

## Omics Strategies to Study the Proteome (A8)

Scientific Organizers: Alan Saghatelian, Chuan He and Ileana M. Cristea

January 29–February 2, 2017

Beaver Run Resort, Breckenridge, Colorado, USA

*Supported by the Directors' Fund*

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### DEADLINES:

Scholarship Deadline: Sep 28, 2016 [[details](#)]

Discounted Abstract Deadline: Sep 28, 2016 [[details](#)]

Abstract Deadline: Oct 27, 2016 [[details](#)]

Discounted Registration Deadline: Nov 29, 2016 [[details](#)]

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## Conference Program [Print](#) | [View meeting in 12 hr \(am/pm\) time](#)

The meeting will begin on Sunday, January 29 with registration from 16:00 to 20:00 and a welcome mixer from 18:00 to 20:00. Conference events conclude on Thursday, February 2 with a closing plenary session and keynote address from 17:00 to 19:15, followed by a social hour and entertainment. We recommend return travel on Friday, February 3 in order to fully experience the meeting.

### SUNDAY, JANUARY 29

16:00–20:00	<b>Arrival and Registration</b>	<a href="#">Foyer</a>
18:00–20:00	<b>Welcome Mixer</b> No registration fees are used to fund alcohol served at this function.	<a href="#">Foyer</a>

### MONDAY, JANUARY 30

07:00–08:00	<b>Breakfast</b>	<a href="#">Summit Gallery</a>
08:00–09:00	<b>Welcome and Keynote Address (Organizers)</b> <a href="#">Registered attendees</a> can view abstracts starting on 12/29/2016  Jonathan S. Weissman, University of California, San Francisco, USA <i>Ribosome Profiling</i>	<a href="#">Peaks 4-5</a>
09:00–11:30	<b>Global RNA and Protein Regulation and Dynamics</b> <a href="#">Registered attendees</a> can view abstracts starting on 12/29/2016  * Chuan He, University of Chicago, USA  Xiang-Dong Fu, University of California, San Diego, USA <i>Novel Mechanism for microRNAs to Target Protein Coding Sequences to Regulate Translation</i>  Coffee Break  <a href="#">Frank L. Conlon</a> , University of North Carolina at Chapel Hill,	<a href="#">Peaks 4-5</a>

USA

*Initiating Events in Direct Cardiomyocyte Reprogramming***Gideon Rechavi**, Tel Aviv University, Israel*Biological Implications of Epitranscriptomics***Zijun Zhang**, University of California, Los Angeles, USA*Short Talk: CLIP-Seq Analysis of Multi-Mapped Reads Identifies Novel Functional RNA Regulatory Sites in the Human Transcriptome***Manuel D. Leonetti**, HHMI/University of California, San Francisco, USA*Short Talk: A Scalable, Cloning-Free Strategy for Endogenous Protein Tagging: Construction of A Genome-Wide Collection of GFP-Tagged Human Cell Lines*

11:30–17:00

**On Own for Lunch**

11:30–13:00

**Poster Setup**[Peaks 1-3](#)

13:00–22:00

**Poster Viewing**[Peaks 1-3](#)

14:30–16:30

**Workshop 1: Protein-Protein Interaction**[Peaks 4-5](#)\* **Steven P. Gygi**, Harvard Medical School, USA**Simeon Andrews**, Weill Cornell Medicine - Qatar, USA*AVA-Seq: Rapid All-vs-All Proteome Interactions Probed with Next-Generation Sequencing***Tom Casimir Bamberger**, The Scripps Research Institute, USA*In vivo, Proteome-Wide Assessment of Protein Surface Accessibility as a Measure of Protein Structure and Interaction***Kevin Drew**, University of Texas at Austin, USA*Human Protein Complex Map: Integration of 10k Mass Spectrometry Experiments***Ruth Huttenhain**, University of California, San Francisco, USA*A Proximity Labeling Approach to Capture Temporal and Spatially Resolved Protein Interaction Networks in Living Cells***Edward L. Huttlin**, Harvard Medical School, USA*BioPlex: a Global Map of the Human Interactome***Julian Mintseris**, Harvard Medical School, USA*High-Density Chemical Cross-Linking for Modeling Protein Interactions*

16:30–17:00

**Coffee Available**[Foyer](#)

17:00–19:00

**Regulation and Functions of RNAs**[Peaks 4-5](#)[Registered attendees](#) can view abstracts starting on 12/29/2016\* **Jonathan S. Weissman**, University of California, San Francisco, USA**Chuan He**, University of Chicago, USA*RNA Methylation in Gene Expression regulation***Christine Mayr**, Memorial Sloan Kettering Cancer Center, USA*3'UTR-Mediated Protein-Protein Interactions Regulate Protein Functions***Tao Pan**, University of Chicago, USA*Functional Genomics of tRNA in Translation***Jagannath Swaminathan**, University of Texas, Austin, USA*Short Talk: Single Molecule Peptide Sequencing*

19:00–20:00

**Social Hour with Lite Bites**[Peaks 1-3](#)

No registration fees are used to fund alcohol served at this function.

