



Aging and Mechanisms of Aging-Related Disease

May 15–19, 2017 | Pacifico Yokohama | Yokohama | Japan

Scientific Organizers:

Kazuo Tsubota, Keio University School of Medicine, Japan

Shin-ichiro Imai, Washington University School of Medicine, USA

Matt Kaeberlein, University of Washington, USA

Joan Mannick, Novartis Institutes for BioMedical Research, USA

Populations are aging rapidly worldwide, particularly in Asia, driving a strong interest in aging/longevity research. This Keystone Symposia meeting will capture the cutting-edge front of this exciting field of science, covering essential aspects of aging/longevity research, including critical signaling pathways and regulators, inter-tissue communication, stem cells, stress and damage responses, cellular senescence, physiological rhythms, human genetics and mental well-being (happiness). Because aging is a systemic phenomenon, it is important to address various layers of the aging/longevity-controlling hierarchy, particularly focusing on metabolic regulation, including mitochondria, NAD⁺, oxidative stress, inflammation, protein homeostasis, autophagy and many other age-associated pathophysiologicals. The outcome of these studies needs to be translated to resolve social and economic issues caused by rapidly aging societies. Novel therapeutic and preventive interventions have been explored and developed as a growing attempt to meet the unmet needs of our aging societies, and these new aspects of aging/longevity research and the gaps in knowledge between the basic science and practical applications will also be covered in the meeting. There is a growing body of evidence that our modern lifestyle, such as the heavy use of blue light in smart phones and tablet computers, affects physiological rhythms and metabolism, promoting age-associated diseases such as obesity, diabetes, cancer and depression. Therefore, it is now time to think differently about what we can do to deal with all these problems in light of recent progress in this exciting field of science.

Session Topics:

- Signal Transduction I – Evolutionarily Conserved Players
- Workshop 1: Cutting-Edge Front of Aging/Longevity Science
- Signal Transduction II – Mitochondria
- Stem Cell Aging and Humoral Factors
- Workshop 2
- Intertissue Communication and Rhythm
- Cellular Senescence
- Stress and Damage
- Age-Associated Complications
- Workshop 3
- Interventions for Aging and Longevity

Scholarship Application & Discounted Abstract Deadline: January 17, 2017

Abstract Deadline: February 15, 2017

Discounted Registration Deadline: March 15, 2017



Note: Scholarships and Underrepresented Trainee Scholarships are available for graduate students and postdoctoral fellows and are awarded based on the abstract submitted.

Meeting Hashtag: #KSaging

For more details, visit www.keystonesymposia.org/17E2.

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KEYSTONE SYMPOSIA

on Molecular and Cellular Biology

Aging and Mechanisms of Aging-Related Disease (E2)

May 15-19, 2017 • Pacifico Yokohama • Yokohama, Japan

Scientific Organizers: Kazuo Tsubota, Shin-ichiro Imai, Matt Kaeberlein and Joan Mannick

Sponsored by Astellas Pharma Inc., Journal of Molecular Cell Biology (JMCB) and Nestlé Institute of Health Sciences

Abstract & Scholarship Deadline: January 17, 2017 / Abstract Deadline: February 15, 2017 / Discounted Registration Deadline: March 15, 2017

MONDAY, MAY 15

Arrival and Registration

TUESDAY, MAY 16

Welcome and Keynote Address

Johan Auwerx, Ecole Polytechnique Federale de Lausanne - EPFL, Switzerland

The Importance of the Nuclear-Mitochondrial Communication for Aging and Longevity

Signal Transduction I – Evolutionarily Conserved Players

Leonard P. Guarente, Massachusetts Institute of Technology, USA
The Role of Sirtuins in Aging and Age-Associated Diseases

Matt Kaeberlein, University of Washington, USA
The Importance of mTOR Signaling in Aging/Longevity Control

Eisuke Nishida, Kyoto University, Japan
*Life-Span Regulation by Environmental Stresses in *C. elegans**

