

## Wednesday - June 27 Nathan Shock Centers Summit

### Pathways to Translation of Geroscience

2:00 PM - 2:15 PM

**Opening Remarks (NIA and NSC3)**

2:15 PM - 3:00 PM

**Keynote Speaker: Eline Slagboom**, PhD; Leiden University Medical Center

3:00 PM - 4:45 PM

We now have numerous interventions that extend life and/or health in mice. The needs to think hard about how to move beyond mice. What knowledge is needed to move successful mouse interventions forward into human trials? How can academic science and pharma work better together? When are large mammal or non-human primate trials necessary and when can interventions move directly from mice to humans? What are the ways forward?

**Peter Rabinovitch**, PhD\*; University of Washington, **Moderator**

**Mark Bamberger**, PhD; Stealth Biotherapeutics, Elamipretide: targeting mitochondrial dysfunction for diseases of aging

**Salvatore Oddo**, PhD\*; Arizona State University, mTOR signaling at the crossroad between aging and Alzheimer's disease: Therapeutic implications

**Zan Fleming**, MD; Kinexum, Blazing clinical development and regulatory pathways for healthspan interventions

**Monica Mita**, MD; Cedars-Sinai, Inhibitors of mTOR pathway for cancer treatment

## Thursday - June 28 Nathan Shock Centers' Summit - Day 2

7:30 AM - 8:30 AM

**Breakfast**

8:30 AM - 10:15 AM

**How healthy is the healthspan concept?**

Defining healthspan is not easy. Yet researchers in recent years have been claiming to do so in laboratory animal models. Have they? Can healthspan studies in laboratory animals be translated so as to be relevant to human clinical trials? What are the critical features of healthspan? Are we measuring it in a translatable way? What can researchers working with laboratory animals learn from the human "frailty" measurement experience?

**Matt Kaeberlein**, PhD\*; University of Washington, **Moderator**

**Harvey J. Cohen**, MD; Duke University, Human Healthspan: What is it and how can we measure it?

**Coleen Murphy**, PhD\*; Princeton University, Using *C. elegans* to study human age-related 'quality of life' declines

**Veronica Galvan**, PhD; University of Texas Health Science Center, San Antonio

**Rafael de Cabo**, PhD; National Institute on Aging

**10:15 AM - 10:45 AM**

**Break**

**10:45 AM - 12:30 PM**

**Biomarkers Redux?**

The Biomarkers study of the 1990's was a bust, but many new putative molecular biomarkers have been advocated since then. Have we really come a long way or is this false hope? Can we reach a consensus on what a biomarker is supposed to measure? Which are practical and translatable to human trials? How well do the current favorites stack up? What additional information would strengthen the case for putative biomarkers?

**Richard Miller**, PhD\*; University of Michigan, **Moderator**

**Steve Horvath**, PhD; University of California, Los Angeles

**Laura Niedernhofer**, MD, PhD; The Scripps Research Institute

**Tamara Harris**, MD; NIA Intramural Program

**Kristen Fortney**, PhD\*; BioAge Labs

NATHAN SHOCK SUMMIT PRE-MEETING ADJOURNS

## **Thursday - June 28 AGE 2018 Meeting Commences**

**4:30 PM - 8:30 PM**

Registration continues

**4:30 PM - 6:00 PM**

### **Trainee Career Development Roundtable**

**Felipe Sierra**, PhD\*; **Bitia Nakhai**, PhD; and **Carl Hill**, PhD; National Institute on Aging

**Donald Ingram**, PhD; Pennington Biomedical Research Institute, Rules for Success as a Post-Doc and Beyond

**Rozalyn Anderson**, PhD\*; Univ. of Wisconsin-Madison

**6:00 PM - 7:30 PM**

### **Orentreich Symposium on Nutrition and Longevity**

**6:00 PM - 6:20 PM**

**Brian Kennedy**, PhD\*; Centre for Healthy Ageing, National University of Singapore

**6:20 PM - 6:40 PM**

**Sebastian Brandhorst**, PhD\*; Univ. of Southern Calif., Fasting and Fasting-mimicking Diets in Health and Lifespan

**6:40 PM - 7:00 PM**

**John Newman**, PhD\*; Buck Institute and UCSF, Ketone bodies in aging and cognition: Targeting metabolic signals for new therapies

