. Sedinam Amegayibor¹; Stephen A. Ampofo¹; Yaping Zhu¹; Lex A. Adjei¹; ¹Kos Pharmaceuticals, Inc., Cranbury, NJ
- ThP 227 **Simultaneous Quantification of 3-Nitrotyrosine and 3-Bromotyrosine in Human Urine by Isotope Dilution Liquid Chromatography/Electrospray Ionization-Tandem Mass Spectrometry**; Wei-Loong Chiu¹; Hauh-Jyun Candy Chen¹; ¹National Chung Cheng University, Ming-Hsiung, Chia-Yi, Taiwan
- ThP 228 **Reactivity of Acrolein with Peptidyl Amino Acid Residues**; Jian Cai¹; Aruni Bhatnagar¹; William M. Pierce, Jr.¹; ¹University of Louisville, Louisville, KY
- ThP 229 **Examination of Isocyanate Adducts of Human Serum Albumin by Matrix Assisted Laser Desorption Ionisation - Mass Spectrometry**; Tasneem Muharib¹; Malcolm R Clench¹; John White²; Duncan A Rimmer²; ¹Sheffield Hallam University, Sheffield, UK; ²Health and Safety Laboratory, Buxton, UK
- ThP 230 **Recognizing the Proteomic Patterns of Induced Toxicity with 1D-ZOOMER Approach**; Andrey Lisitsa¹; Igor Nikitin¹; Alexey Podoplelov¹; Alexander Archakov¹; Herbert Thiele²; ¹Institute of Biomedical Chemistry, Moscow, Russia; ²Bruker Daltonics GmbH, Bremen, Germany
- ThP 231 **Mass Spectrometric Analysis of Synaptosomal Protein Modification Upon Exposure to Selected α and β -Unsaturated Carbonyl Compounds**; Stanley M. Stevens Jr.¹; David S. Barber¹; ¹University of Florida, Gainesville, FL
- ThP 232 **Environmental Toxics and Metabolites (endocrine disrupters) in Urine by Direct Injection Into Patented HPLC-GC-MS System**; Raquel Sánchez¹; Ariadna Galve²; Roger Gibert¹; Josep M. Gibert¹; ¹Konik-Tech, SA, Sant Cugat del Vallès, Spain; ²IKAI, Sant Cugat del Vallès, Spain
- ThP 233 **Liquid Chromatography/Tandem Mass Spectrometric Method for the Simultaneous Determination of Six Tobacco-Specific Nitrosamine Metabolites**; huiling Lee¹; Giing Chiying Wang¹; Dennis Paul Hsientang Hsieh¹; ¹Division of Environmental Health and Occupational, Miaoli, Taiwan R.O.C
- ThP 234 **General Unknown Screening of Drugs and Toxic Compounds in Human Samples Using on Hybrid Triple Quadrupole - Linear Ion-Trap Instruments**; Pierre Marquet¹; Joaquim Soares Granja²; ¹University hospital, Limoges, France; ²Applied Biosystems, Courtaboeuf, France
- ThP 235 **Measurement of Protein Cross-Links o,o'-Dityrosine in Human Urine by Isotope Dilution Liquid Chromatography/Electrospray Ionization-Tandem Mass Spectrometry**; Chia-Ming Chang¹; Hauh-Jyun Candy Chen¹; ¹National Chung Cheng University, Ming-Hsiung, Chia-Yi, Taiwan
- ThP 236 **Quantitative Analysis of Alkyldiphenoxide Disulfonates in Anodic Seal Baths by LC-ESI-(Ion Trap)MS and HPLC-UV**; Edward Elizondo¹; Chris Hanthorn¹; ¹Henkel Technologies, Madison Heights, MI
- ThP 237 **Identification of Novel Proteins and their Covalent Adducts by Reactive Metabolites of Molinate using Mass Spectrometry**; William T. Jewell¹; Andrew Campbell¹; Marion G. Miller-Sears¹; ¹UC Davis, Davis, CA
- ThP 238 **The Inflammation Potential of Particulate Matter as a Function of Its Chemical Composition**; Allen Haddrell¹; George Agnes¹; Simone Gross²; Stephan van Eeden²; Allan Bertram²; ¹Simon Fraser University, Vancouver, BC; ²University of British Columbia, Vancouver, BC
- ThP 239 **Quantitation of Methyl Phosphotriester DNA Adduct of Thymidyl (3'-5') thymidine by LC -APCI-MS/MS**; Fagen Zhang¹; Michael J. Bartels¹; Lynn H. Pottenger¹; B. Bhaskar Gollapudi¹; Melissa R. Schisler¹; ¹The Dow Chemical Company, Midland, Michigan
- ThP 240 **Determination of Chlorpyrifos and its Metabolites in Rat Blood Using Liquid Chromatography-Tandem Mass Spectrometry**; Leah N. Williamson¹; Alvin V. Terry¹; Michael G. Bartlett¹; ¹University of Georgia, Athens, GA
- ThP 241 **Simultaneous Determination of Four Trace Elements in Human Urine by Dynamic Reaction Cell ICP-MS**; Dongmei Zhou¹; Sum Chan¹; Richard E. Reitz¹; ¹Quest Diagnostics Nichols Institute, San Juan Capistrano, CA
- ThP 242 **Determination of Oxidative DNA Damage in Human Bronchoalveolar Cells by Immunoaffinity Purification and LC/MS/MS**; Dipti Mangal¹; ¹Center for Pharmacology, Philadelphia, PA
- ThP 243 **Quantification of N-(deoxyguanosin-8-yl)-4-Aminobiphenyl Adducts in N-hydroxy-4-Aminobiphenyl Dosed Human Lymphoblastoid Cells and Their Relationship to Mutation, Toxicity, and Gene Expression Profiling**; Elaine M. Ricicki¹; Wen Luo²; Helmut Zarbl²;

Paul Vouros¹; ¹Northeastern University, Boston, MA; ²Fred Hutchinson Cancer Research Center, Seattle, WA

- ThP 244 **The Analysis of Alprazolam in Synthetic Urine Via Dual Column Switching;** Charles Yang¹; Jonathan Beck¹; Rohan Thakur¹; ¹Thermo Electron Corporation, San Jose, CA
- ThP 245 **Improved Dose Metric for Monitoring VX-G Analog in Rats Using GC Tandem Mass Spectrometry (GC-MS/MS);** Jeffrey M. McGuire¹; Ronald A. Evans¹; Edward M. Jakubowski¹; Sandra A. Thomson¹; ¹US Army Edgewood CB Center, Aberdeen Proving Ground, MD
- ThP 246 **Detection of Ethylene and Propylene Oxide Metabolites in Urine by GC/MS;** Jeffrey S. Snow¹; Michael F. Martin¹; Timothy R. Croley¹; ¹Commonwealth of Virginia, Richmond, VA
- ThP 247 **Development and Validation of a LC/MS TOF Method for Determining Isopropyl Methylphosphonic Acid in Minipig Plasma following Sarin Vapor Exposures;** Ronald A. Evans¹; Julie A. Renner²; Edward M. Jakubowski¹; Sandra A. Thomson¹; ¹U.S. Army Edgewood Chemical Biological Center, Aberdeen Proving Ground, MD; ²SAIC, Gunpowder Branch, MD
- ThP 248 **LC-ES/MS/MS Quantification of O⁶-Alkyldeoxyguanosines in DNA from Mice Exposed to Alkylating Agents;** Mona I. Churchwell¹; Frederick A. Beland¹; Daniel R. Doerge¹; ¹FDA/NCTR, Jefferson, AR
- ThP 249 **Methodology for Creating and Depositing Particulate Matter Onto Cells with MALDI-ToF-MS Monitoring of Differential Expression of Secreted Cytokines;** Edward Lau¹; Alice Kardjaputri¹; George Agnes¹; Stephan van Eeden²; ¹Simon Fraser University, Vancouver, Canada; ²University of British Columbia, Vancouver, Canada
- ThP 250 **A Quantitative Screen for Multiple Classes of Illicit Drugs and Their Primary Metabolites in Human Biological Fluids by LC/MS/MS;** Kevin J. McHale¹; Angela C. Springfield²; ¹Thermo Electron, Somerset, NJ; ²Tarrant County Medical Examiner, Fort Worth, TX

ION ACTIVATION AND DISSOCIATION

- ThP 251 **Charge-Remote Fragmentation of Free Fatty Acids under FAB Conditions;** Valery G. Voinov¹; Hong Ji¹; Jeff Morrè¹; Douglas F. Barofsky¹; Max L. Deinzer¹; ¹Oregon Sate University, Corvallis, OR
- ThP 252 **Effect of the Surface Morphology on the Energy Transfer in Ion-Surface Collisions;** Zhibo Yang¹; Omar Hadjar¹; Julia Laskin¹; ¹Pacific Northwest National Laboratory, Richland, WA
- ThP 253 **Surface-Induced Dissociation of Molecular Ions in a Digital Ion Trap Mass Spectrometer;** Osamu Furuhashi¹; Kengo Takeshita¹; Hideaki Izumi¹; Kiyoshi Ogawa¹; Yoshikazu Yoshida¹; Shinichi Iwamoto¹; Sadanori Sekiya¹; Li Ding²; Michael Sudakov²; ¹Shimadzu Corporation, Kyoto, Japan; ²Shimadzu Research Laboratory (Europe) Ltd, Manchester, UK
- ThP 254 **A Variational Treatment of the Unimolecular Dissociations of Ionized Methyl Substituted Hydrazine Compounds;** Anne-Marie Boulanger¹; Emma E. Rennie¹; Paul M. Mayer¹; David M. P. Holland²; David A. Shaw²; ¹University of Ottawa, Ottawa, Canada; ²Daresbury Laboratory, Daresbury, UK
- ThP 255 **Exploiting Electron Transfer Dissociation Reactions Using High Temperature Bath Gas;** Brittany D.M. Hodges¹; Hongling Han¹; Scott A. McLuckey¹; ¹Purdue University, West Lafayette, IN
- ThP 256 **Enhancement of Infrared Multiphoton Dissociation Efficiency in a Quadrupole Ion Trap using Metal Complexes with Chromophoric Ligands;** Michael Pikulski¹; Jeffrey J. Wilson¹; Apolonio Aguilar¹; Jennifer S. Brodbelt¹; ¹The University of Texas at Austin, Austin, TX

- ThP 257 **Ion-Surface Collisions on Cl, Br, and F Terminated Self-Assembled Monolayers (SAMs);** Karen E. Joyce¹; Zhuhua Qi¹; Amy Graham¹; Neal R. Armstrong¹; Ronald Wysocki¹; Vicki H. Wysocki¹; ¹University of Arizona, Tucson, AZ
- ThP 258 **CID Fragmentation Pathways of THG and Trenbolone;** Fuyu Guan¹; Cornelius E. Uboh²; Lawrence R. Soma¹; Scott Peterman³; Youwen You¹; Jeffrey Rudy²; ¹University of Pennsylvania, Kennett Square, PA; ²PA Equine Toxicol. & Research Center, West Chester, PA; ³Thermo Electron, Finnigan LC-MS, Somerset, NJ
- ThP 259 **Electron Photodetachment and Subsequent Fragmentation of Multiply Charged DNA Ions Under UV-Visible Laser Irradiation;** Valerie Gabelica¹; Thibault Tabarin²; Frederic Rosu¹; Rodolphe Antoine²; Isabelle Compagnon²; Michel Broyer²; Edwin De Pauw¹; Philippe Dugourd²; ¹University of Liège, Liège, Belgium; ²University of Lyon I, Lyon, France
- ThP 260 **Effective Temperatures and the Mobile Proton in Activated Ions, Evaluated by Thermal Extrapolation and by ab initio Calculations;** Michael Mautner¹; Arpad Somogyi²; Christian Bleiholder³; Bela Paizs³; ¹Virginia Commonwealth U., Richmond, Virginia; ²University of Arizona, Tucson, AZ; ³German Cancer Research Center, Heidelberg, Germany
- ThP 261 **Improved Isolation Efficiency Using Higher Resolution Isolation in an Ion Trap Mass Spectrometer;** Karen Salomon¹; Min He¹; Jae Schwartz¹; Gargi Choudhary¹; Diane Cho¹; ¹Thermo Electron Corp., San Jose, CA
- ThP 262 **Kinetics of Surface Induced Dissociation Using Laser Desorption of C₆₀ and Silicon Nano Powder Assisted Ionization of N(CH₃)₄⁺;** Sung Hwan Yoon¹; Dylan Boday¹; Chaminda Gamage¹; Wuijuan Wen¹; Kent Gillig¹; Shai Dagan¹; Vicki Wysocki¹; ¹University of Arizona, Tucson, AZ
- ThP 263 **Addition of Radical Traps Quenches Backbone Electron Capture Dissociation and Redirects it to the Aromatic Sidechains;** Marina A. Belyayev¹; Jason J. Cournoyer¹; Cheng Lin¹; Bogdan A. Budnik¹; Peter B. O'Connor¹; ¹Boston University, Boston, MA
- ThP 264 **Probing Collisional Excitation in Ion-Molecule Collisions by Fluorescence Detection;** Clement Poon¹; Paul M. Mayer¹; ¹University of Ottawa, Ottawa, Canada
- ThP 265 **ECD of Heptameric gp31 Non-Covalent Complexes Causes Disassembly with Remarkable Charge Separation;** Rimco B.J. Geels¹; Albert J.R. Heck²; Saskia M. van der Vies³; Ron M.A. Heeren¹; ¹FOM-AMOLF, Amsterdam, Netherlands; ²Utrecht University, Utrecht, Netherlands; ³Vrije Universiteit, Amsterdam, Netherlands
- ThP 266 **Metal Ion Binding Affinities and Activation of Phosphate Esters Studied by Threshold Collision-Induced Dissociation and Theory Calculations;** Chunhai Ruan¹; Hai Huang¹; Mary T. Rodgers¹; ¹Wayne state university, Detroit, MI
- ThP 267 **CID Achieved During Mass Acquisition in a QIT-MS Using a Two-frequency Excitation Waveform;** Ünige A. Laskay¹; Jennifer J. Hyland¹; Glen P. Jackson¹; ¹Ohio University, CICI, Athens, OH

CARBOHYDRATES AND OLIGOSACCHARIDES III

- ThP 291 **Monoclonal Antibody Carbohydrate Structure Sequencing using Mass Spectrometry and OSCAR: an Algorithm for Assigning Oligosaccharide Topology from MSn Data;** Yan-Hui Liu¹; Mei Lin²; David J. Ashline³; Vernon Reinhold³; Michael Grace²; Birendra N. Pramanik¹; ¹Schering-Plough Research Institute, Kenilworth, New Jersey; ²Bristol-Myers Squibb, Hopewell, New Jersey; ³Department of Chemistry, University of New Hampshire, Durham, New Hampshire
- ThP 292 **Sugar Stereochemistry on Mass Spectrometry;** Yoko Ohashi¹; Hiroshi Hatase¹; Takashi Hirano¹; Shojiro Maki¹;

- Haruki Niwa¹; ¹University of Electro-Communications, Chofu, Tokyo, Japan
- ThP 293 **High-throughput Glycomic Profiling through On-line Permethylation and LC/MS;** Pilsoo Kang¹; Yehia Mechref¹; Milos V. Novotny¹; ¹Indiana University, Bloomington, IN; ²National Center of Glycomics and Glycoproteomic, Bloomington, IN; ³METACyt Biochemical Analysis Center, Bloomington, IN
- ThP 294 **Investigation of Glycan Release Methods for Screening Oligosaccharide Biomarkers in Human Serum;** Hyun Joo An¹; Bensheng Li¹; Crystal Kirmiz¹; Suzanne Miyamoto¹; Carlito B. Lebrilla¹; ¹University of California, Davis, Davis, CA
- ThP 295 **Automated Detection of Glycan Isobars with the Bioinformatics Tool GlySpy;** Anthony J. Lapadula¹; David J. Ashline¹; Hailong Zhang¹; Vernon N. Reinhold¹; ¹Center for Structural Biology, UNH, Durham, NH
- ThP 296 **LC-MS Detection of Monosaccharides from Yeast Selected for Xylose Consumption;** Lindsay M. Comeaux¹; R. Paul Levine²; Allis S. Chien¹; Gavin J. Sherlock³; ¹Vincent Coates Foundation Mass Spectrometry Lab, Stanford, CA; ²Department of Biological Sciences, Stanford, CA; ³Department of Genetics, Stanford, CA
- ThP 297 **Towards the Automated Profiling of Glycans Using nano-PGC FT-ICR MS and IRMPD;** Brian H. Clowers¹; Katherine Schubothe¹; Richard Seipert¹; Crystal Kirmiz¹; Carlito B. Lebrilla¹; ¹University of California, Davis, Davis, CA
- ThP 298 **Highly sensitive MALDI MSⁿ for Identification of Polysulfated Oligosaccharides by a Simple Pyrene-Derivatization Method;** Junko Amano¹; Fumio Tougasaki¹; Koichi Tanaka²; ¹The Noguchi Institute, Tokyo, JAPAN; ²Shimadzu Corporation, Kyoto, JAPAN
- ThP 299 **“Glyco-Peakfinder” – Automated Annotation for MS Peaks of Carbohydrates and Data Base Search in EUROCarbDB;** Kai Maass¹; René Ranzinger²; Hildegard Geyer¹; Rudolf Geyer¹; Claus W. von der Lieth²; ¹University of Giessen, Giessen, Germany; ²German Cancer Research Center, Heidelberg, Germany
- ThP 300 **GlycoScreen: A Screening Tool for Comparative Analyses and Assurance of Glycan Profiles;** Hailong Zhang¹; David J. Ashline¹; Vernon N. Reinhold¹; ¹Center for Structural Biology, UNH, Durham, NH
- ThP 301 **LC/MS Study of Iodine Attachment for Quantitative Analysis of Carbohydrates by Isotope Dilution Assay;** Eduard Rogatsky¹; Daniel. T Stein¹; ¹Albert Einstein College of Medicine of Yeshiva Uni, Bronx, NY
- ThP 302 **Analysis of Isobaric Oligosaccharide Mixtures by Sequential Mass Spectrometry;** David J. Ashline¹; Anthony J. Lapadula¹; Vernon N. Reinhold¹; ¹Center for Structural Biology, UNH, Durham, NH
- ThP 303 **Prefractionation of the Human Serum Glycome Using Lectin Affinity;** Caroline S. Chu¹; Crystal Kirmiz¹; Bensheng Li¹; Brian Clowers¹; Hyun Joo An¹; Suzanne Miyamoto¹; Carlito B. Lebrilla¹; ¹University of California, Davis, Davis, CA
- ThP 304 **Quantitation of Oligosaccharides in Human Milk Using Deuterium Labeled Standards;** Milady Ninonuevo¹; Riccardo LoCascio²; Robert Ward³; David Mills²; J. Bruce German³; Carlito Lebrilla¹; ¹Department of Chemistry, University of California, Davis, CA; ²Viticulture & Enology, University of California, Davis, CA; ³Food Science & Technology, University of California, Davis, CA
- ThP 305 **Capillary Electrophoresis-Mass Spectrometry of Carbohydrates;** J. Tim Smith¹; Brad J. Williams¹; Ann Privett²; Carson J. Cameron¹; ¹Southeastern Oklahoma State Univ, Durant, OK; ²Xavier University, New Orleans, LA
- ThP 306 **Automated Mass Spectrometric Determination of N-Linked Glycan Structures Using a Custom Built Glycan Structure Database;** Jian M. Ren¹; Lingyun Li¹; Tomas Rejtar¹; Barry L. Karger¹; ¹Northeastern University, Boston, MA
- ThP 307 **LC/MS Approach for the Analysis of Reduced and Permethylated Oligosaccharides;** John F. Cipollo¹; Joy Contado-Miller¹; Catherine E. Costello¹; ¹Boston University School of Medicine, Boston, MA; ²Boston University School of Medicine MSRRC, Boston, MA 02118
- ThP 308 **Profiling of Oligosaccharides in non-Human Mammalian Milk;** Nannan Tao¹; Milady R. Ninonuevo¹; Katherine J. Hinde²; Brian Clowers¹; Carlito B. Lebrilla¹; ¹University of California, Davis, Davis, CA; ²University of California, Los Angeles, Los Angeles, CA
- ThP 309 **Glycoprotein Identification and Glycosylation Analysis of Human Serum by Fourier Transform Mass Spectrometry (FTMS);** Bensheng Li¹; Crystal Kirmiz¹; Hyun-Joo An¹; Caroline Chu¹; Brian Clowers¹; Suzanne Miyamoto¹; Carlito B. Lebrilla¹; ¹University of California-Davis, Davis, CA
- ThP 310 **Characterization of Plant Polysaccharides Using Online Normal-Phase LC-MALDI-TOF/TOF Tandem Mass Spectrometry;** Sarah L Maslen¹; Alex Adam²; Paul Dupree³; Elaine Stephens¹; ¹Chemistry Department, Cambridge University, Cambridge, UK; ²Dionex UK Ltd, Camberley, UK; ³Biochemistry Department, University of Cambridge, Cambridge, UK
- ThP 311 **Annotating the Milk Glycome;** Latasha Lamotte¹; Milady Ninonuevo¹; Youmie Park¹; Jinhua Zhang¹; Robert Ward¹; J. Bruce German¹; Carlito Lebrilla¹; ¹University of California, Davis, California

