

PRE-CONFERENCE FRIDAY, JUNE 1, 2007

Therapeutic Intervention in the Aging Process

Chair: Randy Strong, PhD, University of Texas Health Science Center at San Antonio

FRIDAY, JUNE 1, 2007

7:00 am Pre-conference Registration

Henry B. Gonzalez Convention Center Mission Room 103 B

8:00 am Pre-conference Welcome and Opening Remarks –

Chair: Randy Strong, PhD, University of Texas Health Science Center at San Antonio

8:05 am – 9:35 am SESSION I

IDENTIFICATION OF THERAPEUTIC TARGETS

8:05 am Richard Weindruch, PhD, University of Wisconsin-Madison

USE OF GENE ARRAYS TO IDENTIFY THERAPEUTIC TARGETS

8:35 am Brian Kennedy, PhD, University of Washington

CONSERVED EUKARYOTIC PATHWAYS REGULATING LONGEVITY

9:05 am Arlan Richardson, PhD, University of Texas Health Science Center at San Antonio **A
CRITICAL EVALUATION OF ANTI-OXIDANT DEFENSE SYSTEMS AS
TARGETS
FOR ANTI-AGING INTERVENTION**

9:35 am - 10:00 am B R E A K

10:00 am – 11:30 am SESSION II

SCREENING FOR POTENTIAL THERAPEUTIC COMPOUNDS

10:00 am Gordon Lithgow, PhD, Buck Institute

STRESS RESPONSE MIMETICS AND AGING

10:30 am Kerry Kornfeld, PhD, Washington University St Louis

**IDENTIFICATION AND ANALYSIS OF ANTICONVULSANT DRUGS THAT
EXTEND C. ELEGANS LONGEVITY**

11:00 am Sige Zou, PhD, National Institute on Aging

**A LARGE-SCALE SCREEN SYSTEM FOR PROLONGEVITY INTERVENTIONS
USING THE MEXICAN FRUIT FLY *ANASTREPHA LUDENS***

11:30 am – 1:00 pm LUNCH B R E A K (on your own)

1:00 pm – 2:30 pm SESSION III

TESTING INTERVENTIONS IN RODENT MODELS

1:00 pm Nancy Nadon, PhD, National Institute on Aging

THE NATIONAL INSTITUTE ON AGING INTERVENTIONS TESTING PROGRAM

1:15 pm Randy Strong, PhD, University of Texas Health Science Center at San Antonio
**LONG-TERM ADMINISTRATION OF COMPOUNDS TO RODENTS:
TECHNICAL
CHALLENGES AND SOLUTIONS**

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Friday, June 1, 2007 continued

1:30 pm Richard Miller, MD, PhD, University of Michigan
**NATIONAL INSTITUTE ON AGING INTERVENTION TESTING PROGRAM:
INITIAL RESULTS**

2:00 pm Rafael deCabo, PhD, National Institute on Aging
LIFESPAN EXTENSION BY RESVERATROL

2:30 pm – 3:00 pm Break

**3:00 pm – 4:30 pm SESSION IV
CLINICAL RESEARCH: CHALLENGES AND OPPORTUNITIES**

3:00 pm Steve Smith, MD, Pennington Biomedical Research Center
**THE CALERIE STUDY: CALORIE RESTRICTION IN HUMANS - OPPORTUNITIES
FOR RESEARCH**

3:30 pm Robert Floyd, PhD, Oklahoma Medical Research Foundation
**WHAT HAVE NITRONES TAUGHT US ABOUT AGING AND AGE-RELATED
DISEASES?**

4:00 pm Peter DiStefano, PhD, Elixir Pharmaceuticals
**GENETIC OR PHARMACOLOGIC BLOCKADE OF GHRELIN RECEPTOR
SIGNALING IMPROVES GLUCOSE HOMEOSTASIS.**

4:30 pm Pre-conference adjourns

**6:00 pm – 7:30 pm
AGE Conference Registration
at MARRIOTT PLAZA SAN ANTONIO**

**6:00 pm – 7:30 pm
WELCOME RECEPTION
at MARRIOTT PLAZA SAN ANTONIO**

Saturday, June 2, 2007

CURRENT DIRECTIONS IN STUDYING MECHANISMS OF AGING

Chair: Holly Van Remmen, PhD, FAAA
University of Texas Health Science Center at San Antonio

