

# IMS Sessions at ASMS 2017

## Sunday 4th June

### Short course

#### **Ion Mobility Mass Spectrometry: An Introduction to Instrumentation, Applications, and Data Analysis**

Registration Required, 9:00am - 4:00pm, One-day Course (Sunday only)

Instructors: Brian H. Clowers (Washington State University), Erin Baker (PNNL), John A. McLean (Vanderbilt University)

### Tutorial Lectures II

#### **Ion Mobility Spectrometry: Analyzing Molecules as They Tumble through Life**

Wabash, 5:00 - 5:45 pm

Erin S. Baker (Pacific Northwest National Laboratory)

## Monday 5th June

### Oral sessions

#### **Ion Mobility: New Developments and Applications**

Wabash, 8:30am - 10:30am, Session Chair: Theresa Evans-Nguyen (Univ. of Southern Florida)

#### **Ion Mobility: Small Molecules, Pharmaceuticals, and DMPK**

Wabash, 2:30pm - 4:30pm. Session Chair: Kimberly Kew (East Carolina University)

### Poster sessions

#### **Ion Mobility: Applications I**

Poster-Exhibit Hall, 10:30am - 2:30pm

### Workshops

#### **Metal Ion Coordination in Gas-Phase Bioanalysis: Reaping Practical Benefits (Metal Ion Coordination Chemistry Interest Group)**

131-132, 5:45pm - 7:00pm, Presiding: Cheng Lin, Eric Dodds

**Clinical Diagnostics: Translating New Mass 8. Spectrometry Approaches (Clinical Chemistry Interest Group)**

135-136, 5:45pm - 7:00pm, Presiding: Timothy Garrett

## **Tuesday 6th June**

### **Oral Sessions**

**Ion Mobility: Structure**

Wabash, 8:30am - 10:30am, Session Chair: Carlos Larriba-Andaluz (IUPUI)

### **Workshops**

**Mass Spectrometry and Ion Mobility: The Role of Temperature (Fundamentals Interest Group)**

243-245, 5:45pm - 7:00pm, Presiding: Michael Van Stipdonk, Victor Ryzhov

## **Wednesday 7th June**

### **Oral Sessions**

**Fundamentals: Molecular Modeling and Quantum Mechanical Calculations in Ion Mobility and MS**

Room 107-110, 2:30pm - 4:30pm, Session Chair: Christopher Chouinard (PNNL)

### **Poster Sessions**

**Ion Mobility: Applications II**

10:30am - 2:30pm, Poster-Exhibit Hall

### **Workshops**

**Energy, Petroleum, and Biofuels: Experimental Challenges (Energy Petroleum & Biofuels Interest Group)**

139, 5:45pm - 7:00pm, Presiding: Mark Barrow, David Stranz

**Ion Mobility Spectrometry: Towards Standard Operating Procedures (Ion Mobility MS Interest Group)**

240-242, 5:45pm - 7:00pm, Presiding: Stephen Valentine, Valérie Gabelica, Brian Clowers

## **Thursday 8th June**

### **Poster sessions**

#### **Ion Mobility: FAIMS/DMS**

Poster-Exhibit Hall, 10:30am - 2:30pm

#### **Ion Mobility: Fundamentals**

Poster-Exhibit Hall, 10:30am - 2:30pm

# IMS Presentations outside main IMS sessions

## Monday 5th June

### Poster

#### MP 104 Breath Analysis with Thermal Desorption-Field Asymmetric Ion Mobility Spectrometry-Mass Spectrometry: A rapid and non-invasive means of screening for pulmonary-related diseases

104, 10:30am - 2:30pm

Alasdair Edge\*; Lauren Brown; Kayleigh Arthur; Robert Smith  
Owlstone Medical Ltd., Cambridge, United Kingdom

#### MP 175 Structural Determination of Polycyclic Aromatic Hydrocarbons by Ion Mobility Mass Spectrometry

175, 10:30am - 2:30pm

PRISCILA M. LALLI\* [1] [2]; Yuri E Corilo [2] [3]; Martha L. Chacón-Patiño [3]; RYAN P. RODGERS [2] [3] [4]

