

*Speakers – please arrive ½ hour before your session begins to load your presentation*

**THURSDAY JANUARY 19, 2017**

4:00 - 7:00 pm     Setup Session I Posters, *Water's Edge*

6:00-7:00 pm     Registration

**7:00 - 8:00 pm**  
**Opening Session**  
Session Chair: Lingjun Li, *University of Wisconsin-Madison*  
*Salons ABCD*

7:00-7:05 pm     Opening Remarks, **Jonathan Sweedler**, *University of Illinois, Urbana*

7:05-8:00 pm     **PLENARY LECTURE: Donald Hunt**, *University of Virginia*  
Immunotherapy of Cancer and the Role of Mass Spectrometry: an Overview and New Results

**8:00-10:00 pm**  
**Reception**  
*Water's Edge*

**The following students received an ASMS Student Travel Award.  
Congratulations!**

**Matthew Baird**  
*Wichita State University*

**Harris Bell-Temin**  
*University of Pittsburgh*

**Amanda Buchberger**  
*University of Wisconsin-Madison*

**Robert Burleigh**  
*University of Oxford*

**Kaylee Castle**  
*Florida A&M University*

**Sam Choi**  
*George Washington University*

**Kellen DeLaney**  
*University of Wisconsin - Madison*

**Andrea Figueroa-Montiel**  
*CICESE*

**Elva Fridjonsdottir**  
*Uppsala University*

**Ali Hadi**  
*University of Denver*

**Oleg Karaduta**  
*University of Arkansas*

**Chelsea Kendall**  
*Florida A&M University*

**Christine Kirkpatrick**  
*University of North Carolina*

**Zdenek Kukacka**  
*University of Konstanz*

**Christopher Lietz**  
*UC, San Diego*

**Yang Liu**  
*University of Wisconsin*

**George Sarkis**  
*University of Florida*

**Denise Medeiros Selegato**  
*São Paulo State University (UNESP)*

**Kelly Wormwood**  
*Clarkson University*

**Qing Yu**  
*University of Wisconsin-Madison*

**Yeni Yung**  
*University of Illinois*

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**FRIDAY JANUARY 20, 2017**

7:00 - 8:30 am Setup Session I Posters & Continental Breakfast, *Water's Edge*

**8:30-11:00 am**

**Unique Challenges for Measurements of Endogenous Peptides: Sequence Analysis,  
Peptide Stability and Discovery**

Session Chair: Lloyd Fricker, *Albert Einstein School of Medicine*  
*Salons ABCD*

- 8:30-9:00 am **Robert Kennedy**, *University of Michigan*  
Observation of Peptide Dynamics *in vivo* Evoked by Behavior and Optogenetic  
Stimulation using LC-MS
- 9:00-9:30 am **Kurt Boonene**, *K.U. Leuven*  
Peptidomics in Neuroendocrine Research
- 9:30-10:00 am **Lingjun Li**, *University of Wisconsin-Madison*  
Multi-Faceted Approach for Functional Discovery of Neuropeptides
- 10:00-10:15 am **Coffee Break**, *Outside Salons ABCD*

**10:15-11:30 am**

**Informatics for Peptidome Discovery**

Session Chair: Stephen Barfanes, *University of Alabama*  
*Salons ABCD*

- 10:15-10:45 am **Nuno Banderia**, *UC San Diego*  
Spectral Network for *de novo* Sequencing
- 10:45-11:15 am **Andy Christie**, *University of Hawaii*  
In Silico Prediction of Crustacean Peptidomes
- 11:15-11:30 am **Marshall Bern**, *Protein Metrics*  
Bacterial Peptidoglycan Analysis Using a Proteomics Search Engine
- 11:30-11:45 am **Group Photo**
- 11:45- 1:00 pm **Group Lunch** (*provided by ASMS*)  
*Blue Heron Deck*

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**FRIDAY JANUARY 20, 2017**

**1:00-3:00 pm**

**Peptide Processing and Post-Translational Modifications**

Session Chair: Ryan Julian, *UC-Riverside*

*Salons ABCD*

- 1:00-1:30 pm **Vivian Hook, UC San Diego**  
Frontiers in Neuropeptidomics Profiling of Intercellular Signaling Networks in Human Health and Disease
- 1:30-2:00 pm **James Checco, University of Illinois**  
Exploring the Signaling Pathways of D-Amino Acid-Containing Neuropeptides
- 2:00-2:30 pm **Lloyd Fricker, Albert Einstein School Medicine**  
Quantitative Peptidomics of Yeast, Mouse and Human Cells
- 2:30-3:00 pm **Beatrix Ueberheide, NYU**  
Uncovering Disulfide-Rich Peptide Venoms Using Chemical Derivatization and ETD
- 3:00-7:00 pm **Free Time**