IMAGING MS II

- ThP 312 **Direct and Indirect Imaging-MS for Identification of Biomarkers in Tissue Sections;** Erika R. Amstalden¹; Stefan Luxembourg¹; Sander Piersma¹; Iwona Sobczak-Elbourne²; Rainer Bischoff²; Ate G.J. van der Zee²; Ali R. Vaezzadeh³; Catherine G. Zimmermann-Ivol³; Ron M.A. Heeren¹; ¹FOM-Institute for Atomic and Molecular Physics, Amsterdam, The Netherlands; ²University of Groningen, Groningen, The Netherlands; ³Biomedical Proteomics Research Group, Geneva Univ., Geneva, Switzerland
- ThP 313 **Imaging of Target Proteins in Histological Sections by MALDI Mass Spectrometry;** Gwendoline Thiery¹; Mikhail S. Shchepinov²; Edwin M. Southern²; Ivo G. Gut²; ¹Centre National de Genotypage, Evry Cedex, France; ²Oxford Gene Technology, Yarnton, United Kingdom
- ThP 314 **Direct Profiling of Lipids in Rat Brain Tissue Using Desorption Electrospray Ionization Mass Spectrometry;** Justin M. Wiseman¹; Thomas A. Blake¹; Qingyu Song¹; Demian Ifa¹; James E. Woods²; Candice Kissinger²; R. Graham Cooks¹; ¹Purdue University, West Lafayette, IN; ²Bioanalytical Systems Inc., West Lafayette, IN
- ThP 315 **The Ethanol Triton X-100 Sandwich Method Yields High Resolution and M/z MALDI Mass Spectral Images on Tissue;** Barbara D. Leinweber¹; Terrence J. Monks¹; Serrine S Lau¹; ¹College of Pharmacy, U of Arizona, Tucson, AZ
- ThP 316 **Peptide Imaging in Neural Tissue;** M. Reid Groseclose¹; Malin Andersson¹; Richard M. Caprioli¹; ¹Vanderbilt University, Nashville, TN
- ThP 317 **Coregistered Analysis of Proteomic Imaging and Magnetic Resonance Imaging;** Tuhin K. Sinha¹; Jeffrey J. Luci¹; Sheerin K. Shahidi²; Benoit M. Dawant³; John C. Gore¹; Dale S. Cornett²; ¹Institute Of Imaging Science, Nashville, Tennessee; ²Mass Spectrometry Research Center, Nashville, Tennessee; ³Electrical Engineering and Computer Science, Nashville, Tennessee

- ThP 318 **Imaging at Atmospheric Pressure by MALDI Mass Spectrometry;** Yue Li¹; Akos Vertes¹; ¹*George Washington University, Washington, DC*
- ThP 319 **Determination of Loperamide in Mouse Brain Tissue Using MALDI MS Imaging and Comparison with Quantitative ESI LC-MS/MS Analysis;** Young G. Shin¹; Teresa Dong¹; Bilin Chou¹; Kapil Menghrajani¹; Achintya K. Sinhababu¹; Patrick J. Rudewicz¹; ¹*Genentech, South San Francisco, CA*
- ThP 320 **Tissue Section Profiling of Phospholipids and Dosed Drug Levels to Characterize Drug Induced Phospholipidosis Using MALDI-TOF/TOF Mass Spectrometry;** Edward J. Takach¹; Qing Zhu¹; Frank Hsieh¹; ¹*Millennium Pharmaceuticals, Cambridge, MA*
- ThP 321 **Enhanced TOF-SIMS Imaging Using Automated Peak Picking;** William E. Cooke¹; Eugene R. Tracy¹; Haijian Chen¹; Christine Hopkins¹; Dariya I. Malyarenko¹; Maciek Sasinowski²; Dennis M. Manos¹; ¹*College of William and Mary, Williamsburg, VA*; ²*INCOGEN, Inc., Williamsburg, VA*
- ThP 322 **Determination of the Distribution of Loperamide in FVB and mdr1a/1b (-/-) Mouse Brain Tissue Sections using MALDI MS Imaging;** Teresa Dong¹; Young G. Shin¹; Achintya K. Sinhababu¹; Patrick J. Rudewicz¹; ¹*Genentech, South San Francisco, CA*
- ThP 323 **Combining MALDI MS and Novel Microscale Protein Isolation Techniques for the Characterization of Disease Progression in Thin Tissue Sections;** Hans-Rudolf Aerni¹; Dale S. Cornett¹; Richard M. Caprioli¹; ¹*Vanderbilt University, Nashville, TN*
- ThP 324 **MALDI Imaging MS and cDNA Analysis Reveal Changes in Protein Profiles and Gene Expression in Chemical-Induced Renal Tumors;** Serrine S Lau¹; Barbara D. Leinweber¹; Pierre Chaurand²; Richard M Caprioli²; Terrence J Monks¹; ¹*College of Pharmacy, U of Arizona, Tucson, AZ*; ²*Vanderbilt University Medical Center, Nashville, TN*
- ThP 325 **Two-step Matrix Crystallization Technique Improves Resolution and Signal-to-Noise Ratio in Direct Tissue MALDI Analysis on Tissue Surface;** Yuki Sugiura¹; Shuichi Shimma²; Takahiro Harada³; Mitsutoshi Setou²; ¹*Tokyo Institute of Technology, Yokohama, Japan*; ²*The Graduate University for Advanced Studies, Aichi, Japan*; ³*Shimadzu Corporation, Kyoto, Japan*
- ThP 326 **Atmospheric Pressure MALDI Imaging Mass Spectrometry;** Berk Oktem¹; Victor V. Laiko¹; Vladimir M. Doroshenko¹; Shelley N. Jackson²; Hay-Yan J. Wang²; Amina S. Woods²; ¹*MassTech Inc., Columbia, MD*; ²*National Institute on Drug Abuse, NIH, Baltimore, MD*
- ThP 327 **Characterising Oral Cancer Tissue Using MALDI MS with Chemical Printing;** Soyab Patel¹; Royston Goodacre¹; Phil Sloan²; Nalin Thakker²; Alan Barnes³; Neil Loftus³; ¹*School of Chemistry, The University of Manchester, Manchester, United Kingdom*; ²*School of Dentistry, The University of Manchester, Manchester, United Kingdom*; ³*Shimadzu Biotech, Manchester, United Kingdom*
- ThP 328 **Effects of Metal Coating for UV-MALDI-a-TOF Mass Spectrometry Imaging (MALDI MSI) and Direct Tissue Analysis in UV/IR-MALDI-o-TOF Mass Spectrometry;** Maxence Wisztorski¹; Klaus Dreisewerd²; Franz Hillenkamp²; Stefan Berkenkamp³; Michel Salzet¹; Isabelle Fournier¹; ¹*MALDI Imaging Team, FRE CNRS 2933, Univ. of Lille, Villeneuve d'Ascq, France*; ²*Institute of Medical Physics and Biophysics, Muenster, Germany*; ³*Sequenom GmbH, Hamburg, Germany*
- ThP 329 **Enhanced Processing of Tissue Imaging Data;** Min Yang¹; Andrew James¹; Gordana Ivosev¹; Ron Bonner¹; ¹*MDS Sciex, Concord, ON, Canada*
- ThP 330 **MALDI Imaging: Pitfalls and Solutions for Sample Preparation and Data Evaluation;** Soeren-Oliver Deininger¹; Martin Schuerenberg¹; Christine Luebbert¹; Arne Fuetterer¹; Sergej Dikler²; Matthias Ebert³; Christoph Roecken⁴; ¹*Bruker Daltonik GmbH, Bremen, Germany*; ²*Bruker Daltonics, Billerica, MA*; ³*Klinikum rechts der Isar, TU Muenchen, Munich, Germany*; ⁴*Pathology, Charite University Hospital, Berlin, Germany*
- ThP 331 **Histology Directed MALDI-TOF Tissue Profiling of Metastatic Breast Cancer;** Erin H. Seeley¹; Rachel E. Ellsworth²; Darrell L. Ellsworth²; Jeffrey A. Hooke³; Dale S. Cornett¹; Craig D. Shriver³; Richard M. Caprioli¹; ¹*Vanderbilt University, Nashville, TN*; ²*Windber Research Institute, Windber, PA*; ³*Walter Reed Army Medical Center, Washington, DC*
- ThP 332 **New Insights in Sample Preparation for MALDI Imaging and New Developments to Approach Specific MALDI Imaging of the Transcriptome;** Isabelle Fournier¹; Remi Lemaire¹; Maxence Wisztorski¹; Jonathan Stauber¹; Olivia Jardin-Mathe¹; Robert Day²; Michel Salzet¹; ¹*MALDI Imaging Team, FRE CNRS 2933, Univ. of Lille, Villeneuve d'Ascq, France*; ²*Pharmacology Dept, Univ of Sherbrooke, Sherbrooke, Canada*
- ThP 333 **Direct Analysis and MALDI Imaging on Formalin-Fixed Paraffin-Embedded (FFPE) Tissues : Application to Parkinson Disease;** Remi Lemaire¹; Annie Desmons¹; Patrick Ducoroy³; Jean Claude Tabet²; Michel Salzet¹; isabelle Fournier¹; ¹*Neuroimmunologie des annelides, imagerie MALDI, Villeneuve d'ascq, France*; ²*Synthese structure fonction molecules bioactives, Paris, France*; ³*Plateforme proteomique IFR 100, Dijon, France*
- ThP 334 **Identifying Early Proteomic Markers of Kanamycin Induced Nephrotoxicity through Direct Tissue Profiling Using MALDI MS;** Kristen D Herring¹; Axel Ducret²; Deming Mi¹; Richard M Caprioli¹; ¹*Vanderbilt University Medical Center, Nashville, TN*; ²*F. Hoffman-La Roche Ltd., Basel, Switzerland*
- ThP 335 **Profiling of Lipids at the Tumour:Liver Margin in Colorectal Liver Metastasis by Imaging MALDI-MS;** Sally J. Atkinson¹; Ali Majeed²; Nigel Bird²; David Mangnall²; Michael M. Burrell³; Malcolm R. Clench¹; ¹*Sheffield Hallam University, Sheffield, United Kingdom*; ²*Royal Hallamshire Hospital, Sheffield, United Kingdom*; ³*Sheffield University, Sheffield, UK*

LIPIDS: STRUCTURAL ANALYSIS AND PROFILING
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- ThP 336 **Identification of Resolvins, Protectin-D1, and Other Omega-3 Fatty-Acid Derived Lipid-Mediators Via Liquid Chromatography-Electrospray/Low Collision Energy Tandem Mass Spectrometry: Fragmentation Mechanisms;** Song Hong¹; Yan Lu¹; Yong Yang¹; Katherine Gotlinger¹; Charles Serhan¹; ¹*Brigham & Women's Hospital/Harvard Medical School, Boston, MA*
- ThP 337 **Distinction of cis and Trans Isomers of Monounsaturated Fatty Acid by FAB MS in Negative Ion Mode;** Hong Ji¹; Valery G. Voinov¹; Max L. Deinzer¹; Douglas F. Barofsky¹; ¹*Oregon State University, Corvallis, OR*
- ThP 338 **Atmospheric Pressure Covalent Adduct Chemical Ionization (APCACI) for Structural Elucidation of Triacylglycerols;** Yichuan Xu¹; J. Thomas Brenna¹; ¹*Cornell University, Ithaca, NY*
- ThP 339 **Analysis of Phospholipids in Protein Microdomains using Isotope Tagged Derivatives;** Kathleen A. Harrison¹; Bridget S. Wilson²; Robert C. Murphy¹; ¹*University of Colorado Health Sciences Center, Aurora, CO*; ²*University of New Mexico Cancer Research Center, Albuquerque, NM*
- ThP 340 **Identification of Acylation Patterns and Novel Modifications in Lipid A species from Francisella using a**

- Vacuum-MALDI LTQ Linear Ion Trap;** Birgit Schilling¹; Molly K. McLendon²; Nancy J. Phillips³; Michael A. Apicella²; Bradford W. Gibson¹; ¹Buck Institute for Age Research, Novato, CA; ²University of Iowa, Iowa City, IA; ³University of California, San Francisco, CA
- ThP 341 **Characterization of the Mouse Liver Mitochondrial Polyunsaturated Lipidome by ESI-MS/MS/MS;** Kristal M. Maner¹; J. Thomas Brenna¹; ¹Cornell University, Ithaca, NY
- ThP 342 **Withdrawn**
- ThP 343 **Unravelling Lipidomes of Lipid Related Disorders Quantitatively by Comprehensive and Automated Lipid Profiling;** Marcus Stahlman²; Gun-Britt Forsberg¹; Mark Baumert³; Eva Duchoslav⁴; Jan Borén²; Kim Ekroos¹; ¹AstraZeneca, Mölndal, Sweden; ²Wallenberg Laboratory for Cardiovascular Research, Gothenburg, Sweden; ³Advion BioSciences Inc, Norwich, UK; ⁴MDS Sciex, Concord, Canada
- ThP 344 **Electrospray Mass Spectrometry Ocular Lipid Study: Fragmentation of Cis-9-octadecenamide, Negative Mode Reduction of Oleic Acid and Mono-unsaturated Wax Ester Oxidation;** Bryan M. Ham¹; Kari B. Green-Church¹; Jason J. Nichols²; Kelly K. Nichols²; ¹Mass Spec. & Proteo. Facility, Ohio State Univ., Columbus, OH; ²College of Optometry, Ohio State Univ., Columbus, OH
- ThP 345 **In situ Analyses of Cardiolipin in Mitochondria-Rich Rat Organ Sections;** Hay-Yan J. Wang¹; Shelley N. Jackson¹; Amina S. Woods¹; ¹NIDA-IRP, NIH, DHHS, Baltimore, MD
- ThP 346 **Ozonolysis of Phospholipid Double Bonds During Electrospray Ionization: OZESI - A New Tool for Structure Determination;** Michael C. Thomas¹; Todd W. Mitchell¹; Stephen J. Blanksby¹; ¹University of Wollongong, Wollongong, Australia
- ThP 347 **Analytical Systems for Neutral-lipids by Mass Spectrometry;** Toshiaki Houjou¹; Masaki Ishikawa¹; Yasuhiro Iida¹; Mayuko Ishida²; Takao Shimizu¹; Ryo Taguchi¹; ¹The University of Tokyo, Tokyo, Japan; ²SHIMADZU Corporation, Kyoto, Japan
- ThP 348 **Structural Characterization of Glycosphingolipids and Toxin Receptor Gangliosides by IRMPD with TLC/VC-FTMS;** Vera B. Ivleva¹; Anne A. Wolf²; Wayne I. Lencer²; Peter B. O'Connor¹; Catherine E. Costello¹; ¹Boston University School of Medicine, Boston, MA; ²Children's Hospital, Boston, MA
- ThP 349 **Lipids Profiling of Fish Oils from Wild and Farmed Salmon by Matrix Assisted Laser Desorption/Ionization Mass Spectrometry;** Omar Belgacem¹; Emmanuel Raptakis¹; Gerald Stuebiger²; ¹Shimadzu Biotech, Manchester, United Kingdom; ²Institut of Chemical technologies and analysis, Vienna, Austria
- ThP 350 **A Mass Spectrometric Approach to Analyze the Lipid Composition of Detergent-Resistant Membranes Isolated from Cells;** Catharina Crone¹; Göran Hübner¹; Buko Lindner¹; ¹Research Center Borstel, Borstel, Germany
- ThP 351 **Quantitative and Qualitative Analysis of Total Brain Gangliosides using LC Interfaced with a Hybrid Triple Quadrupole/Linear Ion Trap Mass Spectrometer;** Doina Caraiman¹; Tom Biesenthal¹; Johnnie Brown²; ¹Applied Biosystems-MDS Sciex, Concord, Canada; ²Applied Biosystems, Framingham, MA
- ThP 352 **Characterization of Gangliosides from Mouse Brain by MALDI-TOF/TOF;** Kenneth H.N. Chan¹; Patrick Pribil²; Willard Costain¹; Warren W. Wakarchuk¹; Li Jianjun¹; ¹National Research Council of Canada, IBS, Ottawa, Canada; ²Applied Biosystem / MDS SCIEX, Concord, Canada
- ThP 353 **Quantitative Analysis of Glycerophospholipids by LC-MS Using Odd-Carbon Internal Standards;** Jeff D. Moore¹; Stephen B. Milne²; Walter A. Shaw¹; Alex H. Brown²; ¹Avanti
- Polar Lipids, Alabaster, AL;* ²Vanderbilt University Medical Center, Nashville, TN
- ThP 354 **Shotgun Analysis of Intact Phospholipids by Nanoflow LC/MS/MS;** Myeong Hee Moon¹; Dae Young Bang¹; ¹Yonsei University, Seoul, Korea
- ThP 355 **Quantitative Analysis of Sphingolipids by Liquid Chromatography-Triple Quadrupole and Hybrid Quadrupole-Ion Trap (QTrap) Tandem Mass Spectrometry;** Jeremy C. Allegood¹; M. Cameron Sulards¹; Alfred H. Merrill Jr.¹; Jeff D. Moore²; Walter A. Shaw²; ¹Georgia Institute of Technology, Atlanta, GA; ²Avanti Polar Lipids, Inc., Alabaster, AL
- ThP 356 **Tandem Mass Spectrometry of Francisella novicida (U112) Lipid A Reveals Temperature Dependent Remodeling;** Scott A Shaffer¹; Thomas F Kalhorn¹; Megan D Harvey¹; Robert K Ernst¹; David R Goodlett¹; ¹University of Washington, Seattle, WA
- ThP 357 **Rapid Characterization of Edible Oils by Direct MALDI MS Analysis of Triacylglycerols;** Jackson Lay, Jr.¹; Rohana Liyanage¹; Bill Durham¹; John Brooks²; ¹Chemistry and Biochemistry, University of Arkansas, Fayetteville, AR; ²Crime Scene Unit, Fayetteville Police Department, Fayetteville, AR

