PROGRAM OVERVIEW

SUN, MARCH 19	MON, MARCH 20	TUES, MARCH 21	WED, MARCH 22
8 am - 7 pm **Registration** *Lobby Level* **Short Courses** **9:00 am - 4:00 pm** Full-Day Course, Day 2 **Design and Analysis of Quantitative Proteomics Experiments** *Grant AB, Lower Level* **9:00 am - 12:00 pm** Morning Short Course **Cross-Linking Mass Spectrometry** *Grant C, Lower Level* **9:00 am - 12:00 pm** Morning Short Course **Glycomics and Glycoproteomics: Basics** *Grant D, Lower Level* **1:00 - 4:00 pm** Afternoon Short Course **Glycomics and Glycoproteomics: Advanced** *Grant D, Lower Level* **1:00 – 4:00 pm** Afternoon Short Course **Stable and Transient Protein-Protein Interactions** *Grant C, Lower Level* **4:30-5:30 pm** Workshop, Open to all **Grantwriting Workshop** *Grant AB, Lower Level*		**6:45 am** Fun Run/Walk Participants go to Conf Reg Desk. Map/info at Reg Desk.	
	8:00 – 8:30 am Early Morning Coffee *Exhibits & Posters, Bivouac Ballroom Lower Level*	**8:00 – 8:30 am** Early Morning Coffee *Exhibits & Posters, Bivouac Ballroom Lower Level*	**8:00 – 8:30 am** Early Morning Coffee *Presidential Foyer, 2nd Level*
	8:30 – 9:20 am **Plenary Lecture** Rommie Amaro *Presidential Ballroom, 2nd Level*	**8:30 – 9:20 am** **Award Presentations + Talks** Alexey Nesvizshkii Peter Nemes, Christine Vogel *Presidential Ballroom, 2nd Level*	**8:30 – 9:20 am** **Tips & Tricks Talks** *Presidential Ballroom, 2nd Level*
	9:20 – 9:50 am Coffee Break *Exhibits & Posters, Bivouac Ballroom Lower Level*	**9:20 – 9:50 am** Coffee Break *Exhibits & Posters, Bivouac Ballroom Lower Level*	**9:20 – 9:50 am** Coffee Break, *Presidential Foyer, 2nd Level*
	9:50 – 11:10 am Parallel Sessions (2) **Cardiovascular** *Presidential Ballroom, 2nd Level* **Neurological Diseases** *Palm Court, Lobby Level*	**9:50 – 11:10 am** Parallel Sessions (2) **Computation and Big Data** *Presidential Ballroom, 2nd Level* **Metabolomics** *Palm Court, Lobby Level*	**9:50 – 11:10 am** Parallel Sessions (2) **Precision Medicine and Metabolic Diseases** *Presidential Ballroom, 2nd Level* **Proteoform Biology** *Palm Court, Lobby Level*
	11:10 am – 12:00 pm Plenary Session **Lightning Talks – Round I** *Presidential Ballroom, 2nd Level*	**11:10 am – 12:00 pm** Plenary Session **Lightning Talks – Round II** *Presidential Ballroom, 2nd Level*	**11:10 am – 12:00 pm** **Plenary Lecture** Leslie Thompson *Presidential Ballroom, 2nd Level*
	12:00 – 1:30 pm **Lunch Seminars** Bruker, *Grant AB, Lower Level* Thermo, *Grant CD, Lower Level*	**12:00 – 1:30 pm** **Lunch Seminar** SCIEX, *Grant AB, Lower Level* Waters, *Grant CD, Lower Level*	
	1:30 - 3:00 pm **Monday Posters** *Exhibits & Posters, Bivouac Ballroom Lower Level*	**1:30 - 3:00 pm** **Tuesday Posters** *Exhibits & Posters, Bivouac Ballroom Lower Level*	
	3:00 – 4:20 pm Parallel Sessions (2) **Cancer Moonshot** *Presidential Ballroom, 2nd Level* **Glycans and Vaccines** *Palm Court, Lobby Level*	**3:00 – 4:20 pm** Parallel Sessions (2) **New Technologies** *Presidential Ballroom, 2nd Level* **Top Down Analysis** *Palm Court, Lobby Level*	
	4:30 – 5:50 pm Parallel Sessions (2) **Metaproteomics and Proteome Diversity** *Presidential Ballroom, 2nd Level* **Disease and Protein-Protein Proximity** *Palm Court, Lobby Level*	**4:30 – 5:50 pm** Parallel Sessions (2) **Single Cell Proteomics** *Presidential Ballroom, 2nd Level* **Cross-Linking/Molecular Painting** *Palm Court, Lobby Level*	
6:00 – 7:00 pm **Opening Session Plenary Lecture** Eric Topol *Presidential Ballroom, 2nd Level*	**5:50 – 6:30 pm** **Mixer** with Exhibitors *Bivouac Ballroom, Lower Level* Munchies & Drinks All are welcome! Grab something to eat before the workshops.	**6:00 – 9:00 pm** **AACC-US HUPO Joint Event + Program** 6-7pm Dinner reception + cash bar in *Presidential Foyer, 2nd Level* 7-9pm Program, *Presidential Ballroom, 2nd Level*	
7:00 – 8:30 pm **Opening Reception** *with Exhibitors, Bivouac Ballroom, Lower Level* Food & Drinks All are welcome!	**6:30 – 8:00 pm** Evening Workshops (3) **Creating Sustainable Value for Your Datasets (BD2K/LINCS)**, *Presidential Ballroom, 2nd Level* **How to Obtain a Faculty Position and Keep It**, *Grant AB, Lower Level* **Implementing Strategies of the HPP**, *Palm Court, Lobby Level*		

SUNDAY, MARCH 19

4:30 – 5:30 PM: SPECIAL WORKSHOP
GRANTWRITING, *Grant Hall AB (Lower Level)*
Presented by Peipei Ping (UCLA) and Ileana Cristea (Princenton University)

In the current competitive landscape for grant funding developing a strategy for successful grant writing is critical. Early career academics will learn techniques and gain insight into what is needed to submit a successful grant. Even those with past experience will benefit from fresh perspectives to bring to their next application.

Welcome to the Opening Session

PRECISION PROTEOMICS FOR DISCOVERY AND HEALTH
Session Chair: Peipei Ping (UCLA)

6:00 – 6:10 pm Opening Remarks

6:10 – 7:00 pm **Digital Medicine Revolution**; Eric Topol, *MD, PhD, Director, Scripps Translational Science Institute*

7:00 – 8:30 PM: **OPENING RECEPTION**, *Bivouac Ballroom (Lower Level)*

All attendees are invited to join us for food, drink, and connecting with colleagues.

MONDAY, MARCH 20

8:00 – 8:30 AM: **EARLY MORNING COFFEE & PASTRIES**, *Bivouac Ballroom (Lower Level)*

8:30 - 9:20 AM: **PLENARY LECTURE**, *Presidential Ballroom (2nd Level)*

8:30 - 9:20 am **Bringing Molecular Modeling to the Mesoscale**; Rommie E. Amaro; *Director, National Biomedical Computation Resource, Co-Director, Drug Design Data Resource (D3R), University of California, San Diego*

9:20 - 9:50 AM: **COFFEE BREAK**, *Bivouac Ballroom (Lower Level)*
Refresh and visit with the exhibitors.