## TUESDAY, JANUARY 31

07:00–08:00	<b>Breakfast</b>	<a href="#">Summit Gallery</a>
08:00–11:15	<p><b>Omics Discovery of Novel Polypeptides</b> <a href="#">Peaks 4-5</a></p> <p><a href="#">Registered attendees</a> can view abstracts starting on 12/29/2016</p> <p>* <b>Alan Saghatelian</b>, The Salk Institute for Biological Studies, USA</p> <p><b>Pinchas Cohen</b>, University of Southern California, USA <i>Mitochondrial ORFomics and Peptidomics</i></p> <p><b>Alice Y. Ting</b>, Stanford University, USA <i>Spatially-Resolved Proteomic and Transcriptomic Mapping in Living Cells</i></p> <p><b>Coffee Break</b></p> <p><b>Kate Carroll</b>, The Scripps Research Institute, USA <i>Cysteine-Mediated Redox Signaling: Chemical Tools for Biology Discovery</i></p> <p><b>Eric N. Olson</b>, University of Texas Southwestern Medical Center, USA <i>Mining the Microproteome: A Reservoir of Unexplored Biology</i></p> <p><b>Yishai Levin</b>, Weizmann Institute of Science, Israel <i>Short Talk: Database Independent Protein Sequencing (DiPS) Enables Full-Length De-Novo Protein and Antibody Sequence Determination</i></p> <p><b>Jennie R. Lill</b>, Genentech, Inc., USA <i>Short Talk: Defining the mutated Ligandome: Characterizing MHC Class I and Class II Peptides</i></p>	
11:15–17:00	<b>On Own for Lunch</b>	
11:15–13:00	<b>Poster Setup</b>	<a href="#">Peaks 1-3</a>
13:00–22:00	<b>Poster Viewing</b>	<a href="#">Peaks 1-3</a>
16:30–17:00	<b>Coffee Available</b>	<a href="#">Foyer</a>
17:00–19:15	<p><b>Quantitative Proteomics and Informatics</b> <a href="#">Peaks 4-5</a></p> <p><a href="#">Registered attendees</a> can view abstracts starting on 12/29/2016</p> <p>* <b>Anne-Claude Gingras</b>, Lunenfeld-Tanenbaum Research Institute, Canada</p> <p><b>John R. Yates III</b>, The Scripps Research Institute, USA <i>Protein-Protein Interactions Studies of Disease Networks</i></p> <p><b>Olga Vitek</b>, Purdue University, USA <i>Statistical Methods for Quantitative Proteomics</i></p> <p><b>Alexey I. Nesvizhskii</b>, University of Michigan, USA <i>Computational Approaches for Proteomics</i></p> <p><b>Olga G. Troyanskaya</b>, Princeton University, USA <i>Tissue-Specific Protein Networks for the Study of Human Disease</i></p>	
19:15–20:15	<p><b>Social Hour with Lite Bites</b> <a href="#">Peaks 1-3</a></p> <p>No registration fees are used to fund alcohol served at this function.</p>	
19:30–22:00	<b>Poster Session 2</b>	<a href="#">Peaks 1-3</a>

## WEDNESDAY, FEBRUARY 1

07:00–08:00	<b>Breakfast</b>	<a href="#">Summit Gallery</a>
08:00–11:15	<p><b>Biological and Clinical Applications of Proteomics</b></p> <p><a href="#">Registered attendees</a> can view abstracts starting on 12/29/2016</p> <p>* <b>Vicki H. Wysocki</b>, Ohio State University, USA</p> <p><b>Ileana M. Cristea</b>, Princeton University, USA <i>Virology Meets Proteomics: The Human Organelle Proteome in Space and Time during Viral Infection</i></p> <p><b>Michael Washburn</b>, Stowers Institute for Medical Research, USA <i>Integrated Analyses of Epigenetic Complexes and Networks</i></p> <p><b>Coffee Break</b></p> <p><b>David C. Muddiman</b>, North Carolina State University, USA <i>Novel Discoveries in Ovarian Cancer and ALS: From Proteome Profiling to Proteoforms</i></p> <p><b>Rosa Viner</b>, Thermo Fisher Scientific Inc, USA <i>The Cellular Interactome by Proteome-Wide Cross-Linking Mass Spectrometry</i></p> <p><b>Marie Anne Brunet</b>, Université de Sherbrooke, Canada <i>Short Talk: Discovery of A Novel Peptide Encoded in an Alternative Open Reading Frame of FUS Gene and its Importance in ALS</i></p> <p><b>Gary Wilson</b>, University of Wisconsin-Madison, USA <i>Short Talk: Improved Plasma Proteomics Enables the Investigation into Alzheimer's Disease Progression</i></p>	<a href="#">Peaks 4-5</a>
11:15–17:00	<b>On Own for Lunch</b>	
11:15–13:00	<b>Poster Setup</b>	<a href="#">Peaks 1-3</a>
13:00–22:00	<b>Poster Viewing</b>	<a href="#">Peaks 1-3</a>
14:30–16:30	<p><b>Workshop 2: Novel Omics Strategy</b></p> <p>* <b>Alan Saghatelian</b>, The Salk Institute for Biological Studies, USA</p> <p><b>Christian H. Ahrens</b>, Agroscope, Switzerland <i>A Generic, Integrative Proteogenomics Approach to Identify the Entire Protein Coding Potential of Prokaryotic Genomes</i></p> <p><b>Christopher M. Rose</b>, Genentech, USA <i>Real-Time Data Analysis Strategies for Targeted and Discovery Proteomics</i></p> <p><b>Mark D. Biggin</b>, Lawrence Berkeley National Laboratory, USA <i>Quantitating Translational Control: mRNA Abundance-Dependent and Independent Contributions</i></p> <p><b>Brian K. Erickson</b>, Harvard Medical School, USA <i>High-Throughput Targeted Proteomics: Combining Sample and Peptide Multiplexing for Drug Discovery and Biomarker Validation</i></p> <p><b>Paul A. Grimsrud</b>, Duke University Medical Center, USA <i>Lipids Reprogram Metabolism to Become a Major Carbon Source for Histone Acetylation</i></p>	<a href="#">Peaks 4-5</a>
16:30–17:00	<b>Coffee Available</b>	<a href="#">Foyer</a>
17:00–19:00	<p><b>Protein Interactions and Structure</b></p> <p><a href="#">Registered attendees</a> can view abstracts starting on 12/29/2016</p> <p>* <b>Joshua J. Coon</b>, University of Wisconsin, USA</p> <p><b>Anne-Claude Gingras</b>, Lunenfeld-Tanenbaum Research</p>	<a href="#">Peaks 4-5</a>