LIPIDS: BIOCHEMISTRY AND SIGNALING

- ThP 358 **Method Development for Profiling Postprandial Changes in Monocyte Membrane Lipids Using Chip-Based Nanospray-Fourier Transform-Ion Cyclotron Resonance-Mass Spectrometry;** Nabil Saad¹; Laura Higgins¹; John Rutledge¹; Oliver Fiehn¹; ¹University of California, Davis, Davis, CA
- ThP 359 **Remodeling of Docosahexaenoic Acid Containing Phospholipids During Stimulation Monitored by Electrospray LC/MS;** Yang Suk Kim¹; Jong Seong Kang²; Hee Yong Kim¹; ¹NIAAA, NIH, Rockville, MD; ²Coll. Pharm. CNU, Daejeon, Korea
- ThP 360 **Structural and Functional Analysis of the Lipid Binding Properties of a Sec14-like Domain Using Nanospray Mass Spectrometry;** Sven Fraterman¹; Steffan Welti¹; Klaus Scheffzek¹; Matthias Wilm¹; ¹European Molecular Biology Laboratory, Heidelberg, Germany
- ThP 361 **A Novel LC/MS Cell-based Assay to Investigate SCD1 Activity;** Michael J. Greig¹; Roslyn Dillon¹; B. Ganesh Bhat¹; ¹Pfizer Global R&D, San Diego, CA
- ThP 362 **Identification of an Endogenous Ligand of the C. Elegans Nuclear Receptor DAF-12 Using GC-MS;** Jason M Held¹; Matthew S Gill¹; Mark White¹; Gordon J Lithgow¹; Bradford W Gibson¹; ¹Buck Institute for Age Research, Novato, CA
- ThP 363 **Sphingolipidomics: A New Tool to Study Mitochondrial Dysfunction in the Aging Heart;** Alan W. Taylor¹; Jeffrey S. Monette¹; Regis Moreau¹; Tory M. Hagen¹; ¹Oregon State University, Corvallis, OR
- ThP 364 **Improved Long-Chain Fatty Acyl-Coenzyme A Quantitation by HPLC-ESI MS/MS and Distinction of Alternative Biosynthetic Pathways Using Stable Isotope-Labeling;** Christopher A. Haynes¹; M. Cameron Sullards¹; Elaine W. Wang¹; Alfred H. Merrill, Jr.¹; ¹Georgia Institute of Technology, Atlanta, GA
- ThP 365 **Lipidomics: Study of Total Phospholipids in Immortalized Liver Cells Exposed to Different Fatty Acid Substrates;** Michael Pagliassotti¹; Jessica Prenni¹; Phil Ryan¹; Paul Rainville²; Andrew Baker³; ¹Colorado State University, Ft. Collins, CO; ²Waters, Milford, MA; ³Waters, Dublin, CA
- ThP 366 **Lipidomics Approaches to Fatty Acid Amides Using LC-MS/MS;** Bo Tan¹; David K. O'Dell¹; Heather B. Bradshaw¹; M. Francesca Monn¹; Y. William Yu¹; Harini Srinivasan¹; Jocelyn F. Krey²; J. Michael Walker¹; ¹Indiana University, Bloomington, IN; ²Stanford University, Palo Alto, CA

- ThP 367 **Feasibility of Breath Condensate Lipids & Eicosanoids as Non-invasively Collected Biomarker Predictors of Pulmonary Pathobiology**; Sung-Chan Jo¹; James M Cantu¹; Owen R. Moss²; Edilberto Bermudez²; David C White¹; ¹Center for Biomarker Analysis, Univ. Tennessee, Knoxville, TN; ²CIIT, Center for Health Research, Research Triangle Park, NC
- ThP 368 **Characterization of Protein Adduction by Reactive Lipid Oxidation-Derived Electrophiles**; Simona G. Codreanu¹; Daniel C. Liebler¹; ¹Vanderbilt University Medical Center, Nashville, TN; ²Mass Spectrometry Research Center, Nashville, TN
- ThP 369 **Leukotriene A4 inhibition of Viral Replication**; Kelly M Wynalda¹; Joseph A Hankin¹; Jessica L Krank¹; Carlos E Catalano¹; Helene A Gaussier¹; Robert C Murphy¹; ¹University of Colorado Health Sciences Center, Denver, Colorado
- ThP 370 **Application of Combined Liquid Chromatography-Tandem Mass Spectrometry (LC-MS/MS) in Screening for X-linked Adrenoleukodystrophy (X-ALD) in Newborns**; Walter C. Hubbard¹; Ann B. Moser³; Anita Liu³; Hugo W. Moser³; ¹Johns Hopkins University School of Medicine, Baltimore, MD; ²Kennedy-Krieger Institute, Baltimore, MD; ³Kennedy-Krieger Institute, Baltimore, MD
- ThP 371 **Using ESI-MS to Verify the Presence of Sulfogalactosylglycerolipid (SGG) in Lipid Rafts Isolated from Pig Sperm**; Arman Yaghubian¹; Andrew J. Norris¹; Julian P. Whitelegge¹; Maroun Bou Khalil²; Hongbin Xu²; Nongnuj Tanphaichitr²; Kym F. Faull¹; ¹UCLA Pasarow Mass Spectrometry Laboratory, Los Angeles, California; ²Ottawa Health Research Institute, Ottawa, Canada
- LIPIDS: OXIDIZED LIPIDS AND STEROLS**
- ThP 372 **Detection of Enantiomers of Epoxyeicosatrienoic Acid Derivatives by Chiral-Phase High Performance Liquid Chromatography/ Tandem Mass Spectrometry**; A. Clementina Mesaros¹; Seon Hwa Lee¹; Ian A. Blair¹; ¹University of Pennsylvania, Philadelphia, PA
- ThP 373 **5-oxo-EETE Synthesis Under Conditions of Cell Death and Oxidative Stress in Human Leukemic Cells**; Aaron E. Ransome¹; Robert C. Murphy¹; ¹University of Colorado Health Sciences Center, Denver, CO
- ThP 374 **Targeted Chiral Lipidomics Analysis of COX-2-Mediated 15(S)-Hydroxy-eicosatetraenoic Acid Metabolism**; Angela Y. Wehr¹; Seon Hwa Lee¹; Ian A. Blair¹; ¹University of Pennsylvania, Philadelphia, PA
- ThP 375 **Development of a Rapid and Sensitive Method for Sterol Analysis by HPLC-ESI-MS**; Erin C McCrum¹; Jeffrey G McDonald¹; ¹University of Texas Southwestern Medical Center, Dallas, TX
- ThP 376 **Identification of Covalent (Phospho)Lipid-Peptide Adducts: Separation by Liquid Chromatography Coupled with Tandem Mass Spectrometry**; Ana Reis¹; M Rosário M Domingues¹; Pedro Domingues¹; ¹University of Aveiro, Aveiro, Portugal
- ThP 377 **Chiral Lipidomics Analysis of Cyclooxygenase-2-Mediated Arachidonic Acid Metabolism**; Seon Hwa Lee¹; Michelle V. Williams¹; Angela Wehr¹; Yunxian Liu¹; Raymond N. DuBois²; Ian A. Blair¹; ¹University of Pennsylvania, Philadelphia, PA; ²Vanderbilt University Medical Center, Nashville, TN
- ThP 378 **Determination of Isoprostanes in Urine from Smokers and Nonsmokers by Liquid Chromatography/Tandem Mass Spectrometry**; Gary D. Byrd²; Michael W. Ogden²; Weiyang Yan¹; ¹Wake Forest University Medical Center, Winston Salem, NC; ²R. J. Reynolds Tobacco Company, Winston Salem, NC
- ThP 379 **Analysis of Oxidized Phosphatidylcholines Using Structure Specific Survey or Focused Multiple Reaction Monitoring with Reverse Phase LC/MS/MS**; Ryo Taguchi¹; Yasuhiro Iida¹; Hiroki Nakanishi¹; Takao Shimizu¹; ¹Grad. Sch. Med., The Univ. Tokyo, Tokyo, Japan; ²Crest, Jst, Kawaguchi, Saitama, Japan
- ThP 380 **Ascorbylation and Glutathionylation of Lipid Peroxidation Products as Potential Biomarkers of Oxidative Stress Response**; Heather M. Conway¹; Ruth Gordillo¹; Nicholas G. Kesinger¹; John Sowell¹; Cristobal L. Miranda¹; Jan F. Stevens¹; ¹Oregon State University, Corvallis, OR
- ThP 381 **Analysis of Neurosteroid Glucuronides from Mouse Brain by Capillary-Liquid Chromatography-Tandem Mass Spectrometry**; Sirkku E. Jäntti¹; Petteri Piepponen²; Anne Tammimäki²; Risto Kostiaainen²; Raimo A. Ketola¹; ¹Drug Discovery and Development Technology Center, Helsinki, FINLAND; ²University of Helsinki, Helsinki, FINLAND
- ThP 382 **LC-ESI-MS/MS Analysis of trans-4-hydroxy-2-nonenal Enantiomers and Metabolites**; Ales Honzatko¹; Jiri Brichac¹; Matthew J Picklo¹; ¹University of North Dakota, Grand Forks, ND
- ThP 383 **High Sensitivity LC/MS Analysis of Lipid Hydroperoxide-Derived Glutathione Adducts**; Xin Tang¹; Seon Hwa Lee¹; Ian A Blair¹; ¹University of Pennsylvania, Philadelphia, PA
- ThP 384 **LC-MS Analysis and Identification of Oxidized Lipid Components in Minimally Modified Low Density Lipoprotein**; Richard Harkewicz¹; Yury I. Miller¹; Agnes Boullier¹; Joseph L. Witztum¹; Edward A. Dennis¹; ¹University of California, San Diego, La Jolla, CA
- BIOINFORMATICS IV**
- ThP 385 **The Use of an Open Architecture LIMS Solution to Address the Complexity of Proteomic Workflows, Data Management, and Analysis**; Sau-Mei Leung¹; Manimalha Balasubramani²; ¹GenoLogics Life Sciences Software Inc., Victoria, BC, Canada; ²Genomics & Proteomics Core Laboratories, UPITT, Pittsburgh, PA
- ThP 386 **Classification of MS-MS Peptide Spectra to Predict Primary Structure Using Pattern Detection and Matching Techniques**; Jennifer Broughton¹; Sujeewa Alwis²; Michael P May¹; Jim Austin²; ¹Shimadzu Research Laboratory (Europe) Ltd, Manchester, UK; ²Cybul Ltd, York, UK
- ThP 387 **The mzXML Schema Version 3.0**; Patrick G.A. Pedrioli²; James S. Eddes¹; Jimmy K. Eng³; Nichole L. King¹; Brian Pratt⁴; David Shteynberg¹; Joshua M. Tasman¹; Ning Zhang¹; Ruedi Aebersold²; ¹Institute for Systems Biology, Seattle, WA; ²Institute for Molecular Systems Biology (ETH), Zurich, Switzerland; ³Fred Hutchinson Cancer Research Center, Seattle, WA; ⁴Insilicos, Seattle, WA
- ThP 388 **Large Scale Identification of SILAC peptides by Delay Series Autocorrelation and Convolution Mapping**; Matthew J Sniatynski¹; Jason C Rogalski¹; Michael D Hoffman¹; Leonard J Foster²; Juergen Kast¹; ¹The Biomedical Research Centre, Vancouver, BC; ²UBC Centre for Proteomics, Vancouver, BC
- ThP 389 **System for Interactive Analysis and Comparison of Mass Spectrometry Proteomics Experiments**; Mark Igra¹; Adam Rauch²; Peter Hussey²; Joshua Eckels²; Martin McIntosh¹; ¹Fred Hutchinson Cancer Research Center, Seattle, WA; ²LabKey Software, Seattle, WA
- ThP 390 **New MS Peak Picking and Quality Assessment Tools for Proteomics**; Thomas O Patterson¹; Hanno Steen¹; ¹Childrens Hospital, Boston, MA
- ThP 391 **ProteinCenter: A New Bioinformatics Application for Processing of Large-Scale Proteomics Data Sets**; Ole Vorm¹; Hans Jespersen¹; Morten Bern¹; Soeren Schandorff¹; Alexandre Podtelejnikov¹; Peter Venø¹; Martin Damsbo¹;

- Soren Larsen¹; Brian Ramsgaard¹; Erik Nielsen¹; Jacob Kristensen¹; Kenneth Budin¹; ¹*Proxeon, Odense, Denmark*
- ThP 392 **2D Mass Spectra Correlation – Semi Automatic Tool for Modified Peptide Discovery**; Ilan Vidavsky¹; Don L. Rempel¹; Michael L. Gross¹; ¹*Washington University in St. Louis, St. Louis, MO*
- ThP 393 **A Novel Visualization Tool for Common Mass Spectrometric File Formats**; Erik J Nilsson¹; Brian S Pratt¹; Bryan J Prazen¹; ¹*Insilicos, Seattle, WA*
- ThP 394 **Simultaneous Optimization of the Accuracy and Yield of Peptide / Protein Identification with Multiple Search Engines with in-situ Error Estimation**; Wen Yu¹; J. Alex Taylor¹; Sharon Wong-Madden¹; Robert DuBose¹; Scott Patterson²; ¹*Bioinformatics, Seattle, WA*; ²*Molecular Sciences, Thousand Oaks, CA*
- ThP 395 **New Functionality for the Trans-Proteomic Pipeline: Tools for the Analysis of Proteomics Data**; Luis Mendoza¹; Eric W. Deutsch¹; James S. Eddes¹; Jimmy K. Eng²; Robert Hubley¹; Andrew Keller³; Nichole L. King¹; Xiao-jun Li⁴; Alexey I. Nesvizhskii⁵; Patrick Pedrioli⁶; David Shteynberg¹; Joshua M. Tasman¹; Bernd Wollscheid¹; Ning Zhang¹; Ruedi Aebersold⁶; ¹*Institute for Systems Biology, Seattle, WA*; ²*Fred Hutchinson Cancer Research Center, Seattle, WA*; ³*Rosetta Biosoftware, Seattle, WA*; ⁴*Homestead Clinical Corporation, Seattle, WA*; ⁵*University of Michigan, Ann Arbor, MI*; ⁶*Institute for Molecular Systems Biology, ETH Zurich, Zurich, Switzerland*
- ThP 396 **A Software Shell for MS Data Processing and Management**; Yang Su¹; Sequin Huang²; Hua Huang¹; David H. Perlman¹; Mark E. McComb¹; Catherine E. Costello¹; ¹*Boston University School of Medicine, Boston, MA*; ²*Present address Waters Corp, Milford, MA*
- ThP 397 **A Dynamic-Link Library for Predicting Peptide CID Spectra Through Kinetic Modeling**; Zhongqi Zhang¹; ¹*Amgen Inc., Thousand Oaks, CA*
- ThP 398 **Recent Advances in Reliability, Performance and Usability of the Trans-Proteomic Pipeline (TPP) Software Tools**; Brian S Pratt¹; ¹*Insilicos LLC, Seattle, WA*
- ThP 399 **PIKE: Protein Information and Knowledge Extractor**; J. Alberto Medina-Aunon¹; Marcus Macht²; Juan Pablo Albar¹; Herbert Thiele²; ¹*Centro Nacional de Biotecnología - CSIC, Madrid, Spain*; ²*Bruker Daltonik, GmbH, Bremen, Germany*
- ThP 400 **Delivering Mass Spectrometry Tools to the Masses**; Carmen M. Pancerella¹; Dan Fabris²; Julian Eaton²; Irwin D. Kuntz³; Larry A. Rahn¹; Andrew Rothfuss¹; Ken Sale¹; Christine L. Yang¹; Malin M. Young¹; ¹*Sandia National Laboratories, Livermore, CA*; ²*University of Maryland, Baltimore County, Baltimore, MD*; ³*University of California, San Francisco, San Francisco, CA*
- ThP 401 **ASCQ_ME: A New Engine for Peptide Mass Fingerprinting Directly from Mass Spectrum Without Mass List Extraction**; Jean-Charles Boisson¹; Pierre Laurence¹; Laetitia Vermeulen-Jourdan¹; El-Ghazali Talbi¹; Christian Rolando¹; ¹*Universite des Sciences et Technologies de Lille, Villeneuve d'Ascq, France*
- ThP 402 **Schema for the Integration of 2-D Gel Electrophoresis Data with Mass Spectrometry Analysis Results**; Romesh Stanislaus¹; John Arthur¹; Balaji Rajagopalan⁴; Rick Moerschell³; Brian McGlothlen³; Jonas Almeida²; ¹*Medical University of South Carolina, Charleston, SC*; ²*Univ. Texas MDAnderson Cancer Center, Houston, TX*; ³*BioRad Laboratories, Hercules, CA*; ⁴*Wake Forest University School of Medicine, Winston-Salem, NC*
- ThP 403 **Integrated Proteomics Environment for Automated High Throughput Analysis of MS Data**; Bruce D Pascal¹; Mark R Southern¹; Mohammad Fallahi¹; Michael J Chalmers¹; Scott A Busby¹; Nicholas Tsinoremas¹; Christopher Mader¹; ¹*The Scripps Research Institute, Jupiter, FL*
- ThP 404 **An Open Access, Peer Reviewed, Peer-to-Peer Based Proteomics Data Dissemination and Archival System**; Jayson A Falkner¹; Philip C Andrews¹; ¹*University of Michigan, Ann Arbor, MI*
- ThP 405 **InSilicoSpectro - Proteomics Open-Source Library**; Jacques Colinge¹; Alexandre Masselot²; Erik Pitzer¹; Ron D. Appel³; ¹*Upper Austria University of Applied Sciences, Hagenberg, Austria*; ²*GeneBio S.A., Geneva, Switzerland*; ³*Swiss Institute of Bioinformatics, Geneva, Switzerland*
- ThP 406 **A New High Speed Method of Preparing Reports from MASCOT Search Results**; Jermaine O. Rouson¹; Cameron O. Scarlett¹; Bradley Bone¹; Timothy J. Kirksey¹; Christoph H. Borchers¹; ¹*University of North Carolina, Chapel Hill, NC*
- ThP 407 **The Wildcat Toolbox: A Set of Perl Utilities for Data and Database Manipulation**; Paul A. Haynes²; Linda Brecci¹; Susan Miller¹; James Rohrbaugh³; Michael Galligan¹; Timothy Radabaugh¹; Fatimah Hickman¹; Nirav Merchant¹; ¹*University of Arizona, Tucson, AZ*; ²*Macquarie University, Sydney, Australia*; ³*Air Force Institute of Technology, Wright-Patterson AFB, OH*
- ThP 408 **Open Source Tools for the Accurate Mass and Time (AMT) Tag Proteomics Pipeline**; Navdeep Jaitly¹; Matthew E. Monroe¹; Kyle Littlefield¹; Don S. Daly¹; Gordon A. Anderson¹; Richard D. Smith¹; ¹*Pacific Northwest National Laboratory, Richland, WA*
- ThP 409 **Associative Networks for the Exploration of Proteomic Data**; Ioannis K. Moutsatsos¹; Patrick Cody¹; John B. Damask²; Peter Warren¹; ¹*Wyeth Research, Cambridge, MA*; ²*Damask Solutions LLC, Somerville, MA*
- ThP 410 **RAPID: Coordinated Visualization of Multiple Charge States from Individual or Isotopically Labeled Peptides in Liquid Chromatography Mass Spectrometry Experiments**; D. Leif Rustvold¹; Phillip Wilmarth¹; Surendra Dasari¹; Larry David¹; ¹*Oregon Health & Science University, Portland, OR*
- ThP 411 **Visual Basic .NET Tools for Enhancements in Proteomics, Automation and Data Analysis in a Modern Mass Spectrometry Laboratory**; Adrian R. Woolfitt¹; Hercules Moura¹; John R. Barr¹; ¹*Centers for Disease Control and Prevention, Atlanta, GA*

