

# **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**

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

3:00 pm Peter DiStefano, PhD, ElixirPharmaceuticals  
**GENETICOR PHARMACOLOGIC BLOCKADE OF GHRELIN  
RECEPTORSIGNALING IMPROVES GLUCOSEHOMEOSTASIS**

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

4:00 pm Steve Smith, MD, Pennington Biomedical Research Center  
**THECALERIE STUDY: CALORIE RESTRICTION IN HUMANS - OPPORTUNITIES  
FORRESEARCH**

**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**

# 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)**

12:15 pm – 1:30 pm **LUNCH BREAK** (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 **BREAK**

3:15 PM – 5:00 PM – **DUAL SESSIONS**  
**SUBMITTED PAPER SESSION** - Chair, Thomas Johnson, PhD, University of Colorado

3:15 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**

3:30 pm Vera Gorbunova, PhD, University of Rochester  
9. **TELOMERASE ACTIVITY AND TUMOR SUPPRESSION: FROM MICE TO BEAVERS**

3:45 pm Nicolai Award  
David Hammers, The University of Texas at Austin  
10. **AGE-RELATED CHANGES IN INSULIN-LIKE GROWTH FACTOR-I IN ISCHEMIA/ REPERFUSION INJURED SKELETAL MUSCLE**

4:00 pm Glenn Award  
Andrej Podlutzky, PhD, University of Texas Health Science Center at San Antonio  
11. **COMPARATIVE BIOLOGY OF DNA REPAIR**

4:15 pm Nicolai Award  
Adam Bachstetter, University of South Florida  
12. **HUMAN UMBILICAL CORD BLOOD CELLS INCREASE IN VIVO PROLIFERATION OF ENDOGENOUS HIPPOCAMPAL PROGENITOR CELLS OF AGED RATS**

4:30 pm Nicolai Award  
Young Jang, University of Texas Health Science Center at San Antonio  
8. **MITOCHONDRIAL DYSFUNCTION LEADS TO AGE DEPENDENT LOSS OF MUSCLE MASS VIA APOPTOTIC MYONUCLEAR DELETION AND PROTEOLYSIS IN MICE LACKING SOD1 (CuZnSOD)**

4:45 pm Chris Heward, PhD, Kronos Science Laboratory  
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*

3:15 pm Richard Faragher, PhD, University of Brighton, UK  
15. **SENESCENT CELLS CAUSE AGEING AND WERNER'S SYNDROME: DEFINITELY MAYBE**

## Saturday, June 2, 2007 continued

- 3:30 pm Janet Lord, PhD, University of Birmingham, UK  
16. **STRESS RESPONSES, NEUTROPHILS AND AGING**
- 3:45 pm Stephany Biello, PhD, University of Glasgow, UK  
17. **IT'S ABOUT TIME: AGEING AND THE CIRCADIAN CLOCK**
- 4:00 pm Mark Yeoman, PhD, University of Brighton, UK  
18. **SYNAPSE SPECIFIC CHANGES IN SEROTONIN SIGNALLING CONTRIBUTE TO AGE-RELATED CHANGES IN THE FEEDING BEHAVIOUR OF THE POND SNAIL, *LYMNAEA*.**
- 4:15 pm Mike Sherratt, PhD, University of Manchester, UK  
19. **MOLECULAR STRUCTURE AND FUNCTION IN AGEING ELASTIC FIBRES**
- 4:30 pm João Passos, PhD, Newcastle University, UK  
20. **OXYGEN FREE RADICALS IN SENESCENCE, ARE THEY SIGNAL TRANSDUCERS?**
- 4:45 pm Malcolm Jackson, PhD, Liverpool University, UK  
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  $\epsilon$ - 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**

**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**

Rong Yuan, MD, PhD, The Jackson Laboratory

11:30 am                   **28. MOUSE MODELS FOR SPONTANEOUS CHANGES WITH AGE AND  
HAPLOTYPE ANALYSES**

Warren C. Ladiges, PhD, University of Washington

11:55 am                   **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 BREAK (on your own)**

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

4:05 pm

Fresnida J. Ramos, University of Texas Health Science Center at San Antonio

- 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*

3:45 pm

Sandeep Sagar, MD, PhD, Mayo Clinic

- 42. THE ADULT CARDIOPROTECTIVE STRESS RESPONSE CAN BE CONVERTED TO THE AGED PHENOTYPE BY KATP CHANNEL BLOCKADE**

Nicolai Award

4:05 pm

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

- 43. STRAIN VARIATION IN THE RESPONSE OF FAT MASS TO CALORIC RESTRICTION**

**Sunday, June 3, 2007 continued**

4:30 pm Glenn Award  
Sang-Kyu Park, PhD, University of Colorado at Boulder  
**13. IDENTIFICATION OF DOWNSTREAM TARGET GENES OF SKN-1-DEPENDENT OXIDATIVE STRESS RESPONSE**

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**

- 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.  
at the [Hilton Hotel](#)**

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 at the [Marriott Plaza Hotel](#)

**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 **CONFERENCE ADJOURNS**