MONDAY POSTERS

Monday posters should be set up 7:30 – 8:00 am on Monday and removed 7:30 – 8:00 pm on Monday. Authors of odd numbered posters (i.e., 001, 003, 005) present 8:45 – 10:15 am on Monday. Authors of even numbered posters (i.e., 002, 004, 006) present 1:30 – 3:00 pm on Monday.

ATOMIC/ELEMENTAL ANALYSIS

MPA 001 **Measurement of Metals in Intact Cells by Perfusion Chromatography with ICP Mass Spectrometry**; Fumin Li; R. S. Houk; Bo Zhang; Dan Armstrong; *Ames Laboratory USDOE, Dept. of Chemistry, Iowa State University, Ames, IA*

MPA 002 **Analysis of Elemental Composition by High Resolution Mass Spectrometry**; Junling Gao; Likang Zhang; Larry Heimark; Birendra Pramanik; *Schering-Plough Research Institute, Kenilworth, NJ*

MPA 003 **Molecular Size Distribution Patterns of Several Elements of Toxicological and Nutritional Interest in Nuts by SEC-ICP-MS**; Sasi S. Kannamkumarath; Rodolfo G. Wuilloud; Jorgelina C.A. Wuilloud; Joseph A. Caruso; *University of Cincinnati, Cincinnati, OH*

MPA 004 **The Identification of Bio-Inorganic Species in Biological Tissue CRMs by ES MS**; Shona McSheehy; Zoltan Mester; *National Research Council of Canada, Ottawa, Ontario, Canada*

MPA 005 **The Speciation of Selenium in the Mushroom Boletus edulis by HPLC-ICP-MS and ES-MS**; Richard T Wilburn; Anne P Vonderheide; Rajiv S Soman; Joseph A Caruso; *University of Cincinnati, Cincinnati, OH*

MPA 006 **Analysis of Pharmaceutical Tablets and Human Hair by Laser Ablation Inductively Coupled Plasma Mass Spectrometry (LA-ICP-MS)**; Rebecca Lam; Eric D. Salin; *McGill University, Montreal, Canada*

MPA 007 **Metal Ion Detection with Electrospray Time-Of-Flight Mass Spectrometry at the Sub Parts-Per-Billion Level**; Shida Shen; Craig M. Whitehouse; Thomas P. White; *Analytica of Branford, Inc., Branford, Connecticut*

BIOINFORMATICS

MPB 008 **An Integrated Bioinformatics Platform for Proteomics**; Martin Blueggel[1]; Gerhard Koerting[1]; Ralf Reinhardt[1]; Daniel Chamrad[1]; Jörg Glandorf[2]; Jens Vagts[2]; Herbert Thiele[2]; *[1]Protagen AG, Dortmund, Germany; [2]Bruker Daltonik GmbH, Bremen, Germany*

MPB 009 **New Developments in Statistically-Based Methods for Peptide Identification via Tandem Mass Spectrometry**; Kristin H. Jarman; William R. Cannon; Kenneth D. Jarman; Alejandro Heredia-Langner; *Pacific Northwest National Laboratory, Richland, WA*

MPB 010 **Statistical Models for Protein Identification and Validation using Tandem Mass Spectral Data and Protein Databases**; Rovshan Sadygov; John Yates, III; *The Scripps Research Institute, La Jolla, CA*

MPB 011 **Automated Validation of MS/MS Database Search Results Using A Novel Filter Algorithm**; James L Stephenson; Benjamin J Cargile; Jonathan L Bundy; *Research Triangle Institute, RTP, NC*

MPB 012 **Comparison of the Capabilities of Peptide Sequencing Software from MS/MS Data;** Terry D. Cyr; Jean C. Ethier; Roger Sears; Jeremy Brazeau; Gary Liu; *Centre for Biologics Research, Ottawa, Ontario*

MPB 013 **Peptidomics and Bioinformatics: Building Models Using a MALDI MS Dataset to Predict the Final Neuropeptide Products from Neuropeptide Genes**; Amanda B. Hummon; Jonathan V. Sweedler; *University of Illinois, Urbana, IL*

MPB 014 **Analysis of Protein Sequence Databases and Their Use in Protein Identification by Database Searching of MS/MS Data**; Toby J Mathieson; Jyoti Choudhary; *Cellzome AG, London, UK*

MPB 015 **Correlating Fragment Ions to Reduce False Positives in Database Search for Peptide Identification via Tandem MS**; Yan Fu; Yiqiang Chen; Dequan Li; Wen Gao; *Institute of Computing Technology, Chinese Academy of Sciences, Beijing, P.R. China*

MPB 016 **Data Mining Methods for MALDI-FTMS Data**; Parminder Kaur[1]; Peter O'Connor[1]; *[1]Boston University, Boston, MA; [2]School of Medicine, Boston University, Boston, MA*

MPB 017 **An Examination of the Coverage and Performance of Database Search Algorithms for Protein Identification**; Sean L Seymour; Lilian M. Phu; Wilfred H. Tang; Alpesh A. Patel; Christie L. Hunter; Lydia M. Nuwaysir; Tina A. Settineri; Daniel A. Schaeffer; *Applied Biosystems, Foster City, CA*

MPB 018 **NCBI OMSSA : A Sequence Database Search Algorithm for High-Throughput Identification of Peptide Spectra Generated by Tandem Mass Spectrometry;** Lewis Y Geer[1]; Ming Xu[1]; Lukas Wagner[1]; Jeffrey A Kowalak[2]; Jeri S Roth[2]; Dawn M Maynard[2]; Stephen H Bryant[1]; Sanford P Markey[2]; *[1]NIH/NLM/NCBI, Bethesda, MD; [2]NIH/NIMH/LNT, Bethesda, MD*

MPB 019 **Limits of Resolution Required for MS Identification of Whole Yeast Proteins**; Brian D. Halligan[1]; LLoyd M. Smith[2]; Michael S. Westphall[2]; Simon N. Twigger[1]; Peter J. Tonellato[1]; *[1]Medical College of Wisconsin, Bioinformatics Research Center, Milwaukee, WI; [2]University of Wisconsin, Department of Chemistry, Madison, WI*

MPB 020 **OLAV: General Applicability of Model-Based MS/MS Peptide Score Functions;** Alexandre Masselot; Jérôme Magnin; Marc Giron; Thierry Dessingy; Damien Ferrer; Jacques Colinge; *GeneProt Inc., Meyrin, Switzerland*

MPB 021 **Mass Spec Searching Against A Highly Annotated Protein Database**; Chen Peng; Steven Potts; Lisa Yan; Sandor Szalma; *Accelrys Inc., San Diego, CA*

MPB 022 **Estimation and Optimization of the Accuracy of Peptide Identifications Obtained by MS/MS Database Searching**; Wilfred H. Tang; Sean L. Seymour; Sean P. Keating; Ignat N. Shilov; Alpesh A. Patel; Christie L. Hunter; Daniel A. Schaeffer; *Applied Biosystems, Foster City, CA*

MPB 023 **Statistical Model for Identifying Peptides by MS/MS and Database Search: Application to Diverse Datasets**; Alexey I. Nesvizhskii; Andrew Keller; Ruedi Aebersold; *Institute for Systems Biology, Seattle, WA*

CARBOHYDRATES/OLIGOSACCHARIDES

MPC 024 **Using MS Approaches to Study Heparan Sulfate and Its Biosynthesis**; Suzanne Thorp[1]; Jinhua Chen[1]; Kevin L. Carrrick[2]; Jian Liu[1]; R. Marshall Pope[2]; *[1]School of Pharmacy, Univ. of North Carolina, Chapel Hill, NC; [2]Dept. of Biochemistry and Biophysics, Chapel Hill, NC*

MPC 025 **Analysis of Isomeric Oligosaccharides by Reverse-Phase High-Performance Liquid Chromatography-Sonic Spray Ionization (SSI) Ion-Trap Mass Spectrometry**; Yasuhiro Takegawa[3]; Shinya Ito[1]; Shinji Yoshioka[2]; Kisaburo Deguchi[2]; Hiroaki Nakagawa[3]; Kenji Monde[3]; Shin-Ichiro Nishimura[3]; *[1]Design and Manufacturing Group, Hitachi High-Technologies Corporation, Hitachinaka, Japan; [2]Naka Customer Center, Hitachi Science Systems Corporation, Hitachinaka, Japan; [3]Graduate School of Science, Hokkaido University, Sapporo, Japan*

MPC 026 **N-Glycan Structrual Analysis by Nanospray Ion Trap Mass Spectrometry**; Ten-Yang Yen; Bruce Macher; *San Francisco State University, San Francisco, CA*

MPC 027 **Cyclodextrins as a Novel Class of Enzymes**; Martin Sadilek[1]; Jasbir Kaur[2]; Paul Figueiredo de[2]; Eugen W. Nester[2]; *[1]Chemistry Department, University of Washington, Seattle, WA; [2]Microbiology Department, University of Washington, Seattle, WA*

MPC 028 **Analysis of Fungal Glycosphingolipids as Lithium Adduct Ions by MS, MS/CID-MS, and MS^n on hybrid ESI-Qq/oa-TOF and MALDI-QIT-TOF Instruments**; Steven B. Levery[1]; Beau Bennion[1]; Chaeho Park[2]; Marcos S. Toledo[3]; Anita H. Straus[3]; Helio K. Takahashi[3]; *[1]University of New Hampshire, Durham, NH; [2]University of Georgia, Athens, GA; [3]Universidade Federal de Sao Paulo, San Paulo, Brazil*

MPC 029 **Evaluation of Multistage MS for Determination of Individual Sulfation Sites on Chondroitin Sulfate and Keratin Sulfate Oliogosaccharides**; May Joy C. Miller; Jin Qian; Robert J. Seward; Xueqing Li; Catherine E. Costello; Joseph Zaia; *Boston University School of Medicine, Boston, MA*

MPC 030 **Characterization and Measurement of Chondroitin Sulfate Biopolymer in Pet Food by Size Exclusion Chromatography, with Negative Ion Electrospray-Tandem Mass Spectrometry Detection**; Mike Quijano[1]; Todd M. Branch[1]; Sean X. Peng[1]; Curt Schreier[2]; Roy L. M. Dobson[1]; *[1]Procter & Gamble Pharmaceuticals, Mason, OH; [2]The Iams Company, Lewisburg, OH*

MPC 031 **Comparison of SIM and Precursor Ion Scanning Methods for Glycopeptide Detection in Complex Mixtures Using a Hybrid Quadrupole Ion Trap Mass Spectrometer**; Tina A. Settineri[1]; Brian L Williamson[2]; Christie L. Hunter[1]; Feng Zhong[3]; *[1]Applied Biosystems, Foster City, CA; [2]Applied Biosystems, Framingham, MA; [3]Applied Biosystems|MDS Sciex, Toronto, ON, Canada*

MPC 032 **A Strategy Empolying Exoglycosidase, CID, and Structure Homology to Determine the Complete Structures of Mucin-type Oligosaccharides**; Jinhua Zhang[1]; Jerry L. Hedrick[2]; Carlito B. Lebrilla[1]; *[1]Department of Chemistry, Univ. of California, Davis, CA; [2]Section of Molecular and Cellular Biology, Univ. of California, Davis, CA*

MPC 033 **Structural Differentiation of an Isomeric Series of Underivatized Neutral Human Milk Hexasaccharides Using Electrospray Ionization Tandem Mass Spectrometry**; Patrick Martin[2]; Vincent Lequart[2]; Joseph Banoub[1]; George Sheppard[1]; *[1]Department of Fisheries and Oceans, St. John's, Canada; [2]IUT Bethune, University of Artois, Bethune, France*

MPC 034 **Analysis of Non-Covalent Carbohydrate-Based Interactions by Infrared Atmospheric Pressure MALDI**; Christopher E. Von Seggern; Robert J. Cotter; *Johns Hopkins University School of Medicine, Baltimore, MD*

MPC 035 **Sequence Analysis of Oligosaccharides as Neoglycolipids by Negative-Ion Electrospray and MALDI Mass Spectrometry**; Wengang Chai[1]; Yang Yang[2]; Yibing Zhang[1]; Alexander M Lawson[1]; *[1]MRC Glycosciences Laboratory, Imperial College Faculty of Medicine, Harrow, Middx, UK; [2]Analytical Development, AstraZeneca R&D, Södertälie, Sweden*

MPC 036 **LC/MS of Low Molecular Weight Heparin**; Jens Henriksen[1]; Peter Roepstorff[1]; Lene Hoffmeyer Ringborg[2]; *[1]University of Sourthern Denmark, Odense, Denmark; [2]LEO Pharma A/S, Ballerup, Denmark*

MPC 037 **Evaluation of Metal Complexes for Sequencing of Heparin-Like Glycosaminoglycans Using Multistage MS**; Estee F Naggar; Catherine E Costello; Joseph Zaia; *Boston University, Boston, MA*

MPC 038 **Synthesis of Mass-Differentiated Substrate Libraries and Development of ESI-MS-Based Assays for Discovering Nucleotidyltransferase and Glycosidase Chemical Functions**; Nicola L. Pohl; Kwang-Seuk Ko; Yang Yu; Corbin Zea; *Iowa State University, Ames, IA*

MPC 039 **Electrspray Ionization Collision-Induced Dissociation of Ag^+-Containing Molecular Ions of Oligosaccharides Yields Diagnostic Ring Cleavages**; Gottfried Pohlentz; Jasna Peter-Katalinic; *Institute for Medical Physics and Biophysics, Muenster, Germany*

MPC 040 **Equilibrium Size Exclusioin Chromatography for Determination of Carbohydrate-Protein Binding**; Estee Naggar; Biplab Das; Joseph Zaia; *Boston University, Boston, MA*

CLINICAL CHEMISTRY

MPD 041 **Simultaneous Measurement of Estradiol and Estrone in Human Serum by LC-MS/MS Following Derivatization with Dansyl Chloride**; Robert E. Nelson; Ravinder J. Singh; Dennis J. O'Kane; *Mayo Clinic, Rochester, MN*

MPD 042 **A Direct Comparison of LC-ESI/MS to GC/MS in the Measurement of Stable Isotope Enrichment from a $^2H_2$-Glucose Metabolic Probe in T-cell Genomic DNA**; Stephen D. Fox; Richard A. Lempicki; Douglas A. Hosack; Timothy D. Veenstra; Haleem J. Issaq; *SAIC-Frederick, Inc., NCI-Frederick, Frederick, MD*

MPD 043 **Quantitative Analysis of Urine Organic Acids Using Multiple Isotope-Labeled Internal Standards with Full-Scan Capillary Column Gas Chromatography/Mass Spectrometry**; Yan An; Steven L Hillman; David S Millington; *Duke University Medical Center, Durham, NC*

MPD 044 **Physiological Amino Acid Analyses By Tandem Mass Spectrometry: Validation By Comparison With The Beckman Amino Acid Analyzer;** Lawrence J. Fisher[1]; Betty A. Platt[1]; Gulanaar Hassam[1]; Mary A. Skomorowski[1]; John W. Callahan[1]; *[1]The Hospital for Sick Children, Toronto, Canada; [2]University of Toronto, Toronto, Canada*

MPD 045 **The Analysis of Vitamin D Analogues by Atmospheric Pressure Ionization Coupled to Triple Quadrupole Mass Spectrometry**; Frans Schoutsen[1]; Sandra Rainbow[2]; Michael Baynham[1]; Daniel Blake[1]; Steve Lock[1]; Darren Thomas[1]; Paula Wiebkin[1]; *[1]Applied Biosystems, Warrington, UK; [2]Northwick Park Hospital, London, UK*

MPD 046 **A Method for the Diagnosis of 3β-Hydroxysteroid-Δ^5oxidoreductase Deficiency in Human Urine by Tandem Mass Spectrometry**; Andrea Mardegan[1]; Mariella Zoppa[1]; Lorena Gallo[1]; Laura Riello[1]; Franco Zacchello[1]; Lucia Zancan[1]; Giuseppe Giordano[1]; *[1]Pediatrics department of Padova University, Padova, Italy; [2]Department of Pediatrics of Padova University, Padova, Italy*

MPD 047 **The Perfume of Medically Important Fungi**; Vaughan S. Langford[1]; Paul F. Wilson[1]; Jennifer M. Scotter[2]; Stephen T. Chambers[2]; Randall A. Allardyce[2]; Colin G. Freeman[1]; Murray J. McEwan[1]; *[1]Department of Chemistry, University of Canterbury, Christchurch, New Zealand; [2]Christchurch School of Medicine and Health Sciences, Otago University, Christchurch, New Zealand*

MPD 048 **High-Performance Liquid Chromatography/Tandem Mass Spectrometric Assay for the Rapid High Sensitivity Measurement of Amino Acids in Brain Fluid Samples**; Mark E P Hows; Ajit J Shah; Richard Foxton; Lee A Dawson; Andrew J Organ; *Glaxosmithkline, Harlow, UK*

MPD 049 **A Novel Method for the Quantitative Analysis of Immunosuppressive Drugs in Whole Blood, Using Chromatography-Free Chip-Based Infusion Ion Trap Mass Spectrometry**; Neil V Leaver[1]; Alistair E Sterling[2]; Mark J Baumert[2]; Mark H Allen[2]; Mark E Harrison[3]; Marlene L Rose[1]; *[1]Royal Brompton & Harefield NHS Trust, Harefield, UK; [2]Advion Biosciences Ltd, Norwich, UK; [3]Thermo Finnigan, Hemel Hempstead, UK*

MPD 050 **Electrospray LC/MS Method Using Single-Ion Monitoring and a Monolithic Silica Column for Quantitation and Preclinical Pharmacokinetics of a Novel Selective Androgen Receptor Modulator (SARM) in Rats**; Di Wu[1]; Duane D. Miller[2]; James T. Dalton[1]; *[1]Division of Pharmaceutics, College of Pharmacy, Ohio State University, Columbus, OH; [2]Department of Pharmaceutical Sciences, College of Pharmacy, UT, Memphis, TN*

MPD 051 **Automated Stable-Isotope Dilution LC/MS/MS Method for Folates in Serum;** Zia Fazili; Christine Pfeiffer; Leslie McCoy; *Centers for Disease Control and Prevention, Atlanta, GA*

MPD 052 **LC/MS Method for the Determination of Ritalin and Ritalinic Acid in Human Plasma**; Daryl Murry[1]; Robert Classon[2]; *[1]Purdue Univ, Dept of Pharmacy Practice, School of Pharmacy and Pharmac, Indianapolis, IN; [2]Shimadzu Scientific Instruments, Columbia, MD*

MPD 053 **Application of Liquid Chromatogrpahy Tandem Mass Spectrometery for the Diagnosis of Endocrine Disorders**; Ravinder Singh; *Mayo Clinic, Rochester, MN*

MPD 054 **Transport and Metabolism of ^{13}C-Labeled Folates by Human Intestinal Caco-2 Cell Monolayers Using LC-MS-MS**; Spiros D. Garbis; Yongmei Li; Richard B. van Breemen; *University of Illinois College of Pharmacy, Chicago, IL*

MPD 055 **A Novel Ion Trap LC/MSn Methodology for the Analysis of QYNAD, a Marker for Inflammatory Demyelinating Neurological Disease**; Christian Sauber[1]; Peter Aulkemeyer[3]; Heinrich Brinkmeier[3]; Reinhardt Rüdel[2]; Friedrich Mandel[1]; *[1]Agilent Technologies, Waldbronn, Germany; [2]Department of General Physiology, University of Ulm, Ulm, Germany; [3]Institute of Pathophysiology, Ernst-Moritz-Arndt University Greifswald, Greifswald, Germany*

MPD 056 **Screening and Diagnosis of Three Pyrimidine Degradation Disorders by Urease-Pretreatment of Urine, Stable Isotope Dilution and Gas Chromatography-Mass Spectrometry**; Tomiko Kuhara; Morimasa Ohse; Chie Ohdoi; *Medical Research Institute, Kanazawa Medical University, ishikawa, Japan*

MPD 057 **Diagnostic Urinary Sulfatide Analysis by Tandem Mass Spectrometry**; Pranesh K Chakraborty[1]; Lawrence J Fisher[2]; Marie Anne Skomorowski[2]; John W Callahan[2]; *[1]Children's Hospital of Eastern Ontario, Ottawa, Ontario; [2]The Hospital for Sick Children, Toronto, Ontario*

MPD 058 **Determination of Tobramycin in Human Serum Using Liquid Chromatography-Tandem Mass Spectrometry and Comparison with a Fluorescence Polarisation Assay**; Donald P Cooper[1]; Steven Lockhart[2]; Brain G Keevil[2]; *[1]Department of Clinical Biochemistry, Wythenshawe Hospital, Manchester, UK; [2]Waters Corporation, MS Technologies Centre, Manchester, UK*

MPD 059 **Q-TOF Tandem Mass Spectrometric Analysis of Clinically Important Acyl Glycines and Related Organic Acids**; Su Chen[1]; Jo Ellen Lee[1]; Charls B Strom[1]; Ka Wan Li[2]; *[1]Quest Diagnostics Nichols Institute, San Juan Capistrano, CA; [2]Free University, Amsterdam, The Netherlands*

MPD 060 **Polyamines by Gas-Chromatography/Negative CI;** Alek N. Dooley; Rita Kern; Nathan Kim; Richard L. Stevens; Stephen Cederbaum; Kym F. Faull; *University of California, Los Angeles, CA*

MPD 061 **Simultaneous Screen of 23 Drugs of Abuse by LC-API-MS/MS**; Stephen Lock[2]; Helen Field[1]; Daniel Blake[2]; Michael Baynham[2]; Darren Thomas[2]; *[1]Leeds General Infirmary, Leeds, UK; [2]Applied Biosystems, Warrington, UK*

MPD 062 **Analysis of Fungal Products in Growth Medium, Fungi and Human Blood**; Petra Miketova[1]; Ludmila Khailova[2]; Karl H. Schram[2]; Michael L. Graham[3]; Tin Sein[4]; Thomas J. Walsh[4]; Ida (Ki) Moore[1]; *[1]College of Medicine, University of Arizona, Tucson, AZ; [2]College of Nursing, University of Arizona, Tucson, AZ; [3]College of Pharmacy, University of Arizona, Tucson, AZ; [4]National Cancer Institute, National Institutes of Health, Bethesda, MD; [5]National Cancer Institute, National Institutes of Health, Betheda, MD*

MPD 063 **Hydrogen Laser Photoionization of Drugs of Abuse Isolated From Spiked Urine Samples**; Karl H. Schram[1]; M. Bonner Denton[2]; Jeffrey W. Finch[2]; *[1]University of Arizona, College of Pharmacy, Tucson, AZ; [2]University of Arizona, Department of Chemistry, Tucson, AZ*

MPD 064 **Detection of Pergolide in Human Breast Milk and Plasma by LC-MS-MS**; Claudia A. Mueller[1]; Marc Slawik[2]; Karl G. Petersen[2]; Wolfgang Weinmann[1]; *[1]Institute of Legale Medicine, Forensic Toxicology, University Hospital, Freiburg, Germany; [2]Institute of Legale Medicine, Albert-Ludwigs-University, Freiburg, Germany*

DRUG METABOLISM: HIGH THROUGHPUT

MPE1 065 **Application of pH Gradient in the Analysis of Small Organic Acids by LC-MS/MS in Drug Discovery**; Inhou Chu; Tony Soares; Eliza Fung; *Schering-Plough research Institute, Kenilworth, NJ*