[1] National High Magnetic Field Laboratory, Tallahassee, FL; [2] Future Fuels Institute, Florida State University, Tallahassee, Florida; [3] National High Magnetic Field Laboratory, Florida State University, Tallahassee, FL; [4] Department of Chemistry and Biochemistry, Florida State University, Tallahassee, FL

#### MP 186 Ion Mobility for Food Safety: Extensive Comparison of Ion Mobility Mass Spectrometry Instruments

186, 10:30am - 2:30pm

Wilco F. Duvivier [1]; Marco H. Blokland\* [1]; Michel W.F. Nielen [1] [2]  
[1] RIKILT Wageningen University & Research, Wageningen, Netherlands; [2] Laboratory of Organic Chemistry, Wageningen, Netherlands

#### MP 201 Advances in Ion Mobility Mass Spectrometry to Further Characterize Contaminants in Food

201, 10:30am - 2:30pm

Lauren Mullin [1] [2]; Gareth Cleland [1]; Andrew Baker\* [3]; Mike McCullagh [4]; SARA STEAD [4]; KENNETH ROSNACK [1]; Joe Romano [1]  
[1] Waters Corporation, Milford, MA; [2] Örebro University, Örebro, Sweden; [3] Waters Corporation, Pleasanton, CA; [4] Waters Corporation, Stamford Avenue, Altrincham Road, Wilmslow, United Kingdom

#### MP 228 Using differential mobility spectrometry to separate chiral compounds: Amphetamines

228, 10:30am - 2:30pm

J. LARRY CAMPBELL\* [1]; J.C. YVES LEBLANC [2]; CHANG LIU [2]  
[1] SCIEX, Concord, ON; [2] SCIEX, Concord, ON, ON

**MP 415 Differential Ion Mobility coupled to a Multi-emitter Nanoelectrospray Ion Source for Improved Shotgun Lipidomics Applications**

415, 10:30am - 2:30pm

James E. Keating\*; Gary L. Glish

University of North Carolina at Chapel Hill, Department of Chemistry, Chapel Hill, NC

**MP 546 Ion Mobility and High Resolution Mass Spectrometry of Centella asiatica extracts – Characterization and quantification of phytochemical constituents**

546, 10:30am - 2:30pm

Armando Alcazar Magana\* [1]; Maya Caruso [2]; Amala Soumyanath [2]; Joseph Quinn [2] [3]; Jan F. Stevens [4] [5]; Claudia S. Maier [1]

[1] Department of Chemistry, Oregon State University, Corvallis, OR; [2] Department of Neurology, Oregon Health & Science University, Portland, OR; [3] Department of Neurology and Parkinson's Disease Research Education and Clinical Care Center, Portland, Or; [4] Department of Pharmaceutical Sciences, Oregon State University, Corvallis, OR; [5] Linus Pauling Institute, Oregon State University, Corvallis, OR

**MP 563 Assessing Conformational Heterogeneities of Beta-2 Microglobulin Pre-Amyloid Oligomers using Ion Mobility Mass Spectrometry**

563, 10:30am - 2:30pm

Tyler Marcinko\*; Richard W Vachet

University of Massachusetts-Amherst, Amherst, MA

**MP 654 Characterization of Histone Proteoforms Using Linear and Nonlinear Ion Mobility Separations with Electron Transfer Dissociation**

654, 10:30am - 2:30pm

PAVEL Shliha [1]; Matthew Baird\* [2]; Mogens Nielsen [1]; Vladimir Gorshkov [1]; Andrew P. Bowman [2]; Julia L. Kaszycki [2]; Gordon A Anderson [3]; Todd D. Williams [4]; Ole N. Jensen [1]; Alexandre A. Shvartsburg [2]

[1] University of Southern Denmark, Odense, Denmark; [2] Wichita State University, Wichita, KS - Kansas; [3] GAA Custom Engineering, LLC, Benton City, WA; [4] University of Kansas, Lawrence, KS