**7:00 PM - 7:20 PM**

**John P. Richie, Jr.**, PhD; Penn State University College of Medicine, Dietary Sulfur Amino Acid Restriction In Healthy Adults: A Controlled Feeding Study

Meeting Registration continues

## Friday - June 29 AGE 2018 - Day 1

7:00 AM - 8:00 AM

Breakfast

8:00 AM - 9:00 AM

### Keynote Address

**Pura Muñoz-Cánoves**, PhD

ICREA and Pompeu Fabra University, Dept of Experimental and Health Sciences, Barcelona, Spain, Muscle stem cell regenerative decline with aging

9:00 AM - 10:15 AM

### Session I - Interventions

**Chair: Veronica Galvan**, PhD; Barshop Institute for Longevity and Aging Studies, UTHSCSA

9:00 AM - 9:25 AM

**Joseph Baur**, PhD\*; University of Pennsylvania, Quantifying and manipulating mammalian NAD metabolism

9:25 AM - 9:50 AM

**Keir Menzies**, PhD; University of Ottawa, Linking NAD<sup>+</sup> metabolism to stem cell function and health during aging

9:50 AM - 10:15 AM

**Juan Zuniga-Hertz**, PhD; Einstein University, Hypothalamus NFκB and Stem Cells in aging

10:15 AM - 10:30 AM

Coffee and Networking

10:30 AM - 12:20 PM

### Session II - Physiological Aging/Biomarkers

**Chair: Rafael de Cabo**, PhD; NIH/NIA

10:30 AM - 10:55 AM

**Christian Beauséjour**, PhD; University of Montreal, A role for the senescence marker p16INK4a in immune fitness

10:55 AM - 11:20 AM

**Susan Howlett**, PhD; Dalhousie University, Halifax, Canada, Biomarkers of frailty in a naturally ageing mouse model

11:20 AM - 11:45 AM

**Luanne Peters**, PhD; Jackson Laboratories, Markers Associated with Lifespan in Diversity Outbred (DO) Mice

11:45 AM - 12:10 PM

**Dudley Lamming**, PhD\*; University of Wisconsin-Madison, Calorie restriction-induced insulin sensitivity is mediated by mTORC2 and uncoupled from longevity

12:10 PM - 12:20 PM

**Nicole Cummings**, PhD; University of Wisconsin-Madison, Decreased consumption of branched-chain amino acids promotes healthspan in wild-type and progeroid mice

12:30 PM - 2:00 PM

### Denham Harman Award Lecture and Luncheon

**Brian Kennedy**, PhD\*; Director, Centre for Healthy Ageing, National University of Singapore, Conserved modulators of aging: Will they work in humans?

(selected by Awards Committee in Spring 2018)

2:00 PM - 4:00 PM

## Session III - Resilience

2:00 PM - 2:25 PM

**Chair: Luigi Ferrucci**, MD, PhD; National Institute on Aging, What role for Geriatricians in the era of Geroscience?

2:20 PM - 2:50 PM

**Stephanie Studenski**, MD; NIA Intramural Program, Resilience and aging phenotypes

2:50 PM - 3:15 PM

**Anna Csiszar**, MD, PhD\*; Oklahoma University, Cerebrovascular Aging: Causes and Consequences

3:15 PM - 3:40 PM

**Isabel Beerman**, PhD; NIA Intramural Program, DNA Damage in Aging Hematopoietic Stem Cells

3:40 PM - 3:50 PM

**Ying Ann Chiao**, PhD\*; University of Washington, Late-life Restoration of Mitochondrial Function Reverses Age-related Cardiac Dysfunction in Old Mice

3:50 PM - 4:00 PM

**Jason N Pitt**, PhD; University of Washington Intermittent hypoxia treatment improves resilience and extends lifespan in *C. elegans* through IPMK-1 mediated regulation of DAF-16/FOXO

4:00 PM - 4:30 PM

**Coffee and Networking**

4:30 PM - 6:20 PM

## Session IV - Inflammation

4:30 PM - 4:55 PM

**Chair: Elias El Haddad**, PhD; Drexel University College of Medicine, Systems analysis of innate immunity in the elderly

4:55 PM - 5:20 PM

**Michael Cancro**, PhD; University of Pennsylvania, Perelman School of Medicine, Age-associated B cells in health and disease

5:20 PM - 5:45 PM

**Kelly Jordan-Sciutto**, PhD; University of Pennsylvania, Beta-amyloid convertase 1 (BACE1) mediates neuroinflammatory and excitotoxic neuronal damage in an APP-dependent manner

