Agenda at a Glance

Monday, November 17, 2014

7:30 a.m. – 7:00 p.m. Registration

9:00 – 9:15 a.m. Opening Remarks
James Wells, University of California, San Francisco, USA

9:15 – 10:00 a.m. Keynote Lecture
SynBio-driven Potential for Reviving Natural Products Legend
Zixin Deng, Shanghai Jiaotong University, China

10:00 – 10:15 a.m. Refreshment Break with Exhibitors

10:15 a.m. Session I: Chemical Probing of the Ubiquitin Proteasome System
Chair: TBD

10:20 – 10:50 a.m. Is Induction of Proteotoxic Crisis a Broadly Applicable Approach to Therapy of Cancer?
Ray Deshaies, California Institute of Technology, USA

10:50 – 11:05 a.m. Debranching Ubiquitin Chains with Ubiquitin C-Terminal Hydrolases
Eric Strieter, University of Wisconsin, Madison, USA

11:05 – 11:20 a.m. Targeting Protein-protein Interactions in the Ubiquitin-proteasome System
Kamyar Hadian, Helmholtz Center Munich, Germany

11:20 – 11:35 a.m. Lenalidomide Promotes CRBN-mediated Ubiquitination and Degradation of IKZF1 and IKZF3
Monica Schenone, Broad Institute of MIT and Harvard, USA

11:35 a.m. – 1:00 p.m. Lunch on Own

1:00 p.m. Session II: Probing Protein Homeostasis & Chaperones
Chair: Matthew Shoulders, Massachusetts Institute of Technology (MIT), USA

1:05 – 1:35 p.m. Targeting Protein-protein Interactions in the Heat Shock Protein 70 (Hsp70) Complex
Jason Gestwicki, University of California, San Francisco, USA

1:35 – 2:05 p.m. The Hsp70-40-Nucleotide Exchange Factor Folding Pathway Hastens Transthyretin Folding and Alters the Resulting Structure Rendering it Kinetically More Stable
Jeff Kelly, The Scripps Research Institute, USA

2:15 p.m. Session III: Tools for Epigenetics
Chairs: Masatoshi Hagiwara, Kyoto University, Japan

2:20 – 2:50 p.m. Chemical Probes to Antagonize Readers and Writers Methyl Marks
Cheryl Arrowsmith, SGC-Toronto, Canada

2:50 – 3:20 p.m. Chromatin-mediated Regulation of Histone Demethylases
Danica Fujimori, University of California, San Francisco, USA

3:20 – 3:35 p.m. Development of Small Molecule Menin-MLL Inhibitors for Epigenetic Regulation in Cancer
Jolanta Grembecka, University of Michigan, USA

3:35 – 3:50 p.m. Design, Development, and Functionalization of Chemical Probes for the Lysine Methyltransferases EZH2 and G9a
Kyle Konze, University of North Carolina, Chapel Hill, USA

3:55 - 4:10 p.m. Refreshment Break with Exhibitors
Agenda at a Glance

Monday, November 17, 2014 (continued)

4:10 p.m. Session IV: Identifying and Probing Protein Targets with Chemical Approaches
Sponsored by Promega

Chair: Zaneta Nikolovska-Coleska, University of Michigan, USA

4:15 – 4:45 p.m. Activity-based Proteomics – Applications for Enzyme and Inhibitor Discovery
Benjamin Cravatt, The Scripps Research Institute, USA

4:45 – 5:15 p.m. A Chemical Biology Approach to Understanding Protein Quality Control Surveillance
Mechanisms in Eukaryotic Cells
Tom Wandless, Stanford University, USA

5:15 – 5:30 p.m. From Computational Chemogenomics to Target Deconvolution of Phenotypic Screens
Vladimir Chupakhin, Janssen Pharmaceutical Company of Johnson & Johnson, Spain

5:30 – 5:45 p.m. Small Molecule Probes to Quantify the Functional Fraction of a Specific Protein in a
Cell with Minimal Folding Equilibrium Shifts
Xin Zhang, The Scripps Research Institute, USA

6:05 – 7:00 p.m. Poster Briefing I

7:00 – 8:30 p.m. Opening Mixer, Exhibitor and Poster Reception I

Tuesday, November 18, 2014

7:30 a.m. – 7:15 p.m. Registration

8:00 a.m. Session V: Engineering Biology with Synthetic & Unnatural Proteins
Chair: Bradley Pentelute, Massachusetts Institute of Technology (MIT), USA

8:05 – 8:35 a.m. Engineering Light-responsive Proteins
David Lawrence, University of North Carolina, USA

