

# GEROSCIENCE: ADDRESSING MULTIPLE CHRONIC CONDITIONS IN THE ELDERLY

The world is aging, and demographic structures are changing. This is thought to represent an enormous social, personal and economic challenge to modern society because of the increased resources needed to sustain this growing non-productive fraction of humankind. To mitigate this problem, we need to prevent the loss of health and vitality that normally accompanies the aging process. Some progress has been made by addressing individual chronic diseases of the elderly. Unfortunately, because aging is so often associated with multimorbidity, resolving any one disease will have only a minimal impact in the overall health and quality of life of the elderly population. A new paradigm needs to be developed: address the cause of age-related health decline at its root, by addressing aging itself, the major risk factor for all chronic diseases. This is the goal of geroscience: to understand, at the molecular and cellular levels, how it is that aging leads to increased susceptibility to multiple diseases. The geroscience hypothesis states that, by reducing the rate of aging, we will be able to delay or reduce the incidence of not one, but all chronic diseases that affect the elderly, all at the same time. Testing the geroscience hypothesis has become feasible because of recent advances in our understanding of the molecular underpinnings of the aging process. Addressing those pillars of aging biology by behavioural, genetic or pharmacological means leads to improvements in both lifespan and – more importantly – healthspan in animal models ranging from yeast to dogs and non-human primates.

## *ABOUT THE SPEAKER*

Felipe Sierra, PhD. is Director of the Division of Aging Biology at the National Institute on Aging, NIH, USA. Trained as a biochemist in his native Chile, he obtained a PhD in Biochemistry and Molecular Biology from the University of Florida in 1983. After working in Switzerland (University of Geneva and then Nestlé) for 10 years, he returned to Academia at the Medical College of Pennsylvania, and later at the Lankenau Institute for Medical Research in Pennsylvania, a position concomitant with a primary appointment at the University of Chile in Santiago. In 2002, Dr. Sierra relocated again to the US, this time as Program Director within the Division of Aging Biology, NIA. He became the Director of this unit in April 2006. Dr. Sierra is also the co-founder and co-leader of the trans-NIH Geroscience Interest Group (GSIG). Geroscience aims to understand, at the molecular and cellular level, the relationship between aging and age-related diseases and conditions that diminish our quality of life. The “geroscience hypothesis” states that slowing the rate of aging will reduce the impact and severity of multiple adult onset diseases and loss-of-resilience. As part of that effort, his interests have expanded into advocacy and exploring the social and economic repercussions of pursuing the Longevity Dividend.

Friday

27 September 2019

10.00 am to 11.00 am

Seminar Room, MD10

Level 2, Anatomy Museum

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