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Lightning Talks

Posters featured in the Tuesday Lightning Session - Round II and Wednesday Technology and Tips & Tricks are noted.

Biochemical Pathway Elucidation, Tues Poster 01

Tues Poster 01 Phosphoproteomics reveals potential crosstalk between mTORC2 and MAP kinases; Samuel Entwisle¹; Camila Martinez-Calejman²; David Guertin²; Judit Villen¹; ¹University of Washington, Seattle, WA; ²University of Massachusetts Medical Center, Worcester, MA Tuesday Lightning Session

Biomarkers and Targeted MS Assays, Tues Poster 02-04

- Tues Poster 02 Exosomal EphA2 transmits chemoresistance and predicts pancreatic cancer patient responses to therapy; Jia Fan¹; Qian Wei²; Eugene J. Koay³; Yang Liu¹,²; Zhen Zhao⁴; Tony Y. Hu¹,²; ¹Arizona State University, Tempe, AZ; ²Houston Methodist Research Institute, Houston, TX; ³University of Texas M.D. Anderson Cancer Center, Houston, TX; ⁴National Institutes of Health, Bethesda, MD Tuesday Lightning Session
- Tues Poster 03 Development of Protein Biomarkers for Effects of Radiation Exposure using Quantitative Mass Spectrometry; Kate Liu; Elizabeth Singer; Whitaker Cohn; Julian Whitelegge; William McBride; Joseph Loo; UCLA, Los Angeles, CA Tuesday Lightning Session
- Tues Poster 04 A spin column-free permethylation procedure for glycan analysis; Yueming Hu^{1, 2}; Chad R. Borges^{1, 2};

 ¹Arizona State University, Tempe, AZ; ²The Biodesign Institute, Arizona State University, Tempe, AZ Tuesday

 <u>Lightning Session</u>

Chromatin Dynamics, Tues Poster 05-06

- Tues Poster 05 Influence of the gut microbiota on histone modifications in intestinal epithelial cells; Peder J. Lund; Sarah A. Smith; Johayra Simithy; Zuo-Fei Yuan; Kevin Janssen; Gary D. Wu; Benjamin A. Garcia; University of Pennsylvania, Philadelphia, PA Tuesday Lightning Session
- Tues Poster 06 Histone H2A proteolysis during mouse embryonic stem cell differentiation; Mariel Coradin¹; Simone Sidoli^{1, 3}; Kelly Karch^{1, 2}; Benjamin A. Garcia^{1, 2}; **Department of Biochemsitry and Molecular Biophysic, Philadelphia, PA; **2Epigenetics Program, Philadelphia, PA; **3University of Pennsylvania School of Medicine, Philadelphia, PA Tuesday Lightning Session**

Clinical Proteomics, Tues Poster 08-10

- Tues Poster 08 Comparative proteomic analysis of the influence of gender and acid stimulation on normal human saliva using LC/MS/MS; Xiaoping Xiao¹; Yaoran Liu²; Wei Sun¹; Qian Li²; ¹Chinese Academy of Medical Sciences, Beijing, China; ²Peking Union Medical College hospital, Beijing, China Tuesday Lightning Session
- Tues Poster 09 Early detection in urinary proteome for the effective early treatment of bleomycin-induced pulmonary fibrosis in a rat model; <u>Jianqiang Wu</u>¹; Xundou Li¹; Youhe Gao^{1, 2}; **Peking Union Medical College, Beijing, China; **Peking Union Medical College, Beijing, China **Tuesday Lightning Session**
- Tues Poster 10 A Standardized Method to Produce a Digested Yeast Protein Extract Reference Material for Mass Spectrometry; Candice Johnson; Ashley Beasley Green; Karen Phinney; National Institute of Standards and Technology, Gaithersburg, MD