**7:00-8:00 pm**

**KEYNOTE LECTURE and Poster Presentations**

Session Chair: Jonathan Sweedler, *University of Illinois, Urbana*

*Salons ABCD*

- 7:00-7:45 pm **KEYNOTE LECTURE: Dominic Desiderio, University of Tennessee**  
Peptidomics Research before it was Called Peptidomics
- 7:45-8:10 pm **6 Highlighted Poster Presentations (3 min each plus 1 min transition)**
- Bruce Southey, University of Illinois, Urbana**  
A Bioinformatics Pipeline for Genome Sequence-Based Characterization of Neuropeptidomes
- Matt Baird, Wichita State University**  
Isomeric Characterization of D-Amino Acid Containing Peptides and N-Linked Glycopeptides by Differential Ion Mobility Spectrometry
- Amanda Buchberger, University of Wisconsin-Madison**  
Qualitative and Quantitative Analysis of Crustacean Neuropeptides after Hypoxia Exposure
- Christopher Lietz, UCSD**  
Lithium Modulation of Regulated Neuropeptide Secretion in Adrenal Medullary Chromaffin Cells of the Sympathetic Nervous System
- Qing Yu, University of Wisconsin-Madison**  
Discovery and Identification of O-Glycosylated Signaling Peptides from Mouse Pancreatic Islets
- Sven Van Bael, KU Leuven**  
Characterization of Neuropeptide-Amidating Enzymes in *C. elegans* by Mass Spectrometry

**8:10-10:10 pm**

**Poster Session I & Reception**  
**Poster Titles are listed on page 7**

*Water's Edge*

*Speakers – please arrive ½ hour before your session begins to load your presentation*

**SATURDAY JANUARY 21, 2017**

7:00 - 8:30 am     Setup Session II Posters & Continental Breakfast, *Water's Edge*

**8:30-10:15 am**

**Peptide Imaging Using Mass Spectrometry**

Session Chair: Stanislav Rubakhin, *University of Illinois, Urbana*

- 8:30-9:00 am     **Per André**n, *Uppsala University*  
Sample Handling, Quantification and Imaging of Brain Signalling Molecules
- 9:00-9:30 am     **Peter Verhaert**, *Delft University of Technology*  
Tissue Imaging of Neuropeptides using MALDI Orbitrap MS
- 9:30-10:00 am     **Ron Heeren**, *Maastricht University*  
High Resolution MS Imaging
- 10:00-10:15 am     **Coffee Break**, *Outside Salons ABCD*

**10:15 -12:00 pm**

**Emerging Tools and Applications**

Session Chair: Andre Venter, *Western Michigan University*

- 10:15-10:45 am     **Carlito Lebrilla**, *UC-Davis*  
Peptidomic and Glycopeptidomic Analysis of Bioactive Compounds in Human Milk
- 10:45-11:15 am     **Jay Forsythe**, *College of Charleston*  
Proto-Peptidomics: The First Peptides in Darwin's Warm Little Pond
- 11:15-11:45 am     **David Clemmer**, *Indiana University*  
Developing IMS-MS Techniques for following Structural Transitions in Peptides in Solution and in the Gas Phase
- 11:45– 12:00 pm     **Ryan Julian**, *UC-Riverside*  
Identifying Isomerization and Epimerization in Peptides from Crystallins with Radical Directed Dissociation
- 12:00-1:15 pm     **Lunch**, *on your own*

Speakers – please arrive ½ hour before your session begins to load your presentation

**SATURDAY JANUARY 21, 2017**

**1:15-3:15 pm**

**Peptide Therapeutics**

Session Chair: Fanyu Meng, *Merck Co.*

- 1:15-1:45 pm **Wendy Zhong, Merck Co.**  
Challenges in Structure Determination of Low Level Impurity and Degradation Products of Therapeutic Peptides in Pharmaceutical Industry
- 1:45-2:15 pm **Albert Lebedev, Moscow State University**  
Discovery of New Antibiotics from Frogs -- *de novo* Sequencing of Long Natural Non-Tryptic Peptides
- 2:15 -2:45 pm **Michal Bassani-Sternberg, Ludwig Cancer Research Center**  
Direct Identification of Neoantigens using In-Depth Immunopeptidomics of Melanoma Tissues for the Development of Anti-Tumor Immunotherapy
- 2:45-3:00 pm **Leslie Hicks, UNC**  
The PepSAVI-MS Pipeline for Natural Product Bioactive Peptide Discovery
- 3:00 -3:15 pm **Asoka Ranasinghe, BMS**  
Automated Structural Characterization of Therapeutic Cyclic Peptides and Their Metabolites in Drug Discovery
- 3:15-7:00 pm **Free Time**

