



LIVING
to 100

SOCIETY OF ACTUARIES
INTERNATIONAL SYMPOSIUM

Walt Disney World Swan Resort

Jan. 8-10, 2014

Orlando

Sponsored by The Actuarial Foundation (TAF) and TAF's James C.H. Anderson Fund, Hannover Re, Prudential, Milliman, SCOR and Gen Re

Livingto100.soa.org

WELCOME



LET THE KNOWLEDGE SHARING BEGIN

Welcome to sunny Florida and the Living to 100 Symposium, the fifth in a series that brings together thought leaders from around the world to discuss the increasing longevity of humans and its impact on social, financial, health care and retirement systems.

Actuaries, gerontologists, demographers, economists, physicians, scientists and other professionals are here to discuss and gather information to better estimate advanced age mortality and mortality improvement rates to:

- Design, price, value and manage financial security products
- Develop national life tables
- Assess the state of government social insurance programs and private pension plans
- Ensure the availability of health care providers and health care facilities for the aged
- Project the resources, products and services needed for and used by an aging population
- Provide valuable information for retirement and financial planning.

We hope you enjoy our prominent featured speakers—**James Vaupel**, **Nir Barzilai** and **Anthony Atala**—who will provide insight into what the future may hold for life expectancy. Other equally distinguished speakers will present information from more than 15 sessions on topics including:

- Lifestyle and longevity
- Marriage and old age mortality
- Cognitive impairment and longevity
- Drivers of longevity
- Societal challenges and adaptations as a result of a longer life span
- Innovative business solutions in response to the aging population
- Mortality trends and projections of older age.

While you're here, don't forget to network, too. We hope you enjoy your stay in Orlando and find the symposium to be informative and thought provoking.

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SCHEDULE OF EVENTS

Tuesday, Jan. 7		
5:00 – 7:00 p.m.	Registration	Toucan Foyer
Wednesday, Jan. 8		
7:00 a.m.– 5:00 p.m.	Registration	Toucan Foyer
7:00 – 8:00 a.m.	Continental Breakfast	Swan 8-10
8:00 – 9:45 a.m.	General Session I: Featured Presentation: The Advancing Frontier of Human Survival	Swan 6
9:45 – 10:05 a.m.	Break	Toucan Foyer
10:05 – 11:50 a.m.	Concurrent Sessions 1	
	1A: Innovative Retirement Products	Pelican
	1B: Happily Ever After, Marriage and Old Age Mortality	Swan 6
	1C: Panel: Perspectives and Implications to Stakeholders of Increasing Longevity	Mockingbird
11:50 a.m. – 1:20 p.m.	Luncheon	Swan 8-10
1:20 – 3:05 p.m.	Concurrent Sessions 2	
	2A: From Population to Insured Lives, Finding Longevity Drivers	Swan 6
	2B: Behavior and Causes of Death: Impact on Mortality and Mortality Modeling	Pelican
	2C: Panel: Developing a Winning Strategy to Address the Good, the Bad and the Wrinkled of Our Aging Workforce	Mockingbird
3:05 – 3:25 p.m.	Break	Toucan Foyer
3:25 – 5:10 p.m.	General Session II: Panel: Innovative Business Solutions to Respond to the Aging Society	Swan 6
6:00 – 7:00 p.m.	Networking Reception	Swan 8-10
Thursday, Jan. 9		
7:00 a.m.– 5:00 p.m.	Registration	Toucan Foyer
7:00 – 8:00 a.m.	Continental Breakfast	Swan 8-10
8:00 – 9:45 a.m.	General Session III: Learning from Genetics	Swan 6
9:45 – 10:05 a.m.	Break	Toucan Foyer
10:05 – 11:50 a.m.	Concurrent Sessions 3	
	3A: Mortality Age Patterns: Trends and Projections	Swan 6