METABOLOMICS AND BIOMARKER DISCOVERY

- ThP 412 **Identification of Phospholipids in Lipid Extracts Using 4.7 Tesla Electrospray-Fourier Transform Ion Cyclotron Resonance Mass Spectrometry (ESI-FTICR MS)**; Seonghyun Yu¹; Kun Cho¹; Younghwan Kim²; Soojin Park¹; Hanbin Oh¹; ¹*Sogang University, Seoul, Korea*; ²*Korea Basic Science Institute, Daejeon, Korea*
- ThP 413 **Desorption Electrospray Ionization (DESI): New Applications of Differential Metabolomics for Cancer Detection**; Nari Talaty¹; Zhengzheng Pan¹; Huanwen Chen¹; Daniel Raftery¹; R Graham Cooks¹; ¹*Purdue University, West Lafayette, IN*
- ThP 414 **Metabonomics Approaches to Profiling Biological Matrices Using a Hybrid LTQ-Orbitrap Mass Spectrometer**; Petia Shipkova¹; Robert Langish¹; Emily Luk¹; Bethanne Warrack¹; Serhiy Hnatyshyn¹; Mark Sanders¹; ¹*Bristol-Myers Squibb, Princeton, NJ*
- ThP 415 **Quantitative Profiling of Primary and Secondary Amine-Contained Metabolites in Urine Using Differential Reductive Amination Labeling and LC-MS**; Chengjie Ji¹; Kevin Guo¹; Liang Li¹; ¹*University of Alberta, Edmonton, Alberta*
- ThP 416 **Development of New Methods for Comprehensive High-Throughput Glycosphingolipidomics**; Steven B. Lavery¹; Yunsen Li¹; Heather Eichert¹; Emma Arigi¹; ¹*University of New Hampshire, Durham, NH*

- ThP 417 **Determination of Arachidonic Acid Metabolites in Rat Brain Striatum Microdialysate by LC-MS/MS Utilizing Electron Capture Atmospheric Pressure Chemical Ionization;** Ge Zu¹; Li Zhang¹; Steven Foster¹; Monika Wrona¹; Glenn Dryhurst¹; ¹University of Oklahoma, Norman, OK
- ThP 418 **Towards Metabolome Profiling with Single Cell MALDI-TOF MS;** Stanislav S. Rubakhin¹; Nathan R. Bohn¹; Jonathan V. Sweedler¹; ¹University of Illinois, Urbana, IL
- ThP 419 **A New Sample Preparation Method for Human Plasma/Serum Metabolomics Study by Liquid-Chromatography Mass Spectrometry (LC/MS);** Xiang He¹; Christopher Becker¹; ¹Biomarker Discovery Sciences, PPD Inc., Menlo Park, CA
- ThP 420 **A Lipidomics Approach in Sinorhizobium Meliloti as a Tool in Functional Genomics;** Libia Saborido Basconcello¹; Brian E. McCarry¹; ¹Chemistry Department/McMaster University, Hamilton, ON, Canada
- ThP 421 **Enhancement of Amino Acid Analysis by Liquid Chromatography/Electrospray Ionization Mass Spectrometry Through Charged and Deuterium-Coded Derivatization;** Wen-Chu Yang¹; Hamid Mirzaei¹; Xiuping Liu¹; Fred E. Regnier¹; ¹Purdue University, West Lafayette, IN
- ThP 422 **Advanced Tools for LC/MS Metabolomics Studies of Secondary Metabolism Using the Model Legume *Medicago truncatula*;** David V. Huhman¹; Scott M. Peterman²; Manor Askenazi³; Stacey Allen¹; Lloyd W. Sumner¹; ¹The Samuel Roberts Noble Foundation, Ardmore, OK; ²Thermo Electron, Somers, NJ; ³BRIMS Center, Cambridge, MA
- ThP 423 **Differential Detection of Endogenous Metabolites Using a Dual Mode Ionization Source on an Atmospheric Pressure Ionization Time-of-Flight Mass Spectrometer (API-TOF);** David Weil¹; Steve Fischer¹; Theodore Sana¹; Laura A. Egnash²; Michael D. Reily²; ¹Agilent Technologies, Santa Clara, CA; ²CA and Discovery Biomarkers, Pfizer Global R and D, Ann Arbor, MI
- ThP 424 **Data Analysis for High Resolution, High-Throughput Metabolomics;** Norma H. Pawley¹; Steven P. Brumby¹; Kwasi G. Mawuenyega¹; Munehiro Teshima¹; Clifford J. Unkefer¹; Pat J. Unkefer¹; ¹Los Alamos National Laboratory, Los Alamos, NM
- ThP 425 **Combined Analysis of NMR and LC/MS Data: Observations in Urine Samples From a Smoker Study;** Markus Godejohann¹; Hartmut Schäfer¹; Christian Fischer¹; Peter Neidig¹; Manfred Spraul¹; Duk-Young Han²; Eunil Lee³; Gabriela Zurek⁴; Carsten Baessmann⁴; ¹Bruker BioSpin GmbH, Rheinstetten, Germany; ²KBSI Seoul, Seoul, South-Korea; ³Korea University, Seoul, South-Korea; ⁴Bruker Daltonik GmbH, Bremen, Germany
- ThP 426 **Development of a Human Plasma and Serum Metabolomic Feature Database and Application in the Study of Type 1 Diabetes Mellitus;** Thomas O. Metz¹; Christina M. Sorensen¹; Stephen J. Callister¹; Matthew E. Monroe¹; Jennifer S.D. Zimmer¹; Ronald J. Moore¹; Patricia W. Mueller²; Richard D. Smith¹; ¹Pacific Northwest National Laboratory, Richland, WA; ²U.S. Centers for Disease Control and Prevention, Atlanta, GA
- ThP 427 **Metabolic and Proteomic Profiling of Cerebrospinal Fluid and Serum for Schizophrenia;** Hilary Major¹; Therese McKenna¹; Christopher Hughes¹; Jeffrey T.-J. Huang²; Sabine Bahn²; ¹Waters Corporation, Manchester, United Kingdom; ²University of Cambridge, Cambridge, United Kingdom
- ThP 428 **A Metabolomics Approach to the Changes in Liver Phospholipids from Rats Treated with Tamoxifen Using Electrospray Ionization Mass Spectrometry Analysis;** Ricky D. Holland¹; Michelle Wiest²; Macdonald Morris²; Rebecca Baillie²; Yvonne P. Dragan¹; Laura Schnackenberg¹; Stacy Dial¹; Naito Akihiro¹; Richard D. Beger¹; ¹National Center for Toxicological Research, Jefferson, AR; ²Lipomics Technologies Inc., West Sacramento, CA
- ThP 429 **Benefits of Capillary LC for Metabolomic Analyses;** Tanya N. Gamble¹; Pauline J. Vollmerhaus¹; Alina Dindyal-Popescu¹; Ron Bonner¹; ¹Applied Biosystems/MDS SCIEX, Concord, Canada
- ThP 430 **An Automated LC-MS/MS Platform for Metabolomics Pathway Quantification - Application to a Type II Diabetic Mouse Model;** Steven L. Ramsay¹; Wolfgang Stöggel¹; Wolfgang Guggenbichler¹; Katusservani Bernardo¹; Klaus Weinberger¹; Armin Graber¹; ¹Biocrates Life Sciences, Innsbruck, Tirol
- ThP 431 **Structure Elucidation of Important Unknown Endogenous Urinary Metabolites Using UPLC/MS-Directed Fraction Collection;** John P. Shockcor¹; Paul Lefebvre¹; Paul Rainville¹; Rob Plumb¹; Warren Potts¹; Jose Castro-Perez¹; ¹Waters Corp., Milford, MA
- ThP 432 **Profiling the Mammalian Metabolome and Its Application to Toxicity Prediction Using High Temperature and Pressure LC/MS-*oa*-TOF with Novel Statistical Analysis;** Robert Plumb¹; Jeremy Nicholson¹; Ian Wilson²; Kelly Johnson²; Paul Rainville²; ¹Imperial College, London, UK; ²Waters Corporation, Milford, MA; ³Astra Zeneca, Macclesfield, UK
- ThP 433 **Development of Solid Phase Extraction Methods for Metabolomics Screening and Targeted Biomarker Analysis by LC-MS and NMR;** Laura A Egnash¹; Laura M Sardelli¹; Lora C Robosky¹; Michael D Reily¹; ¹Pfizer Global Research and Development, Ann Arbor, MI
- ThP 434 **Precise Identification of Molecular Species of Phosphatidylethanolamine and Phosphatidylserine by Neutral Loss Survey with MS³ and Accurate Mass Measurement;** Mayuko Ishida¹; Shinichi Yamaguchi¹; Junichi Taniguchi¹; Junko Iida¹; Kozo Miseki¹; Osamu Nishimura¹; Takao Shimizu²; Ryo Taguchi²; ¹Shimadzu Corporation, Kyoto, Japan; ²The University of Tokyo, Tokyo, Japan
- ThP 435 **Identification of Coenzyme A Activated Substances by Accurate Mass Determination Using ESI Triple-Quadrupole Mass Spectrometry;** Christoph Magnes¹; Thomas R. Pieber¹; Werner Regittnig²; Frank M. Sinner¹; ¹Joanneum Research, Graz, Austria; ²Medical University, Graz, Austria
- ThP 436 **Identification of Metabolic Biomarkers of Disease by FT-ICR MS;** Stephen C.C. Wong¹; Warwick B. Dunn¹; David I. Broadhurst¹; Mark Baumert²; Alistair Stirling²; Douglas B. Kell¹; Simon J. Gaskell¹; ¹The University of Manchester, Manchester, UK; ²Advion Biosciences Ltd, Hethersett, Norwich, UK
- ThP 437 **Single-Column Multi-Mode HPLC Separation and its Application for Amino Acid Analysis;** Zhihui Wen¹; Ying Zhang¹; Liang Li¹; ¹University of Alberta, Edmonton, AB, Canada
- ThP 438 **Optimization of Experimental Parameters for Reproducible Urine Analysis During Conduct of a Pre-Clinical Metabolomics Study in Rabbits;** Richard Schneider¹; Andrew Butler¹; Marielle Delnomdedieu¹; ¹Pfizer Global Research & Development, Groton, CT
- ThP 439 **Metabolic Profiling of Cerebral Spinal fluid Utilizing Gas Chromatography Mass Spectrometry with Negative Chemical Ion Detection;** James A. Eckstein¹; Gina M. Londino¹; Kalpana M. Merchant¹; Bradley L. Ackermann¹; ¹Eli Lilly and Company, Greenfield, IN

- ThP 440 **Unbiased Selection of Aroma Producing Bacteria by Metabolomics**; Heike Schaefer¹; Stefan Irmeler¹; *Agroscope Liebefeld-Posieux (ALP), Bern, Switzerland*
- ThP 441 **Identification and Quantification of Human Metabolites from Plasma Using HPLC, MS and NMR**; Lisa N. Nikolai¹; David S. Wishart¹; Liang Li¹; *University of Alberta, Edmonton, Canada*
- ThP 442 **Purification and Structural Characterization of Novel Metabolic Substrates in Pathogenic Bacteria by Hydrophilic Interaction Liquid Chromatography-Mass Spectrometry (HILIC-MS) and NMR**; Evelyn C. Soo¹; Dave J McNally²; Joseph PM Hui¹; Annie J. Aubry²; Kenneth KK Mui³; Susan M Logan²; Patricia Guerry⁴; Jean-Robert Brisson²; *¹NRC-Institute for Marine Biosciences, Halifax, Canada; ²NRC-Institute for Biological Sciences, Ottawa, Canada; ³University of Waterloo, Waterloo, Canada; ⁴Naval Medical Research Center, Silver Spring, MD*
- ThP 443 **Metabolite Analysis of Fermenting and Respiring Yeast Cells using GCxGC-TOFMS and chemometrics**; Rachel E. Mohler¹; Kenneth M. Dombek¹; Jamin C. Hoggard¹; Elton T. Young¹; Robert E. Synovec¹; *University of Washington, Seattle, WA*
- ThP 444 **Metabolite Profiling in Human Urine by NMR and MS**; Mulu Gebre^{1,2,3,4,5}; Lisa Nikolai^{1,2,3,4,5}; Godwin Amegbey^{1,2,3,4,5}; David Wishart^{1,2,3,4,5}; Liang Li^{1,2,3,4,5}; *University of Alberta, Edmonton, AB, Canada; ²University of Alberta, Edmonton, AB, Canada; ³University of Alberta, Edmonton, AB, Canada; ⁴University of Alberta, Edmonton, AB, Canada; ⁵University of Alberta, Edmonton, AB, Canada*
- ThP 445 **New Tools in Metabolomics: Application of Sensitive MRM Scans Together with New Scaling Procedures to Detect Reactive Metabolites in Humans**; Silvia Wagner¹; Karoline Scholz¹; Lyle Burton²; Wolfgang Voelkel¹; *¹University of Wuerzburg, Wuerzburg, Germany; ²Applied Biosystems, Concord, Canada*
- ThP 446 **Cell-Based Metabolite Identification for Expanding the Human Metabolome MS/MS Database**; Melissa A. Clements¹; Sandra L. Marcus¹; Liang Li¹; *University of Alberta, Edmonton, Alberta*
- ThP 447 **Development and Characterization of a HILIC LC-MS Method for Metabolomic Analysis of Polar Analytes in Urine**; Kara M Pearson¹; Danny W Choo¹; William H Schaefer¹; *Merck & Co., Inc., West Point, PA*
- METABOLOMIC AND BIOMARKER APPLICATIONS**
- ThP 450 **Identification of Endogenous Glycine Conjugates in Normal Rat Urine Using LTQ-FTMS System**; Yutai Li¹; Qiuwei Xu¹; Amy Fitzpatrick Loughlin¹; William H Schaefer¹; *Merck & Co., Inc., West Point, PA*
- ThP 451 **Urinary Polyamines and N-acetylated Polyamines in Four Patients with Alzheimer's Disease as their N-ethoxycarbonyl-N-pentafluoropropionyl Derivatives by GC-SIM-MS Method**; Kyoung R. Kim¹; Sunmie Lee¹; Man J. Paik¹; Kyung H. Cho²; *¹Sungkyunkwan University, Suwon, South Korea; ²Seoul Women's University, Seoul, South Korea*
- ThP 452 **A Stable Isotope Dilution LC-MS/MS Method to Analyze Pathways of Benzo[a]pyrene-Mediated DNA-Adduct Formation**; Stacy L. Gelhaus¹; Qian Ruan¹; Seon Hwa Lee¹; Trevor M. Penning¹; Ian A. Blair¹; *University of Pennsylvania, Philadelphia, PA*
- ThP 453 **Metabolome Analysis of Steady State Bacterial Cultures by High-Resolution Mass Spectrometry**; Munehiro Teshima¹; Kwasi G. Mawuenyega¹; Norma H. Pawley¹; Clifford J. Unkefer¹; Pat J. Unkefer¹; *Los Alamos National Laboratory, Los Alamos, NM*
- ThP 454 **Metabolite Profiling by LC/ESI-TOF MS Combined with XCMS Analysis for Biomarker Discovery**; Hirotohi Morita¹; Grace O'Maille¹; Elizabeth J. Want¹; Anders Nordström¹; Gary Siuzdak¹; *The Scripps Research Institute, La Jolla, CA*
- ThP 455 **A Metabolomics Study of Camellia Sinensis (Tea)**; Chris L. Stumpf¹; Paul D. Rainville¹; John Shockcor¹; Robert S. Plumb¹; James N. Willis¹; *Waters Corporation, Milford, MA*
- ThP 456 **Characterization of Myxobacteria Producing Secondary Metabolites by HPLC-MS Screening and Principal Component Analysis (PCA)**; Daniel Krug¹; Birgit Schneider²; Gabriela Zurek²; Carsten Baessmann²; Jim Cunningham³; Rolf Mueller¹; *¹Saarbruecken University, Saarbruecken, Germany; ²Bruker Daltonik GmbH, Bremen, Germany; ³Bruker Daltonics, Billerica, MA*
- ThP 457 **Investigation of Delta-Aminolevulinic Acid for Use as a Small Molecule Biomarker for Zinc Status in Humans**; Na Pi¹; Ellen Fung¹; David Killilea¹; Bruce Ames¹; *Children's Hospital Oakland Research Institute, Oakland, CA*
- ThP 458 **Combining Unbiased and Targeted Mass Spectrometry-Based Metabolomics Methods for Profiling Pre- and Post-Liver Transplantation in Hepatitis C Virus Subjects**; Brett R. Wenner¹; James R. Bain¹; Amany Zekry¹; Olga Ilkayeva¹; Don C. Rockey¹; Christopher B. Newgard¹; John G. McHutchison¹; Robert D. Stevens¹; *Duke University Medical Center, Durham, NC*
- ThP 459 **Identification of Sugar-Phosphates and Sugar-Nucleotides in a Metabolomics Study of E. coli Cell Lysates**; Joseph P. M. Hui¹; Jie Yang²; Jon S. Thorson²; Evelyn C. Soo¹; *¹NRC - Institute for Marine Biosciences, Halifax, Canada; ²University of Wisconsin - School of Pharmacy, Madison, WI*
- ThP 460 **Profiling of Catecholamines and their Metabolites in Rat Brain Extract using Liquid Chromatography/Atmospheric Pressure Photoionization Mass Spectrometry**; Jason A. Starkey¹; Tatiana Rojkovicova¹; Yehia Mechref²; William J. McBride³; Milos V. Novotny¹; *¹Department of Chemistry, Indiana University, Bloomington, Indiana; ²METACyt Biochemical Analysis Center, Bloomington, Indiana; ³Department of Psychiatry, Indiana University, Indianapolis, Indiana*
- ThP 461 **Identification and Characterization of Metabolites and Markers Indicative of Effectiveness of Schizophrenia Treatment**; Geron Bindseil¹; J.C. Yves Le Blanc¹; Lyle Burton¹; Julie Wingate¹; *Applied Biosystems|MDS Sciex, Concord, Canada*
- ThP 462 **Free Amino Acid Levels in brain Cortex Tissues of Three Mouse Models with Alzheimer's Disease as Their N (O,S)-ethoxycarbonyl/tert-butylidimethylsilyl Derivatives**; Man J. Paik¹; In S. Cho¹; Inhee. Mook-Jung²; Kyoung R. Kim¹; *¹Sungkyunkwan University, Suwon, South Korea; ²Seoul National University College of Medicine, Seoul, South Korea*
- ThP 463 **Investigating the Distribution of Metabolites in Wheat by Imaging Matrix-Assisted Laser Desorption Ionisation Mass Spectrometry**; Caroline J Earnshaw¹; Malcolm R Clench¹; Mike M Burrell²; *¹Sheffield Hallam University, Sheffield, UK; ²University of Sheffield, Sheffield, UK*
- ThP 464 **Metabolite Profiling of an Obese Murine Model**; David Mutch¹; Grace O'Maille¹; Chuan Qin¹; Gary Siuzdak¹; *The Scripps Research Institute, La Jolla, CA*
- ThP 465 **Metabolite Profiles in Developing Oranges**; Kwasi G Mawuenyega¹; Munehiro Teshima¹; Norma H Pawley¹; Clifford J Unkefer¹; Pat J Unkefer¹; *Los Alamos National Laboratory, Los Alamos, NM*
- ThP 466 **Identification and Characterization of SbSTS1-derived Secondary Metabolites in Transgenic Arabidopsis by Means of Tandem Mass Spectrometry**; Corey N. W. Lam¹; Christine K. Y. Yu¹; Fiona H. Y. Shiu¹; J. C. Yves Le Blanc²; Clive Lo¹; Ivan K. Chu¹; *¹The University of Hong Kong, Hong Kong, China; ²MDS Sciex, Concord, Ontario, Canada*

