

Translating Aging Research

**48<sup>th</sup> Annual Meeting of the  
American Aging Association**

held in conjunction with the  
**International Geroscience Symposium:  
International Perspectives in  
Geroscience**

Hyatt Regency  
San Francisco Airport (Burlingame, CA)  
**May 29 – June 2, 2019**





## *SCHEDULE AT A GLANCE*

<p><i>Wednesday May 29<sup>th</sup>, 2019</i></p> <p><i>International Geroscience Symposium</i></p>	<p>Pre-Conference Symposium: International Perspectives in Geroscience (Day 1) (Regency Ballroom)</p> <p><b>1:30 PM - 2:00 PM</b> Introduction</p> <p><b>2:00 PM - 3:30 PM</b> Session 1: Emerging Technologies in Geroscience</p> <p><b>3:30 PM - 4:00 PM</b> Coffee Break and Networking</p> <p><b>4:00 PM - 5:30 PM</b> Session 2: International Perspectives in Geroscience</p> <p><b>Day 1 Geroscience Symposium Ends</b></p>
<p><i>Wednesday May 29<sup>th</sup>, 2019</i></p> <p><i>Mini-Symposium: Geropathology Applications for Aging Research Studies</i></p>	<p>Mini-Symposium: Geropathology Applications for Aging Research Studies (Regency Ballroom)</p> <p><b>6:00 PM - 8:00 PM</b></p>

## SCHEDULE AT A GLANCE

<p><i>Thursday, May 30th, 2019</i></p> <p><i>International Geroscience Symposium</i></p>	<p>Pre-Conference Symposium: International Perspectives in Geroscience (Day 2) (Regency Ballroom)</p> <p><b>9:00 AM - 10:30 AM</b> Session 3: Aging Medicine Today: How Geroscience May Impact People Today</p> <p><b>10:30 AM - 11:00 AM</b> Coffee Break and Networking</p> <p><b>11:00 AM - 12:30 PM</b> Session 4: Aging Medicine Tomorrow: Where Geroscience May Take Us</p> <p><b>12:30 PM - 1:30 PM</b> Lunch on your own</p> <p><b>1:30 PM - 3:20 PM</b> Session 5: Geroscience in the Private Sector</p> <p><b>3:20 PM - 3:30 PM</b> Closing Remarks</p> <p><b>Geroscience Symposium Ends</b></p>
<p><i>Thursday, May 30th, 2019</i></p> <p><i>48<sup>TH</sup> ANNUAL MEETING OF THE AMERICAN AGING ASSOCIATION</i></p>	<p>48th Annual AGE Meeting (Regency Ballroom and Foyer)</p> <p><b>4:00 PM - 9:00 PM</b> 48th AGE Conference Registration</p> <p><b>4:30 PM - 5:30 PM</b> Roundtable: Trainee Career Development</p> <p><b>5:30 PM - 7:20 PM</b> USC Leonard Davis School of Gerontology Symposium on Mitochondrial Metabolism &amp; Aging</p> <p><b>7:30 PM - 9:00 PM</b> Reception sponsored by USC</p>

## *SCHEDULE AT A GLANCE*

*Friday, May  
31st, 2019*

*48<sup>TH</sup> ANNUAL  
MEETING OF  
THE AMERICAN  
AGING  
ASSOCIATION*

48th AGE Conference (Regency Ballroom and Foyer)

**7:00 AM - 8:00 AM**  
Continental Breakfast

**8:00 AM**  
President's Welcome

**8:00 AM - 9:00 AM**  
Keynote Address

**9:00 AM - 10:00 AM**  
Session 1: Interventions in Aging: Translation, Clinical Trials

**10:00 AM - 10:30 AM**  
Coffee Break and Networking

**10:30 AM - 12:10 PM**  
Session 2: Stem Cell Rejuvenation and Regeneration I - HSCs

**12:30 PM - 2:00 PM**  
Denham Harman Award Lecture and Luncheon (Poolside Pavilion)

**2:00 PM - 4:20 PM**  
Session 3: Stem Cell Rejuvenation and Regeneration II - Other SCs

**4:20 PM - 4:50 PM**  
Coffee Break and Networking; Breakout Session Jax Labs (Regency Ballroom)

**4:50 PM - 7:00 PM**  
Session 4: In vivo Reprogramming, Plasticity, Cell Replacement

**7:00 PM - 9:00 PM**  
AGE Board of Directors Meeting (Cypress Room A)

**7:00 PM - 9:00 PM**  
Poster Session I (Harbour Room) and Reception (Regency Ballroom Foyer)

**9:00 PM - 11:59 PM**  
Trainee Data Blitz (Regency Ballroom)

## *SCHEDULE AT A GLANCE*

*Saturday,  
June 1st, 2019*

*48<sup>TH</sup> ANNUAL  
MEETING OF  
THE AMERICAN  
AGING  
ASSOCIATION*

48th AGE Conference (Regency Ballroom and Foyer)