9:50 – 11:10 AM: PARALLEL SESSION
CARDIOVASCULAR DISEASE, *Presidential Ballroom (2nd Level)*
Session Chair: Merry Lindsey (University of Mississippi)

9:50-10:15 am **New Technologies for Advancing Stem Cell Derived Cardiomyocytes in Drug Discovery, Disease Modeling, and Regenerative Medicine**; Matthew Waas; Chelsea Fujinaka; Theodore Keppel; Ranjuna Weerasekera; Rebekah Gundry; *Medical College of Wisconsin, Milwaukee, WI*

10:15-10:40 am **Top-Down Proteomics of Myofilaments in Heart Failure**; Ying Ge; *Uw-Madison, Madison, WI*

10:40-10:55 am **DIA-MS Reveals Altered Mitochondrial Protein Profile and Activation of mTOR2-signaling during Aneurysm Progression in a Mouse Model of Marfan Syndrome**; Sarah Parker[1]; Aleksander Stotland[1]; Elena Gallo-MacFarlane[2]; Nicole Wilson[2]; Roberta Gottlieb[1]; Hal Dietz[2]; Jennifer VanEyk[1]; *[1]Cedars Sinai Medical Center, Los Angeles, CA; [2]Johns Hopkins University, Baltimore, MD*

10:55-11:10 am **Redox Proteome Dynamics in Mouse Heart During Maladaptive Cardiac Remodeling**; Jie Wang[1, 2]; Quan Cao[1, 2]; Dominic Ng[1, 2]; Peipei Ping[1, 2]; *[1]Department of Physiology, UCLA, Los Angeles, CA; [2]The NIH BD2K Center at UCLA, Los Angeles, CA*

9:50 – 11:10 AM: PARALLEL SESSION
NEUROLOGICAL DISEASES, *Palm Court (Lobby Level)*
Session Chair: Lingjun Li (University of Wisconsin)

9:50-10:15 am **Brain Region and Pathological Stage Specific Proteome-Wide Alterations in Mouse Models of Alzheimer's Disease Like Pathology.**; Jeffrey Savas[1]; Yi-Zhi Wang[1]; Laura DeNardo-Wilke[2]; Salvador Martinez de Bartolome Izquierdo[3]; Daniel McClatchy[3]; Natalie Shanks[4]; Timothy Hark[1]; Kira Cozzolino[1]; Mathieu Lavallee-Adam[3]; Sung Kyu Park[3]; Jeffery Kelly[3]; Edward Koo[4]; Andrew Dillin[5]; Terunaga Nakagawa[6]; Eliezer Masliah[4]; Anirvan Ghosh[4]; John Yates[3]; *[1]Northwestern University, Chicago, Illinois; [2]Stanford University, Stanford, CA; [3]Scripps Research Institute, La Jolla, CA; [4]University of California, San Diego, La Jolla, CA; [5]University of California, Berkeley, Berkeley, CA; [6]Vanderbilt University School of Medicine, Nashville, TN*

10:15-10:40 am **Spatio-Temporal Profile of Synaptic Protein Complexes and Their Role in Brain Disease**; Marcelo Coba; *Zilkha Neurogenetic Institute, Keck School Of Medi, ,*

10:40-10:55 am **Elucidation of Novel Proteoforms of Superoxide Dismutase (SOD1) in Sporadic ALS Patients**; David Muddiman; Philip Loziuk; *North Carolina State University, Raleigh, NC*

10:55-11:10 am **A Multi-Network Approach to Define Pathways Altered in Alzheimer's Disease and Parkinson's Disease**; Lingyan Ping; Duc Duong; Eric Dammer; Marla Gearing; James Lah; Allan Levey; Nicholas Seyfried; *Emory University School of Medicine, Atlanta, GA*

Dr. Savas' talk is sponsored by

Cambridge Isotope Laboratories, Inc.

11:10 AM – 12:00 PM: PLENARY SESSION
LIGHTNING TALKS – ROUND I, *Presidential Ballroom (2nd Level)*
Robert Moritz and Robert Rivers, presiding
High-energy (and brief) presentations selected from poster presentations. 90 seconds max or face the music!

Presentation Order

Mon 1 **A 3-D Proteome Atlas is an Important Component to the Cancer Moonshot**; Kat Tiemann; Carolina Garri; Ruth Alvarez; Sang Bok Lee; Jonathan Katz; Kian Kani; USC, Los Angeles, CA; **See Monday Poster 15**

Mon 2 **A kinetic Proteomics Approach to Identify Targets of Autophagy in Cancer and Recover Chemotherapeutic Effects**; Monique Paré Speirs; Bradley Naylor; John C. Price; Brigham Young University, Provo, UT; **See Monday Poster 11**

Mon 3 **A Novel Method of Quantifying Protein Methylation Utilizing SWATH-MS**; Aaron Robinson; Sarah Parker; Vidya Venkatraman; Ronald Holewinski; Shelly Lu; Jennifer Van Eyk; Cedars Sinai Medical Center, Los Angeles, CA; **See Monday Poster 50**

Mon 4 **CE-MS-based Profiling of BNP Proteoforms from Plasma in One Hour**; Koen Raedschelders; Shenyan Zhang; Jennifer Van Eyk; Cedars-Sinai Medical Center, Los Angeles, CA; **See Monday Poster 62**

Mon 5 **Glycomics and Proteomics of Myelinated versus Non-myelinated Regions of Human Brain Tissue**; Manveen Sethi[1]; Harry Pantazopoulos[2, 3]; Sabina Berretta[2, 3]; Joseph Zaia[1]; [1]Boston University School of Medicine, Boston, MA; [2]Department of Psychiatry, Harvard Medical School, Boston, MA; [3]Translational Neuroscience Laboratory, McLean Hosp, Belmont, MA; **See Monday Poster 41**

Mon 6 **Histone H3 Mutations Drive Aberrant Chromatin-reader Interactions in Diffuse Intrinsic Pontine Glioma**; Dylan M. Marchione; Mariel Coradin; Simone Sidoli; Zuofei Yuan; Benjamin A. Garcia; University of Pennsylvania School of Medicine, Philadelphia, PA; **See Monday Poster 53**

Mon 7 **Investigating the Mechanism of AGE-mediated Cancellation of Calorie Restriction Benefits**; Richard Carson; Bradley Naylor; John Price; Brigham Young University, Provo, UT; **See Monday Poster 59**

Mon 8 **LinkedOmics : A Web-based Platform for Cancer Multi-omics Data Integration and Comparison**; Suhas Vasaikar[1]; Peter Straub[2]; Jing Wang[1]; Bing Zhang[1]; [1]Baylor College of Medicine, Houston, Texas; [2]Vanderbilt University, Nashville, TN; **See Monday Poster 12**

Mon 9 **Mass Spectrometry-based Proteomic and PTM Studies Provide Insight into the Molecular Mechanisms of Restenosis**; Matthew Glover[1]; Qing Yu[1]; Bowen Wang[1]; Xudong Shi[1]; Lian-Wang Guo[1]; K. Craig Kent[1, 2]; Lingjun Li[1]; [1]University of Wisconsin-Madison, Madison, WI; [2]The Ohio State University, Columbus, OH; **See Monday Poster 24**

Mon 10 **Online 2D-NCFC-RP/RPLC System for Efficient and Comprehensive Proteomic Analyses**; Sang-Won Lee; Hangyeore Lee; Jeong Eun So; Korea University, Seoul, Korea, Republic of; **See Monday Poster 48**

Mon 11 **Probing Translational Regulation in Spinal Muscular Atrophy (SMA) using Integrated Proteomics and Transcriptomics Approaches**; Amanda Guise[1]; Shaojun Tang[2]; Ruchi Chauhan[1]; Constantin van Outryve d'Ydewalle[4]; Hendrik Wesseling[1]; Charlotte Sumner[4]; Martin Hemberg[3]; Hanno Steen[1]; Judith S; [1]Boston Children's Hospital, Harvard Medical School, Boston, MA; [2]Georgetown University, Washington, DC; [3]Wellcome Trust Sanger Institute, Cambridge, UK; [4]Johns Hopkins School of Medicine, Baltimore, MD; **See Monday Poster 40**

