

FINAL PROGRAM

SUNDAY, MARCH 7, 2010

9:00 AM – 4:00 PM: FULL-DAY SHORT COURSES

Full-day courses have one hour break for lunch-on-your-own.

***De novo* Sequencing of Peptides for Mass Spectrometry**

Proteomics Informatics

Quantitative Proteomics Using Peptide Mass Spectrometry

1:00 – 4:00 PM: HALF-DAY SHORT COURSE

Chromatography Optimization for LC/MS of Peptides and Proteins

Sponsored by Agilent Technologies

6:45 – 7:45 PM: OPENING SESSION

Denver I-VI

6:45 – 7:00 pm

Opening Remarks

7:00 – 7:45 pm

The Human Gut Microbiome in Obese and Malnourished Individuals; Jeffrey Gordon;
Washington University, St. Louis, MO

7:45 – 9:30 PM: WELCOME RECEPTION

Poster-Exhibit Hall

MONDAY, MARCH 8, 2010

8:00 – 9:20 AM: PLENARY LECTURES

Denver I-VI

8:00 – 8:40 am

Biomarkers and Personalized Medicine; Nicholas Dracopoli; *Centocor R&D, Johnson & Johnson*

8:40 - 9:20 am

Comparative Proteomics for Network Analysis of the Ubiquitin System; J. Wade Harper;
Harvard Medical School, Boston, MA

9:20 – 9:50 AM: COFFEE BREAK, *Poster-Exhibit Hall*

MONDAY, MARCH 8, 2010 *continued*

9:50 – 10:50 AM: PARALLEL SESSION
BIOMARKERS, Denver I - III

- 9:50 – 10:20 am **Progress Toward a Biomarker Discovery-to-Development Pipeline in Clinical Proteomics;** [Steven Carr](#); *Broad Institute, Cambridge, MA*
- 10:20 - 10:50 am **Disease Biomarkers in First-Onset Schizophrenia;** [Sabine Bahn](#); *University of Cambridge Biotechnology Institute, Cambridge, United Kingdom*

9:50 – 10:50 AM: PARALLEL SESSION
TOP DOWN MASS SPECTROMETRY, Denver IV-VI

- 9:50 – 10:20 am **Exploring the 'PTM Code' by Top Down Proteomics;** [Neil Kelleher](#); *University of Illinois, Urbana-Champaign, Urbana, IL*
- 10:20 - 10:35 am **Confident Assignment of Intact Mass Tags to Human Salivary Cystatins Using Top-Down Fourier-Transform Ion Cyclotron Resonance Mass Spectrometry;** [Julian Whitelegge](#); *UCLA, Los Angeles, CA*
- 10:35 - 10:50 am **Top-Down N- and C-Terminal Sequencing of Truncated Protein – a Complete Workflow Using ETD Mass Spectrometry and ProSightPC Software;** [Zhiqi Hao](#); *ThermoFisher, San Jose, CA*

11:00 AM -12:00 PM: PARALLEL SESSION
PROTEOMICS AND CHEMICAL BIOLOGY, Denver I - III

- 11:00 – 11:30 am **Activity Based Probes for Enzymatic Markers;** [Matthew Bogoyo](#); *Stanford University, Palo Alto, CA*
- 11:30 am – 12:00 pm **The Chemistry of Carbohydrate Biosynthesis in Mycobacteria;** [Laura Kiessling](#); *University of Wisconsin, Madison, WI*

11:00 AM -12:00 PM: PARALLEL SESSION
GLYCOPROTEOMICS, Denver IV-VI

- 11:00 - 11:30 am **A Lectin Affinity-Based Biomarker Discovery Strategy Targeting Cancer-Specific Glycoproteins in Human Plasma;** [Susan Fisher](#); *UCSF, San Francisco, CA*
- 11:30 - 11:45 am **Investigation of Complex Oligosaccharides from Glycopeptides and Glycoproteins using an Ion Trap TOF Mass Spectrometer Coupling with MALDI;** [Fan Xiang](#); *Shimadzu Biotech, Pleasanton, CA*
- 11:45 am - 12:00 pm **A Mass Spectrometric Multiple Reaction Monitoring Assay for Glycopeptide Detection and Quantification in Clinical Specimens;** [Yan Li](#); *Johns Hopkins University, Baltimore, MD*

12:00 – 1:30 PM: VENDOR LUNCH SEMINARS *or lunch-on-your own*
Three seminars hosted by [Agilent Technologies](#), [Randox Laboratories/Biosystems International](#), [Shimadzu](#), and [Thermo Scientific](#). *Follow links for details.*