**7:00 AM - 8:00 AM**  
Continental Breakfast

**8:00 AM - 8:30 AM**  
Session 5: Inflammation and Senescence, Senolytics I

**10:10 AM - 10:40 AM**  
Coffee Break and Networking

**10:40 AM - 12:50 PM**  
Session 6: Inflammation and Senescence, Senolytics II

**12:50 PM - 1:50 PM**  
Lunch on your own

**1:15 PM - 2:00 PM**  
GeroScience editorial board meeting (Cypress Room A)

**2:00 PM - 4:10 PM**  
Session 7: Epigenetics, Retrotransposons, Nuclear Structure

**4:10 PM - 4:40 PM**  
Coffee Break and Networking

**4:40 PM - 5:10 PM**  
Session 8: Comparative Biology and Model Systems I

**6:50 PM - 7:30 PM**  
AGE General Membership Meeting

**7:30 PM - 9:00 PM**  
Poster Session II (Harbour Room) and Reception (Regency Ballroom  
Foyer)

**9:00 PM - 11:59 PM**  
Trainee Chapter Social (location TBA)

## *SCHEDULE AT A GLANCE*

*Sunday, June  
2nd, 2019*

*48<sup>TH</sup> ANNUAL  
MEETING OF  
THE AMERICAN  
AGING  
ASSOCIATION*

48th AGE Conference (Regency Ballroom and Foyer)

**7:00 AM - 8:00 AM**  
Continental Breakfast

**8:00 AM - 10:10 AM**  
Session 9: Comparative Biology and Model Systems II

**10:10 AM - 10:40 AM**  
Coffee Break and Networking

**10:40 AM - 12:35 PM**  
Session 10: Metabolism, Dietary Interventions

**12:35 PM - 1:35 PM**  
Special Lecture - Mark Smith Address

**1:35 PM - 2:15 PM**  
Awards Ceremony: Student Awards and Close of Meeting

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# American Aging Association Mission Statement

The objectives of the American Aging Association are:

- To promote biomedical aging studies directed towards increasing the functional life span of humans with one goal being to slow the aging process.
- To keep the public informed of the progress of aging research and of practical means of achieving a long and healthy life.
- To increase knowledge of gerontology among physicians and others in the health field.
- To foster the scientific and professional career development of AGE trainees and scientific members.

We believe that you recognize the contribution of the American Aging Association to the science of aging research. As a society we strive to make the meeting an outstanding venue for trainees and scientists in a forum focused on the basic biology of aging.

Thank you to all our members for your continuing support and to non-members, please consider joining this august group of scientists. With membership you contribute to this work and earn discounts on meetings, free job postings for academic positions and scientific members have specific access to Springer publishing site. In addition, please consider the society journal, *GeroScience* for some of your research results. We are working to make *GeroScience* an outlet for high quality work in aging and the income from the journal is devoted to supporting the society and the annual meeting.

**Harassment Policy:** The American Aging Association is committed to providing a harmonious conference environment based on mutual respect, dignity and support. All forms of harassment, including sexual, are completely unacceptable. These behaviors have no place in the American Aging Association, and do not represent who we are. It is our collective priority to prevent this abhorrent behavior and to support those affected. We ensure allegations of sexual harassment are responded to swiftly, appropriately, and confidentially. Full policy available at [americanagingassociation.org](http://americanagingassociation.org)

**Diversity:** The American Aging Association recognizes a crucial, compelling need to promote diversity in the aging research workforce. The American Aging Association is committed to fostering a diverse workforce in aging research, and to ensuring that people from all backgrounds can fully and productively participate in our field. We have outlined and are executing specific plans to help diversify the aging research workforce, designed to develop and prepare the most talented researchers from all groups, to help improve the quality of the educational and training environment, and to enhance the participation of individuals currently underrepresented in the field of aging research. Full policy available at [americanagingassociation.org](http://americanagingassociation.org)

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## ACKNOWLEDGMENTS

The American Aging Association is grateful to the following sponsors for support of this conference as well as grant support from the National Institute of Aging. Their generous contributions have enabled us to continue a tradition of offering an excellent program of pertinent topics presented by speakers renowned in their fields, providing valuable mentoring opportunities for junior investigators and scholarships for students.

*National Institute on Aging*

*Glenn Foundation for Medical Research*

*American Federation for Aging Research*

*Calico LLC*

*British Society for Research on Ageing*

*University of Southern California Leonard Davis School of Gerontology*



## National Institute on Aging

NATIONAL INSTITUTES OF HEALTH / NATIONAL INSTITUTE  
ON AGING

### Overview

The National Institute on Aging (NIA), one of the 25 institutes and centers of the National Institutes of Health, leads a broad scientific effort to understand the nature of aging and to extend the healthy, active years of life. In 1974, Congress granted authority to form the National Institute on Aging to provide leadership in aging research, training, health information dissemination, and other programs relevant to aging and older people. Subsequent amendments to this legislation designated the NIA as the primary federal agency on Alzheimer's disease research.

