

KEYSTONE SYMPOSIA

on Molecular and Cellular Biology

Ubiquitin Biology - RESCHEDULED (RJ5)

Scientific Organizers: Eric J. Bennett, Nicolas H. Thomä and Niels Mailand

Sponsored by Astellas Pharma Inc. and Genentech, Inc.

Targeted Protein Degradation - RESCHEDULED (RJ6)

Scientific Organizers: Rajesh Chopra, Nathanael Gray, Anita Gandhi and Georg Winter

November 6-9, 2022 • Fairmont Hotel Vancouver • Vancouver, BC, Canada

Sponsored by AbbVie Inc., Amgen Inc., Incyte Corporation and Infinity Pharmaceuticals, Inc.

Scholarship Deadline: November 26, 2021 / Abstract Deadline: August 23, 2022 / Discounted Registration Deadline: September 6, 2022

SUNDAY, NOVEMBER 6

Arrival and Registration

MONDAY, NOVEMBER 7

Welcome and Keynote Address (RJ5)

*Eric J. Bennett, University of California, San Diego, USA

Ivan Dikic, Goethe University Medical School, Germany
Ubiquitination and Remodeling of Organelles

Welcome and Keynote Address (RJ6)

Benjamin L. Ebert, Dana-Farber Cancer Institute, USA
Targeted Protein Degradation for the Treatment of Cancer

Regulating Nuclear Function with Ubiquitin (RJ5)

Goran Kokic, Max Planck Institute for Biophysical Chemistry, Germany
Transcription-coupled DNA Repair: Lessons Learned on the Ubiquitylation of Complex Substrates

Jo R. Morris, University of Birmingham, UK
SUMOylation in the DNA Double-Strand Break Response

Niels Mailand, University of Copenhagen, Denmark
Ubiquitin-Dependent Signaling in the DNA Damage Response

Stefan Muller, Goethe University Frankfurt, Germany
Short Talk: Safeguarding Proteome and Genome Integrity by Sumo-ubiquitin Networks

Imke Leonie Lemmer, LMU Munich, Germany
Short Talk: Nfe2l1 Shapes the Muscle Ubiquitome to Regulate Fiber Type and Metabolic Fitness

Proteolysis Targeting Chimeras (PROTACs) (RJ6)

Alessio Ciulli, University of Dundee, School of Life Sciences, UK
Structural Chemical Biology and Insights into PROTAC Mechanism of Action

Nathanael Gray, Stanford University, USA
Targeting Kinases Via Protein Degradation

Shaomeng Wang, University of Michigan, USA
Targeting Transcriptional Factor STAT3 and Other STAT Proteins by PROTAC

Bikash Adhikari, University of Wuerzburg, Germany
Short Talk: Targeted Protein Degradation of Oncogenic Proteins using PROTACs

Charlotte Crowe, University of Dundee, UK
Short Talk: Novel Biophysical Assays for Small-Molecule Mediated Ternary Complex Formation and Ubiquitination

Career Roundtable (Joint)

Mechanisms of Protein Ubiquitylation and Degradation (Joint)

*Ingrid E. Wertz, Bristol Myers Squibb, USA

Brenda A. Schulman, Max Planck Institute of Biochemistry, Germany
Cullin-RING E3 Ligation Mechanisms

Weaam Ibrahim Mohamed, Institute of Biochemistry, Switzerland
Short Talk: Regulation of RING E3 Ubiquitin Ligases by Oligomerization: What do we Learn from CRL4(DCAF1) and the hGID Complexes?

Kylie J. Walters, NCI, National Institutes of Health, USA
Outskirts of the Proteasome: Substrate Receptors and Beyond

Nicolas H. Thomä, Friedrich Miescher Institute for Biomedical Research, Switzerland
The Zinc Finger Degrome

Hadir Marei, Genentech, Roche, USA
Short Talk: Leveraging E3 Ubiquitin Ligases as Cell Surface Degradors

Poster Session 1

TUESDAY, NOVEMBER 8

Strategies for Therapeutic Targeting of the Ubiquitin Proteasome System (Joint)

*Brenda A. Schulman, Max Planck Institute of Biochemistry, Germany

Sara Buhrlage, Dana-Farber Cancer Institute, USA
Approaches to Identify New DUB Inhibitors

Mikko Taipale, University of Toronto, Canada
Functional Proteomics by Induced Proximity

Eva d'Hennezel, Novartis Institutes of Biomedical Research, USA
and

Simone Bonazzi, Novartis Institutes of Biomedical Research, USA
Strategies for Therapeutic Targeting of the UPS

Ingrid E. Wertz, Bristol Myers Squibb, USA
Identification, Development, and Characterization of Inhibitors for Deubiquitinating Enzymes

Mandeep Kaur Mann, University of Toronto, Canada
Short Talk: Discovery of First-in-class USP5 Inhibitors

Ashley Philip Dudgey†, University of East Anglia, UK
Short Talk: Developing Novel WWP1 and WWP2 Ubiquitin Ligase Ligands and Inhibitors