Mon 12 **Proteome-wide Acetylation Dynamics Revealed by Metabolic Labeling and Quantitative Proteomics**; Yekaterina Kori[1]; Simone Sidoli[1]; Zuo-Fei Yuan[1]; Xiaolu Zhao[2]; Benjamin A. Garcia[1]; [1]University of Pennsylvania School of Medicine, Philadelphia, Pennsylvania; [2]Wuhan University, Wuhan, China; **See Monday Poster 49**

Mon 13 **Proteomics for Systems Biology: Defining the Cross-talk between Signaling Pathways and chromatin modifications occurring during treatment of acute myeloid leukemia**; Simone Sidoli; Pamela J. Sung; Katarzyna Kulej; Martin Carroll; Benjamin A. Garcia; University of Pennsylvania, Philadelphia, PA; **See Monday Poster 30**

Mon 14 **Proteomics Studies in Synergistic Protection from Retinal Degeneration by Combined Stem Cell Therapies**; Dawn Z Chen[1, 3]; Changqing Zhang[2]; Yang Gao[1]; Bin Lu[2]; Sergey Girman[2]; Benjamin Bakondi[2]; Weston Spivia[1]; Jennifer E. Van Eyk[1]; Shaomei Wang[2, 3]; [1]Advanced Clinical Biosystems Research Institute, Los Angeles, CA; [2]Board of Governors Regenerative Medicine Institute, Los Angeles, CA; [3]David Geffen School of Medicine, UCLA, Los Angeles , CA; **See Monday Poster 46**

Mon 15 **Proteostasis Interactome Remodeling of Amyloidogenic Proteins Governs Improved ER Quality Control Decisions**; Lars Plate[1]; Joseph C. Genereux[2]; R. Luke Wiseman[1]; Jeffery W. Kelly[1]; [1]The Scripps Research Institute, La Jolla, CA; [2]University of California, Riverside, Riverside, CA; **See Monday Poster 58**

Mon 16 **Quantitative Analysis of Newly Synthesized Proteins during Maladaptive Cardiac Remodeling**; Yuanhui Ma[1]; Daniel B. McClatchy[1]; David Liem[2]; Dominic Ng[2]; Peipei Ping[2]; John R. Yates[1]; [1]The Scripps Research Institute, La Jolla, CA; [2]University of California at Los Angeles, Los Angeles, CA; **See Monday Poster 27**

Mon 17 **Quantitative Drug Distribution Mapping in Tissues using IR-MALDESI Mass Spectrometry Imaging**; Mark Bokhart[1]; Elias Rosen[2]; Corbin Thompson[2]; Ken Garrard[1]; Angela Kashuba[2]; David Muddiman[1]; [1]NCSU, Raleigh, NC; [2]UNC Eshelman School of Pharmacy, Chapel Hill, NC; **See Monday Poster 39**

Mon 18 **Quantitative Phosphoproteomic and Proteomic Analysis of Swine Hearts Revealed Novel Insights into Myocardial Stunning**; Xue Wang[1]; Xiaomeng Shen[2]; Rebeccah Young[3]; Jun Li[2]; Shichen Shen[2]; John Canty[3]; Jun Qu[2]; [1]Roswell Park Cancer Institute, Buffalo, NY; [2]SUNY at buffalo, Buffalo, NY; [3]Clinical and Translational Research Center, Buffalo, NY; **See Monday Poster 29**

Mon 19 **Semi-Automated Methods in Skyline and New MS/MS Rules to Define and Assign Xylosylated *N*-Linked Glycans in Populus Trichocarpa**; Elizabeth S. Hecht[1]; Philip Loziuk[1]; Brian Pratt[2]; Brendan Maclean[2]; Mike Maccoss[2]; David Muddiman[1]; [1]North Carolina State University, Raleigh, NC; [2]University of Washington Genome Science, Seattle, WA; **See Monday Poster 35**

Mon 20 **Time-resolved Global and Chromatin Proteomics during Herpes Simplex Virus (HSV-1) Infection**; Katarzyna Kulej[1]; Daphne D. Avgousti[1]; Simone Sidoli[2]; Christin Herrmann[1]; Ashley N. Della Fera[1]; Eui Tae Kim[1]; Benjamin A. Garcia[2]; Matthew D. Weitzman[1]; [1]Children's Hospital of Philadelphia, Philadelphia, PA; [2]University of Pennsylvania, Philadelphia, PA; **See Monday Poster 31**

Mon 21 **Transcriptome and Proteomic Profiling of a Drosophila Seizure Model Reveals Glial Regulation of Key Synaptic Proteins**; Kevin Hope[1]; Daniel Johson[3]; Xiaoyue Jiang[2]; Andreas Huhmer[2]; Daniel Lopez-Ferrer[2]; Lawrence Reiter[1, 4]; [1]Department of Neurology, UTHSC, Memphis, TN; [2]Thermo Fisher Scientific, San Jose, CA; [3]Molecular Bioinformatics Core, UTHSC, Memphis, TN; [4]Department of Anatomy and Neurobiology, UTHSC, Memphis, TN; **See Monday Poster 43**

Mon 22 **Unambiguously and Comprehensively Resolving Cancerous Adenocarcinoma and Stromal Proteomes and their Interactive Signaling without Cell Sorting in Patient-derived Xenograft Models**; Shichen Shen[1]; Jun Li[1]; Ninfa L. Straubinger[1]; Xue Wang[2]; Michelle K. Greene[4]; Christopher J. Scott[4]; Wen Wee Ma[3]; Robert M. Straubinger[1]; Jun Qu[1]; [1]SUNY at Buffalo, Buffalo, NY; [2]Roswell Park Cancer Institute, Buffalo, NY; [3]Mayo Clinic, Rochester, MN; [4]Queen's University, Belfast, Northern Ireland; **See Monday Poster 14**

Mon 23 **Unraveling the Complexity of the Gut-Brain Axis N-Glycoproteome**; Mariana BarbozaGardner[1]; Gege Xu[2]; Melanie Gareau[1]; Helen Raybould[1]; Carlito Lebrilla[2, 3]; [1]Department of Anatomy, Physiology & Cell Biology, UC Davis, CA; [2]Department of Chemistry, UC Davis, CA; [3]Department of Biochemistry, School of Medicine, UC Davis, California; **See Monday Poster 47**

Mon 24 **Urinary Protein Changes in Walker 256 Tumor-bearing Rats**; Jianqiang Wu[1]; Youhe Gao[1, 2]; [1]Peking Union Medical College, Beijing, China; [2]Beijing Normal University, Beijing, China; **See Monday Poster 1**

Mon 25 **Vascular Contributions of Plasma Lipoproteins to Alzheimer's Diseases**; Danni Li; Fangying Huang; U of Minnesota, Minneapolis, MN; **See Monday Poster 42**

MONDAY LUNCH SEMINARS

Open to all attendees, but RSVP strongly encouraged (at booth or online) in advance as space is limited.

12:00 – 1:30 PM: **BRUKER**, *Grant Hall AB (Lower Level)*

If you have not already registered in advance, please stop by booth Sunday night or Monday morning to RSVP.

Trapped Ion Mobility Mass Spectrometry (TIMS-MS) for Shotgun Proteomics
Scarlet Beck*, Max Planck Institute of Biochemistry, Martinsried (near Munich), Germany*

Proteomic Profiling for Biomarker Discovery and Validation using a Bruker Impact II Q-TOF
Gary H. Kruppa, Ph. D.*, Vice President 'Omics, Bruker Daltonics Inc., Billerica, MA*

12:00 – 1:30 PM: **THERMO SCIENTIFIC**, *Grant Hall CD (Lower Level)*

If you have not already registered in advance, please stop by booth Sunday night or Monday morning to RSVP.