### Mission

The NIA's mission is to improve the health and well-being of older Americans through research, and specifically to:

Support and conduct high quality research on:

- aging processes
- age-related diseases
- special problems and needs of the aged

Train and develop highly skilled research scientists from all population groups

Develop and maintain state-of-the-art resources to accelerate research progress

Disseminate information and communicate with the public and interested groups on health and research advances and on new directions for research.

### Programs

NIA sponsors research on aging through extramural and intramural programs. The extramural program funds research and training at universities, hospitals, medical centers and other public and private organizations nationwide. The intramural program conducts basic and clinical research in Baltimore, MD, and on the NIH campus in Bethesda, MD.

[www.nia.nih.gov](http://www.nia.nih.gov)

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FOR MEDICAL RESEARCH

***GLENN FOUNDATION FOR MEDICAL RESEARCH***

The purpose of the foundation, which was founded in 1965 by Paul F. Glenn, is to extend the healthy productive years of life through research on the mechanisms of biological aging.

[www.glennfoundation.org](http://www.glennfoundation.org)

## SILVER SPONSORS



Since 1981, AFAR has provided more than \$178 million to more than 4,100 talented investigators and students. AFAR supports aging research by funding and nurturing talented scientists and physicians, and encouraging them to pursue lifelong careers in research focused on aging processes and age-related diseases. Understanding the underlying mechanism of aging is the most direct way of enabling researchers to tackle common diseases of old age, such as Alzheimer's disease, heart disease and some forms of cancer. To learn more about AFAR, visit our website [www.afar.org](http://www.afar.org).



Jackson Laboratory: JAX® Mice are the highest quality and most-published mouse models in the world. Take advantage of our large inventories of common inbred strains and the convenience of having your breeding and drug efficacy needs met by the leading experts in mouse modeling. **Learn more at the breakout session on Friday at 4:20 p.m.**

**USC** Leonard Davis  
School of Gerontology

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British Society for Research on

**Ageing**

# EXHIBITORS

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american federation  
for aging research



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*Find Grants, Events, Resources,  
and Opportunities*

*Explore the six, national  
**Nathan Shock Centers  
of Excellence in the  
Basic Biology of Aging***

**Aging Cell**

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## INDIVIDUAL DONATIONS

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AGE gratefully acknowledges the following individuals for their support:

David Allison  
Shelley Buffenstein  
Veronica Galvan  
Donald Ingram  
Maria Konovalenko  
George Martin  
Janko Nikolich-Žugich  
Richard Tashjian  
William Vaughan

## STUDENT AWARD DONATIONS

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University of Oklahoma Health Science Center, Nathan Shock  
Center of Excellence in the Basic Biology of Aging



University of Washington, Nathan Shock Center of Excellence in the  
Basic Biology of Aging



## TRAVEL AWARDEES

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Travel awards were selected by an AGE committee based on the scientific merit of abstracts submitted. Awardees are listed on the following page.

Last Name	First Name	Institution/Level	Abstract Title
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### Underrepresented Minority Travel Awards

Brown	Lemuel	Univ. of Mich. (postdoc)	Skeletal Muscle Morphology and Inflammation is Altered in Sarcopenic Mice Throughout Muscle Regeneration
Flores	Victoria	Univ. of Wisc. (student)	Regulation of body weight and composition by dietary histidine

### Student Travel Awards

Cummings	Nicole	Univ. of Wisc.	Decreased consumption of branched-chain amino acids promotes lifespan and healthspan in wild-type and progeroid mice
Goyer	Marie-Lyn	Univ. of Montreal	Assessment of Senescent Cells Immunogenicity in Autologous Humanized Mouse Models
Olson	Angela	UTHSCSA	Tau-Induced Astrocyte Senescence: A Novel Mechanism for Neuronal Dysfunction in Alzheimer's Disease
Lettera	Emanuele	Vita-Salute San Raffaele University	Oncogene activation in hematopoietic progenitors leads to myeloid neoplasms through the activation of a tumor necrosis factor $\alpha$ -mediated senescence program
Yu	Ruofan	Baylor Coll. of Med.	High throughput yeast replicative lifespan screen uncovers histone deacetylase complex HDA as novel regulator of aging

### Postdoc Travel Awards

Tarantini	Stefano	Univ. of Okla. - HSC	Nicotinamide mononucleotide (NMN) supplementation rescues cerebrovascular endothelial function and neurovascular coupling responses and improves cognitive function Astrocyte-specific disruption of IGF-1 signaling impairs neurovascular coupling responses in the mouse brain
Whitson	Jeremy	Univ. of Wash.	NMN and SS-31: Two Paths to Healthier Mitochondria in the Aged Heart
Yousefzadeh	Matt	Univ. of Minn.	The aging immune system drives senescence and dysfunction of peripheral tissues
Datta	Dibyadeep	Yale Univ. Sch. of Med	Loss of PDE4D regulation of cAMP-PKA-calcium signaling in the aging association cortex: Critical role in cognitive decline
Liu	Haiming	Univ. of Wash.	Ghrelin Prevents Adipose Tissue Wasting in Cancer Cachexia

