



Ubiquitin Signaling

January 28–February 1, 2018 | Granlibakken Tahoe | Tahoe City, California | USA

Scientific Organizers:

David Komander, MRC Laboratory of Molecular Biology, UK

Sylvie Urbé, University of Liverpool, UK

These are exciting times for ubiquitin research: potential targets for small molecule inhibitors are emerging in a variety of human diseases and being exploited by the pharmaceutical industry. At the same time, new enzymes regulating ubiquitin modifications are still being discovered, and the complexity of ubiquitin modifications continues to increase with the emerging cross-talk between post-translational modifications. This conference will focus on the latest insights in the large area of cellular regulation mediated by ubiquitin and ubiquitin-like modifiers. Key goals are to provide overviews and updates on emerging frontiers, and encourage efforts to exploit the ubiquitin system to provide new treatments for human diseases. Rather than being organized around key enzymes in the cascade, sessions will focus on biological areas, ensuring a balanced mix of mechanistic and physiology aspects. The meeting will feature both key opinion leaders on ubiquitination who are known to present unpublished results and leading researchers from peripheral fields who will contribute new ideas. A short selection of company-associated academic speakers will provide insights into the translational opportunities in this area.

Session Topics:

- The Ubiquitin Code I – Ubiquitin Chains
- The Ubiquitin Code II – Ub/Ubl Modifications
- Ubiquitin in the Host's Response to Infection
- Genetic Disorders
- Protein Degradation in Diseases
- Regulation of Autophagy and Mitophagy by Ubiquitin
- Nuclear Roles of Ubiquitin
- New Paradigms in Ubiquitin Modification(s)

Scholarship Application & Discounted Abstract Deadline: October 2, 2017

Abstract Deadline: October 31, 2017

Discounted Registration Deadline: November 30, 2017



Note: Scholarships are available for graduate students and postdoctoral fellows and are awarded based on the abstract submitted. Submitting an abstract is an excellent opportunity to gain exposure for your work. Abstracts submitted by the abstract deadline will also be considered for short talks on the program.

Meeting Hashtag: #KSubiquitin
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SUNDAY, JANUARY 28

Arrival and Registration

MONDAY, JANUARY 29

Welcome and Keynote Address

***David Komander**, MRC Laboratory of Molecular Biology, UK

Brenda A. Schulman, Max Planck Institute of Biochemistry, Germany
Celebrating 20 Years of Cullin Neddylation

The Ubiquitin Code I - Ubiquitin Chains

***David Komander**, MRC Laboratory of Molecular Biology, UK

Nicolas H. Thomä, Friedrich Miescher Institute for Biomedical Research, Switzerland
How Thalidomide Analogues Recruit Zinc-Finger Degrons to the CRL4-CRBN Ubiquitin Ligase

David Toczyski, University of California, San Francisco, USA
Genetic Analysis Reveals Functions of Atypical Polyubiquitin Chains

Steve Cappell, NCI, National Institutes of Health, USA
Short Talk: Emi1 Switches from being a Substrate to an Inhibitor of APC/C-Cdh1 to Start the Cell Cycle

Achim Werner, NIDCR, National Institutes of Health, USA
Short Talk: Multisite Phosphorylation Regulates Ubiquitin-dependent Neural Crest Formation

Raymond J. Deshaies, California Institute of Technology and Cleave Biosciences
Vms1/Ankzf1: A Novel Peptidyl-tRNA Hydrolase that Releases Nascent Chains from Stalled Ribosomes

Workshop 1: New Methods

***Ingrid E. Wertz**, Genentech, Inc., USA
Reactive Site-centric Chemoproteomics Identifies a Structurally Distinct Class of Deubiquitinase Enzymes

Norihito Shibata, National Institute of Health Sciences, Japan
Strategy for Protein Degradation against Oncoprotein BCR-ABL

Kristin Riching, Promega Corporation, USA
Monitoring Functional Mechanisms of Protein Degradation in Living Cells

Yu Ye, University of Cambridge, UK
Targeting Protein Aggregates with the Proteasome in vitro and in vivo

Itay Koren, Harvard Medical School, USA
Discovering Degrons using a Synthetic Human Peptidome

***Benedikt M. Kessler**, University of Oxford, UK
Expanding the Cancer Cell DUBome for Small Molecule Drug Profiling using Advanced Chemoproteomics

The Ubiquitin Code II - Ub/Ubl Modifications

***Sylvie Urbé**, University of Liverpool, UK

Christopher D. Lima, Memorial Sloan Kettering Cancer Center, USA
Ubiquitin-like Protein Conjugation Complexes and Genome Integrity

Jon Huibregtse, University of Texas at Austin, USA

The Extracellular Signaling Function of ISG15 and Cytokine Secretion

Neil Hunter, University of California, Davis, USA

Short Talk: Delineation and Analysis of the SUMO-Modified Proteome during Meiosis

Mark W. Hochstrasser, Yale University, USA

Distinct Toxin-Antidote Modules Underlie Reproductive Manipulation of Insect Hosts by Intracellular Wolbachia Bacteria

Poster Session 1

TUESDAY, JANUARY 30

Ubiquitin in the Host's Response to Infection

***Claus Scheidereit**, Max Delbrück Center for Molecular Medicine, Germany

Vishva M. Dixit, Genentech, Inc., USA
Ubiquitin in Inflammation

Mads Gyrd-Hansen, University of Oxford, UK
Deubiquitinases in Innate Immune Signalling