The Essential Roles of System Qualifications, Inter-Sample QC and Intra-Sample QC in 'omic Proteomics
M. Arthur Moseley, Ph.D. *Associate Research Professor, Department of Medicine, Duke University School of Medicine*

1:30 – 3:00 PM: M**ONDAY POSTER SESSION**, *Bivouac Ballroom (Lobby Level)*

3:00 – 4:20 PM: PARALLEL SESSION
CANCER MOONSHOT, *Presidential Ballroom (2nd Level)*
Session Chair: Henry Rodriguez (NIH, NCI)

3:00-3:25 pm **Quantitative Mass Spectrometry Analysis of Immune Checkpoint Protein Expression and N-Glycosylation in Human Melanoma**; Carlos Morales-Betanzos; Hyoungjoo Lee; Paula Gonzalez-Ericsson; Justin Balko; Douglas Johnson; Lisa Zimmerman; Daniel Liebler; *Vanderbilt Univ School of Medicine, Nashville, TN*

3:25-3:50 pm **Using Colon Organoids to Explore Cancer Biology**; Katelyn Ludwig[1]; Xin Liu[1]; Jessica Lukowski[1]; Colin Flinders[2]; Shannon Mumenthaler[2]; Heinz-Joseph Lenz[2]; Amanda Hummon[1]; *[1]University of Notre Dame, Notre Dame, IN; [2]University of Southern California, Los Angeles, CA*

3:50-4:05 pm **Genomic Determinants of Protein Abundance Variation in Colorectal Cancer Cell Lines**; Jyoti Choudhary; *Wellocme Trust Sanger Institute, Cambridge, United Kingdom*

4:05-4:20 pm **Antigen Presentation Profiling Reveals T-cell Recognition of Lymphoma Immunoglobulin Neoantigens**; Niclas Olsson[1]; Michael Khodadoust[1]; Lisa Wagar[1]; Ole Audun Werner Haabeth[1]; Binbin Chen[1]; Keith Rawson[1]; Chih Long Liu[1]; David Steiner[1]; Samhita Rao[1]; Lichao Zhang[1]; Henning Stehr[1]; Aaron Newman[1]; Debra K Czerwinski[1]; Victoria Carlton[2]; Martin Moorhead[2]; Malek Faham[2]; Holbrook Kohrt[1]; Michael R Green[3]; Mark M Davis[1]; Ron Levy[1]; Ash A. Alizadeh[1]; Joshua Elias[1]; *[1]Stanford University, Stanford, CA; [2]Adaptive Biotechnologies, Seattle, Washington; [3]University of Nebraska Medical Center, Omaha, NE*

3:00 – 4:20 PM: PARALLEL SESSION
GLYCANS AND VACCINES, *Palm Court (Lobby Level)*
Session Chair: Susan Old (NIH, NIAID)

3:00-3:25 pm **Germline-targeting Vaccine Design for HIV: a Strategy to Overcome the Sequence Diversity and Heavy Glycosylation of the Envelope Trimer**; William Schief, *The Scripps Research Institute, La Jolla, CA*

3:25-3:50 pm **A Focus on Analytics: Glycosylation Profiling to Assess HIV-1 Env Quality.**; Heather Desaire; *University of Kansas, Lawrence, KS*

3:50-4:05 pm **Systematic Quantification of Human Cell Surface Glycoprotein Dynamics**; Haopeng Xiao; Ronghu Wu; *Georgia Tech, Atlanta, GA*

4:05-4:20 pm **High Resolution CESI-MS Analysis of Formalin-Fixed Paraffin-Embedded, Released N-glycans**; Bryan Fonslow[1]; Boglarka Donczo[2]; Marton Szigeti[2]; Andras Guttman[1, 2]; *[1]SCIEX, San Diego, CA; [2]University of Debrecen, Debrecen, Hungary*

4:30 – 5:50 PM: PARALLEL SESSION
METAPROTEOMICS AND PROTEOME DIVERSITY, *Presidential Ballroom (2nd Level)*
Session Chair: Nuno Bandeira (UCSD)

4:30-4:55 pm **Characterizing Temporal and Inter-Individual Functional Differences in Pre-Term Human Infant Gut Microbiome Development by a Metaproteomics Approach**; Robert Hettich[1]; Weili Xiong[1]; Alfredo Blakeley-Ruiz[1]; Christopher Brown[2]; Matthew Olm[2]; Matthew Rogers[3]; MIchael Morowitz[3]; Jillian Banfield[2]; *[1]ORNL, Oak Ridge, TN; [2]University of California, Berkeley, CA; [3]University of Pittsburgh, Pittsburgh, PA*

4:55-5:20 pm **New Quantitative Methods to Study the Gut Microbiota**; X, Zhang[1]; C.K. Chiang[1]; L. Li[1]; W. Chen[2]; A.E. Starr[1]; K. Cheng[1]; Z. Ning[1]; J. Mayne[1]; S. A. Deeke[1]; R. Tian[2]; D. Mack[3]; A. Stintzi[1]; Daniel Figeys[1]; *[1]Ottawa Institute of Systems Biology, U. of Ottawa, Ottawa, Canada; [2]SUSTC, China, Shenzhen, China; [3]Department of Pediatrics, University of Ottawa, Ottawa, Canada*

5:20-5:35 pm **Optimization of the Number of Proteins and Biological Replicates in Large-scale Proteomic Studies**; Ting Huang[1]; Tiannan Guo[2]; Ruedi Aebersold[2]; Olga Vitek[1]; *[1]Northeastern University, BOSTON, MA; [2]ETH Zurich, Zurich, Switzerland*

5:35-5:50 pm **Integrated Proteogenomics Analyses to Study Tumor Heterogeneity in Human Lung Adenocarcinoma Using Sequential Biopsies and Rapid/Warm Autopsies**; Nitin Roper[1]; Xu Zhang[1]; Tapan K. Maity[1]; Shaojian Gao[1]; Abhilash Venugopalan[1]; Paul Rudnick[2]; Romi Biswas[1]; Constance M. Cultraro[1]; David Fenyo[3]; David Kleiner[4]; Stephen Hewitt[4]; Udayan Guha[1]; *[1]Thoracic and GI Oncology Branch, CCR , NCI, NIH, Bethesda, MD; [2]Spectragen Informatics LLC, Bainbridge Island, WA; [3]NYU School of Medicine, New York, NY; [4]Pathology, CCR, NCI, NIH, Bethesda, MD*

4:30 – 5:50 PM: PARALLEL SESSION
DISEASE AND PROTEIN-PROTEIN PROXIMITY, *Palm Court (Lobby Level)*
Session Chair: Ying Ge (University of Wisconsin)

4:30-4:55 pm Brian Raught; *University of Toronto, Toronto, ON, Canada*

4:55-5:20 pm **Integrating Proteomics and Virology to Define Cellular Immune Signaling Mechanisms During Herpesvirus Infection**; Ileana Cristea; *Princeton University, Princeton, NJ*

5:20-5:35 pm **A Post-Translational Modification Code for CFTR Maturation is Disturbed in Cystic Fibrosis**; Sandra Pankow; Casimir Bamberger; John R. Yates; *The Scripps Research Institute, La Jolla, CA*

5:35-5:50 pm **Monitoring Signal-Specific Changes to *in vivo* Ribosomal Structure and Activity**; Bradley Naylor[1]; Andrew Mathis[2]; Richard Carson[1]; Nathan Keyes[1]; Ryne Peters[1]; John Price[1]; *[1]Brigham Young University, Provo, UT; [2]UT Southwestern, Dallas, TX*

5:50 – 6:30 PM: **INFORMAL MIXER**, *Bivouac Ballroom (Lower Level)*

Join exhibitors for snacks and drinks *before the evening workshops.*

EVENING WORKSHOPS

There are three concurrent workshops. All attendees are invited to participate in these informal and more interactive sessions.