### Jr Faculty Travel Awards

Rhoads	Tim	Univ. of Wisc.	Caloric restriction drives metabolic reprogramming to prevent age-related muscle mass loss in rhesus monkeys
Jang	Young	Ga. Inst. of Tech.	Microfluidic 3D model of heterochronic parabiosis to study systemic regulation of skeletal muscle aging
Sathyaseelan	Deepa	Univ. of Okla. - HSC	Necroptosis, an inflammatory cell death pathway, is activated in a mouse model of increased oxidative stress and accelerated aging
Hussong	Stacy	UTHSCSA	Age-related preservation of motor nerve conduction velocity in neuronal mTORC1 knockdown mice
Pickering	Andrew	UTHSCSA	Dissecting the Interplay between Proteasome dysfunction, Aging and Alzheimer's disease

### Univ. of Washington Sponsored Travel Awards

Lee	Mitchell	postdoc	Pterocarpus marsupium extract (PME) and pterostilbene extend yeast replicative lifespan
Zhang	Huilian	jr fac	Altered mitochondrial flash activity and mPTP opening in the aged heart, with reversal by elamipretide treatment

### Univ. of Oklahoma Sponsored Student Travel Awards

Piekarz	Katarzyna	student	Troponin I as a potential transcription factor relevant to the age-related a-motor neuron loss
Pharaoh	Gavin	student	Identifying and Inhibiting Muscle Hydroperoxides to Protect Against Muscle Atrophy
Yeganeh	Alexander	student	Sensitivity Of The Aging Brain To Amyloid Beta Oligomers Increases With Age.
Brown	Chase	student	Alternative splicing in transcriptomic age predictions
Porter	Hunter	student	The Biology Behind the Epigenetic Clock
Roopnarinesingh	Xiavan	student	Comparison of age prediction performance across genomic features





*2019 Barshop Symposium on Aging*

“Resilience in Aging and Age-Related Disease”

# Save the Date!

October 10-13, 2019

The Mayan Ranch, Bandera, TX

Conference Organizers:

Adam Salmon, PhD

Sara E. Espinoza, MD, MSc

Contact Louise Andrews – [andrewsl@uthscsa.edu](mailto:andrewsl@uthscsa.edu)

[barshopinstitute.uthscsa.edu](http://barshopinstitute.uthscsa.edu)

More information and registration coming soon!



# American Aging Association 49th Annual Meeting

## Metabolism of Aging

Monona Terrace Madison Wisconsin

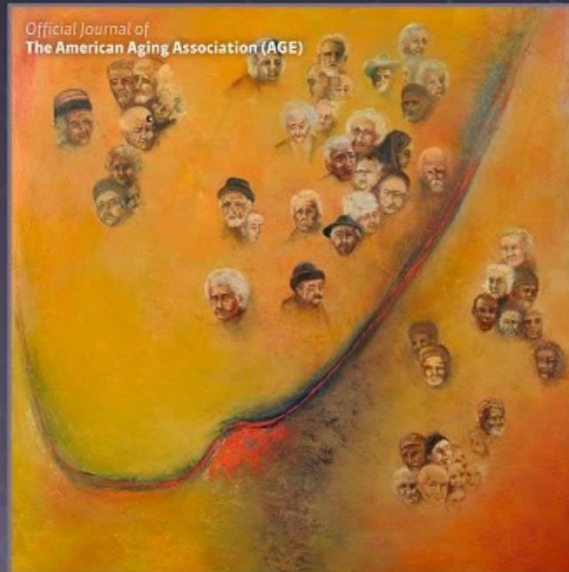
June 19-21 2020

Epigenetics \* Chromatin \* Lipids \* Systems Biology \* Longevity Factors  
June 17-18 Nathan Shock Centers Summit

# GeroScience

Dedicated to the Biomedical Investigation of Geroscience and the Basic Mechanisms of Aging

Official Journal of  
The American Aging Association (AGE)



William E. Sonntag, PhD  
Editor-in-Chief


 Springer



AGE supports the Annual Biomedical Research Conference for Minority Students (ABRCMS). Details about travel awards for students and judges available on line and at AGE registration desk.

# Aging Cell

An open access journal that publishes high quality, innovative research addressing fundamental issues in the biology of aging.



**Impact Factor 7.627**

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**Brian Kennedy, Singapore**

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[www.geron.org/gsa2019](http://www.geron.org/gsa2019)

**AFAR is pleased to sponsor  
the 2019 AGE Annual Meeting.**

We applaud the talent and commitment  
of investigators dedicated to helping us  
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for aging research

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## Translational Medicine of Aging



*Translational Medicine of Aging* is the official journal of the Asian Society for Aging Research and is published by KeAi — a joint venture of Elsevier and CSPM (the publishing arm of Chinese Academy of Sciences).