Clinical Proteomics, Tues Poster 11-16

- Tues Poster 11 Quantitative interrogation of large mass spectrometry datasets using a flexible hierarchical organization scheme; Phillip Seitzer¹; Seth Just¹; Susan Ludwigsen¹; Caleb Emmons¹; Brian Searle²; ¹Proteome Software, Portland, Oregon; ²University of Washington, Seattle, WA
- Tues Poster 12 <u>Linear B cell epitope prediction by using high throughput peptide microarrays</u>; Robayet Chowdhury^{1, 2}; Taylor Brown^{1, 2}; Neal Woodbury^{1, 2}; **Innovations in Medicine,The Biodesign Institute, Tempe, Arizona (AZ); **2Arizona State University, Tempe, AZ **<u>Tuesday Lightning Session</u>
- Tues Poster 13 **Methods for estimating false discovery rates in high-resolution peptide spectral library searches;** Zheng Zhang; Yuri Mirokhin; Dmitrii Tchekhovskoi; Sanford Markey; Stephen Stein; *NIST, Gaithersburg, Maryland*
- Tues Poster 14 A multi-level quality control workflow for MS-based proteomics using a complex biological standard; Hossein Fazelinia; Lynn Spruce; Hua Ding; Steven Seeholzer; Children's Hospital of Philadelphia, Philadelphia, PA

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- Tues Poster 15 **GiaPronto: A one-click graph visualization software for proteomics datasets;** Amber K. Weiner^{1, 2}; Simone Sidoli¹; Sharon J. Diskin²; Benjamin A. Garcia¹; ¹University of Pennsylvania School of Medicine, Philadelphia, PA; ²Children's Hospital of Philadelphia, Philadelphia, PA <u>Tuesday Lightning Session</u>
- Tues Poster 16

 The Hybrid Search: A Mass Spectral Library Search Method for Discovery of Modifications in Proteomics; Meghan C. Burke; Yuri A. Mirokhin; Dmitrii V. Tchekhovskoi; Sanford P. Markey; Stephen E. Stein; Mass Spectrometry Data Center, NIST, Gaithersburg, MD Tuesday Lightning Session

High Resolution Mass Spectrometry, Tues Poster 17

Tues Poster 17 Applying DDA methods for global profiling: evaluating DDA acquisition parameters for exhaustive data mining and reproducibility; Scott M. Peterman¹; David Sarracino¹; Shen Luan¹; Amol Prakash²; Bradley J. Hart³; ¹Thermo Fisher Scientific, Cambridge, MA; ²Optys Tech Corporation, SHREWSBURY, MA; ³Thermo Scientific, Trabuco Canyon, CA

High Resolution Mass Spectrometry, Tues Poster 18-22

- Tues Poster 18 RNA Mononucleoside Modification Detection, Quantitation, and Multiplexing by nanoLC-MS/MS; Kevin

 A. Janssen; Ranran Wu; Benjamin A. Garcia; University of Pennsylvania School of Medicine, Philadelphia, PA

 Tuesday Lightning Session
- Tues Poster 19 MetaProt: A Cloud-based Platform to Analyze, Annotate, and Integrate Metabolomics Datasets with Proteomics Information; Howard Choi¹; Vincent Kyi¹; Brian Bleakley¹; Ding Wang¹; Henning Hermjakob²; Peipei Ping¹; ¹NIH BD2K Center at UCLA, Los Angeles, CA; ²EMBL-EBI, Hinxton, UK Tuesday Lightning Session
- Tues Poster 20 Bladder Cancer Metabolomics Using the UPLC/MS-based AbsoluteIDQ p180 Kit; <u>Sri Ramya Donepudi</u>¹; Vasanta Putluri¹; Feng Jin¹; Suman Maity¹; Vadiraj Bhat²; Arun Sreekumar¹; Nagireddy Putluri¹; ¹Baylor College of Medicine, Houston, TX; ²Agilent Technologies, Santa Clara, CA
- Tues Poster 21 Extending an Integrated Reference Tandem Mass Spectral Library for Comprehensive Identification of Metabolites and Bioactive Peptides; Xiaoyu Yang; Pedatsur Neta; Stephen Stein; NIST, Gaithersburg, MD
- Tues Poster 22 Racial Disparity in Bladder Cancer and Identification of Altered Metabolism in African American Compared to European Bladder Cancer; Venkatrao Vantaku¹; Tiffany Dorsey²; Vasanta Putluri¹; Sri Ramya Donepudi¹; Suman Maity¹; Wei Tang²; Feng Jin¹; Danthasinghe Waduge Badrajee Piyarathna¹; Kimal Rajapakshe¹; Shyam Kavuri¹; Vadiraja Bhat³; Seth Lerner¹; Yair Lotan⁴; Wei Liu⁵; Cristian Coarfa¹; Arun Sreekumar¹; Stefan Ambs²; Nagireddy Putluri¹; ¹Baylor College of Medicine, Houston, texas; ²NIH/ACI, Bethesda, MD; ³Agilent Technologies, Santa Clara, CA; ⁴UTSouthwestern, Dallas, TX; ⁵Agios Pharmaceuticals, Boston, MA