**7:00-8:00 pm**

**KEYNOTE LECTURE and Poster Presentations**

Session Chair: Ron Heeren, *Maastricht University*

- 7:00-7:45 pm KEYNOTE LECTURE: Richard Caprioli, Vanderbilt University**  
Protein and Peptide Imaging MS
- 7:45-8:10 pm 6 Highlighted Poster Presentations (3 min each plus 1 min transition)**
- Kellen DeLaney, University of Wisconsin-Madison**  
Mass Spectrometric Quantitation and Imaging of Neuropeptide Expression Levels in Crustacean Tissue and Circulating Fluid Resulting from Food Intake
- Elena Romanova, University of Illinois, Urbana**  
Strategies for Peptidome Characterization in Non-Model Species
- Elva Fridjonsdottir, Uppsala University**  
Structure-Specific Peptide Transmission and Processing in a Model of Parkinson's Disease and L-DOPA-Induced Dyskinesia
- Andre Venter, Western Michigan University**  
Improving DESI-MS Analysis of Proteins and Peptides
- Barbara Larsen, DuPont Co.**  
Study of Protein Oxidation in Freeze-Dried Cells during Long-Term Storage
- Fengfei Ma, University of Wisconsin-Madison**  
Alteration of Brain Region-Resolved Peptidome in Response to Cocaine Intoxication and Withdrawal

**8:10-10:10 pm**

**Poster Session II & Reception**  
**Poster Titles are listed on page 10**

*Water's Edge*

Speakers – please arrive ½ hour before your session begins to load your presentation

**SUNDAY JANUARY 22, 2017**

7:00 - 8:30 am Remove Poster by 10:15 am  
Continental Breakfast, *Water's Edge*

**8:30-9:30 am**

**Peptidomic Approaches to Biomarker Discovery and New MS  
Strategies for Peptide Analysis**

Session Chair: Carlito Lebrilla, *UC Davis*

8:30-9:00 am **Johan Gobom**, *Göteborg University*  
Peptide Biomarkers in Neurodegenerative Diseases.

9:00-9:15 am **Richard Drake**, *Medical University of South Carolina*  
Prostate Cancer-Associated Peptide and Glycan Co-Localizations in FFPE Tissues by  
MALDI-FTICR Imaging Mass Spectrometry

9:15-9:30 am **Francisco Fernandez-Lima**, *Florida International University*  
Strategies for Discovery and Targeted Analysis Using nESI-TIMS-TOF MS and nESI-  
TIMS-FT-ICR MS

**9:30-11:30 am**

**Single-cell Neuropeptidomics**

Session Chair: Peter Verhaert, *Delft University*

9:30-10:00 am **Susanne Neupert**, *University of Cologne*  
Single Cell Peptidomics of Insects

10:00-10:15 am **Coffee Break**, *Outside Salons ABCD*

10:15-10:45 am **Antony Stretton**, *University of Wisconsin-Madison*  
Mass Spectral Mapping of Neuropeptides in Worms

10:45-11:15 am **Peter Nemes**, *George Washington University*  
Trace-level Metabolite-Peptide-Protein Detection in Single Cells using High-  
Resolution Mass Spectrometry

**11:15-12:15 pm**

**KEYNOTE LECTURE and Closing Remarks**

Session Chair: Per Andren, *Uppsala University*

11:15-12:00 **KEYNOTE LECTURE: Jonathan V. Sweedler**, *University of Illinois, Urbana*  
Measuring Signaling Peptides One Cell at a Time