## **Tuesday 6th June**

### **Oral**

**Building a Library with >1000 Ion Mobility Collision Cross Sections for Ultrafast Small Molecule Analyses**

Sagamore 4, 9:50am - 10:10am

XUEYUN ZHENG\*; Noor A. Aly; Vanessa L. Paurus; Yuxuan Zhou; Daniel J. Orton; RICHARD D. SMITH; Erin S Baker

Pacific Northwest National Laboratory, Richland, WA

**Combining mass spectrometry, ion mobility and cryogenic ion spectroscopy for structural assignment of oligosaccharides**

Room 107-110, 10:10am - 10:30am

Chiara Masellis\* [1]; Neelam Khanal [2]; David E Clemmer [2]; Michael Z. Kamrath [1]; Thomas R. Rizzo [1]

[1] EPFL, Lausanne, Switzerland; [2] Indiana University, Bloomington, IN

**Poster**

**TP 038 Native Ion Mobility Mass Spectrometry for the Characterization of Biotherapeutics**

38, 10:30am - 2:30pm

Dale A. Cooper-Shepherd\*; Jakub Ujma; Kevin Giles; Laetitia F. Denbigh; Nick Tomczyk  
Waters Corporation, Stamford Avenue, Altrincham Road, Wilmslow, United Kingdom

**TP 040 Characterizing Trastuzumab-Drug Conjugates by High Resolution Native Mass Spectrometry, Ion Mobility, and Molecular Dynamics Simulations**

40, 10:30am - 2:30pm

Liuqing Shi [1]; Bernadette V. Marquez-Nostra [2]; Suzanne E. Lapi [3]; WEIDONG CUI\* [4]; Michael L. Gross [1]

[1] Washington University, St Louis, MO; [2] Washington University School of Medicine, St. Louis, MO; [3] University of Alabama at Birmingham, Birmingham, AL; [4] Washington University, St. Louis, MO

**TP 141 Evaluation of a peptide selection algorithm for trapped ion mobility with parallel accumulation serial fragmentation (TIMS-PASEF) on a Q-TOF instrument**

141, 10:30am - 2:30pm

Markus Lubeck\* [1]; Stephanie Kaspar-Schoenefeld [1]; Niels Goedecke [1]; Oliver Raether [1]; Scarlet Beck [2]; Heiner Koch [2]; Florian Meier [2]; Juergen Cox [2]; Matthias Mann [2]  
[1] Bruker Daltonik GmbH, Bremen, Germany; [2] Max Planck Institute of Biochemistry, Martinsried, Germany

**TP 159 Application of paper spray differential ion mobility mass spectrometry for pesticide products screening**

159, 10:30am - 2:30pm

Khang To\*

University of North Carolina, Chapel Hill, NC

**TP 268 An Ion Mobility Database of Metal-Coordinated Peptide Ions: General Structural Effects upon Alkali, Alkaline-earth, or Transition-metal Interaction**

268, 10:30am - 2:30pm

JONATHAN DILGER\* [1]; David E Clemmer [2]

[1] Naval Surface Warfare Center, Crane Division, Crane, IN; [2] Indiana University Bloomington, Bloomington, IN

**TP 339 Demonstrating the Applicability of DESI Imaging Coupled with Ion Mobility for Mapping Cosmetic Ingredients on Tape Stripped Skin Samples**

339, 10:30am - 2:30pm

ELEANOR RICHES [1]; Oliver O. Burt\* [1]; Philippa J. Hart [1]; Emmanuelle Claude [1]; Malcolm R. Clench [2]

[1] Waters Corporation, Wilmslow, United Kingdom; [2] Spectrometry Imaging, Biomolecular Sciences Research Centre, Sheffield Hallam University, Howard Street, Sheffield, United Kingdom

**TP 348 Comparative Tissue Imaging for Disease Characterization Using DESI Coupled with Uniform Field Drift Tube Ion Mobility High Resolution Mass Spectrometry**

348, 10:30am - 2:30pm

Ruwan T Kurulugama\* [1]; Joseph H Kennedy [2]; Brian C Laughlin [2]; Justin M Wiseman [2]; George Stafford [1]; John Fjeldsted [1]