7:00 am AGE Conference Registration
Continental Breakfast

8:00 am **AGE Conference Sessions Begin**

8:00 am – 8:10 am Welcome and Opening Remarks
Holly Van Remmen, PhD, FAAA, President, American Aging Association

8:10 am – 9:40 am

**SESSION 1: USING INVERTEBRATE MODELS AS A DISCOVERY TOOL
FOR GENES AND PROCESSES THAT DETERMINE LIFE SPAN AND
AGING RATES** *Chair: Pamela Larsen, PhD, University of Texas Health Science Center
San Antonio*

8:10 am Siu Sylvia Lee, PhD, Cornell University

**1. SYSTEMATIC ANALYSIS OF GENETIC DETERMINANTS OF LONGEVITY
IN C. ELEGANS**

8:40 am Andrew Dillin, PhD, Salk Institute for Biological Studies

2. THE GENETICS OF SURVIVAL

9:10 am John Phillips, PhD, University of Guelph

**3. PROBING THE ROLE OF REACTIVE OXYGEN IN AGING: RESPONSE OF
DROSOPHILA ROS MUTANTS TO HYPOXIA AND DR**

9:40 am – 10:15 am B R E A K

SESSION 2: PROBING THE ROLE OF IGF-1 IN AGING

*Chairs: Martin Adamo, PhD, University of Texas Health Science Center at San Antonio and
Andrzej Bartke, PhD, FAAA, University of Southern Illinois*

10:15 am William Sonntag, PhD, Wake Forest University

4. AGING IN THE GROWTH HORMONE, IGF-1: NOVEL INSIGHTS FROM AN INVESTIGATION OF THE HIPPOCAMPAL PROTEOME

10:45 am Makoto Kuro-o, PhD, University of Texas Southwestern Medical Center at Dallas

5. SUPPRESSION OF AGING IN MICE BY THE HORMONE KLOTHO

11:15 am Chris Sell, PhD, Drexel University College of Medicine

6. AGING IN IGF-1 HYPOMORPHIC MICE

11:45 am Martin Adamo, PhD, University of Texas Health Science Center at San Antonio

7. STUDYING THE ROLE OF IGF-1 IN AGING USING MICE DEFICIENT IN LIVER IGF-1 (LID MICE)

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Saturday, June 2, 2007 continued

12:15 pm – 1:30 pm **LUNCH B R E A K (on your own)**

1:30 PM- 2:45 PM Special Event: Debate

IS AGING PROGRAMMED?

Moderated by Steve Austad, PhD, University of Texas Health Science Center at San Antonio

Panelists: Daniel Promislow, PhD, Department of Genetics, University of Georgia and
Valter Longo, PhD, University of Southern California

2:45 pm – 3:15 PM B R E A K

3:15 PM – 5:00 PM – DUAL SESSIONS

SUBMITTED PAPER SESSION - Chair, Thomas Johnson, PhD, University of Colorado
Nicolai Award

Young Jang, University of Texas Health Science Center at San Antonio

3:15 pm **8. MITOCHONDRIAL DYSFUNCTION LEADS TO AGE DEPENDENT LOSS OF MUSCLE MASS VIA APOPTOTIC MYONUCLEAR DELETION AND PROTEOLYSIS IN MICE LACKING SOD1 (CuZnSOD)**

Vera Gorbunova, PhD, University of Rochester

3:30 pm **9. TELOMERASE ACTIVITY AND TUMOR SUPPRESSION: FROM MICE TO BEAVERS**

Nicolai Award

David Hammers, The University of Texas at Austin

3:45 pm **10. AGE-RELATED CHANGES IN INSULIN-LIKE GROWTH FACTOR-I IN ISCHEMIA/ REPERFUSION INJURED SKELETAL MUSCLE**

Glenn Award

Andrej Podlutzky, PhD, University of Texas Health Science Center at San Antonio

4:00 pm **11. COMPARATIVE BIOLOGY OF DNA REPAIR**

Nicolai Award

Adam Bachstetter, University of South Florida

4:15 pm **12. HUMAN UMBILICAL CORD BLOOD CELLS INCREASE IN VIVO PROLIFERATION OF ENDOGENOUS HIPPOCAMPAL PROGENITOR CELLS OF AGED**