Institute, Canada  
*A Physical Map of a Human Cell*

**Thomas Kodadek**, The Scripps Research Institute, USA  
*Surveying the Immunoproteome Using DNA-Encoded Combinatorial Libraries*

**Vicki H. Wysocki**, Ohio State University, USA  
*Development of Native MS: Surface-Induced Dissociation as a Structural Biology Tool*

**Nadia Martinez-Martin**, Genentech, Inc., USA  
*Short Talk: Decoding Extracellular Protein-Protein Interactions using Genome-Wide Libraries and Complementary Receptor Discovery Platforms*

19:00–20:00      **Social Hour with Lite Bites**      [Peaks 1-3](#)  
 No registration fees are used to fund alcohol served at this function.

19:30–22:00      **Poster Session 3**      [Peaks 1-3](#)

## THURSDAY, FEBRUARY 2

07:00–08:00      **Breakfast**      [Summit Gallery](#)

08:00–11:00      **Functional Proteomics**      [Peaks 4-5](#)

[Registered attendees](#) can view abstracts starting on 12/29/2016

\* **Ileana M. Cristea**, Princeton University, USA

**Alan Saghatelian**, The Salk Institute for Biological Studies, USA  
*Cell Biology of sORF Polypeptides*

**Steven P. Gygi**, Harvard Medical School, USA  
*A Powerful Mouse Model Illuminates the Consequences of Genetic Variation on a Proteome-Wide Scale*

**Coffee Break**

**Joshua J. Coon**, University of Wisconsin, USA  
*One-Hour Proteome Analysis*

**Christopher G. Parker**, The Scripps Research Institute, USA  
*Short Talk: Ligand and Target Discovery by Fragment-Based Screening in Human Cells*

**Elyse Freiburger**, University of Wisconsin-Madison, USA  
*Short Talk: Deep Proteome Analysis of Murine Islets*

11:00–17:00      **On Own for Lunch**

16:30–17:00      **Coffee Available**      [Foyer](#)

17:00–18:15      **Emerging Strategies in Proteomics**      [Peaks 4-5](#)

[Registered attendees](#) can view abstracts starting on 12/29/2016

\* **John R. Yates III**, The Scripps Research Institute, USA

**James A. Wells**, University of California, San Francisco, USA  
*Discovering and Modulating How Cell Surfaces Remodel with RAS Transformation*

**Bernd Wollscheid**, ETH Zürich, Switzerland  
*Decoding Ligand Receptor Interactions*

18:15–19:00      **Keynote Address**      [Peaks 4-5](#)

[Registered attendees](#) can view abstracts starting on 12/29/2016

\* **Alan Saghatelian**, The Salk Institute for Biological Studies, USA

**Brenda J. Andrews**, University of Toronto, Canada

*Yeast Proteome Dynamics and Subcellular Morphology from  
Single Cell Imaging and Automated Analysis*

19:00–19:15	<b>Meeting Wrap-Up: Outcomes and Future Directions (Organizers)</b> <a href="#">Registered attendees</a> can view abstracts starting on 12/29/2016	<a href="#">Peaks 4-5</a>
19:15–20:15	<b>Social Hour with Lite Bites</b> No registration fees are used to fund alcohol served at this function.	<a href="#">Peaks 1-3</a>
20:00–23:00	<b>Entertainment</b> Entertainment is not subsidized by conference registration fees nor any U.S. federal government grants. Funding for this expense is provided by other revenue sources.	<a href="#">Peaks 1-3</a>

## FRIDAY, FEBRUARY 3

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### Departure

\*Session Chair †Invited, not yet responded.

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