12:00-12:15 **Closing Remarks, Lingjun Li**, *University of Wisconsin-Madison*

**FRIDAY, JANUARY 20**

**8:10 - 10:10 pm**

**POSTER SESSION I**

*Water's Edge*

*Poster Session I: Setup up by 7:00 pm on Thursday*

*Remove at 10:00 pm on Friday*

- 01 **Isomeric Characterization of D-Amino Acid Containing Peptides and N-Linked Glycopeptides by Differential Ion Mobility Spectrometry;** Matthew Baird<sup>1</sup>; Graham Delafield<sup>2</sup>; Zhe Wang<sup>2</sup>; Si Wu<sup>2</sup>; Alexandre Shvartsburg<sup>3</sup>; <sup>1</sup>, Wichita, KS; <sup>2</sup>Univeristy of Oklahoma, Norman, OK; <sup>3</sup>Wichita State Univeristy, Wichita, KS
- 02 **Identification of Novel Protein-Peptide Interactions via Differential Mass Spectrometry;** Harris Bell-Temin<sup>1</sup>; Steven Mullett<sup>1</sup>; Andrey Bondarenko<sup>2</sup>; Nathan A. Yates<sup>1</sup>; <sup>1</sup>Univ of Pitt School of Health Sciences, Pittsburgh, PA; <sup>2</sup>Infoclinika, Bellevue, WA
- 03 **Bacterial Peptidoglycan Analysis Using a Proteomics Search Engine;** Marshall W. Bern<sup>1</sup>; Kelsi Sandoz<sup>2</sup>; Richard Beniston<sup>3</sup>; Stephane Mesnage<sup>3</sup>; <sup>1</sup>Protein Metrics, San Carlos, CA; <sup>2</sup>NIH/NIAID Rocky Mountain Laboratories, Hamilton, MT; <sup>3</sup>University of Sheffield, Sheffield, UK
- 04 **Qualitative and Quantitative Analysis of Crustacean Neuropeptides after Hypoxia Exposure;** Amanda Buchberger<sup>1</sup>; Kellen DeLaney<sup>1</sup>; Yang Liu<sup>1</sup>; Kylie Helfenbein<sup>1</sup>; Lingjun Li<sup>1</sup>; <sup>1</sup>University of Wisconsin-Madison, Madison, Wisconsin
- 05 **Metabolomics Approach to Identify Novel Compounds in Response to Water Stress in Grape;** Kaylee Castle<sup>1</sup>; Ramesh Katam<sup>2</sup>; <sup>1</sup>, Tallahassee, FL; <sup>2</sup>Florida Agricultural and Mechanical University, Tallahassee, FL
- 06 **Ultrasensitive CE-nanoESI-MS for Small Populations of Neurons in the Mouse Cortex;** Sam Choi<sup>1</sup>; Eric Corcoran<sup>1</sup>; Marta Zamarbide<sup>1</sup>; Chiara M Manzini<sup>1</sup>; Peter Nemes<sup>1</sup>; <sup>1</sup>George Washington University, Washington, DC
- 07 **Exploring Possible Biomarkers for Smith-Lemli-Opitz Syndrome (SLOS) using a Mass Spectrometry-based Proteomic Investigation;** Emmalyn Dupree<sup>1</sup>; Kelly Wormwood<sup>1</sup>; Megan Borland<sup>1</sup>; Jeanne Ryan<sup>2</sup>; Laci Charette<sup>2</sup>; Alisa Woods<sup>1, 2</sup>; Costel Darie<sup>1</sup>; <sup>1</sup>Biochemistry and Proteomics Group, Department of Chemistry and Biomolecular Science, Clarkson University, Potsdam, NY; <sup>2</sup>Center for Neurobehavioral Health, SUNY Plattsburgh, NY
- 08 **Strategies for Discovery and Targeted Analysis Using nESI-TIMS-TOF MS and nESI-TIMS-FT-ICR MS;** Francisco Fernandez-Lima, Florida International University
- 09 **De novo Sequencing of a Conotoxin from *Conus brunneus* with Insulin Release Activity;** Andrea Figueroa-Montiel<sup>1</sup>; Johanna Bernáldez<sup>1</sup>; Samanta Jimenez<sup>1</sup>; Leslie Otero<sup>1</sup>; Pavel Lugo<sup>1</sup>; Carolina Álvarez-Delgado<sup>1</sup>; Lourival Domingos Possani<sup>2</sup>; Fernando Zamudio<sup>2</sup>; Luis Javier González<sup>3</sup>; Alexei Fedoróvish Licea-Navarro<sup>1</sup>; <sup>1</sup>CICESE, Ensenada, Baja California; <sup>2</sup>Instituto de Biotecnología (UNAM), Cuernavaca, Mexico; <sup>3</sup>Center for Genetic Engineering and Biotechnology, La Habana, Cuba
- 10 **Novel Conopeptide rs15a from *Conus Regularis* with Eight Cys, 3? and Two Hydroxyprolines was Identified in the Venom Gland Transcriptome;** Luis Javier González<sup>1</sup>; Andrea Figueroa-Montiel<sup>2</sup>; Samanta Jiménez<sup>2</sup>; Jesús A. Beltrán<sup>2</sup>; Carlos A. Brizuela<sup>2</sup>; Johanna Bernáldez<sup>2</sup>; Alexei Licea-Navarro<sup>2</sup>; <sup>1</sup>Center for Genetic Engineering and Biotechnology, Havana, Cuba; <sup>2</sup>CICESE, Carretera Ensenada-Tijuana, México
- 11 **Deciphering Disease-associated Proteolytic Networks with 18O-Peptide Coding;** Markus Hardt; Forsyth Institute, Cambridge, MA