Metaproteomics, Tues Poster 23

Tues Poster 23 **Mucosal microbiome and vaccine response in HIV-exposed uninfected African infants;** Suereta Fortuin; Cape Town University., Cape Town, South Africa

New Technologies, Tues Poster 24-37

- Tues Poster 24 Global Identification of Functional Phosphorylation Sites in Saccharomyces cerevisiae; lan Smith; University Of Washington, Seattle, WA Wednesday Tips & Tricks
- Tues Poster 25 Investigations of kinase signaling in cancer metabolism with cell-active, kinase-specific biosensors; Laura Marholz; University of Minnesota, Minneapolis, MN
- Tues Poster 26 **Parallel accumulation serial fragmentation (PASEF) on a novel trapped ion mobility spectrometry** (TIMS) QTOF instrument; Scarlet Beck¹; Heiner Koch¹; Florian Meier¹; Markus Lubeck²; Stephanie Kaspar-Schoenefeld²; Niels Goedecke²; Oliver Raether²; Juergen Cox¹; Matthias Mann¹; ¹Max Planck Institute of Biochemistry, Martinsried/Munich, Germany; ²Bruker Daltonik GmbH, Bremen, Germany
- Tues Poster 27 A Single UHPLC System for both High Flow and Nano Flow LC-MS/MS: Application in Discovery and Targeted Proteomics; Linfeng Wu¹; Alex Zhu²; Paul Goodley¹; Pat Perkins¹; ¹Agilent Technologies, Santa Clara, CA; ²Agilent Technologies, Wilmington, DE Wednesday Tips & Tricks
- Time-Dependent Metabolomics in Systems Biology Context for Mechanism of Action Studies; Akos Vertes¹; Andrew Korte¹; Hang Li¹; Peter Nemes¹; Lida Parvin¹; Sylwia Stopka¹; Sunil Hwang¹; Ziad Sahab¹; Deborah Bunin²; Merrill Knapp²; Andrew Poggio²; Carolyn Talcott²; Brian Davis³; Christine Morton³; Christopher Sevinsky³; Maria Zavodsky³; Nicholas Morris⁴; Matthew Powell⁴; ¹George Washington University, Washington, DC; ²SRI International, Menlo Park, CA; ³GE Global Research, Niskayuna, NY; ⁴Protea Biosciences Inc., Morgantown, WV Wednesday Tips & Tricks