MPE1 066 **High Throughput LC-MS/MS Method Using Monolithic Column Coupled with High Flow on-line Extraction for the Direct and Simultaneous Quantitation of Multiple Components in Human Plasma**; Zhongping John Lin; Asiya Wufer; Sheryl Skrenock; Linyee Shum; *Avantix Laboratories, Inc., New Castle, DE*

MPE1 067 **Investigation of Infusion Nano-ESI Using a Silicon Chip for High Throughput Determination of Hepatic Metabolic Stability**; Jean-Marie Dethy[1]; Francoise Brunelle[1]; Annie Lavis[1]; James Grace[2]; Bradley Ackermann[2]; *[1]Eli Lilly and Company, Lilly Development Center S.A., Mont-Saint-Guibert, Belgium; [2]Eli Lilly and Company, Lilly Corporate Center, Indianapolis, IN*

MPE1 068 **Quantitation of Fentanyl in Human Plasma by LC/MS/MS**; Allan Xu; Jing Ke; Sreedhara Chaganty; Catherine Leung; *SFBC Analytical Laboratories, Inc., North Wales, PA*

MPE1 069 **Increased Throughput by Injection of Dual Batch on Dual Column (Parallel Chromatography)**; Gerard Dussault; Manon Vranderick; Alain Arsenault; *MDS Pharma Services, Blainville, Canada*

MPE1 070 **A Novel 6-Column Extraction System for High Throughput Analysis**; Claude R. Mallet; Jeff R. Mazzeo; *Waters Corporation, Milford, MA*

MPE1 071 **Determination of Fentanyl by High Throughput On-Line LC/MS in Human Serum**; Genevieve Plante; Jacques Prevost; Rudolf Guilbaud; *MDS Pharma Services, Montreal, Quebec*

MPE1 072 **A Comparison of ^{1}H-NMR and LC/MS(TOF) for a Metabonomics Evaluation of Rat Urine from a**

Toxicological Study; Chris L. Stumpf[1]; Maria Anthony[2]; Robert S. Plumb[1]; John N. Haselden[2]; Jennifer H. Granger[1]; Jose Castro-Perez[3]; Hilary Major[3]; *[1]Waters Corporation, Life Sciences R&D, Milford, MA; [2]GlaxoSmithKline, Ware, UK; [3]Waters Corporation, Manchester, UK*

MPE1 073 **Development of a High-Throughput Tandem SPE-LC/MS Method with +/- ESI/APCI Switching for in vitro Cocktail CYP Inhibition Analysis**; Saileta Prabhu[1]; Elliot Jones[2]; Teresa Lac[1]; Marc Evanchik[1]; Louisette Basa[2]; Jeffrey Silverman[1]; *[1]Sunesis Pharmaceuticals, South San Francisco, CA; [2]Applied Biosystems, Foster City, CA*

MPE1 074 **Application of a Novel Ultra-Low Elution Volume (µElution) Solid-Phase Extraction on the LC/MS/MS Determination of Drug Compounds in Human Urine**; Brad A. Roadcap; Don G. Musson; Jamie J. Zhao; *Merck Research Laboratories, West Point, PA*

MPE1 075 **Utilization of Multiplexed Liquid Chromatography/ Mass Spectrometry in the Purity and Accurate Mass Determination of Pharmaceutical Compound Libraries**; Lisa M. Nogle; Larry M. Mallis; *Wyeth Research, Collegeville, Pennsylvania*

MPE1 076 **Determination of Plasma Protein Binding Using a New, Fully Automated, High-Throughput Ultrafiltration Method and Ballistic Gradient LC-MS;** The-Minh Tu[1]; Denis Projean[2]; Helene Maurice[1]; Sophie Dautrey[1]; Julie Ducharme[1]; *[1]AstraZeneca R&D Montreal, Montreal, Canada; [2]University of Montreal, Montreal, Canada*

MPE1 077 **Development of Parallel LC/MS System for Quantitative ADME Analysis**; Lan Gao; Xueheng Cheng; Mark Schurdak; Lawrence Vernetti; Ken Matuszak; David Burns; *Abbott Laboratories, Abbott Park, IL*

MPE1 078 **Measurement of Drug-Protein Binding by Using Immobilized Human Serum Albumin LC/MS Method**; Ying Cheng; Elena Ho; Jun Shen; Xue Ge; Babu Subramanyam; Jih_Lie Tseng; *Berlex Biosciences, Richmond, CA*

MPE1 079 **Automated Online LC/MS Metabolic Study for Prodrug Conversion**; Frances Lai; Matthew J. Baumgardner; S. Cyrus Khojasteh; *Genentech Inc, S. San Francisco, CA*

MPE1 080 **Quantitative, Low Cost, High Throughput Analysis of Free Carnitine in Dried Plasma Specimens using MS/MS**; Donald Chace[1]; James DiPerna[1]; Theodore Kalas[1]; Allan Evans[2]; GianFranco Fornasini[3]; *[1]Neo Gen Screening, Bridgeville, PA; [2]University of South Australia, Adelaide, Australia; [3]Sigma Tau Pharmaceuticals, Gaithersburg, MD*

MPE1 081 **An LC/MS/MS Dual Column Method to Support High Throughput Bioanalysis of In Vitro ADME Screening Samples**; Sascha Freiwald; Danielle Smith; Roger Winters; *Pfizer Global Research & Development, Ann Arbor, Michigan*

MPE1 082 **An Investigation of Protein Binding Using Ultrafiltration and TFC-LC/MS/MS**; Kevin L Cook; Voon S Ong; William Brubaker; *Memory Pharmaceuticals, Montvale, NJ*

MPE1 083 **The Use of Alternative SRM and Full scan MS/MS with Chip-based Infusion MS for High-Throughput Analysis in Biological Fluids with Improved Assay Selectivity**; Mark Allen[2]; Alistair Sterling[2]; Garry Williams[2]; Gerard Hopfgartner[1]; *[1]University of Geneva, School of Pharmacy, Geneva, Switzerland; [2]Advion BioSciences, Norwich, United Kingdom*

MPE1 084 **LC-MSD as a Platform for the Fast Analysis of Inhalation Product Development Samples**; Ramil Menzeleev; Emmanuelle Schwob; Jean-Marc Bovet; Antony Hickey; *Cirrus Pharmaceuticals, Inc, Research Triangle Park, NC*

MPE1 085 **Dual Channel Parallel On line Turbulent Flow Extraction LC/MS/MS Determination of Geometrical Isomers**; Sabrina Forni; Brad A. Roadcap; Wei Zeng; Amy Q. Wang; Jamie J. Zhao; Donald G. Musson; *Merck & Co Inc., West Point, PA*

DRUG METABOLISM: PHARMACOKINETICS

MPE2 086 **Development of a High Sensitivity LC-MS/MS Method for Fluticasone Propionate: Pharmacokinetic Application in Human Subjects Following Nasal Spray Administration;** Jinlin Shen[1]; Juan He[1]; Victoriano C Yeong[1]; Gary Paul[2]; Kevin McHale[2]; Nicola C Hughes[1]; *[1]Biovail Contract Research, Toronto, Canada; [2]Thermo Finnigan, Somerset, NJ*

MPE2 087 **Evaluation of Models of Blood-Brain-Barrier Transport Using HPLC/ESI-MS/MS: Quantitation of in vitro and in vivo Samples**; Paula M. Knight; Mary K. Dirr; Lily Dong; Martin E. Dowty; Cindy M. Obringer; Jennifer L. Hannah-Hardy; Charles A. Cruze; Timothy R. Baker; *Procter & Gamble Pharmaceuticals, Mason, OH*

MPE2 088 **CapLC/LCQMS Method Development for Detection of Adduction of 3,4-estrogen-quinone and Nucleosides**; Zhi Yang[1]; Harald Koefeler[1]; Shengxiang Qiu[1]; Ercole L. Cavalieri[2]; Eleanor G. Rogan[2]; Michael L. Gross[1]; *[1]Chem. Dept., Washington University, Saint Louis, MO; [2]Eppley Cancer Institute, Nebraska Medical Center, Omaha, NE*

MPE2 089 **LC-MS/MS and NMR Analysis of Acyl Glucuronides in Bile and Plasma in Early Drug Discovery**; James Jean; Sam Wainhaus; Hong Kim; Alexei Buevich; *Schering Plough Research Institute, Kenilworth, NJ*

MPE2 090

MPE2 091 **Time of Flight Mass Spectrometry For The Specific Identification of Low Level Metabolites and Trace Impurity Profiling;** Michael A McCullagh[1]; Hilary Major[1]; Jose Castro Perez[1]; Ian Wilson[2]; Catherine Duckett[3]; Jeremy Nicholoson[3]; John Lindon[3]; *[1]Waters Corporation MS Technologies Centre (Micromass UK Ltd) Floats Rd, Manchester, United Kingdom; [2]Department DMPK, AstraZeneca, Mereside, Alderley Park, Macclesfield, United Kingdom; [3]Imperial College of Science, Technology and Medicine, South Kensington, London, United Kingdom*

MPE2 092 **High Sensitivity Chiral LC/MS/MS Assay for Quantitative Determination of the Enantiomers of Fadrozole in Plasma**; Timothy Bedman; Michael J Hayes; Francis L S Tse; *Novartis Institute for Biomedical Research, East Hanover, NJ*

MPE2 093 **Plasma-Pooling Method to Determine Ultra-Low Drug Exposure Using LC/MS/MS**; Jinsong Ni; Josh Rowe; Hui Tang; Andrew Acheampong; Diane Tang-Liu; *Allergan, Irvine, CA*

MPE2 094 **Comparative in-vivo Metabolic Profiling and Identification of Metabolites in Plasma in Relation to MIST (Metabolites in Safety Testing);** Ronald de Vries; Willy Lorreyne; Philip Timmerman; *Johnson & Johnson PRDBE, Beerse, Belgium*

DRUG METABOLISM: QUANTITATION

MPE3 095 **Development of a High Sensitivity LC/MS/MS Method for the Quantitation of DPC-A78445, a Novel Pharmacological Stress Agent, in Rodent, Canine and Human Blood**; Cathleen E. Gorman; David C. Onthank; Neal Williams; Simon Robinson; D. Scott Edwards; *Bristol-Myers Squibb Medical Imaging, N. Billerica, MA*

MPE3 096 **Simple Means to Alleviate Sensitivity Loss by TFA-containing Mobile Phases in LC-ESI/MS/MS**

Bioanalysis; Wilson Z. Shou; Angela Eerkes; Naidong Weng; *Covance Laboratories Inc, Madison, WI*

MPE3 097 **Simultaneously Determination of the Enantiomers of Ketorolac As Well As XBL011003 in Human Plasma with LC/MS**; Yong-Xi Li; Eckhardt Schmidt; Mei Hou; Guangchun Zhou; Jinn Wu; Dawei Zhou; *XenoBiotic Laboratories, Inc., Plainsboro, NJ*

MPE3 098 **Direct Analysis of Plasma by LC/MS/MS: The Use of Fast Gradient HPLC**; Patricia A Wright; Michelle Gleave; Richard M Mitchell; *Pfizer Global R and D, Sandwich, UK*

MPE3 099 **Dealing With Linear Dynamic Range Limitations in Electrospray for Bioanalytical Assays**; Katty X. Wan; Jill E. Polzin; Matthew J. Rieser; *Abbott Laboratories, Abbott Park, IL*

MPE3 100 **Determination of α-Tocopherol in Rat Tissues by LC-MS/MS for Pre-Clinical Drug Development**; Nick Deagon; Jeffry Plomley; Tim Samuels; Alan Bartlett; Melanie Chapleau; Daniel Lemieux; Frederick de Liniers; *CTBR, Senneville, Quebec*

MPE3 101 **Simultaneous Determination of Simvastatin and Simvastatin Acid in Human Plasma by Automated Liquid-Liquid Extraction on Diatomaceous Earth Packed in 48-well Plates and LC/MS/MS**; Lida Liu; Robert Valesky; Donald Musson; Jamie Zhao; *Merck Research Laboratories, West Point, PA*

MPE3 102 **Quantification of 1-α-Hydroxyvitamin D_5 In Rat Plasma And Tissues Using LC-MS**; Huaping Wu[1]; Michael E. Hawthorne[2]; Rajendra G. Mehta[2]; Richard B. van Breemen[1]; *[1]University of Illinois College of Pharmacy, Chicago, IL; [2]University of Illinois College of Medicine, Chicago, IL*

MPE3 103 **Development of an HPLC/MS/MS Method for the Quantitative Bioanalysis of Vancomycin from Plasma: A Lesson Learned When Conventional Methods are Unsuccessful**; Michael T Pearson[1]; Shane R. Needham[1]; Kay Huh[2]; *[1]Alturas Analytics, Inc., Moscow, ID; [2]Chiron, Seattle, WA*

MPE3 104 **Determination of Clavulanic acid by using High Throughput On-line LC/MS in Human Plasma**; Chenier Dodard; Rudolf Guilbaud; Othman Akram; *MDS Pharma services, Montreal, Canada*

MPE3 105 **Direct Plasma Injection and Analysis Using a Thermally Controlled High-Throughput Parallel LC/MS/MS system Based on Post-Column Bypass Effluent Diversion**; Emily G Farrow; Kenneth J Ruterbories; *Lilly Research Laboratories, Eli Lilly and Company, Indianapolis, IN*

MPE3 106 **Development and Validation of a 96-Well Method for the Analysis of ABT-202 in Plasma Samples on Two LC/MS/MS Platforms**; Naxing Xu; Eun Kim; Jun Zhang; Azza M Wagdy; Brendan A Swaine; Min S Chang; Tawakol El-Shourbagy; *Abbott Laboratories, Abbott Park, IL*

MPE3 107 **A Comparison Of Concentrations Collected From Perfused Rat And Non-Perfused Rat Brain. Determination Of Brain To Plasma Ratios In Rodents By LC-MS/MS;** Qianping Peng; Constantin Tamvakopoulos; Xiaolan Shen; Judy Fenyk-Melody; Kenneth Vakerich; Zuliang Yao; Zhixiong Ye; Ravi Nargund; Christian Nunes; Lawrence Colwell; James Pivnichny; *Merck Research Laboratories, Rahway, NJ*

MPE3 108 **High Performance Liquid Chromatography Inductively Coupled Mass Spectrometry - a New Opportunity in Bioanalysis for Sulphur and Phosphorus Containing Compounds;** Christopher J Smith; Richard Payne; Ian D Wilson; Elizabeth Thomas; Timothy P Sangster; *AstraZeneca Pharmaceuticals, Macclesfield, England*

MPE3 109 **Development of LC/MS/MS Assay for Quantification of SCIO-323 and its Selected Metabolites in Cynomolgus Monkey, Rat, and Human Plasma**; James Tovera; Jin Shu; Jennifer Amundson; Beth Fernandez; Maurice Standlee; Vinh Tran; Rodney Jue; Yang Wang; *Scios, Inc., Sunnyvale, CA*

MPE3 110 **Quantitation of Leuprolide in Human Plasma via HPLC with MS/MS Detection**; Sid Bhoopathy; Zong-Ping Zhang; Michael Waldron; Bruce Hidy; *PPD Development, Richmond, VA*

MPE3 111 **A Sensitive and Selective LC-MS/MS Method for the Determination of Anandamide, Arachidonic Acid, Prostaglandins D_2, E_2 and $F_{2\alpha}$ and Prostaglandin-1-Ethanolamides D_2, E_2 and $F_{2\alpha}$ in Biological Matrices**; Jinsong Ni; Andrew Acheampong; Lisa Borbridge; Josh Rowe; David Woodward; Diane Tang Liu; *Allergan, Irvine, CA*

MPE3 112 **LC/MS Analysis of Diazepam and its Metabolites in Rat Liver Microsome Incubations Using a Linear Ion Trap Mass Spectrometer;** Julian J Phillips; Tania A Sasaki; Gargi Choudhary; *Thermo Finnigan, San Jose, CA*

MPE3 113 **Highly Automated Process for the Quantitation of Samples from Animal Pharmacokinetic Studies Using a Linear Ion Trap Mass Spectrometer**; Mark Sanders[1]; Jonathan L. Josephs[2]; Jian Wang[1]; Julian Phillips[3]; Iain Mylchreest[3]; *[1]Bristol-Myers Squibb, Princeton, NJ; [2]Bristol-Myers Squibb, Hopewell, NJ; [3]ThermoFinnigan, San Jose, CA*

MPE3 114 **Stability Studies for Cabergoline Using a Triple Quadrupole Mass Spectrometer with Accurate Mass Measurement Capability**; Gary Paul[1]; Witold Winnik[1]; Scott Peterman[1]; Nicola Hughes[2]; *[1]BioVail Contract Research, Toronto, Ontario; [2]Thermo Finnigan, Somerset, NJ*

MPE3 115 **Flow-Injection LC-MS-MS Method for Simultaneous Quantitation of N^1-Acetylspermidine and N^8-Acetylspermidine in the Differentiation Process of Murine Erythroleukemia (MEL) Cells**; Jing Yuan[1]; Xiaoyi Hu[1]; Vanishree Rajagopalan[2]; O.David Sparkman[1]; Jim Blankenship[2]; Patrick R. Jones[1]; *[1]Chemistry Department, University of the Pacific, Stockton, CA; [2]TJ Long School of Pharmacy, University of the Pacific, Stockton, CA*

MPE3 116 **Sensitive LC/MS Method for the Determination of Clavulanic Acid in Human EDTA K3 Plasma;** Gilles Provencher; *Anapharm Inc., Québec, Canada*

MPE3 117 **Determination of Fexofenadine in Human Plasma Using 96-well Solid Phase Extraction and HPLC-MS/MS**; Irong Fu; Eric J. Woolf; Bogdan K. Matuszewski; *Merck Research Laboratories, West Point, PA*

MPE3 118 **Quantitative Analysis of Glimepiride in Human Plasma by LC-MS/MS**; Hohyun Kim[1]; Hyeongjin Roh[2]; Sang Beom Han[1]; Kyung Ryul Lee[1]; *[1]Seoul Medical Science Institute, Seoul Clinical Laboratories (SCL), Seoul, South Korea; [2]BioCore Co. Ltd., Seoul, South Korea*

MPE3 119 **Determination of Phloroglucinol in Human Plasma by LC-MS and LC-MS/MS**; Hohyun Kim[1]; Hyeongjin Roh[2]; Hee Joo Lee[1]; Sang Beom Han[1]; Kyupum Lee[1]; *[1]Seoul Medical Science Institute, Seoul Clinical Laboratories (SCL), Seoul, South Korea; [2]BioCore Co. Ltd., Seoul, South Korea*

MPE3 120 **Quantitative Analysis of Antisense Oligonucleotides by Reversed-phase LC-MS/MS**; Keyang Xu[1]; Elizabeth A. Williams[1]; Shekman Wong[1]; Krys J. Miller[1]; Richard S. Geary[2]; Rosie Z Yu[2]; *[1]Amgen, Thousand Oaks, CA; [2]ISIS Pharmaceuticals, Carlsbad, CA*

MPE3 121 **Automated Nanoelectrospray MS/MS, Without Chromatography, for the Rapid Determination of**

Midazolam in Human Plasma; James T. Kapron; Ellen Pace; Colleen K. Van Pelt; Jack Henion; *Advion BioSciences, Ithaca, NY*

MPE3 122 **Rapid Method for Identification and Quantification of Nineteen Nonsteroidal Anti-Inflammatory Drugs in Serum Using LC/MS**; Rebecca A. Shepard; Daniel S. McKemie; Wayne S. Skinner; Scott D. Stanley; *University of California, Maddy Equine Analytical Lab, Davis, CA*

MPE3 123 **Measuring Antibody Drugs in Serum in the Presence of Anti-Drug Antibodies**; Baojen Shyong[1]; Victor T Ling[1]; Bryan Sandlund[1]; Valerie Quarmby[1]; Jonathan McNally[2]; Yan Chen[2]; *[1]Genentech, Inc., S. San Francisco, CA; [2]ThermoFinnigan, San Jose, CA*

MPE3 124 **Efficient Data Processing for Parent and Metabolite LC-MS/MS Quantitation using Watson LIMS System**; Gregory B. Tucker; Samual Wainhaus; James Jean; Xiaoying Xu; *Schering Plough Research Institution, Kenilworth, NJ*

MPE3 125 **The Use of Post Column Addition to Improve Signal Response and Reduce Matrix Effects in Bioanalytical LC/MS/MS Assays**; Ria Seliniotakis; Amal H. Hage; Natalie E. Hebert; Themis Flarakos; Mark L.J. Reimer; *MDS Pharma Services, Montreal, Canada*

MPE3 126 **Sensitive Determination of Felodipine in Human and Dog Plasma by LC-MS/MS for Pharmacokinetic Study**; Hohyun Kim[1]; Hyeongjin Roh[2]; Seung-Bock Yeom[2]; Hee Joo Lee[1]; Sang Beom Han[1]; *[1]Seoul Medical Science Institute, Seoul Clinical Laboratories (SCL), Seoul, South Korea; [2]BioCore Co. Ltd., Seoul, South Korea*

MPE3 127 **Stabilizing Analytes via Derivatization, Enzyme Inhibitors, and pH Modifiers in the Development and Validation of a Bioanalytical Assay for the Quantification of a Prodrug and its Active Metabolite in Animal Plasma using TurboIonSpray LC/MS/MS**; Andre S. Negahban; Emily G. Farrow; Boris A. Czeskis; Elizabeth M. Peck; Diane L. Phillips; Kenneth J. Ruterbories; John H. Mullen; *Eli Lilly and Company, Indianapolis, IN*

MPE3 128 **A Preliminary Evaluation of the Applied BioSystems MDS SCIEX API-3000, API-4000 and ThermoFinnigan Quantum**; Patrick M. Jeanville[1]; Susan E. Fernandez[2]; Kamel M. Amin[1]; Kevin Colizza[1]; *[1]Pfizer Inc., PGRD Groton Laboratories, Groton, CT; [2]University of Michigan, Ann Arbor, MI*

ENVIRONMENTAL

MPF 129 **The Determination of Mercury and Selenium in Shark Tissue**; Mitchell C. Paul; Robert Toia; Ellak I. von Nagy-Felsobuki; *The University of Newcastle, Callaghan, Australia*

MPF 130 **Determination of Microcystins in Surface Water by HPLC-MS/MS**; Christian DeBlois[1]; Annie Laverdiere[1]; Francois Houde[1]; *[1]Ministry of Environment, Centre d'expertise en analyse environnemental, Quebec, Canada; [2]Ministry of Environment, Quebec, Canada*

MPF 131 **Extraction, Hydrolysis, and Analysis of Pesticides and Pesticide Metabolites in Urine Samples by LC-MS/MS;** Michael S. Gardner; James H. Raymer; Thomas W. Marrero; *RTI International, Research Triangle Park, NC*

MPF 132 **A Multi-residue LC-MS/MS Method for the Determination of Sulfonamides in Total Diet Samples;** Benjamin P.-Y. Lau; Cathie Menard; *Food Research Div., Health Products and Food Branch, Health Canada, Ottawa,, Onatrio, Canada*

MPF 133 **Pattern of Coplanar PCBs in Korean Fish by HRGC/HRMS**; Soojung Hu; Junghyuck Suh; Jungmi Kim; Kyungku Choi; Dongmi Choi; Mooki Hong; *Korea Food & Drug Administration, Seoul, Korea*