1:30 – 3:00 PM: MONDAY POSTER SESSION
Poster-Exhibit Hall

MONDAY, MARCH 8, 2010 *continued*

3:00 – 5:30 PM: PARALLEL SESSION AND PANEL DISCUSSION
PROFILING THE METABOLOME, *Denver I-III*

- 3:00 – 3:30 pm **Targeting the Cancer Metabolome; Edward Driggers; *Agios Pharmaceuticals, Cambridge, MA***
- 3:30 - 3:45 pm **Extensive Metabolite-Protein Interactions Revealed by Large-Scale Systematic Analyses; Michael Snyder; *Stanford University School of Medicine, Stanford, CA***
- 3:45 - 4:15 pm **Tissue Imaging of Lipids by Mass Spectrometry; Robert C. Murphy; *University of Colorado Denver Health Sciences Center, Aurora, CO***
- 4:15 - 4:30 pm **A Mass Spectrometry Platform to Quantitatively Profile Cancer Cell Metabolism from Cell Lines to Tissues; John Asara; *Beth Israel Deaconess Medical Center, Boston, MA***
- 4:30 - 5:00 pm **Mass Spectrometry-Based Therapeutic Metabolomics from Biofluids and Tissues; Gary Siuzdak; *The Scripps Research Institute, La Jolla, CA***
- 5:00 – 5:30 pm **Panel Discussion**

3:00 – 5:30 PM: PARALLEL SESSION AND PANEL DISCUSSION
PROTEIN INTERACTIONS, *Denver IV-VI*

- 3:00 - 3:30 pm **Signal Transduction Scaffolds: Proteomics Analysis of the CNK Scaffold Family Reveals a Function for CNK1 in Insulin Signaling; Deborah Morrison; *NCI, Frederick, MD***
- 3:30 - 3:45 pm **Unraveling Gene Regulation in Yeast by Selected Reaction Monitoring; Hamid Mirzaei; *Institute for Systems Biology, Seattle, WA***
- 3:45 – 4:15 pm **Protein Interaction Platforms: Visualizing Living Cell Interactions; Cammie Lesser; *Massachusetts General Hospital, Harvard Medical School, Cambridge, MA***
- 4:15 - 4:30 pm **Targeted Proteomics Reveals Novel Functions for the Transcription Co-Activator Mediator Complex; Christopher Ebmeier; *University of Colorado, Boulder, CO***
- 4:30 - 5:00 pm **Systematic Characterization of Protein Interaction Networks; Jack Greenblatt; *University of Toronto, Toronto, Canada***
- 5:00 – 5:30 pm **Panel Discussion**

7:00 – 8:30 PM: MONDAY EVENING WORKSHOPS
Three concurrent workshops.

Cardiovascular Diagnostics

Andrew Greene,
Medical College of Wisconsin
Milos Novotny, *Indiana University*
Jennifer Van Eyk, *Johns Hopkins*

Quantitative Methods

Tom Neubert, *New York University*
Tommy Nilsson, *McGill University*
Rick Reisdorph, *National Jewish Health*

Membrane Proteins

Robert Balaban, *NHLBI*
Catherine Fenselau,
University of Maryland, Baltimore
Kathryn Lilley, *Cambridge Center for Proteomics*

TUESDAY, MARCH 9, 2010

8:00 – 9:20 AM: PLENARY LECTURES

Denver I - VI

- 8:00 – 8:40 am **The Sweeter Side of Cell Signaling: New Insights into Protein Glycosylation;** Linda Hsieh-Wilson; *California Institute of Technology, Pasadena, CA*
- 8:40 - 9:20 am **Drosophila Signal Transduction Networks;** Norbert Perrimon; *Harvard Medical School, Boston, MA*

9:20 – 9:50 AM: COFFEE BREAK, Poster-Exhibit Hall

**9:50 – 10:50 AM: PARALLEL SESSION
PROFILING HUMAN DISEASES, Denver I-III**

- 9:50 – 10:20 am **Metabolomics and Proteomics of Cardioprotection;** Peipei Ping; *UCLA, Los Angeles, CA*
- 10:20 - 10:35 am **Deciphering Deregulated Signaling Pathways in ALK-Positive Human Malignant Lymphomas;** Kojo Elenitoba-Johnson; *University of Michigan, Ann Arbor, MI*
- 10:35 - 10:50 am **A New Antigen for Autoreactive T Cells in Type 1 Diabetes;** Thomas Delong; *National Jewish Health, Denver, CO*