### Editors

Prof. Zhongjun Zhou, University of Hong Kong, China  
Prof. Matt Kaeberlein, University of Washington, USA

Now Welcoming Submissions



## San Antonio – NIA Training Program for Research Scientists in the Biology of Aging

We invite you to join us as a graduate student (Ph.D. or M.D.-Ph.D.) or postdoctoral fellow to study the biology of aging at the world-renowned Barshop Institute. We are the only institution in the US to house both a Nathan Shock Center on the Biology of Aging, which is a grant from the National Institute on Aging that supports basic aging research, as well as an Older Americans Independence Center (often called "Pepper Center"), a grant from the NIA to support translational aging research. We have more than 100 faculty members engaged in various aspects of aging research. Our NIA-funded Training Grant has 4 predoctoral graduate student positions and 4 postdoctoral fellowships available.

This training program for research scientists covers such areas as the genetics of aging, lifespan, and intervention analyses in aging and models of age-related diseases. In addition, the program also covers translational-oriented aging research in a wide range of animal models, including marmosets, and early-phase clinical studies in human subjects.

Postdoctoral positions may be available. Contact us for more information. See <https://barshopinstitute.uthsca.edu/education/>



**International Perspectives on**  
**GEROSCIENCE**  
**Meetings 2019** — *sponsored by the* —  
**NATHAN SHOCK CENTERS**

In 2019, a series of international meetings will be held in order to increase and enhance our understanding of geroscience concepts, and to encourage researchers around the globe to integrate these concepts into their research.

**China: May 24-25, Shenzheng**

**US: May 29-30, San Francisco**

**Australia: Aug 26-28, Sydney**

**Israel: Sept 4-5, Rehovat**

**Europe: Sept 13-14, Madrid**

**Singapore: Sept 25-26, Singapore**

**Chile: Nov 18-21, Puerto Varas**

*Support is provided by the NIH-funded Nathan Shock Centers.*

For more information on the meetings and the  
Nathan Shock Centers of Excellence in the Basic Biology of Aging:

[nathanshockcenters.org](http://nathanshockcenters.org)



[@NathanShockCtrs](https://twitter.com/NathanShockCtrs)

## Pre-Conference Symposium: International Perspectives in Geroscience (Day 1)

Wednesday May 29th

### Pre-Conference Symposium: International Perspectives in Geroscience (Day 1)

1:30 PM - 2:00 PM

#### Introduction

Felipe Sierra, PhD; NIA/NIH

2:00 PM - 3:30 PM

#### Session 1: Emerging Technologies in Geroscience

Yousin Suh; Albert Einstein College of Medicine

Pete Estep; Harvard PGP/Veritas Genetics

Eric Morgen; Bioage Labs, Inc.

Panel Discussion

3:30 PM - 4:00 PM

#### Coffee Break and Networking

4:00 PM - 5:30 PM

#### Session 2: International Perspectives in Geroscience

Zhongjun Zhou; University of Hong Kong

Jing-Dong (Jackie) Han; PICB, Shanghai

David Lecouteur; University of Sydney

Panel Discussion

**Day 1 Geroscience Symposium Ends**

### Mini-Symposium: Geropathology Applications for Aging Research Studies

6:00 PM - 8:00 PM

#### Mini-Symposium: Geropathology Applications for Aging Research Studies

Warren Ladiges, DVM; University of Washington

Francesca Macchiarini, PhD; NIA/NIH

Tim Snyder, DVM, PhD; Oklahoma State University

Denise Imai, DVM; University of California Davis

Arlan Richardson, PhD; University of Oklahoma HSC

Paul Robbins, PhD; Scripps Research Institute

Shabnam Salimi, PhD; University of Maryland

Laura Niedernhofer, PhD; University of Minnesota

## Pre-Conference Symposium: International Perspectives in Geroscience (Day 2)

Thursday, May 30th

### Pre-Conference Symposium: International Perspectives in Geroscience (Day 2)

9:00 AM - 10:30 AM

#### Session 3: Aging Medicine Today: How Geroscience May Impact People Today

Judith Campisi; Buck Institute

Saul Villeda; University of California San Francisco

Jan Gruber; Yale/National University of Singapore

Panel Discussion

10:30 AM - 11:00 AM

#### Coffee Break and Networking

11:00 AM - 12:30 PM

#### Session 4: Aging Medicine Tomorrow: Where Geroscience May Take Us

Mark Collins; Glenn Foundation

Pete Estep; Harvard PGP  
Shripad Tuljapurkar; Stanford University  
Panel Discussion