MPF 134 **Quantitation and Distribution of Individual Polychlorinated Biphenyl Congeners in the Black-footed Albatross (*Phoebastria nigripes*) from Midway Atoll, North Pacific Ocean**; Sarah A.L. Caccamise[1]; Liejun Wu[1]; Lee Ann Woodward[2]; Qing X. Li[1]; *[1]University of Hawaii at Manoa, Honolulu, Hawaii; [2]U.S. Fish and Wildlife Service, Honolulu, HI*

MPF 135 **Determination of Deltamethrin from Rat Plasma by LC-MS**; Yan Ding; James Bruckner; Michael Bartlett; *University of Georgia, Athens, GA*

MPF 136 **A GC/HRMS Method for Determination of Triclosan in Fish Plasma from Detroit River**; Mehran Alaee[1]; Ivy D'Sa[1]; Quade Sue[1]; Erin Bennett[2]; Robert Letcher[2]; *[1]National Water Research Institute,, Burlington, Ontario; [2]2Great Lakes Institute for Environmental Research, Windsor, Ontario*

MPF 137 **Proteomic Analysis of Allergens from *Metarhizium Anisopliae***; Maura J. Donohue[1]; Jody A. Shoemaker[2]; MaryJane Selgrade[3]; Marsha D. Ward[3]; Lisa Copeland[3]; *[1]Oakridge Institute for Science and Education, Oakridge, TN; [2]U.S. Enviromental Protection Agency, Cincinnati, OH; [3]U.S. Enviromental Protection Agency, Research Triangle Park, NC*

MPF 138 **Development of a Rapid and Sensitive SPE-LC-ESI MS/MS Method for the Determination of Chloramphenicol in Seafood**; Despina Tsipi[2]; Pigi Kormali[2]; Evangelos Gikas[1]; Anthony Tsarbopoulos[1]; *[1]gaia Research Center, Kifissia-Athens, Greece; [2]general Chemical State Laboratory, Athens, Greece*

MPF 139 **Analysis of Acrylamide- and Glycidamide-Hemoglobin Adducts by LC-MS/MS**; Maria Ospina; Hermes Licea-Perez; Hubert Vesper; Gary Myers; *Centers for Disease Control, Atlanta, GA*

MPF 140 **A Photodegradation Study of Pharmaceuticals Using LC-ESCi<TM>-MS-MS**; Monica W Lam[1]; Michael P Balogh[2]; Scott A Mabury[1]; *[1]University of Toronto, Toronto, Ontario; [2]Waters, Milford, MA*

MPF 141 **Structural Characterization of Microcystins by ESMS Using In-source CID**; Cariton Kubwabo; Natalia Vais; Frank M Benoit; *Health Canada, Ottawa, Canada*

MPF 142 **Mass Spectrometric Determination of Organic Wastewater Contaminants Between Water and Sediment in Surface-Water Samples of the United States**; Edward T. Furlong[1]; Imma Ferrer[1]; Susan Glassmeyer[3]; Jeffery D. Cahill[1]; Steven D. Zaugg[1]; Stephen L. Werner[1]; Dana W. Kolpin[2]; Chad A. Kinney[1]; David Kryak[3]; *[1]U.S. Geological Survey, Denver, CO; [2]U.S. Geological Survey, Iowa City, IA; [3]U.S. Environmental Protection Agency, Cincinnati, OH*

MPF 143 **Mass Spectrometric Characterization of the Protein Matrix of Cod Otoliths**; Matthew B. Miller; Richard W. Vachet; *University of Massachusetts-Amherst, Amherst, MA*

MPF 144 **Total Mercury Analysis of Crabmeat by ICP MS**; Marc E Engel; *Florida Dept of Agriculture and Consumer Services Food Laboratory, Tallahassee, FL*

MPF 145 **Optimizing the Analysis of Acrylamide in Food by Quadrupole GC/MS**; Trisa C Robarge; Eric Phillips; Matt Lasater; Meredith Conoley; *ThermoElectron Scientific Instruments Division, Austin, TX*

MPF 146 **Determination of Algal Toxins in Surface Waters by Solid Phase Extraction (SPE) and Liquid Chromatography - Tandem Mass Spectrometry (LC-MS/MS)**; Steve W. D. Jenkins; Patrick W. Crozier; Vince Y. Taguchi; Jennifer L. Newman; *Ontario Ministry of the Environment, Etobicoke, Canada*

MPF 147 **Determination of Cholesterol-Lowering Statin Drugs in Aqueous Samples Using Electrospray Liquid**

Chromatography-Tandem Mass Spectrometry; Xiu-Sheng Miao; Chris D. Metcalfe; *Water Quality Centre, Trent University, Peterborough, ON, Canada*

MPF 148 **Use of LC/MS/MS Technic for the Analysis of Acrylamide in Food**; Serge Dragna; Chantadary Inthavong; Laurent Maurice; Francois Bordet; *AFSSA, Maisons-Alfort, France*

MPF 149 **Identification by GC/MS of Chemicals from Human and Avian Hosts that Attract Mosquitoes**; Samaret M Otero[1]; Ulrich R Bernier[2]; Daniel L Kline[2]; Donald R Barnard[2]; Richard A Yost[1]; *[1]University of Florida, Gainesville, FL; [2]USDA/ARS, Gainesville, FL*

MPF 150 **Identification of Antihistamine Agents by Ion Trap/MS/MS and Time-of-flight/MS/MS in Environmental Samples**; Imma Ferrer[1]; Curtis E. Heine[2]; E. Michael Thurman[3]; *[1]Joint Research Centre, Ispra, Italy; [2]Waters Corp., Beverly, MA; [3]US Geological Survey, Lawrence, KS*

MPF 151 **LC/ESI/MS-MS Analysis of Waterborne Veterinarian Antibiotics**; Linda Lissemore[1]; Chunyan Hao[2]; Paul Yang[2]; Gary Impey[3]; Jean-François Alary[3]; Tony Ho[2]; Keith Solomon[1]; Peter Seto[4]; Bick Nguyen[2]; *[1]Centre for Toxicology, Environmental Biology, University of Guelph, Guelph, Ontario, Canada; [2]Ontario Ministry of Environment, Etobicoke, Ontario, Canada; [3]Applied Biosystems/MDS Sciex, Concord, Ontario, Canada; [4]Environmental Canada, Burlington, Ontario, Canada*

MPF 152 **Biomonitoring of Polycyclic Aromatic Hydrocarbons Metabolites And Diesel Exhaust Biomarkers in Human Urine by Gas Chromatography/High-Resolution Mass Spectrometry**; Zheng Li; Selvin H Edwards; Courtney D Sandau; James Grainger; Donald G Patterson Jr; *Centers for Disease Control and Prevention, Atlanta, GA*

MPF 153 **Analysis of Domoic Acid in Marine Mammal Tissues by LC-MS/MS Utilizing Monolithic Support Chromatography**; Mark Busman; *NOAA-NOS, Charleston, SC*

MPF 154 **Determination of Chlorpyrifos and the Major Metabolite 3,5,6-Trichloro-2-Pyridinol in Blood and Saliva of Exposed Rats**; James A. Campbell; Eric W. Hoppe; Hong Wu; Torka S. Poet; Charles Timchalk; *Battelle, Pacific Northwest Division, Richland, Wa*

MPF 155 **Investigation of Cyanobacteria Toxins in Water**; William L. Budde[1]; Mila Maizels[2]; *[1]U. S. Environmental Protection Agency, Cincinnati, Ohio; [2]Oak Ridge Institute for Science and Education, Cincinnati, OH*

ESI, NANOSPRAY SAMPLE PREPARATION

MPG 156 **Effect of Flow Rate, Source Temperature, and HPLC Chromatographic Parameters on Electrospray Response - Concentration vs. Mass-Flow Dependency**; Mohammed Jemal; Zheng Ouyang; Iffaaz Salahudeen; *Bristol-Myers Squibb, New Brunswick, NJ*

MPG 157 **Electrospray Ionization Using Pointed Fibers**; Jian Liu; Daniel R. Knapp; *Medical University of South Carolina, Charleston, SC*

MPG 158 **Nanoflow Electrospray of Tryptic Digests from Gels Containing Ammonium versus Sodium Dodecyl Sulfate**; Kevin A. Dixon; Brian T. Cooper; *University of North Carolina at Charlotte, Charlotte, NC*

MPG 159 **Effect of Capillary-Heater Temperature and Spray Voltage on the Stability of S-Nitrosothiols in ESI-MS**; Andrea A Romeo; Ann M English; John A. Capobianco; *Concordia University, Montreal, Quebec*

MPG 160 **Unusual Adduct Ion to Neutral Sample Molecules in (-) ESIMS --- Entity of $C_4H_9O_2^-$**; Yoko Ohashi[1]; Herbert Budzikiewicz[2]; Masaki Nakazato[1]; Takashi Hirano[1]; Shojiro Maki[1]; Haruki Niwa[1]; *[1]The University of Electro-Communications, Chofu, Tokyo, Japan; [2]University of Koeln, Koeln, Germany*

MPG 161 **Study on Caffeic Acid Oxidation using On-line Electrospray Ionization Mass Spectrometry combined with a Micro-flow Rate Electrolytic Cell**; Ryuichi Arakawa[1]; Masashi Yamaguchi[1]; Hiroki Hotta[2]; Toshiyuki Osakai[2]; Takashi Kimoto[3]; *[1]Department of Applied Chemistry, Kansai University, Suita, Japan; [2]Department of Chemistry, Faculty of Science, Kobe University, Kobe, Japan; [3]Research Institute of Oceano-Chemistry, Osaka Office, Osaka, Japan*

MPG 162 **Chip-Based P450 Enzymatic Metabolism with ESI-MS Detection**; Salete Benetton[1]; Jun Kameoka[2]; Aimin Tan[1]; Timothy Wachs[1]; Harold Craighead[2]; Jack Henion[1]; *[1]Analytical Toxicology - College of Vet. Medicine, Cornell University, Ithaca, NY; [2]School of Applied and Engineering Physics, Cornell University, Ithaca, NY*

MPG 163 **Automated Nanospray using Chip-Based Emitters for the Quantitative Analysis of Pharmaceutical Compounds**; Leonard J. Corkery[1]; Bradley B. Schneider[3]; K.W. Michael Siu[1]; Thomas R. Covey[3]; *[1]York University, Toronto, Canada; [2]Eli Lilly Canada, Toronto, Canada; [3]MDS SCIEX, Toronto, Canada*

MPG 164 **High-Throughput Protein Identification via Nano-ESI/MS/MS with On-Line Desalting**; Jason G. Williams; Maribel Bruno; Jennifer Madenspacher; Barbara Wetmore; B. Alex Merrick; Kenneth B. Tomer; *National Institute of Environmental Health Sciences, Research Triangle Park, NC*

MPG 165 **Volatile Cyclic Silicones in the Ambient Laboratory Air Identified as Source of Extreme Background Signals in Electrospay Mass Spectrometry**; Andreas Schlosser; *Charite, Medical Immunology, Berlin, Germany*

MPG 166 **Proteomic Survey of Tyrosine Kinase Interacting Proteins by Immunoprecipitation and Mass Spectrometry**; David K. Crockett[1]; Zhaosheng Lin[1]; Kojo S.J. Elenitoba Johnson[2]; Megan S. Lim[2]; *[1]ARUP Institute for Clinical and Experimental Pathology, Salt Lake City, UT; [2]Department of Pathology, University of Utah School of Medicine, Salt Lake City, UT*

MPG 167 **A High Density Fully Microchip-Based Nanospray Device with Integrated Solid Phase Extraction Capabilities**; Thomas N. Corso; Jie Li; Xian Huang; Robert E. Murphy; Ninad A. Shinde; Christopher G. Alpha; Barry L. Smith; Gary S. Sheldon; Gary A. Schultz; *Advion BioSciences, Inc., Ithaca, NY*

MPG 168 **Nib-Like Microfabricated Two-Dimensional Nano-ESI Tips**; Severine Le Gac[1]; Steve Arscott[2]; Cecile Cren-Olive[1]; Christian Rolando[1]; *[1]Universite des Sciences et Technologies de Lille, UMR CNRS 8009, LCOM, Villeneuve d'Ascq, France; [2]Université des Sciences et Technologies de Lille, UMR CNRS 8009, LCOM, Villeneuve d'Ascq, France*

MPG 169 **Reduction and Oxidation Reactions in Nanospray of Proteins**; Cheng Zhao; Troy Wood; Stanley Bruckenstein; *University at Buffulo, State University of New York, Buffalo, NY*

MPG 170 **Chip-Based Solid-Phase Extraction Pretreatment for Direct Electrospray Mass Spectrometry Analysis Using an Array of Monolithic Columns in a Polymeric Substrate**; Aimin Tan; Salete Benetton; Jack D. Henion; *Analytical Toxicology, Cornell University, Ithaca, NY*

MPG 171 **A Novel Method for Desalting and Purification of Peptide Samples Prior to Nano-ESI-MS Analysis**; Santiago Vazquez; Jeffrey W. Finch; John C. Gebler; Steven A. Cohen; *Waters Corporation, Milford, MA*

FOSSIL FUELS

MPH 172 **Does Electrospray Ionization Mix with Petroleum Industry?** Michael T. Cheng; James D. Hudson; *ChevronTexaco Research, Richmond, CA*

MPH 173 **Coupling GCxGC Chromatography with Time-of-Flight Mass Spectrometry for More Complete Characterization of Petroleum Products**; Tincuta Veriotti; Frederic Glisson; Olivier Niquette; *LECO Corporation, St. Joseph, MI*

MPH 174 **Mass Spectrometric Development for Petroleum Compositional Analysis**; Chang S Hsu; *ExxonMobil Research and Engineering Co., Baton Rouge, LA*

MPH 175 **Probing the Molecular Weight Distributions of Nonboiling Petroleum Fractions by Ag+ Electrospray Ionization Mass Spectrometry**; Stilianos G. Roussis; Richard Proulx; *Imperial Oil, Sarnia, Ontario, Canada*

MPH 176 **Petroleomics: ESI FT-ICR MS Determination of Hydrotreatment-Resistant Neutral and Acidic Nitrogen Species in Crude Oil**; Geoffrey C. Klein[1]; Ryan P. Rodgers[2]; Vince Nowlan[3]; Alan G. Marshall[2]; *[1]Department of Chemistry and Biochemistry, Florida State University, Tallahassee, FL; [2]NHMFL, Tallahassee, Florida; [3]Sycrude Canada Ltd., Edmonton, Alberta*

MPH 177 **Effects of Thermal Maturity on the Distribution of Neutral Polars in Crude Oils as Revealed by Negative Ion ESI FT-ICR-MS**; Christine A. Hughey[1]; Clifford Walters[2]; Kuangnan Qian[2]; Ryan P. Rodgers[3]; Alan G. Marshall[3]; *[1]Department of Physical Sciences, Chapman University, Orange, CA; [2]ExxonMobil Research and Engineering Company, Annandale, NJ; [3]National High Magnetic Field Laboratory, Tallahassee, FL*

MPH 178 **Graphical Methods for Analysis of Coal and Crude Oil: Van Krevelen Diagrams and Kendrick Mass Plots**; Zhigang Wu[2]; Geoffrey C Klein[2]; Ryan P Rodgers[1]; Alan G Marshall[1]; *[1]NHMFL, Tallahassee, FL; [2]FSU, Tallahassee, FL*

MPH 179 **Advantages of High Resolution in the Study of Hydrocarbon Mixtures**; Dean V. Davis; Wayne V. Rimkus; Ken L. Gallaher; *Siemens Applied Automation, Bartlesville, OK*

FTMS

MPI 180 **Mapping of O-Glycosilated Amino Acids Related to Schindler's Disease by Negative Ion NanoESI FT-ICR MS and SORI-CID at 9.4 T**; Martin Froesch; Alina Zamfir; Jasna Peter-Katalinic; *Institute for Medical Physics and Biophysics, University of Muenster, Muenster, Germany*

MPI 181 **An External Octopole Mass Filter to Enhance Sensitivity for Low Abundance Ions in Elemental Fourier Transform Ion Cyclotron Resonance Mass Spectrometry**; Keith D Zientek; John R Eyler; *University of Florida, Gainesville, FL*

MPI 182 **Fully Automated High-Throughput Accurate Mass Determination using FT-ICR Mass Spectrometry**; Jens Griep-Raming[1]; Wolfgang Metelmann-Strupat[1]; Stevan Horning[1]; Shiaw-Lin Wu[2]; Helmut Muenster[1]; *[1]Scientific Instruments Division of Thermo Electron,Thermo Finnigan MAT, Bremen, Germany; [2]Scientific Instruments Division of Thermo Electron, Thermo Finnigan, San Jose, CA*

MPI 183 **Identification of Unknown Components in Bromothymol Blue with Accurate Mass Measurements from LC/FTMS**; Kevin C Crellin; Aaron Fountain; R. T. McIver, Jr; *IonSpec Corporation, Lake Forest, CA*

MPI 184 **Use of All ^{12}C and ^{14}N Culture Media for Analysis of Whole Cell Bacteria by Matrix-Assisted Laser Desorption/Ionization Time-of-Flight and Fourier Transform Mass Spectrometry**; Michael J Stump; Jeffrey J Jones; Richard C Fleming; Jackson O Lay; Charles L Wilkins; *University of Arkansas, Fayetteville, AR*

MPI 185 ***In vitro* and *In vivo* Analysis of Yersiniabactin and Pyochelin Synthetases Using Preparative PAGE and Quadrupole FTMS**; Shaun M. McLoughlin; Matt T. Mazur; Leah M. Miller-Chatterjee; Leslie M. Hicks; Neil L. Kelleher; *University of Illinois, Urbana-Champaign, IL*

MPI 186 **Gated Trapping, RF-Only Mode, and Compensation for In-Field MALDI FTMS: Different Combinations**; Jonathon K. Gooden; Don L. Rempel; Michael L. Gross; *Washington University, St. Louis, MO*

MPI 187 **Exact Masses of Isotopic Peaks**; Alan L. Rockwood[1]; Jordan Van Orman[2]; David V. Dearden[2]; *[1]ARUP Institute for Clinical and Experimental Pathology, Salt Lake City, UT; [2]Brigham Young University, Department of Chemistry and Biochemistry, Provo, UT*

MPI 188 **Ion Chemistry of Trimethyl Gallium and Sulfur Hexafluoride in a Multisection Nested ICR Cell**; Niels L. Tobias; Karl Peter Wanczek; *University of Bremen, Bremen, Germany*

MPI 189 **Automated Protein Identification Using Data-Dependent Q-FTMS**; Ryan M. Danell; Michael Easterling; Steve Van Orden; Christian B. Berg; James Anderson; Joseph Meier; Paul Speir; *Bruker Daltonics, Billerica, MA*

MPI 190 **Fragmentation Pathways of Cisplatin Adducts to Dinucleotides Determined by FT-ICR-MS**; Timo Hagemeister[1]; Andreas Wieghaus[2]; Wolfgang Metelmann-Strupat[2]; Jens Griep-Raming[2]; Michael W. Linscheid[1]; *[1]Department of Chemistry, Humboldt University Berlin, Berlin, Germany; [2]Thermo Finnigan MAT GmbH, Bremen, Germany*

MPI 191 **3-Hydroxypicolinic Acid: A**; Elizabeth A. Stemmler; Maureen Guiney; Jeffrey Cook; *Bowdoin College, Brunswick, ME*

MPI 192 **Accelerating Structure Elucidation: A Comparison of High Resolution Mass Spectrometry Tools**; George L. Perkins[1]; Sally-Ann Fancy[1]; Frank S. Pullen[1]; Don Richards[2]; Chrisitine M. Thompson[2]; Catriona Thom[2]; *[1]Pfizer Global Research & Development (Discovery), Sandwich, UK; [2]Pfizer Global Research & Development (Development), Sandwich, UK*

MPI 193 **A Novel Dual ESI Source for Generation of Confident Accurate Mass Tags and for Multiplexing LC-MS for Comparative Proteomics**; David C. Muddiman[1]; Angelito I. Nepomuceno[1]; H. Robert Bergen III[1]; Micheal J. Burke[2]; James R. Craighead[2]; Patrick E. Caskey[2]; Jonathan A. Allan[2]; *[1]W.M. Keck FT-ICR Mass Spectrometry Laboratory, Mayo Clinic, Rochester, MN; [2]Division of Engineering, Mayo Clinic, Rochester, MN*

MPI 194 **Utility of a Quadrupole Interface on an FT-ICR Mass Spectrometer for Quantification of Proteolytic Peptides**; Michael Easterling[2]; David R. Barnidge[1]; David C. Muddiman[1]; Ryan M. Danell[2]; Christian B. Berg[2]; *[1]W.M. Keck FT-ICR Mass Spectrometry Laboratory, Mayo Clinic, Rochester, MN; [2]Bruker Daltonics, Billerica, MA*

INSTRUMENTATION: ION SURFACES (MALDI)

MPJ 195 **Sensitivity Increase Resulting from Design Improvements for a High Pressure MALDI Source on an FTMS**; Susanne C. Moyer[1]; Bogdan A. Budnik[2]; Parminder Kaur[2]; Catherine E. Costello[1]; Peter B. O'Connor[1]; *[1]Mass Spectrometry Resource, Boston University School of Medicine, Boston, MA; [2]Cardiovascular Proteomics Center, Boston University School of Medicine, Boston, MA*

MPJ 196 **Off-Resonance Mid-IR Laser Desorption / Ionization Tandem Mass Spectrometry**; Pete Tornatore[1]; Scot

Weinberger[1]; Robert S Brown[2]; Andreas Hieke[1]; *[1]Ciphergen Biosystems, Inc., Fremont, CA; [2]Utah State University, Logan, UT*

MPJ 197 **Zoom optics for MALDI MS with improved sensitivity;** Mark D. Mills; Victor C. Parr; Stephen P. Thompson; *Scientific Analysis Instruments, Manchester, England*

MPJ 198 **A Laser Desorption Atmospheric Pressure Chemical Ionization Source for Mass Spectrometry**; Kevin P. Turney; W. W. Harrison; *University of Florida, Gainesville, FL*

MPJ 199 **Desorption/Ionization by Backside Electron Beam Injection into Metal or Semiconductor Targets With and Without Front Side Laser Irradiation;** Oleg Tsybin[1]; Youri O. Tsybin[2]; Cristian Santacruz[2]; Nadezda Sargaeva[1]; Per Hakansson[2]; *[1]Physical Electronics Department, State Polytechnical University, Saint-Petersburg, Russia; [2]Division of Ion Physics, Uppsala University, Uppsala, Sweden*

MPJ 200 **Testing Atmospheric Pressure Desorption/Ionization On Silicon (AP-DIOS) For Analysis Of Pharmaceutical Compounds**; Katri Huikko[1]; Pekka Ostman[1]; Christian Sauber[2]; Friedrich Mandel[2]; Kestas Grigoras[3]; Sami Franssila[3]; Tapio Kotiaho[1]; Risto Kostiainen[4]; *[1]Viikki DDTC, Department of Pharmacy, University of Helsinki, Helsinki, Finland; [2]Agilent Technologies, Waldbronn, Germany; [3]Microelectronics Centre, Helsinki University of Technology, Espoo, Finland; [4]Division of Pharmaceutical Chemistry, Department of Pharmacy, UHE, Helsinki, Finland*