**FRIDAY, JANUARY 20**

**8:10 - 10:10 pm**

**POSTER SESSION I**

*Water's Edge*

*Poster Session I: Setup up by 7:00 pm on Thursday*

*Remove at 10:00 pm on Friday*

- 12 **Novel Conotoxin of the I2-Superfamily Isolated from Conasprella Ximenes Shows Antimicrobial Activity vs *M. tuberculosis***; Samanta Jimenez<sup>1</sup>; Andrea Figueroa-Montiel<sup>1</sup>; Johanna Bernáldez<sup>1</sup>; Luis Javier González<sup>2</sup>; Jesús A. Beltrán<sup>1</sup>; Carlos A. Brizuela<sup>1</sup>; Alexei Licea-Navarro<sup>1</sup>; <sup>1</sup>*CICESE, Carretera Ensenada-Tijuana 3918, México*; <sup>2</sup>*Laboratorio de Espectrometría de Masas, Departamento de Proteómica, La Habana, Cuba., La Habana, Cuba*
- 13 **Metapeptidomics Data Processing Pipe-Line: Application to the Study of Function of Gut Microbiome in Chronic Kidney Disease**; Oleg Karaduta<sup>1</sup>; Boris Zybaylov<sup>1</sup>; <sup>1</sup>*UAMS, Little Rock, AR*
- 14 **Analysis of Xylem Tissue and Sap Proteome of Grape Reveal Possible Tolerance Mechanism to Pierce Disease**; Chelsea Kendall<sup>1</sup>; Ramesh Katm<sup>2</sup>; <sup>1</sup>*Florida A&M University, Tallahassee, FL*; <sup>2</sup>*Florida AM University, Tallahassee, FL*
- 15 **Rapid Solid Phase Extraction of Peptides from Biofluids Utilizing Automated Liquid Handler with Dispersive Pipette Extraction**; Lim Lee<sup>1</sup>; Todd Mullis<sup>1</sup>; <sup>1</sup>*IMCS, Columbia, South Carolina*
- 16 **Lithium Modulation of Regulated Neuropeptide Secretion in Adrenal Medullary Chromaffin Cells of the Sympathetic Nervous System**; Christopher B. Lietz<sup>1</sup>; Thomas Toneff<sup>1</sup>; David J. Gonzalez<sup>1</sup>; Vivian Hook<sup>1</sup>; <sup>1</sup>*University of California, San Diego, La Jolla, CA*
- 17 **Multifaceted Mass Spectrometric Investigation of Neuropeptide Changes in Blue Crab, *Callinectes sapidus*, in Response to Ocean Acidification**; Yang Liu<sup>1</sup>; Amanda Buchberger<sup>1</sup>; Lingjun Li<sup>1</sup>; <sup>1</sup>*University of Wisconsin-Madison, Madison, Wisconsin*
- 18 **Development of an Integrated Proteomic and Metabolomic Imaging Technique using MALDI-MS**; Ayaka Maeda-Murayama<sup>1</sup>; Ayumi Yamaguchi<sup>1</sup>; Yoshinori Fujimura<sup>1</sup>; Hiroyuki Wariishi<sup>1</sup>; Daisuke Miura<sup>1</sup>; <sup>1</sup>*Kyushu University, Fukuoka, Japan*
- 19 **Novel Proteolytic Peptides Derived From Neurogranin as Potential Biomarkers for Traumatic Brain Injury**; George Sarkis; , *Gainesville, FL*
- 20 **A Bioinformatics Pipeline for Genome Sequence-based Characterization of Neuropeptidomes**; Bruce R. Southey<sup>1</sup>; Elena V. Romanova<sup>1</sup>; Jonathan V. Sweedler<sup>1</sup>; Sandra L. Rodriguez-Zas<sup>1</sup>; <sup>1</sup>*University of Illinois, Urbana, IL*
- 21 **Characterization of Neuropeptide-amidating Enzymes in *Caenorhabditis elegans* by Mass Spectrometry**; Sven Van Bael<sup>1</sup>; Jan Watteyne<sup>1</sup>; Kurt Boonen<sup>1</sup>; Wouter De Haes<sup>1</sup>; Liliane Schoofs<sup>1</sup>; Steven J. Husson<sup>2</sup>; Liesbet Temmerman<sup>1</sup>; <sup>1</sup>*KU Leuven, Leuven, Belgium*; <sup>2</sup>*University of Antwerp, Antwerp, Belgium*
- 22 **Mass Spectrometry Based Structural Characterization of Spider Peptide Ph<sup>1</sup>**; Kelly Wormwood<sup>1</sup>; Armand Ngounou Wetie<sup>1</sup>; Marcus Vinicius Gomez<sup>2</sup>; Costel Darie<sup>1</sup>; <sup>1</sup>*Clarkson University, Potsdam, NY*; <sup>2</sup>*Institute of Education and Research Santa Casa Belo Horizonte-Laboratory of Toxins, Belo Horizonte, Brazil*