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- Reducing Your Coomassie Footprint: An environmentally friendly protein stain with sensitivity similar Tues Poster 29 to SYPRO Ruby and Deep Purple gel stains; Gary Smejkal; Donald Mousseau; Focus Proteomics, Hudson, Quantification of Protein Stability in Mammalian Tissues; Dan B. Mcclatchy; Nam-Kyung Yu; John R. Yates; Tues Poster 30 The Scripps Research Institute, La Jolla, CA Tues Poster 31 Quantitative Bottom Up Proteomics Using a Novel Scanning Quadrupole Data Independent Acquisition (DIA) Method; Jim Langridge¹; Chris Hughes¹; Lee Gethings¹; Roy Martin²; Keith Richardson¹; Johannes Vissers1; 1Waters Corporation, Wilmslow, UK; 2Waters, Beverly, MA Wednesday Tips & Tricks PCT-HD for Tissue Biopsy Samples: Comparison to a Standard Method.; Vera Gross¹; Peter Hains²; Keith Tues Poster 32 Ashman3; Valentina Valova2; Alexander Lazarev1; 1Pressure BioSciences, Inc., South Easton, MA; 2Children's Medical Research Institute, Westmead NSW, Australia; ³Sciex, Framingham, MA Wednesday Tips & Tricks Tues Poster 33 Quantification of circulating M. tuberculosis antigen peptides allows rapid diagnosis of active disease and treatment monitoring; Chang Liu; Jia Fan; Christopher Lyon; Ye Hu; Arizona State University, Tempe, AZ Wednesday Tips & Tricks Tues Poster 34 A promising alternative to MS2-DIA: lonStar enables large-scale, accurate and extensive quantification with low missing data and false positives; Jun Qu; Xiaomeng Shen; Shichen Shen; SUNY-Buffalo, Buffalo, NY Wednesday Tips & Tricks Tues Poster 35 In-depth quantitation of changes in protein expression levels in complex samples on a Q-TOF instrument using Data-Independent Acquisition (DIA); Stephanie Kaspar-Schoenefeld1: Thomas Kosinski1; Pierre-Olivier Schmit²; Na Parra³; ¹Bruker Daltonik GmbH, Bremen, Germany; ²Bruker Daltonique S.A., Wissembourg, France; ³Bruker Daltonics, Billerica, MA Wednesday Tips & Tricks Tues Poster 36 Developing Novel Biosensors for Serine/Threonine Kinases Involved in Cancer; Joel Zembles; University Of Minnesota, Minneapolis, Minnesota Ultrasensitive Microanalytical CE-nanoESI-MS for Bottom-up Proteomic Characterization of Mouse Tues Poster 37 Hippocampal Neurons; Sam Choi; Eric Corcoran; Marta Zamarbide; M. Chiara Manzini; Peter Nemes; The George Washington University, Washington DC Wednesday Tips & Tricks Pathogen Proteomics, Tues Poster 38-39 Comprehensive proteomics analysis to identify differentially expressed proteins in cells with ASC speck Tues Poster 38 formation; I-Che Chung; Chih-Ching Wu; Yu-Sun Chang; Chang Gung University, Taoyuan, Taiwan Tues Poster 39 Understanding mechanism of action of drug resistance reversal potential of Usnic Acid using proteomic profiling; Sneha Sinha; csir-cimap, Lucknow, India Tuesday Lightning Session Post-Translational Modifications, Tues Poster 40-43 Tues Poster 40 Global proteomic analysis of lysine acetylation during zebrafish embryogenesis; Sunjoo Kim; Oh Kwang Kwon; Sangkyu Lee; BK21 Plus KNU Multi-Omics /Drug Research Team, daegu, South of Korea Turnover profiles of histone post-translational modifications in a myogenic model using SILAC labeling, Tues Poster 41 enzyme networks and trend clustering analysis; Natarajan Bhanu; University of Pennsylvania, Philadelphia, Tues Poster 42 Glycation of Human Serum Albumin Increases Ex Vivo in Poorly Handled Samples: Joshua W. Jeffs^{1, 2}: Chad R. Borges, PhD^{1, 2}; Douglas S. Rehder²; ¹Arizona State University, Tempe, AZ, ²The Biodesign Institute, Arizona State University, Tempe, AZ Tues Poster 43 High throughput and accurate quantitation of phosphoproteomics for biological signaling: Xiaovue Jiang¹; Ryan Bomgarden²; Rosa Viner¹; Andreas Huhmer¹; ¹Thermo Fisher Scientific, San Jose, CA: ²Thermo Fisher Scientific. Rockford. IL Precision Medicine, Tues Poster 44-46
- Tues Poster 44 Fast Second Dimension microflow LC for High-Throughput Deep Proteome Coverage; Randy Arnold¹; Nick Morrice²; Joerg Dojahn³; Christie Hunter¹; ¹SCIEX, Redwood City, CA; ²SCIEX, Warrington, UK; ³SCIEX, Darmstadt, Germany
- Tues Poster 45 **Profiling Biochemical Individuality: Human Personal Omics Profiling (hPOP);** Sara Ahadi¹; Hannes Rost¹; Christie Hunter²; Liang Liang¹; Shannon Rego¹; Orit Dagan-Rosenfeld¹; Denis Salins¹; Mike Snyder¹; *Stanford University, Stanford, CA: *Sciex, Redwood City, CA Tuesday Lightning Session
- Tues Poster 46 **Evidence of Human Antagonistic Auto-antibodies as a Mechanism of Insulin Resistance;** Andrew Lipchik; Anil Narasimha; Michael Snyder; *Stanford University, Stanford, CA* <u>Tuesday Lightning Session</u>

