

2016 Nathan Shock Center Summit: “Personalized Geroscience”

Wednesday, June 1, 2016

1:00 PM – 1:40 PM Keynote address:

1. Rachel Nugent, Vice President, Global Non-communicable Diseases, RTI International, **Challenges in aging of the global population**

Session 1. Sex and Aging

Chair: Randy Strong

1:40 PM – 1:45 PM Arlan Richardson: Session Introduction

1:45 PM – 2:05 PM 2. Russell Bonduriansky, University of New South Wales, **An evolutionary perspective on sex differences in ageing”**

2:05 PM – 2:25 PM 3. John Tower, University of Southern California, **Sex-specific regulation of life span in Drosophila**

2:25 PM – 2:45 PM 4. Derek Huffman, Albert Einstein College of Medicine, **Sex difference in the GH/IGF-1 Pathway in Mammals**

2:45 PM – 3:00 PM Coffee Break

Session 2. Sex and Aging

Chair: Arlan Richardson

3:00 PM 5. Randy Strong, University of Texas Health Science Center at San Antonio,

What we have learned from the NIA-Intervention Testing Program on sex effects in extending longevity in mice

3:20 PM – 3:40 PM 6. Matt Kaeberlein, University of Washington, **Sex-specific interactions between mTOR signaling, cancer, and longevity**

3:40 PM – 4:00 PM 7. Willard Freeman, University of Oklahoma, **Targeted analyses of DNA methylation and mitochondrial heteroplasmy**

4:00 PM – 4:20 PM 8. Christian Pike, University of Southern California, **Sex differences in Alzheimer’s Disease: from rodents to humans**

4:20 PM – 4:40 PM Roundtable Discussion: **Future Research on the Role of Sex in Aging** 4:40

PM – 6:30 PM **Harbor Cruise Pier 55 (optional)**

Thursday, June 2, 2016

Session 3: Molecular signatures of aging

Chair: Gary Churchill

9:00 AM – 9:20 AM 9. Jan Vijg, Albert Einstein College of Medicine, **Genome instability: a conserved mechanism of aging?**

9:20 AM – 9:40 AM 10. Lorna Harries, University of Exeter, **Altered mRNA processing in aging and longevity**

9:40 AM - 10:00 AM 11. Steve Horvath, UCLA, **Epigenetic clock: recent biological insights and applications**

10:00 AM - 10:20 AM 12. Gary Churchill, The Jackson Laboratory, **Regulation of the proteome in mammalian aging**

10:20 AM - 10:35 AM Q&A Panel

10:35 AM - 10:55 AM Coffee Break

Session 4: The role of environment in healthy aging

Co-chairs: Daniel Promislow and Caleb Finch

10:55 AM – 11:15 AM 13. Elissa Epel, UCSF, **The role of social disadvantage and stress in early life telomere health**

11:15 AM – 11:35 AM 14. Caleb Finch, USC, **Evolution of the uniquely human ApoE alleles**

11:35 AM – 11:55 AM 15. Josh Snodgrass, University of Oregon, **Health and aging among older adults in middle income countries: The WHO's Study on global AGEing and adult health (SAGE)**

11:55 AM – 12:15 PM 16. David Walker, UCLA, **Analyzing microbiota-health interactions during *Drosophila* aging**

12:15 PM – 12:30 PM Q & A Panel

12:30 PM - 1:30 PM Lunch (HARBOR ROOM)

Session 5: Natural variation in aging

Chair: Kathleen Fischer

1:30 PM - 1:50 PM 17. Vera Gorbunova, University of Rochester, **Mechanisms of longevity on long lived mammalian species**

1:50 PM - 2:10 PM 18. Cancelled

2:10 PM - 2:30 PM 19. Jay Olshansky, University of Illinois, Chicago, **In Pursuit of the longevity dividend**

2:30 PM - 2:50 PM 20. Daniel Promislow, University of Washington, **Natural variation for aging and age-related disease in companion dogs**

2:50 PM – 3:05 PM Q & A Panel

3:05 PM – 3:25 PM Coffee Break

Session 6: Toward Personalized Geroscience

Chair: Nir Barzilai

PM 21. Alan Schuldiner, Regeneron Genetics Center, **Identifying functional mutations in populations to inform development of therapies for age-related diseases**