**FRIDAY, JANUARY 20**

**8:10 - 10:10 pm**

**POSTER SESSION I**

*Water's Edge*

*Poster Session I: Setup up by 7:00 pm on Thursday*

*Remove at 10:00 pm on Friday*

- 23 **Development of a Fast Enzymatic Digestion Protocol for Characterization of Modified Human Insulin;** Rong-Sheng Yang<sup>1</sup>; Fanyu Meng<sup>1</sup>; Weijuan Tang<sup>1</sup>; Huaming Sheng<sup>1</sup>; Li-Kang Zhang<sup>1</sup>; Bing Mao<sup>1</sup>; <sup>1</sup>*Merck Research Laboratories, Rahway, NJ*
- 24 **Discovery and Identification of O-Glycosylated Signaling Peptides from Mouse Pancreatic Islets;** Qing Yu<sup>1</sup>; Alejandra Canales<sup>1</sup>; Matthew S Glover<sup>1</sup>; Rahul Das<sup>1</sup>; Yang Liu<sup>1</sup>; Mark P Keller<sup>1</sup>; Alan D Attie<sup>1</sup>; Lingjun Li<sup>1</sup>; <sup>1</sup>*University of Wisconsin-Madison, Madison, Wisconsin*

SATURDAY, JANUARY 21

8:10 - 10:10 pm

POSTER SESSION II

*Water's Edge*

*Poster Session II: Setup by 8:30 am on Saturday*

*Remove by 10:15 am on Sunday*

- 01 **A Novel Triple Quadrupole Mass Spectrometry Method for the Quantitative Measurement of Free 4-HNE and 4-HHE In Cells and Tissues;** Hadi Ali<sup>1</sup>; Kristofer Fritz<sup>1</sup>; <sup>1</sup>*University of Colorado Denver, Aurora, CO*
- 02 **The Missing Link – Bioactive Micropeptides as By-products of Cellular Processes – Discovery by a Bioinformatics Approach;** Stephen Barnes<sup>1</sup>; J Edwin Blalock<sup>1</sup>; Chiquito Crasto<sup>2</sup>; <sup>1</sup>*University of Alabama at Birmingham, Birmingham, AL*; <sup>2</sup>*Center for Biotechnology and Genomics, Texas Tech University, Lubbock, TX*
- 03 **Microscope Ion Imaging of Complex Surfaces and Biological Samples Using the Pixel Imaging Mass Spectrometry Camera;** Robert Burleigh<sup>1</sup>; Mark Brouard<sup>1</sup>; Michael Burt<sup>1</sup>; Ang Guo<sup>1</sup>; Steve Thompson<sup>2</sup>; <sup>1</sup>*Physical & Theoretical Chemistry department, University of Oxford, Oxford, UK*; <sup>2</sup>*SAI Manchester, Manchester, UK*
- 04 **Mass Spectrometric Quantitation and Imaging of Neuropeptide Expression Levels in Crustacean Tissue and Circulating Fluid Resulting from Food Intake;** Kellen DeLaney<sup>1</sup>; Lingjun Li<sup>1</sup>; <sup>1</sup>*University of Wisconsin-Madison, Madison, WI*
- 05 **Prostate Cancer-associated Peptide and Glycan Co-localizations in FFPE Tissues by MALDI-FTICR Imaging Mass Spectrometry;** Richard R Drake<sup>1</sup>; Alyson Black<sup>1</sup>; Kim Norris-Caneda<sup>1</sup>; Peggi M Angel<sup>1</sup>; <sup>1</sup>*Medical University of South Carolina, Charleston, SC*
- 06 **Structure-specific Peptide Transmission and Processing in a Model of Parkinson's Disease and L-DOPA-induced dyskinesia;** Elva Fridjonsdottir<sup>1</sup>; Anna Nilsson<sup>1</sup>; Henrik Wadensten<sup>1</sup>; Alan Crossman<sup>2</sup>; Per Svenningsson<sup>3</sup>; Erwan Bezard<sup>4</sup>; Per André<sup>1</sup>; <sup>1</sup>*Uppsala University, Uppsala, Sweden*; <sup>2</sup>*Motac Neuroscience, Manchester, UK*; <sup>3</sup>*Karolinska Institutet, Stockholm, Sweden*; <sup>4</sup>*Université de Bordeaux, Bordeaux, France*
- 07 **The PepSAVI-MS pipeline for Natural Product Bioactive Peptide Discovery;** Leslie M. Hicks<sup>1</sup>; Christine L. Kirkpatrick<sup>1</sup>; David Pritchard<sup>1</sup>; Nicole C. Parsley<sup>1</sup>; Yufeng Liu<sup>1</sup>; David W. Hoskin<sup>2</sup>; Lindsey N. Shaw<sup>3</sup>; <sup>1</sup>*UNC - Chapel Hill, Chapel Hill, NC*; <sup>2</sup>*Dalhousie University, Halifax, Canada*; <sup>3</sup>*University of South Florida, Tampa, FL*
- 08 **Empty**
- 09 **Automated Differential Analysis for Peptide Components in Biological Matrixes;** Serhiy Hnatyshyn<sup>1</sup>; Asoka Ranasinghe<sup>1</sup>; Andrew Worth<sup>2</sup>; Adrienne Tymiak<sup>1</sup>; <sup>1</sup>*BMS Co., Princeton, NJ*; <sup>2</sup>*BMS Co., Wallingford, CT*
- 10 **Zebrafish Peptidomics: Comparison of Peptide Extraction Methods;** Kristien A. Van Camp<sup>1</sup>; Geert Baggerman<sup>1, 2</sup>; Ronny Blust<sup>1</sup>; Steven J. Husson<sup>1</sup>; <sup>1</sup>*Systemic Physiological & Ecotoxicological Research (SPHERE), University of Antwerp, Antwerp, Belgium*; <sup>2</sup>*Flemish Institute for Technological Research (VITO), Mol, Belgium*
- 11 **Identifying Isomerization and Epimerization in Peptides from Crystallins with Radical Directed Dissociation;** Ryan R. Julian<sup>1</sup>; Yana Lyon<sup>1</sup>; <sup>1</sup>*University of California, Riverside, Riverside, CA*
- 12 **Screening and Synthesis of MALDI Matrix towards Phosphopeptidomics ;** Chihiro Kawano<sup>1</sup>; Takanori Ishii<sup>1</sup>; Yoshinori Fujimura<sup>1</sup>; Mitsuru Shindo<sup>1</sup>; Hiroyuki Wariishi<sup>1</sup>; Daisuke Miura<sup>1</sup>; <sup>1</sup>*Kyushu University, Fukuoka, Japan*