6:30 – 8:00 PM: PARALLEL EVENING WORKSHOP
HOW TO OBTAIN AN ACADEMIC FACULTY POSITION AND KEEP IT!, *Grant Hall AB (Lower Level)*
Presented by Ben Garcia (University of Pennsylvania and Laurie Parker (University of Minnesota)

This workshop is targeted at the next generation of MS scientists to give information, advice and support for those interested in an academic career. The workshop will focus on how to keep on the path to an academic position (doing exciting research, networking, putting together an academic application, securing good letters of recommendation, preparing the research statement and applying and interviewing for faculty positions) for graduate students/postdocs. Additionally, advice on how to also keep on the path to tenure (hiring the right people, building good collaborations, writing grants and papers, presenting your work, etc.) will also be presented. The workshop will be composed of an informal lecture presentation to provide information for beginning academic scientists, paired with a panel discussion (made up of current established young to mid-range academic faculty) to give attendees a chance to ask questions.

6:30 – 8:00 PM: PARALLEL EVENING WORKSHOP
FOUNTAIN OF YOUTH: CREATING SUSTAINABLE VALUE FOR YOUR DATASETS (BD2K / LINCS)
Presidential Ballroom (2nd Level)

Two NIH programs, Big Data to Knowledge (BD2K) and Library of Network-Based Cellular Signatures (LINCS), together with the BD2K-LINCS Data Coordination and Integration Center (DCIC), present benefits and challenges of large proteomic data sets, current efforts to generate a comprehensive library of signatures representative of chemical and genetic perturbations in cellular systems, as well as analysis tools and platforms for integration across different data types. Paving the road to a shared vision of powerful biological knowledge gains from large proteomic data sets queried individually or combined with omic integration studies, now and into the future.

6:30 – 8:00 PM: PARALLEL EVENING WORKSHOP
IMPLEMENTING THE STRATEGIES OF THE HUPO HUMAN PROTEOME PROJECT (HPP), *Palm Court (Lobby Level)*
Organized by Maggie Lam (UCLA)

An Overview of the Strategies and Plans for the HUPO Human Proteome Project; Gil Omenn (University of Michigan), HPP Chair
Designing Cutting-edge Organ-specific Biological Studies using Popular Proteins and SRM Assays; Maggie Lam (UCLA) and discussant Jennifer Van Eyk (Cedars-Sinai Medical Center)
Proteogenomic Analyses of Cancer Genes and Proteins: a Collaborative cHPP and B/D HPP Study, with a Focus on the CPTAC Studies of Ovarian Cancers; Hui Zhang and discussant Alexey Nesvizhskii (University of Michigan)

TUESDAY, MARCH 21

6:45 AM: Fun Run/Walk Participants go to Conference Registration to be directed to outside meeting point. Main group departs at 7:00 am. More information and map available to pick up at Conference Registration (anytime).

8:00 – 8:30 AM: **EARLY MORNING COFFEE & PASTRIES**, *Bivouac Ballroom (Lower Level)*

8:30 – 9:20 AM: PLENARY SESSION
AWARD PRESENTATIONS AND LECTURES, *Presidential Ballroom (2nd Level)*
Gil Omenn, presiding

8:30 – 8:55 am **Gilbert S. Omenn Computational Proteomics Award: Alexey Nesvizshkii**, *University of Michigan*
Award presentation followed by 20 minute talk.

8:55 – 9:08 am **Robert J. Cotter New Investigator Award: Peter Nemes**, *George Washington Universrity*
Award presentation followed by 10 minute talk.

Peter Nemes will also give an additional talk on Tuesday afternoon in the Single Cell Proteomics session (4:30-5:50 pm), *Presidential Ballroom*.

9:08 – 9:20 am **Robert J. Cotter New Investigator Award: Christine Vogel**, *New York Universrity*
Award presentation followed by 10 minute talk.

Christine Vogel will also give an additional talk on Tuesday afternoon in the New Technologies session (3:00-4:20 pm), *Presidential Ballroom*.

9:20 - 9:50 AM: **COFFEE BREAK**, *Bivouac Ballroom (Lower Level)*
Coffee and pastries with the exhibitors.

9:50 – 11:10 AM: PARALLEL SESSION
COMPUTATION AND BIG DATA, *Presidential Ballroom (2nd Level)*
Session Chair: Peipei Ping (UCLA)

9:50-10:15 am **Characterization of the Cardiac Proteome with Big Data Proteomics**; Maggie PY Lam; *University of California at Los Angeles, Los Angeles, CA*

10:15-10:40 am **Big Data to Knowledge: Integrated Bioinformatics towards Systems Biology and Precision Medicine**; Cathy H Wu; *University of Delaware, Newark, DE*

10:40-10:55 am **Proteogenomic Classifications and Outcome in Squamous Cell Carcinoma of the Lung**; Robbert Slebos; Paul Stewart; Eric Welsh; Guolin Zhang; Bin Fang; Sean Yoder; Katherine Fellows; Y Ann Chen; Jamie Teer; Steven Eschrich; John Koomen; Eric Haura; *Moffitt Cancer Center, Tampa, FL*

10:55-11:10 am **Missing Protein Node Prediction and Protein Quantitation in Bipartite Network Representations of Complex Proteomes**; Casimir Bamberger; Salvador Martinez de Bartolome Izquierdo; Miranda Montgomery; Sandra Pankow; John Yates III; *The Scripps Research Institute, La Jolla, CA*

9:50 – 11:10 AM: PARALLEL SESSION
METABOLOMICS, *Palm Court (Lobby Level)*
Session Chair: Alan Saghatelian (Salk Institute)

9:50-10:15 am **Using Metabolomics to Identifying Non-Genetic Determinants of Disease**; Caroline Johnson; *Yale School of Public Health, New Haven, CT*

10:15-10:40 am **New Technologies for Large Scale and Targeted Analyses of Small Molecules**; David Wishart; *University of Alberta, Edmonton, Canada*

10:40-10:55 am **Establishing a Novel NanoLC-MS/MS Platform for Detecting and Quantifying DNA Modification**; Ranran Wu; Kevin Janssen; Benjamin A. Garcia; *University of Pennsylvania, Philadelphia, PA*

10:55-11:10 am **Dilu: High Resolution Metabolomics Quantification and Identification Platform**; Yu Gao; *The Scripps Research Institute, La Jolla, California*

11:10 AM – 12:00 PM: PLENARY SESSION
LIGHTNING TALKS – ROUND II, *Presidential Ballroom (2nd Level)*
Robert Moritz and Robert Rivers, presiding
High-energy (and brief) presentations selected from poster presentations. 90 seconds max or face the music!

Presentation Order

Tues 1 **Linear B Cell Epitope Prediction by Using High Throughput Peptide Microarrays**; Robayet Chowdhury[1, 2]; Taylor Brown[1, 2]; Neal Woodbury[1, 2]; [1]Innovations in Medicine,The Biodesign Institute, Tempe, Arizona (AZ); [2]Arizona State University, Tempe, AZ; **See Tuesday Poster 12**

Tues 2 **A Spin Column-Free Permethylation Procedure for Glycan Analysis**; Yueming Hu[1, 2]; Chad R. Borges[1, 2]; [1]Arizona State University, Tempe, AZ; [2]The Biodesign Institute, Arizona State University, Tempe, Az; **See Tuesday Poster 4**

Tues 3 **Comparative Proteomic Analysis of the Influence of Gender and Acid Stimulation on Normal Human Saliva Using LC/MS/MS**; Xiaoping Xiao[1]; Yaoran Liu[2]; Wei Sun[1]; Qian Li[2]; [1]Chinese Academy of Medical Sciences, Beijing, China; [2]Peking Union Medical College hospital, Beijing, China; **See Tuesday Poster 8**

Tues 4 **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, California; **See Tuesday Poster 3**

Tues 5 **Early Detection in Urinary Proteome for the Effective Early Treatment of Bleomycin-Induced Pulmonary Fibrosis in a Rat Model**; Jianqiang Wu[1]; Xundou Li[1]; Youhe Gao[1, 2]; [1]Peking Union Medical College, Beijing, China; [2]Beijing Normal University, Beijing, China; **See Tuesday Poster 9**