Short Talk(s) Chosen from Abstracts

Workshop 1: Cutting-Edge Front of Aging/Longevity Science

Short Talks Chosen from Abstracts

Signal Transduction II – Mitochondria

Marcia C. Haigis, Harvard Medical School, USA
The Function of Mitochondrial Sirtuins in Metabolism and Aging

Michael Ristow, ETH Zürich, Switzerland
Mitochondria, ROS and Mitohormesis in Healthspan Control

Takashi Kadowaki, University of Tokyo, Japan
Adiponectin as an Anti-Aging Regulator

Short Talk Chosen from Abstracts

Poster Session 1

WEDNESDAY, MAY 17

Stem Cell Aging and Humoral Factors

Heinrich Jasper, Buck Institute for Research on Aging, USA
*Stem Cells and Aging: Lessons from *Drosophila**

Rajendra S. Apte, Washington University School of Medicine, USA
Photoreceptor Metabolism in the Aging Eye

Emi Nishimura, Tokyo Medical and Dental University, Japan
Tissue Aging Program based on Stem Cell Aging in Hair Follicles

Short Talk(s) Chosen from Abstracts

Workshop 2

Short Talks Chosen from Abstracts

Intertissue Communication and Rhythm

Dongsheng Cai, Albert Einstein College of Medicine, USA
Hypothalamic Inflammation and Aging/Longevity Control

Shin-ichiro Imai, Washington University School of Medicine, USA
Inter-Tissue Communication Mediated by NAMPT/SIRT1 in Aging/Longevity Control

Satchidananda Panda, The Salk Institute for Biological Studies, USA
The Effects of Diet on Circadian Rhythm and Metabolism

Short Talk Chosen from Abstracts

Poster Session 2

THURSDAY, MAY 18

Cellular Senescence

John Sedivy, Brown University, USA
The Function of c-Myc in Cellular Senescence and Organismal Aging

Jan M. van Deursen, Mayo Clinic, USA
How Senescent Cells Contribute to Aging and Disease

Tohru Minamino, Niigata University Graduate School of Medical and Dental Sciences, Japan

Cellular Senescence and Age-Associated Diseases

Short Talk(s) Chosen from Abstracts

Stress, Damage and Epigenetic Changes

Rochelle Buffenstein, Calico, USA
Mechanisms of Aging and Cancer Resistance of Naked Mole Rats

Jan H. J. Hoeijmakers, Erasmus MC, Netherlands
Transcription-Dependent DNA Repair and Age-Associated Diseases

Noboru Mizushima, University of Tokyo, Japan
The Importance of Autophagy in Aging

Jing-Dong Jackie Han, Shanghai Institutes of Biological Sciences, China

Epigenetic Regulation of Aging

Poster Session 3

FRIDAY, MAY 19

Keynote Address

Thomas A. Rando, Stanford University School of Medicine, USA
Epigenetic Regulation of Stem Cell Aging

Age-Associated Complications

Yousin Suh, Albert Einstein College of Medicine, USA
Enhancer Mechanism of Aging and Aging-Related Disease

Kazuo Tsubota, Keio University School of Medicine, Japan
Age-Associated Eye Diseases and their Treatment

Masashi Yanagisawa, University of Tsukuba, Japan
The Importance of Sleep Regulation in Metabolism and Aging

Ana Maria Cuervo, Albert Einstein College of Medicine, USA
Selective Autophagy and Age-Associated Diseases

Short Talk(s) Chosen from Abstracts

Workshop 3

Short Talks Chosen from Abstracts

Interventions for Aging and Longevity

Tomas Prolla, University of Wisconsin, USA
Caloric Restriction and Aging/Longevity Control

Joan Mannick, Novartis Institutes for Biomedical Research, USA
Rapalogs as a Novel Anti-Aging Agent

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Hideyuki Okano, Keio University School of Medicine, Japan

The iPS-Mediated Anti-Aging Medicine

Short Talk Chosen from Abstracts

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

SATURDAY, MAY 20

Departure