

Keystone Symposia in Santa Fe

Autophagy:

From Model Systems to Therapeutic Opportunities

Eldorado Hotel | Santa Fe, New Mexico, USA | February 17–21, 2019

Scientific Organizers:

Vojo Deretic, University of New Mexico Health Sciences Center, USA

Li Yu, Tsinghua University, China

Leon O. Murphy, Casma Therapeutics, USA

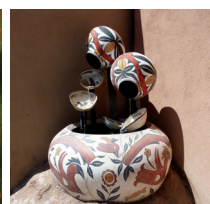
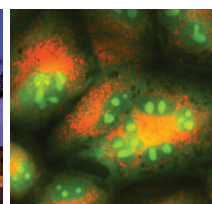
Autophagy is a homeostatic process strategically positioned at the intersection of metabolism and intracellular quality control, with broad physiological and medical manifestations ranging from metabolic imbalance to neurodegeneration, infections, immune disorders, cancer and aging. In yeast, the formation and organization of the autophagosomal apparatus follows a highly prescribed sequence, starting with the pre-autophagosomal structure and ending in autophagosomal fusion with the yeast vacuole. However, in other model organisms, as well as in mammals, the autophagy machinery and its regulators show both similarities and notable differences relative to yeast. The goals/aims of the conference are to: 1) Compare and contrast autophagy in yeast and higher organisms with a focus on both the shared regulators and on those factors that have no counterparts in yeast; 2) Cover the intersection of autophagy with energy metabolism, innate immune signaling and endomembrane damage; and 3) Investigate how signaling cascades regulate the process of selective autophagy whereby substrates are recruited to forming autophagosomes by receptors and molecular tags such as ubiquitin, galectins or through other modalities. The conference will cover fundamental principles as outlined above and how they apply to basic and translational aspects of human disease. Intersections with several other stress response processes will also be addressed.

Plenary Session Topics:

- Autophagy Fundamentals
- Workshop 1: Structural Biology and Proteomics and Autophagy
- mTOR, AMPK, TFEB – Relationship to Autophagy and Other Pathways
- Membrane Trafficking and its Role in Autophagy
- Autophagy Regulation and Processes
- Autophagy, Proteostasis and Organellar Homeostasis
- Panel: Women in Science at All Career Stages
- Autophagy in Aging and Degenerative and Inflammatory Disease
- Autophagy in Metabolism, Growth Control and Cancer
- Workshop 2: Current Controversies
- Autophagy from Model Systems to Humans – Closing the Circle

Abstract Deadline: Nov 15, 2018; Discounted Registration Deadline: Dec 13, 2018

Visit www.keystonesymposia.org/19B2 for more details.



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Autophagy: From Model Systems to Therapeutic Opportunities (B2)

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Abstract & Scholarship Deadline: October 23, 2018 / Abstract Deadline: November 15, 2018 / Discounted Registration Deadline: December 13, 2018

SUNDAY, FEBRUARY 17

Arrival and Registration

MONDAY, FEBRUARY 18

Welcome and Keynote Address

Beth Levine, University of Texas Southwestern Medical Center, USA
Autophagy – A View from Mammalian and Metazoan Studies

Autophagy Fundamentals

***Anne Simonsen**, University of Oslo, Norway

***Patrice Codogno**, INSERM, France

David C. Rubinsztein, Cambridge Institute for Medical Research, UK
Depletion of Acetyl-Coenzyme A by starvation inhibits mTORC1 pathway via EP300

Terje Johansen, Institute of Medical Biology, Norway
Selective Autophagy Mediated by Both Sequestosome 1/p62-Like Receptors and Mitophagy Receptors

J. Wade Harper, Harvard Medical School, USA
Mechanisms Underlying Selective Autophagy

Short Talk(s) Chosen from Abstracts

Poster Session 1

Workshop 1: Structural Biology and Proteomics and Autophagy

***Christian Behrends**, Ludwig Maximilians University München, Germany
Proteomics Studies of Autophagy Systems

***James H. Hurley**, University of California, Berkeley, USA
Structural Studies of Autophagy Systems

Short Talks Chosen from Abstracts

mTOR, AMPK, TFEB – Relationship to Autophagy and Other Pathways

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

Roberto Zoncu, University of California, Berkeley, USA
Lysosomal mTORC1 Signaling

Wei Liu, Zhejiang University, China
Regulation of Energy Deprivation-Induced Autophagy

