National Institutes of Health
U.S. Department of Health and Human Services

Geroscience Interest Group
Summit III

Targeting Chronic Diseases Through Geroscience

Monday November 4th - Wednesday November 6th, 2019
Natcher Conference Center, NIH Campus
Bethesda, MD
Meeting Objectives

Aging itself is by far the greatest risk factor for most chronic diseases and disabilities which affect older adults. While recent basic research and clinical trials addressing individual diseases has led to increases in life expectancy, this has not always been accompanied by a parallel increase in healthspan, the portion of life spent in good health.

The Geroscience hypothesis posits that since aging physiology plays a role in many – if not all – chronic diseases, therapeutically addressing aging physiology directly will prevent the onset or mitigate the severity of multiple chronic diseases. Thus, the aims of Geroscience are to understand how aging enables diseases and to exploit that knowledge to slow the appearance and progression of age-related diseases and disabilities.

Through developing a deeper understanding of the major underlying causes of age-related vulnerability to chronic disease, Geroscience aims to improve overall health in our later years. Interventions that slow the aging process would dramatically lower health care costs and have societal benefits that are unmatched by the cure of any single disease.

The third Geroscience Summit organized by the trans-NIH Geroscience Interest Group (GSIG) will provide a forum for novel interactions between disease-focused professional societies and foundations, and the community of researchers and practitioners of geroscience. The focus will be on drawing the attention of professional societies focused on specific age-related diseases to the emerging field of geroscience and its potential role in combating those diseases.

Specific goals are to:

- Ensure that participants are aware of the potential role of aging biology as a major risk factor in the etiology of the age-related disease of their focus, and the potential benefits of geroscience approaches for treatment of those diseases.
- Identify ways in which advocacy groups and research societies or foundations can incorporate age and aging into their portfolios and outreach activities.
- Survey the current status of regulatory issues related to geroscience.
Planning Committee

Kristin Abraham, PhD (NIDDK)
Johanna Dwyer, DSc (NIH/ODS)
Jovier Evans, PhD (NIMH)
Leslie Frieden, PhD (NIDCR)
Paige Green, PhD (NCI)
Evan Hadley, MD (NIA)
Todd Haim, PhD (NIA)
Kevin Howcroft, PhD (NCI)
Chamelli Jhappan, PhD (NCI)
Francesca Macchiarini, PhD (NIA)
Ron Kohanski, PhD (NIA)
Gayle Lester, PhD (NIAMS)
Kristy Nicks, PhD (NIAMS)
Young Oh, PhD (NHLBI)
Mercy Prabhudas, PhD (NIAID)
Grace Shen, PhD (NEI)
Felipe Sierra, PhD (NIA)
Yisong Wang, PhD (NCCIH)

National Cancer Institute (NCI), National Center for Complementary and Integrative Health (NCCIH), National Eye Institute (NEI), National Heart Lung and Blood Institute (NHLBI), National Institute on Aging (NIA), National Institute of Allergy and Infectious Diseases (NIAID), National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS), National Institute of Dental and Craniofacial Research (NIDCR), National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK), National Institute of Mental Health (NIMH), National Institutes of Health, Office of the Director (NIH OD)
Agenda – Day 1
Monday, November 4, 2019

8:00AM – 8:30AM  Registration

8:30AM – 8:45AM  Welcoming Remarks

Opening Remarks and Orientation  5 minutes

Francis Collins (Director, NIH)  10 minutes
Alternate: Richard Hodes (Director, NIA)

8:45AM – 10:15AM  Session I:  Geroscience and the GSIG

The goal of session I is to introduce the major concepts of geroscience, aimed at instructing disease-focused participants about the concepts and currents status of the field. The session will also highlight the role of the trans-NIH GSIG, and how NIH staff can work with advocates to promote integration of geroscience principles into their programs.