SCHEDULE OF EVENTS

Thursday, Jan. 9		
10:05 – 11:50 a.m.	3B: Societal Changes and Adaptations as a Result of Longer Life Spans	Pelican
	3C: Panel: Data Sources and Projection Methods for Successfully Supporting the Needs of the Senior Market	Mockingbird
11:50 a.m. – 1:20 p.m.	Luncheon	Swan 8-10
1:20 – 3:05 p.m.	Concurrent Sessions 4	
	4A: The Changing Age Distribution of Deaths	Swan 6
	4B: Longevity and Lifestyle	Pelican
	4C: Panel: Proactive Strategies for Managing Long-Term Care Needs in Retirement	Mockingbird
3:05 – 3:25 p.m.	Break	Toucan Foyer
3:25 – 5:00 p.m.	General Session IV: Featured Presentation: Could Moses Live to be 120?	Swan 6
Friday, Jan. 10		
7:00 a.m. – 12:00 p.m.	Registration	Toucan Foyer
7:00 – 8:00 a.m.	Continental Breakfast	Swan 8-10
8:00 – 9:45 a.m.	General Session V: Panel: Mortality Projection from a Social Security Perspective	Swan 6
9:45 – 10:05 a.m.	Break	Toucan Foyer
10:05 – 11:50 a.m.	Concurrent Sessions 5	
	5A: Aging and Changes in Health Status	Swan 6
	5B: Longevity and Cognitive Impairment	Pelican
	5C: Panel: Leaving Worries Behind: Risk Management Strategies for Individuals to Address the Economic Issues Related to Increased Longevity	Mockingbird
11:50 a.m. – 12:10 p.m.	Break	Toucan Foyer
12:10 – 1:30 p.m.	General Session VI: Featured Presentation: Regenerative Medicine: New Approaches to Health Care	Swan 6
1:30 p.m.	Adjourn	

PROGRAM INFORMATION

Name badges are issued to all attendees. Please note that only those wearing badges will be admitted to meetings, meals, receptions and exhibits.

Hotel Information

Checkout time is 11:00 a.m. Those checking out before the conclusion of the meeting may check their bags at the bell desk of the hotel. Neither the Society of Actuaries (SOA) nor the hotel is responsible for lost or stolen items left unattended in public areas of the hotel. SOA staff is unable to accept any bags or other personal items at the registration desk.

Incoming faxes may be picked up at the business center.

Presentations/Handouts

Presentations/handouts are available on the Living to 100 Symposium website both before and after the meeting at Livingto100.soa.org for attendees to print copies for themselves if they choose.

Evaluations

An overall evaluation is available via the Internet. The online form assists us in planning future meetings. More details will be emailed to you following the meeting.

Attendee List and Complete Final Program

The complete final program with session descriptions, presenter lists and other meeting details, including the attendee list, is available at Livingto100.soa.org. There is also one copy available at the registration desk for viewing.

Special Meal Requests

Special meal requests, such as fruit plate, kosher, vegetarian or gluten free, are available for luncheons only and must be requested in advance. If you require a special meal and did not request one in advance, please do so at the Society of Actuaries' registration desk before 8:00 a.m. on Wednesday. Although we cannot guarantee a special meal, we will do our best to provide one.

No Smoking Policy

For the comfort and health of all attendees, smoking is not permitted at any SOA function. This includes all meals, refreshment breaks and receptions.

Security Note

When leaving the meeting room for an extended period of time, please take valuables and personal belongings with you. Neither the SOA nor the hotel can be held responsible for lost or stolen items.



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Society of Actuaries Committee on Life Insurance Research

Continuing Education Credit

SOA CPD Requirement

The SOA believes that sessions at this symposium may be suitable for fulfilling continuing professional development (CPD) requirements. The **maximum** number of credits you may apply is:

- **22.70 credits** may be applied toward the *Qualification Standards for Actuaries Issuing Statements of Actuarial Opinion* and the *SOA Continuing Professional Development Requirement*.
- **18.9 credits** may be applied toward *The Canadian Institute of Actuaries Qualification Standard—Continuing Professional Development*.