3:45 PM – 4:05 PM 22. Luigi Ferrucci, NIA, **Longitudinal study of aging; a three legged stool for personalized medicine**

4:05 PM – 4:25 PM 23. Gustavo Glusman, Institute for Systems Biology, **The 100K Wellness Project: A data-rich longitudinal study for the digital age**

4:25 PM – 4:45 PM 24. Yousin Suh, Albert Einstein College of Medicine, **Functional genomics approach to develop targets for slowing aging in humans**

4:45 PM – 5:00 PM Q & A Panel

NATHAN SHOCK SUMMIT ADJOURNS

3:00 pm – 6:00 pm American Aging Association Conference Registration

2016 American Aging Association Annual Meeting “Targeting Aging: The Ultimate Preventative Medicine”

45th Annual Meeting of the American Aging Association

Thursday, June 2, 2016

6:30 PM – 8:00 PM **Panel Discussion: *From bench to clinic: Translating aging research.***

25. Mark Collins, Glenn Foundation, **Human Aging is the Climate Change of Biology: Plan *for* it, not *Against* it**

Panelists: Mark Collins, Joan Mannick, Nir Barzilai, Tom Rando

8:00 PM – 10:00 PM Opening Reception

Friday, June 3, 2016

7:00 AM - 8:00 AM Breakfast (Foyer)

8:00 AM – 9:15 AM **Keynote Address:** Introduction by George Martin, University of Washington.

26. Brian Kennedy, Buck Institute for Research on Aging, **Gender specificity in the TOR pathway with respect to metabolism and aging**

Session 1: Mitochondrial and metabolic mechanisms of healthy aging

Chair: George Martin

9:15 AM - 9:30 AM **27.** Dana Miller, University of Washington, **Interactions between HIF-1 and SKN-1 in Hydrogen Sulfide**

9:30 AM - 9:45 AM **28.** Marcia Haigis, Harvard, **Role of mitochondria in immune aging**

9:45 AM - 10:00 AM **29.** Dan Gottschling, Calico, **Wrestling with how interconnected biological systems change with age**

10:00 AM -10:15 AM **30.** Allon Canaan, Yale, **How does FAT10 silencing extend lifespan in mice?**

10:15 AM -10:35 AM Q & A Panel

10:35 AM - 10:50 AM Coffee Break and Networking

Session 2: Systemic signals and stem cells

Chair: Weiwei Dang

10:50 AM - 11:05 AM 31. Tom Rando, Stanford University, **Epigenetic regulation of stem cell aging**

11:05 AM - 11:20 AM 32. Graham Pawelec, University of Tuebingen, **Immunosenescence and Cancer**

11:20 AM - 11:35 AM 33. Zhongjun Zhou, Hong Kong University, **Nuclear lamin A in chromatin remodeling, DNA damage repair and aging**

11:35 AM –11:50 AM 34. Seung Jae Lee, POSTECH, **Sensory regulation of longevity via neuroendocrine insulin-like peptide in *C. elegans***

11:50 AM–12:10 PM Q & A Panel

12:10 PM - 1:30 PM **Lunch on your own**

12:10 PM - 1:30 PM AGE Journal Editorial Board Meeting (COVE)

1:30 PM – 2:30 PM **Special Session: Targeting Aging with MEtformin (TAME): A study to target aging in humans**

35. *Nir Barzilai*, Albert Einstein College of Medicine, - Dr. Barzilai will give an update on planning for the TAME trial and will take questions from the audience.

2:30 PM – 3:30 PM **Session 3: Selected Abstracts**

Chair: Carissa Perez Olsen

2:30 PM- 2:40 PM 36. Jeremy Van Raamsdonk, Van Andel Research Institute, **Targeting aging as a therapeutic strategy for the treatment of neurodegenerative disease**

2:40 PM – 2:50 PM 37. Victoria Gibbs, UAB, **Increased energy expenditure under fixed food intake reduces body fat and increases longevity in male C57BL/6J mice**

0 PM 38. Vyacheslav Labunskyy, Boston University, **CAN1 arginine permease deficiency extends yeast replicative lifespan via translational activation of integrated stress response**