5:45 PM - 6:10 PM

**Christina Camell**, PhD\*; Yale University, Tissue resident macrophages drive age-related adipose dysfunction

6:10 PM - 6:20 PM

**Ilija Jetic**, PhD; University of Arizona College of Medicine, Age-related increase in lymph node fibrosis: targeting profibrogenic pathways

6:00 PM - 8:30 PM

## Poster Session and Reception I

8:30 PM - 10:00 PM

## Trainee Data Blitz

7:00 PM - 10:00 PM

## AGE Board of Directors Meeting

## Saturday - June 30 AGE 2018 - Day 2

7:00 AM - 8:00 AM	Breakfast
8:00 AM - 10:00 AM	<b>Session V: Epigenetics</b>
8:00 AM - 8:25 AM	<b>Chair: Peter Adams</b> , PhD; Sanford Burnham Prebys Medical Discovery Inst., A mitochondria-to-nucleus retrograde signal initiates senescence-associated inflammation
8:25 AM - 8:50 AM	<b>Ashley Webb</b> , PhD*; Brown University, Transcriptional and epigenetic regulation of stem cells during aging
8:50 AM - 9:15 AM	<b>Bérénice Benayoun</b> , PhD; USC, Epigenomic regulation of aging in Vertebrates
9:15 AM - 9:40 AM	<b>Vittorio Sebastiano</b> , PhD*; Stanford, Transient nuclear reprogramming promotes multifaceted reversal of aging in human cells: towards a novel therapy to treat aging
9:40 AM - 9:50 AM	<b>Nicole Tatom</b> ; University of Washington, Rapamycin and acarbose prevent fat accumulation in adult mice fed a high-fat diet
9:50 AM - 10:00 AM	<b>Payel Sen</b> , PhD*; University of Pennsylvania, Spurious intragenic transcription is a hallmark of mammalian cellular senescence and tissue aging
10:00 AM - 10:30 AM	<b>Jackson Laboratory's breakout session / Coffee and Networking</b> <b>Peter Kelmenson</b> , Phenotypes of Aged C57BL/6J JAX Mice
10:30 AM - 12:30 PM	<b>Session VI: Cell Senescence/Senolytics</b>
10:30 AM - 10:55 AM	<b>Chair: Cheryl Conover</b> , PhD; Mayo Clinic, Rochester, Minnesota, PAPP-A: a promising therapeutic target for healthy longevity
10:55 AM - 11:20 AM	<b>Laura Niedernhofer</b> , MD, PhD; Scripps Florida, Cell non-autonomous mechanisms of aging
11:20 AM - 11:45 AM	<b>F Brad Johnson</b> , MD, PhD*; University of Pennsylvania, Manipulating cell signaling pathways to ameliorate telomere dysfunction in dykeratosis congenita
11:45 AM - 12:10 PM	<b>Graham Pawelec</b> , PhD; University of Tuebingen Center for Medical Research (ZMF), Germany and Health Sciences North Research Institute, Sudbury, ON, Canada, Human immunosenescence
12:10 PM - 12:20 PM	<b>Weiwei Dang</b> , PhD; Baylor College of Medicine, Cellular Response to Moderate Chromatin Architectural Defects Promotes Longevity
12:20 PM - 12:30 PM	<b>Stacy A. Hussong</b> , PhD; University of Texas Health Science Center at San Antonio, Prion-like propagation of tau oligomers trigger brain vascular endothelial cell dysfunction
12:30 PM - 2:00 PM	Lunch - On your own

## Geroscience Editorial Board Luncheon (by invitation)

2:00 PM - 4:00 PM

### Session VII: Non-Cell Autonomous Communication

2:00 PM - 2:25 PM

**Chair: Scott Leiser**, PhD\*; University of Michigan, Serotonin signaling in stress perception and longevity

2:25 PM - 2:50 PM

**Vyacheslav Labunskyy**, PhD\*; Boston University College of Medicine, Systems biology approach to understanding the aging process

2:50 PM - 3:15 PM

**Sean Curran**, PhD\*; USC Leonard Davis School of Gerontology, Cell non-autonomous signaling mediates longevity responses to protein synthesis inhibition