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Protein Quality Control. Tues Poster 47-4	Protein Quality Control, Tues F	Poster 47-48
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- Tues Poster 47 Selection and validation of endogenous retention time standards and quality control peptides for plasma proteomics study; Shenyan Zhang; Vidya Venkatraman; Qin Fu; Ronald Holewinski; Mitra Mastali; Jennifer Van Eyk; Cedars Sinai Medical Center, Los Angeles, CA Tuesday Lightning Session

Proteoform Biology, Tues Poster 49-50

- Tues Poster 49 **Elucidating the Biological Implications of Aluminum Binding to Osteocalcin;** Stephanie Thibert^{1, 2}; Olgica Trenchevska¹; Mario Kratz³; Ian de Boer⁴; Mian Yang¹; Richard Hervig⁵; Peter Williams²; Joshua Jeffs^{1, 2}; Chad Borges^{1, 2}; **IBiodesign Institute, Arizona State University, Tempe, AZ; **2School of Molecular Sciences, ASU, Tempe, AZ; **3Fred Hutchinson Cancer Research Center, Seattle, WA; **4University of Washington, Seattle, WA; **5School of Earth & Space Exploration, ASU, Tempe, AZ Tuesday Lightning Session
- Tues Poster 50 **Novel Algorithm for Quantifying Proteoforms of Tropomyosin;** Amol Prakash¹; Irina Tchernyshyov²; Irene van den Broek²; Vidya Venkatraman²; Scott Peterman³; Jennifer Van Eyk²; ¹Optys Tech Corporation, Shrewsbury, MA; ²Cedars Sinai Medical Center, Los Angeles, CA; ³Thermo Scientific BRIMS, Cambridge, MA

Proteogenomics, Tues Poster 51-57

- Tues Poster 51 Temporal Analysis of Proteome and Transcriptome in Differentiating Human Pancreatic Endocrine Cells identifies Developmentally Regulated Protein Networks.; Ertugrul Cansizoglu¹; Quinn P. Peterson²; Shaojun Tang³; Judith Steen¹; Hanno Steen¹; ¹Harvard Medical School / BCH, Boston, MA; ²Harvard Department of Stem Cell and Regenerative B, Cambridge, MA; ³Georgetown University Medical Center, Washington, DC
- Tues Poster 52 Integrative proteogenomic characterization of colorectal cancer cell lines and primary tumors; Jing Wang¹; Dmitri Mouradov²; Xiaojing Wang¹; Robert Jorissen²; Matthew Chambers³; Lisa Zimmerman³; Suhas Vasaikar¹; Christopher Love²; Shan Li²; Kym Lowes²; Helene Jousset²; Janet Weinstock²; Christopher Yau⁴; John Mariadason⁵, Si Zhiao Shi¹; Yuguan Ban¹; Xi Chen¹; Robert Coffey³, Si Robbert Slebos¹⁰; Antony Burgess², 3; Daniel Liebler³; Bing Zhang¹; Oliver Sieber², Si ¹Baylor College of Medicine, Houston, TX; ¹The Walter and Eliza Hall Institute of Medial Rese, Parkville, Australia; ³The University of Melbourne, Parkville, Australia; ⁴University of Oxford, Oxford, United Kingdom; ⁵Olivia Newton-John Cancer Research Institute, Heidelberg, Australia; 6La Trobe University School of Cancer Medicine, Melbourne, Australia; 7University of Miami Miller School of Medicine, Miami, FL; 8Vanderbilt University School of Medicine, Nashville, TN; 9Veterans Affairs Medical Center, Nashville, TN; 10Moffitt Cancer Center, Tampa, FL Tuesday Lightning Session
- Tues Poster 53 **Validation of Tumor Proteogenomic Annotations**; Anindya Bhattacharya 1,2; Vineet Bafna 1,2; 1UC San Diego, La Jolla, CA; 2UC San Diego, La Jolla, CA Tuesday Lightning Session
- Tues Poster 54 **Proteogenomics:** *in silico* analysis to investigate the low discovery rate of variant peptides in shotgun proteomics; <u>Tung-Shing Lih</u>^{1,2}; Wai-Kok Choong^{1,2}; ChiTing Lai^{2,3}; Chia-Li Han⁴; Yu-Ju Chen²; Ting-Yi Sung¹; ¹Institute of Information Science, Academia Sinica, Taipei, Taiwan; ²Institute of Chemistry, Academia Sinica, Taipei, Taiwan; ³GSB Degree Program, National Taiwan University, Taipei, Taiwan; ⁴School of Pharmacy, Taipei Medical University, Taipei, Taiwan
- Tues Poster 55 **Expression profiling of miRNA, mRNA and protein cargo of myeloid derived suppressor cells and their exosomes**; Catherine Fenselau¹; Lucia Geis-Asteggiante¹; Ashton Belew¹; Nathan Edwards²; Suzanne Ostrand-Rosenberg³; Najib El-Sayed¹; ¹University of Maryland, College Park, MD; ²Georgetown University Medical Center, Washington, DC; ³University of Maryland Baltimore County, Baltimore, MD
- Tues Poster 56 **Proteogenomic Characterization of Drug Resistance in the K562 CML Cell line;** Vinh Nguyen; Laurie Parker; University of Minnesota, Minneapolis, MN
- Tues Poster 57 proBAMsuite, a bioinformatics framework for genome-based representation and analysis of proteomics data; Xiaojing Wang; Baylor College of Medicine, Houston, TX <u>Tuesday Lightning Session</u>