Each standard has different rules about how you may recognize different types of credit. Review the rules of the standard you are fulfilling to determine the actual number of credits from this symposium that you will be able to apply toward the requirements. Ultimately, it is the member's responsibility to make a reasonable, good-faith determination as to whether a continuing education event meets the requirements.

For further information, visit [SOA.org/CE](https://www.soa.org/CE).



Enrolled Actuary Credit

Sessions designated “core” or “noncore” are recommended to help satisfy continuing education credits for enrolled actuaries. Instructions for obtaining credit will be provided at the meeting. While the SOA recommends these topics to help satisfy core and noncore continuing education credit for enrolled actuaries, the final decision as to meeting those requirements rests with the Joint Board for the Enrollment of Actuaries.

The following sessions were granted enrolled actuaries credit:

Session	Credit
General Session I: Featured Presentation: The Advancing Frontier of Human Survival	Noncore credit: 75 minutes
2C: Panel: Developing a Winning Strategy to Address the Good, the Bad and the Wrinkled of Our Aging Workforce	Noncore credit: 105 minutes
General Session II: Panel: Innovative Business Solutions to Respond to the Aging Society	Noncore credit: 105 minutes
3B: Societal Changes and Adaptations as a Result of Longer Life Spans	Noncore credit: 105 minutes
General Session V: Panel: Mortality Projection from a Social Security Perspective	Noncore credit: 105 minutes



Session Descriptions

SESSION DESCRIPTIONS

Wednesday, Jan. 8

8:00 – 9:45 a.m.

General Session I

Symposium Chairperson: Timothy F. Harris, FSA, MAAA

SOA President: Mark J. Freedman, FSA, MAAA

The Advancing Frontier of Human Survival

James Vaupel, Ph.D.

Executive (and Founding) Director

*Max Planck Institute for Demographic Research
Rostock*

Death rates of octogenarians, nonagenarians and even centenarians have fallen substantially in recent decades. Future improvements might be slower—or faster—than these past improvements. The balance of the available evidence suggests that improvements will continue such that life expectancy in the countries doing best will continue to increase about 2.5 years per decade. If so, a majority of children born over the past decade in countries with high life expectancy, including the United States, will survive to celebrate their 100th birthdays.

10:05 – 11:50 a.m.—Concurrent Sessions 1

1A: Innovative Retirement Products

MODERATOR	DISCUSSANT
Andrew J. Peterson, FSA, EA, FCA, MAAA Society of Actuaries	Kai Kaufhold, Aktuar DAV Ad Res Advanced Reinsurance Services GmbH

PAPERS	AUTHORS
<i>Optimal Retirement Tontines for the 21st Century with Reference to Mortality Derivatives in 1693</i>	Moshe A. Milevsky, Ph.D. (Presenter) Thomas S. Salisbury, Ph.D. York University
<i>Estimating the True Cost of Retirement</i>	David Blanchett, AIFA, CFA, CFP, ChFC, CLU, QKA Morningstar
<i>The CBD Mortality Indexes: Modeling and Applications</i>	Wai Sum-Chan, FSA, CERA, Ph.D. Chinese University—Hong Kong Johnny Siu-Hang Li, FSA, Ph.D. (Presenter) University of Waterloo Jackie Li, Ph.D., FIAA Nanyang Technological University

SESSION DESCRIPTIONS

Wednesday, Jan. 8

10:05 – 11:50 a.m.—Concurrent Sessions 1

1B: Happily Ever After, Marriage and Old Age Mortality

MODERATOR	DISCUSSANT
John W. Paddon , FSA, MAAA Consulting Actuary	Jean-Marc Fix , FSA, MAAA Optimum Re Insurance Co.