RATS

Glenn Award

Sang-Kyu Park, PhD, University of Colorado at Boulder

4:30 pm **13. IDENTIFICATION OF DOWNSTREAM TARGET GENES OF SKN-1-DEPENDENT OXIDATIVE STRESS RESPONSE**

Chris Heward, PhD, Kronos Science Laboratory

4:45 pm **14. A MULTI-PARAMETER BIOMARKER SET FOR OXIDATIVE STRESS ASSESSMENT IN HUMAN SAMPLES**

DUAL SESSION

TRANS-ATLANTIC AWARENESS AND COLLABORATION SYMPOSIUM ON AGING RESEARCH Chairs: Anne McArdle, PhD, University of Liverpool and Norman Wolf, DVM, PhD, FAAA, University of

Washington

Richard Faragher, PhD, University of Brighton, UK

3:15 pm **15. SENESCENT CELLS CAUSE AGEING AND WERNER'S SYNDROME: DEFINITELY MAYBE**

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Saturday, June 2, 2007 continued

Janet Lord, PhD, University of Birmingham, UK

3:30 pm **16. STRESS RESPONSES, NEUTROPHILS AND AGING**

Stephany Biello, PhD, University of Glasgow, UK

3: 45 pm **17. IT'S ABOUT TIME: AGEING AND THE CIRCADIAN CLOCK**

Mark Yeoman, PhD, University of Brighton, UK

4:00 pm **18. SYNAPSE SPECIFIC CHANGES IN SEROTONIN SIGNALLING CONTRIBUTE TO AGE-RELATED CHANGES IN THE FEEDING BEHAVIOUR OF THE POND SNAIL, *LYMNAEA*.**

Mike Sherratt, PhD, University of Manchester, UK

4: 15 pm **19. MOLECULAR STRUCTURE AND FUNCTION IN AGEING ELASTIC FIBRES**

João Passos, PhD, Newcastle University, UK

4:30 pm **20. OXYGEN FREE RADICALS IN SENESCENCE, ARE THEY SIGNAL TRANSDUCERS?**

Malcolm Jackson, PhD, Liverpool University, UK

4:45 pm **21. TRANS-ATLANTIC STUDIES OF ROS AND SKELETAL MUSCLE AGEING**

6:30 PM – 8:30 PM AGE Board of Directors Dinner Meeting

**6:30 PM Student Session and Data Blitz
Student Social**

Sunday, June 3, 2007

7:00 am AGE Conference Registration
Continental Breakfast

8:15 am – 9:45 am

SESSION 3: NUTRIENT SENSING

Chairs: Walter Ward, PhD, and David Sharp, PhD University of Texas Health Science Center at San Antonio

8:15 am Jim Jefferson, PhD, Pennsylvania State University

22. mTOR MEDIATED TRANSLATIONAL CONTROL OF EXPRESSION OF THE ϵ - SUBUNIT OF EUKARYOTIC INITIATION FACTOR 2B (EIF2B)

8:45 am George Thomas, PhD, University of Cincinnati

23. THE ROLE OF THE NUTRIENT INPUT IN TSC1/2-RHEB MEDIATED MTOR SIGNALING

9:15 pm Pere Puigserver, PhD, University of Washington

24. NUTRIENT CONTROL OF GLUCOSE HOMEOSTASIS THROUGH THE PGC-1 PATHWAY

9:45 am – 10:15 am B R E A K

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Sunday, June 3, 2007 continued

**10:15 am – 12:20 pm DUAL SESSIONS
NATHAN SHOCK CENTER SYMPOSIUM –**

*Chair: Arlan Richardson, PhD, University of Texas Health Science Center at San Antonio
David G. Nicholls, PhD, Buck Institute for Age Research*

10:15 am **25. CALCIUM OVERLOAD, ATP INSUFFICIENCY AND OXIDATIVE STRESS: THREE ASPECTS OF MITOCHONDRIAL DYSFUNCTION**

James D. Lechleiter, PhD, University of Texas Health Science Center at San Antonio