**12:30 PM - 1:30 PM**

**Lunch on your own**

**1:30 PM - 3:20 PM**

**Session 5: Geroscience in the Private Sector**

Joan Mannick, MD; resTORbio, Inc.  
Matt Scholz, CEO; Oisin Biotechnologies, Inc.  
Ned David, PhD; Unity Biotechnology, Inc.  
Kristen Fortney, CEO; Bioage Labs, Inc.  
Panel Discussion

**3:20 PM - 3:30 PM**

**Closing Remarks**

**Geroscience Symposium Ends**

### **Translating Aging Research: 48th Annual Meeting of the American Aging Association**

**4:00 PM - 9:00 PM**

**48th AGE Conference Registration and Opening Reception**

**4:30 PM - 5:30 PM**

**Roundtable: Trainee Career Development**

Bitu Nakhai, PhD; NIA/NIH; Scientific peer review @ NIA (writing tips and addressing review criteria)  
Roz Anderson, PhD; University of Wisconsin  
Guest speaker

**5:30 PM - 7:20 PM**

**USC Leonard Davis School of Gerontology Symposium on Mitochondrial Metabolism & Aging, followed by Reception**

5:40 PM - 6:05 PM

Chair: Sean Curran, PhD; University of Southern California  
Martin Brand, PhD; Buck Institute; Suppressors of mitochondrial superoxide and hydrogen peroxide production

6:05 PM - 6:30 PM

Danica Chen, PhD; University of California Berkeley; Mitochondrial Metabolic Checkpoint, Stem Cell Aging and Rejuvenation

6:30 PM - 6:55 PM

Pinchas Cohen, MD; University of Southern California; Mitochondrial Systems Biology in Diseases of Aging

6:55 PM - 7:20 PM

Kelvin Davies, PhD; University of Southern California; Adaptive Homeostasis and Dysregulation of the Mitochondrial Lon Protease in Aging

**7:30 PM - 9:00 PM**

**Reception sponsored by USC to follow symposium**



## Friday, May 31st

<b>8:00 AM</b>	<b>President's Welcome</b> Heinrich Jasper, PhD; Genentech, Inc.
<b>8:00 AM - 9:00 AM</b>	<b>Keynote Address</b> James Kirkland, MD, PhD; Mayo Clinic, Rochester, Minn.; Senolytic Drugs: The Path to Translation
<b>9:00 AM - 10:00 AM</b>	<b>Session 1: Interventions in Aging: Translation, Clinical Trials</b> Chair: James Kirkland, MD, PhD
9:00 AM - 9:25 AM	Morgan Levine, PhD; Yale University; Epigenetic Biomarkers of Aging: Applications from Clinical Trials to Basic Research
9:25 AM - 9:50 AM	Yu-Hua Tseng, PhD; Joslin Diabetes Center, Harvard; Brown Fat and Aging
9:50 AM - 10:00 AM	Susan Howlett, PhD; Dalhousie University; Treatment of frailty with the ACE inhibitor enalapril suppresses inflammation and age-associated cardiac hypertrophy in aging male C57BL/6 mice
<b>10:00 AM - 10:30 AM</b>	<b>Coffee Break and Networking</b>
<b>10:30 AM - 12:10 PM</b>	<b>Session 2: Stem Cell Rejuvenation and Regeneration I - HSCs</b> Chair: Emmanuelle Passegue, PhD; Columbia University; Inflammation of the aged bone marrow microenvironment deteriorates hematopoietic function and regeneration
10:30 AM - 10:55 AM	
10:55 AM - 11:20 AM	Sean Morrison, PhD; University of Texas Southwestern; Osteogenesis, aging and osteoporosis
11:20 AM - 11:45 AM	Hartmut Geiger, PhD; University of Ulm, Germany; Rejuvenation of stem cells for healthy aging
11:45 AM - 11:55 AM	Claire Gustafson, PhD; Stanford University; Homeostatic maintenance of human T cells in bioengineered secondary lymphoid organoids - a model for studying age-related immune decline
11:55 AM - 12:05 PM	Emanuele Lettera, PhD; Vita-Salute San Raffaele University, Milan, Italy; Oncogene activation in hematopoietic progenitors leads to myeloid neoplasms through the activation of a tumor necrosis factor alpha-mediated senescence program
<b>12:30 PM - 2:00 PM</b>	<b>Denham Harman Award Lecture and Luncheon</b> Gordon Lithgow, PhD; Buck Institute; Promoting healthspan and lifespan with drug-like molecules
<b>2:00 PM - 4:20 PM</b>	<b>Session 3: Stem Cell Rejuvenation and Regeneration II - Other SCs</b> Chair: Thomas Rando, MD, PhD; Stanford University; Stem cell aging: Functional consequences and rejuvenating strategies
2:00 PM - 2:25 PM	
2:25 PM - 2:50 PM	Maria Mihaylova, PhD; Ohio State University; Understanding the Effects of Age and Diet-Dependent Nutrient Changes on Mammalian Gut Homeostasis
2:50 PM - 3:15 PM	Fred de Sauvage, PhD; Genentech, Inc.; Tumor Cell Plasticity as a Challenge for Targeted Therapies