PAPERS	AUTHORS
<i>Mortality, Health and Marriage: A Study Based on Taiwan's Population Data</i>	Hsin-Chung Wang , Ph.D. (Presenter) Aletheia University Jack C. Yue , ASA, Ph.D. National Chengchi University
<i>Spousal Concordance in Exceptional Longevity: The Interplay between Early Life, Marriage and Survival</i>	Valérie Jarry (Presenter) Alain Gagnon , Ph.D. Robert Bourbeau , Ph.D. Université de Montreal
<i>Which Socio-Demographic Living Arrangement Helps to Reach 100?</i>	Michael Poulain , Ph.D. (Presenter) Anne Herm Estonian Institute for Population Studies

1C: Panel: Perspectives and Implications to Stakeholders of Increasing Longevity

MODERATOR	PANELISTS
Timothy F. Harris , FSA, MAAA Milliman	Robert L. Brown , FSA, ACAS, FCIA, HONFIA, Ph.D. Jennifer A. Haid , FSA, CFA, MAAA Ernst & Young LLP Sally Hass Sally Hass Consulting Sandra Timmermann , Ed.D. Gerontologist Aging and Business Strategies

Individuals who are living longer than ever before create challenges and opportunities for all elements of society. Panelists in this session will discuss some of the issues governments, insurers, employers and individuals are facing and will face related to increasing longevity, highlighting areas of consensus and potential conflicts that arise in addressing the issues. They will also provide a synthesis of the perspectives presented at past Living to 100 Symposia.

SESSION DESCRIPTIONS

Wednesday, Jan. 8

1:20 – 3:05 p.m.—Concurrent Sessions 2

2A: From Population to Insured Lives, Finding Longevity Drivers

MODERATOR	DISCUSSANT
Faye Albert , FSA, MAAA Albert Associates, Inc.	Thomas P. Edwalds , FSA, ACAS, MAAA Munich American Reinsurance Company

PAPERS	AUTHORS
<i>Logistic Regression for Insured Mortality Experience Study</i>	Zhiwei Zhu , Ph.D. (Presenter) Zhi Li , Ph.D., ASA SCOR Global Life Americas
<i>Predictors of Exceptional Longevity: Effects of Early-life Childhood Conditions, Mid-Life Environment and Parental Characteristics</i>	Leonid A. Gavrilov , Ph.D. (Presenter) Natalia S. Gavrilova , Ph.D. University of Chicago
<i>Liars, Cheaters and Procrastinators: How They Upset Mortality Trends</i>	R.C.W. (Bob) Howard , FSA, FCIA

2B: Behavior and Causes of Death: Impact on Mortality and Mortality Modeling

MODERATOR	DISCUSSANT
R. Dale Hall , FSA, CERA, MAAA Society of Actuaries	S. Jay Olshansky , Ph.D. University of Illinois at Chicago

PAPERS	AUTHORS
<i>Obesity and Mortality</i>	Sam Gutterman , FSA, CERA, FCA, FCAS, HONFIA, MAAA PricewaterhouseCoopers
<i>Causes-of-Death Mortality: What Do We Know about Their Dependence?</i>	Severine Gaille , Ph.D. (Presenter) University of Lausanne Michael Sherris , FSA, FIA, FIAA, FFin University of New South Wales
<i>Smoking and Gender: Population Mortality Trends</i>	Sam Gutterman , FSA, CERA, FCA, FCAS, HONFIA, MAAA PricewaterhouseCoopers

SESSION DESCRIPTIONS

Wednesday, Jan. 8

1:20 – 3:05 p.m.—Concurrent Sessions 2

2C: Panel: Developing a Winning Strategy to Address the Good, the Bad and the Wrinkled of Our Aging Workforce

MODERATOR	PANELISTS
Anna M. Rappaport, FSA, MAAA Anna Rappaport Consulting	Mary Nell Billings Hilton Worldwide Sally Hass Sally Hass Consulting Haig Nalbantian Mercer

How is the graying workforce impacting employers? This session will examine key human resource issues employers are encountering or will encounter as a result of an older workforce, identify innovative programs that have created win-win solutions for employees and employers, and examine the pros and cons of phased retirement.

3:25 – 5:10 p.m.