Tues 6 **Elucidating the Biological Implications of Aluminum Binding to Osteocalcin**; Stephanie Thibert[1, 2]; Olgica Trenchevska[1]; Mario Kratz[3]; Ian de Boer[4]; Mian Yang[1]; Richard Hervig[5]; Peter Williams[2]; Joshua Jeffs[1, 2]; Chad Borges[1, 2</SU; [1]Biodesign Institute, Arizona State University, Tempe, AZ; [2]School of Molecular Sciences, ASU, Tempe, AZ; [3]Fred Hutchinson Cancer Research Center, Seattle, WA; [4]University of Washington, Seattle, WA; **See Tuesday Poster 49**

Tues 7 **Evidence of Human Antagonistic Auto-antibodies as a Mechanism of Insulin Resistance**; Andrew Lipchik; Anil Narasimha; Michael Snyder; Stanford University, Stanford, CA; **See Tuesday Poster 46**

Tues 8 **Exosomal EphA2 Transmits Chemoresistance and Predicts Pancreatic Cancer Patient Responses to therapy**; Jia Fan1; Qian Wei2; Eugene J. Koay[3]; Yang Liu[1, 2]; Zhen Zhao[4]; Tony Y. Hu[1, 2]; [1]Arizona State University, Tempe, AZ; [2]Houston Methodist Research Institute, Houston, TX; [3]University of Texas M.D. Anderson Cancer Center, Houston, TX; [4]National Institutes of Health, Bethesda, MD; **See Tuesday Poster 2**

Tues 9 **GiaPronto: A One-Click Graph Visualization Software for Proteomics Datasets**; Amber K. Weiner[1, 2]; Simone Sidoli[1]; Sharon J. Diskin[2]; Benjamin A. Garcia[1]; [1]University of Pennsylvania School of Medicine, Philadelphia, PA; [2]Children's Hospital of Philadelphia, Philadelphia, PA; **See Tuesday Poster 15**

Tues 10 **Histone H2A Proteolysis During Mouse Embryonic Stem Cell Differentiation**; Mariel Coradin[1]; Simone Sidoli[1, 3]; Kelly Karch[1, 2]; Benjamin A. Garcia[1, 2]; [1]Department of Biochemsitry and Molecular Biophysic, Philadelphia, PA; [2]Epigenetics Program, Philadelphia, PA; [3]University of Pennsylvania School of Medicine, Philadelphia, PA; **See Tuesday Poster 6**

Tues 11 **Identification of FMS-like Tyrosine Kinase 3 (FLT3) Substrates Using KALIP**; Minervo Perez; University of Minnesota, Minneapolis, MN; **See Tuesday Poster 63**

Tues 12 **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; **See Tuesday Poster 5**

Tues 13 **Integrative Proteogenomic Characterization of Colorectal Cancer Cell Lines and Primary Tumors**; Jing Wang[1]; Dmitri Mouradov[2]; Xiaojing Wang[1]; Robert Jorissen[2]; Matthew Chambers[8]; Lisa Zimmerman[8]; Suhas Vasaikar[1]; Christopher Love[2]; Shan Li[2]; Kym; [1]Baylor College of Medicine, Houston, TX; [2]The Walter and Eliza Hall Institute of Medial Rese, Parkville, Australia; [3]The University of Melbourne, Parkville, Australia; [4]University of Oxford, Oxford, United King; **See Tuesday Poster 52**

Tues 14 **MetaProt: A Cloud-based Platform to Analyze, Annotate, and Integrate Metabolomics Datasets with Proteomics Information**; Howard Choi[1]; Vincent Kyi[1]; Brian Bleakley[1]; Ding Wang[1]; Henning Hermjakob[2]; Peipei Ping[1]; [1]NIH BD2K Center at UCLA, Los Angeles, CA; [2]EMBL-EBI, Hinxton, UK; **See Tuesday Poster 19**

Tues 15 **Phosphoproteomics Reveals Potential Crosstalk Between mTORC2 and MAP Kinases**; Samuel Entwisle[1]; Camila Martinez-Calejman[2]; David Guertin[2]; Judit Villen[1]; [1]University of Washington, Seattle, WA; [2]University of Massachusetts Medical Center, Worcester, MA; **See Tuesday Poster 1**

Tues 16 **proBAMsuite, a Bioinformatics Framework for Genome-Based Representation and Analysis of Proteomics Data**; Xiaojing Wang; Baylor College of Medicine, HOUSTON, TX; **See Tuesday Poster 57**

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Tues 17 **Profiling Biochemical Individuality: Human Personal Omics Profiling (hPOP)**; Sara Ahadi[1]; Hannes Rost[1]; Christie Hunter[2]; Liang Liang[1]; Shannon Rego[1]; Orit Dagan-Rosenfeld[1]; Denis Salins[1]; Mike Snyder[1]; [1]Stanford University, Stanford, CA; [2]SCIEX, Redwood City, CA; **See Tuesday Poster 45**

Tues 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; **See Tuesday Poster 18**

Tues 19 **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; **See Tuesday Poster 47**

Tues 20 **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 Pelletier[1]; William Low[3]; Antonio Pinto[3]; Salvador Martínez-Bartolomé[1]; Michael Petrascheck[1]; James Moresco[1; 1]The Scripps Research Institute, Lajolla, CA; [2]University of Ottawa, Ottawa, Canada; [3]Salk Institute for Biological Studies, La Jolla, CA; **See Tuesday Poster 62**

Tues 21 **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; **See Tuesday Poster 16**

Tues 22 **Understanding Mechanism of Action of Drug Resistance Reversal Potential of Usnic Acid Using Proteomic Profiling**; Sneha Sinha; csir-cimap, Lucknow, India; **See Tuesday Poster 39**

Tues 23 **Validation of Tumor Proteogenomic Annotations**; Anindya Bhattacharya[1, 2]; Vineet Bafna[1, 2]; [1]UC San Diego, La Jolla, CA; [2]UC San Diego, La Jolla, CA; **See Tuesday Poster 53**

LUNCH SEMINARS

Open to all attendees, but RSVP strongly encouraged (at booth or online) in advance as space is limited.

12:00 – 1:30 PM: **SCIEX**, *Grant Hall AB (Lower Level)*

If you have not already registered in advance, please stop by booth Sunday night or Monday morning to RSVP.

Enabling Precision Medicine with Industrialized Quantitative Proteomics
Randy Arnold & Christie Hunter, *SCIEX*

12:00 – 1:30 PM: **WATERS CORPORATION**, *Grant Hall CD (Lower Level)*

If you have not already registered in advance, please stop by booth Sunday night or Monday morning to RSVP.