Reuben J. Shaw, The Salk Institute for Biological Studies, USA
AMPK Restores Metabolic Homeostasis via Autophagy

Short Talk(s) Chosen from Abstracts

TUESDAY, FEBRUARY 19

Membrane Trafficking and its Role in Autophagy

***Fulvio Reggiori**, University Medical Centre Groningen, Netherlands

Ivan Dikic, Goethe University Medical School, Germany
Crossovers between Ubiquitin-directed Autophagy and GTPase Regulated Trafficking

Noboru Mizushima, University of Tokyo, Japan
Evolution of the ATG12 Conjugation System

Felix Randow, Medical Research Council, UK
Autophagy in Cell-Autonomous Immunity

Li Yu, Tsinghua University, China

Phase Transition in Autophagy

Short Talk(s) Chosen from Abstracts

Autophagy Regulation and Processes

***Maria Ines Vaccaro**, University of Buenos Aires, Argentina

***Qing Zhong**, University of Texas Southwestern Medical Center, USA

Sharon A. Tooze, Francis Crick Institute, UK

Trafficking and Effectors in Autophagy

Ana Maria Cuervo, Albert Einstein College of Medicine, USA

Different Forms of Autophagy

Vojo Deretic, University of New Mexico Health Sciences Center, USA

Autophagy Regulation by Galectins During Membrane Damage Homeostasis

Short Talk(s) Chosen from Abstracts

Poster Session 2

WEDNESDAY, FEBRUARY 20

Autophagy, Proteostasis and Organellar Homeostasis

***Eeva-Liisa Eskelinen**, University of Turku, Finland

Kevin M. Ryan, Beatson Institute for Cancer Research, UK
Autophagy in Tissue Growth and Tumor Development

Jennifer A. Lippincott-Schwartz, Howard Hughes Medical Institute - Janelia Farm, USA

Autophagy and Lipid Droplets

Tamotsu Yoshimori, Osaka University, Japan

Autophagy in Lysosomal, Endosomal and Phagosomal Homeostasis

Anastasia Henry, Denali Therapeutics, USA

The role of leucine-rich repeat kinase 2 (LRRK2) in regulating endo-lysosomal function

Short Talk(s) Chosen from Abstracts

Panel: Women in Science at All Career Stages

Autophagy in Aging, Degenerative, and Inflammatory Disease

***Jennifer Martinez**, NIEHS, National Institutes of Health, USA

***Phyllis I. Hanson**, Washington University School of Medicine, USA

Malene Hansen, Sanford Burnham Prebys Medical Discovery Institute, USA

Regulation of Autophagy in Aging and Disease

Mondira Kundu, St. Jude Children's Hospital, USA

ULK/Atg1 Function: From Development to Disease

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

Autophagy in Inflammation and Immunity

Short Talk(s) Chosen from Abstracts

Poster Session 3

THURSDAY, FEBRUARY 21

Autophagy in Metabolism, Growth Control and Cancer

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***Devrim Gozuacik**, Sabanci University, Turkey

Eileen P. White, Rutgers University, USA

Cancer Metabolism and Autophagy

Tor Erik Rusten, Oslo University Hospital, Norway

Autophagy and Cancer: What Flies Tell Us

Beat Nyfeler, Novartis Institutes for BioMedical Research, Switzerland

VPS34 and Autolysosomal Regulation

Jayanta Debnath, University of California, San Francisco, USA

Autophagy and Metastatic Colonization

Short Talk(s) Chosen from Abstracts

Workshop 2: Current Controversies

***Michael Lazarou**, Monash University, Australia

Function of Mammalian Atg8s (LC3s and GABARAPs) in Autophagy:

New Insights and Controversies

Short Talks Chosen from Abstracts

Autophagy from Model Systems to Humans – Closing the Circle

***Quan Chen**, Nankai University, China

***Zvulun Elazar**, Weizmann Institute of Science, Israel

Hong Zhang, Chinese Academy of Sciences, China

Autophagy in C. elegans

Eric H. Baehrecke, UMass Medical School, USA

Discovery of Novel Regulators of Autophagy in Animals

Andrew M. Thorburn, University of Colorado AMC, USA

Autophagy in Humans: Translational Oncology

Short Talk Chosen from Abstracts

Meeting Wrap-Up: Outcomes and Future Directions

FRIDAY, FEBRUARY 22

Departure