10:40 am **26. ENHANCED ASTROCYTE MITOCHONDRIAL METABOLISM DURING AGING**

Richard Miller, MD, PhD, University of Michigan

11:05 am **27. CELL STRESS AND AGING: STUDIES OF MUTANT MICE AND LONG-LIVED RODENTS**

11:30 am Rong Yuan, MD, PhD, The Jackson Laboratory

28. MOUSE MODELS FOR SPONTANEOUS CHANGES WITH AGE AND HAPLOTYPE ANALYSES

11:55 am Warren C. Ladiges, PhD, University of Washington

29. SUCCESSFUL GENERATION OF TRANSGENIC MOUSE MODELS FOR AGING RESEARCH.

10:15 am – 12:20 pm DUAL SESSIONS

SUBMITTED PAPERS FROM ABSTRACTS – *Chair: Julie Mattison, PhD, National Institute on Aging*

David E. Harrison, PhD, The Jackson Laboratory

10:15 am **30. EFFECTS OF DIET RESTRICTION AND THE LITTLE MUTATION ON HEMATOPOIETIC STEM CELL AGING AND THE RISK OF CANCER**

Nicolai Award

Dudley W. Lamming, Harvard Medical School

10:40 am **31. CALORIE RESTRICTION AND TOR SIGNALING CONVERGE ON SIRTUIN-MEDIATED LIFESPAN EXTENSION IN SACCHAROMYCES CEREVISIAE.**

Nicolai Award

Michael Bonkowski, Southern Illinois University

11:05 am **32. CALORIE RESTRICTION AND INSULIN RECEPTOR ACTIVATION IN LIVER AND MUSCLE FROM NORMAL AND GROWTH HORMONE RECEPTOR KNOCKOUT MICE**

Yuji Ikeno, PhD, University of Texas Health Science Center at San Antonio 11:30 am **33. Cu/ZnSOD TRANSGENIC RATS: A NEW ANIMAL MODEL FOR OXIDATIVE STRESS THEORY OF AGING?**

Robert Shmookler Reis, PhD, University of Arkansas for Medical Sciences 11:55 am **34. TEN-FOLD EXTENSION OF C. ELEGANS LONGEVITY BY MUTATIONS THAT ALSO CONFER PROTECTION AGAINST OXIDATIVE AND ELECTROPHILIC STRESSES, BUT NOT HYPERTHERMIC STRESS**

12:20 PM – 1:45 PM LUNCH B R E A K (on your own)

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Sunday, June 3, 2007 continued

1:45 pm – 3:15 pm

SESSION 4: COMPARATIVE BIOLOGY OF AGING

Chair: Rochelle Buffenstein, PhD, City College of New York

1:45 pm Rochelle Buffenstein, PhD, City College of New York

35. HOLES IN THE OXIDATIVE STRESS THEORY OF AGING: ROS RESISTANCE AND RODENTS WITH DISPARATE LONGEVITY

2:15 pm Debbie Kristan, PhD, California State University

36. CHRONIC CALORIC RESTRICTION INCREASES SUSCEPTIBILITY OF LABORATORY MICE TO INTESTINAL NEMATODE INFECTION

2:45 pm A. J. (Tony) Hulbert, PhD, Metabolic Research Centre, University of Wollongong

37. MEMBRANE LIPIDS AND AGING

3:15 pm – 3:45 pm Break

**3:45 PM – 5:05 PM – DUAL SESSION Chair: Mark Smith, PhD, Case Western Reserve University
SUBMITTED PAPERS FROM ABSTRACTS**

3:45 pm Piper Treuting, PhD, University of Washington

38. REDUCTION OF NEOPLASIA IN OLD MICE OVEREXPRESSING MITOCHONDRIAL-TARGETED CATALASE.

Nicolai Award

Fresnida J. Ramos, University of Texas Health Science Center at San Antonio 4:05 pm

39. NEURONAL INSULIN/IGF-I SIGNALING AND THE REGULATION OF MAMMALIAN LIFESPAN

4:25 pm Isao Shimokawa, MD, PhD, Nagasaki University Graduate School of Biomedical Sciences
40. FOXO1 IS NOT INVOLVED IN THE CALORIE RESTRICTION-SPECIFIC RESPONSE TO OXIDATIVE STRESS IN MICE LIVER

Glenn Award

4:45 pm Huiyun Liang, PhD, University of Texas Health Science Center at San Antonio