ThP 467 **Stable Isotopes and Mass Spectrometry. Flux Analysis of the Fructose-6-P-phosphoketolase Shunt Pathway in Bifidobacterium;** Anthony Adeuya¹; Terence R. Whitehead²; Neil P. Price¹; ¹USDA-ARS-NCAUR, Bioproducts & Biocatalysis Research, Peoria, IL; ²USDA-ARS-NCAUR, Fermentation Biotechnology Research, Peoria, IL

NON-COVALENT INTERACTIONS II

ThP 468 **Nanoelectrospray Mass Spectrometry to Study the Structure and Dynamics of Homogeneous and Heterogeneous Noncovalent Protein Complexes;** Alexander J Painter¹; Justin Benesch¹; Carol V Robinson¹; ¹Cambridge University, Cambridge, United Kingdom

ThP 469 **Study of Interactions and Determination of Binding Affinity Constants of Ape1 to E3330 or c-Jun by PLIMSTEX;** Bich T. N. Vu¹; Millie M. Georgiadis²; John-Stephen A. Taylor¹; Michael L. Gross¹; ¹Washington University in St. Louis, St. Louis, MO; ²Indiana University School of Medicine, Indianapolis, IN

ThP 470 **ESI-MS of Proteins in Urea;** Lynda J Donald¹; Vladimir M. Collado¹; Harry W. Duckworth¹; Kenneth G. Standing¹; ¹University of Manitoba, Winnipeg, Manitoba, Canada

ThP 471 **Laser Spray Mass Spectrometry; A Promising Tool for the Analysis of Stability of Biological Macromolecules in Solution;** Satoko Akashi¹; Xiangguo Shi¹; Atsushi Takamizawa²; Yoshifumi Nishimura¹; Kenzo Hiraoka²; ¹Yokohama City University, Yokohama, Japan; ²University of Yamanashi, Kofu, Japan

ThP 472 **Characterization of Ribosomes by Chemical Cross-linking and Mass Spectrometry;** Soheil Pourshahian¹; Patrick A. Limbach¹; ¹Department of Chemistry, University of Cincinnati, Cincinnati, OH

ThP 473 **A Novel Fluorescent Isotopically-Coded MALDI-Cleavable Crosslinker, BiPS;** Evgeniy V. Petrotchenko¹; Christoph H. Borchers¹; ¹University of North Carolina, Chapel Hill, NC

ThP 474 **Behavior of Beta-Carboline Toward Nucleosides, Nucleobases and Oligonucleotides in Electrospray;** Ying Xu¹; Clotilde Le Vol¹; Xiao Chun Dong²; Carlos Afonso¹; Françoise Fournier¹; Ren Wen²; Jean-Claude Tabet¹; ¹University Paris 6, Paris, France; ²Fudan University, Shanghai, China

ThP 475 **Surface-Induced Dissociation of Non-Covalent Protein Complexes: Comparisons to Collision-Induced Dissociation;** Christopher M Jones¹; Richard L Beardsley¹; Asiri S Galhena¹; Shai Dagan¹; Charles Cheng¹; Vicki H Wysocki¹; ¹The University of Arizona, Tucson, AZ

ThP 476 **Nano-ESI-MS Study of Non-Denatured Nuclear Receptor Complexes Helps to Define a Network of Protein-Protein Interactions;** Alan M. Sandercock¹; Herbert Nar²; Thilo A. Fligge²; Carol V. Robinson¹; ¹University of Cambridge, Cambridge, United Kingdom; ²Boehringer Ingelheim Pharma GmbH & Co. KG, Biberach/Riss, Germany

ThP 477 **Biological Aggregates in Solution and the Gas Phase;** Hannah V Florance¹; Jess Lippens¹; Bryan McCullough¹; Perdita Barran¹; ¹University of Edinburgh, Edinburgh, United Kingdom

ThP 478 **Elucidating the Binding Selectivity of Bivalent Glutathione S-Transferase Inhibitors by H/D Exchange Mass Spectrometry;** Liming Hou¹; Sumit S. Mahajan¹; Catalin Doneanu¹; William M. Atkins¹; ¹University of Washington, Seattle, WA

ThP 479 **Crosslinking and Mass Spectrometry for Identifying Protein-protein Interaction Sites in Activator-Multi-component Protein Complexes;** Kun Lu¹; Evgeniy V. Petrotchenko¹; Christoph H. Borchers¹; ¹University of North Carolina, Chapel Hill, NC

ThP 480 **Noncovalent Protein-Protein Complexes Studied by ESI-MS: Distinguishing "Real" Signals from Dissociation and Clustering Artifacts;** Belal M. Hossain¹; Lars Konermann¹; ¹University of Western Ontario, London, Ontario N6A 5B7, Canada

ThP 481 **MALDI-MS and MALDI-MS/MS of Oligonucleotide/Polycation Complexes;** Peran Terrier¹; William Buchmann¹; Gregoire Zin¹; Valerie Gabelica²; Edwin De Pauw²; Jeanine Tortajada¹; ¹LAMBE UMR 8587 CNRS/CEA/Universite d'Evry, Evry, France; ²Universite de Liege, Liege, Belgium

ThP 482 **Emerging Technologies for Mass Spectrometry of Noncovalent Complexes: Structural Determination Via Collision-Induced Dissociation, Spectral Deconvolution, and Ion Mobility;** Justin LP Benesch¹; Brandon T Ruotolo¹; Adam RC McKay¹; Carol V Robinson¹; ¹University of Cambridge, Cambridge, UK

ThP 483 **Fully Automated Chip-Based Nanoelectrospray Tandem Mass Spectrometry for the Determination of Noncovalent Protein-Carbohydrate Interaction;** Alina D. Zamfir¹; Martin G. Peter²; Jasna Peter-Katalinic¹; ¹Institute for Medical Physics and Biophysics, Münster, Germany; ²Chemistry Institute, Potsdam, Germany

ThP 484 **DNA-Drug Complexes Probed by ESI and MALDI and Different Ion Activation Methods;** Todd H. Mize¹; Arpad Somogyi²; ¹Bio5 Institute--University of Arizona, Tucson, AZ; ²Department of Chemistry--University of Arizona, Tucson, AZ

ThP 485 **Probing the Structure of Protein Complexes Using Covalent Derivatization and Two-Dimensional Protein Chromatography/Mass Spectrometry;** Richard L. Beardsley¹; Xiaohui Liu¹; William E. Running¹; James P. Reilly¹; ¹Indiana University, Bloomington, IN

ThP 486 **Equilibrium Dialysis LC/ESI-MS/MS for Characterizing Protein-Ligand Interactions;** Terri L. Quenzer¹; Ben Bolanos¹; Catherine Pham¹; Jiangli Yan¹; Michael J. Greig¹; ¹Pfizer Global R&D - La Jolla, San Diego, CA

PROTEINS GENERAL II

ThP 487 **Proton-Deuteron Amide Exchange Studies by MS and NMR: A New Method for Protein NMR Resonance Assignment;** Lianmei Feng¹; James Prestegard¹; Ronald Orlando¹; ¹University of Georgia, Athens, GA, USA

ThP 488 **Automated Intermediate Mass Correction for Protein Open-Access LC/MS;** Jon D. Williams¹; Craig D. Wagner¹; John T. Hall¹; Wendy L. White¹; ¹GlaxoSmithKline, Research Triangle Park, NC

ThP 489 **Structural Variations in the Peanut Allergen Ara h 2;** Kevin J. Shefcheck¹; Carmen D. Westphal¹; John H. Callahan¹; ¹US Food and Drug Administration, College Park, MD

ThP 490 **Profiling of Soluble Proteins in Wine by Nano-High-Performance Liquid Chromatography/Tandem Mass Spectrometry;** Sung Won Kwon¹; Jae Sung Pyo¹; Jeong Hill Park¹; ¹Seoul National University, Seoul, South Korea

ThP 491 **Mapping the Interaction Between Bacterial Transferrin Binding Protein B and human Transferrin via Hydrogen-Deuterium Exchange Mass Spectrometry;** Michael J. Eggerton¹; David C Schriemer¹; Anthony B Schryvers¹; Jessmi Ling¹; Collin Shima¹; ¹University of Calgary, Calgary, AB Canada

ThP 492 **MALDI Imaging of Retina and MALDI Profiling of Isolated Rod Cells;** Joshua L. Johnson¹; Daniel D. Oprrian¹; Jeffery N. Agar¹; ¹Brandeis University, Waltham, MA

ThP 493 **Production and Characterization of ABL1 Wild-Type and Gleevec® Resistant Mutant Kinases using LC-MS/MS, Radioactive and Z-LYTE™ Assays;** Jill K. Wolken¹; Krishne Gowda¹; Tina Hallis¹; Mark Maffitt¹; Richard Somberg¹;

- Chris Armstrong¹; Mary Ozers¹; Kurt Vogel¹; Baigen Mei¹; ¹*Invitrogen, Madison, WI*
- ThP 494 **Analysis of Glue Droplets on Spider Egg Case Silk Using MALDI/TOF/TOF Mass Spectrometry;** Xiaoyi Hu¹; Jing Yuan¹; Arnold M. Falick²; Craig A. Vierra¹; Anne M. F. Moore¹; O. David Sparkman¹; Patrick R. Jones¹; ¹*University of the Pacific, Stockton, CA*; ²*HHMI MS Lab, University of California, Berkeley, Berkeley, CA*
- ThP 495 **Development of H/D Exchange Mass Spectrometry as a Biophysical Assay for the Classification of Nuclear Receptor Modulators;** Michael J. Chalmers¹; Scott A. Busby¹; Swati Prasad¹; Bruce D. Pascal¹; Mark Southern¹; Sandra Cervino¹; Patrick R. Griffin¹; ¹*The Scripps Research Institute, Jupiter, Florida*
- ThP 496 **Identification of Copper-Binding Plant Proteins Using Immobilized Metal-Ion Affinity Chromatography, Gel Electrophoresis and LC-MS/MS;** Cory A Sonntag¹; Andrew RS Ross²; Douglas JH Olson²; ¹*University of Saskatchewan, Saskatoon, Canada*; ²*NRC-Plant Biotechnology Institute, Saskatoon, Canada*
- ThP 497 **Characterization of the Murine Myelin Basic Protein: Structural Analysis of an Intrinsically Unstructured Protein;** Christine M. Hager-Braun¹; Kenneth B. Tomer²; Michael B. Goshe¹; ¹*North Carolina State University, Raleigh, NC*; ²*National Institute of Environmental Health Science, Research Triangle Park, NC*
- ThP 498 **Dynamic Analysis of the Heat Shock Protein 60 and its Gene Expression in Thermoanaerobacter Tengcongensis Induced by Temperature Increase;** Bo Meng¹; ¹*Beijing Genomics Institute, Beijing, China*
- ThP 499 **Determination of Proteins in Infant Formula by High-Performance Liquid Chromatography-Electrospray Tandem Mass Spectrometry;** Jae Sung Pyo¹; Jeong Hill Park¹; Sung Won Kwon¹; ¹*Seoul National University, Seoul, South Korea*
- ThP 500 **High Sequence Coverage by In-Capillary Proteolytic Digest: Identification and/or Sequencing of Hemoglobins Directly from Blood Samples;** Gottfried Pohlentz¹; Stefanie Henning¹; Michael Mormann¹; Jasna Peter-Katalinic¹; ¹*Institute for Medical Physics and Biophysics, Münster, Germany*
- MODIFIED PROTEINS: OXIDATION**
- ThP 501 **Mass Spectroscopic Characterization of Protein Oxidation by Pyrroloquinoline Quinone;** Takeshi Ishii¹; Mitsugu Akagawa²; Yuji Naito³; Toshikazu Yoshikawa³; Shigenori Kumazawa¹; ¹*University of Shizuoka, Shizuoka, Japan*; ²*Osaka Prefecture University, Sakai, Japan*; ³*Kyoto Prefectural University of Medicine, Kyoto, Japan*
- ThP 502 **The Oxidation of Yeast Alcohol Dehydrogenase by Hydrogen Peroxide in vitro;** Lijie Men¹; Yinsheng Wang¹; ¹*University of California at Riverside, Riverside, CA*
- ThP 503 **Post Translational Modifications of Human Transthyretin as Potential Biomarkers for Type 2 Diabetes;** Qinfeng Liu¹; Erik N. Hansen²; Najj N. Abumrad²; Daniel C. Liebler¹; ¹*Vanderbilt University, Nashville, TN*; ²*Vanderbilt University Medical Center, Nashville, TN*
- ThP 504 **Identification of Specific Protein Carbonylation Sites in Model Oxidations of Human Serum Albumin;** Ani Temple¹; Ten-Yang Yen¹; Scott Gronert¹; ¹*San Francisco State University, San Francisco, CA*
- ThP 505 **Methionine Oxidation and Specific Tyrosine Chlorination: Potential Mechanism for Impaired ABCA1-dependent Cholesterol Efflux Activity of Apolipoprotein A-I by Myeloperoxidase;** Baohai Shao¹; Michael N. Oda²; Nathan Brot³; John F. Oram¹; Jay W. Heinecke¹; ¹*University of Washington, Seattle, WA*; ²*Children's Hospital Oakland Research Institute, Oakland, CA*; ³*Weill Medical College of Cornell University, New York, NY*
- ThP 506 **LC/MS Methods in Study of Photo-Degradations of Therapeutic Recombinant IgG Molecules;** Himanshu Gadgil¹; Doug Banks¹; Gary Pipes¹; Vipa Hobbs¹; Timothy Osslund¹; Pavel Bondarenko¹; Robert Rush¹; ¹*Amgen Inc, Thousand Oaks, CA*
- ThP 507 **Characterization of the Post-Translational Modifications of Two Sources of Recombinant Oligomeric Adiponectin;** Jennifer F. Nemeth¹; Audrey Baker¹; Karen Becker¹; Haiyan Jiang¹; Bethany Swencki-Underwood¹; Justin Sprenkle¹; Mark Cunningham¹; Todd Schraw²; Philipp E. Scherer²; Ian James¹; Ray Sweet¹; ¹*Centocor Research and Development, Radnor, PA*; ²*Albert Einstein College of Medicine, New York, New York*
- ThP 508 **Bottom-Up vs Top-Down Mass Spectrometric Characterization Of Heme-Protein Free Radicals Induced By Oxidative Damage;** Leesa J Deterding¹; Suchandra Bhattacharjee¹; Dario C Rameriz¹; Ronald P Mason¹; Kenneth B. Tomer¹; ¹*NIEHS, NIH, DHHS, Research Triangle Park, NC*
- ThP 509 **Identification and Quantification of Post-Translational Modifications on Large Intact Proteins by LC/ESI-TOF MS;** Da Ren¹; Dean Liu¹; Gang Xiao¹; Himanshu Gadgil¹; Bill Callahan¹; Sabine Paterson¹; Pavel Bondarenko¹; ¹*Amgen, Thousand Oaks, California*
- ThP 510 **ESI- and MALDI-MS Studies of Covalently Modified Peroxiredoxin and Superoxide Dismutase: Targets of Quinone Methide Lung Tumor Promoters;** Oleg V. Kirichenko¹; Brent W. Meier¹; Jose D. Gomez¹; John A. Thompson¹; ¹*University of Colorado Health Sciences Center, Denver, CO*
- ThP 511 **Structural and Catalytic Effects of Biological Oxidants on Group VI Group VIA Phospholipase A₂;** Haowei Song¹; Shuzhong Bao¹; Sasanka Ramanadham¹; John Turk¹; ¹*Washington University in St. Louis, St. Louis, MO*
- ThP 512 **Modification, Degradation, and Inactivation of Mitochondrial and Cytosolic Proteins in Alcohol-Exposed Animal Livers and Hepatoma Cells;** Byoung J. Song²; Brian L. Hood¹; Bong-Jo Kim²; Kwan-Hoon Moon²; Soo-Kyung Suh²; James P. Hardwick²; David A. Lucas¹; Thomas P. Conrads¹; Timothy D. Veenstra¹; ¹*SAIC-Frederick, Inc., Frederick, MD*; ²*National Institute on Alcohol Abuse and Alcoholism, Bethesda, MS*
- ThP 513 **Conclusive Determination of Carbonylated Proteins from Rat Skeletal Muscle Mitochondria Using Affinity Enrichment, iTRAQ Reagent Labeling and MS/MS Analysis;** Hongwei Xie¹; Danni Li¹; LaDora V. Thompson¹; Edgar A. Arriaga¹; Timothy J. Griffin¹; ¹*University of Minnesota, Minneapolis, MN*
- ThP 514 **Rapid Screening of 4HNE Adducts on Creatine Kinase Brain Isoform by Direct Infusion LTQ-FT MS and MS/MS;** Shannon M Eliuk¹; Erin M Shonsey¹; Matthew B Renfrow¹; Marion Kirk¹; Stephen Barnes¹; Helen Kim¹; ¹*University of Alabama at Birmingham, Birmingham, AL*
- ThP 515 **A Detailed Map of Oxidative Post-translational Modifications of Human p21ras using Fourier Transform Mass Spectrometry;** Cheng Zhao¹; Mahadevan Sethuraman¹; Nicolas Clavreul¹; Parminder Kaur¹; Richard Cohen¹; Peter O'Connor¹; ¹*Boston University School of Medicine, Boston, MA*
- ThP 516 **De Novo Sequencing and Characterization of Post-translational Modifications of an Amyloidogenic Immunoglobulin Kappa Light Chain;** Yan Jiang¹; Roger Theberge Theberge¹; Jeremy Eberhard¹; Greg Karamitis¹; Tatiana Prokaeva¹; Lawreen H. Connors¹; Martha Skinner¹; Cheng Lin¹; Peter B. O'Connor¹; Catherine E. Costello¹; ¹*Boston University School of Medicine, Boston, MA*