Quantitative Bottom up Proteomics by Data Independent Analysis using Quadrupole Scanning and Ion mobility
LeRoy B. Martin, III, Ph.D, *Sr. Manager, Biological Mass Spectrometry, Waters Corporation*

1:30 – 3:00 PM: **TUESDAY POSTER SESSION**, *Bivouac Ballroom (Lobby Level)*

3:00 – 4:20 PM: PARALLEL SESSION
NEW TECHNOLOGIES, *Presidential Ballroom (2nd Level)*
Session Chair: Michael Maccoss (University of Washington)

3:00-3:25 pm **Multi-Omic Mass Spectrometry Profiling Technology to Assign Protein Function** ; Joshua Coon; *University of Wisconsin-Madison, Madison, WI*

3:25-3:50 pm **New Technologies to Interrogate the Dynamics and Function of the Phosphoproteome**; Judit Villen, *University of Washington*

3:50-4:05 pm **The Multiple Dimensions of Translation Regulation During the Eukaryotic Stress Response**; Justin Rendleman[1]; Zhe Cheng[1]; Scott Kuersten[2]; Guoshou Teo[1]; Hyungwon Choi[3]; Christine Vogel[1]; *[1]New York University, New York, NY; [2]Illumina, San Diego, CA; [3]National University, Singapore, Singapore*

4:05-4:20 pm **Advancing Top-Down Proteomics Through Instrumentation and Data Acquisition Method Development**; Lissa C. Anderson[1]; Chad R. Weisbrod[1]; Nathan K. Kaiser[1]; Greg T. Blakney[1]; Christopher L. Hendrickson[1, 2]; Alan G. Marshall[1, 2]; *[1]NHMFL, Tallahassee, FL; [2]Dept of Chemistry & Biochemistry, FSU, Tallahassee, FL*

3:00 – 4:20 PM: PARALLEL SESSION
TOP-DOWN ANALYSIS OF PROTEIN COMPLEXES, *Palm Court (Lobby Level)*
Session Chair: Michael Greig (Pfizer)

3:00-3:25 pm **Democratizing Top-Down in Both Denatured and Native Modes: Has the time now come?**; Neil Kelleher; *Northwestern University, Evanston, IL*

3:25-3:50 pm **Flexible Software for Evolving Instrumentation in Top Down Proteomics**; Samuel Payne; *Pacific Northwest National Laboratory, Richland, WA*

3:50-4:05 pm **Proteoform Suite Software: A New Tool for Rapidly Identifying and Quantifying Proteoforms and Constructing Proteoform Families**; Michael Shortreed; Anthony Cesnik; Leah Schaffer; Brian Frey; Rachel Knoener; Zachary Rolfs; Yunxiang Dai; Katherine Buxton; Mark Scalf; Lloyd Smith; *University of Wisconsin, Madison, WI*

4:05-4:20 pm **Measuring Intact Protein Turnover on Drosophila Melanogaster Head Using Tunable Intact Protein Mass Increases Method (TIPMI)**; Jeniffer V. Quijada[1, 2]; Jeffrey N. Agar[1, 2]; *[1]Northeastern University, Boston, MA; [2]Barnett Inst., Northeastern University, Boston, MA*

4:30 – 5:50 PM: PARALLEL SESSION
SINGLE CELL PROTEOMICS, *Presidential Ballroom (2nd Level)*
Session Chair: Jun Qu (University at Buffalo)

4:30-4:55 pm **Proteomics of Single EarlySstage Blastomeres from *Xenopus laevis***; Liangliang Sun[2]; Kyle Dubiak[1]; Elizabeth Peuchen[1]; Zhenbin Zhang[1]; Paul Huber[1]; Norman Dovichi[1]; *[1]University of Notre Dame, Notre Dame, IN; [2]Michigan State University, East Lansing, MI*

4:55-5:20 pm **Massively Multiplexed Cellular Analysis in Human Health and Disease**; Sean Bendall; *Stanford University, Stanford, CA*

5:20-5:35 pm ***In situ* Microsampling Single-cell Capillary Electrophoresis Mass Spectrometry Uncovers Proteomic Cell Heterogeneity in the Live Frog (*Xenopus laevis*) Embryo**; Peter Nemes; Camille Lombard-Banek; Aparna Baxi; Sally Moody; *George Washington University, Washington, DC*

5:35-5:50 pm **A Twist to Increase Biomarker Specificity: Exploiting CESI Mass Spectrometry and Protein Modifications**; Jennifer Van Eyk, *Cedars-Sinai Medical Center, Los Angeles, CA*

Dr. Van Eyk's talk is sponsored by

4:30 – 5:50 PM: PARALLEL SESSION
CROSS-LINKING / MOLECULAR PAINTING, *Presidential Ballroom (2nd Level)*
Session Chair: Lan Huang (UC Irvine)

4:30-4:55 pm **Advancements in Protein Cross-Linking Biochemistry, Software, and Data Visualization Uncover Protein Complex Architecture.**; Trisha Davis[1]; Michael Riffle[1]; Alex Zelter[1]; Daniel Jaschob[1]; Michael Hoopmann[2]; Richard Johnson[1]; Robert Moritz[2]; Michael Maccoss[1]; *[1]University of Washington, Seattle, WA; [2]Institute for Systems Biology, Seattle, WA*

4:55-5:20 pm **In Cell Protein Footprinting for the Structural Analysis of Proteins in their Native Environment**; Lisa M. Jones; *University of Maryland, Baltimore, MD*

5:20-5:35 pm **Dual Cleavabale Crosslinking Technology (DUCCT): A New Strategy for High Confidence Identification of Crosslinked Peptides**; Saiful Chowdhury[1]; Jayanta Chakrabarty[1]; Gerhard Munske[2]; Aishwarya Naik[1]; *[1]Univ of Texas at Arlington, Arlington, TX; [2]WSU, Pullman, WA*

5:35-5:50 pm **Assessing Availability of Primary Amines in Proteins *in vivo* in Order to Determine Structure and Interaction of Proteins**; Casimir Bamberger; Sandra Pankow; John R. Yates; *The Scripps Research Institute, La Jolla, CA*

6:00 – 9:00 PM: **JOINT AACC-US HUPO PROGRAM**
Presidential Foyer &Ballroom (2nd Level)
Kimia Sobhani and Jennifer Van Eyk, presiding

All US HUPO conference attendees and AACC (American Association of Clinical Chemistry) SoCal members are invited to attend this special joint program. The program kicks off with a reception from 6:00 - 7:00 pm (Presidential Ballroom Foyer) followed by a series of talks.

There is no charge for this event, but registration (RSVP) is requested. Find online RSVP link at www.ushupo.org.

7:00 - 7:45 pm **Applications of Next-Generation Sequencing for Virus Surveillance and Discovery**, Michael Berg, PhD (Abbott Laboratories)

8:00-8:12 pm **Machine Learning to Extract Morphometric Biomarkers from Tissue Architecture**, Beatrice Knudsen, MD, PhD (Cedars-Sinai Medical Center)

8:13-8:25 pm **From Proteomics to Bedside: Translating Discoveries in the Next Generation**; Joshua LaBaer, MD, PhD (Arizone State University, Biodesign Institute)

8:26-8:38 pm **High Sensitivity and Multiplex MRM Assays for Quantitation of Hundreds of Proteins in Clinical Specimens**; Christoph Borchers, PhD (University of Victoria - Genome BC Proteomics Centre)

8:39-8:51 pm **Molecular Glycopathology by Capillary Electrophoresis: Analysis of the N-Glycome of Formalin Fixed Paraffin Embedded Mouse Tissue Samples**; Andras Guttman PhD, D.Sc. (University of Debrecen)

This special joint program is sponsored by

8:00 – 8:30 AM: **EARLY MORNING COFFEE & PASTRIES**, *Presidential Ballroom Foyer (2nd Level)*

8:30 – 9:20 AM: PLENARY SESSION
ANNOUNCEMENT OF BEST STUDENT AND POST-DOC POSTER AWARD WINNERS

TIPS & TRICKS (TECHNOLOGY FOCUS) LIGHTNING SESSION
Presidential Ballroom (2nd Level)
High-energy, three-minute presentations selected from poster presentations.
Focus is on work-arounds, hacks, and new technology. Posters will be on display in foyer during the coffee break.

