

KEYSTONE SYMPOSIA

on Molecular and Cellular Biology

Autophagy: Mechanisms and Disease (EK7)

October 5-8, 2020 • Virtual at your computer • , CO, USA

Scientific Organizers: Patricia Boya, Felix Randow and Masaaki Komatsu

Part of the Keystone Symposia Global Health Series, supported by the Bill & Melinda Gates Foundation

Sponsored by Astellas Pharma Inc., AstraZeneca and Cell Research

Global Health Travel Award Deadline: September 22, 2020 / Scholarship Deadline: August 31, 2020 / Abstract Deadline: September 14, 2020 / Discounted Registration Deadline:

MONDAY, OCTOBER 5

Welcoming Remarks and Keynote Address: Beth Levine Lecture (6am Denver/Mountain Time Start)

***Patricia Boya**, Centro de Investigaciones Biológicas, CSIC, Spain
Eric H. Baehrecke, University of Massachusetts Medical School, USA
Autophagy, Mitochondria and Disease

Mini Symposium to Honor Beth Levine (6:35am Denver/Mountain Time Start)

***Patricia Boya**, Centro de Investigaciones Biológicas, CSIC, Spain
***Eric H. Baehrecke**, University of Massachusetts Medical School, USA

Herbert (Skip) W. Virgin, Vir Biotechnology, USA
Beth Levine: A Legacy of Science, Collaboration, Community and Mentorship

Ana Maria Cuervo, Albert Einstein College of Medicine, USA
Beth Levine: A Legacy of Science, Collaboration, Community and Mentorship

Malene Hansen, Sanford Burnham Prebys Medical Discovery Institute, USA
Beth Levine: A Legacy of Science, Collaboration, Community and Mentorship

Xiaonan Dong, University of Texas Southwestern Medical Center, USA
Short Talk: Role of Sorting Nexins in Virophagy

Yang Liu, University of Texas Southwestern Medical Center, USA
Short Talk: Crosstalk between TLR9 and Beclin 1 in Muscle

Salwa Sebti, University of Texas Southwestern Medical Center, USA
Short Talk: Role of Autophagy and Beclin 1 in Aging

New Insights into the Molecular Regulation of Autophagy (8am Denver/Mountain Time Start)

***Felix Randow**, Medical Research Council, UK
David C. Rubinsztein, Cambridge Institute for Medical Research, UK
A DNM2 Centronuclear Myopathy Mutation Reveals a Link between Recycling Endosome Scission and Autophagy

***Fulvio Reggiori**, University Medical Centre Groningen, Netherlands
Molecular Regulation of Autophagosome Formation

Noboru Mizushima, University of Tokyo, Japan
Molecular Mechanism of Large-Scale Organelle Degradation in the Lens

Olatz Pampliega, Achucarro Basque Center for Neuroscience, Spain
Short Talk: Amyloid beta Modulates Neuronal Autophagy through the Primary Cilium

Chunmei Chang, University of California, Berkeley, USA
Short Talk: Reconstituting Cargo Triggered LC3 Lipidation in Autophagy

Thomas J. Mercer, Francis Crick Institute, UK
Short Talk: Examining the Regulation of Autophagy via Identification and Characterisation of ULK Kinase Substrates

Poster Session 1 (11am Denver/Mountain Time Start)

TUESDAY, OCTOBER 6

Selective and Non-Canonical Autophagy (6am Denver/Mountain Time Start)

Ana Maria Cuervo, Albert Einstein College of Medicine, USA
Chaperone Mediated Autophagy

***Richard J. Youle**, NINDS, National Institutes of Health, USA
Mitophagy

***Anne Simonsen**, University of Oslo, Norway
Regulation of Autophagy by Lipid-Binding Proteins

Martin McMahon, University of Utah School of Medicine, USA
Combined Targeting of RAS Signaling Plus Autophagy as a Future Treatment Strategy for Cancer

Patricia Boya, Centro de Investigaciones Biológicas, CSIC, Spain
New Links between Autophagy and Developmental Cell Death

Jennifer Martinez, NIEHS, National Institutes of Health, USA
Non-Canonical Autophagy Mediates Immunotolerant Mechanisms

Andrea KH Stavoe, University of Texas Health Science Center at Houston, USA

Short Talk: Aging Represses Autophagosome Biogenesis but not Autophagosome Transport or Maturation in Neurons