3:15 PM - 3:40 PM	Alessandro Ori, PhD; Leibniz Institute on Aging, Jena, Germany; Region-specific effects of aging on the intestinal epithelium and their reversal by dietary restriction
3:40 PM - 4:05 PM	Joseph Rodgers, PhD; University of Southern California; "Alerting" stem cells to improve tissue repair
4:05 PM - 4:15 PM	Daniel Hu, PhD; Genentech, Inc.; Control of cell fate by mitotic spindle repositioning influences epithelial homeostasis and longevity
<b>4:20 PM - 4:50 PM</b>	<b>Coffee Break and Networking; Breakout Session Jax Labs (same room)</b>
<b>4:50 PM - 7:00 PM</b>	<b>Session 4: In vivo Reprogramming, Plasticity, Cell Replacement</b>
4:50 PM - 5:15 PM	Chair: Juan Carlos Izpisua Belmonte, PhD; Salk Institute; Organ Regeneration and Aging
5:15 PM - 5:40 PM	Leanne Jones, PhD; University of California Los Angeles; Role of occluding junctions in intestinal homeostasis and aging
5:40 PM - 6:05 PM	Deepak Srivastava, MD; Gladstone Institutes; Cellular Reprogramming for Diseases of Aging
6:05 PM - 6:30 PM	Deepak Lamba, PhD; University of California San Francisco; Challenges to Fixing an Aging Retina with Pluripotent Stem Cells
6:30 PM - 6:40 PM	Imilce Rodriguez-Fernandez, PhD; Genentech Inc.; Nrf2 and stem cell rejuvenation
6:40 PM - 6:50 PM	Young Jang, PhD; Georgia Institute of Technology; Microfluidic 3D model of heterochronic parabiosis to study systemic regulation of skeletal muscle aging
<b>7:00 PM - 9:00 PM</b>	<b>AGE Board of Directors Meeting</b>
<b>7:00 PM - 9:00 PM</b>	<b>Poster Session I and Reception</b>
<b>9:00 PM - 11:59 PM</b>	<b>Trainee Data Blitz</b>
	<b>Saturday, June 1st</b>
<b>8:00 AM - 10:00 AM</b>	<b>Session 5: Inflammation and Senescence, Senolytics I</b>
8:00 AM - 8:25 AM	Chair: Judith Campisi, PhD; Buck Institute; Inflammation, senescence and senolytics
8:25 AM - 8:50 AM	Linda van Eldik, PhD; University of Kentucky; Dysregulated Neuroinflammation in Alzheimer's Disease
8:50 AM - 9:15 AM	Niharika Duggal, PhD; University of Birmingham, U.K.; Lifelong physical activity: Turning back the immune ageing clock (Korenchevsky speaker)
9:15 AM - 9:40 AM	Vera Gorbunova, PhD; University of Rochester, N.Y.; Mechanisms of longevity
9:40 AM - 9:50 AM	Natan Basisty, PhD; Buck Institute; A Proteomic Atlas of the Senescence Associated Secretory Phenotype for Development of Human Aging and Senescence Biomarkers
9:50 AM - 10:00 AM	Allon Canaan, PhD; Yale University; Single Cell Analysis Reveals the Impact of the Inflamm-Aging FAT10 Gene on Innate Immunity Response of Splenocytes, in vivo.
<b>10:10 AM - 10:40 AM</b>	<b>Coffee Break and Networking</b>

**10:40 AM - 12:40 PM****Session 6: Inflammation and Senescence, Senolytics II**

10:40 AM - 11:05 AM

Chair: John Sedivy, PhD; Brown University; L1 drives IFN in senescent cells and promotes age-associated inflammation

11:05 AM - 11:30 AM

Saul Villeda, PhD; University of California San Francisco; Mechanisms of Brain Aging and Rejuvenation

11:30 AM - 11:55 AM

Hannah Walters, PhD; University of Oxford, U.K.; Reversal of phenotypes of cell senescence through modulation of mTOR signaling and the actin cytoskeleton (Korenchevsky speaker)

11:55 AM - 12:20 PM

Nathan LeBrasseur, PhD; Mayo Clinic, Rochester, Minn.; Senescent Cells and the Aging Interior Milieu

12:20 PM - 12:30 PM

Aditi Gukar, PhD; University of Pittsburgh; Persistent DNA damage alters cellular programs associated with longevity

12:30 PM - 12:40 PM

Meghan Campbell, PhD; Alkahest, Inc.; Translating novel plasma-based approaches that enhance cognitive function in aged mice to treat neurodegenerative disease

**12:50 PM - 1:50 PM****Lunch on your own****2:00 PM - 4:10 PM****Session 7: Epigenetics, Retrotransposons, Nuclear Structure**

2:00 PM - 2:25 PM

Chair: Jessica Tyler, PhD; Weill Cornell Medical College; Investigations into the mechanism of mitotic aging using the budding yeast model system