[1] Agilent Technologies Inc., Santa Clara, California; [2] Prosolia Inc., Indianapolis, IN

**TP 350 Spatial Mapping of Metabolites and Neurotransmitter in Rat Brain Sections using DESI Ion Mobility Mass Spectrometry**

350, 10:30am - 2:30pm

Anthony J. Midey [1]; Hernando J. Olivos [1]; Michael Batey [2]; Emmanuelle Claude [2]; BINDESH SHRESTHA\* [3]

[1] Waters Corporation, Beverly, MA; [2] Waters Corporation, Stamford Avenue, Altrincham Road, Wilmslow, United Kingdom; [3] Waters Corp., Beverly, MA

**TP 391 A high performance OA-ToF mass spectrometer for accurate mass measurement of mobility separated ions**

391, 10:30am - 2:30pm

Jason Wildgoose; Martin R. Green; Jakub Ujma\*; Kevin Giles

Waters Corporation, Stamford Avenue, Altrincham Road, Wilmslow, United Kingdom

**TP 509 Metabolite Fragmentation in Laser Ablation Electrospray Ionization Mass Spectrometry with Ion Mobility Separation**

509, 10:30am - 2:30pm

Ziad Sahab\* [1]; Sylwia Stopka [1]; Bindesh Shrestha [2]; Hang Li [3]; Wei Yuan [1]; Lida Parvin [1]; Akos Vertes [1]

[1] George Washington University, Washington, DC; [2] Waters Corporation, Beverly, MA; [3] George Washington University, Washington, DC

### **TP 516 High throughput metabolomics by Ion Mobility Mass Spectrometry**

516, 10:30am - 2:30pm

Sandra Alves [1]; Alain Paris [2]; Guillaume Van der Rest [3]; Estelle Rathahao-Paris\* [4]  
[1] Sorbonne Universités, UPMC Univ Paris 06, CNRS, Institut Parisien de Chimie Moléculaire (IPCM), Paris, France; [2] Sorbonne Universités, Muséum national d'Histoire naturelle, CNRS, UMR7245 MCAM, Paris, France; [3] Université Paris Sud, Laboratoire de Chimie Physique, Orsay, France; [4] UMR Ingénierie Procédés Aliments, AgroParisTech, Inra, Université Paris-Saclay, Massy, France

### **P 721 Trimester-specific progesterone reference intervals established in human serum/plasma using a fast LC-MS/MS method coupled with differential ion mobility spectrometry**

721, 10:30am - 2:30pm

JULIE A RAY\* [1]; Joely A Straseski [1] [2]

[1] ARUP Laboratories, Salt Lake City, UT; [2] University of Utah, Salt Lake City, UT

## **Wednesday 7th June**

### **Oral**

#### **Drift tube ion mobility (DTIM) assisted All Ions data-independent acquisition (DIA) pesticide screening**

500 Ballroom, 9:30am - 9:50am

Xin Ma\*; Jian zhong Li

Agilent Technologies, Beijing, China

#### **Smashing it all up (carefully!) - Combining Surface-Induced Dissociation, Ion mobility and UV Photodissociation as a protein structure interrogation toolbox**

Room 107-110, 10:10am - 10:30am

Alina Theisen\*; Bruno Bellina; Bin Yan; Ines Camacho; Alex Jones; Perdita Barran

University of Manchester, Manchester, United Kingdom

### **Poster**

#### **WP 153 (Ion mobility assisted) Data-Independent Acquisition mass spectrometry to mine histone epigenetics**

153, 10:30am - 2:30pm

MAARTEN DHAENENS\*; Sander Willems; Elisabeth Govaert; Laura De Clerck; Simon

Daled; Sofie Vande Castele; Dieter Deforce

Ghent University, Ghent, Belgium



**WP 321 Recent Advances in Skyline: Further Improvements in Small Molecule Targets and Ion Mobility**

321, 10:30am - 2:30pm

BRIAN PRATT\* [1]; Will Thompson [2]; Erin S Baker [3]; Michael J MacCoss [1]; Brendan MacLean [1]

[1] University of Washington, Seattle, WA; [2] Duke University, Durham, North Carolina; [3] PNNL, Richland, WA