General Session II—Panel: Innovative Business Solutions to Respond to the Aging Society

MODERATOR	PANELISTS
Anna M. Rappaport, FSA, MAAA Anna Rappaport Consulting	Cindy Hounsell Women’s Institute for a Secure Retirement (WISER) Tim Driver RetirementJobs.com Brent W. Walder, FSA, MAAA Prudential Retirement

The nature of the maturing population will alter the types of products and services consumers will desire and need and that make sense from a business strategy point of view. The session will present some business opportunities created by population aging and possibly identify some approaches that business might take to create or enhance opportunities to meet the needs of the increasing number, character and condition of older individuals. Business solutions discussed in this session will include: an employment services company for those past 50; financial services solutions for addressing longevity risk; and new types of housing arrangements for the growing number of retirees.

SESSION DESCRIPTIONS

Thursday, Jan. 9

8:00 – 9:45 a.m.

General Session III—Learning from Genetics

MODERATOR	DISCUSSANT
Timothy F. Harris, FSA, MAAA Milliman Inc.	Leonard Hayflick, Ph.D. University of California, San Francisco

PAPERS	AUTHORS
<i>Genetically Informed Longevity</i>	Tom Bakos, FSA, MAAA (Presenter) Marc Klibanow, CPA Nicholas Schork, Ph.D. Ali Torkamani, Ph.D. Ashley Van Zeeland, Ph.D. Genecast Predictive Systems LLC
<i>How Genes Modulate Patterns of Aging-Related Changes on the Way to 100: Lessons from Biodemographic Analyses of Longitudinal Data</i>	Anatoliy Yashin, Ph.D. (Presenter) Konstantin Arbeev, Ph.D. Deqing Wu, Ph. D. Liubov Arbeevea Alexander Kulminski, Ph.D. Irina Culminkaya, Ph.D. Igor Akushevich, Ph.D. Svetlana Ukraintseva, Ph.D. Duke University
<i>Contribution of Familial Longevity to Living to 100</i>	Thomas Perls, M.D., MPH (Presenter) Paola Sebastiani, Ph.D. Stacy Andersen Avery McIntosh Lisa Nussbaum Meredith Stevenson Leslie Pierce Samantha Xia Kelly Salance Boston University

SESSION DESCRIPTIONS

Thursday, Jan. 9

10:05 – 11:50 a.m.—Concurrent Sessions 3

3A: Mortality Age Patterns: Trends and Projections

MODERATOR	DISCUSSANT
Kai Kaufhold , Aktuar DAV Ad Res Advanced Reinsurance Services GmbH	Johnny Siu-Hang Li , Ph.D., FSA University of Waterloo

PAPERS	AUTHORS
<i>Coherent Projections of Age, Period and Cohort Dependent Mortality Improvements</i>	Matthias Börger , Ph.D. (Presenter) Institute of Insurance, Ulm University & Institute for Finance and Actuarial Sciences Marie-Christine Aleksic Institute of Insurance, Ulm University and Kern Mauch & Kollegen
<i>Measurement of Mortality among Centenarians in Canada (Quebec) based on Nominative Data (1970–2009)</i>	Nadine Ouellette , Ph.D. (Presenter) INED (The French National Institute for Demographic Studies) Robert Bourbeau , Ph.D. Université de Montreal
<i>Mortality Trajectories at Extreme Old Ages: A Comparative Study of Different Data Sources on U.S. Old-Age Mortality</i>	Natalia S. Gavrilova , Ph.D. (Presenter) Leonid A. Gavrilov , Ph.D. University of Chicago

3B: Societal Changes and Adaptations as a Result of Longer Life Spans

MODERATOR	DISCUSSANT
Andrew J. Peterson , FSA, EA, FCA, MAAA Society of Actuaries	Robert L. Brown , Ph.D., FSA, ACAS, FCIA, HONFIA