41. ANTI-AGING EFFECTS OF PGC-1 ALPHA OVEREXPRESSION

3:45 PM – 5:05 PM – DUAL SESSION *Chair: James Nelson, University of Texas Health Science Center at San Antonio* **SUBMITTED PAPERS FROM ABSTRACTS** – *Chair: Mark Smith, PhD, Case Western Reserve University*

Sandeep Sagar, MD, PhD, Mayo Clinic

3:45 pm **42. THE ADULT CARDIOPROTECTIVE STRESS RESPONSE CAN BE CONVERTED TO THE AGED PHENOTYPE BY KATP CHANNEL BLOCKADE**

Nicolai Award

Chen-Yu Liao, University of Texas Health Science Center at San Antonio

4:05 pm **43. STRAIN VARIATION IN THE RESPONSE OF FAT MASS TO CALORIC RESTRICTION**

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Sunday, June 3, 2007 continued

4:25 pm Janko Nikolich-Zugich, MD, PhD, Oregon Health and Science University **44. HOW PERSISTENT VIRUSES DRIVE IMMUNE SENESENCE AND WHAT CAN WE DO ABOUT IT**

4:45 pm Gregory Brewer, PhD, Southern Illinois University

45. AGE-RELATED TOXICITY OF B-AMYLOID ASSOCIATED WITH INCREASED ROS, P-ERK AND P-CREB IN PRIMARY HIPPOCAMPAL NEURONS: REVERSAL BY BLUEBERRY EXTRACT

5:15 -5:45 PM

AGE Business Meeting – Open to all Members

6:00 PM – 8:00 PM

COCKTAIL RECEPTION AND POSTER PRESENTATION

Competition for Glenn Award and Nicolai Prize

Monday, June 4, 2007

7:30 am Continental Breakfast

8:30 am – 10:30 am

SESSION 5: GENETICS OF AGING: HOW AGING AND LONGEVITY ARE CONTROLLED BY GENES

Chair: Yousin Suh, PhD, University of Texas Health Science Center at San Antonio

8:30 am Charles Cantor, PhD, Sequenom, Inc.

46. SEARCH FOR AGING AND LONGEVITY GENES

9:00 am Nir Barzilai, MD, Albert Einstein College of Medicine, New York

47. FUNCTIONAL GENOMICS APPROACHES FOR IDENTIFICATION OF HUMAN LONGEVITY GENES

9:30 am Calogero Caruso, MD, University of Palermo, Italy

48. GENETICS OF INFLAMMATION IN AGE-RELATED DISEASES AND LONGEVITY

10:00 am Brad Rikke, PhD, University of Colorado

49. MAPPING GENES SPECIFYING THE ANTI-AGING ACTIONS OF CALORIE RESTRICTION USING QTL APPROACHES

10:30 am – 10:50 am Break

10:50 am – 12:20 pm

SESSION 6 – STEM CELLS AND AGING

Chair: Peter Hornsby, PhD, University of Texas Health Science Center at San Antonio

10:50 am Johnny Huard, PhD, Children's Hospital and the University of Pittsburgh

50. MUSCLE DERIVED STEM CELLS

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Monday, June 4, 2007 continued

11:20 pm Sean J. Morrison PhD, University of Michigan

51. STEM CELL SELF-RENEWAL, CANCER CELL PROLIFERATION, AND AGING

11:50 am Charles E. Murry, MD, PhD, Center for Cardiovascular Biology, University of Washington

52. APPLICATIONS OF HUMAN EMBRYONIC STEM CELLS FOR CARDIAC REPAIR

12:20 PM – 2:00 PM

American Aging Association Awards Luncheon.

All meeting registrants invited.

Poster Awards

Paul E. Glenn Award

Walter R. Nicolai Award

Distinguished Achievement Award

Edward J. Masoro, PhD,

University of Texas Health Science Center at San Antonio

2:15 PM

Denham Harman Award Lecture for 2007:

***SEEING CLEARLY BY MAINTAINING
PROTEOLYTIC EDITING AND EATING RIGHT***

Allen Taylor, PhD

**Jean Mayer USDA Human Nutrition Research Center on Aging
at Tufts University**

3:15 pm C O N F E R E N C E A D J O U R N S