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

Geroscience Interest Group
Summit III

Targeting Chronic Diseases Through Geroscience

November 4th-6th, 2019
Natcher Conference Center, NIH
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/OD)
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

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 current 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 Kobor (Univ. British Columbia) - Confirmed 12 minutes
Darren Baker (Mayo Clinic) - Confirmed 12 minutes
Bethe Levine (Univ. Southwestern) - Confirmed 12 minutes

Panel Discussion: 30 minutes

12:15PM – 1:15PM  Lunch

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 20 minutes
EU Joint Programme-Neurodegenerative Disease Research (JPND)

Joseph Menetski (Foundation for the National Institutes of Health) - Confirmed 15 minutes
Steven Clauser (Patient-Centered Outcomes Research Institute) - Confirmed 15 minutes
Debra Reed-Gillette (Centers for Medicare & Medicaid Services) - Confirmed 15 minutes

Overall Panel Discussion 25 minutes

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 5 minutes
Diane Bovenkamp (The Bright Focus Foundation) - Confirmed 5 minutes
Olivia Okereke (American Association for Geriatric Psychiatry) - Confirmed 5 minutes
Stephen Rose (Foundation Fighting Blindness) - Confirmed 5 minutes
Alison Steiber (Academy of Nutrition and Dietetics) - Confirmed 5 minutes
Shelley Fuld Nasso (National Coalition for Cancer Survivorship) - Confirmed 5 minutes
Rita R. Kalyani (American Diabetes Association) - Confirmed 5 minutes
Heidi D. Klepin (American Society of Clinical Oncology) - Confirmed 5 minutes
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
Agenda – Day 2

8:00AM – 8:30AM  Registration

8:30AM – 8:35AM  Opening Remarks and Orientation

8:35AM – 10:00AM  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

10:00AM – 10:30AM  Break

10:30AM – 12:15PM  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 Prabhus (NIAID) - Moderator

TBN (American Assn. Dental Research) - Confirmed acceptance  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
Panel Discussion: 45 minutes

12:15PM – 1:30PM  Lunch

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 (Valitorbio) - Confirmed  12 minutes
Anthony Oliva (Longeveron) - Confirmed  12 minutes
Tony Radcliff (Synthasome) - Confirmed  12 minutes
Kelsey Moody (Ichor Therapeutics)  12 minutes

Alternates:  Mark Bamberger
(Stealth BioTherapeutics), Steven Braithwaite (Alkahest), and
Nathaniel David (Unity Biotechnology)

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

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.