PROTEIN CONFORMATION III

- ThP 517 **Transferrin : Receptor Binding in vivo Using Novel Footprinting Approach;** Ming-Zhong Sun¹; Olga Zak²; Guozhong Xu¹; Rutao Liu²; Phil Aisen²; Mark R Chance¹; ¹Case Western Reserve University, Cleveland, OH; ²Albert Einstein College of Medicine, Bronx, NY
- ThP 518 **Determining the Conformation of ApoA-I on Phospholipid rHDL Discs Using Chemical Cross-linking and Mass Spectrometry;** Michael J. Thomas¹; Shaila Bhat¹; Michael P. Samuel¹; Mary G. Sorci-Thomas¹; ¹Wake Forest University Health Science, Winston-Salem, NC
- ThP 519 **Time-resolved Footprinting Approach to Examine the Dynamics of Ca²⁺ Dependent Activation of Gelsolin;** Janna G Kiselar^{1,3}; Paul A Janmey²; Mark R Chance^{1,3}; ¹Case Western Reserve University, Cleveland, OH; ²University of Pennsylvania, Philadelphia, PA; ³Case Western Reserve University, Cleveland, OH
- ThP 520 **Inside of a Molecular Machine: Examination of the ClpAP Protease via Synchrotron Radiolysis and Mass Spectrometry;** Jen Bohon¹; Sayan Gupta¹; Laura D. Jennings²; Mark R. Chance¹; ¹Case Western Reserve University, Cleveland, OH; ²Massachusetts Institute of Technology, Cambridge, MA
- ThP 521 **Three Integrative Computational Tools for a Chemical Protein Crosslinking Workflow using Isotope-Coded Crosslinkers and Mass Spectrometry: iXLINK, doXLINK and XlinkViewer;** Jan Seebacher¹; Parag Mallick³; Ning Zhang¹; James S. Eddes¹; Ruedi Aebersold⁴; Michael H. Gelb²; ¹Institute for Systems Biology, Seattle, WA; ²University of Washington, Seattle, WA; ³Louis Warschaw Prostate Cancer Center, Cedars-Sina, Los Angeles, CA; ⁴Federal Institute of Technology, Zürich, Switzerland
- ThP 522 **Probing Laminin Self-Interactions Using Isotope-Labeled Cross-Linkers and ESI-FTICR Mass Spectrometry;** Stefan Kalkhof¹; Sebastian Haehn²; Christian Ihling¹; Neil Smyth³; Andrea Sinz¹; ¹BBZ, University of Leipzig, Leipzig, Germany; ²University of Cologne, Cologne, Germany; ³University of Southampton, Southampton, UK
- ThP 523 **Determining Inter-Residue Distances in Proteins from Sequential Cross-linking Rate Measurements (SCRaM): A Mass Spectrometry-based Alternative to FRET;** Joseph Schoeniger¹; Richard Jacobsen¹; Christopher Behrens¹; Kenneth Sale¹; ¹Sandia National Labs, Livermore, CA
- ThP 524 **Exploring of Protein-Protein Interaction by Cross-linking Reactions and Mass Spectrometry;** Miroslav Sulc¹; Katerina Peslova²; Jana Michalova²; Tomas Obsil³; Petr Novak¹; Petr Hodek²; ¹Institute of Microbiology AVCR, Prague, Czech Republic; ²Dept. of Biochemistry, Charles University, Prague, Czech Republic; ³Institute of Physiology AVCR, Prague, Czech Republic
- ThP 525 **Structural Analysis of Interdomain Interactions and DNA Binding by the TATA Binding Protein (TBP) by Synchrotron Radiolysis and Mass Spectrometry;** Sayan Gupta¹; Sergei Khrapunov²; Janna Kiselar¹; Jen Bohon¹; Mark R. Chance¹; Michael Brenowitz²; ¹Case Western Reserve University, Cleveland, OH; ²Albert Einstein College of Medicine, Bronx, NY
- ThP 526 **Akt-Membrane Interaction Probed by Chemical Cross-linking and Mass Spectrometry: the Effect of Phosphatidylserine (PS) on Akt Activation;** Bill X. Huang¹; Hee-Yong Kim¹; ¹NIH/NIAAA, Rockville, MD
- ThP 527 **Modeling of the Cofilin-Actin Binary Complex Using Protein Footprinting Data;** J. K. Amisha Kamal¹; Jing-Qu Guan²; Steven C. Almo³; Mark R. Chance¹; ¹Case Western Reserve University School of Medicine, Cleveland, OH; ²PhytoCeutica, Inc., New Haven, CT; ³Albert Einstein College of Medicine, Bronx, NY

- ThP 528 **Monitoring Conformational Changes in Protein Complexes Using Chemical Cross-linking and FTMS: The Influence of Calcium to Calmodulin - Melittin Complex;** Anastassios E. Giannakopoulos¹; Peter J. Derrick¹; Vladimir Havlicek²; Petr Novak²; ¹University of Warwick, Coventry, United Kingdom; ²Institute of Microbiology, Prague, Czech Republic
- ThP 529 **Chemical Cross-Linking and X-Ray footprinting Coupled to Mass Spectrometry as a Tool for Protein Structure Elucidation;** Amadeu H Iglesias¹; Nilson T Zanchin¹; Fabio C Gozzo¹; ¹Brazilian Synchrotron Light Laboratory, Campinas, Brazil
- ThP 530 **Detection of Conformational Changes in Beta-Arrestin by Cross-Linking and Mass Spectrometry;** Jennifer L. Cable²; Evgeniy V. Petrotchenko¹; Nikolay V. Dokholyan¹; Kunhong Xiao²; J. Michael Dial¹; Robert J. Lefkowitz²; Christoph H. Borchers¹; ¹University of North Carolina, Chapel Hill, NC; ²Duke University, Durham, NC
- ThP 531 **Nested Rigid Crosslinkers for the Conformational Probing of Proteins and Protein/Ligand Complexes by ESI-FTMS;** Qingrong Zhang^{1,3}; Liz Crosland²; Daniele Fabris^{1,3}; ¹University of Maryland Baltimore County, Baltimore, MD; ²Villa Julie College, Stevenson, MD; ³University of Maryland Baltimore County, Baltimore, MD
- ThP 532 **Cross-linking Proteins with APAX. An Aptly Positioned Azide Group Enables Facile MS Detection of Cross-Linked Peptides;** Piotr T. Kasper¹; Jaap Willem Back¹; Géraldine Masson²; Aloysius F. Hartog²; Leo J. de Koning¹; Jan H. van Maarseveen²; Anton O. Muijsers¹; Luitzen de Jong¹; Chris G. de Koster¹; ¹SILS, University of Amsterdam, Amsterdam, The Netherlands; ²HIMS, University of Amsterdam, Amsterdam, The Netherlands
- ThP 533 **Mapping Dimerization Interfaces of Mammalian Adenylyl Cyclase by Chemical Cross-linking Combined with MALDI-TOF and Nano-LC-ESI Mass Spectrometry;** Yan Li¹; Tung-Chung Mou¹; Haydn L. Ball¹; Stephen R. Sprang¹; ¹University of Texas Southwestern Medical Center, Dallas, TX

PROTEINS: FOLDING

- ThP 534 **Phenomenon of Cryogenic Chemical Oxidation of Proteins;** David M. Hambly¹; Michael L. Gross¹; ¹Washington University in St. Louis, St. Louis, MO
- ThP 535 **Extension of SUPREX to the Thermodynamic Analysis of Multi-State Folding Proteins and their Ligand Complexes;** Liangjie Tang¹; Michael C. Fitzgerald¹; ¹Duke University, Durham, NC
- ThP 536 **Probing Protein Structure as a Function of Side Chain Availability: Selective Noncovalent Attachment of 18-Crown-6 to Lysine Side Chains;** Ryan R Julian¹; Tony Ly¹; ¹University of California, Riverside, Riverside, CA
- ThP 537 **Unfolding in the SH3 Domain of the Abelson Tyrosine Kinase probed with Hydrogen Exchange Mass Spectrometry;** Shugui Chen¹; James M. Hochrein¹; Anthony P. Schiavone²; Thomas E. Smithgall²; John R. Engen¹; ¹University of New Mexico, Albuquerque, NM; ²University of Pittsburgh School of Medicine, Pittsburgh, PA
- ThP 538 **Characterization of an Autonomous Folding Unit for LR³IGF-I by Hydrogen/Deuterium Exchange-Mass Spectrometry;** Xue Li¹; Jiong Yu²; William J Wedemeyer¹; Steven P Gygi²; J Throck Watson¹; ¹Michigan State University, East Lansing, MI; ²Harvard Medical School, Boston, MA
- ThP 539 **Folding and Assembly Kinetics of Noncovalent Protein Complexes on the Millisecond Time Scale;** Lars Konermann¹; Anne C. Dempsey-Rintala¹; Gary S. Shaw¹; Yu Li¹; Jingxi Pan¹; ¹The University of Western Ontario, London, ON, Canada

- ThP 540 **Straightforward Determination of Disulfide Linkages in Proteins: The Case of beta- N-acetyl-Hexosaminidase from *Aspergillus oryzae***; Petr Novak¹; Petr Man¹; Petr Pompach¹; Katerina Hofbauerova¹; Karel Bezouska¹; ¹*Institute of Microbiology, Prague, Czech Republic*
- ThP 541 **Determination of the Binding Constants of Calbindin D28k to Calcium Ions by Direct Infusion Using the PLIMSTEX Technique**; Sandra A. Kerfoot¹; Don Rempel¹; Rajiv Kumar²; Michael Gross¹; ¹*Washington University in St. Louis, St. Louis, MO*; ²*Mayo Clinic, Rochester, MN*
- ThP 542 **Probing the Solvent-Exposed Surface of a Moving Macromolecular Machine**; Marek Daniel Koter¹; Paul David Gershon¹; ¹*University of California, Irvine, CA*
- ThP 543 **Rapid Mapping of Protein Conformational Landscapes by Automated Data Acquisition and Analysis of Multiplexed HXMS Timecourses**; Allis S. Chien¹; Judith Frydman²; Andrew D. Miranker³; Sheila S. Jaswal²; ¹*SU Mass Spectrometry, Stanford University, Stanford, CA*; ²*Dept. of Biological Sciences, Stanford University, Stanford, CA*; ³*Dept. of Molecular Biophysics & Biochem, Yale Univ, New Haven, CT*
- ThP 544 **Comparing the Ionization Efficiencies of Coexisting Protein Conformers in Positive Ion ESI-MS**; Mark C. Kuprowski¹; Belal M. Hossain¹; Lars Konermann¹; ¹*University of Western Ontario, London, Canada*
- ThP 545 **Conformational Changes in Proteins in Solution are Studied Using a New Membrane Electrospray Probe On-line with Electrospray Mass Spectrometer Analysis**; David G. Welkie¹; Thomas P. White¹; Craig M. Whitehouse¹; ¹*Analytica of Branford, INC., Branford, CT*
- ThP 546 **Role of Protein Oxidation in Amyloid Fibril Formation Assemblies**; Simin D. Maleknia¹; Natalia Reixach³; Joel N. Buxbaum³; ¹*Griffith University, Brisbane, AUSTRALIA*; ²*Sciformatics, Sydney, AUSTRALIA*; ³*Scripps Research Institute, La Jolla, CA*
- PROTEOMICS: LABELING AND AFFINITY METHODS**
- ThP 547 **The “N-terminome”: Fingerprinting the In Vivo Activity of Processing Peptidases in *E. coli***; John C. Timmer¹; Wenhong Zhu²; Mari Enoksson²; Eric Wildfang²; Andy Tao³; Guy S. Salvesen²; ¹*Molecular Pathology Program, UCSD, La Jolla, CA*; ²*Burnham Institute for Medical Research, La Jolla, CA*; ³*Purdue University, West Lafayette, LA*
- ThP 548 **Identification of Proteolytic Cleavage Sites by Quantitative Proteomics**; Mari Enoksson¹; Melanie Ivancic²; Jiangwei Li²; John Timmer¹; Eric Wildfang¹; Guy Salvesen¹; Andy Tao²; ¹*Burnham Institute for Medical Research, La Jolla, CA*; ²*Purdue University, West Lafayette, IN*
- ThP 549 **Development of a Mass Spectrometric Approach for Studying Mitochondrial Thiol Proteins**; Jing Wang¹; Kevin Marley¹; Claudia S. Maier¹; ¹*Oregon State University, Corvallis, OR*
- ThP 550 **Identification and Characterization of Ligand-Dependent Estrogen Receptor Multi-Protein Complexes Using Tandem Affinity Purification and LC-MS/MS**; Jessica C. Clark¹; P. Lee Ferguson¹; ¹*University of South Carolina, Columbia, SC*
- ThP 551 **Carbonylated Proteins Probed by a Hydrazide-Functionalized Isotope-Coded Affinity Tag (HICAT)**; Bingnan Han¹; Fred Stevens¹; Claudia S. Maier¹; ¹*Oregon State University, Corvallis, Oregon*
- ThP 552 **A Dual-Tagging Proteomic Approach that Integrates Stable-Isotope Labeling, Affinity Purification, and Mass Spectrometry Reveals Links between DNA Repair and Cytokinesis**; Yu-Chun Du¹; Jianhong Zhou¹; Zhiyuan Shen²; Xian Chen¹; ¹*Los Alamos National Laboratory, Los Alamos, NM*; ²*University of New Mexico School of Medicine, Albuquerque, NM*
- ThP 553 **Mass Defect Labeling of Cysteine for Improving Peptide Assignment in Shotgun Proteomic Analyses; MALDI-FTMS versus ESI-FTMS**; Hilda Hernandez¹; Sarah Niehauser¹; Vijay Gawandi¹; Robert S. Phillips¹; I. Jonathan Amster¹; ¹*University of Georgia, Athens, GA*
- ThP 554 **Quantitative Proteomic Analysis of Clostridium thermocellum Using 15N-metabolic Labeling**; Xinpeng Liu¹; Herbert J. Strobel¹; Jennifer C. Combs¹; Bert C. Lynn¹; ¹*University of Kentucky, Lexington, KY*
- ThP 555 **Pyrene: a LDI-TOF Mass-tag Surfboard for the 337 nm Wave**; Mikhail S. Shchepinov¹; Aleksei Ustinov¹; Irina Astakhova¹; Pablo Bernad¹; Vladimir A. Korshun¹; ¹*Trident Technologies, Oxford, UK*
- ThP 556 **Application of Reactive Desorption Electrospray Ionization (R-DESI) to Biomolecules**; Demian R. Iffa¹; Justin M. Wiseman¹; Nick Manicke¹; Graham Cooks¹; ¹*Purdue University, West Lafayette, IN*
- ThP 557 **Localization of Actin-Interacting Proteins to the Phagosome of Human Neutrophils and RAW 264.7 Macrophages**; Angelique K Florentinus¹; John Marshall¹; Andy Jankowsky¹; ¹*Ryerson University, Toronto, ON, Canada*
- ThP 558 **A Photostable Derivatizing Reagent for MALDI Mass Spectrometry of Tryptophan-Containing Peptides and Proteins**; Chunyan Li¹; Vijay Gawandi¹; Adam Protos¹; Phanneth Som¹; Robert S. Phillips¹; I. Jonathan Amster¹; ¹*University of Georgia, Athens, GA*
- ThP 559 **Elucidating Androgen Receptor Interacting Protein Networks using Quantitative Mass Spectrometry**; Rohini J Jasavala¹; Armann A Andaya¹; Harryl Martinez¹; Anne-Claude Gringas²; David K. Han³; Michael E Wright¹; ¹*University of California Davis Genome Center, Davis, CA*; ²*Samuel Lunenfeld Research Institute, Toronto, Canada*; ³*University of Connecticut, Farmington, CT*
- ThP 560 **Detection and Identification of S-glutathiolated proteins in Endothelial Cells exposed to Oxidants by a Biotin-labeling: Liquid Chromatographic and MS Method**; Nicolas Clavreul¹; Claire Daully¹; Hua Huang¹; Maha Sethuraman¹; Marc McComb¹; Catherine Costello¹; Richard Cohen¹; ¹*Boston University School of Medicine, Boston, MA*
- ThP 561 **Protein Targets of Oxidative Stress in Cardiac Mitochondria**; Juan Chavez¹; Woon-Gye Chung¹; Claudia S. Maier¹; ¹*Oregon State University, Corvallis, OR*
- ThP 562 **Developing Soluble Dendritic Polymers for Quantitative Proteomics**; Minjie Guo¹; W. Andy Tao¹; ¹*Purdue University, West Lafayette, IN*
- ThP 563 **Quantification of Protein Expression in Human Serum Samples Collected From Normal and Cancerous Patients Using Top Down iTRAQ Technology**; Mahbod Hajivandi¹; Xiquan Liang¹; John Leite¹; Steve Guertin²; Brian Williamson²; Marshall Pope¹; ¹*Invitrogen, Carlsbad, California*; ²*Applied Biosystems, Framingham, Massachusetts*
- ThP 564 **A Modified SILAC Approach: a Case-Study in Tyrosine Phosphorylation**; Alejandro Zimman¹; Yongming Xie¹; Evangelia Komisopoulou¹; Joseph Loo¹; Thomas Graeber¹; Judith A. Berliner¹; ¹*University of California Los Angeles, Los Angeles, CA*
- PROTEOMICS: DETECTION OF BIOMOLECULES**
- ThP 565 **LC-MALDI Profiling and Marker ID by in situ Digestion and MS/MS**; Sven Brand¹; Stephanie Hahner¹; Arndt Asperger¹; Detlev Suckau¹; Markus Meyer¹; ¹*Bruker Daltonik GmbH, Bremen, D*
- ThP 566 **Partial Ion Current Normalization of Mass Spectra and Biomarker Reproducibility**; Maxim Tsybin¹; Julia Grigorieva¹; Ed Rotthoff¹; Heinrich Roder¹; ¹*Efecta Technologies, Steamboat Springs, CO*