MPJ 201 **Meso-Porous Material as Matrix for Laser Desorption/Ionization Time-Of-Flight Mass Spectrometry**; Guoan Zhang[1]; Minjia Yuan[1]; Feng Liu[2]; Pengyuan Yang[1]; Bo Tu[1]; Dongyuan Zhao[1]; Zheguang Han[2]; *[1]Department of Chemistry, Fudan University,, Shanghai, China; [2]Chinese National Human Genome Center at Shanghai, Shanghai, China*

MPJ 202 **Construction of a MALDI Ion Source for a Multi-Turn Time-of-Flight Mass Spectrometer**; Daisuke Okumura[1]; Michisato Toyoda[1]; Morio Ishihara[1]; Itsuo Katakuse[1]; *[1]Osaka university, Toyonaka, Japan; [2]Osaka University, Toyonaka, Japan*

MPJ 203 **Reduction of Chemical Background from Matrix-Assisted Laser Desorption Ionization with High-Field Asymmetric Waveform Ion Mobility Spectrometry on a Quadrupole Ion Trap Mass Spectrometer**; Michael W. Belford; Richard A. Yost; *University of Florida, Gainesville, FL*

MPJ 204 **Tunable VUV Free Electron Laser Ionization and Analysis with a Novel Time of Flight Spectrometer**; J. F. Moore[1]; W.F. Calaway[1]; C.Y. Chen[4]; P. DenHartog[1]; Bruce King[2]; J.W. Lewellen[1]; Y. Li[1]; S.V. Milton[1]; E.R. Moog[1]; M.J. Pellin[1]; M. Petravic[3]; I.V. Veryovkin[1]; *[1]Argonne National Laboratory, Argonne, IL; [2]University of Newcastle, Newcastle, Australia; [3]Australian National University, Canberra, Australia; [4]Earth Science Institute, Taipei, Taiwan*

MPJ 205 **Direct Analysis of Polyacrylamide Gels Using Laser Desorption-Atmospheric Pressure Chemical Ionization-Mass Spectrometry (LD-APCI-MS)**; Joshua J. Coon; Heather A. Steele; Philip J. Laipis; Willard W. Harrison; *University of Florida, Gainesville, FL*

MPJ 206 **Simultaneous Exposure of Nitrogen Laser and Infrared Free Electron Laser for Matrix Assisted Laser Desorption Ionization**; Yasuhide Naito; Kunio Awazu; *Osaka University, Osaka, Japan*

MPJ 207 **MALDI Mass Spectrometry with a Tunable Wavelength Mid-infrared Laser**; Vadym Berkout[1]; Mikhail Yakshin[2]; Vladimir Doroshenko[1]; Coorg Prasad[2]; *[1]Mass Tech, Inc., Burtonsville, MD; [2]SESI, Burtonsville, MD*

MPJ 208 **Infrared Atmospheric Pressure MALDI using a Tunable (2.85-3.1µm) OPO Laser**; Victor V. Laiko[1]; Phillip V. Tan[1]; Nelli I. Taranenko[1]; Mikhail A. Yakshin[2]; Coorg R. Prasad[2]; Vladimir M. Doroshenko[1]; *[1]MassTech Inc., Burtonsville, MD; [2]Science and Engineering Services Inc., Burtonsville, MD*

MPJ 209 **Two-laser IR/UV MALDI**; Mark W. Little; Jae-Kuk Kim; Kermit K. Murray; *Louisiana State University, Baton Rouge, LA*

INSTRUMENTATION: NEW CONCEPTS

MPK 210 **Wavelength Resolved Fluorescence Emission from Ions Trapped in an Ion Cyclotron Resonance (ICR) Cell**; Jochen Friedrich[1]; Brant Cage[2]; Yi-Sheng Wang[3]; Reginald B. Little[4]; Christopher L. Hendrickson[1]; Alan G. Marshall[1]; *[1]ICR Program, National High Magnetic Field Laboratory, FSU, Tallahassee, FL; [2]National Institute of Standards and Technology, Boulder, CO; [3]Institute of Atomic and Molecular Sciences, Academia Sinica, Taipei, Taiwan; [4]Department. of Chemistry, Florida A&M University, Tallahassee, FL*

MPK 211 **Combined Spray / Liquid Injection Field Desorption Ionization source**; H. Bernhard Linden; *Linden CMS, Leeste, Germany*

MPK 212 **2-D Quadrupole Ion Traps with Added Octopole Fields**; Donald J Douglas[1]; Michael Sudakov[2]; *[1]University of British Columbia, Vancouver, Canada; [2]Ryazan State Pedagogical University, Ryazan, Russia*

MPK 213 **Multichannel TDC Data Recording with Saturation and Dead-Time Corrections in Time-Of-Flight Mass Spectrometry**; Valeri V. Raznikov; Thomas Egan; Katrin Fuhrer; Marc Gonin; Michael McCully; Michael Ugarov; Val Vaughn; John Albert Schultz; *Ionwerks, Inc., Houston, TX*

MPK 214 **MALDI-TOF MS with 2-kHz Laser for Quantitative Analysis of Differentially Expressed Proteins**; Eugene Moskovets; Tomas Rejtar; Viktor Andreev; Hsuen-Shen Chen; Anna Pashkova; Barry L. Karger; *Barnett Institute and Department of Chemistry, Northeastern University, Boston, MA*

MPK 215 **Fluorescence Emission Spectroscopy of Trapped Molecular Ions;** Ken C. Wright; Mike W. Blades; *University of British Columbia, Vancouver, Canada*

MPK 216 **Ion Interface for Deposition of ESI Ions on UHV Surfaces**; Frank Stadler[1]; Sergei Koltsov[2]; Giovanni Costantini[1]; Anatoly Verenchikov[2]; Klaus Kern[1]; *[1]Max Planck Institute for Solid State Research, D-70569 Stuttgart, Germany; [2]Institute for Analytical Instrumentation, St. Petersburg, Russia*

MPK 217 **Neutralization-Reionization of Ions Produced by Electrospray: Instrument Design and Initial Data**; Erik A. Syrstad; Jennifer L. Seymour; Charley C. Langley; Frantisek Turecek; *University of Washington, Seattle, WA*

MPK 218 **Evaluation of Linear Quadrupole Ion Traps with Added Octopole Fields Combined with Time of Flight Mass Spectrometry**; Aaron J. Frank; Donald J. Douglas; *University of British Columbia, Vancouver, Canada*

MPK 219 **An FT-ICR-Free Electron Laser User Facility for the Determination of IRMPD Spectra of Gas Phase Ions**; Jose J. Valle[1]; John R. Eyler[1]; Christopher Hendrickson[2]; Greg Blakney[2]; Alan G. Marshall[2]; David Moore[3]; Jos Oomens[3]; Gert von Helden[3]; Gerard Meijer[3]; *[1]University of Florida, Department of Chemistry, Gainesville, FL; [2]University of Florida, Gainesville, FL; [3]National High Magnetic Field Laboratory, Tallahassee, FL; [4]FOM Institute for Plasma Physics, Nieuwegein, The Netherlands*

MPK 220 **Development and Performance of Radio Frequency Circuitry for an Electrically Tunable Compensated Cylindrical Ion Trap Mass Spectrometer**; Desmond A. Kaplan; Gary L. Glish; *The University of North Carolina, Chapel Hill, NC*

MPK 221 **Design and Performance of a New Hybrid LC-QIT-TOF Mass Spectrometer**; Kozo Miseki[1]; Eizo Kawatoh[1]; Hiroto Itoi[1]; Shin-ichi Yamaguchi[1]; Jun-ichi Taniguchi[1]; Junko Iida[1]; Neil Loftus[2]; Shaun Bilsborough[2]; Matthew Openshaw[2]; Kozo Shimazu[1]; *[1]Shimadzu Corporation, Kyoto, Japan; [2]Shimadzu Corporation, Manchester, UK*

MPK 222 **A Comparison Between the Conventional Analytical Scan and the Reverse Scan for Low Molecular Weight Biological Species Using ESI-ITMS**; Gareth Dobson[1]; Jason Murrell[2]; Dominique Despeyroux[2]; Frank Wind[3]; Jean-Claude Tabet[1]; *[1]Laboratoire de chimie structurale organique et bioloqique, Paris, France; [2]DSTL, Detection Department, Porton Down, Salisbury, England; [3]Centre d'Etudes du Bouchet, Vert Le Petit, France*

MPK 223 **MS to MS/MS Automatic Switching for Glycoscreening in Congenital Disorders of Glycosylation**; Sergey Vakhrushev; Alina D. Zamfir; Jasna Peter-Katalinic; *Institute for Medical Physics and Biophysics, Muenster, Germany*

MPK 224 **IRMPD Spectroscopy of Proton-Bridged Cationic Species using the FTICR Mass Spectrometer at FELIX**; David T. Moore[1]; Jos Oomens[1]; Gerard Meijer[1]; Gert von Helden[1]; Lex van der Meer[1]; Jose Valle[4]; John R. Eyler[4]; Alan G. Marshall[5]; *[1]FOM Institute for Plasma Physics, Nieuwegein, The Netherlands; [2]FOM Institute for Plasma Physics "Rijnhuizen", Nieuwegein, The Netherlands; [3]Dept. of Molecular and Laser Physics, University of Nijmegen, Nijmegen, The Netherlands; [4]Fritz-Haber Institut der Max Planck Gesellschaft, Berlin, Germany; [5]University of Florida, Gainesville, Florida; [6]National High Magnetic Field Laboratory, Tallahassee, FL*

MPK 225 **Multistage External Pre-selection of Ions for Increased Sensitivity of LC-FTICR MS**; Andrey N. Vilkov; Ljiljana Pasa-Tolic; Bogdan Bogdanov; Seonghee Ahn; Dave C. Prior; Gordon A. Anderson; Christophe D. Masselon; Richard D. Smith; *Pacific Northwest National Laboratory, Richland, WA*

MPK 226 **Travelling Wave Ion Propulsion in Collision Cells**; Kevin Giles; Steven D Pringle; Kenneth R Worthington; Robert H Bateman; *Waters Corporation, Manchester, UK*

MPK 227 **Electron Capture Dissociation coupled with a Linear Radio-Frequency-Quadrupole Ion Trap - Time-of-Flight Mass Spectrometer**; Takashi Baba; David Black; Gary L. Glish; *Univerisity of North Carolina, Chapel Hill, NC*

MPK 228 **High-Throughput Miniature Cylindrical Ion Trap Array Mass Spectrometry**; Amy M. Tabert[1]; Jens Griep-Raming[2]; Andrew J. Guymon[1]; R. Graham Cooks[1]; *[1]Purdue University, Department of Chemistry, West Lafayette, IN; [2]Thermo Finnigan, MAT GmbH, Bremen, Germany; [3]Scientific Instruments Division of Thermo Electron,Thermo Finnigan MAT, Bremen, Germany*

MPK 229 **A Microfluidic Chip MALDI Interface Using a Rotating Ball**; Damien A. Narcisse; Harrison K. Musyimi; Xia Zhang; Steven A. Soper; Kermit K. Murray; *Louisiana State University, Baton Rouge, LA*

ISOTOPE RATIO MS

MPL 230 **Curve-fitting is Less Sensitive to Quantization Errors in Reduction of Continuous Flow Isotope Ratio Mass Spectrometry (IRMS) Data**; Chris Wolyniak; Gavin L. Sacks; J. Thomas Brenna; *Cornell University, Ithaca, NY*

MPL 231 **Measure of Nitrogen and Carbon Isotope Ratios in Subcellular Compartments**; Ralph Peteranderl; Claude P. Lechene; *Harvard Medical School/Brigham and Women's Hospital, Boston, MA*

MPL 232 **Determination of Phenylalanine Isotope Ratio Enrichment by LC/Time-of-Flight Mass Spectrometry**; Zhanpin Wu[1]; Robert Cody[1]; Xiao-Jun Zhang[2]; Robert Wolfe[2]; *[1]JEOL USA, Inc., Peabody, MA; [2]University of Texas Medical Branch, Galveston, TX*

MPL 233 **Use of Isotope Labelled Proteins and Limited Proteolysis Combined with Quantitative MS for Investigating Protein-Surface Interactions**; Chris JB McDonald; Liang Li; *University of Alberta, Edmonton, Canada*

MPL 234 **Stable Isotopic Characterization of Active Pharmaceutical Ingredients (APIs)**; John P Jasper[1]; Moheb Nasr[2]; Lucinda Buhse[2]; Benjamin Westenberger[2]; John Spencer[2]; *[1]Molecular Isotope Technologies, LLC, Niantic, CT; [2]FDA, Center for Drug Evaluation & Research, St. Louis, MO*

MPL 235 **High Precision Measurement of Relative Position-Specific Carbon Isotope Ratios in Leucine and Methionine Analogues**; Gavin L. Sacks; J. Thomas Brenna; *Cornell University, Ithaca, NY*

MPL 236 **Methods and Application of Accelerator Mass Spectrometry (AMS) for Highly Accurate Bone Resorption Determination Utilizing ^{41}Ca**; Darren J. Hillegonds[1]; Yumei Lin[2]; Erik Gertz[2]; Robert Fitzgerald[3]; John S. Vogel[1]; *[1]Lawrence Livermore National Laboratory, Livermore, CA; [2]University of California, Davis, CA; [3]University of California, San Diego, CA*

MPL 237 **Gas-phase Chemistry of Complexes Containing UO_2^{2+}**; Michael J. Van Stipdonk[1]; Dorothy Hanna[2]; Victor Anbalagan[1]; Winnie Chien[1]; Gresham Gary[3]; Gary Groenewold[3]; *[1]Wichita State University, Wichita, KS; [2]Kansas Wesleyan University, Salina, KSs; [3]Idaho National Engineering and Environmental Laboratory, Idaho Falls, ID*

LIPIDS: SIGNALING

MPM 238 **LC-MS/MS Analysis of Sphinganine Analog Metabolism and Effects on Endogenous Sphingolipids *in vivo***; Sarah Trotman-Pruett[1]; M. Cameron Sullards[2]; Holly Symolon[4]; Dirk Dillehay[3]; Aiming Sun[1]; Anitoly Bushnev[1]; Dennis Liotta[1]; Alfred H. Merrill[2]; *[1]Department of Chemistry, Emory University, Atlanta, GA[2]School of Biology, Georgia Institute of Technology, Atlanta, GA[3]Department of Pathology and Animal Resources, Emory University, Atlanta, GA[4]Division of Biological and Biomedical Sciences, Emory University, Atlanta, GA*

MPM 239 **Characterization of Sulfatides and Ganglioside-Derived AsialoGM1 Expressed in Mouse Brain by Electrospray-Tandem Mass Spectrometry**; Benoit Colsch[1]; Carlos Afonso[3]; Jacques Portoukalian[2]; Francoise Fournier[3]; Jean Claude Tabet[3]; Nicole Baumann[1]; *[1]INSERM, U495 Laboratoire de Neurochimie, Paris, France; [2]INSERM, U346 Laboratoire de Dermatologie, Lyon, France; [3]CNRS, UMR 7613 Laboratoire de Chimie Structurale, Paris, France*

MPM 240 **Rapid Quantitative Determination of Lysophosphatidylcholine by Liquid Chromatography Tandem Mass Spectrometry (LC-MS/MS)**; Jean M Lacey; Mark J Magera; Dietrich Matern; John F O'Brien; Joseph P McConnell; *Biochemical Genetics Laboratory, Mayo Clinic, Rochester, MN*

MPM 241 **Quantification of Individual Phosphatidylcholine Species in Total Lipid Extracts by a Combination of Quadrupole TOF MS and Ion Trap MS**; Kim Ekroos[1];

Christer Ejsing[1]; Ute Bahr[2]; Michael Karas[2]; Kai Simons[1]; Andrej Shevchenko[1]; *[1]Max Planck Institute of Molecular Cell Biology and Genetics, Dresden, Germany; [2]Johann Wolfgang Goethe University, Frankfurt am Main, Germany*

MPM 242 **Analysis of Phosphatidylcholine and Sphingomyelin Molecular Species from Brain Extracts Using Capillary Liquid Chromatography Electrospray Ionization Mass Spectrometry**; Giorgis Isaac[1]; Dan Bylund[1]; Jan-Eric Månsson[2]; Karin E. Markides[1]; Jonas Bergquist[1]; *[1]Department of Analytical Chemistry, Uppsala University, Uppsala, Sweden; [2]Institute of Clinical Neuroscience, Göteborg University, Mölndal, Sweden*

MPM 243 **Quantification of Phospholipids in osteoblastic MC3T3-E1 cells by Nano-Electrospray Triple Quadrupole Mass Spectrometry**; Harald C. Köfeler[1]; Gerald N. Rechberger[2]; Günter Fauler[2]; Werner Windischhofer[2]; Hans-Jörg Leis[2]; *[1]Washington University Mass Spectrometry Resource, St. Louis, Missouri; [2]Karl Franzens Universitaet, Graz, Austria*

MPM 244 **Metabolomics Focusing on Oxidative Phospholipid by nanoESI-FTICR/ MS**; Ryo Taguchi[1]; Mayuko Ishida[2]; Toshiaki Houjou[2]; Toshiyuki Yamazaki[2]; Masayoshi Imagawa[2]; *[1]Dept. of Metabolome, Graduate School of Medicine, Tokyo Univ., Tokyo, Japan; [2]Graduate School of Pharmaceutical Sciences; Nagoya City University, Nagoya, Japan*

MPM 245 **LC-MS/MS for Monitoring Sphingolipid Metabolism Using the Biosynthetic Precursor [^{13}C]Palmitate**; Jeremy C. Allegood[1]; Cameron Sullards[1]; Elaine Wang[1]; Alfred Merrill[1]; Jill M. Carton[2]; David J. Uhlinger[2]; *[1]School of Biology Georgia Institute of Technology, Atlanta, GA; [2]Johnson & Johnson Pharmaceutical Research & Development, Raritan, NJ*

MALDI: SAMPLE PREPARATION

MPN 246 **Sample Preparation Methods for MALDI Analysis of Small Molecule Metabolites**; Michael P Donegan; Srinivasan Krishnan; Steve Hattan; Juhasz Peter; Martin Steve; *Applied Biosystems, Framingham, MA*

MPN 247 **Magnetic Bead Based Sample Preparation for Clinical Proteomic Profiling Studies**; Thomas Elssner; Kristina Fahr; Dirk Peters; Isabell Thomas; Markus Kostrzewa; *Bruker Daltonik GmbH, Leipzig, Germany*

MPN 248 **Optimizing MALDI Matrix Formulation: A Strategy to Improve Protein Identification via Peptide Mass Fingerprinting**; Neerav D. Padliya; Troy D. Wood; *State University of New York, University at Buffalo, Buffalo, NY*

MPN 249 **MALDI Sample Preparation: A Novel Reactive Matrix for Small Molecules and a Removable Hydrophobic Coating for Targets**; Stacey Owen; Stephan Brombacher; Dietrich A. Volmer; *Institute for Marine Biosciences, Halifax, Nova Scotia, Canada*

MPN 250 **Qualitative and Quantitative Analysis of Small Molecules by Laser Desorption Ionization Mass Spectrometry through Charge Derivatization**; Peter J. Lee; Weibin Chen; John C. Gebler; *Waters Corporation, Milford, MA*

MPN 251 **Self-Assembled Monolayers as Substrates for Laser Desorption: Analysis of Soft-Landed Proteins**; Bogdan Gologan; Zoltan Takats; Thomas Blake; Zheng Ouyang; V. Jo Davisson; R. Graham Cooks; *Purdue University, West Lafayette, IN*

MPN 252 **MALDI MS, MALDI MS/MS and Off-Line CZE/MALDI of Low Molecular Mass Samples Prepared on a Hydrophobic One-Way Surface Foil**; Justyna Rechthaler[1]; Alexander Plematl[2]; Andreas Rizzi[2]; Chris Sutton[3]; Guenter Allmaier[1]; *[1]Inst. of Chem.Technologies and Analysis,Technical University of Vienna, Vienna, Austria; [2]Inst. for Analytical Chemistry, University of Vienna, Vienna, Austria; [3]Shimadzu Biotech-Kratos Analytical, Manchester, UK*

MPN 253 **Optimisation of a Database for Rapid Identification of Intact Bacterial Cells of *Escherichia coli* by Matrix-Assisted Laser Desorption/Ionisation Time-of-Flight Mass Spectrometry**; Diane J Dare[1]; Helen E Sutton[1]; Carrina J Keys[2]; Haroun N Shah[2]; Graeme Wells[3]; Mark A McDowell[3]; *[1]Manchester Metropolitan University, Manchester, UK; [2]PHLS Central Public Health Laboratory, London, UK; [3]Water Corporation, MS Technology Centre, Manchester, UK*

MPN 254 **On-glass Chip Digestion of Proteins for Sol-Gel Assisted Laser Desorption/Ionization (SGALDI) Mass Spectrometry**; Chin-Hsiung Yang; Ya-Shiuan Lin; Yu-Chie Chen; *Department of Applied Chemistry, National Chiao Tung University, Hsinchu, Taiwan*

MPN 255 **The Application of Ionic Liquids as Matrices for MALDI-TOF MS in Proteomic**; Ying Li; Michael L. Gross; *Washington University, Saint Louis, MO*

MPN 256 **Antibiotic-Based Affinity Capture for MALDI-MS Analysis of Bacteria**; Ya-Shiuan Lin; Yu-Chie Chen; *Department of Applied Chemistry, National Chiao Tung University, Hsinchu 300, Taiwan*

MPN 257 **Ready-Made MALDI Target Plates Containing High-Density Arrays of Vacuum-Deposited Matrix Spots on Ultraphobic Surfaces**; Karsten Reihs[1]; Joachim Engelking[1]; Philipp Harder[1]; Eckhard Nordhoff[2]; Holger Röhl[1]; Siegmar Rudakowski[1]; Kerstin Vorberg[1]; Joachim Wesener[3]; *[1]SuNyx Surface Nanotechnologies GmbH, Cologne, Germany; [2]Scienion AG, Berlin, Germany; [3]Bayer Industry Services, Leverkusen, Germany*

MPN 258 **Enhanced Sensitivity of MALDI via Surfactant Addition**; Patricia M. Peacock; *Dupont Company, Wilmington, DE*

MPN 259 **Improvement of Mass Spectral Quality of Oligonucleotides in MALDI-MS Using Diaminobenzoic Acid/Sol-Gel Hybrid Material as the Sample Substrate**; Wei-Yu Chen; Yu-Chie Chen; *Department of Applied Chemistry, National Chiao Tung University, Hsinchu 300, Taiwan*

MPN 260 **Coupling Thin Layer Chromatography with MALDI-FTMS;** Vera Ivleva[1]; Isamu Matsunaga[2]; Eric A. Berg[1]; D. Branch Moody[2]; Peter B. O'Connor[1]; Catherine E. Costello[1]; *[1]Boston University School of Medicine, Boston, MA[2]Harvard Medical School, Boston, MA*

MPN 261 **Comparison of Two Novel Prototype MALDI Mass Spectrometers for Quantitative Analysis of Small Pharmaceutical Drugs**; Stephan Brombacher[1]; Jay Corr[2]; Peter Kovarik[2]; Dietrich A. Volmer[1]; *[1]Institute for Marine Biosciences, Halifax, Nova Scotia, Canada; [2]MDS-Sciex, Concord, Ontario, Canada*

MPN 262 **Improved MALDI Imaging of Tissue Using Automated Deposition of Picoliter Matrix Droplets**; Annette R. Erskine[1]; Hans-Rudolf Aerni[1]; Michelle L. Reyzer[1]; Dale S. Cornett[1]; David Lee[2]; Mitchell Mutz[2]; Richard M. Caprioli[1]; *[1]Vanderbilt University, Nashville, TN; [2]Picoliter Inc., Sunnyvale, CA*