**9:50 – 10:50 AM: PARALLEL SESSION
PROTEOMICS TECHNOLOGIES I, Denver IV-VI**

- 9:50 - 10:20 am **New Ionization Methods for Large-Molecule Top-Down Mass Spectrometry;** David Muddiman; *North Carolina State University, Raleigh, NC*
- 10:20 - 10:35 am **Quantitative Synthesis/Degradation Proteomic Analysis of Vps4B-Mediated Perturbations in EGFR Signaling in Breast Cancer;** Stefani Thomas; *University of Maryland, Baltimore, MD*
- 10:35 - 10:50 am **Detecting Intracellular Abl Kinase Activity in the DNA Damage Signaling Pathway Using a Peptide Biosensor;** Jiabin Tang; *Purdue University Cancer Center, West Lafayette, IN*

TUESDAY, MARCH 9, 2010 *continued*

11:00 AM – 12:00 PM: PARALLEL SESSION
POST-TRANSLATIONAL MODIFICATIONS, Denver I-III

- 11:00 - 11:30 am **Discovery and Characterization of Protein Post-translational Modification Pathways;** Yingming Zhao; *University of Chicago, Chicago, IL*
- 11:30 - 11:45 am **dbOGAP: Development of a Bioinformatics Resource for the O-GlcNAcylated Proteins;** Zhang-Zhi Hu; *Georgetown University Medical Center, Washington, DC*
- 11:45 am - 12:00 pm **Perspectives of Oxidative Stress-Related Biomarker Discovery by Liquid Chromatography: Tandem Mass Spectrometry Focusing on Posttranslational Protein Carbonylation;** Laszlo Prokai; *University of North Texas Health Science Center, Fort Worth, TX*

11:00 AM – 12:00 PM: PARALLEL SESSION
PROTEOMICS TECHNOLOGIES II, Denver IV-VI

- 11:00 - 11:30 am **High Throughput Cell-Based Studies and Protein Microarrays for Biomarker and Target Discovery;** Joshua Labaer; *The Biodesign Institute, Arizona State University, Tempe, AZ*
- 11:30 - 11:45 am **Structural Proteomics of Membrane Protein Dynamics: Mechanisms of Ion Channel and Signaling Protein Function;** Mark Chance; *Case Western Reserve University, Cleveland, OH*
- 11:45 am - 12:00 pm **Candidate Biomarkers for Pancreatic Cancer Evaluated Using Antibody-Lectin Sandwich Arrays in Multiple Sample Sets;** Tingting Yue; *Van Andel Research Institute, Grand Rapids, MI*

12:15 – 1:30 PM: VENDOR LUNCH SEMINARS *or lunch-on-your own*
Four seminars hosted by [Invitrogen](#), [Promega](#), [Proxeon](#) and [Waters Corp.](#)

1:30 – 3:00 PM: TUESDAY POSTER SESSION
Poster-Exhibit Hall

TUESDAY, MARCH 9, 2010 *continued*

3:00 – 5:30 PM: PARALLEL SESSION AND PANEL DISCUSSION
PROTEOMICS AND CLINICAL DIAGNOSTICS, Denver I-III

- 3:00 – 3:30 pm **Quantifying Proteins in Plasma;** Leigh Anderson; *Plasma Proteome Inst.; Washington, DC*
- 3:30 - 3:45 pm **A High Throughput Mass Spectrometric Immunoassay for PTH Microheterogeneity in Renal Failure Populations: PTH1-84, C-PTH Variants, and C-truncated Variants Identified;** Paul Oran; *The Biodesign Institute, Arizona State University, Tempe, AZ*
- 3:45 - 4:15 pm **Clinical Laboratory Assays by Quantitative Mass Spectrometry;** Andrew Hoofnagle; *University of Washington, Seattle, WA*
- 4:15 - 4:30 pm **Biomarker Discovery in Cerebrospinal Fluid from Patients with Post Traumatic Stress Disorder;** Ofer Eidelman; *Uniformed Services University, Bethesda, MD*
- 4:30 – 5:00 pm **Differential Mass Spectrometry (dMS): A Promising Strategy to Identify, Validate and Qualify Protein Based Biomarkers for New Medicines;** Ronald Hendrickson; *Merck Research Laboratories, Rahway, NJ*
- 5:00 – 5:30 pm **Panel Discussion**