- ThP 567 **Top-Down Analysis of Proteins by ISD-MALDI-TOF for Biomarker Discovery**; Marcus Macht¹; Sven Brand¹; Markus Meyer¹; ¹*Bruker Daltonics, Bremen, Germany*
- ThP 568 **Using MS/MS Databases to Find Biomarker Protein Clips**; Conor P. Mullens¹; Stephan B.H. Bach¹; Robert J. Christy²; John Kalns²; Linda Nagore¹; ¹*University of Texas at San Antonio, San Antonio, TX*; ²*Hyperion Biotechnology, San Antonio, TX*
- ThP 569 **Metal Profiling of Human Serum Using Size Exclusion Chromatography Hyphenated to Inductively Coupled Plasma-Mass Spectrometry**; Rudolf Grimm¹; Dominic Hare²; Philipp Doble²; Robert Moritz²; Richard Simpson²; Michael Dawson²; Rod Minett¹; Val Spikmans²; ¹*Agilent Technologies Inc., Santa Clara, CA*; ²*University of Technology, Sydney, Australia*; ³*Ludwig Institute of Cancer Research, Melbourne, Australia*
- ThP 570 **Comparative Analysis of Complex Proteomes for Biomarker Discovery Employing Differential Isotopically-labeled Acetylation Followed by LC/LC-FTMS on a 12 T Instrument**; Cameron O. Scarlett¹; Ryan M. Danell²; Michael Easterling³; J. Paul Speir³; Christoph H. Borchers¹; ¹*University of North Carolina, Chapel Hill, NC*; ²*Danell Consulting, Greenville, NC*; ³*Bruker Daltonics, Billerica, MA*
- ThP 571 **Identification of Differentially Expressed Peptides Using a Combination of MALDI and nanoLC ESI-FTMS**; Lennard J. Dekker¹; Andreas Römpf²; Ioana Taban³; Guido Jenster¹; Willem Booger⁴; Hans Bonfrer⁴; Bernhard Spengler²; Ron Heeren³; Peter Sillevs Smitt¹; Theo Luider¹; ¹*ErasmusMC, Rotterdam, The Netherlands*; ²*Justus Liebig University Giessen, Giessen, Germany*; ³*FOM Institute for Atomic and Molecular Physics, Amsterdam, The Netherlands*; ⁴*The Netherlands Cancer Institute, Amsterdam, The Netherlands*
- ThP 572 **Integrative Proteomic-Genomic Kinetic Analysis of HIV-1 infected CD4⁺-T-cells by Label-Free, Targeted Mass Spectrometry and Microarray Analyses**; Eric Y Chan¹; Lee Weng²; Jennifer N Sutton³; Sean C Proll¹; Andrew D Keller²; James C Wallace¹; Leo E Bonilla³; Michael G Katze¹; ¹*Dept. of Microbiology, University of Washington, Seattle, WA*; ²*Rosetta Biosoftware, Seattle, WA*; ³*BRIMS Center, Thermo Electron Corp., Cambridge, MA*
- ThP 573 **The Importance of High Precision Retention Times in LC/MS of Biomarkers**; Peter Kent¹; Lori Ann Upton¹; Eric Kemp¹; Kerry Nugent¹; ¹*Michrom Bioresources, Inc., Auburn, CA*
- ThP 574 **Pattern Recognition Mass Spectrometry for Disease Diagnosis**; Philip S. Mayer¹; Bryan Prazen²; Tennille Baileykaze¹; Brian Pratt²; Erik Nilsson²; Tomas Vaisar¹; ¹*University of Washington, Seattle, WA*; ²*Insilicos, Seattle, WA*
- ThP 575 **Relative Quantitation and Validation of Proteins Determined to be Differentially Expressed from High-Throughput DNA Microarrays Using LC/MS/MS**; Sahana Mollah¹; Matthew M. Champion¹; Tapani Ronni²; Sam Ho²; Sinisa Dovat²; ¹*Applied Biosystems, Foster City, CA*; ²*Department of Pediatrics, University of Wisconsin, Madison, WI*
- ThP 576 **LC/MSMS Study of Benzo[a]pyrene-7,8-quinone Addition to Globin Tryptic Peptides and N-Acetylamino Acids**; Witold M. Winnik¹; Narayanan Balu²; William T. Padgett¹; Stephen C. Nesnow¹; ¹*US EPA, RTP, NHEERL, ECD, Research Triangle Park, NC*; ²*NRC Postdoctoral Associate (Now at BASF Inc.), Research Triangle Park, NC*
- ThP 577 **Reproducibility of Protein Profiling by Solid Phase Extraction and Matrix-Assisted Laser Desorption/Ionization Mass Spectrometry**; Anne Kjærgaard Callesen¹; Jonna Skov Madsen²; Per E. Jørgensen²; Torben A. Kruse²; Søren Cold²; Ole Mørgensen²; Werner Vach¹; René dePont Christensen¹; Ole Nørregaard Jensen¹; ¹*University of Southern Denmark, Odense, Denmark*; ²*Odense University Hospital, Odense, Denmark*
- ThP 578 **Biomarker Discovery Combining High Mass Accuracy MS-based Profiling with Targeted MS/MS**; Christine A. Miller¹; David Deng¹; Patrick D. Perkins¹; Bryan D. Miller¹; ¹*Agilent Technologies, Santa Clara, CA*
- ThP 579 **Withdrawn**
- ThP 580 **Separation of Released and Intracellular 3T3-L1 Adipocyte Proteins by Affinity MALDI Plates**; Lucia A. de Jesus¹; Andre P. Seale¹; Jeong Heon Lee¹; Mi Young Ha²; Yangsun Kim¹; ¹*Proteonik Inc., Ansan, South Korea*; ²*Microbiochip Center, Ansan, South Korea*
- ThP 581 **Auditory Proteomics of Mouse Model for Usher Syndrome 1F**; Mark R Chance¹; Shuqing Liu¹; Ming-Zhong Sun¹; Daniel Chen¹; Qing Y Zheng¹; Kumar Agramam¹; ¹*Case Western Reserve University, Cleveland, OH*
- ThP 582 **Top-Down Proteomics by 12T-FTICR-MS for Characterizing Protein Biomarkers Discovered by SELDI**; Severine A. Patat¹; Brendan McMorran²; Cameron O. Scarlett¹; Claire Wainwright³; Brandon Wainwright²; Christoph H. Borchers¹; ¹*University of North Carolina, Chapel Hill, NC*; ²*University of Queensland, Brisbane, Australia*; ³*Royal Children's Hospital, Brisbane, Australia*
- ThP 583 **The Proteomic Alterations of Rat Mitochondria Caused by Chronic Alcoholism**; Liang Shi¹; Yuan Wang¹; Xiaolei Li¹; Jianmin Shao¹; Kang Zhao¹; Ningzhi Xu¹; Aruni Bhatnagar²; Siqi Liu¹; ¹*Beijing Genomics Institute, Beijing, China*; ²*Division of Cardiology, University of Louisville, Louisville, KY*
- ThP 584 **Comparison of Mitochondrial Proteomes from Different Mouse Tissues**; Yuan Wang¹; Liang Shi¹; Xiaolei Li¹; Jianmin Shao¹; Kang Zhao¹; Ningzhi Xu¹; Siqi Liu¹; ¹*Beijing Genomics Institute, CAS, Beijing, China*
- ThP 585 **Determining iTRAQ Experiment Variability and Biomarker False-Positive Rates Due to sample Preparation and Label Bias in Plasma by LC-MALDI MS/MS**; Phil Jakuboski¹; Leanne B Ohlund¹; Axel Bergman²; Derek S Smith¹; Monica Elliott¹; Darryl B Hardie¹; ¹*University of Victoria, Victoria, Canada*; ²*iCAPTURE, Vancouver, Canada*
- ThP 586 **Wavelet based Feature Extraction in the Analysis of Clinical Proteomics Mass Spectra**; Frank M. Schleif¹; Michael Kuhn¹; Thomas Elssner¹; Jens Decker¹; Herbert Thiele¹; Mathias Lindemann²; Henning Thielemann²; Peter Maass²; ¹*Bruker Daltonik, Bremen, Germany*; ²*Univ. of Bremen, Center of Industrial Mathematics, Bremen, Germany*
- ThP 587 **Identification of Human Microsomal Protein Targets of Reactive Electrophiles**; Nah-Young Shin¹; F. Peter Guengerich¹; Daniel C. Liebler¹; ¹*Vanderbilt University School of Medicine, Nashville, TN*
- ThP 588 **High-Molecular Weight Protein Depletion Strategy for Enhanced MALDI-TOF MS Serum Peptide Profiling**; Thomas Elssner¹; Isabell Thomas¹; Ines Schäfer¹; Markus Kostzewa¹; ¹*Bruker Daltonik GmbH, Leipzig, Germany*
- ThP 589 **Automated and Integrated Quality Assessment with Statistical Process Control in MALDI-MS based Biomarker Discovery**; Vincent Hanebuth¹; Holger Schilke¹; Christoph Menzel¹; ¹*BioVisioN AG, Hanover, Germany*
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- PROTEOMICS: MEDICAL APPLICATIONS**
- ThP 590 **Benchmarking of Differentiating Human and Mouse Embryonic Stem Cells by FT-MS**; Jeroen Krijgsveld¹; Dennis Van Hoof²; Martijn W. Pinkse¹; Robert Passier²; Christine L. Mummery²; Albert J.R. Heck¹; ¹*Utrecht University, Utrecht, The Netherlands*; ²*Hubrecht Laboratory, Utrecht, The Netherlands*
- ThP 591 **Serum Glycomics of CDG and Galactosemic Patients**; Luisa Sturiale¹; Rita Barone¹; Domenico Garozzo¹; ¹*CNR ICTP, Catania, Italy*

- ThP 592 **A Proteomic Approach for Evaluating the Effects of Proanthocyanidins on Rotenone-Induced Toxicity in SH-SY5Y Neuroblastoma Cells;** Cristobal L. Miranda¹; Woon-Gye Chung¹; Hui-Jing Li¹; Jan F. Stevens¹; Claudia S. Maier¹; ¹*Oregon State University, Corvallis, OR*
- ThP 593 **Changes in Cell Surface and Soluble Proteins Induced by TGF- β in Liver Cancer Cells Determined Using a Label-Free Approach;** Bin Deng¹; Hong Wang¹; Laura Beretta¹; Samir Hanash¹; ¹*Fred Hutchinson Cancer Research Center, Seattle, WA*
- ThP 594 **Proteomics Approach to Fructose-Induced Fatty Liver and Type 2 Diabetes;** Lihe Zhang¹; Steven Ringquist¹; H. Henry Dong¹; ¹*Children's Hospital of Pittsburgh, Pittsburgh, PA*
- ThP 595 **Proteins Associated with Cisplatin Resistance in Ovarian Cancer Cells Identified by Quantitative Proteomics Technology and Integrated with mRNA expression levels;** Jennifer Stewart¹; James White¹; Xiaowei Yan¹; Leroy Hood¹; Biaoyang Lin¹; ¹*Inst for Systems Biology, Seattle, WA*
- ThP 596 **Proteomic Comparison of Mouse Pancreatic Islet Cells Using 2-D PAGE and MALDI-TOF/TOF to Identify Proteins Associated with Type 2 Diabetes;** Mark Scalf¹; Mark Gray-Keller¹; Jessica L. Jarecki¹; Angela Tebon-Oler¹; Mary E. Rabaglia¹; Grzegorz Sabat¹; Michael R. Shortreed¹; Brian L. Frey¹; Michael S. Westphall¹; Alan D. Attie¹; Lloyd M. Smith¹; ¹*University of Wisconsin-Madison, Madison, WI*
- ThP 597 **An Improved Peptide Profiling Strategy to Find Biomarkers for Breast Cancer;** David H. Hawke¹; Bing Zhang¹; Haitau Zhao¹; Jianhua Hu¹; Keith A. Baggerly¹; Francisco J. Esteva¹; Ryuji Kobayashi¹; ¹*UT-M.D. Anderson Cancer Center, Houston, TX*
- ThP 598 **Quantitative Proteomic Analysis of Diabetic Mouse Pancreatic Islets by Differential Isotope Labeling and Mass Spectrometry;** Ying Yang¹; Hongfang Lu¹; Ling Xu¹; Michael Wheeler¹; ¹*University of Toronto, Toronto, Canada*
- ThP 599 **Global Quantitative Comparison of the Cellular Proteomes of Endothelial Cells from Consomic Rat Strains Under Normoxia and Hypoxia;** Shama P. Mirza¹; Molly C. Pellitteri¹; Erika Keyes¹; Maria Warren¹; Dani Didier¹; Julia Hayter¹; Brian D. Halligan¹; Andrew S. Greene¹; Michael Olivier¹; ¹*Medical College of Wisconsin, Milwaukee, Wisconsin*
- ThP 600 **Proteomics-Based Approach for Accelerated Identification of Single Nucleotide Polymorphisms;** Maureen K. Bunger¹; Benjamin J. Cargile¹; Joel R. Sevinsky¹; James L. Stephenson¹; ¹*Research Triangle Institute, Research Triangle Park, NC*
- ThP 601 **Matrix-Assisted Laser Desorption Ionization/Time-of-Flight Mass Spectrometry as A Rapid and Sensitive Detection Method of Occult Blood in Feces;** Chen-I Wu¹; Pei-Chang Wu²; Ching-Chou Tsai²; Jentaie Shiea¹; ¹*National Sun Yat-Sen University, Kaohsiung, Taiwan;* ²*Chang Gung Memorial Hospital-Kaohsiung, Kaohsiung County, Taiwan*
- ThP 602 **The Role of Proteasome in Neurodegenerative Disease Using Proteomics Approaches;** Beniam T Berhane¹; Ghania Ait-Ghezala¹; Claud-Henry Volmar¹; Elaina Margenthaler¹; Fiona Crawford¹; Mike Mullan¹; ¹*Roskamp Institute, Sarasota, FL 34243*
- ThP 603 **Heat Shock Prevents the Nucleocytoplasmic Shuttling of hsc70s in Mammalian Cells;** Mohamed Kодиha¹; Cathy Quan¹; Neola Matusiewicz¹; Ursula Stochaj¹; Bernard F. Gibbs¹; ¹*McGill University, Montreal, Canada*
- ThP 604 **Identification of Surface Exposed Tumor Associated Antigens in Breast Cancer Cells by Comparative Shotgun Proteomics;** Eberhard Durr¹; Lori C Roth¹; Mark A Miller¹; Timothy J Toner¹; Debbie D Nahas¹; Nancy M Dougherty¹; Michael Chastain¹; Joseph G Joyce¹; Loren D Schultz¹; ¹*Merck Research Laboratories, West Point, PA*
- ThP 605 **Assessing Proteome Changes in Tumor Margins by Tissue Profiling Mass Spectrometry;** Stacey R. Oppenheimer¹; Deming Mi¹; Melinda Sanders¹; Richard M. Caprioli¹; ¹*Vanderbilt University School of Medicine, Nashville, TN*
- ThP 606 **Comparative Proteomic Analysis of Cancer Cells Growing in Normal Medium and in Medium Depleted in Methionine, Using MALDI/TOF and Nano-ESI;** Alireza Pak¹; Michel Boutin¹; Ying Xu¹; Marie-Anne Maubert¹; Carlos Afonso¹; Françoise Fournier¹; Anne Greffard²; Yannick Pilatte²; David Machover³; Jean-Claude Tabet¹; ¹*University Paris 6, Paris, France;* ²*U504 INSERM, Villejuif, France;* ³*Hôpital Paul Brousse, Villejuif, France*
- ThP 607 **A Proteomic Approach to Study both Viral and Host Gene Expression in Marek's Disease Virus-infected Chicken Embryo Fibroblast Cells;** Mialy F. Ramaroson¹; Erik J. Soderblom¹; James F. Ruby¹; Hsiao-Ching S. Liu¹; Michael B. Goshe¹; ¹*North Carolina State University, Raleigh, NC*
- ThP 608 **A Proteomic Approach to the Study of Systemic Amyloidosis;** Francesca Lavatelli¹; David H. Perlman¹; Mark E. McComb¹; Roger Theberge¹; David C. Seldin¹; Lawreen H. Connors¹; Giampaolo Merlini²; Martha Skinner¹; Catherine E. Costello¹; ¹*Boston University School of Medicine, Boston, MA;* ²*IRCCS Policlinico San Matteo, Pavia, Italy*
- ThP 609 **Relative Protein Expression in Normal Bronchoalveolar Lavage Fluid (BALF) Quantified via Shotgun Proteomics and Stable Isotope Free Methods;** Jinzh Chen¹; Lynn M. Schnapp²; Soyoung Ryu²; David R. Goodlett²; ¹*Fred Hutchison Cancer Research Center, Seattle, WA;* ²*University of Washington, Seattle, WA*
- ThP 610 **Proteomic Studies of Fluoxetine Induced Neurogenesis in Female Rats;** Linda M Paulson¹; Thorsten Klint²; Peter Eriksson¹; ¹*Institute of neuroscience and Physiology, Goteborg, Sweden;* ²*Clinical Development, NeuroSearch A/S, Ballerup, Denmark*
- ThP 611 **Exploring the Human Urine Proteome: Males, Females and Pregnant Women;** Yi-Ting Chen¹; Chao-Yun Tsao¹; Jen-Ming Li¹; Chih-Yen Tsai¹; Su-Feng Chiu¹; Tzuling Tseng¹; ¹*Industrial Technology Research Institute, Hsinchu, Taiwan*
- ThP 612 **Screening Slow Tight-Binding Glycosidase Inhibitors Using Nanoparticle Immobilized Enzymes;** Yet-Ran Chen¹; Guo-Hsing Tseng¹; Chin-Wen Ho²; Po-Chiao Lin¹; Chun-Cheng Lin¹; Chun-Hung Lin²; Yu-Ju Chen¹; ¹*Institute of Chemistry, Academia Sinica, Taipei, Taiwan;* ²*Institute of Biological Chemistry, Academia Sinica, Taipei, Taiwan*
- ThP 613 **Glycoproteomics of the Human Salivary Proteome;** Melissa A. Sondej¹; Patricia A. Denny²; Yongming Xie¹; Prasanna Ramachandran¹; Yan Si²; Jona Takashima²; David T. Wong¹; Joseph A. Loo¹; Paul C. Denny²; ¹*UCLA, Los Angeles, CA;* ²*USC School of Dentistry, Los Angeles, CA*
- ThP 614 **Comprehensive Mass Spectrometric Characterisation of Purified Lipid-Anchored Growth Hormone Extracellular Domain;** Brian K. Stall¹; Helen V. Montgomery²; Caroline Bowles³; Ian Wilkinson³; D. Watts³; Richard J.M. Ross³; Koichi Tanaka⁴; ¹*Shimadzu Biotech, Columbia, Maryland;* ²*Koichi Tanaka Mass Spec research Laboratory, Manchester, United Kingdom;* ³*University of Sheffield, Sheffield, United Kingdom;* ⁴*Shimadzu Corporation, Kyoto, Japan*
- ThP 615 **Identifying Growth Inhibitors from Pulmonary Artery Endothelial Cells;** Haven Baker¹; Cristhian D. Ochoa²; Debra A Quinn²; William Hancock¹; ¹*Barnett Institute and Northeastern University, Boston, MA;* ²*Mass General Hospital & Harvard Medical School, Boston, MA*