2:25 PM - 2:50 PM

Abby Buchwalter, PhD; University of California San Francisco; Hyper-activation of the nucleolus in pathological and physiological aging

2:50 PM - 3:15 PM

Kevin Chun-Kai Wang, PhD; Stanford University; Rebooting the nuclear architecture as an innovative cellular reprogramming strategy to reverse aging

3:15 PM - 3:40 PM

Susana Gonzalo, PhD; St. Louis University; Nuclear fragility and replication stress arouse innate immunity

3:40 PM - 3:50 PM

Jamie Endicott, B.S.; Van Andel Research Inst.; Estimating Mitotic Age

3:50 PM - 4:00 PM

Duygu Ucar, PhD; Jackson Labs; The chromatin accessibility signature of human immune aging stems from CD8+ T cells.

**4:10 PM - 4:40 PM****Coffee Break and Networking****4:40 PM - 6:50 PM****Session 8: Comparative Biology and Model Systems I**

4:40 PM - 5:05 PM

Chair: Rolf Bodmer, PhD; SBP Medical Discovery Institute; Preserving heart function despite obesity, aging and parental diet

5:05 PM - 5:30 PM

Jennifer Garrison, PhD; Buck Institute; Investigating the role of oxytocin signaling in aging

5:30 PM - 5:55 PM

Pejmun Haghighi, PhD; Buck Institute; A neuron-glia trans signalling cascade is critical for mediating age-dependent neurodegeneration in Drosophila models of Parkinson's disease

5:55 PM - 6:20 PM

Veena Prahlad, PhD; University of Iowa; Sensory control of protein homeostasis

6:20 PM - 6:30 PM

Andrew Pickering, PhD; University of Texas HSC San Antonio; Dissecting the Interplay between Proteasome dysfunction, Aging and Alzheimer's disease

6:30 PM - 6:40 PM

Scott Leiser, PhD; University of Michigan; Serotonin signaling networks regulate stress resistance and longevity

6:40 PM - 6:50 PM Berenice Benayoun, PhD; University of Southern California; Sex-Dimorphic mechanisms in the Regulation of Aging Phenotypes

**6:50 PM - 7:30 PM AGE General Membership Meeting**

**7:30 PM - 9:00 PM Poster Session II and Reception**

**9:00 PM - 11:59 PM Trainee Chapter Social**

### **Sunday, June 2nd**

**8:00 AM - 10:10 AM Session 9: Comparative Biology and Model Systems II**

8:00 AM - 8:25 AM Chair: Malene Hansen, PhD; SBP Medical Discovery Institute; Cellular recycling: Role of autophagy in aging and disease

8:25 AM - 8:50 AM Daniel Gottschling, PhD; Calico Labs, Inc.; Developing a comprehensive understanding of Genetic and Environmental contributions to cellular aging

8:50 AM - 9:15 AM Kai Zhou, PhD; Buck Institute; Mitochondrial factors regulate the formation and dissolution of protein aggregates

9:15 AM - 9:40 AM Deborah Winter, PhD; Northwestern University; Reprogramming the Gene Regulatory Networks of Macrophages in Aging

9:40 AM - 9:50 AM Stephen Treaster, PhD; Harvard University; Broad phylogenetic analysis and convergence in long-lived Rockfish reveals a common network of age-related genes under restricted evolution

9:50 AM - 10:00 AM Hongjie Li, PhD; Stanford University; Single-cell RNA-seq reveals the development and decline of the fly olfactory system

**10:10 AM - 10:40 AM Coffee Break and Networking**

**10:40 AM - 12:30 PM Session 10: Metabolism, Dietary Interventions**

10:40 AM - 11:05 AM Chair: James Mitchell, PhD; Harvard University; Mechanisms of improved glucose and lipid homeostasis upon dietary protein restriction

11:05 AM - 11:30 AM Celine Riera, PhD; Cedars-Sinai Medical Center, L.A.; Contribution of sensory nerves to metabolic decline

11:30 AM - 11:55 AM Shih-Yin Tsai, PhD; National University of Singapore; The regulation of mTORC1 signalling in skeletal muscle growth and sarcopenia

11:55 AM - 12:20 PM Sai Krupa Das, PhD; Tufts University; Calorie Restriction and Aging: Findings from the CALERIE Study, A Two Year Randomized Controlled Trial in Non-Obese Humans

12:20 PM - 12:30 PM Jeremy Whitson, PhD; University of Washington; NMN and SS-31: Two Paths to Healthier Mitochondria in the Aged Heart

**12:35 PM - 1:35 PM Special Lecture - Mark Smith Address**

(Selected by Awards Committee Spring 2019)

Gemma Casadesus, PhD; Kent State University; Raised in the school of challenging dogma: Luteinizing hormone dysregulation (NOT estrogen) impairs the menopausal brain

**1:35 PM - 2:15 PM Awards Ceremony: Student Awards and Close of Meeting**