PAPERS	AUTHORS
<i>How Well Have Retirement Systems Adapted to Longer Life?</i>	Anna M. Rappaport , FSA, MAAA Anna Rappaport Consulting
<i>Mapping the Adequacy of Care and Support for the Elderly in Developed Countries</i>	Douglas W. Andrews , Ph.D., FSA, CFA, FCIA University of Waterloo
<i>Supporting the Oldest Old: The Role of Social Insurance, Pensions and Financial Products</i>	Jonathan B. Forman , J.D. University of Oklahoma

3C: Panel: Data Sources and Projection Methods for Successfully Supporting the Needs of the Senior Market

SESSION DESCRIPTIONS

Thursday, Jan. 9

MODERATOR	DISCUSSANTS
Jean-Marc Fix, FSA, MAAA Optimum Re Insurance Co.	Louis Adam, FSA, FCIA Université Laval W. Ward Kingkade, Ph.D. U.S. Bureau of the Census Jean-Marie Robine, Ph.D. INSERM

To design appropriate financial services products for the senior and senior plus market, actuaries need relevant and high quality data sources. This session will examine some of the more frequently used sources of mortality data, as well as practical projection methods in use in North America and internationally. The pros and cons of each data source and projection method will be discussed.

1:20 – 3:05 p.m.—Concurrent Sessions 4 4A: The Changing Age Distribution of Deaths

MODERATOR	DISCUSSANT
Ronora E. Stryker, ASA, MAAA Society of Actuaries	Jean-Marie Robine, Ph.D. INSERM

PAPERS	AUTHORS
<i>A Study of Measuring the Mortality Compression</i>	Jack C. Yue, Ph.D., ASA National Chengchi University
<i>Modal Age at Death: Mortality Trends in England and Wales 1841–2010</i>	Emily Clay Office for National Statistics (United Kingdom)
<i>Compression of Morbidity and Mortality: New Perspectives</i>	Eric Stallard, ASA, FCA, MAAA Duke University



SESSION DESCRIPTIONS

Thursday, Jan. 9

1:20 – 3:05 p.m.—Concurrent Sessions 4

4B: Longevity and Lifestyle

MODERATOR	DISCUSSANT
Faye Albert, FSA, MAAA Albert Associates Inc.	Arnold A. Dicke, FSA, CERA, MAAA New World Actuaries

PAPERS	AUTHORS
<i>Living To 100: Socioeconomic Implications of Increased Longevity</i>	Rick Gorvett, ASA, CERA, FCAS, MAAA, Ph.D. University of Illinois at Urbana-Champaign
<i>Perspectives on SOA Post-Retirement Risk Research and What It Tells About Implications of Long Life</i>	Anna M. Rappaport, FSA, MAAA Anna Rappaport Consulting
<i>Subjective Survival Probabilities and Life Tables: Evidence from Europe</i>	Franco Peracchi, Ph.D. (Presenter) Tor Vergata University Valeria Perotti, Ph.D. The World Bank

4C: Panel: Proactive Strategies for Managing Long-Term Care Needs in Retirement

MODERATOR	DISCUSSANTS
John W. Paddon, FSA, MAAA Consulting Actuary	John A. Cutler, J.D. U.S. Office of Personnel Management Steve Schoonveld, FSA, MAAA Lincoln Financial Group Sandra Timmermann, Ed.D. Gerontologist Aging and Business Strategies

Continuing growth in the older ages, as well as continuing improvements in overall and cognitive health of this population, make the funding for and provision of long-term care a significant current public policy issue that will only increase in intensity and scope in the future. The session will explore the implications of key demographic shifts and improved morbidity and mortality on the provision of and funding for long-term care.

SESSION DESCRIPTIONS

Thursday, Jan. 9

3:25 – 5:00 p.m.

General Session IV

Moderator: Timothy F. Harris, FSA, MAAA, Milliman, Inc.

Could Moses Live to Be 120?

Nir Barzilai, M.D.

