



Systems Biology of Human Aging

National Institute on Aging,

December 8-9, 2009



Agenda

Tuesday, Dec. 8th

8:00- *Introduction and Welcome*

Session 1: Networks and Models

8:15- John Furber- *Using Graphical Representations of the Systems Biology of Aging*

8:45- Vitaly Koltover- *Aging Versus Reliability: Stochastic Free-radical Modulations of the Genetic Program*

9:15- Daniel Promislow- *A Network Perspective on the Biology of Aging*

9:45- SeungChan Kim- TBD

10:15- Pat Langley- TBD

10:45-11: Break

Session 2: Gene Regulation and Aging- the Role of RNA

11:00- Jack Keene- *Co-Ordinated Global RNA Dynamics*

11:30- Myriam Gorospe- *MicroRNA Systems Biology: Tiny Companions Come of Age*

12:15- Scott Tenenbaum- *Rip-chip: Using RNA-binding Proteins and MicroRNA Targeting to Study the Human Regulatory Code*

12:45-2:00PM- Lunch

Session 3: Aging and Human Systems: From Head to Toe

2:00- Mark Mattson- *Molecular and Structural Malleability of the Aging Brain*

2:30- Michela Gallagher- *Biology of Aging in the Hippocampal Memory System: Shift in a Computational Network*

3:00- Ed Lakatta- *Systematic Study of How Hearts and Arteries Age Is a Daunting Ordeal*

3:30-4:15-Break

4:15- Eric Ravussin- *Genetics and Physiology of Human Obesity*

4:45- Luigi Ferrucci- *The Central Role of Muscle Impairment in Unsuccessful Aging*

5:15- 7PM Poster Session



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Wednesday, Dec. 9th

8:30- Welcome

Session 4: Gene Expression and Signaling in Aging Systems

9:00- Dirk Bohmann-TBD

9:30- Andres Kriete- *A Computational Systems Biology Approach to Cellular Aging Using Feedback-loop Motifs Mediated by Stress Responses*

10:00- Ron Germain- *An Integrated Computational Systems Biology Program: Developing the Tools Biologists Need for Modeling and Simulation in Health and Disease*

10:30- Minoru Ko- *Systematic Analysis of Gene Regulatory Networks in Embryonic Stem Cells*

11:00- Break

11:15- Ashani Weeraratna- *Tumors as microsystems- A common thread between Cancer and Aging?*

11:45- Jeff Leips- *From Systems to Functional Genetics of Immunosenescence: the Drosophila model*

12:15- KEYNOTE LECTURE:

Dr. George M. Martin
University of Washington

Twelve Modalities of Gene Action That Escape the Force of Natural Selection and Thus Contribute to Senescent Phenotypes

1:00 - 2:00-Lunch Break

2- 4PM Discussion- *Future directions: New directions for Aging Research.*

Session 1: Animal Models and Aging?

Session 2: Nomenclature and Other Issues?

Session 3: Future Directions For Aging Research