8:35 – 8:50 a.m. Labeling the Bacterial Outer Membrane Transporter LptD Using an Antimicrobial
Peptide by Chemical Cross-linking
Gloria Andolina, University of Zurich, Switzerland

8:50 – 9:05 a.m. Chemical Biology that Controls DNA Structure and Function:
DNA Origami and Artificial Genetic Switch
Hiroshi Sugiyama, Kyoto University, Japan

9:05 – 9:20 a.m. Pneumococcal Neuraminidase Substrates Identified Through
Chemoenzymatic Labeling
Janet McCombs, University of Texas Southwestern Medical Center, USA

9:30 – 9:45 a.m. Refreshment Break with Exhibitors
Agenda at a Glance

Tuesday, November 18, 2014 (continued)

9:45 a.m.  Session VI: Controlling Cell Fate, Models & Systems Biology
Chair: Christian Ottmann, Eindhoven University of Technology, Netherlands

9:50 – 10:20 a.m.  A Chemical Approach to Controlling Cell Fate
Sheng Ding, Gladstone Institute of Cardiovascular Disease, USA

10:20 – 10:35 a.m.  Small-molecule Modulation of Apoptosis via Direct Targeting of Pro-apoptotic BAX
Evripidis Gavathiotis, Albert Einstein College of Medicine, USA

10:35 – 10:50 a.m.  Targeting Sensors and Molecular Probes: Oxidative Stress and Aging
Richard Hartley, University of Glasgow, United Kingdom

11:00 a.m.  Keynote Lecture
Modulating Signaling via Polypharmacology of Kinases and RAS
Kevan Shokat, University of California, San Francisco, USA

11:45 a.m. – 12:15 p.m.  Lunch on Own

12:15 – 1:15 p.m.  Panel Discussion: Meet Editors of Chemical Biology Journals
Chair: Mirella Bucci, PhD; Nature Chemical Biology
Panelists: Jason Gestwicki, ACS Chemical Biology
Kevan Shokat, Chemistry & Biology
Andrew Napper, Assay & Drug Development Technologies
Rathnam Chaguturu, Combinatorial Chemistry & HTS
Stephen Traynelis, Molecular Pharmacology

1:15 p.m.  Session VII: Perturbing & Observing Biology in Living Cells
Chair: Petr Bartůněk, Institute of Molecular Genetics of the ASCR V.V.i, Czech Republic
Michiyuki Matsuda, Kyoto University, Japan

1:20 – 1:50 p.m.  Deprotection Chemistry-mediated Protein Activation in Living Cells
Peng Chen, College of Chemistry and Molecular Engineering, China

1:50 – 2:20 p.m.  Long-term Activity Imaging in Cells and Mice by Transposon-mediated Stable-expression of FRET Biosensors
Michiyuki Matsuda, Kyoto University, Japan

2:20 – 2:35 p.m.  New Chemical Probes for Imaging Glycolipid Trafficking
Liam Cox, University of Birmingham, United Kingdom

2:35 – 2:50 p.m.  Small Fluorogen-activating Protein Tags for Protein Imaging in Living Cells
Arnaud Gautier, Ecole Normale Superieure, France

2:50 – 3:05 p.m.  Development of a Red Fluorescence Probe for Monitoring Dynamics of Cytoplasmic Calcium Ion
Kenjiro Hanaoka, The University of Tokyo, Japan

3:05 – 3:20 p.m.  A Spontaneously Blinking Fluorophore Based on Intramolecular Spirocyclization for Live-cell Super-resolution Imaging
Shinnosuke Uno, The University of Tokyo, Japan

3:25 - 3:45 p.m.  Refreshment Break with Exhibitors

3:45 p.m.  Session VIII: Central Nervous System & Neurobiology
Chair: Melvin Reichman, LIRM Chemical Genomics Center, USA

3:50 - 4:20 p.m.  Chemical Biology of Ligand-gated Ion Channels for Causal Neuroscience
Scott Sternson, Janelia, Howard Hughes Medical Institute, USA
Agenda at a Glance

Tuesday, November 18, 2014 (continued)

4:20 – 4:50 p.m.  
**Context-dependent NMDA Receptor Inhibition**  
Stephen Traynelis, Emory University School of Medicine, USA

4:50 – 5:05 p.m.  
**An Unbiased Multidimensional Profiling Method to Study the Biology of Parkinson’s Disease**  
Marie-Laure Vial, Eskitis Institute for Drug Discovery-Griffith University, Australia

5:10 p.m.  
**Special Session I: Enabling Chemical Biology**  
Chair: Xu Zhang, Nanjing University of Chinese Medicine, China