*The Rennert Chair of Aging Research; Professor of Medicine and Genetics;
Director: Institute for Aging Research; Glenn Center for the Biology of Human Aging;
NSC of Excellence in the Biology of Aging, Albert Einstein College of Medicine.*

Life expectancy has risen across the world dramatically in the last century, and the average baby born today is predicted to reach 100. However, we still struggle with the fact that aging is associated with age-related diseases and with poor quality of life. We will discuss our understanding of the evolution of aging and the biological mechanisms for aging. We will review the approaches to identify the protective factors that can be targets for drug discovery and allow preserving good health as we age, with little medical cost.

Friday, Jan. 10

8:00 – 9:45 a.m.

General Session V: Panel: Mortality Projection from a Social Security Perspective

MODERATOR	PANELISTS
Sam Gutterman , FSA, CERA, FCA, FCAS, HONFIA, MAAA PricewaterhouseCoopers LLP	Adrian Gallop , FIA Government Actuary's Department, UK Stephen C. Goss , ASA, EA, MAAA U.S. Social Security Administration Jean-Claude Menard , FSA, FCIA Office of the Chief Actuary, Canada

Mortality is a fundamental element in the financial projections of the finances of social security programs around the world. Prominent actuaries from the U.S. Social Security Administration, Canada's Office of Superintendent of Financial Institutions and the U.K. Government Actuary's Department will discuss some of the key factors and issues associated with these projections. Improving mortality has and will have a significant effect on the affordability and importance of income through retirement to many population segments in these countries.

SESSION DESCRIPTIONS

Friday, Jan. 10

10:05 – 11:50 a.m.—Concurrent Sessions 5

5A: Aging and Changes in Health Status

MODERATOR	DISCUSSANT
Thomas P. Edwalds , FSA, ACAS, MAAA Munich American Reinsurance Company	Eric Stallard , ASA, FCA, MAAA Duke University

PAPERS	AUTHORS
<i>Historical Trends and Impairment-Related Survival Models for Senior Populations</i>	Vincent Granieri , FSA, EA, MAAA (Presenter) Gregory Heck Predictive Resources, LLC
<i>Modeling Medical Cost Trends for Advancing Age in the Long Run</i>	Thomas Getzen , Ph.D. International Health Economics Association and Temple University
<i>Sex Differences in Predictors of Health Decline: Results from a 16-Year Longitudinal Cohort Study</i>	Steven G. Prus , Ph.D. Carleton University

5B: Longevity and Cognitive Impairment

MODERATOR	DISCUSSANTS
Ronora E. Stryker , ASA, MAAA Society of Actuaries	S. Jay Olshansky , Ph.D. University of Illinois at Chicago Robert Pokorski , M.D. Prudential Insurance Company of America

PAPERS	AUTHORS
<i>Cognitive, Psychological and Social Drivers of Longevity</i>	Gordon Woo , Ph.D. (Presenter) RMS LifeRisks Inc. Anne Bruce , Ph.D. Posit Science Inc.
<i>Is Secondary Prevention of Alzheimer's Disease Possible? Perspectives from the Alzheimer's Association</i>	Heather Snyder , Ph.D. (Presenter) Dean Hartley , Ph.D. Maria Carrillo , Ph.D. Alzheimer's Association

SESSION DESCRIPTIONS

Friday, Jan. 10

5C: Panel: Leaving Worries Behind: Risk Management Strategies for Individuals to Address the Economic Issues Related to Increased Longevity

MODERATOR	PANELISTS
Arnold A. Dicke , FSA, CERA, MAAA New World Actuaries	Christine Fahlund , CFP, Ph.D. T. Rowe Price Group, Inc. Joseph E. Montminy , ASA, MAAA LIMRA Robert A. Painter , ASA, CERA, ACAS, MAAA Deutsche Bank Securities William Silbert The Kendall Corporation Harrison C. Weaver , FSA, MAAA Oliver Wyman

As employers continue to reduce employee post-retirement benefits and to shift to defined-contribution plans, more income and risk management responsibilities are falling on individuals. This session will focus on the risk-mitigation mechanisms available to individuals attempting to simultaneously meet the challenges posed by increased longevity and potential inflation. Presenters will also discuss methods by which individuals can better understand the types and magnitude of the risks they face and evaluate potential solutions.