**WP 349 Compression Ratio Ion Mobility Programming (CRIMP) in Structures for Lossless Ion Manipulations (SLIM)**

349, 10:30am - 2:30pm

Sandilya Garimella\*; Yehia M Ibrahim; Ahmed M Hamid; Liulin Deng; Ian K Webb; Erin S Baker; RICHARD D. SMITH

Pacific Northwest National Laboratory, Richland, WA

**WP 361 Rapid FAIMS inside the mass spectrometry envelope: exploring ion mobility separations in the extreme-field region**

361, 10:30am - 2:30pm

ALEXANDRE SHVARTSBURG [1]; Andrew Entwistle\* [2]; Roch Andrzejewski [2]; Anisha Harris [2]; Roger Giles [2]

[1] Wichita State University, Wichita, KS; [2] Shimadzu Research Laboratory Europe, Manchester, United Kingdom

**WP 408 Development of a flow-cell ozonolysis device coupled to ion mobility mass spectrometry for determining double-bond position in lipids**

408, 10:30am - 2:30pm

Rachel A. Harris\* [1]; Craig A. Stinson [2]; Yu Xia [2]; Jody C. May [1]; John A. McLean [1]

[1] Vanderbilt University, Nashville, TN; [2] Purdue University, West Lafayette, Indiana

**WP 519 Capillary Electrophoresis and Ion Mobility coupled to Mass Spectrometry as complementary tools for cysteine connectivity identification in peptides**

519, 10:30am - 2:30pm

Cedric Delvaux\* [1]; Philippe Massonnet [1]; Christopher Kune [1]; Jean R. N. Haler [1]; Grégory Upert [2]; Gilles Mourier [2]; Nicolas Gilles [2]; Loïc Quinton [1]; Johann Far [1]; Edwin De Pauw [1]

[1] Mass Spectrometry Laboratory, University of Liège, Liège, Belgium; [2] Commissariat à l'Energie Atomique et aux Energies Alternatives, iBiTec-S, SPI, LEMM, Gif Sur Yvette, France

**WP 578 Quantitation of Low-Level Peptide Impurities in Certified Reference Materials and Incorporation of Ion Mobility Mass Spectrometry for Conformational Isomer Characterization**

578, 10:30am - 2:30pm

Bradley Stocks\*; Marie-Pier Thibeault; Juris Meija; Jeremy Melanson  
National Research Council Canada, Ottawa, ON

**WP 615 Analysis of Positional Poly(Pyridylalkyl Methacrylate) Isomers and Homologs by Fragmentation and Ion Mobility Mass Spectrometry**

615, 10:30am - 2:30pm

Michelle Kushnir\* [1]; CHRYS WESDEMIOTIS [1]; Marios Elladiou [2]; Costas S. Patrickios [2]  
[1] University of Akron, Akron, OH; [2] University of Cyprus, Nicosia, Cyprus

**WP 669 Application of Multiplexed Ion Mobility MS for Identification of Host Response Protein Signatures of Treatment of Pulmonary Tuberculosis**

669, 10:30am - 2:30pm

Komal Kedia\* [1]; Jason Wendler [1]; Erin S. Baker [1]; Aaron T. Wright [1]; Paul D Piehowski [1]; Marina A Gritsenko [1]; RICHARD D. SMITH [1]; Leah G. Jarsberg [2]; David M. Lewinsohn [3]; Marc H. Weiner [4]; Payam Nahid [2]; Jon M. Jacobs [1]  
[1] PNNL, Richland, WA; [2] UCSF, San Francisco, CA; [3] Oregon Health & Science University, Portland, OR; [4] University of Texas Health Science Center,, San Antonio, TX

## **Thursday 8th June**

### **Oral**

**Glycoanalysis with cold ion spectroscopy and ion mobility: Study of glycosaminoglycans and human milk oligosaccharides**

Sagamore 4, 2:30pm - 2:50pm

Neelam Khanal\* [1]; Chiara Masellis [2]; Michael Z. Kamrath [2]; David E Clemmer [1]; Thomas R. Rizzo [2]  
[1] Indiana University, Bloomington, IN; [2] EPFL, Lausanne, Switzerland