MPN 263 **Desorption/Ionization On Silicon Mass Spectrometry (DIOS MS) of Small Molecules and Peptides: Sample Handling, Preparation and Storage Effects on Performance**; Grace M. Credo[1]; Hillary B. Hewitson[1]; Chris L. Stumpf[1]; Santiago Vazquez[1]; Jeffrey W. Finch[1]; Chris C. Benevides[1]; Edouard S.P. Bouvier[1]; Bruce Jon Compton[1]; Zhouxin Shen[2]; Gary Siuzdak[3]; *[1]Waters Corp., Milford, MA; [2]Mass Consortium Corp., San Diego, CA; [3]The Scripps Research Inst., La Jolla, CA*

MPN 264 **Wall-less Sample Preparation for MALDI-TOF-MS**; Michael J. Bogan; George R. Agnes; *Simon Fraser University, Burnaby, Canada*

MPN 265 **Matrix-free Infrared Desorption/Ionization on Silicon and Metal Targets**; David J. Rousell; Sucharita M. Dutta; Gervas E. Assey; Kermit K. Murray; *Louisiana State University, Baton Rouge, LA*

MPN 266 **Polymeric Substrates for Matrix-Free Laser Desorption/Ionization Mass Spectrometry**; Bathsheba Chong-Conklin[1]; David A. Weil[1]; Ken B. Wood[1]; Patricia Biessner[1]; Ray Johnston[1]; Casey Dwyer[2]; *[1]3M Company, Saint Paul, MN; [2]MIT, Cambridge, MA*

MPN 267 **DIOS-TOF Mass Spectrometry: Analyte Functional Group and DIOS Efficiency**; Danielle F. Anderson; David H. Powell; Benjamin W. Smith; James D. Winefordner; *Department of Chemistry, University of Florida, Gainesville, FL*

MPN 268 **Improved Sensitivity in Matrix-assisted Laser Desorption/Ionization Mass Spectrometry by Using a Ceramic Carbon Plate**; Hiroyuki Fukuda[1]; Mayumi Shindo[1]; Takashi Nonaka[2]; Satoshi Fujita[3]; Yoshinori Tamura[3]; Toshifumi Takao[4]; *[1]Applied Biosystems Japan, Tokyo, Japan; [2]Institute of Medical Science, the University of Tokyo, Tokyo, Japan; [3]Asahi Techneion Co. Ltd., Moji, Japan; [4]Institute for Protein Research, Osaka University, Suita, Japan*

METABOLISM: XENOBIOTICS

MPO 269 **HPLC with Parallel Coulometric Array Electrochemical and MS Detection for Metabonomic Toxicity Studies**; Paul H. Gamache[1]; Timothy J. Maher[2]; Gary J. Van Berkel[3]; Ian N. Acworth[1]; *[1]ESA Inc., Chelmsford, MA; [2]Massachusetts College of Pharmacy, Boston, MA; [3]Oak Ridge National Laboratory, Oak Ridge, TN*

MPO 270 **Rapid Screening and Identification of Polyphenol Metabolites using HPLC-Ion Trap Mass Spectrometry and MetaboliteTools Software**; Helen U. Muccitelli[2]; Heidrun B. Gross[1]; John F. Hammerstone[3]; *[1]School of Vet Med, University of California at Davis, Davis, CA; [2]Bruker Daltonics, Inc., Billerica, MA; [3]MasterFoods, Hackettstown, NJ*

MPO 271 **Identification of in vitro and in vivo Metabolites of an Emisphere Delivery Agent, LY444657, by LC/MS/MS, LC/NMR and LC/UV**; Kenneth C Cassidy; Trent Abraham; Ping Yi; Melinda Gadberry; David A Jackson; Michelle M He; *Eli Lilly and Company, Indianapolis, IN*

MPO 272 **Determination of Phase I Metabolites of Glyburide, Using a Hybrid Triple Quadrupole, Linear Ion Trap MS;** Elliott Jones; Louisette Basa; Alicia Du; *Appliedbiosystems, Foster, City, Ca*

MPO 273 **Characterization of the Metabolic Products of Tamoxifen from Cytochrome P450 Enzymes by HPLC, Nanoelectrospray MS and MS/MS Techniques**; Robert A. Rieger; Sung Yeon Kim; Shinya Shibutani; Charles R. Iden; *State University of New York at Stony Brook, Stony Brook, NY*

MPO 274 **Trapping and Identification of Biological Reactive Intermediates From Thiophene and Furan Containing Compounds in Drug Discovery**; Jim Wang; Margaret Davis; Rasmy Talaat; *Wyeth Research, Collegeville, PA*

MPO 275 **Identification of Novel Electrophilic Metabolites of *Piper methysticum* Forst. Using Ultrafiltration LC-MS-MS**; Benjamin M. Johnson[1]; Sheng-Xiang Qiu[2]; Shide Zhang[2]; Fagen Zhang[1]; Joanna E. Burdette[1]; Linning Yu[1]; Judy L. Bolton[1]; Richard B. van Breemen[1]; *[1]University of Illinois at Chicago, Chicago, IL; [2]Herbstandard, Inc., Chesterfield, MO*

MPO 276 **Metabolite Identification Using a Triple-Quadrupole Mass Spectrometer with High Resolution and Accurate Mass Capability**; Mohammed Jemal[1]; Zheng Ouyang[1]; Weiping Zhao[2]; Mingshe Zhu[2]; *[1]Bristol-Myers Squibb, New Brinswick, NJ; [2]Bristol-Myers Squibb, Princeton, NJ*

MPO 277 **A Rapid In-ESI Source LC-MS Method to Measure Drug-Protein Binding**; Dil Peiris; *Rider University, Lawrenceville, NJ*

MPO 278 **MS Strategies for Metabolite Identification of Spirolide Toxins**; Lekha Sleno; Anthony Windust; Dietrich A. Volmer; *Institute for Marine Biosciences, Halifax, Nova Scotia, Canada*

MPO 279 **Metabolism of Kava Kava Pyrones to Glutathione Reactive Metabolites**; Kevin D White[1]; Neil Hartman[2]; John Strong[2]; Steven M Musser[1]; *[1]CFSAN, Food and Drug Administration, College Park, MD; [2]CDER, Food and Drug Administration, Laurel, MD*

MPO 280 **A Hepatic S9-based Assay to Identify Potential Covalent Modifiers Using a Novel MS/MS Correlation Algorithm for Automatic Glutathione Conjugate Identification**; Shichang Miao[1]; Robert Cho[1]; Wayne Inman[1]; Jeff Whitney[2]; *[1]Tularik Inc., South San Francisco, CA; [2]Novatia LLC, Princeton, NJ*

MPO 281 **Analytical Strategies for Assessment of Plant Polyphenol Sub-metabolomes**; Bart A. O'Brien; A. Daniel Jones; Po Yu Chen; Ruth C. Plymale; Kelli Hoover; *The Pennsylvania State University, University Park, PA*

MPO 282 **Identification of Bortezomib Biliary Excreted Metabolites in Rats Treated with a Single Intravenouos Bolus Dose of [^{14}C]-Bortezomib**; Ronghua Wang[1]; Jason LaButti[1]; Teresa Pekol[2]; Darrell Nix[1]; Liang-Shang Gan[1]; Frank Hsieh[2]; *[1]Millennium Pharmaceuticals, Inc., Cambridge, MA; [2]Drug Safety and Disposition, Millennium Pharmaceuticals, Inc., Cambridge, MA; [3]Technology Development, Millennium Pharmaceuticals, Inc., Cambridge, MA*

MPO 283 **Gas-Phase Rearrangement Product Ions Resulting from Benzyl Group Migration from Benzyloxycarbamoyl to Amidic Nitrogens - Proof from Metabolite Identification Studies by Ion Trap and Q-TOF Mass Spectrometry**; Jeffrey Alberts; Vinod Arora; Carl Davis; Lisa Zadjura; Yue-Zhong Shu; *Bristol-Myers Squibb, Wallingford, CT*

MPO 284 **Metabolism of Ginsenosides and Inhibition of Ginseng on Human Liver Cytochrome P450 Isozymes**; Wenkui Li[1]; Yongmei Li[1]; Wenzhong Liang[1]; John F. Fitzloff[1]; Richard B. van Breemen[1]; *[1]University of Illinois College of Pharmacy, Chicago, IL; [2]Uni. of Illinois College of Pharmacy, Chicago, IL*

MPO 285 **Profilin 7-oxo-DHEA Metabolities in Human Urine; An Liquid chromatographic-Mass spectrometric Analysis**; Ashok Marwah[1]; Padma Marwah[1]; Gary Girdaukaus[2]; Henry Lardy[1]; *[1]Department of Biochemistry-Enzyme Institute, University of Wisconsin, Madison, WI; [2]Department of Pharmacy, University of Wisconsin, Madison, WI*

MPO 286 **Metabolite Profiling - A Direct Approach for Assigning Functions to Genes Using an Integrated High Throughput Analysis Platform**; Martin Dostler; Michael Herold; Martin Kluttig; Britta Lehmann; Richard Trethewey; Tilmann Walk; Ralf Looser; *metanomics GmbH & Co. KGaA, Berlin, Germany*

MPO 287 **A Total Analysis Solution for Metabolic Stability and Detailed Metabolite Profiling**; David J Detlefsen[1]; Jeffrey L Whitney[1]; Mark E Hail[1]; Jonathan L Josephs[2]; Mark Sanders[2]; Kerry D Nugent[3]; *[1]Novatia, LLC, Princeton, NJ; [2]Bristol-Myers Squibb, PRI, Princeton, NJ; [3]Michrom BioResources, Auburn, CA*

MPO 288 **Fast Metabolic Profiling of GM Tomatoes Using GC-TOFMS**; Daniel Waterman[1]; Anna Przyborowska[2]; Paul Fraser[1]; Peter Bramley[1]; Raj Patel[3]; John Halket[3]; *[1]School of Biological Sciences, Royal Holloway, University of London, Egham, UK; [2]Drug Control Centre, Kings College London, London, UK; [3]SBSL, Centre Chemical Sciences, Royal Holloway, University of London, Egham, UK*

MPO 289 **A Direct LC/MS Method for the Simultaneous Evaluation of Glutathione S-Transferases in Tissue Homogenates;** Stephanie A. Burns; Yun-Jeong Hong; Alyson E. Mitchell; *University of California, Davis, CA*

MPO 290 **Identification of Urinary Metabolites of AZD3582, a New COX-Inhibiting Nitric Oxide Donator (CINOD), Using LC/MSMS**; Cecilia Weistrand[1]; Stellan Swedmark[1]; Roland Ocka[1]; Stefan Elofsson[1]; Hans von Euler[1]; Eva Klasson Wehler[1]; *[1]AstraZeneca R&D Sodertalje, Sodertalje, Sweden; [2]AstraZeneca R&D Södertälje, Södertälje, Sweden*

MPO 291 **Metabolic Studies of Mesterolone in Horses**; Emmie N.M. Ho[1]; Kenneth C.H. Yiu[1]; Terence S.M. Wan*[1]; Xiaohua Xu[2]; John H.K. Yeung[2]; Henry N.C. Wong[3]; *[1]Racing Laboratory, The Hong Kong Jockey Club, Sha Tin, Hong Kong, China; [2]Department of Pharmacology, The Chinese University of Hong Kong, Hong Kong, China; [3]Department of Chemistry, The Chinese University of Hong Kong, Hong Kong, China*

MPO 292 **Characterization of Metabolites Found in Microsomal Incubations of Verapamil using the Unique Accurate Mass Measurement Capabilities of an Enhanced Mass-Resolution Triple-Stage Quadrupole Mass Spectrometer**; Mark R. Kagan[1]; Joseph Mulholland[1]; Gary Paul[1]; Witold Winnik[1]; *[1]Thermo Electron Corporation, Somerset, NJ*

MPO 293 **Determination of the Metabolic and Physiochemical State of Individual Bacterial Cells**; Herbert Tobias[1]; Maurice Pitesky[1]; Gregg Czerwieniec[2]; Scott Russell[2]; David Fergenson[1]; Paul Steele[1]; Abneesh Shrivastava[1]; Keith Coffee[1]; Carlito Lebrilla[2]; Joanne Horn[1]; Matthias Frank[1]; Eric Gard[1]; *[1]Lawrence Livermore National Laboratory, Livermore, CA; [2]University of California, Davis, CA*

MPO 294 **Screening and Identification of Phase II Metabolites Using LC-MS/MS**; Xue Ge; Jun Shen; Ying Cheng; Taegen Clary; Cynthia Sun; Babu Subramanyam; Jih-Lie Tseng; *Berlex Biosciences, Richmond, CA*

MPO 295 **Comprehensive Analysis of Intracellular Metabolites by Capillary Electrophoresis Mass Spectrometry**; Tomoyoshi Soga[1]; Shigeru Sato[1]; Yuki Ueno[1]; Yoshiaki Ohashi[1]; Takaaki Nishioka[2]; Masaru Tomita[1]; *[1]Institute for Advanced Biosciences, Keio University, Tsuruoka, Japan; [2]Graduate School of Agricultural Sciences, Kyoto University, Kyoto, Japan*

MPO 296 **Systematic Characterization of a Novel Metabolite using LC/MS/MS in Conjunction with (^{1}H) NMR Spectroscopy**; Daniel J. Weston; Kathleen A. Cox; Wenqing Feng; Hong-Ki Kim; Diane E. Grotz; Kevin B. Alton; Ronald E. White; *Schering-Plough Research Institute, Kenilworth, NJ*

MPO 297 **In vitro and in vivo Metabolites Identification of a Novel Muscarinic M4 Agonist Using Human, Rat, Monkey, and Mouse Microsomes by a Rapid SPE and LC/MS/MS Method**; Jamshid Eshraghi; Jeff Grassi; *UCB Research, Inc., Cambridge, MA*

NATURAL PRODUCTS

MPP 298 **Vancomycin Impurity Determination by LC/MS & LC/MS/MS**; Dane Karr[1]; Robert Cass[1]; Julie Seroogy[1]; Elliott Jones[2]; *[1]Theravance, Inc, South San Francisco, CA; [2]MDS Sciex/Applied Biosytems, Foster City, CA*

MPP 299 **Structural Elucidation of the Wheat Straw Lignin Polymer by Atmospheric Pressure Chemical Ionization Tandem Mass Spectrometry and Matrix Assisted Laser Desorption Ionization Time-of-Flight Mass Spectrometry**; Joseph H Banoub[1]; Michel Delmas[2]; *[1]Department of Fisheries and Oceans, St. John's, Canada; [2]Institut National Polytechnique de Toulouse, Toulouse, France*

MPP 300 **LC/MS Analysis of Pyochelin in Pseudomonas Aeruginosa Cultures;** Francois Lepine[1]; Sylvain Milot[1]; Eric Deziel[2]; *[1]INRS-Institut Armand-Frappier, Laval, Qc, Canada; [2]Massachusetts General Hospital, Boston, MA*

MPP 301 **Characterization of Shellac by MLADI-TOF-MS, ESI-TOF-MS and MS-MS**; Jason X. Tang; Russ Tsao; Carl Longfellow; *Wyeth Research, Pearl River, NY*

MPP 302 **High Throughput MS^n Library Search in Natural Product Research**; Peter Sander[1]; Ying Wang[2]; Carsten Baessmann[1]; Birgit Schneider[1]; Gabriela Zurek[1]; Dirk Wunderlich[1]; *[1]Bruker Daltonik GmbH, Bremen, Germany; [2]Novartis Institutes for BioMedical Research, Novartis Pharma Inc., Basel, Switzerland*

MPP 303 **Comprehensive Plant Metabolic Profiling by LC/ESI-MS^n/UV Coupling;** Vladimir V. Tolstikov[1]; Nobuo Tanaka[2]; Oliver Fiehn[1]; *[1]Max Planck Institute of Molecular Plant Physiology, Golm, Germany; [2]Kyoto Institute of Technology, Kyoto, Japan*

MPP 304 **Automated Deconvolution in Natural Product Screening**; Ying Wang[1]; Sabine Rudolph[1]; Katia Di-Leonardo[1]; Antonio Trentani[1]; Frank Petersen[1]; Peter Sander[2]; Carsten Baessmann[2]; Birgit Schneider[2]; *[1]Novartis Institutes for BioMedical Research, Novartis Pharma Inc., Basle, Switzerland; [2]Bruker Daltonics Inc., Bremen, Germany*

MPP 305 **Quadrupole/Time-Of-Flight Fragmentation of Flavanone Aglycones Using Positive and Negative Ion Electrospray and CID**; Dejan Nikolic[1]; Natasa Pajkovic[1]; Baoning Su[1]; Richard B van Breemen[1]; *[1]University of Illinois ,College of Pharmacy, Chicago, IL; [2]University of Illinois at Chicago, Chicago, IL*

MPP 306 **High Throughput Parallel LC-MS for the Estimation of Natural Product Library Chemodiversity**; Peadar A. Cremin[1]; Lu Zeng[2]; Shane Hart[3]; *[1]Sequoia Sciences Inc., San Diego, CA; [2]Syrrx, Inc., San Diego, CA; [3]Neurocrine Biosciences, Inc., San Diego, CA*

MPP 307 **Investigation of Citrus Flavonoids and their Metabolites *in vivo***; Gunter G.C. Kuhnle[1]; Anna R. Proteggente[2]; Catherine A. Rice-Evans[1]; *[1]Wolfson Centre for Age Related Diseases, King's College London, London, UK; [2]School of Biomedical and Life Sciences, University of Surrey, Guildford, UK*

MPP 308 **Z1518: Isolation and Structure Determination of New Peptaibols from the Fungus Septocylindrium sp. </I>**; Mia Summers; FangMing Kong; Edmund Graziani; Marshall Siegel; Xidong Feng; Jeffrey Janso; Robert T. Williamson; Guy T. Carter; *Wyeth Research, Chemical Sciences Division, Pearl River, NY*

MPP 309 **Characterization of alkaloidosteroids, New Ionic Hybrids from Far-Eastern Starfish, by MALDI-, LSI- and ESMS**; Pavel S. Dmitrenok; Alla A. Kicha; Natalia V. Ivanchina; Valery V. Voinov; *Pacific Institute of Bioorganic Chemistry, Far-Easten branch of RAS, Vladivostok, Russian Federation*

MPP 310 **The Structural Elucidation of Magnolidin and O-Desrhamnosyl-Magnolidin by Mass Spectrometry**; V. Sashi Gopaul; Wu-Nan Wu; *Johnson & Johnson, PRD, Spring House, PA*

MPP 311 **Characterization of Alfalfa [Medicago sativa L.] Root Saponins by MS/MS utilizing PSD, oMALDI-QqTOF and MALDI TOF/TOF Technologies;** H. Ewa Witkowska[1]; Subodh Nimkar[1]; Feng Qiu[3]; Zbigniew Bialy[4]; Marian Jurzysta[4]; George Waller[2]; *[1]Applied Biosystems, Foster City, CA; [2]Oklahoma State University, Stillwater, OK; [3]Bristol-Myers Squibb Company, Princeton, NJ; [4]Institute of Soil Science and Plant Cultivation, Pulawy, Poland*

NON-COVALENT INTERACTIONS

MPQ 312 **Hydrogen Exchange–Mass Spectrometry Coupled with Proteolysis for Characterization of A-beta Amyloid Fibrils**; Maolian Chen[1]; Indu Kheterpal[2]; Ronald Wetzel[2]; Kelsey Cook[1]; *[1]University of Tennessee, Department of Chemistry, Knoxville, TN; [2]University of Tennessee, Graduate School of Medicine, Knoxville, TN*

MPQ 313 **Study of Lipid-Peptide Non-covalent Interactions by Nanoelectrospray-FTICR**; Yan Li[1]; Frédéric Heitz[2]; Christian Le Grimellec[3]; Richard B. Cole[1]; *[1]University of New Orleans, New Orleans, LA; [2]CRBM, CNRS-UPR 1086, Montpellier, France; [3]CBS, INSERM-U414, IURC, Montpellier, France*

MPQ 314 **Gas Phase Behavior of KDO8P Synthase Complexes with its Substrates and Products Under Different Charge States**; Zhili Li; Apurba Sau; Karen S Anderson; *Department of Pharmacology, Yale University, New Haven, CT*

MPQ 315 **Mass Spectrometric Analysis of Protein Complexes from *Rhodopseudomonas palustris***; Gregory B. Hurst[1]; Michelle V. Buchanan[1]; Linda J. Foote[1]; Robert L. Hettich[1]; Stephen J. Kennel[1]; Patricia K. Lankford[1]; Frank W. Larimer[1]; Dale A. Pelletier[1]; Michael B. Strader[1]; Nathan C. VerBerkmoes[2]; Yisong Wang[1]; *[1]Oak Ridge National Laboratory, Oak Ridge, TN; [2]University of Tennessee at Knoxville, Knoxville, TN*

MPQ 316 **Syntheses of Protein Complexes in the Gas Phase**; Harsha P. Gunawardena; Scott A. McLuckey; *Department of Chemistry, Purdue University, West Lafayette, IN*

MPQ 317 **Protein-Ligand Interactions: The Case of Bile Acids and Fatty Acids**; Johan Lengqvist[1]; Wiliam Griffiths[1]; Thomas Perlmann[2]; Jan Sjövall[1]; *[1]Dept. of Medical Biochemistry & Biophysics, Karolinska Institute, Stockholm, SWEDEN; [2]Lüdwig Institute for Cancer Research, Stockholm Branch, Stockholm, SWEDEN*

MPQ 318 **Probing Hydrophobic Interactions in Protein Complexes by ESI-MS**; Yongming Xie; Joseph A. Loo; *UCLA, Department of Chemistry and Biochemistry, Los Angeles, CA*

MPQ 319 **Highly Asymmetric Interactions between Globin Chains in the Hemoglobin Assembly Process Revealed by Electrospray Ionization Mass Spectrometry**; Wendell P Griffith[1]; Igor A Kaltashov[1]; *[1]University of Massachusetts, Amherst, MA*

MPQ 320 **Specificity in Protein-Ligand Binding in the Gas Phase**; Weijie Wang; Elena N. Kitova; John S. Klassen; *University of Alberta, Edmonton, Canada*

MPQ 321 **Asymmetric Dissociation Processes of Homogenous Protein and Peptide Complexes Examined Using Blackbody and Collisional Dissociation**; John C. Jurchen; David E. Garcia; Evan R. Williams; *Department of Chemistry, University of California, Berkeley, CA*

MPQ 322 **Advantages and Limitations of ESI MS for Protein-Metal Interaction Studies**; Mingxuan Zhang[1]; Dmitry R Gumerov[1]; Anne B Mason[2]; Igor A Kaltashov[1]; *[1]University of Massachusetts, Amherst, MA; [2]University of Vermont School of Medicine, Burlington, VT*

MPQ 323 **Characterization of Catalases Using Time-Of-Flight Mass Spectrometry**; Lynda J. Donald; Prashen Chelikani; Oleg V. Krokhin; Peter C. Loewen; Harry W. Duckworth; Kenneth G. Standing; *University of Manitoba, Winnipeg, Manitoba*

MPQ 324 **Gas Phase Stability of Protein-Protein Complexes**; Amanda L. Doherty-Kirby[1]; J. Guy Guillemette[2]; Gilles A. Lajoie[1]; *[1]University of Western Ontario, London, CANADA; [2]University of Waterloo, Waterloo, CANADA*