3:15 PM - 3:40 PM

**Pinchas Cohen**, MD\*; USC Leonard Davis School of Gerontology, Mitochondrial-Derived Peptides: Novel Molecular Regulators in Diet and Exercise

3:40 PM - 3:50 PM

**Silvana Sidhom**, PhD; University of Central Florida, Metabolic effects of 17-alpha estradiol are growth hormone independent and sex specific

3:50 PM - 4:00 PM

**Constanza Cortes**, PhD; Duke University School of Medicine, Enhanced skeletal muscle proteostasis as a determinant of CNS protein quality control and neural function in the aging brain

4:00 PM - 4:30 PM

**Coffee and Networking**

4:30 PM - 6:20 PM

### Session VIII: Comparative Biology

4:30 PM - 4:55 PM

**Chair: Viviana Perez**, PhD\*; Linus Pauling Institute, Oregon State University, The role of aggresome pathway in resistance to proteotoxicity

4:55 PM - 5:20 PM

**Rochelle Buffenstein**, PhD\*; Calico, A window into extreme longevity; insights from the metabolome and proteome of the the naked mole-rat

5:20 PM - 5:45 PM

**Antonello Lorenzini**, PhD; University of Bologna, Italy, Convergent evolution of longevity at the cellular level

5:45 PM - 6:10 PM

**Shelley Berger**, PhD; University of Pennsylvania, Profound nuclear and chromatin alterations in senescence and aging

6:10 PM - 6:20 PM

**Mark McCormick**, PhD; University of New Mexico Health Sciences Center, An FDA-approved compound that doubles *C. elegans* lifespan through a conserved pathway

6:20 PM

### AGE General Membership Meeting

6:00 PM - 8:30 PM

### Poster Session and Reception II

8:30 PM - 12:00 AM

**Trainee Networking Social** Held at a nearby pub - details TBA at meeting! (Senior members -- please join us to network with our trainees!)

## Sunday - July 1 AGE 2018 - Day 3

7:00 AM - 8:00 AM	Breakfast
8:00 AM - 10:00 AM	<b>Session IX – Microbiome</b>
8:00 AM - 8:25 AM	<b>Chair: Garth Ehrlich</b> , PhD; Drexel University College of Medicine, Development and Validation of a High-Fidelity, Species-specific, Microbiome Assay for Use in Precision Medicine
8:25 AM - 8:50 AM	<b>Kylie Kavanagh</b> , DVM, MS; Wake Forest School of Medicine, Monkey Guts: How aging primate intestines shift structure and function
8:50 AM - 9:15 AM	<b>Meng Wang</b> , PhD; Baylor College of Medicine, A Gut Feeling of Longevity
9:15 AM - 9:40 AM	<b>Michele Kutzler</b> , PhD; Drexel University College of Medicine, Impaired TfH and GC B cell responses lead to Increased susceptibility to <i>Clostridium difficile</i> infection and recurrence in aged models
9:40 AM - 9:50 AM	<b>Marlene E Starr</b> , PhD; University of Kentucky, Age-associated expansion of gamma delta T cells promotes visceral adipose tissue inflammation
9:50 AM - 10:00 AM	<b>Harinder Singh</b> , PhD; J. Craig Venter Institute, Gut and Saliva Microbiota changes are associated with healthy aging
10:00 AM - 10:30 AM	Coffee and Networking
10:30 AM - 11:30 AM	<b>Session X: Recent Advances</b>
10:30 AM - 10:55 AM	<b>Chair: Monica Driscoll</b> , PhD; Rutgers, The State University of New Jersey, Caught in the Act: Neurons Throw Out Their Trash
10:55 AM - 11:20 AM	<b>Clara Di Germanio</b> , PhD; NIA Intramural Program, Transgenerational inheritance of the response to calorie restriction
11:20 AM - 11:45 AM	<b>Adam Salmon</b> , PhD*; Univ. of Texas Health Science Center, The marmoset as a pre-clinical bridge for longevity and healthy aging interventions
11:45 AM - 12:30 PM	<b>Session XI: Special Lecture – James Joseph Address</b>
	<b>Nathalie Sumien</b> , PhD*; Univ. of North Texas Health Science Center, A Journey into Brain Aging: Dietary Antioxidants, Exercise, and Glutathione
12:30 PM - 1:00 PM	<b>Awards Ceremony: Trainee Awards and Close of Meeting</b>
1:00 PM End	

\* Indicates current and past AFAR grant awardees