**Disentangling Carbohydrate Isomer Mixtures via Combination of Metal Ion Binding, Gas-Phase Ion Chemistry, Tandem Mass Spectrometry and Ion Mobility Spectrometry**

Sagamore 4, 2:50pm - 3:10pm

Katherine Schumacher\*; Eric D. Dodds  
University of Nebraska - Lincoln, Lincoln, NE

**Rapid characterization of polyalphaolefins using atmospheric pressure photoionization and atmospheric solid analysis probe coupled to ion mobility - mass spectrometry**

Room 107-110, 3:30pm - 3:50pm

Anna Luiza Mendes Siqueira\* [1] [2]; Mathieu Beaumesnil [1] [2]; Corinne Loutelier-Bourhis [2]; Carlos Afonso [2]; Amandine Racaud [1]

[1] TOTAL Marketing & Services, Research Center, 69360 Solaize, France; [2] Normandie Univ., UNIROUEN, INSA Rouen, CNRS, COBRA, 76000 Rouen, France

**Accumulation and compression of billions of ions using CRIMP in SLIM significantly improves sensitivity and ion mobility resolution**

Room 101-106, 3:50pm - 4:10pm

Liulin Deng\*; Sandilya Garimella; Ahmed Mohamed Hamid; Ian K Webb; Xueyun Y Zheng; Roza Wojcik; Spencer A Prost; Gordon A Anderson; Erin S Baker; Yehia M Ibrahim; RICHARD D. SMITH

Pacific Northwest National Laboratory, Richland, WA

**Poster**

**ThP 512 The Development of a LC-FAIMS-MS Metabolomics Workflow: A New Tool for Untargeted Metabolite Profiling to Diagnose Disease**

512, 10:30am - 2:30pm

Lauren Brown\*; Kayleigh Arthur; Alasdair Edge; Aditya Malkar; Paul Nasca  
Owlstone Medical Ltd. Cambridge Cambridgeshire

**ThP 070 Chemical Cross-Linking (CXL) products analysed by LC-Ion Mobility (IM)-MS/MS**

70, 10:30am - 2:30pm

Denise P Tran\* [1]; Paul J Trim [2]; Marten F Snel [2]; Tara L Pukala [1]

[1] The University of Adelaide, Adelaide, Australia; [2] South Australian Health and Medical Research Institute, Adelaide, Australia

**ThP 187 Manipulation of conformation via charge and temperature. An ion mobility mass spectrometry investigation**

187, 10:30am - 2:30pm

Jacquelyn R Jhingree\* [1]; Jakub Ujma [2]; Perdita E Barran [1]

[1] University of Manchester, Manchester, United Kingdom; [2] Waters Corporation, Stamford Avenue, Altrincham Road, Wilmslow, United Kingdom

**ThP 192 Effects of chemical dynamics and clustering reactions of chemical modifiers with analyte ions in differential mobility spectrometry (DMS)**

192, 10:30am - 2:30pm

Florian Stappert\* [1]; Marco Thinius [1]; Hendrik Kersten [1]; Walter Wissdorf [1]; Tom Covey [2]; Bradley B Schneider [2]; Jim Hager [2]; Thorsten Benter [1]

[1] Bergische Universität Wuppertal, Wuppertal, NRW; [2] SCIEX, Concord, ON

**ThP 246 Using SWATH Acquisition with Differential Ion Mobility for Accurate Mass Flux Analysis**

246, 10:30am - 2:30pm

Tiago Cardoso Alves\* [1]; Keith J. Goodman [2]; Sabu George [3]; Abhishek Jha [3];  
Rebecca L. Cardone [4]; Richard G. Kibbey [4]

[1] Yale University, New Haven, CT; [2] SCIEX, Framingham, MA; [3] Elucidata, Cambridge, MA; [4] Yale University, New Haven, CT

**ThP 318 Peptide Collision Cross Section Predictor: Rapid Correlation of Ion Mobility Mass Spectrometry Signal with Analyte Structures via Machine Learning**