MPQ 325 **Structural Determination of the yeast DNA Repair Protein MLH1 by Cross-linking and Mass Spectrometry**; Jenny M. Cutalo[1]; Kenneth Tomer[2]; Thomas A. Kunkel[2]; *[1]University of North Carolina at Chapel Hill, Chapel Hill, NC; [2]National Institue of Environmental Health Sciences, RTP, NC*

MPQ 326 **First Evidence of a Non-covalent Bound Water Molecule in the Active Site of an Enzyme by FTICR-MS Analysis of a Non-covalent Transition State Analogue Inhibitor/Protein Complex**; Richard Wolfenden[1]; J. Paul Speir[2]; Gottfried Schroeder[1]; Christoph H. Borchers[1]; *[1]UNC - Chapel Hill, Chapel Hill, NC; [2]Bruker Daltonics, Billerica, MAs*

MPQ 327 **Probing Non-Covalent Enzyme-Inhibitor Interactions Using ESI-FTICR Mass Spectrometry**; Janne Jänis[1]; Johanna Hakanpää[1]; Nina Hakulinen[1]; Juha Rouvinen[1]; Farid Ibatullin[2]; Peter Derrick[3]; Antuan Hoxha[3]; Pirjo Vainiotalo[1]; *[1]University of Joensuu, Department of Chemistry, Joensuu, Finland; [2]Petersburg Nuclear Physics Institute, Biophysics Division, Gatchina, Russia; [3]University of Warwick, Department of Chemistry, Coventry, United Kingdom*

MPQ 328 **High Throughput Screening of a diverse library against one or more subdomains of RNA**; Karen M. Gooding; Richard Higgs; Barry Hodge; Eric Stauffer; Randall K. Julian; *Eli Lilly and Company, Indianapolis, IN*

MPQ 329 **Analysis of the Non-covalently Bound Cytochrome c Oxidase Complex by MALDI-TOF MS and ESI-FTMS**; Qian Li[1]; Anne M. Distler[1]; Carrie Hiser[2]; Denise Mills[2]; Ling Qin[2]; Denis Proshlyakov[1]; John Allison[1]; Shelagh Ferguson-Miller[2]; *[1]Michigan State University, Department of Chemistry, East Lansing, MI; [2]Michigan State University, Dept. of Biochemistry and Molecular Biology, East Lansing, MI*

NUCLEIC ACIDS

MPR 330 **Mass Spectrometric Characterization of Pseudouridines in Ribosomal RNAs**; K. G. Patteson; Anita Durairaj; Patrick A. Limbach; *University of Cincinnati, Cincinnati, OH*

MPR 331 **Formation and Destruction of the Guanine Quartet in Solution Observed by Cold-Spray Ionization Mass Spectrometry (CSI-MS)**; Shigeru Sakamoto[1]; Kazuhiko Nakatani[2]; Isao Saito[2]; Kentaro Yamaguchi[1]; *[1]Chemical Analysis Center, Chiba University, Yayoi-cho, Inage-ku, Chiba, Japan; [2]Department of Synthetic Chemistry and Biochemistry, and Faculty of Eng, Kyoto 606-8501, Japan*

MPR 332 **Shotgun Sequencing of Modified RNAs by Nozzle-Skimmer ESI-MS**; Zhaojing Meng; Patrick A Limbach; *University of Cincinnati, Cincinnati, OH*

MPR 333 **Aminoglycoside Antibiotic Inhibition of HIV-1 NC-Ψ RNA Interactions by ESI FT-ICR MS**; Reddy M. Chilakuri[1]; Nathan Hagan[1]; Kristina Williams[2]; Dan Fabris[1]; *[1]Dept. of Chem. & Biochem., University of Maryland, Baltimore County, Baltimore, MD; [2]Dept. of Chemistry, University of Maryland Eastern Shore, Princess Anne, MD*

MPR 334 **Protein-Nucleic Acid Interactions Studied by Electron Capture Dissociation ESI-FTMS**; Katherine A.

Kellersberger; Dan Fabris; *University of Maryland, Baltimore County, Baltimore, MD*

MPR 335 **Base Losing and Fragmentation Research on Oigonucleotides Using ESI Mass Spectrometry**; Heyi Yang; Binghu Yang; Jinglan Wang; Yun Cai; Shengqi Wang; Xiaohong Qian; *Beijing institute of radiation medicine, Beijing, China*

MPR 336 **Evaluation of a Model for Predicting ESI Response of Nucleic Acids as a Function of Hydrophobicity**; Allison P. Null; Jennifer L. Frahm; David C. Muddiman; *W.M. Keck FT-ICR Mass Spectrometry Laboratory, Mayo Clinic, Rochester, MN*

MPR 337 **Selective tRNA Analysis Using MALDI-TOF Mass Spectrometry**; Heather Brodkin; Kim Deandrade; Norman H. L. Chiu; *Department of Chemsitry and Chemical Biology, Northeastern University, Boston, MA*

MPR 338 **Investigation of the Initial Fragmentation of Oligonucleotides in a Quadrupole Ion Trap: Charge Distribution-Related Base Loss**; Su Pan; Jeehiun K Lee; *Rutgers University, Piscataway, NJ*

MPR 339 **Mechanism and Applications of RNA-cleaving DNA Enzymes by ESI-FTMS**; Nathan A Hagan; Dan Fabris; *University of MD, Baltimore County, Baltimore, MD*

MPR 340 **Analysis of the Degradation of Fluorescently Labeled Oligonucleotide Strands During the Freezing/Thawing Process Using MALDI-MS**; Katherine J. Heaton; Catherine M. Bentzley; Michael F. Bruist; *University of the Sciences in Philadelphia, Philadelphia, PA*

MPR 341 **^{13}C, ^{15}N Double Depletion for Improved Determination of RNA Mass by ESI FT-ICR Mass Spectrometry**; Ying Xiong[1]; Kersten Schroeder[2]; Mark R. Emmett[3]; Christopher L. Hendrickson[3]; Nancy L. Greenbaum[2]; Alan G. Marshall[3]; *[1]Institute of Molecular Biophysics, Florida State University, Tallahassee, FL; [2]Department of Chemistry and Biochemistry, Florida State University, Tallahassee, FL; [3]National High Magnetic Field Laboratory, Florida State University, Tallahassee, FL*

MPR 342 **Electron Autodetachment of Oligonucleotide Anions in the Gas Phase**; Allison S Danell; Joel H Parks; *Rowland Institute at Harvard, Cambridge, MA*

MPR 343 **Analysis of Damaged Nucleobases by Liquid Chromatography Particle Beam Glow Discharge Mass Spectrometry (LC-PB/GD-MS)**; Justin P Hensley; R. Kenneth Marcus; *Clemson University, Clemson, SC*

MPR 344

MPR 345 **Determination of Secondary DNA Structure Using ESI Ion Trap Mass Spectrometry**; Xinhua Guo[1]; Shuying Liu[2]; Michael F. Bruist[1]; Ning Liu[2]; Catherine M. Bentzley[1]; *[1]University of the Sciences in Philadelphia, Philadelphia, PA; [2]Chuangchun Institute of Applied Chemistry, Chuangchun, P.R China*

MPR 346 **RNA-Metal Ion Binding Studies Using ESI-FTMS**; Eizadora T. Yu; Dan Fabris; *University of Maryland, Baltimore Country, Baltimore, MD*

MPR 347 **On the Investigation of RNA and RNA-Ligand Complexes by MALDI and Nano-ESI Mass Spectrometry**; Corina Hunger; Michael Karas; *Institute of Pharmaceutical Chemistry, J.W. Goethe-University, Frankfurt, Germany*

PEPTIDES: POST TRANSLATION MODIFICATION

MPS 348 **Phosphorylation Mapping of PrkC by LC-MALDI MS/MS and LC-ESI-MS/MS for Determination of Eight Phosphorylation Sites**; Allan Stensballe[1]; Sven J. Kjellström[1]; Jakob Bunkenborg[1]; Ole Hørning[1]; Edwige Madec[2]; Simone J. Seror[2]; Ole N. Jensen[1]; *[1]Dept. Biochem. & Molec. Biol., Univ. Southern Denmark, Odense, Denmark; [2]Inst. Genet. & Microbiol., Univ. Paris-Sud, Orsay, France*

MPS 349 **Detailed Evaluation of a Spin Column Device using Immobilized Metal Ion Affinity Chromatography (IMAC) for Phosphopeptide Enrichment**; Heinz Nika; David Hawke; Ryuji Kobayashi; *UT-M.D. Anderson Cancer Center, Houston, TX*

MPS 350

MPS 351 **Direct Analysis and Sequencing of the Native and Phosphorylated Active Site of Acetylcholinesterase**; Reggie S Spaulding; Kathleen M George; Charles M Thompson; *University of Montana, Missoula, MT*

MPS 352 **Stable Isotope Labeling of Phosphopeptides for Multiparallel Kinase Target Analysis and Identification of Phosphorylation Sites**; Mirko Glinski; Stefanie Wienkoop; Wolfram Weckwerth; *Max Planck Institute fo Molecular Plant Physiology, Golm, Germany*

MPS 353 **A Novel Automated PTM Discovery Method Using a Hybrid Linear Quadrupole Ion Trap Mass Spectrometer**; Christie L Hunter[1]; Susan Weintraub[2]; Tina Settineri[1]; *[1]Applied Biosystems, Foster City, CA; [2]University of Texas Health Science Center, San Antonio, TX*

MPS 354 **Identification of in-vivo and Protein Kinase C Agonist Stimulated Phosphorylation Sites in Human Keratinocyte Transglutaminase by Mass Spectrometry**; Michelle R. Salemi; Q. Qin; Robert H. Rice; Young-Moo Lee; *University of California at Davis, Davis, CA*

MPS 355 **Detection of Phosphorylation Sites in Proteins via a Q(q)Tof Mass Spectrometer**; Peter Hoffmann; Ian G. Jennings; Bruce E. Kemp; *St. Vincent's Institute of Medical Research, Melbourne, Australia*

MPS 356 **LC MS/MS Stratergies for the Automated Identification of Post Translationally Modified Proteins**; Brian L Williamson; Jason Marchese; Peter Juhasz; Steve A Martin; *Applied Biosystems, Framingham, MA*

MPS 357 **Comparison of Positive and Negative LC ESI TOF Mass Spectrometric Analysis of Peptides with and/or without Post-Translational Modifications**; Oleg V. Borisov; Craig M. Whitehouse; V. Sergey Rakov; Marketa Berkova; *Analytica of Branford Inc., Branford, CT*

MPS 358 **Large-scale Sequence Analysis of Ubiquitinated Proteins in Saccharomyces Cerevisiae as Determined by Tandem Mass Spectrometry;** Daniel Schwartz; Junmin Peng; Joshua E. Elias; Carson C. Thoreen; Dongmei Cheng; Gerald Marshiscky; Jeroen Roelofs; Daniel Finley; Steven P. Gygi; *Harvard Medical School, Boston, MA*

MPS 359 **Sensitive and Selective Detection of Phosphopeptides Through Precursor Ion Scanning on a Triple Quadrupole Mass Spectrometer using a ESI Nanospray Source**; Witold Winnik[1]; Scott Peterman[1]; Gary Paul[1]; Mark Kagan[1]; Susan Weintraub[2]; *[1]Thermo Electron Corporation, Somerset, NJ; [2]The University of Texas Health Science Center, San Antonio, TX; [3]The University of Texas, Health Science Center, San Antonio, TX*

MPS 360 **Identification and Monitoring of Cell-Cycle Dependent Dynamic Post-Translational Modifications in the 13-Subunit Anaphase Promoting Complex by Mass Spectrometry**; Matthew P. Torres; Carol E. Parker; Mark C. Hall; Christoph H. Borchers; *Department of Biochemistry and Biophysics, UNCl, Chapel Hill, NC*

MPS 361 **Sequence-Targeted Mass Spectrometric Analysis of Protein Tyrosine Phosphorylation by nanoESI High Resolution Tandem Mass Spectrometry**; Mogjiborahman Salek[1]; Angel Alonso[2]; Wolf D. Lehmann[1]; *[1]Central Spectroscopy Unit, German Cancer*

Research Center, Heidelberg, Germany; [2]Department for Cell Differentiation, German Cancer Research Center, Heidelberg, Germany

MPS 362 **Cell-Cycle Dependent Phosphorylation of Replication Initiation Proteins Revealed by Ion Affinity-MALDI-Mass Specrometry**; Elena Catalina Damoc[1]; Martina Baack[2]; Sandra Kreitz[2]; Monica Kulartz[2]; Rolf Knippers[2]; Michael Przybylski[1]; *[1]University of Konstanz, Department of Analytical Chemistry, Konstanz, Germany; [2]University of Konstanz, Department of Biology, Konstanz, Germany*

MPS 363 **Retention Time Shifts of Phosphopeptides and Dephosphorylated Peptides Using Reversed Phase Liquid Chromatography Combined with Mass Spectrometry**; Jeongkwon Kim; Konstantinos Petritis; David G. Camp; Richard D. Smith; *Pacific Northwest National Laboratory, Richland, WA*

MPS 364 **Selective Extraction and Characterization of a Histidine-Phosphorylated Peptide using Cu(II)-IMAC and MALDI-TOF MS**; Scott Napper[1]; Jason Kindrachuk[2]; Jason Kindrachuk[2]; Jason Kindrachuk[2]; Jason Kindrachuk[2]; Douglas J.H. Olson[2]; Douglas J.H. Olson[2]; Douglas J.H. Olson[2]; Douglas J.H. Olson[2]; Stephen J. Ambrose[2]; Stephen J. Ambrose[2]; Stephen J. Ambrose[2]; Stephen J. Ambrose[2]; Carmen Dereniwsky[3]; Carmen Dereniwsky[3]; Carmen Dereniwsky[3]; Carmen Dereniwsky[3]; Andrew R.S. Ross[2]; Andrew R.S. Ross[2]; Andrew R.S. Ross[2]; Andrew R.S. Ross[2]; Andrew R.S. Ross[2]; *[1]National Research Council Canada, Saskatoon, Canada; [2]University of Saskatchewan, Saskatoon, Canada; [3]University of Regina, Regina, Canada*

MPS 365 **Sequence Dependence of MS/MS Fragmentation for a Series of Phosphopeptides Derived from IRS-1**; Susan T. Weintraub; Christopher A. Carroll; Christopher J. Luna; Moulun Luo; Lawrence J. Mandarino; *University of Texas Health Science Center, San Antonio, TX*

MPS 366 **Rapid Identification of Human Serum Phosphopeptides by MALDI-TOF/TOF and Immobilized Metal Affinity Chromatography**; Sergei Dikler[1]; Veronica Saenz-Vash[2]; Helen Qui[2]; Jay Stoerker[2]; Kathleen L. Grant[2]; *[1]Bruker Daltonics, Inc., Billerica, MA; [2]Matritech, Inc., Newton, MA*

MPS 367 **The Use of Software Agents to Detect Protein Phosphorylation and Other Post-Translational Modifications**; Daniel C. Chamrad; Gerhard Koerting; Helmut E. Meyer; Martin Blueggel; *Protagen AG, Dortmund, Germany*

MPS 368 **Fragmentation Behavior of Small Phosphopeptides After Derivatization with Trivalent Boron Species**; Kathy H. Li; Renee Huang; Scott Gronert; *San Francisco State University, San Francisco, CA*

MPS 369 **Technology Development for Effective Detection of Phosphopeptides from Protein Digests by Immobilized Metal Affinity Chromatography and MALDI-MS;** Jacek Stupak[1]; Zhengping Wang[1]; Huazhi Liu[1]; Brenda Booth[2]; Larry Fliegel[2]; Liang Li[1]; *[1]Department of Chemistry, Univerisity of Alberta, Edmonton, Alberta, Canada; [2]Department of Biochemistry, University of Alberta, Edmonton, Alberta, Canada*

MPS 370 **A Phosphoproteomic Analysis of the Mammalian Synapse**; M O Collins[2]; H Husi[2]; J Choudhary[1]; I D G Campuzano[3]; L Yu[1]; W Blackstock[1]; S G N Grant[2]; *[1]Cellzome AG, Elstree Hertfordshire, United Kingdom; [2]University of Edinburgh, Edinburgh, United Kingdom; [3]University of Edinborough, Edinborough, United Kingdom; [4]Waters Corporation, Manchester, United Kingdom*

MPS 371 **Spatial Distribution and Identification of Protein Post-translational Additions by MALDI-FTMS and Mass Defect Analysis**; Jeffrey J. Jones[1]; Jeffrey J. Wilson[1]; Joshua Sakon[1]; Charles L. Wilkins[1]; *[1]University of Arkansas, Favetteville, AR; [2]University of Arkansas, Favetteville, AR*

MPS 372 **An Algorithm for Identification of Post-Translational Modification(s) of a Target Protein in Mixtures**; Haowei Song; Fong-Fu Hsu; Sasanka Ramanadham; Sheng Zhang; John Turk; *Washington University in St. Louis, St. Louis, MO*

PEPTIDES: QUANTITATION

MPT 373 **RelEx: A Correlation Algorithm for the Automated Analysis of Quantitative Proteomics Data**; Michael J. MacCoss; Christine C. Wu; Rovshan Sadygov; John R. Yates III; *The Scripps Research Institute, La Jolla, CA*

MPT 374 **Peptide Biomarker Quantitation in Urine using On-line Immunoaffinity Multidimensional LC/MS/MS on a Triple Quadrupole: What happens after Discovery?**; Dawn R. Dufield; Olga V . Nemirovskiy; Michael Schlittler; Kevin L. Duffin; *Pharmacia, Chesterfield, MO*

MPT 375 **Specific in vivo Measurement of Diepoxides From Butadiene and Isoprene by LC-MS/MS**; Charlotta Fred[1]; Antti Kautiainen[2]; Margareta Törnqvist[1]; *[1]Environmental Chemistry, Stockholm, Sweden; [2]Biovitrum, Stockholm, Sweden*

MPT 376 **Quantification (N-ethyl-N'-(Dimethylaminopropyl) Urea and Adipic Acid Dihydrazide by LC-MS/MS**; Anthony Shannon; Ronald Heller; David Lamb; Earl Zablakis; Robert Ryall; Patricia Cash; Paula Lei; *Aventis Pasteur, Swiftwater, PA*

MPT 377 **The Identification of Affinity Purified Proteins by HPLC/MS/MS;** Terry D. Cyr; William L. Casley; Mary A. Hefford; Tommy L.K. Chan; Sophie D'Aoust; Jean C. Ethier; *Centre for Biologics Research, BGTD, Health Canada, Ottawa, Ont., Canada*

MPT 378 **Evaluation of Proteomimetic AQUA Peptides for Suitability as Internal Standards**; Ross Tomaino[1]; Scott A. Gerber[1]; John Rush[2]; Steven P. Gygi[1]; *[1]Cell Signaling Technology, Beverly, MA; [2]Harvard Medical School, Boston, MA*

MPT 379 **Quantification of [Dmt1]DALDA in Ovine Plasma using Quadrupole Time-of-Flight Mass Spectrometry**; Haibao Wan; Dominic M Desiderio; *University of Tennessee Health Science Center, Memphis, TN*

MPT 380 **Reproducibility of LC-MS Analysis of Proteins and Metabolites in Complex Samples: a Basis for Large Scale Quantification and Discovery of Biomarkers**; Hua Lin; Weixun Wang; Haihong Zhou; Sushmita Roy; Thomas A. Shaler; Lander R. Hill; Scott Norton; Praveen Kumar; Markus Anderle; Christopher H. Becker; *SurroMed, Inc., Mountain View, CA*

MPT 381 **Quantitation of Polypeptides in Rat Plasma by Protein Precipitation and LC/MS**; David C Delinsky; Michael G Bartlett; *The University of Georgia, Athens, GA*

MPT 382 **Quantitative, Selective, High-Throughput Analysis of Peptides and Proteins Using HPLC-Triple Quadrupole Mass Spectrometry**; Lisa A. Ford; Glenn D. Tabolt; Adlai E. Niggebrugge; Michael Zhou; Anthony S. Chilton; *Cardinal Health, RTP, NC*

MPT 383 **Rapid Recognition and Quantification of Isomeric Peptides by the Kinetic Method**; Lianming Wu; Brandy Young; Pengxiang Yang; Tenna Aggerholm; Rebecca Clark; R. Graham Cooks; *Department of Chemistry, Purdue University, West Lafayette, IN*

MPT 384 **Intensity Surface Analysis for Peptide Counting**; Brian Carrillo; Kossi Lekpor; Corey Yanofsky; Alexander Bell; Daniel Boismenu; Robert E. Kearney; *McGill University, Montreal, Canada*

MPT 385 **Comparative Proteomic Study of Breast Cancer Doxorubicin-Resistance by Proteolytic ^{18}O Labeling**; Kristy J. Reynolds; Catherine Fenselau; *University of Maryland, College Park, MD*

MPT 386 **Evaluation of Detection Limits for the Quantitative and Qualitative analysis of Peptides on a Hybrid Linear Quadrupole Ion Trap Instrument**; Subodh Nimkar; Louisette Basa; *Applied Biosystems, Foster City, CA*

MPT 387 **Quantitation of Peptide Hormones in Biological Samples by LC-LC-MS-MS**; Showchien Hsieh; Zibin Chen; Kathleen MacKenzie; *GlaxoSmithKline, Research Triangle Park, NC*

MPT 388 **Quantitative Analysis of Proteins Using Quadruple-TOF Mass Spectrometer and Proteolysis Peptides**; Jun Liu[1]; Fan Xiang[2]; *[1]Applied Biosystems, Foster City, CA; [2]SUGEN, Inc, South San Francisco, CA*

PROTEINS: MODIFIED

MPU 389 **Characterization of Quinone-Modified Peptides and Proteins**; Haiteng Deng; Ruth H. Angeletti; Lisa Mints; *Albert Einstein College of Medicine, Bronx, NY*

MPU 390 **Essential Cysteine-Alkylation Strategies to Monitor Structurally Altered Estrogen Receptor as Found in Oxidant-Stressed Breast Cancers**; Christian D. Atsriku[1]; Jose E. Meza[1]; Gary K. Scott[1]; Christopher C. Benz[1]; Michael A. Baldwin[2]; *[1]Buck Institute for Age Research, Novato, CA; [2]University of California, San Francisco, CA*

MPU 391 **Acetylation of the Chemotaxis Response Regulator CheY by Acetyl-CoA Synthetase Purified from Escherichia coli;** Rina Barak[1]; Krishna Prasad[1]; Alan J. Wolfe[3]; Tevie Mehlman[2]; Alla Shainskaya[2]; Michael Eisenbach[1]; *[1]Department of Biological Chemistry, Weizmann Institute of Science, Rehovot, Israel; [2]Biological Mass Spectrometry Facility, Weizmann Institute of Science, Rehovot, Israel; [3]Stritch School of Medicine, Loyola University, Chicago, IL*

MPU 392 **Mass Spectrometric Analysis of *in vivo* Formed Albumin Adducts of Hexahydrophthalic Anhydride in Nasal Lavage Fluid**; Monica H Kristiansson; Christian H Lindh; Bo AG Jönsson; *Department of Occupational and Environmental Medicine, Lund, Sweden*

MPU 393 **S-nitrosation and S-glutathiolation of Recombinant Calbindin D $_{28k}$ from Human Brain**; Limei Tao; Ann M. English; *Concordia University, Montreal, Canada*