Chair:  Paige Green (NCI) – Chair and Moderator

Felipe Sierra (NIA) - Confirmed  10 minutes
Anne Newman (Univ. Pitt) - Confirmed  10 minutes
Terrie Moffitt (Duke University) - Confirmed  10 minutes
Gordon Lithgow (Buck Institute) - Confirmed  10 minutes

Panel Discussion: 50 minutes

10:15AM – 10:45AM  Break

10:45AM – 12:15PM  Session II:  Advances in Basic Biology

Basic research into the biology of aging has led to identification of biochemical pathways and cell biological changes that contribute to aging, collectively known as the “hallmarks of aging.” Because the goal of geroscience is greater health at older ages, we consider these hallmarks of aging as prime targets for interventions that might slow the rate of aging, reverse some effects of aging, or cure diseases of aging. Progress has come from discoveries on the interactions between these hallmarks of aging and specific features of the disease or intervention to treat the disease. After this session, there should be greater appreciation that diseases-of-aging involve gene by hallmark or therapy by hallmark interactions. This should stimulate interest in looking for these interactions when seeking therapeutics for diseases-of-aging in addition to targeting the risk-alleles associated with those diseases.

Co-Chairs:  Ron Kohanski (NIA) - Introduction
Youngsuk Oh (NHLBI) - Moderator

Luigi Ferucci (NIA) - Confirmed  12 minutes
Helen Blau (Stanford) - Confirmed  12 minutes
Michael Seffen Kober (Univ. British Columbia) - Confirmed  12 minutes
Darren Baker (Mayo Clinic) - Confirmed  12 minutes
Beth Levine (Texas Southwestern Medical School) - Confirmed  12 minutes

Panel Discussion: 30 minutes
1:15PM – 2:45PM  **Session III: Successful Partnerships**

The goal of session III is to demonstrate the utility of partnerships to produce advances in knowledge or policy development. This includes examples of collaborations among external entities, or between such entities and the NIH.

**Co-Chairs:**  Kristin Abraham (NIDDK) - *Introduction*
Johanna Dwyer (NIH OD) - *Moderator*

**Keynote:** Philippe Amouyel (Institute Pasteur de Lille) - *Confirmed*  
EU Joint Programme-Neurodegenerative Disease Research (JPND)

Cyndy B. Cordell (Global Alzheimer’s Platform Foundation) – *Confirmed*  
Joseph Menetski (Foundation for the National Institutes of Health) - *Confirmed*  
Steven Clauser (Patient-Centered Outcomes Research Institute) - *Confirmed*  
Debra Reed-Gillette (Centers for Medicare & Medicaid Services) - *Confirmed*

**Overall Panel Discussion**

2:45PM – 3:15PM  **Break**

3:15PM – 5:00PM  **Session IV: Opportunities I**

This session will highlight disease-specific advocacy organization, foundation, and professional society perspectives on the impact of aging biology on the onset, severity, or treatment of their target diseases. Presentations will be followed by a panel discussion outlining current activities and future opportunities for research on chronic diseases that incorporate principles of geroscience.

**Co-Chairs:**  Jovier Evans (NIMH) - *Introduction*
Kevin Howcroft (NCI) - *Moderator*

Russell Shilling (Amer. Psych. Assn.) - *Confirmed*  
Diane Bovenkamp (The Bright Focus Foundation) - *Confirmed*  
Olivia Okereke (American Association for Geriatric Psychiatry) - *Confirmed*  
Stephen Rose (Foundation Fighting Blindness) - *Confirmed*  
Alison Steiber (Academy of Nutrition and Dietetics) - *Confirmed*  
Shelley Fuld Nasso (National Coalition for Cancer Survivorship) - *Confirmed*  
Heidi D. Klepin (American Society of Clinical Oncology) - *Confirmed*  
Douglas P. Kiel (Amer. Soc. Bone and Mineral Research) - *Confirmed*  
Jennifer Westendorf (Orthopedic Research Society) – *Confirmed*  
Sue Peschin (The Alliance for Aging Research) – *Confirmed*

**Panel Discussion:**  45 minutes
### Session V: Advances on Interventions

The goal of Session V is to highlight current advances in aging interventions. This translational session will focus on both pharmacological and behavior interventions with the potential to not only extend healthspan, but also alleviate the symptoms attributed to advancing age. Talks will also incorporate current efforts at both the pre-clinical and clinical levels where the pillars of aging are addressed as possible disease modifiers.