3:00 – 5:30 PM: PARALLEL SESSION AND PANEL DISCUSSION
COMPUTATIONAL ANALYSIS AND BIOINFORMATICS, Denver IV-VI

- 3:00 - 3:30 pm **Forensic Bioinformatics;** Keith Baggerly; *M.D. Anderson Cancer Center, Houston, TX*
- 3:30 - 3:45 pm **Finding New Genes and Splice Forms: A Pipeline Integrating Proteogenomic Mapping Results for Gene-Finding and Annotation of the Human Genome;** Maarten Leerkes; *University of North Carolina, Chapel Hill, NC*
- 3:45 - 4:15 pm **Modeling Gas Phase Fragmentation;** Vicki Wysocki; *University of Arizona, Tucson, AZ*
- 4:15 - 4:30 pm **New Scoring Methods for Spectrum-to-Spectrum Searching Using a Large Simulated Spectral Library;** William Old; *University of Colorado, Boulder, CO*
- 4:30 - 5:00 pm **When will *de novo* Peptide Sequencing Replace MS/MS Database Searches?;** Pavel Pevzner; *UC San Diego, La Jolla, CA*
- 5:00 – 5:30 pm **Panel Discussion**

7:00 – 8:30 PM: TUESDAY EVENING WORKSHOPS
Three concurrent workshops.

Cancer Technologies and Measurements

Susan Abbatiello, *Broad Institute*
Stephen Stein, *NIST*
Gordon Whiteley, *NCI*

Databases and Computational Methods

Phil Andrews, *University of Michigan*
Martin McIntosh, *Fred Hutchinson Cancer Research Center*
Akhilesh Pandey, *Johns Hopkins*

Perspectives on Proteomics from NIH and Journals

Ralph Bradshaw, *UCSF*
Bill Hancock, *Northeastern Univ*
Gil Omenn, *Univ of Michigan*
Pothur Srinivas, *NHLBI*

WEDNESDAY, MARCH 10, 2010

8:00 – 9:20 AM: PLENARY LECTURES

Denver I-VI

- 8:00 - 8:40 am **Single Cell Signaling & Pathology in Primary Cell Cancers for Mechanism and Diagnostics;** Garry Nolan; *Stanford Univ. School of Medicine, Stanford, CA*
- 8:40 - 9:20 am **Managing the Human Disease Proteome through Proteostasis;** William Balch; *The Scripps Research Institute, La Jolla, CA*

9:50 – 10:50 AM: PARALLEL SESSION

MOLECULAR AND ORGANISMAL DIVERSITY, *Denver I-III*

- 9:50 - 10:20 **Bacterial Community Variation in Human Body Habitats Across Space and Time;** Rob Knight; *University of Colorado, Boulder, CO*
- 10:20 - 10:35 am **Alternative Splice Variant Analysis in Mouse Models for Human Cancers;** Gilbert Omenn; *University of Michigan, Ann Arbor, MI*
- 10:35 - 10:50 am **Top-Down Characterization of Proteins in Bacteria with Unsequenced Genomes;** Nathan Edwards; *Georgetown University Medical Center, Washington, DC*

9:50 – 10:50 AM: PARALLEL SESSION

OXIDATION AND CELLULAR STRESS, *Denver IV-VI*

- 9:50 - 10:20 am **Free Radical Oxidative Stress in Brain in Alzheimer's Disease: Central Role Of Amyloid - Peptide (1-42) and Insights from Redox Proteomics;** D. Allan Butterfield; *University of Kentucky, Lexington, KY*
- 10:20 - 10:35 am **Interpreting Proteomic Datasets for Functional Insights Into Biological Regulation of Eukaryotic Cell Growth;** Sricharan Bandhakavi; *University of Minnesota, Minneapolis, MN*
- 10:35 - 10:50 am **A Site-Specific Proteomic Approach for Studying Protein S-Nitrosylation;** Miao Liu; *University of Nebraska Medical Center, Omaha, NE*

11:00 AM – 12:30 PM: GENERAL SESSION AND PANEL DISCUSSION

MASS SPECTROMETRY FOR THE MASSES, *Denver IV-VI*

- 11:00 - 11:30 am **microRNAs, RNA Binding Proteins, and Post-Transcriptional Gene Regulation;** Nikolaus Rajewsky; *Max Delbrück Center for Molecular Medicine, Berlin, Germany*
- 11:30 am - 12:00 pm **Systems Analysis of Human Embryonic Stem Cells, Induced Pluripotent Cells and Their Somatic Precursors;** Joshua Coon; *University of Wisconsin, Madison, WI*
- 12:00 – 12:30 pm **Panel Discussion**

12:30 – 12:45 PM: CLOSING REMARKS

Denver IV-VI