MPU 394 **Characterization of A-beta Amyloid Fibrils with Electrospray Mass Spectrometry Using Hydrogen Exchange on Proline Mutant Fibrils**; Erik Portelius[1]; Angela Williams[2]; Indu Kheterpal[2]; Ronald Wetzel[2]; Kelsey Cook[1]; *[1]University of Tennessee, Department of Chemistry, Knoxville, TN; [2]University of Tennessee, Graduate School of Medicine, Knoxville, TN*

MPU 395 **Solid-State Glycation of ß-lactoglobulin: Localisation of the Modified Amino Acids using Mass Spectrometry Techniques**; François Fenaille[1]; François Morgan[1]; Véronique Parisod[1]; Jean-Claude Tabet[2]; Philippe A. Guy[1]; *[1]Nestlé Research Center, Lausanne, Switzerland; [2]Laboratoire de Chimie Biologique Organique et Structurale, Paris, France*

MPU 396 **Mass Spectrometry : A Useful Technique to Confirm a Mechanism Based Behavior of Enzyme Inhibitors;** Lionel Pochet[1]; Marc Dieu[2]; Raphaël Frédérick[1]; Ann-marie Murray[1]; Bernard Pirotte[3]; Bernard Masereel[1]; *[1]Dpt of Pharmacy, University of Namur, Namur, Belgium; [2]Unité de recherche en biologie cellulaire, University of Namur, Namur, Belgium; [3]Laboratoire de Chimie Pharmaceutique, Université de Liège, Liège, Belgium*

MPU 397 **Characterization of Selenomethionine Membrane Protein Using Q-TOF and MALDI TOF-TOF**; Karine Pacaud[1]; Nicolas Folschweiller[2]; Hervé Celia[2]; Franc Pattus[2]; Noelle Potier[1]; Alain Van Dorsselaer[1]; *[1]Laboratoire de Spectrométrie de Masse Bio-Organique, CNRS-UMR 7509/ULP, Strasbourg, France; [2]Département des Récepteurs et Protéines Membranaires, UPR9050 CNRS, Illkirch-Graffenstaden, France*

MPU 398 **Detection and Identification of Modified Immunoglobulin as a Biomarker for Diagnosis of Type-2 Diabetes**; Jiaxi Wang; Wen Jin; Rulin Zhang; George Jackowski; *Syn-X Pharma Inc., Toronto, Canada*

MPU 399 **Identification of a Common Post-Translational Modification Found in Three Recombinant Nuclear Receptors**; Kristina Zachrisson; Agneta Tjernberg; *Biovitrum AB, Stockholm, Sweden*

MPU 400 **Posttranslational Characterization of S-Adenosylmethionine Decarboxylase from Escherichia coli by LC-MS/MS**; Sonja Hess[1]; Yongfu Li[2]; Lewis K. Pannell[3]; *[1]NIDDK, Bethesda, MD; [2]NCI, Bethesda, MD; [3]University of South Alabama, Mobile, AL*

MPU 401 **Study of the Calbindin Regulation Mechanism;** Frederic Halgand[1]; Christophe Vanbelle[2]; Eva Thulin[2]; Sara Linse[2]; Olivier Laprevote[1]; *[1]ICSN.-CNRS, Gif-Yvette, France; [2]Lund University, Lund, Sweeden*

MPU 402 **Mass Spectrometric Elucidation of the *in-vivo* Mechanism of an E3 Ubiquitin Ligase**; Jae R. Hwang[1]; Carol E. Parker[2]; Jihong Jiang[1]; Phillip J. Elms[2]; R. Marshall Pope[2]; Cam Patterson[1]; Christoph H. Borchers[2]; *[1]Department of Medicine, UNC-CH, Chapel Hill, NC; [2]Department of Biochemisrty and Biophysics, UNC-CH, Chapel Hill, NC; [3]Department of Biochemistry and Biophysics, UNC-CH, Chapel Hill, NC*

MPU 403 **Identification of *S*-Homocysteinylation of Transthyretin in Human Plasma and its Implication as a Novel Indicator of Homocysteine Burden in Hyperhomocysteinemia**; Amareth Lim[1]; Shantanu Sengupta[2]; Mark E. McComb[1]; Roger Theberge[1]; William G. Wilson[3]; Donald W. Jacobsen[2]; Catherine E. Costello[1]; *[1]Boston University School of Medicine, Boston, MA; [2]Cleveland Clinic Foundation, Cleveland, OH; [3]University of Virginia School of Medicine, Charlottesville, VA*

MPU 404 **Two Novel Lipid Hydroperoxide-Derived Modifications to Hemoglobin**; Anastasia K Yocum[1]; Tomoyuki Oe[1]; Alfred Yergey[2]; Ian A Blair[1]; *[1]Center for Cancer Pharmacology, University of Pennsylvania, Philadelphia, PA; [2]Section on Metabolism and Mass Spectrometry, NIH, Bethesda, MD*

MPU 405 **Fragmentation Patterns of Peptide/Protein-Benzo(a)pyrene Diol Epoxide Conjugates Characterized by Nanoflow LC Coupled to Hybrid Q-TOF MS**; Jin J. Wang[1]; Aaron T. Timperman[2]; Brandon Law[1]; Daniel M. Lewis[1]; *[1]National Institute for Occupational Safety and Health, CDC, Morgantown, WV; [2]Dept. of Chemistry, West Virginia University, Morgantown, WV*

MPU 406 **S-Methylation and Glutathionylation of Human Lens Beta-Crystallins**; Veniamin N. Lapko; David L. Smith; Jean B. Smith; *Department of Chemistry,University of Nebraska, Lincoln, NE*

MPU 407 **Identification of Transglutaminase-Mediated Deamidation Sites in a Recombinant Alpha-Gliadin by Means of Mass Spectrometric Methodologies**; Maria Fiorella Mazzeo; Beatrice De Giulio; Stefania Senger; Mauro Rossi; Antonio Malorni; Rosa Anna Siciliano; *Institute of Food Science and Technology - National Research Council, Avellino, Italy*

MPU 408 **Determination of Selenomethionine Incorporation Level in Proteins by LCMS**; Kheng B. Lim; Ciaran N. Cronin; Daniel B. Kassel; *Syrrx, Inc., San Diego, CA*

MPU 409 **The Comparison of Photochemical Cleavages found in UV-Irradiated Model Lens Protein to Yellowed Human Lens Protein;** Amanda J. Schreckenberg; Elizabeth R. Gaillard; Victor Ryzhov; *Northern Illinois University, DeKalb, IL*

MPU 410 **Identification of Covalent Modifications of SecA by Stable Isotope Labeling and Mass Spectrometry**; Suzana Martinovic[1]; Linda L. Randall[2]; Kim K. Hixson[1]; Ronald J. Moore[1]; Harold R. Udseth[1]; Richard D. Smith[1]; *[1]Pacific Northwest National Laboratory, Richland, Washington; [2]University of Missouri, Columbia, MO*

MPU 411 **Oxidation of Cysteinyl Residues in PA-1 (pI 4.78) Parvalbumin from Bullfrog Skeletal Muscle in vivo**; Hikari Taka[1]; Naoko Kaga[1]; Reiko Mineki[1]; Tsutomu Fujimura[1]; Noriko Shindo[1]; Masaru Tanokura[2]; Kimie Murayama[1]; *[1]Juntendo University, Tokyo, Japan; [2]University of Tokyo, Tokyo, Japan*

MPU 412 **Identification and Comparison of Post-Translational Modifications on Histone H4 and Histone H2b from Asynchronously Grown and Mitotically Arrested HeLa Cells**; Beatrix M. Ueberheide[1]; Cynthia M. Barber[2]; C. David Allis[2]; Jeffrey Shabanowitz[1]; Donald F. Hunt[3]; *[1]Department of Chemistry, University of Virginia, Charlottesville, VA; [2]Dept. of Biochemistry and Molecular Genetics, University of Virginia, Charlottesville, VA; [3]Department of Pathology and Chemistry, University of Virginia, Charlottesville, VA*

MPU 413 **Equilibrium and Time-Resolved Footprinting Approaches to Examine the Dynamics of Ca2+ Dependent Activation of Gelsolin;** Janna G. Kiselar[1]; Steven C. Almo[1]; Paul A Janmey[2]; Mark R. Chance[1]; *[1]Albert Einstein College of Medicine, Bronx, NY; [2]Institute for Medicine and Engineering University of Pennsylvania, Philadelphia, PA*

MPU 414 **Specific Nitration at Tyrosine-430 Revealed By High Resolution Mass Spectrometry as Basis for Redox Regulation of Bovine Prostacyclin Synthase**; Patrick Schmidt[2]; Nikolay I. Youhnovski[1]; Andreas Daiber[2]; Alina Balan[1]; Momo Arsic[1]; Markus Bachschmid[2]; Michael Przybylski[1]; Volker Ullrich[2]; *[1]University of Konstanz, Department of Chemistry, Konstanz, Germany; [2]University of Konstanz, Department of Biology, Konstanz, Germany*

MPU 415 **Identification of the Glutathionylation Site(s) of Oxidatively Modified Proteins**; Valentina Bonetto[1]; Simona Casagrande[2]; Tania Massignan[1]; Maddalena Fratelli[2]; Ivano Eberini[3]; Elisabetta Gianazza[3]; Mario Salmona[2]; Pietro Ghezzi[2]; *[1]University of Milan, Milan, Italy; [2]Dulbecco Telethon Institute at Istituto "Mario Negri", Milan, Italy; [3]Istituto di Ricerche Farmacologiche "Mario Negri", Milan, Italy; [4]Dulbecco Telethon Institute at Istituto, Milan, Italy*

MPU 416 **Determination of the Microheterogeneity of Plasma-Derived Human Serum Albumin by Means of Electrospray Ion Trap Mass Spectrometry and Gel Electrophoretic Techniques**; Omar Belgacem[1]; Katharina Pock[1]; Andrea Buchacher[1]; Juergen Roemisch[1]; Andreas Rizzi[2]; Guenter Allmaier[3]; *[1]Octapharma Pharmazeutika, Vienna, Austria; [2]Institute for analytical chemistry, Vienna, Austria; [3]Institute of Chemical Technologies and Analysis, Vienna, Austria*

MPU 417 **Mapping of Acetylation Sites by Nanoelectrospray-Based Precursor Ion Scanning**; Thomas Koecher; Alessia Buscaino; Mikko Taipale; Asifa Akhtar; Matthias Wilm; *EMBL, Heidelberg, Germany*

MPU 418 **The Structural Role of Linker Histone H5**; Jennifer A Lynch[1]; Jim Allan[1]; John Monaghan[2]; *[1]University of Edinburgh ICMB, Edinburgh, UK; [2]University of Edinburgh Chemistry, Edinburgh, UK*

MPU 419 **Development and Applications of Novel Affinity-Based Approaches for the Enrichment and Characterisation of Modified Peptides in Proteolytic Digests of Lipid-Protein Conjugates**; Jenny T.C Ho; Simon J Gaskell; *UMIST, Manchester, United Kingdom*

MPU 420 **MALDI-TOFMS Characterization of the Conjugates of Hen Egg White Lysozyme With Organo-Ruthenium Complex in Solution and in the Crystal State**; Jean-Claude Blais[1]; Michèle Salmain[2]; Bertrand Caro[3]; Françoise Le Guen-Robin[3]; Gérard Jaouen[2]; *[1]Université Pierre et Marie Curie, Paris, France; [2]Ecole Nationale Supérieure de Chimie de Paris, Paris, France; [3]Université Rennes 1, Rennes, France*

MPU 421 **Investigation of S-Nitrosoproteins by MS: II. Stoichiometric Determination**; Rina Kaneko; Yoshinao Wada; *Osaka Medical Center, Izumi, Osaka, Japan*

MPU 422 **Characterization of a Monoclonal IgG4 Antibody by Multidimensional Chromatography Coupled with Online ESI-TOF MS Analysis;** Asish B. Chakraborty[1]; Brooks Sunday[2]; Steven A. Cohen[1]; Scott J. Berger[1]; *[1]Waters Corporation, Milford, MA; [2]Schering Phough Research Institute, Union, NJ; [3]Schering-Plough Research Institute, Union, NJ*

MPU 423 **Mass Spectrometric Characterization of Allergenic Chemical Structures Formed *in vitro* Between Hexahydrophthalic Anhydride and Human Serum Albumin**; Christian H Lindh; Monica H Kristiansson; Bo AG Jönsson; *Dep. of Occupational and Environmental Medicine, Lund, Sweden*

MPU 424 **Quantitative Analysis for Drug Binding and Fatty Acid Modification of Tubulin**; Yeoun Jin Kim[1]; Dan Sackett[1]; Lewis K. Pannell[2]; Jan Wolff[1]; P. Jeram Britto[1]; *[1]National Institutes of Health, Bethesda, MD; [2]University of South Alabama, Mobile, AL*

MPU 425 **Specific Fragmentation on an ε-N,N,N-Trimethyllysine in Matrix-assisted Laser Desorption/Ionization Mass Spectrometry;** Yoshinori Satomi; Junko Hirota; Toshifumi Takao; *Institute for Protein Research, Osaka University, Osaka, Japan*

PROTEINS: PROTEIN FOLDING

MPV 426 **Mapping Complex Protein Energy Landscapes with HDX/ESI MS: What Can Be Learnt When Multiple Transitions Are Present?**; Hui Xiao; Joshua K Hoerner; Andras Dobo; Stephen J Eyles; Igor A Kaltashov; *University of Massachusetts, Amherst, MA*

MPV 427 **Transhydrogenase: Structural Elucidation of Domain I and Domain III Binding Interfaces by Hydrogen/Deuterium Exchange Monitored by High Resolution FT-ICR MS**; TuKiet T. Lam[1]; Elisabet Carlsohn[2]; Ute Krengel[3]; Michael J. Chalmers[1]; Mark R. Emmett[1]; Alan G. Marshall[4]; Tomas Johansson[3]; Christine Oswald[3]; *[1]Ion Cyclotron Resonance Program, NHMFL, Florida State University, Tallahassee, FL; [2]Institute of Medical Biochemistry, Göteborg University, Göteborg, Sweden; [3]Dept. of Molecular Biotechnology, Chalmers University of Technology, Göteborg, Sweden; [4]Dept. of Chemistry and Bioscience, Chalmers University of Technology, Göteborg, Sweden; [5]Dept. Chemistry and Biochemistry, Florida State University, Tallahassee, FL*

MPV 428 **Is There Hydrogen Scrambling in the Gas Phase?**; Joshua Hoerner; Hui Xiao; Igor A. Kaltashov; *University of Massachusetts, Amherst, MA*

MPV 429 **Conformational Dynamics of Partially Denatured Myoglobin Studied by Time-Resolved ESI-MS and amide H/D Exchange**; Douglas A. Simmons[1]; Stanley D. Dunn[2]; Amanda Doherty-Kirby[2]; Gilles A. Lajoie[2]; Lars Konermann[1]; *[1]Dept. of Biochemistry, The University of*

Western Ontario, London, Canada; [2]Dept. of Chemistry, The University of Western Ontario, London, Canada

MPV 430 **Probing the Methanol-Induced Conformations of Cytochrome C From Several Mammalian Cells by Mass Spectrometry**; Yen-Peng Ho; Yao-Feng Wang; May-Yeh Ho; *National Dong Hwa University, Department of Chemistry, Hualien, Taiwan, ROC*

MPV 431 **A Study on Conformational States of Corticortropin Releasing Factor using H/D Exchange**; Xianmei Cai; Chhabil Dass; *The University of Memphis, Memphis, TN*

MPV 432 **Hydrogen-Deuterium Exchange / Nano LC / ESIMS of the Chaperone, Lens Alpha Crystallin with Heat Denatured Gamma S-Crystallin**; Jiong Yu; Jean B. Smith; David L. Smith; *University of Nebraska, Lincoln, NE*

MPV 433 **Oxidative Folding Studies of a Modified Form of Macrophage Colony Stimulating Factor β (M-CSFβ) using ESI-MS and MALDI-Tof/Tof MS/MS**; R. Ryan Preston[1]; Michael I. Schimerlik[2]; Michael I. Schimerlik[2]; Max L. Deinzer[1]; Max L. Deinzer[1]; Claudia S. Maier[1]; Claudia S. Maier[1]; *[1]Oregon State University, Department of Chemistry, Corvallis, OR; [2]Oregon State University, Department of Biochemistry and Biophysics, Corvallis, OR*

MPV 434 **Hydrogen/Deuterium Exchange Coupled with MALDI Mass Spectrometry Reveals a Critical Role for the C Helix of *E. coli Trp* Repressor in Folding and Stability**; Robert Simler; James E. Evans; C. Robert Matthers; *University of Massachusetts Medical School, Worcester, MA*

MPV 435 **E Colicin DNases; Equally Acting, Distinct Folding**; Ewald T.J. van den Bremer[1]; Wim Jiskoot[1]; Robin E.J. Spelbrink[1]; Arie van Hoek[2]; Richard James[3]; Geoffrey R. Moore[4]; Colin Kleanthous[5]; Antonie J.W.G. Visser[2]; Claudia S. Maier[1]; Albert J.R. Heck[1]; *[1]Utrecht University, Utrecht, The Netherlands; [2]Wageningen University, Wageningen, The Netherlands; [3]University of Nottingham, Nottingham, United Kingdom; [4]University of East Anglia, Norwich, United Kingdom; [5]University of York, York, United Kingdom*

MPV 436 **A Combined ESI MS/Chemometric Approach to Study Protein Dynamics and Shape in Solution**; Anirban Mohimen; Andras Dobo; Joshua K Hoerner; Igor A Kaltashov; *University of Massachusetts, Amherst, MA*

MPV 437 **Probing the Conformational Alterations of Plasminogen Activator Inhibitor-1 by Amide Hydrogen→Deuterium Exchange;** Benedicta N Nukuna[1]; Marc S Penn[1]; Vernon E Anderson[2]; Stanley L Hazen[1]; *[1]Cleveland Clinic Foundation, Cleveland, OH; [2]Case Western Reserve University, Cleveland, OH*

MPV 438 **The Influence of Mutation on Protein Folding and Ligand Binding of IFABP as Monitored by H/D Exchange and HPLC/MS**; Mei M. Zhu; Don L. Rempel; Zhaohui Du; Michael L. Gross; Benhur Ogbay; David P. Cistola; *Washington University, St. Louis, MO*

PROTEOMICS: FUNDAMENTALS

MPW 439 **Building Statistical Models for Factors that Affect Protein Identification Using MALDI-TOF and Tandem Mass Spectrometry**; Haofei T Wang[1]; Jaxk Reeves[2]; Ron Orlando[1]; *[1]Complex Carbohydrate Research Center, University of Georgia, Athens, GA; [2]Department of Statistics, University of Georgia, Athens, GA; [3]Ciphergen Biosystems, Inc., Fremont, CA*

MPW 440 **Determination of the Protein Composition of Clathrin-Coated Vesicles, a Global Approach Through Proteomics Analysis**; Francois Blondeau[1]; Sylwia Wasiak[1]; Brigitte Ritter[1]; Daniel Boismenu[2]; Line Roy[2]; Nathalie Hamel[2]; Robert E. Kearney[2]; John J.M. Bergeron[2]; Alexander W. Bell[2]; Peter S. McPherson[1]; *[1]Montreal Neurological Institute, McGill University, Montreal, Canada; [2]Montreal Proteomics Centre, McGill University, Montreal, Canada*

MPW 441 **Probabilistic and Statistical Evaluation of Protein Identification by Database Search of MS/MS Spectra**; Colette J Rudd[1]; Fernando Maroto[1]; Michaela Scigelova[1]; Andreas Huhmer[1]; Roger Biringer[1]; Jesus Vazquez[2]; *[1]Thermo Electron, San Jose, CA; [2]ThermoFinnigan, San Jose, CA; [3]Centro de Biologia Molecular Severo Ochoa, Madrid, Spain*

MPW 442 **The Proteome Analysis of the Cyanobacterium *Anabaena* sp. Strain PCC 7120 and Classification of the Peptides Detectable by MALDI-TOF/MS**; Noriyuki Ojima[1]; Takashi Sazuka[2]; Minoru Yamaguchi[1]; Tomoko Kuriki[1]; Nobuyuki Akinaga[1]; Eiji Ando[1]; *[1]Shimadzu Corporation, Kyoto, Japan; [2]Kazusa DNA Research Institute, Kisarazu, Japan*

MPW 443 **Sources of Failure in Automated Peptide Sequence Assignment of MS/MS Spectra**; Sara P. Gaucher[1]; Subodh Nimkar[2]; Eoin Fahy[3]; Steven W. Taylor[3]; Soumitra S. Ghosh[3]; Bradford W. Gibson[1]; *[1]Buck Institute for Age Research, Novato, CA; [2]MitoKor, San Diego, CA; [3]Applied Biosystems, Foster City, CA; [4]Mitokor, San Diego, CA*

MPW 444 **Integrated and Automated Data Processing System for Protein Identification, Characterization and Quantification**; Lan Huang[1]; Peter R. Baker[1]; Robert J. Chalkley[1]; Nadia P. Allen[2]; Kirk Hanson[1]; Michael Rexach[2]; A.L. Burlingame[1]; *[1]University of California, San Francisco, CA; [2]Stanford University, Palo Alto, CA*

MPW 445 **Quantitative Proteomics: Relative Concentrations of Proteins in Rough and Smooth Endoplasmic Reticulum**; Jacques Paiement[1]; Line Roy[2]; Zsuzsanna Bencsath-Makkai[3]; Natalie Hamel[2]; Jennifer Gushue[1]; Alex Bell[2]; Daniel Boismenu[5]; Annalyn Gilchrist[3]; Rob Kearney[3]; David, Y. Thomas[4]; John, J. M. Bergeron[2]; *[1]Départemen de pathologie et biologie cellulaire,Université de Montréal, Montreal, Canada; [2]Pathologie et biologie cellulaire,Université de Montréal, Montreal, Canada; [3]Anatomy and Cell Biology, Montreal Proteomics Centre McGill University, Montreal, Canada; [4]Department of Cell Biology, McGill University, Montreal, Canada*

MPW 446 **Matrix-Assisted Laser Desorption / Ionization Time-of-Flight (MALDI-TOF) Mass Spectrometry with Re-Engineered Derivatives of 2,5-Dihydroxybenzoic acid for Enhanced Proteomic and Polymer Analysis**; Sajid Bshir; Jocelyn K.C. Rose; *Cornell University, Ithaca, NY*

MPW 447 **Increasing Sequence Coverage of *in situ* Digested Proteins for Post-Translational Modification Studies**; Sabrina Laugesen[1]; Kristian S Bak-Jensen[2]; Christine Finnie[2]; Ole Østergaard[2]; Per Hägglund[1]; Birte Svensson[2]; Peter Roepstorff[1]; *[1]Dept. of Biochem. & Mol. Biol., University of Southern Denmark, Odense, Denmark; [2]Dept. of Biochem. & Mol. Biol., University of Southern Denmark, Odense, Danmark*

MPW 448 **Subcellular Proteome Analysis of the Spinal Cord Dorsal Horn Region**; Mathias Dreger[1]; Joanna Mika[2]; Annette Bieller[2]; Ricarda Jahnel[1]; Clemens Gillen[3]; Eberhard Weihe[2]; Martin K.H. Schaefer[2]; Ferdinand Hucho[1]; *[1]Institute f. Chemistry/Biochemistry, Free University, Berlin, Germany; [2]Dept. of Molecular Neuroscience, Phillipps-University, Marburg, Germany; [3]Dept. of Molecular Neuroscience, Philipps-University, Marburg, Germany*