**Co-Chairs:** Chamelli Jhappan (NCI) and Gayle Lester (NIAMS) - *Introduction*
Kristy Nicks (NIAMS) and Yisong Wang (NCCIH) - *Moderators*

- James Kirkland (Mayo Clinic) - *Confirmed* | 12 minutes
- Eric Verdin (Buck Institute) - *Confirmed* | 12 minutes
- Thomas Rando (Stanford) - *Confirmed* | 12 minutes
- Joan Mannick (resTORbio) - *Confirmed* | 12 minutes
- Mary Goldring (Hosp. for Special Surgery) - *Confirmed* | 12 minutes

**Panel Discussion:** 25 minutes

### Session VI: Opportunities II

This session will highlight disease-specific advocacy organization, foundation, and professional society perspectives on the impact of aging biology on the onset, severity, or treatment of their target diseases. Presentations will be followed by a panel discussion outlining current activities and future opportunities for research on chronic diseases that incorporate principles of geroscience.

**Co-Chairs:** Leslie Freiden (NIDCR) - *Introduction*
Mercy Prabhudas (NIAID) - *Moderator*

- Marc W. Heft (American Assn. Dental Research) - *Confirmed* | 5 minutes
- Marcelo Araujo (American Dental Association) - *Confirmed* | 5 minutes
- Gwen Nichols (Leukemia and Lymphoma Society) - *Confirmed* | 5 minutes
- Rita Kalyani (American Diabetes Association) - *Confirmed* | 5 minutes
- Sarah Ohlhorst (American Society for Nutrition) - *Confirmed* | 5 minutes
- Kathryn Richmond (Allen Institute) - *Confirmed* | 5 minutes
- Wilson Tang (Heart Failure Society of America) - *Confirmed* | 5 minutes
- James Appleby (The Gerontological Society of America) - *Confirmed* | 5 minutes
- Stephanie Lederman (American Federation for Aging Research) - *Confirmed* | 5 minutes
- Jacques Banchereau (Fed. of Clinical Immunology Societies) - *Confirmed* | 5 minutes

**Panel Discussion:** 45 minutes
1:30PM – 3:15PM  Session VII: Biotech and Implementation
This session will highlight examples from biotech and academic research that target specific diseases based on a selected hallmark of aging. These will include osteoarthritis, upper respiratory infection, wound healing, macular degeneration, sarcopenia, high blood pressure and congenital heart disease, and neurodegenerative disease. This will be followed by a panel discussion on emerging opportunities to advance our understanding of diseases of aging and potential therapies, based on consideration of the basic biology underlying these hallmarks of aging.

Co-Chairs: Ron Kohanski (NIA) - Introduction
Gayle Lester and Kristy Nicks (NIAMS) - Moderator

Farshid Guilak (Wash Univ.) - Confirmed 12 minutes
Marco Quarta (Rubedo Life Sci.) - Confirmed 12 minutes
Wesley Jackson (Valitrbio) - Confirmed 12 minutes
Anthony Oliva (Longeveron) - Confirmed 12 minutes
Tony Radcliff (Synthasome) - Confirmed 12 minutes
Kelsey Moody (Ichor Therapeutics) 12 minutes

Panel Discussion: 33 minutes

3:15PM – 3:45PM Break

3:45PM – 5:00PM Session VIII: A Look to the Future
The goal of session VIII is exactly what the title suggests: what is in the near horizon, both in terms of advances in understanding or modifying the pillars of aging, and advances in other areas of aging biology research not directly related to the pillars. In addition to those advances in basic science, upcoming advances in translation and clinical approaches will also be discussed.

Co-Chairs: Evan Hadley (NIA) - Introduction
Francesca Macchiarini (NIA) - Moderator

Cynthia Kenyon (Calico) - Title (30 minutes + 7 minutes Q&A)
Tom Kalil (Schmidt Futures) - Title (30 minutes + 7 minutes Q&A)
Agenda – Day 3
Wednesday, November 6 2019

9:00AM – 12:00AM  Session IX: Closed Session

Session IX – Executive Session I (Kevin Howcroft/Felipe Sierra)
Session IX will consist of three parallel panels discussing outcomes of the Summit as a whole, and a vision forward. Each of the panels will include basic scientists, representatives of professional societies, and advocates/regulators. Panel Co-Chairs will be charged with envisioning feasible plans for development of partnerships and other activities, with timelines of 2, 5 and 10 years.

Session X – Executive session II (Felipe Sierra/Grace Shen)
Session X will be a reconvening of panelists from session IX, where conclusions will be presented, followed by open discussion among all panelists on ways to proceed to bring those visions and proposals into reality. Specific quantifiable action items are expected.