0 PM 39. Alex Freitas, University of Kent, **Selecting Gene Ontology Terms for Predicting the Pro-Longevity or Anti-Longevity Effect of Genes with Machine Learning Methods**

3:10 PM – 3:20 PM 40. Kelvin Yen, USC, **The mitochondrial derived peptide humanin is a conserved regulator of healthspan and lifespan**

3:20 PM – 3:30 PM Q & A Panel

3:30 PM - 3:50 PM Coffee Break and Networking

3:50 PM – 4:50 PM **Session 4: Trainee Chapter Symposium.** Chair: Mike Anson

3:50 PM – 4:00 PM 41. Mark McCormick, Buck Institute for Research on Aging, **Lessons learned from a comprehensive analysis of aging in yeast**

4:00 PM 42. Stefano Tarantini, University of Oklahoma, **Treatment with the mitochondrial targeted antioxidant peptide SS-31 Improves cerebrovascular function in aged mice**

4:10 PM – 4:20 PM 43. Kaitlyn Lewis, Calico, **Cancer resistance in the long-lived naked mole-rat**

4:20 PM – 4:30PM 44. Shih-Yin Tsai, Buck Institute for Research on Aging, **The role of 4E-BP1 in diet- and aging-induced metabolic stresses**

4:30 PM – 4:40PM 45. Stephanie Matyi, University of Oklahoma, **Calorie restriction significantly alters the intestinal microbiota of mice**

4:40 PM – 4:50PM Q & A Panel

5:00 PM – 7:00 PM **Poster Session and Reception 1**

7:00 PM – 10:00 PM AGE Board of Directors Meeting (COVE)
Student Data Blitz (HARBOR ROOM)

SATURDAY JUNE 4

8:00 AM -9:00 AM Continental Breakfast

Session 5: Mechanisms of Cellular Homeostasis

Chair: Alex Mendenhall

9:00 AM - 9:15 AM 46. Carissa Perez Olsen, Fred Hutchinson Cancer Research Center, **The role of membrane composition in aging**

9:15 AM - 9:30 AM 47. Ana Maria Cuervo, Albert Einstein College of Medicine, **Contribution of selective autophagy to proteostasis in aging**

9:30 AM - 9:45 AM 48. Kelvin Davies, USC, **Impairment of adaptive homeostasis**

10:00 AM 49. Aric Rogers, Mountain Desert Island Biological Laboratory, **Enhanced ER stress resistance mediated by restricting translation initiation: A novel role for HSF-1**

10:00 AM –10:20 AM Q & A Panel

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10:20 AM –10:40 AM Coffee Break and Networking

Session 6: Interventions to promote healthy aging

Chair: Seung-Jae Lee

55 AM 50. Peter Rabinovitch, University of Washington, **Transient treatments that produce persistent rejuvenation. The Holy Grail of interventions to promote healthy aging?**

10 AM 51. Cathy Slack, University College London, BSRA Korenchevsky speaker, **Repurposing Ras pathway inhibitors: from anti-cancer to anti-ageing**

25 AM 52. Dudley Lamming, University of Wisconsin, **Decreased consumption of specific macronutrients promotes metabolic health and longevity**

40 AM 53. Pankaj Kapahi, Buck Institute for Research on Aging, **Identifying natural genetic variants that regulate healthspan *versus* lifespan in *D. melanogaster***

11:40 AM – 12:00PM Q & A Panel

12:00 PM – 1:20 PM Denham Harman Award Lecture and Luncheon (Harbor Room)

Lifetime Achievement Award

Arlan Richardson: opening introduction for awardee

54. Holly Van Remmen, Oklahoma Medical Research Foundation, **The role of mitochondria and oxidative stress in aging and sarcopenia**

Session 7: New pathways and emerging concepts in aging

Chair: Seung Jae Lee

5 PM 55. Alex Mendenhall, University of Washington, **Why genetically identical animals age differently**

1:45 PM - 2:00 PM 56. Weiwei Dang, Baylor School of Medicine, **HSP70 chaperones and vacuolar proteinases regulate Sir2 stability in aged yeast cells**

2:00 PM - 2:15 PM 57. Kylie Kavanaugh, Wake Forest, **Vulnerability to intestinal barrier dysfunction and insulin resistance in old sarcopenic monkeys**