PROTEOMICS: QUANTITATION TECHNIQUES IV

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| ThP 616 Quantitative Mass Spectrometric Analysis of Visual Cycle Protein Interactions; <u>Xiaorong Gu</u> ¹ ; John S Crabb ¹ ; Maria Nawrot ² ; John C Saari ² ; John W Crabb ¹ ; ¹ <i>Cleveland Clinic</i> |
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- Foundation, Cleveland, OH; ²University of Washington, Seattle, WA
- ThP 617 **Using iTRAQ Technology to Identify and Quantify Low Abundant Proteins in Complex Samples;** Marjan Gucek¹; Robert N. O'Meally¹; Robert N. Cole¹; ¹Johns Hopkins University, School of Medicine, Baltimore, MD
- ThP 618 **Statistical Methods for Accurate iTraQ Quantification;** George Michailidis¹; Peter J Ulintz¹; Eric S Simon¹; Philip C Andrews¹; ¹University of Michigan, Ann Arbor, MI
- ThP 619 **Validation Studies of Proteolytic ¹⁸O Labeling Method Using Lys-C and Trypsin;** Chandra Sekhar Rao Kadiyala¹; Dagmar Hajkova¹; Masaru Miyagi¹; ¹University of North Dakota, Grand Forks, ND
- ThP 620 **Optimized Proteomic Analysis of a Mouse Model of Cerebellar Dysfunction Using Amine-Specific Isobaric Tags;** Jun Hu¹; Jin Qian¹; Oleg Borisov¹; Sanqiang Pan²; Yan Li¹; Tong Liu¹; Longwen Deng¹; Kenneth Wannemacher¹; Michael Kurnellas¹; Christa Patterson¹; Stella Elkabes¹; Hong Li¹; ¹University of Medicine and Dentistry of New Jersey, Newark, NJ; ²Jinan University, Guangzhou, China
- ThP 621 **To Label or Not to Label? – A Comparison of PCA and iTRAQ Labelling for Studying Invasive Breast Cancer;** Devanand M Pinto¹; Kenneth A Chisholm¹; Moulay Alaoui-Jamali²; Christie Hunter³; Lyle Burton⁴; ¹National Research Council (Canada), Halifax, Canada; ²McGill University, Montreal, Canada; ³AB/SCIEX, Foster City, CA; ⁴MDS-SCIEX, Toronto, Canada
- ThP 622 **Relative Protein Quantitation of 20S Proteasomes Using iTRAQ Labeling;** Katharina Janek¹; Monika Schmid²; Peter Jungblut²; Ulrike Kuckelkorn¹; Peter-Michael Kloetzel¹; ¹Charite-Medical School of Humboldt University, Berlin, Germany; ²Max Planck Institute for Infection Biology, Berlin, Germany
- ThP 623 **Quantitative Analysis of (Phospho) Synaptic Proteomes from Mutant Mice;** ka wan li¹; Oleg Klychnikov¹; Jianru Stahl-Zeng²; Stephan Miller³; Agustus B Smit¹; ¹Vrije Universiteit, Amsterdam, Netherlands; ²Applied Biosystems, Darmstadt, Germany; ³The Scripps Research Institute, La Jolla, CA
- ThP 624 **Absolute Quantitative Expression Profiling of Cytochromes P450 Isoforms using Amine Reactive Tags;** Brian L Williamson¹; Scott Daniels¹; Christie Hunter²; ¹Applied Biosystems, Framingham, MA; ²Applied Biosystems, CA, Foster City, CA
- ThP 625 **Protein quantitation using a novel 8-plex set of Isobaric peptide labels;** Philip Ross¹; Dey Subhakar¹; Pillai Sasi¹; Scott Daniels¹; Brian Williamson¹; Matthew Willets¹; Tony Hunt¹; Darryl Pappin¹; ¹Applied Biosystems, Framingham, MA
- ThP 626 **The pH Dependency of ¹⁸O Atom Incorporation into the C-terminal Carboxyl Group of Peptides by Lysyl Endopeptidase and Trypsin;** Dagmar Hajkova¹; K.C.Sekhar Rao¹; Masaru Miyagi¹; ¹University of North Dakota, Grand Forks, ND
- ThP 627 **Relative Quantification of the Primary Hematopoietic Stem Cell Proteome and Transcriptome Reveals Post-Translational Regulation of Stem cell Fate;** Richard D. Unwin¹; David Blinco¹; Duncan L. Smith¹; Claire Wilson²; Crispin Miller²; Ewa Jaworska¹; Andrew Pierce¹; Elaine Spooner¹; Anthony D. Whetton¹; ¹University of Manchester, Manchester, UK; ²Paterson Institute for Cancer Research, Manchester, UK
- ThP 628 **iTRAQ and cCAT Based Comparative Proteomics of an Arabidopsis Protease Mutant; Consequences for Chloroplast Protein Homeostasis and Clp Complex Composition;** Andrea Rudella¹; Giulia Friso¹; Klaas J. van Wijk¹; ¹Plant Biology, Cornell University, Ithaca, NY
- ThP 629 **Identification and Quantification of Mitochondrial Proteins from SS and SSBN13 Rat Heart Using Mass Spectrometry and ¹⁸O Labeling;** Julia R Hayter¹; Andrew S Greene¹; ¹Medical College of Wisconsin, Milwaukee, WI
- ThP 630 **Integration of O-18 Labeling and Solution Isoelectric Focusing in a Shotgun Analysis of Mitochondrial Proteins;** Jinshan Wang¹; Catherine Fenselau¹; ¹University of Maryland, College Park, MD
- ThP 631 **A Comparative Study of Neurite Outgrowth with Nerve Growth Factor and an Immunophilin Ligand Using iTRAQ and Tandem Mass Spectrometry;** Tong Liu¹; Veera D'mello¹; Longwen Deng¹; Jun Hu¹; Michael Ricardo¹; Sanqiang Pan¹; Xiaodong Lu¹; Raymond Birge¹; Hong Li¹; ¹University of Medicine and Dentistry of New Jersey, Newark, NJ
- ThP 632 **Identification and Quantitation of Proteins Secreted From the ESX-1 Secretory Apparatus of *Mycobacterium tuberculosis* Using Isobaric Mass Tags and LC/MS/MS;** Matthew M. Champion¹; Patricia A. DiGiuseppe²; Jeffrey S. Cox²; ¹Applied Biosystems, Foster City, CA; ²University of California, San Francisco, CA
- ThP 633 **Comparative Secreted Proteome of *Botrytis cinerea* Grown on Multiple Plants Cell Wall Extracts;** Punit K. Shah¹; James A. Atwood III¹; Maria Davis²; Ron Orlando¹; ¹Complex Carbohydrate Research Center UGA, Athens, GA; ²The University of Alabama in Huntsville, Huntsville, AL
- ThP 634 **¹⁶O/¹⁸O Labeling Quantitative Analysis of Tryptically Digested Mouse Serum Using Liquid Chromatography Coupled with MALDI MS and MS/MS;** Marten F. Snel¹; Richard Tyldesley-Worster¹; Greg S. Cavey²; P. Davidson²; James I. Langridge¹; Therese McKenna¹; D. Monsma²; C. Webb²; ¹Waters, Manchester, United Kingdom; ²Van Andel Research Institute, Grand Rapids, MI
- ThP 635 **Relative Quantitation of Yeast Proteins Labeled with Isobaric Tags and Fractionated by SDS-PAGE;** Steven R. Guertin¹; Marjorie Minkoff¹; Brian Williamson¹; Subhashish Purkayastha¹; ¹Applied Biosystems, Framingham, MA
- ThP 636 **Application of Liquid-Based Two Dimensional Protein Fractionation (PF 2D) to Proteomic Quantification Using Mass Spectrometry;** Wells W. Wu¹; Guanghui Wang¹; Rong-Fong Shen¹; ¹NHLBI, National Institutes of Health, Bethesda, MD
- ThP 637 **Study of Asymmetric Cell Division Using Multiplexed Quantitative Proteomics;** Philip Ross¹; Esteban Toro²; Xunming Chen¹; Jennifer Campbell¹; Leticia Britos²; Lucy Shapiro²; Darryl Pappin¹; ¹Applied Biosystems, Framingham, MA; ²Beckman Institute, Stanford University, CA
- ThP 638 **Temporal Proteomic Analysis of Systemic Inflammation upon Lipopolysaccharide Administration;** Tao Liu¹; Wei-Jun Qian¹; Marina A. Gritsenko¹; Steve E. Calvano²; Stephen F. Lowry²; Wenzhong Xiao³; Lyle L. Moldawer⁴; Ronald J. Moore¹; Samuel O. Purvine¹; Matthew E. Monroe¹; Ronald W. Davis³; Ronald G. Tompkins⁵; David G. Camp¹; Richard D. Smith¹; ¹Pacific Northwest National Laboratory, Richland, WA; ²University of Medicine and Dentistry of New Jersey, New Brunswick, NJ; ³Stanford University School of Medicine, Palo Alto, CA; ⁴University of Florida College of Medicine, Gainesville, FL; ⁵Harvard Medical School, Boston, MA
- ThP 639 **A Novel Approach for Protein Expression Profiling of Mouse Prostate;** Sanjeev Bhardwaj¹; Eric Winstall²; Marjorie Minkoff¹; Christian Lessard²; Danielle Caron²; Sylvie Bourassa²; Isabelle Kelly²; Fernand Labrie²; Guy Poirier²; Robert Faure²; ¹Applied Biosystems, Framingham, MA; ²Centre de recherche du CHUL, Université Laval, Québec, Canada
- ThP 640 **Discovery of Early Stage Protein Biomarkers for Metastatic Breast Cancer using iTRAQ(TM) Reagents and**

- QqTOF technology**; Christie L Hunter¹; Devanand Pinto²; Kenneth Chisholm²; Moulay Alaoui-Jamali³; ¹*Applied Biosystems, Foster City, CA*; ²*NRC, Halifax, Canada*; ³*McGill University, m, Canada*
- ThP 641 **Quantitative Proteomics Using IEF-LCMSMS**; Peter J. Ulintz¹; Philip C. Andrews¹; Eric S. Simon¹; ¹*University of Michigan, Ann Arbor, MI*
- ThP 642 **Multi-dimensional Orthogonal Separation and iTRAQ™ Reagent Tracking: A Genome-wide "Tagless" Strategy for Isolation and Detection of Soluble Bacterial Protein Complexes**; Ming Dong¹; Mark Biggin¹; Katherine Williams²; Scott E. Dixon³; Lee Lisheng Yang¹; Susan J. Fisher³; Steven C. Hall³; Jian Jin¹; H. Ewa Witkowska³; ¹*Lawrence Berkeley National Laboratory, Berkeley, CA*; ²*Applied Biosystems, Foster City, CA*; ³*UCSF, San Francisco, CA*
- ThP 643 **The Integration of Stable Isotope Labeling Methods with Gel-Based Technologies: Solutions for the Quantification of Membrane Proteins**; Amir Rahbar¹; Michael Lassman¹; Nikolai Lebedev¹; Brandy White¹; Frances Ligler¹; ¹*U. S. Naval Research Laboratory, Washington, DC*
- ThP 644 **Expression Proteomics of Xenopus Laevis Brain Cells After Exposure to T4 Synthesis Inhibitors Using iTRAQ™ and 2D-PAGE Technologies**; LeeAnn Higgins¹; Lorraine B. Anderson¹; Bruce A. Witthuhn¹; Joseph J. Korte²; Joseph Tietge²; Sigmund J. Degitz²; Jose Serrano²; ¹*University of Minnesota, St. Paul, MN*; ²*USEPA, ORD/NHEERL/MED, Duluth, MN*
- ThP 645 **iTRAQ Coupled with Immobilized Metal Affinity Chromatography for Quantitative Phosphopeptide Analysis**; Yurong Guo¹; Austin Rowshan¹; Jennifer Van Eyk¹; Joe GN Garcia²; ¹*Johns Hopkins University, Baltimore, MD*; ²*University of Chicago, Chicago, IL*
- ThP 646 **Optimizing Parameters in Linear Ion Trap with PQD Functionality for Simultaneous Protein Identification and Quantitation from Complex Mixtures Using iTRAQ**; Yingying Huang¹; Terry Zhang¹; Reiko Kiyonami¹; Keith Waddell¹; ¹*Thermo Electron Corporation, San Jose, CA*; ²*BG Medicine, Waltham, MA*
- ThP 647 **iTRAQ Based Comparative Proteomics of an Arabidopsis SRP54 Mutant Defective in Chloroplast Protein Sorting**; A. Jimmy Ytterberg¹; Heidi Rutschow¹; Klaas J. van Wijk¹; ¹*Cornell University, Ithaca, NY*
- PROTEOMICS: PHOSPHORYLATED APPLICATIONS**
- ThP 648 **Deciphering the Prokaryotic Ser/Thr/Tyr Phosphoproteome: The Case of *Bacillus subtilis***; Boris Macek¹; Ivan Mijakovic²; Jesper V. Olsen¹; Florian Gnäd¹; Chanchal Kumar¹; Matthias Mann¹; ¹*Max-Planck-Institute of Biochemistry, Munich, Germany*; ²*Technical University of Denmark, Copenhagen, Denmark*
- ThP 649 **Phosphorylation Site Determination of BZR1 in Arabidopsis**; Shenheng Guan¹; Srinivas Gampala²; David A. Maltby¹; Zhi-Yong Wang²; Alma L. Burlingame¹; ¹*University of California, San Francisco, CA*; ²*Carnegie Institution, Stanford, CA*
- ThP 650 **Identification of Phosphorylation Sites in Numb, Miranda and Lgl by Atypical Protein Kinase C**; Eric Bonneil¹; Zohra Rahmani²; Roland Leborgne²; Francois Schweisguth²; Pierre Thibault¹; ¹*IRIC Université de Montréal, Montréal, QC*; ²*CNRS Ecole Normale Supérieure, Paris, France*
- ThP 651 **Mass Spectrometry Analysis of the Human Werner Syndrome Protein**; Angie Sibounheuang¹; Gennifer Merrihew¹; James Thompson¹; Raymond J. Monnat, Jr.¹; Michael MacCoss¹; ¹*University of Washington, Seattle, WA*
- ThP 652 **The Phagosomal Phosphoproteome**; Matthias Trost¹; Michel Desjardins²; Pierre Thibault¹; ¹*Université de Montréal, IRIC, Montréal, Canada*; ²*Université de Montréal, Pathology & Cell biology, Montréal, Canada*
- ThP 653 **Investigation of the Possible Involvement of Myosin III Oxidation in the Photoresponse of *Limulus polyphemus* Photoreceptors**; Helene L. Cardasis¹; Stanley M. Stevens Jr.¹; Scott H. McClung¹; Karen Kempler¹; John R. Eyley¹; David H. Powell¹; Barbara-Anne Battelle¹; ¹*University of Florida, Gainesville, FL*
- ThP 654 **Quantitative Analysis of Phosphotyrosine Signaling Networks triggered by CD3 and CD28 co-stimulation in Jurkat cells**; Ji-Eun Kim¹; Forest M. White¹; ¹*Massachusetts Institute of Technology, Cambridge, MA*
- ThP 655 **Identification of Novel Phosphorylation Sites on the 20S Yeast Proteasome Subunits**; Karen H. LeBlanc¹; Ying-ying Yang¹; Lan Huang¹; ¹*University CA Irvine, Irvine, CA*
- ThP 656 **Quantitative and phosphoprotein-Specific MS-Based Proteomic Approach to Unravel Mechanisms Underlying Plasticity of Olfactory Neurons in *Mus musculus***; Heike Piechura¹; Eva M. Neuhaus²; Hanns H. Hatt²; Helmut E. Meyer¹; Bettina Warscheid¹; ¹*Medical Proteom-Center, Ruhr-University Bochum, Bochum, Germany*; ²*Ruhr-University Bochum, Bochum, Germany*
- ThP 657 **A Mass Spectrometry Based Proteomics Approach for Deciphering Cytoskeletal Mechanisms in Neurite Formation**; Jeremiah D. Tipton¹; Eric Hwang²; Shelley Halpain²; Jennifer Busby¹; ¹*Scripps Florida, Jupiter, FL*; ²*The Scripps Research Institute, La Jolla, CA*
- ThP 658 **Phosphoproteome Analysis of Primary Human Hepatocytes: Effect of Exposure to Inducers of Cytochromes P450**; Maja Matis¹; Urs A. Meyer¹; ¹*Biozentrum, University of Basel, Basel, Switzerland*; ²*Faculty of Medicine, University of Ljubljana, Ljubljana, Slovenia*
- ThP 659 **Mass Spectrometric Analysis of Downstream Effectors for Leukaemogenic Tyrosine Kinases: A Role for Kinase Chaperones in Transformation**; Stacey Warwood¹; Eva Rodriguez¹; Caroline Evans²; Andrew Pierce²; David W. Sternberg³; Anthony D. Whetton²; Simon J. Gaskell¹; ¹*MBCMS, University of Manchester, Manchester, UK*; ²*SCALPL, University of Manchester, Manchester, UK*; ³*Mount Sinai Medical School, New York, NY*
- ThP 660 **Systematic PTM Analysis of a Set of Recombinant Protein Kinases Using LC-MS/MS Data**; Daniel C. Chamrad¹; Sonja Bailey¹; Andreas Wattenberg¹; Christian Beisenherz-Huss²; Ralph Graeser²; Daniel Müller²; Martin Blüggel¹; ¹*Protagen AG, Bochum, Germany*; ²*ProQinase GmbH, Freiburg, Germany*
- ThP 661 **A Phospho-Map of Mouse Liver Cells**; Cuiping Pan¹; Jesper V. Olsen¹; Boris Macek¹; Florian Gnäd¹; Matthias Mann¹; ¹*Department of Proteomics and Signal Transduction, Munich, Germany*
- ThP 662 **Quantitative Mass Spectrometry Method Development Applied to Phosphorylated Beta-Catenin**; Robert R. Becklin¹; Justin R. Savage¹; Hee-Jung Choi²; William I. Weiss²; John M. Peltier¹; ¹*Prolexys Pharmaceuticals, Salt Lake City, UT*; ²*Stanford University, Stanford, CA*
- ThP 663 **Phosphoprotein Enrichment and iTRAQ Relative Quantification Reveals Oncogene-Induced Changes in the Phosphoproteome**; Chia-Fang Lee¹; Richard D. Unwin¹; Kathryn L. Taylor¹; Anthony D. Whetton¹; ¹*Paterson Institute for Cancer Research, Manchester, United Kingdom*
- ThP 664 **Withdrawn**
- ThP 665 **Improved Methods for the Analysis of Protein Phosphorylation: Application to the Mouse Brain Phosphoproteome**; Lu Yu¹; Mark Collins¹; Iain Campuzano²; Jim Langridge²; Jyoti Choudhary¹; ¹*The Wellcome Trust Sanger Institute, Cambridge, United Kingdom*; ²*Waters*

- Corporation, MS Technologies Centre, Manchester, United Kingdom
- ThP 666 **Strategies for the Characterization of the Microparticle Phospho-and Glycoproteomes in the Search for Biomarkers for Diabetes Type 1;** Søren S Jensen¹; Lene A Jakobsen¹; Peder Heding²; Flemming Pociot²; Peter Roepstorff¹; Martin R Larsen¹; ¹University of Southern Denmark, Odense, Denmark; ²Steno Diabetes Center, Copenhagen, Denmark
- ThP 667 **Relative Quantitation of Phosphoproteins in Brain Synaptosomes Following Opiate Treatment;** Jenny Samskog¹; Petra Villani²; Pierre Le Grevés²; John Flensburg¹; ¹GE Healthcare Bio-Sciences AB, Uppsala, Sweden; ²Department of Pharmaceutical Biosciences, Uppsala, Sweden
- ThP 668 **Quantification of Phosphopeptideome of Insulin Receptor Substrate (IRS)-1 by Hypothesis-Driven Multi-segment HPLC-ESI/MS/MS;** Zhengping Yi¹; Paul Langlais¹; Moulun Luo¹; Sara M. Reyna²; Christopher A. Carroll²; Susan T. Weintraub²; Lawrence J. Mandarino¹; ¹Arizona State University, Tempe, AZ; ²University of Texas Health Science Center at San Antonio, San Antonio, TX
- ThP 669 **Phosphorylation Pattern Changes of Pig Oocytes Maturing *in vitro*;** Petr Halada¹; Steven Pelech²; Eva Kronusova³; Hana Kovarova³; ¹Institute of Microbiology, Prague, Czech Republic; ²Kinexus Bioinformatics Corporation, Vancouver, Canada; ³Institute of Animal Physiology and Genetics, Libechov, Czech Republic

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