12:10 – 1:30 p.m. General Session VI

Moderator: Timothy F. Harris, FSA, MAAA, Milliman Inc.

Regenerative Medicine: New Approaches to Health Care

Anthony Atala, M.D.

Director

Wake Forest Institute for Regenerative Medicine

Patients with diseased or injured organs may be treated with transplanted organs. There is a severe shortage of donor organs, which is worsening yearly due to the aging population. Regenerative medicine and tissue engineering apply the principles of cell transplantation, material sciences and bioengineering to construct biological substitutes that may restore and maintain normal function in diseased and injured tissues. Stem cells may offer a potentially limitless source of cells for tissue engineering applications and are opening new options for therapy. Recent advances that have occurred in regenerative medicine will be reviewed and applications of these new technologies that may offer novel therapies for patients with end-stage tissue and organ failure will be described.

PARTICIPATING ORGANIZATIONS

The following organizations have agreed to participate in this research endeavor with the SOA.

Actuarial Post—UK
Actuarial Society of Hong Kong
Actuarial Society of South Africa
Actuariel Genootschap of the Netherlands
Actuaries Institute Australia
Alliance for Aging Research
American Academy of Actuaries
American Geriatrics Society
American Society of Health Economists
American Statistical Association
ASPPA College of Pension Actuaries
Association of Home Office Underwriters (AHOU)
Canadian Institute of Actuaries
Colegio Nacional de Actuarios (CONAC)—Mexico
Conference of Consulting Actuaries
Den Danske Aktuarforening (Denmark)
Eesti Akuaaride Liit-Estonian Actuarial Society
Employee Benefit Research Institute
Government Actuary's Department (United Kingdom)
iHEA - International Health Economics Association
Institute of Actuaries of India
Institute of Actuaries of Japan
International Actuarial Association
International Foundation for Employee Benefit Plans
International Foundation of Retirement Education (InfRE)
International Longevity Centre—UK
LIMRA
LOMA
Longer Life Foundation: An RGA / Washington University Partnership
National Academy of Social Insurance (NASI)
Office of the Chief Actuary, Canada (within the Office of the Superintendent of Financial Institutions)
Oxford Institute of Population Ageing
Régie des Rentes du Québec (Quebec Pension Plan)
Singapore Actuarial Society
Swiss Association of Actuaries
The Institute and Faculty of Actuaries
The Japanese Society of Certified Pension Actuaries
The Pension Research Council and Boettner Center for Pensions and Retirement Research of the Wharton School
Women's Institute for a Secure Retirement (WISER)



The Society of Actuaries Committee on Living to 100 Research Symposia

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New World Actuaries

**Thomas P. Edwalds, M.S., FSA, ACAS,
MAAA**

Assistant Vice President
Mortality Research
Munich American Reassurance Company

Jean-Marc Fix, FSA, MAAA

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Director & Consulting Actuary
PricewaterhouseCoopers LLP

Gene Held, FSA, MAAA

Kai Kaufhold, Aktuar DAV

Ad Res Advanced Reinsurance Services
GmbH

W. Ward Kingkade, Ph.D.

Statistician/Demographer
U.S. Bureau of the Census

**Barbara J. Lautzenheiser, FSA, FCA,
MAAA**

Principal
Lautzenheiser & Associates

Joseph Lu, FIA

Mortality Risk Actuary, Legal & General
Protection & Annuities
Legal & General Group

John W. Paddon, FSA, MAAA

Consulting Actuary

Robert Pokorski, M.D.

Prudential Insurance Company of America

Anna M. Rappaport, FSA, MAAA

Anna Rappaport Consulting

Henk van Broekhoven

ING Group, Corporate Insurance Risk
Management

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SOCIETY OF ACTUARIES
475 North Martingale Road, Suite 600
Schaumburg, IL 60173