Catherine L. Day, University of Otago, New Zealand
TRAFs and the Assembly of Ubiquitin Chains

Nicolas Bidère, INSERM, France
Short Talk: Regulation of Ciliogenesis and Cell Death by CYLD and Centriolar Satellites

Fuminori Tokunaga, Osaka City University, Japan
Short Talk: Characterization of a Novel LUBAC Inhibitor, HOIPIN-1

Zhijian James Chen, University of Texas Southwestern Medical Center, USA

Ubiquitin in Host Responses

Genetic Disorders

***Agata Smogorzewska**, Rockefeller University, USA

Ivona Aksentijevich, NHGRI, National Institutes of Health, USA
NF-kappaB Pathway in Autoinflammatory Diseases: Ubiquitination meets Autoinflammation

Ryan Potts, St. Jude Children's Research Hospital, USA
MAGE Proteins in Cancer

Alessandra Rufini, University of Tor Vergata, Italy
Short Talk: The E3 Ligase RNF126 as a New Therapeutic Target for Friedreich Ataxia

Miratul Muqit, University of Dundee, UK
Parkinson's Disease Ubiquitin Signaling Pathways in Mice and Man

Poster Session 2

WEDNESDAY, JANUARY 31

Protein Degradation in Diseases

***Mark W. Hochstrasser**, Yale University, USA

Daniel J. Finley, Harvard University and Proteostasis, Inc.
Reciprocal Regulation between Ubp6 and the Proteasome

Andreas Matouschek, University of Texas at Austin, USA
Selecting Proteins for Proteasomal Degradation

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Leo James, MRC Laboratory of Molecular Biology, UK
Trim-Away: Targeted Degradation of Pathogens and Proteins by the Cytosolic Antibody Receptor TRIM21

Sumana Sanyal, Hong Kong University-Pasteur Institut, Hong Kong
Short Talk: Host Cellular Ubiquitylation Profiling Reveals a Critical Role for Lipid Droplet Metabolism during Flavivirus Infections

John Hanna, Harvard Medical School, USA
Short Talk: Targeted Degradation of Glucose Transporters Protects against Arsenic Toxicity

Craig M. Crews, Yale University and Arvinas, Inc.
PROTACs: Induced Protein Degradation as a Therapeutic Strategy

Workshop 2: Drug Discovery

***Lawrence R. Dick**, Takeda, USA
Targeting the Proteasome for Antimalarial Drug Discovery

Thomas Kodadek, The Scripps Research Institute, USA
Mining DNA-Encoded Combinatorial Libraries of Electrophilic Compounds for Selective, Covalent Inhibitors of Deubiquitylases

Peter Tsvetkov, Whitehead Institute, USA
A New Way Cancer Cells Cope with Proteotoxic Stress

Panagiotis Ntziachristos, Northwestern University, USA
USP7 Cooperates with Oncogenes to Drive the Oncogenic Transcriptional Program in Acute Lymphoblastic Leukemia

Marjolein Kikkert, Leiden University Medical Center, Netherlands
Potent and Selective Inhibition of MERS Coronavirus Papain-like Protease by Engineered Ubiquitin Variants

***Jeanine Harrigan**, Mission Therapeutics, UK
Development of DUB Inhibitors for the Treatment of Human Disease

Regulation of Autophagy and Mitophagy by Ubiquitin

***Miratul Muqit**, University of Dundee, UK

Sylvie Urbé, University of Liverpool, UK
Regulation of Basal Mitophagy by Deubiquitylases

J. Wade Harper, Harvard Medical School, USA
Digitizing Ubiquitin Signaling for Mitophagy

Kalle Gehring, McGill University, Canada
Short Talk: Parkin and PINK1 at the Crossroads of Cell Signaling by Phosphorylation and Ubiquitination

Richard J. Youle, NINDS, National Institutes of Health, USA
Synthetic Phenotypes in Mice Lacking PINK1 and Parkin-Mediated Mitophagy

Poster Session 3

THURSDAY, FEBRUARY 1

Nuclear Roles of Ubiquitin

Titia K. Sixma, Netherlands Cancer Institute, Netherlands
Finding the Right Target

Niels Mailand, University of Copenhagen, Denmark
Regulation of Chromatin Ubiquitylation in the DNA Damage Response

Agata Smogorzewska, Rockefeller University, USA
Ubiquitin Shuttle Proteins and the Stress Response at the Replication Fork

John L. Nitiss, University of Illinois, USA
Short Talk: Ubiquitylation Regulates Repair of Topoisomerase Induced DNA Damage

***Christine Katrin Schmidt**, University of Manchester, UK
Short Talk: Talk Title to be Announced

Cynthia Wolberger, Johns Hopkins University School of Medicine, USA
Mechanistic Insights into Histone Deubiquitination

New Paradigms in Ubiquitin Modification(s)

***Sylvie Urbé**, University of Liverpool, UK

Ivan Dikic, Goethe University Medical School, Germany
Catalysis and Inhibition of Phosphoribosyl-Dependent Ubiquitination

Yuxin Mao, Cornell University, USA
Short Talk: The Molecular Mechanism of Phosphoribosyl-ubiquitination Mediated by a Single Legionella Effector

Satpal Virdee, University of Dundee, UK
A New Class of Threonine-specific E3 Ligase

David Komander, MRC Laboratory of Molecular Biology, UK
New Tools to Study Ubiquitin Chain Architecture

Meeting Wrap-Up: Outcomes and Future Directions (Organizers)

FRIDAY, FEBRUARY 2

Departure