318, 10:30am - 2:30pm

Xueqin Pang\* [1]; Zichuan Tian [2]; David Page [3] [4]; Lingjun Li [1] [2]

[1] School of Pharmacy, University of Wisconsin Madison, Madison, WI; [2] Department of Chemistry, University of Wisconsin Madison, Madison, WI; [3] Department of Biostatistics and Medical Informatics, University of Wisconsin-Madison, Madison, WI; [4] Department of Computer Sciences, University of Wisconsin-Madison, Madison, WI

**ThP 449 Structural characterization of bioactive fatty acid isomers using liquid chromatography–differential mobility spectrometry and electron-induced dissociation mass spectrometry (LC-DMS-EID)**

449, 10:30am - 2:30pm

Kazutaka Ikeda\* [1] [2]; Shuh Yasuda [1]; Yuuya Senoo [1]; Makoto Arita [1] [2] [3]; J. Larry Campbell [4]; J.C. YVES LEBLANC [4]; PAUL RS BAKER [5]; TAKASHI BABA [4]

[1] RIKEN Center for Integrative Medical Sciences, Yokohama, Japan; [2] Yokohama City Univ., Yokohama, Japan; [3] Keio University, Tokyo; [4] SCIEX, Concord, ON; [5] SCIEX, Redwood City, CA

**ThP 571 Site-Specific Characterization of PEGylated Insulin Isomers by Using Combined Liquid Chromatography and Ion Mobility Mass Spectrometry**

571, 10:30am - 2:30pm

Selim Gerislioglu\*; Scott Adams; Chrys Wesdemiotis

The University of Akron, Akron, OH

**ThP 603 Higher Order Structure of Intact Proteins by Capillary Electrophoresis Native Ion Mobility Mass Spectrometry**

603, 10:30am - 2:30pm

CAROLINE S. CHU\* [1]; Pat D. Perkins [2]; Andy Gieschen [3]

[1] Agilent Technologies, Inc., Santa Clara, CA; [2] Agilent Technologies Inc., Santa Clara, CA; [3] Agilent Technologies Inc., La Jolla, CA

**ThP 637 Complex conformations: Ion mobility mass spectrometry provides insight into a conformationally dynamic protein complex**

637, 10:30am - 2:30pm

Sophie R Harvey\*; Varun V Gadkari; Zucui Suo; Vicki H Wysocki

The Ohio State University, Columbus, OH

**ThP 638 Exploring two-state cooperative protein folding using ion mobility spectrometry-mass spectrometry**

638, 10:30am - 2:30pm

Shannon A Raab\* [1]; Tarick J El-Baba [1]; Daniel W Woodall [1]; Wen Liu [2]; Yang Liu [2]; Arthur Laganowsky [2]; David H Russell [2]; David E Clemmer [1]

[1] Indiana University, Bloomington, IN; [2] Texas A&M University, College Station, Texas

**ThP 648 A Traveling Wave Ion Mobility Spectrometry and Molecular Modeling Study of Heparin/HS-Protein Interactions for Robo1**

648, 10:30am - 2:30pm

YUEJIE ZHAO\* [1]; Jeong Yeh Yang [2]; Yongmei Xu [3]; David Thieker [2]; Chengli Zong [2]; Kelley Moremen [2]; Jian Liu [3]; Geert-Jan Boons [2]; Robert Woods [2]; I. Jonathan Amster [1][1] University of Georgia, Chemistry Department, Athens, GA; [2] Complex Carbohydrate Research Center, University of Georgia, Athens, GA; [3] University of North Carolina, Chapel Hill, NC

**ThP 700 Differential Mobility Separation with SCIEX SelexION™- A Novel Technique for the Bioanalysis of poor fragmenting molecules like Valproic Acid**

700, 10:30am - 2:30pm

Jeyan Albert\* [1]; Anoop Kumar [1]; Manoj Pillai [1]; Peeyush Jain [2]; Naveen Dubey [2]; Sandeep Sharma [2]

[1] SCIEX, Gurgaon, India; [2] Jubilant Generics Ltd, Noida, India