Workshop: Emerging Themes in Ubiquitin Biology (RJ5)

*Eric J. Bennett, University of California, San Diego, USA

Thang V. Nguyen, University of Missouri, School of Medicine, USA
Suppressing the Action of Molecular Glues and PROTACs by the Deubiquitylating Enzyme USP15

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Darren M. O'Hara, Almac Discovery, UK

Discovery of a Novel USP19 Inhibitor with Muscle Sparing Activity in vivo

Jason Q. Tang, University of Toronto, Canada

Expanding the Druggable Space for USPs by Targeting Accessory Domains

Sammy Villa, University of California, USA

The OTUD6 Deubiquitinase Associates with the 40S Ribosome to Regulate Translation and the Response to Stressors in Drosophila

Alexa Nadine Wilson, Dalhousie University, Canada

Stressed Out: How a Herpesvirus E3 Ubiquitin Ligase Targets the Cellular Stress Response

Ubiquitin-Dependent Quality Control Mechanisms (RJ5)

Eric J. Bennett, University of California, San Diego, USA

Ribosome Associated Quality Control Mechanisms

Miguel A. Prado, Harvard Medical School, USA

Short Talk: Global Remodeling of the Proteome in Terminal Differentiation

Sonya Neal, University of California, San Diego, USA

The Role of Rhomboid Pseudoprotease Dfm1 in ERADicating Misfolded Membrane Proteins

Olivia Rissland, University of Colorado School of Medicine, USA

Short Talk: Clearance of Maternal Proteins during Early Embryogenesis

Susan Shao, Harvard Medical School, USA

Mechanisms of Ribosome-Associated Protein Degradation

Novel Approaches to Protein Degradation/Homeostasis for Therapeutics (RJ6)

Speaker to be Announced

Eric S. Fischer, Dana-Farber Cancer Institute, USA

How Structural Biology will Transform Targeted Protein Degradation?

Hannah B L Jones, University of Oxford, UK

Short Talk: Cell Based High-throughput Screening of DUB Inhibitors using Activity-based Probe Profiling (ABPP-HT)

Erika Maria Lopez-Alfonzo, University of California, Berkeley, USA

Short Talk: Mechanistic Dissection of Functional Asymmetries in the Proteasomal AAA+ Motor Using smFRET

Jort S.A. van der Geest, University Medical Center Utrecht, Netherlands

Short Talk: Targeted Degradation of the Mutant PLN Protein in p.Arg14del PLN Associated Cardiomyopathy

Poster Session 2

WEDNESDAY, NOVEMBER 9

New Paradigms in Protein Ubiquitylation (RJ5)

***Susan Shao**, Harvard Medical School, USA

Satpal Virdee, University of Dundee, UK

Non-lysine Ubiquitination and Deubiquitination

Joshua L. Andersen, Brigham Young University, USA

Short Talk: TNK1 is a Ubiquitin-sensing Kinase that can be Targeted to Block Tumor Growth

Luis Gerardo Villa-Díaz, Oakland University, USA

Short Talk: Enhanced Ubiquitin Pathway Regulation in Human Pluripotent Stem Cells Cultured in Microgravity Conditions

Heran Darwin, New York University School of Medicine, USA

Proteasomal Regulation of Mycobacterial Virulence

Emily Troemel, University of California, San Diego, USA

Ubiquitin Signaling within the Intracellular Pathogen Response Pathway

Novel Approaches to the Development and Discovery of Molecular Glues (RJ6)

Anita K. Gandhi, Bristol-Myers Squibb, USA

Emerging CELMoDs in Hematological Malignancies

Daniel K. Nomura, University of California, Berkeley, USA

Reimagining Druggability using Chemoproteomic Platforms

Georg E. Winter, CeMM Research Center for Molecular Medicine, Austria

Chemical Genomics Approaches to Targeted Protein Degradation

Ekaterina Vinogradova, Rockefeller University, USA

Covalent Small-Molecule Protein Degradation

Carles Galdeano, University of Barcelona, Spain

Short Talk: Expanding the Toolbox of E3 Ligases with Structure-based Approaches

Ubiquitin System Dysregulation in Disease (RJ5)

***Sonya Neal**, University of California, San Diego, USA

Speaker to be Announced

J. Wade Harper, Harvard Medical School, USA

Systematic Analysis of Ubiquitin System Dysfunction in Mitochondrial Disorders

Speaker to be Announced

Achim Werner, NIDCR, National Institutes of Health, USA

Short Talk: Ubiquitin-dependent Restriction of CDC42 Signaling Specifies Embryonic Patterning

Methodologies and Technologies for the Investigation of Protein Degradation (RJ6)

Speaker to be Announced

Rajesh Chopra, Apple Tree Partners, USA

Phenotypic Screens for Identifying Modulators of E3 Ligase Function

Speaker to be Announced

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Meeting Wrap-Up: Outcomes and Future Directions (Organizers)
(RJ5)

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THURSDAY, NOVEMBER 10

Departure