5:15 – 5:45 p.m.  
**How to Run a Research Laboratory from the Beach**  
Kevin Lustig, Assay Depot, Inc., USA

5:45 – 6:00 p.m.  
**A European Research Infrastructure for Chemical Biology “EU-OPENSSCREEN”**  
Ronald Frank, Leibniz-Institut für Molekulare Pharmakologie, Germany

6:05 – 7:15 p.m.  
**Poster Briefing I**

7:15 – 8:30 p.m.  
**Exhibitor and Poster Reception II**

Wednesday, November 19, 2014

7:30 a.m. – 6:00 p.m.  
Registration

8:00 a.m.  
**Session IX: Tackling Challenging Diseases**  
Chair: Michael Varney, Genentech, USA

8:05 – 8:35 a.m.  
**The Discovery and Early Development of the PI3K Inhibitor GDC-0032**  
Michael Varney, Genentech, USA

8:35 – 9:05 a.m.  
**Black and White Facts Underlying Depigmenting Disorder Vitiligo**  
Rajesh Gokhale, CSIR-Institute of Genomics & Integrative Biology of India, India

9:05 – 9:20 a.m.  
**A Chemical Biology Approach Identified a New Inhibitor of LIM Kinases**  
Laurence Lafanechère, CNRS, France

9:25 – 9:55 a.m.  
Refreshment Break with Exhibitors

9:55 a.m.  
**Session X: Novel Chemistry for Discovery**  
Chair: David Fairlie, University of Queensland, Australia

10:00 – 10:30 a.m.  
**Heterocycles as Tuning Forks to Modulate Cell Signaling**  
David Fairlie, University of Queensland, Australia

10:30 – 11:00 a.m.  
**Chemical Tools for Imaging Cellular Fatty Acylation**  
Rami Hanoush, Genentech, USA

11:00 – 11:15 a.m.  
**A Chemoselective Tool for Lys-phosphorylation**  
Jordi Bertran-Vicente, Leibniz-Institut für Molekulare Pharmakologie (FMP), Germany

11:15 – 11:30 a.m.  
**Targeted-diazotransfer Reagents to Site-selectively Introduce Azides on Proteins**  
Martin Witte, University of Groningen, The Netherlands

11:35 a.m. – 1:05 p.m.  
Lunch on Own
Agenda at a Glance

Wednesday, November 19, 2014 (continued)

1:05 p.m. Session XI: Natural Product and Synthetic Biology
Chairs: Lixin Zhang, Institute of Microbiology, China
       Ronald Quinn, Eskitis Institute for Drug Discovery, Griffin University, Australia

1:10 – 1:40 p.m. Anti-infective and Anti-tumor Natural Products Discovery and Biosynthesis from Marine Actinomycetes
Jianhua Ju, South China Sea Institute of Oceanology, Chinese Academy of Sciences, China

1:40 – 1:55 p.m. Unique RNA Binding Properties of Some DNA Binding Natural Alkaloids
Gopinatha Suresh Kumar, CSIR Indian Institute of Chemical Biology, India

1:55 – 2:10 p.m. Anti-cancer Effects and Mechanisms of Piperlongumine in Brain and Liver Tumors
Xiaoqian Chen, Huazhong University of Science and Technology, China

2:10 – 2:25 p.m. Fragment-Based FTMS Screening of a Unique Natural Product Library
Ronald Quinn, Eskitis Institute for Drug Discovery, Griffith University, Australia

2:30 – 3:30 p.m. Special Session II: Rising Stars of Chemical Biology
Chair: Haian Fu, Emory University, USA

3:30 – 4:00 p.m. ICBS Annual Business Meeting and Refreshment Break

4:00 p.m. Session XII: Reproducibility & Transparency in Biomedical Research
Chairs: David Vaux, The Walter and Eliza Hall Institute, Australia
       Rathnam Chaguturu, iDDPartners, USA

4:05 – 4:35 p.m. Reproducible Research - What Should you Look For, and Who Can You Trust?
David Vaux, The Walter and Eliza Hall Institute, Australia

4:35 – 5:05 p.m. Data Reproducibility in the Post Genomics Era: Death of a Noble Technology
Hakim Djeballah, Institut Pasteur, Korea

5:10 p.m. Keynote Lecture
Systems Chemical Biology of Drug Action and Drug Transport
Giulio Superti-Furga, CeMM Research Center for Molecular Medicine
of the Austrian Academy of Sciences, Austria

5:50 – 6:30 p.m. Closing Remarks