**SATURDAY, JANUARY 21**

**8:10 - 10:10 pm**

**POSTER SESSION II**

*Water's Edge*

*Poster Session II: Setup by 8:30 am on Saturday*

*Remove by 10:15 am on Sunday*

- 13 **Optimization of LC-MS and MALDI-MSI Techniques for the Identification and Characterization of Peptides in *Medicago truncatula*.**; Caitlin Keller<sup>1</sup>; Erin Gemperline<sup>2</sup>; Alyssa Eisold<sup>1</sup>; Junko Maeda<sup>1</sup>; Dhileepkumar Jayaraman<sup>1</sup>; Michael R. Sussman<sup>1</sup>; Jean-Michel Ané<sup>1</sup>; Lingjun Li<sup>1</sup>; <sup>1</sup>*University of Wisconsin-Madison, Madison, WI*; <sup>2</sup>*Dow AgroSciences, Indianapolis, IN*
- 14 **Natural Product Bioactive Peptide Discovery using the PepSAVI-MS Pipeline;** Christine L. Kirkpatrick<sup>1</sup>; David Pritchard<sup>1</sup>; Nicole C. Parsley<sup>1</sup>; Leslie M. Hicks<sup>1</sup>; <sup>1</sup>*University of North Carolina at Chapel Hill, Chapel Hill, NC*
- 15 **Peptide Epitope Characterization of Human  $\beta$ -Galactosidase by online SPR - Affinity Mass Spectrometry;** Zdenek Kukacka<sup>1,2</sup>; Marius Iurascu<sup>1,2</sup>; Mary Murphy<sup>3</sup>; Jeff Bornheim<sup>3</sup>; Lorenzo Altamore<sup>4</sup>; Anna Maria Papini<sup>4,5</sup>; Michael Przybylski<sup>1,2</sup>; <sup>1</sup>*Steinbeis Centre Biopolymer Analysis and Biomedical Mass Spectrometry, Ruesselsheim am Main, Germany*; <sup>2</sup>*University of Konstanz, Konstanz, Germany*; <sup>3</sup>*Reichert-Ametek Technologies, Buffalo*; <sup>4</sup>*University of Florence, Florence, Italy*; <sup>5</sup>*University of Cergy-Pontoise, Cergy-Pontoise, France*
- 16 **Study of Protein Oxidation in Freeze-Dried Cells During Long-Term Storage;** Barbara S. Larsen<sup>1</sup>; Ron Agee<sup>2</sup>; Michael Dauner<sup>3</sup>; Kurt Fenster<sup>2</sup>; Chris Hollard<sup>2</sup>; Cathy Kalbach<sup>3</sup>; Sunny Li<sup>3</sup>; Buffy Stahl<sup>2</sup>; <sup>1</sup>*The DuPont Company, Wilmington, DE*; <sup>2</sup>*DuPont, Madison, WI*; <sup>3</sup>*DuPont, Wilmington, DE*
- 17 **Alteration of Brain Region-resolved Peptidome in Response to Cocaine Intoxication and Withdrawal;** Fengfei Ma<sup>1</sup>; Pingli wei<sup>1</sup>; Jingxin Wang<sup>1</sup>; Vaishali Bakshi<sup>1</sup>; Brian Baldo<sup>1</sup>; Lingjun Li<sup>1</sup>; <sup>1</sup>*Univ of Wisconsin-Madison, Madison, WI*