Presentation Order

Wed 1 ***Ex Vivo* Protein Oxidation as a Metric of Blood Plasma/Serum Integrity**; Chad R. Borges; Joshua Jeffs; Shadi Ferdosi; Arizona State University, Tempe, AZ; **See TP Poster 48**

Wed 2 **Time-Dependent Metabolomics in Systems Biology Context for Mechanism of Action Studies**; Akos Vertes[1]; Andrew Korte[1]; Hang Li[1]; Peter Nemes[1]; Lida Parvin[1]; Sylwia Stopka[1]; Sunil Hwang[1]; Ziad Sahab[1]; Deborah Bunin[2]; Merrill Knapp[2</SU; [1]George Washington University, Washington, DC; [2]SRI International, Menlo Park, CA; [3]GE Global Research, Niskayuna, NY; [4]Protea Biosciences Inc., Morgantown, WV; **See TP Poster 28**

Wed 3 **A Promising Alternative to MS2-DIA: IonStar Enables Large-scale, Accurate and Extensive Quantification with Low Missing Data and False Positives**; Jun Qu; Xiaomeng Shen; Shichen Shen; SUNY-Buffalo, Buffalo, NY; **See TP Poster 34**

Wed 4 **A Single UHPLC System for both High Flow and Nano Flow LC-MS/MS: Application in Discovery and Targeted Proteomics**; Linfeng Wu[1]; Alex Zhu[2]; Paul Goodley[1]; Pat Perkins[1]; [1]Agilent Technologies, Santa Clara, CALIFORNIA; [2]Agilent Technologies, Wilmington, DE; **See TP Poster 27**

Wed 5 **Decoding Site-specific Alteration of Sialo-glycoproteome in EGFR-subtype of Non-small Cell Lung Cancer**; Yi-Ju Chen; Yu-Hsien Lin; Ta-Chi Yen; Kay-Hooi Khoo; Yu-Ju Chen; Academia Sinica, Taipei, Taiwan, Province of China; **See MP Poster 56**

Wed 6 **Global Identification of Functional Phosphorylation Sites in *Saccharomyces cerevisiae***; Ian Smith; University Of Washington, Seattle, WA; **See TP Poster 24**

Wed 7 **In-depth Quantitation of Changes in Protein Expression Levels in Complex Samples on a Q-TOF Instrument Using Data-Independent Acquisition (DIA)**; Stephanie Kaspar-Schoenefeld[1]; Thomas Kosinski[1]; Pierre-Olivier Schmit[2]; Na Parra[3]; [1]Bruker Daltonik GmbH, Bremen, Germany; [2]Bruker Daltonique S.A., Wissembourg, France; [3]Bruker Daltonics, Billerica, USA; **See TP Poster 35**

Wed 8 **PCT-HD for Tissue Biopsy Samples: Comparison to a Standard Method.**; Vera Gross[1]; Peter Hains[2]; Keith Ashman[3]; Valentina Valova[2]; Alexander Lazarev[1]; [1]Pressure BioSciences, Inc., South Easton, MA; [2]Children's Medical Research Institute, Westmead NSW, Australia; [3]Sciex, Framingham, Massachusetts; **See TP Poster 32**

Wed 9 **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; **See TP Poster 33**

Wed 10 **Quantitative Bottom Up Proteomics Using a Novel Scanning Quadrupole Data Independent Acquisition (DIA) Method**; Jim Langridge[1]; Chris Hughes[1]; Lee Gethings[1]; Roy Martin[2]; Keith Richardson[1]; Johannes Vissers[1]; [1]Waters Corporation, Wilmslow, UK; [2]Waters, Beverly, MA; **See TP Poster 31**

Wed 11 **Quantitative Phosphoproteomic Analysis Reveals System-wide Signaling Networks in Chronic Lymphocytic Leukemia (CLL) B cells**; Hsin-Yi Wu[1]; Jung-Lin Wu[1]; Shang-Ju Wu[2]; Kuo-I Lin[1]; Yu-Ju Chen[1]; [1]Academia Sinica, Taipei, Taiwan; [2]National Taiwan University Hospital, Taipei, Taiwan; **See MP Poster 57**

Wed 12 **Two-dimensional Reversed Phase-Reversed Phase Liquid Chromatography for Top-down Proteomics**; Zhe Wang; Hongyan Ma; Toni Woodard; Si Wu; University of Oklahoma, Norman, OK; **See MP Poster 60**

Wed 13 **Ultrasensitive Microanalytical CE-nanoESI-MS for Bottom-up Proteomic Characterization of Mouse Hippocampal Neurons**; Sam Choi; Eric Corcoran; Marta Zamarbide; M. Chiara Manzini; Peter Nemes; The George Washington University, Washington DC, District of Columbia; **See TP Poster 37**

9:20 - 9:50 AM: **COFFEE BREAK**, *Presidential Ballroom Foyer (2nd Level)*
Tips & Tricks posters will be featured in the foyer.

9:50 – 11:10 AM: PARALLEL SESSION
PRECISION MEDICINE AND METABOLIC DISEASES, *Presidential Ballroom (2nd Level)*
Session Chair: Pothur Srinivas (NIH, NHLBI)

9:50-10:15 am **Managing Health and Disease Using Big Data;** Michael Snyder, *Stanford University*

10:15-10:40 am **Precision Tuning of Therapeutics Targeting PPARs for Treatment of Diabetic Bone**; Patrick Griffin; *Scripps Research Institute, Jupiter, FL*

10:40-10:55 am **Systemic or Non-Systemic? Co-regulation Analysis of the Urinary Proteome to Identify Plasma-derived Proteins in Urine**; Tue Bjerg Bennike[1]; Saima Ahmed[3]; Hanno Steen[2]; *[1]Harvard Medical School, Boston, MA; [2]Boston Children's Hospital, Boston, MA; [3]Boston Children's Hospital - Harvard Univeristy, Boston MA, MA*

10:55-11:10 am **A Precision Proteomics Pipeline for Remote Blood Monitoring: Integrating Volumetric Absorptive Microsampling with Targeted and Data-Independent Acquisition Mass Spectrometry**; Irene Van Den Broek[1]; Qin Fu[1]; Stuart Kushon[2]; Kim Chansky[2]; Michael Kowalski[3]; Kevin Millis[4]; Andrew Percy[4]; Tasha Agreste[4]; A.Lenore Ackerman[1]; Jennifer Anger[1]; Ron Holewinski[1]; Vidya Venkatraman[1]; Jennifer Van Eyk[1]; *[1]Cedars-Sinai Medical Center, Los Angeles, CA; [2]Neoteryx, Torrance, CA; [3]Beckman Coulter Life Sciences, Indianapolis, IN; [4]Cambridge Isotope Laboratories, Tewksbury, MA*

9:50 – 11:10 AM: PARALLEL SESSION
PROTEOFORM BIOLOGY, *Palm Court (Lobby Level)*
Session Chair: James Wohlschlegel (UCLA)

9:50-10:15 am **Metabolic Labeling in Middle-Down Proteomics Allows for Comprehensive Interpretation of the Dynamic Histone Code**; Simone Sidoli[1]; Kelly Karch[1]; Chrystian Ruminowicz[2]; Benjamin A. Garcia[1]; *[1]University of Pennsylvania School of Medicine, Philadelphia, PA; [2]Private developer, Białystok , Poland*

10:15-10:40 am **LINCS PCCSE: A Mineable Resource of Epigenetic and Phosphoproteomic Cellular Drug Responses**; Jacob Jaffe; PCCSE Team; *Broad Institute of Harvard and MIT, Cambridge, MA*

10:40-10:55 am **Quantitative Proteomic Approach Reveals Landscape of Regulatory Elements for Lysine 2-Hydroxyisobutyrylation Pathway**; He Huang; Mathew Perez-Neut; Kyle Delaney; Okwang Kwon; Yingming Zhao; *University of Chicago, Chicago, Illinois*

10:55-11:10 am **Immediate-Early Histone Proteoform Dynamics in Response to Epigenetic Inhibitors**; Tao Wang; Matthew V. Holt; Nicolas L. Young; *Baylor College of Medicine, Houston, TX*

11:10 AM – 12:00 PM: **PLENARY LECTURE + CLOSING SESSION**, *Presidential Ballroom (2nd Level)*
Jennifer Van Eyk, presiding

11:10 -11:55 am **'OMICS' and Neurodegenerative Disease – Approaches and Insights Gained**; Leslie Thompson, *University of California, Irvine*

11:55 am-12:00 pm Closing Remarks