2:15 PM - 2:30 PM 58. Kathleen Fischer, UAB, **The impact of dietary restriction using a formulated diet on growth, reproduction, and survival in the short-lived killifish (*Nothobranchius furzeri*).**

2:30 PM - 2:45 PM 59. Bess Frost, Barshop Institute, **Identification of Alzheimer's Disease as a Neurodegenerative Laminopathy**

2:45 PM – 3:05 PM Q & A Panel

3:05 PM – 3:25 PM Coffee Break and Networking

Session 8: AFAR Symposium

Chair: Yousin Suh

PM 60. Christin Burd, Ohio State, **Examining the relationship between T-cell p16^{INK4a} Levels, immunosenescence and geriatric assessments in patients with multiple myeloma**

3:40 PM – 3:55 PM 61. Scott Leiser, University of Michigan, **FMO proteins: conserved regulators of stress resistance and longevity**

3:55 PM – 4:10 PM 62. Ashley Webb, Brown University, **Elucidating the transcriptional networks that preserve stem cells during aging**

4:10 PM - 4:25 PM 63. Adam Hughes, University of Utah, **Dissecting the link between mitochondria and lysosomes in aging**

4:25 PM – 4:45 PM Q & A Panel

4:45 PM – 6:00 PM **AGE General Membership Meeting**

6:00 PM – 8:00 PM **Poster Session and Reception II**

Sunday June 5th

7:00 AM -8:00 AM Continental Breakfast

Session 9: AGE Fellows Symposium

Chair: Holly Brown-Borg

8:00 AM – 8:10 AM Introduction of new AGE Fellows

8:10 AM – 8:30 AM 64. Janko Nikolich-Zugich, University of Arizona, **Are the rules governing immune defense age-sensitive?**

8:30 AM – 8:50 AM 65. James F. Nelson, Barshop Institute, **Sex differences in age-specific mortality in genetically heterogeneous mice: Influence of age and environment**

8:50 AM – 9:10 AM 66. LaDora Thompson, University of Minnesota, **Muscle Dysfunction and Frailty – The Role of Protein Quantity and Quality**

9:10 AM – 9:30 AM 67. Rochelle Buffenstein, Calico, **Pushing the limits; robust proteostasis in the long-lived naked mole-rat**

9:30 AM – 9:45 AM Q & A Panel

9:45 AM – 10:05 AM Coffee Break and Networking

Session 10: The biology of human aging.

Chair: Scott Leiser

10:05 AM - 10:25 AM 68. Yousin Suh, Albert Einstein College of Medicine, **Enhancer mechanisms in aging and disease**

10:25 AM - 10:45 AM 69. Jing Dong Han, Chinese Academy of Science- MPG Partner Institute, Shanghai, **A systems approach to reverse engineer lifespan extension by dietary restriction**

10:45 AM 70. Evan Hadley, NIH, **CALERIE: A two-year randomized controlled trial of human caloric restriction: feasibility and effects on predictors of health span and longevity**

11:05 AM – 11:25 AM 71. Joan Mannick, Novartis, **Developing mTOR inhibitors for the treatment of aging-related conditions in humans**

11:25 AM – 11:40 AM Q & A Panel

11:40 AM – 12:00PM Coffee Break and Networking

Session 11: James Joseph Address

12:00 PM – 1:00 PM Introduction by Donald Ingram

72. Barbara Shukitt-Hale, Tufts, **Berry fruit can improve age-associated neuronal and cognitive deficits: from the laboratory to the clinic**

1:00 PM - 1:30 PM **Awards Ceremony and Close of Meeting**

1:30 PM **GENERALMEETINGADJOURNS**

AGE Trainee Chapter Events: Sunday June 5

1:30 PM - 2:30 PM **Trainee Chapter Networking Luncheon**

2:30 PM – 4:00 PM **Career Development Panel** Chair: Matt Kaeberlein **Panel**

participants:

Alex Mendenhall, Assistant Professor, University of Washington
Scott Leiser, Assistant Professor, University of Michigan
Carissa Perez Olsen, Assistant Professor, Fred Hutchinson Cancer Research Center
Jing-Dong Han, Chinese Academy of Science, Shanghai
Bitá Nakhai, NIA

4:00 PM – 8:00 PM **Trainee Chapter Social, Pike Brewery**