- 18 **Hydroxyl Radical Footprinting with PLIMB (Plasma-Induced Modification of Biomolecules): A Novel Tool for Structural Mass Spectrometry;** Benjamin B. Minkoff<sup>1</sup>; Joshua Blatz<sup>1</sup>; Daniel Benjamin<sup>1</sup>; Faraz Choudhury<sup>1</sup>; J. Leon Shohet<sup>1</sup>; Michael R. Sussman<sup>1</sup>; <sup>1</sup>*University of Wisconsin-Madison, Madison, WI*
- 19 **Automated Structural Characterization of Therapeutic Cyclic Peptides and Their Metabolites in Drug Discovery;** Asoka Ranasinghe<sup>1</sup>; Serhiy Hnatyshyn<sup>1</sup>; Eugene Ciccimaro<sup>1</sup>; Silvi Chacko<sup>1</sup>; Celia D'Arienzo Celia D'Arienzo<sup>1</sup>; Timothy Olah<sup>1</sup>; Adrienne Tymiak<sup>1</sup>; Marshall M. Siegel<sup>2</sup>; Gary Walker<sup>2</sup>; <sup>1</sup>*Bristol-Myers Squibb Company, Princeton, NJ*; <sup>2</sup>*MS Mass Spec Consultants, Fair Lawn, NJ*
- 20 **Empty**
- 21 **Strategies for Peptidome Characterization in Non-model Species;** Elena V. Romanova<sup>1</sup>; Bruce R. Southey<sup>1</sup>; Stanislav S. Rubakhin<sup>1</sup>; Caroline K. Hu<sup>2,3</sup>; Karen P. Maruska<sup>2</sup>; Russell D. Fernald<sup>2</sup>; Justin S. Rhodes<sup>1</sup>; Neil L. Kelleher<sup>4</sup>; Jonathan V. Sweedler<sup>1</sup>; <sup>1</sup>*University of Illinois at Urbana-Champaign, Urbana-Champaign, IL*; <sup>2</sup>*Stanford University, Stanford, CA, USA*; <sup>3</sup>*Harvard University, Cambridge, MA, USA*; <sup>4</sup>*Northwestern University, Evanston, IL, USA*
- 22 **Investigation of Cellular Chemical Heterogeneity of the Brain Using Mass Spectrometry;** Stanislav Rubakhin<sup>1</sup>; Elizabeth K. Neumann<sup>2</sup>; Troy J. Comi<sup>2</sup>; Thanh D. Do<sup>2</sup>; Jonathan V. Sweedler<sup>2</sup>; <sup>1</sup>*Beckman Institute, UIUC, Urbana, IL*; <sup>2</sup>*Department of Chemistry, University of Illinois, Urbana-Champaign, IL, USA*

**SATURDAY, JANUARY 21**

**8:10 - 10:10 pm**

**POSTER SESSION II**

*Water's Edge*

*Poster Session II: Setup by 8:30 am on Saturday*

*Remove by 10:15 am on Sunday*

- 23 **Improving DESI-MS Analysis of Proteins and Peptides;** Andre Venter<sup>1</sup>; Elahe Honarvar<sup>1</sup>; Wisam Alisawi<sup>1</sup>; Vageesha Gunawardana<sup>1</sup>; <sup>1</sup>*Western Michigan University, Kalamazoo, MI*
- 24 **Pseudomonas aeruginosa Proteomics for Modeling Multispecies Biofilms;** Yeni P Yung<sup>1</sup>; S Lee McGill<sup>2</sup>; Stephanie M Cologna<sup>1</sup>; Hui Chen<sup>1</sup>; Ross P Carlson<sup>2</sup>; Luke Hanley<sup>1</sup>; <sup>1</sup>*University of Illinois at Chicago, Chicago, IL;* <sup>2</sup>*Montana State University, Bozeman, MT*