Caroline Mauvezin, IDIBELL, Spain
Short Talk: Autophagy and Lysosomal Degradation Ensure Accurate Chromosomal Segregation to Prevent Genomic Instability

Chris Shoemaker, Dartmouth College, USA
Short Talk: Receptor-Mediated Clustering of FIP200 Bypasses the Role of LC3 Lipidation in Autophagy

Yasuhiro Yamamoto, University of Tokyo, Japan
Short Talk: Selective Autophagy of NEK9 Regulates Primary Cilia Formation

Meet the Editors (11am Denver/Mountain Time Start)

Sadaf Shadan, Nature, UK

Stella M. Hurlley, Science, UK

Elisabetta Argenzio, EMBO Journal, Germany

Petra Gross, Journal of Cell Science, UK

WEDNESDAY, OCTOBER 7

Autophagy and Organelle Crosstalk (6am Denver/Mountain Time Start)

Ivan Dikic, Goethe University Medical School, Germany
ER-Phagy

***Alicia Melendez**, Queens College - CUNY, USA
Autophagy in Germline Development

Rosa Puertollano, NHLBI, National Institutes of Health, USA
Emerging New Roles of Lysosomes in Cellular Response to Stress

Felix Randow, Medical Research Council, UK
Autophagy and Bacterial Infection

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Tassula Proikas-Cezanne, University of Tuebingen, Germany

Regulation of WIPI Beta-Propeller Function in Autophagy

***Masaaki Komatsu**, Juntendo University School of Medicine, Japan

ER-phagy Mediated by the Ufm1-System

Carmine Settembre, Telethon Foundation, Italy

Short Talk: Selective Autophagy of the Endoplasmic Reticulum

(ER-phagy): From Cellular Functions to Signalling Regulation

Paul J. Wrighton, Brigham and Women's Hospital, USA

Short Talk: Live and Quantitative Imaging Reveals in vivo Dynamics

and Molecular Basis of Physiological-Stress Induced Mitophagy

Thanh N. Nguyen, Monash University, Australia

Short Talk: Atg4 Family Proteins Drive Phagophore Growth

Independently of the LC3/GABARAP Lipidation System

Poster Session 2 (10am Denver/Mountain Time Start)

Career Roundtable (12pm Denver/Mountain Time Start)

Jennifer Martinez, NIEHS, National Institutes of Health, USA

Alicia Melendez, Queens College - CUNY, USA

Leon O. Murphy, Casma Therapeutics, USA

THURSDAY, OCTOBER 8

Autophagy and Disease, New Therapeutic Opportunities (6am Denver/Mountain Time Start)

***Patricia Boya**, Centro de Investigaciones Biológicas, CSIC, Spain

Guido Kroemer, Cordeliers Research Center, France

Autophagy and Obesity

Katja Simon, University of Oxford, UK

Cell-Extrinsic Role of Autophagy in Inflammation

Hong Zhang, Chinese Academy of Sciences, China

Inositol Polyphosphate Multikinase Inhibits Liquid-Liquid Phase

Separation of TFEB to Regulate Autophagy Activity

***Martin Graef**, Max Planck Institute for Biology of Aging, Germany

Autophagy and Cellular Aging

Leon O. Murphy, Casma Therapeutics, USA

New Mechanistic Insight into the Regulation of TFEB at the Lysosome

Herbert (Skip) W. Virgin, Vir Biotechnology, USA

New Therapies for Infectious Diseases

Aditya Murthy, Genentech, Inc., USA

Short Talk: Multiplexed Proteomics in Macrophages Uncovers Novel

Roles of Autophagy in Anti-Microbial Immunity

Yasin Dagdas, Gregor Mendel Institute, Austria

Short Talk: A Cross-Kingdom Conserved ER-Phagy Receptor

Maintains Endoplasmic Reticulum Homeostasis during Stress

Yanxiang (Jessie) Guo, Rutgers University, USA

Short Talk: Autophagy Compensates for Lkb1 Loss to Maintain Adult

Mice Homeostasis and Survival

Nicolas Dupont, INSERM U1151 Université de Paris, France

Short Talk: The Primary Cilium and Lipophagy Translate Mechanical

Forces to Direct Metabolic Adaptation of Kidney Epithelial Cells

Closing Remarks (Organizers) (10am Denver/Mountain Time Start)