Proteomics in Ageing, Tues Poster 58-61

- Tues Poster 58 Analysis of the Effects of Dietary Signals on Protein Homeostasis; Bradley Naylor; Richard Carson; Monique Speirs; John Price; Brigham Young University, Provo, UT
- Tues Poster 59 Characterization of Cell-Surface, Exosomal, and Secreted Proteins of Senescent Human Fibroblasts by DIA/SWATH; Nathan Basisty; Judy Campisi; Bradford Gibson; Birgit Schilling; Buck Institute for Research on Aging, Novato, CA

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- Tues Poster 60 Proteomic and metabolic characterization of oxidative stress responses using a stem-cell derived multitissue disease model of Age-related Macular Degeneration; <u>Jesse G. Meyer</u>¹; Thelma Y. Garcia¹; Birgit Schilling¹; Arvind Ramanathan¹; Deepak Lamba^{1, 2}; Bradford Gibson^{1, 3}; *** Buck Institute for Research on Aging, Novato, CA; *** University of Washington, Seattle, WA; *** Amgen, Thousand Oaks, CA
- Tues Poster 61 **Monitoring Riboprotein Turnover Kinetics in vivo through Stable Heavy Isotope Labeling.**; Nathan Keyes; Richard Carson; Ryne Peters; Bradley Naylor; John Price; Brigham Young University, Provo, Utah

Proteomics in Drug Development, Tues Poster 62-63

- Tues Poster 62 TargetSeeker-MS: A Bayesian Inference Approach for Drug Target Discovery using Protein Fractionation Coupled to Mass Spectrometry; Mathieu Lavallée-Adam^{1, 2}; Jolene Diedrich^{1, 3}; Alexander Pelletier¹; William Low³; Antonio Pinto³; Salvador Martínez-Bartolomé¹; Michael Petrascheck¹; James Moresco^{1, 3}; John R. Yates¹; The Scripps Research Institute, Lajolla, CA; ²University of Ottawa, Ottawa, Canada; ³Salk Institute for Biological Studies, La Jolla, CA Tuesday Lightning Session
- Tues Poster 63 **Identification of FMS-like tyrosine kinase 3 (FLT3) substrates using KALIP;** Minervo Perez; *University of Minnesota, Minneapolis, MN* **Tuesday Lightning Session**