MPW 449 **Global Identification of Tryptic Peptides from the HMEC Cell Line**; Jon M Jacobs[1]; Li-Rong Yu[2]; Heather Mottaz[1]; Brian D Thrall[1]; Wan-Nan U Chen[1]; David G

Camp[1]; Richard D Smith[1]; *[1]Pacific Northwest National Laboratory, Richland, WA; [2]National Cancer Institute at Frederick, Frederick, MD*

MPW 450 **Potential of MALDI-TOF-TOF, nanoLC-Q-TOF and nanoLC-ion trap techniques for proteomic studies**; Florence Poirier; Elsa Wagner; Sophie Richert; Alain Van Dorsselaer; Christine Schaeffer; Emmanuelle Leize; *LSMBO-ULP-CNRS, Strasbourg, France*

PROTEOMICS: NEW AND IMPROVED METHODS

MPX 451 **Toward Near 100% Sequence Coverage of Cancer Cell Line Proteins using Capillary Electrophoresis interfaced to Electrospray-TOF and Tandem Mass Spectrometry**; Chul S Yoo; David M Lubman; *University of Michigan, Ann Arbor, MI*

MPX 452 **Which Multidimensional Separation System Is the Best for Post-Synaptic Density Proteome Analysis?**; Tsuyoshi Tabata[1]; Keiko Satoh[2]; Hiroyuki Katayama[1]; Masakazu Takeuchi[2]; Maki Tawarada[2]; Takeshi Nagasu[1]; Yoshiya Oda[1]; *[1]Eisai Co., Ltd., Tsukuba, Japan; [2]Kan Research Institue, Kyoto, Japan*

MPX 453 **Strategies for Identifying Proteins in Complex Mixtures by Electrospray Mass Spectrometry**; Therese McKenna[1]; James Langridge[1]; Mark Ritchie[1]; Ole Jensen[2]; Allan Stensballe[2]; Thomas Nühse[3]; Scott Peck[3]; Richard Denny[1]; Keith Richardson[1]; Phillip Young[1]; *[1]Waters Corporation, Manchester, UK; [2]University of Southern Denmark, Odense, Denmark; [3]Sainsbury Laboratory, Norwich, UK*

MPX 454 **Multiple LCMS Exclusion List Analyses: A Tool to Enhance Protein Identification From Complex Biological Samples**; Dan B. Kristensen; Alexandre V. Podtelejnikov; Jan C. Brønd; Michael L. Nielsen; Jesper V. Olsen; Jacek R. Wisniewski; Keiryn L. Bennett; *MDS Proteomics, Odense, Denmark*

MPX 455 **Comparison of 2D and 3D (LCQ deca) Quadrupole Ion Traps for Proteomic Applications**; W. Hayes McDonald[1]; Mike J. Maccoss[1]; Andrew Guzzetta[2]; Christine C. Wu[1]; Rohan Thakur[2]; Mike Senko[2]; Jae Schwartz[2]; John R. Yates[1]; *[1]The Scripps Research Institute, La Jolla, CA; [2]ThermoElectron Corporation, San Jose, CA*

MPX 456 **A Novel Approach for Interfacing Capillary Electrophoresis With Electrospray Ionization Mass Spectrometry**; Haleem J. Issaq; George M. Janini; Thomas P. Conrads; Timothy D. Veenstra; *SAIC-Frederick, Inc., NCI-Frederick, Frederick, MD*

MPX 457 **Structure Elucidation of Structural Proteins from *Yersinia* Phages using MALDI-ToF and ESI-FTMS Data**; Sebastian Beck[1]; Eckhard Strauch[2]; Stefan Hertwig[2]; Iris Klein[2]; Antje Konietzny[2]; Bernd Appel[2]; Andreas Wieghaus[3]; Wolfgang Metelmann-Strupat[3]; Jens Griep-Raming[3]; Michael W. Linscheid[1]; *[1]Humboldt Universitaet zu Berlin, Berlin, Germany; [2]Robert Koch Institute, Berlin, Germany; [3]Thermo Finnigan MAT, Bremen, Germany*

MPX 458 **Enlightenment of Minimal Proteom Differences With Two-Dimensional Nano LC/MS in the E. coli Proteome Grown On Different Carbon Sources**; Edgar Naegele; Martin Vollmer; Partic Hoerth; *Agilent Technologies Deutschland GmbH, Waldbronn, Germany*

MPX 459 **Accelerated Endopeptidase Digestion of Proteins Employing an HPLC and MS Friendly Surfactant**; John C Gebler; Ying-Qing Yu; Martin Gilar; Peter J Lee; Weibin Chen; Amy E Daly; *Waters Corp., Milford, MA*

MPX 460 **Analysis of the Proteome in Human Tissues by In-gel Isoelectric Focusing and LC-MS/MS**; Francesco Giorgianni; Dominic M. Desiderio; Sarka Beranova-Giorgianni; *University of Tennessee Health Science Center, Memphis, TN*

MPX 461 **Optimization of Enzymatic Digest Strategies for De Novo Sequencing of Proteins**; Tanya Q Shang[1]; Natalie Keiper-Hrynko[2]; David Hallahan[2]; Charles N McEwen[2]; Barbara S Larsen[2]; *[1]University of Delaware, Newark, DE; [2]Dupont Central Research and Development, Wilmington, DE*

MPX 462 **Toward Ultra-sensitive Liquid Chromatography and Mass Spectrometric Proteome Analysis**; Li-Rong Yu[1]; Haleem J. Issaq[1]; Takuma Uo[2]; Josip Blonder[1]; George M. Janini[1]; Richard S. Morrison[2]; Timothy D. Veenstra[1]; Thomas P. Conrads[1]; *[1]SAIC-Frederick, Inc, National Cancer Institute at Frederick, Frederick, MD; [2]University of Washington School of Medicine, Seattle, WA*

MPX 463 **Micro-Scale Integration of size-Exclusion With Reversed Phase LC/MS for Protein Identification**; Man Ho Choi; Steven R. Tannenbaum; John S. Wishnok; *Massachusetts Institute of Technology, Cambridge, MA*

MPX 464 **Improved Sample-Processing Time, and Peptide Recovery for the Mass Spectrometry Analysis of Protein Digests**; Doris E. Terry; Edward S. Umstot; Dominic M. Desiderio; *University of Tennesse, Memphis, TN*

MPX 465 **Specific Removal of Multiple High Abundance Proteins from Human Sera**; Gordon R Nicol; Nina Zolotarjova; James Martosella; Barry Boyes; *Agilent Technologies, Wilmington, DE*

MPX 466 **LC-MS/MS Evaluation of Silver Stain Removal from Protein Gels Using Hydrogen Peroxide**; Victor S. Asirvatham; Lloyd W. Sumner; *The Samuel Roberts Noble Foundation, Ardmore, OK*

MPX 467 **A Novel Albumin Removal Method for Improved Plasma Protein Expression Analysis in the Treatment of Amyotropic Lateral Sclerosis Using 2D-DIGE-MS**; Richard A Katenhusen; Anthony G Sullivan; Alisha George; Henry Brzeski; Richard I Somiari; *Windber Research Institute, Windber, PA*

MPX 468 **A Simple One-Step Approach to Fabricate a Trypsin Enzyme Capillary Reactor Immobilized on a Macroporous Monolith; Submicromolar Protein Digestion on a Seconds Time-Scale and MALDI/TOF/MS Peptide Fingerprinting**; Anders K Palm; Milos V Novotny; *Indiana University, Bloomington, IN*

MPX 469 **Combining Metabolomics and Proteomics in Plant Systems Using GC/TOF and Multidimensional LC/MS;** Wolfram Weckwerth; *Max Planck Institute of Molecular Plant Physiology, 14424 Potsdam, Germany*

MPX 470 **Rapid On-Column Trypsin Digestion of Proteolytically Resistant Proteins in Aqueous-Organic Solvents;** Gordon W. Slysz[1]; David C. Schriemer[1]; *[1]University of Calgary, Calgary, Alberta, Canada; [2]University of Calgary, Calgary, Canada*

MPX 471 **Comparison of Peptide Shotgun CID in Source Versus in Collison Cell on a QTOF**; David R Goodlett; Eugene C Yi; Benno Schwikowski; Ning Zhang; Ruedi Aebersold; *Institute For Systems Biology, Seattle, WA*

MPX 472 **Fabrication and Use of 20 um i.d. Nanobore Columns for Proteomics**; Gary A. Valaskovic; James P. Murphy III; *New Objective Inc, Woburn, MA*

MPX 473 **An Improved Cross-linked Enzyme Reactor for Protein Identification by LC-ESI/MS and MALDI-Tof/MS;** H. Abouchacra; I. Sanhaji; K. Waldron; Michel J. Bertrand; *University of Montreal, Montreal, Canada*

MPX 474 **ALS-PAGE in Proteomic Analysis of Cerebral Protein Expression After Stroke**; Oliver Schmidt[1]; Michael Besselmann[2]; Simone Koenig[1]; *[1]Integrated Functional Genomics, University of Muenster, Muenster, Germany;*

[2]*Department of Neurology, University of Muenster, Muenster, Germany*

MPX 475 **Comparison of Online Peak Parking Versus Automated Fraction Analysis of a Complex Protein Mixture;** Anders L. Lund[1]; Colleen K. Van Pelt[2]; Michael J. Nold[1]; LeRoy B. Martin[1]; [1]*Waters Corp., Beverly, MA;* [2]*Advion BioSciences, Inc, Ithaca, NY*

MPX 476 **In-solution Digestion Mixed with Acetonitrile for Proteomics of Human Plasma**; Kiyonaga Fujii; Rong Wang; *Mount Sinai School of Medicine, New York, New York*

MPX 477 **The Use of Precursor Ion Scans as Survey Scans in the LC-MS/MS Analysis of Peptide Mixtures**; Willy Bienvenut; Manfredo Quadroni; *Protein Analysis Facility, University of Lausanne, Epalinges, Switzerland*

MPX 478 **LC MS/MS Methods Development for Characterisation of Complex Peptide Mixtures from Preparations of Human Cytoskeleton**; Natalia Bykova; Xiaobo Meng; Keding Cheng; Kenneth Standing; Werner Ens; John Wilkins; *University of Manitoba, Manitoba Centre for Proteomics, Winnipeg, Canada*

MPX 479 **Cleavable Detergents for MALDI-MS: Methods for Analysis of Intracellular and Membrane Proteins;** Jeremy L. Norris; Ned A. Porter; Richard M. Caprioli; *Vanderbilt University, Nashville, TN*

MPX 480 **Two Dimensional HPLC/Ion Trap MS for Comparison of Complex Protein Mixtures**; Markus Lubeck[1]; Ralph Rabus[2]; Ulrike Schweiger-Hufnagel[1]; Helen Muccitelli[3]; Carsten Baessmann[1]; [1]*Bruker Daltonik GmbH, Bremen, Germany;* [2]*Max-Planck-Institute for Marine Microbiology, Bremen, Germany;* [3]*Bruker Daltonics Inc., Billerica, MA*

MPX 481 **Comparison of Trypsin Immobilization Techniques With or Without a Solid Support for Peptide Mapping**; Isabelle Migneault[1]; Catherine Dartiguenave[1]; Hussein Hamad[1]; Karen C. Waldron[1]; Michel J. Bertrand[1]; Joëlle Vinh[2]; [1]*University of Montreal, Montreal, Canada;* [2]*Ecole Superieure de Physique et de Chimie Industrielles, Paris, France*

MPX 482 **Quantitative Aspects in Direct Characterization of Digested Protein Complex: An Approach Based on High-Accuracy Mass Chromatographic Analysis with FT ICR MS**; Takemichi Nakamura; Naoshi Dohmae; Koji Takio; *RIKEN (The Institute of Physical and Chemical Research), Wako, Japan*

MPX 483 **Capillary Separations-Nanoelectrospray Mass Spectrometry Using Polyaniline Coated Silica - A New Tool for Proteomics**; Douglas R. Smith[1]; Jason A. Anspach[1]; Alexis C. Thompson[2]; Troy D. Wood[1]; [1]*University at Buffalo, Buffalo, NY;* [2]*Research Institute on Addictions, Buffalo, NY*

MPX 484 **Improved Peptide Mapping of Proteins with Multiple Enzymatic Digestions and Mass Spectrometry**; Yi-Ting Chen; Feng-Chun Lo; Wen-Ling Lu; Sung-Fang Chen; *Biomedical Engineering Center,Industrial Technology Research Institute, Hsinchu, Taiwan, R.O.C.*

MPX 485 **High-Performance Capillary Isoelectric Focusing Mass Spectrometry of Intact Proteins**; Dae Ho Shin[1]; Yufeng Shen Shen[2]; Seonghee Ahn[2]; Kristina Taylor Nelson[2]; Ljiljana Pasa-Tolic[2]; David C. Simpson[2]; Richard D. Smith[2]; [1]*Seoul Branch, Korea Basic Science Institute, Seoul, Korea;* [2]*Pacific North West National Laboratory, Richland, WA*

MPX 486 **Development of Direct Digestion of SDS-solubilized Proteins and HPLC-MALDI MS/MS for Membrane Protein Identification**; Nan Zhang; Nan Li; Liang Li; *University of Alberta, Edmonton, Canada*

MPX 487 **Analysis of Human Serum Proteins by Multidimensional Peptide Separation in Conjunction with Nanoelectrospray Tandem Mass Spectrometry**; Zhen Xiao; King C. Chan; George Janini; Haleem J. Issaq; Timothy D. Veenstra; Thomas P. Conrads; *SAIC-Frederick, Inc., National Cancer Institute at Frederick, Frederick, MD*

MPX 488 **Electrochemical Oxidation of Peptides with On-Line Mass Spectrometric Detection: Prospects for Fast On-line Protein Digestion**; Hjalmar P Permentier; Ulrik Jurva; Rainer Bischoff; Andries P Bruins; *University of Groningen, Groningen, The Netherlands*

MPX 489 **Novel Sample Fractionation for Proteomics Using Stop and Go Extraction Tips (StageTips) with Single and Multiple Disks**; Yasushi Ishihama; Juri Rappsilber; Matthias Mann; *Dep of Biochem & Molecular Biology, Univ of Southern Denmark, Odense, Denmark*

MPX 490 **Peptide Mass Mapping by MALDI-MS of India Ink Stained Proteins After Western Blot on PVDF**; Ruth Mengue Methogo; Geneviève Dufresne-Martin; Klaus Klarskov; *University of Sherbrooke, Sherbrooke, Quebec, Canada*

MPX 491 **A Micro Enzyme/Chemical Reactor for Protein Digestion and Chemical Labeling Based on Reversible Immobilization and Concentration of the Protein Substrate**; Theo C. Goh; Henry S. Duewel; *MDS Proteomics Incorporated, Toronto, Canada*

MPX 492 **Comparison of Different Protocols for the Analysis of Protein Digests by SCX-RPLC-MS/MS**; Joelle Vinh; Delphine Pflieger; Jean Rossier; *Neurobiologie et Diversité Cellulaire, CNRS UMR 7637, Paris, France*

MPX 493 **A Novel Multiplexed Online Solid Phase Extraction-Tandem Mass Spectrometry System for High-Throughput Proteome Analysis**; Liguo Song[1]; Jianjun Li[2]; Tammy-Lynn Tremblay[2]; Wen Ding[2]; D. Jed Harrison[3]; Pierre Thibault[4]; [1]*Molecular and Cellular Biophysics, Roswell Park Cancer Institute, Buffalo, New York;* [2]*Institute for Biological Sciences, National Research Council of Canada, Ottawa, Canada;* [3]*Department of Chemistry, University of Alberta, Edmonton, Canada;* [4]*Caprion Pharmaceuticals, St-Laurent, Quebec, Canada*

MPX 494 **A Multidimensional LC/ESI-TOF MS Prefractionation Approach for the Analysis of Intact Proteins in Complex Proteomes**; Kevin Millea[2]; Asish Chakraborty[1]; Steven A. Cohen[1]; Ira S. Krull[2]; Scott J. Berger[1]; [1]*Waters Corporation, Milford, MA;* [2]*Northeastern University, Boston, MA*

SURFACE ANALYSIS & IMAGING

MPY 495 **UV Laser Desorption and Protein Imaging from Ice via Femtosecond Laser Pulses**; Jamal I Berry[1]; Shixin Sun[1]; Yousheng Dou[2]; Nick Winograd[1]; [1]*Materials Research Institute and Dept. of Chem./ Penn State University, University Park, PA;* [2]*Dept. of Physics/ Texas A & M University, College Station, TX*

MPY 496 **Surface Sampling with Electrospray Mass Spectrometry**; Gary J. Van Berkel[1]; Stephen J. Kennel[1]; Mitchel J. Doktycz[1]; Michael J. Ford[1]; Amaury D. Sanchez[2]; J. Martin E. Quirke[2]; [1]*Oak Ridge National Laboratory, Oak Ridge, TN;* [2]*Florida International University, Miami, FL*

MPY 497 **Development of MALDI Laser Microprobe for Biological Analysis: Instrumentation, New Matrices and Application to Photodynamic Therapy of Cancer;** Jean-François Muller; Benoit Maunit; Natacha Lourette; Jerome Bour; Marc Dodeller; Lionel Vernex-Loset; Gabriel Krier; *LSMCL, Université de Metz, Metz, France*

MPY 498 **Peptide Imaging MS of *Lymnaea stagnalis* Neuroendocrine Tissue by Matrix Enhanced SIMS**; Sander R. Piersma[1]; A.F. Maarten Altelaar[1]; Jan van

Minnen[2]; Connie Jimenez[2]; Ron M.A. Heeren[1]; *[1]FOM Institute for Atomic and Molecular Physics, Amsterdam, The Netherlands; [2]Free University, Amsterdam, The Netherlands*

MPY 499 **Laser Introduction and Focusing Apparatus for High Spatial Resolution Matrix Assisted Laser Desorption/Ionization and Microscopic Imaging**; David S Wunschel; Kenneth M Beck; *Pacific Northwest National Laboratory, Richland, WA*

MPY 500 **Automated SMALDI Imaging with a Lateral Resolution of 1 µm**; Werner Bouschen; Kai Maass; Bernhard Spengler; *Institute of Inorganic and Analytical Chemistry/ University of Giessen, Giessen, Germany*

MPY 501 **Quantitative and High Resolution Imaging of Protein Turnover in Biological Tissues**; Claude P. Lechene[1]; Edmund A. Mroz[2]; Francois Hillion[3]; *[1]Harvard Medical School/Brigham and Women's Hospital, Boston, MA; [2]Harvard Medical School/Massachusetts Eye and Ear Infirmary, Boston, MA; [3]Cameca, Courbevoie, France*

MPY 502 **Imaging MALDI with an Orthogonal TOF Mass Spectrometer**; Gamini Piyadasa[1]; Alexander Loboda[2]; Vic Spicer[1]; James McNabb[1]; Kenneth G Standing[1]; Werner Ens[1]; *[1]Department of Physics and Astronomy, Winnipeg, Canada; [2]MDS Sciex, Concord, Canada*

MPY 503 **Reactive Ion Scattering Spectrometry (RISS) : An Efficient Tool to Probe Organic Thin Films**; Selvan R; Darrin L Smith; Facundo M Fernandez; Xi Yang; Zhuhua Qi; Karen E Bryden; Ronald J Wysocki Jr; Vicki H Wysocki; *Department of Chemistry, University of Arizona, Tucson, AZ*

MPY 504 **MALDI Tissue Imaging using the Molecular Scanner**; George Vella[1]; Barrie Wagenfeld[1]; Robert Lotti[1]; Carlton Paul[1]; Stacey Oppenheimer[2]; Richard Caprioli[2]; Tim Nadler[1]; *[1]Applied Biosystems, Framingham, MA; [2]Vanderbilt University, Mass Spectrometry Research Center, Nashville, TN*

MPY 505 **Illuminating Micro-Landscapes: An in-situ Method for Recording the Topology of a Sample Surface - Experiments, Simulations and Deconvolution;** Liam A. McDonnell; Stefan L. Luxembourg; Gert B. Eijkel; Todd H. Mize; Ron M. A. Heeren; *FOM-Institute for Atomic and Molecular Physics, Amsterdam, The Netherlands*

MPY 506 **High Resolution Imaging Mass Spectrometry: Characterization of Ion Yields and Laser Spot Sizes**; Kenneth E. Schriver; Pierre Chaurand; Richard M. Caprioli; *Vanderbilt University, Nashville, TN*

MPY 507 **Developing 3-D Imaging Mass Spectrometry**; Anna C. Crecelius; Betsy Williams; Bobby Bodenheimer; Benoit Dawant; Ariel Y. Deutch; Richard M. Caprioli; *Vanderbilt University, Nashville, TN*

MPY 508 **Rapid FT-ICR Mass Spectral Imaging using Fuzzy Logic Classification**; Timothy R. McJunkin; Paul L. Tremblay; Jill R. Scott; *Idaho National Engineering and Environmental Laboratory (INEEL), Idaho Falls, Idaho*

MPY 509 **The Analysis of Pharmaceutical Compounds in Skin by Matrix Assisted Laser Desorption Ionisation Mass Spectrometry**; Josephine Bunch[1]; Malcolm R. Clench[1]; Don S. Richards[2]; *[1]Sheffield Hallam University, Sheffield, UK; [2]Pfizer Global R&D, Sandwich, UK*

MPY 510 **Conductive Glass Slides: Pairing Microscopy and Imaging Mass Spectrometry**; Pierre Chaurand; Richard M. Caprioli; *Vanderbilt University, Nashville, TN*

MPY 511 **Description of Activation Processes and Polyethylene Formation on a Phillips Model Catalyst by Laser Ablation Fourier Transform Ion Cyclotron Resonance Mass Spectrometry and static Time of Flight Secondary Ion Mass Spectrometry;** Frédéric Aubriet[1]; Pascal Di Croce[2]; Patrick Bertrand[3]; Paul Grange[2]; Jean-François Muller[1]; *[1]LSMCL Université de Metz, Metz, France; [2]Unité CATA Université catholique de Louvain, Louvain-la-Neuve, Belgium; [3]Unité PCPM Université catholique de Louvain, Louvain-la-Neuve, Belgium*

MPY 512 **Inverse Laser Capture Microdissection (ILCM) for Aquiring Cells from Healthy and Diseased Tissues for Direct Profiling by MALDI Mass Spectrometry**; Michael T Madden[1]; Sudha S Marimanikkuppam[2]; Wilmar L Salo[1]; Thomas P Krick[2]; John M Streitz Jr. [1]; Arthur C Aufderheide[1]; *[1]University of Minnesota, Duluth, Duluth, MN; [2]University of Minnesota, St. Paul, MN*

MPY 513 **Molecule Specific Imaging Analysis of Carcinogens in Breast Cancer Cells**; K. J. Wu; J. N. Quong; M. G. Knize; K. S. Kulp; *Lawrence Livermore National Laboratory, Livermore, CA*

MPY 514 **Development of a MALDI Mass Microscope With Stigmatic Ion Optics**; Stefan L. Luxembourg; Todd H. Mize; Liam A. McDonnell; Dirk-Jan Spaanderman; Ron M. A. Heeren; *FOM institute for Atomic and Molecular Physics, Amsterdam, The Netherlands*