Living to 100: Survival to Advanced Ages
International Symposium
January 7-9, 2008
Hilton in the Walt Disney World Resort
Lake Buena Vista, Florida

Presented by the Society of Actuaries' Committee on Life Insurance Research, Committee on Knowledge Extension Research, International Section, Long Term Care Section, Pension Section, and Product Development Section.

Welcome to Orlando! Living to 100 is the third, triennial international research symposium bringing together thought leaders from many disciplines to share ideas knowledge on the increase in aging populations and its implications to social, financial, health care and retirement systems. Actuaries, gerontologists, demographers, physicians, scientists and other professionals from around the world are attending this event to participate in developing measures of continuing improvement in survival and in discussing the problems and solutions relating to costs and quality of life of increasing numbers of elderly.

The 2008 symposium is a 2 ½ day program that includes concurrent sessions to address a wider range of subjects than covered in past Living to 100 symposia. More than 25 papers will be presented on a variety of topics such as mortality projection methods and trends, theories on aging, and coping with problems of old age to name a few. Formal discussions of the papers presented are scheduled along with ample opportunities for you to join in the dialogue. Distinguished speakers have also been assembled to provide panel discussion on determining and projecting health status at advanced ages, implications of aging populations and social security and retirement issues. Difficult and perhaps controversial issues society may face in addressing the increasing numbers of elderly are expected to be presented and/or discussed.

The valuable information presented at Living to 100 will aid participants in estimating not only advanced-age mortality rates, but also their rates of improvement needed for:

- Designing, pricing, valuing and managing financial security products
- Developing national life tables
- Ensuring solidity of government and private pension plans
- Ensuring the availability and continued solvency of homes for the aged
- Projecting the resources and services needed for the increasing older age population
- Providing useful information to individuals and their advisors for retirement and financial planning

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SOCIETY OF ACTUARIES

Living to 100 Symposium

January 7 – 9, 2008

Hilton in the Walt Disney World Resort, Lake Buena Vista, FL

Time	Event	Location
Monday, January 7, 2008		
	General Information (Participating Organizations, Sponsors, Biographies, Attendee List, Enrolled Actuaries Creditt)	
7:00 – 8:00 am	**Registration and Continental Breakfast**	**Palm Foyer 3**
8:00 – 10:00 am	**Opening Remarks and Keynote Speaker** **Symposium Co–Chairperson:** Timothy F. Harris, FSA, MAAA **SOA President:** Bruce D. Schobel, FSA, FCA, MAAA	**Palm Ballroom 3 & 4**
	Keynote Presentation: Aging Research–Past, Present, and Future Cynthia Kenyon, PhD American Cancer Society Professor and Director of Hillblom Center for the Biology of Aging University of California, San Francisco	
10:00 – 10:15 am	**Refreshment Break**	**Palm Foyer 3**
10:15 am – 12:00 pm	**General Session 1: Implications of Longer Life Spans: What Does This All Mean to Us?** **Moderator:** Anna M. Rappaport, MBA, FSA, EA, MAAA Anna Rappaport Consulting Chicago, Illinois **Panelists:** Timothy F. Harris, FSA, MAAA Principal Milliman Inc. St. Louis, Missouri Dawn E. Helwig, FSA, MAAA Principal Milliman Inc. Chicago, Illinois Valerie A. Paganelli, FSA, EA, MAAA Senior Consulting Actuary Paganelli Consulting Seattle, Washington David K. Sandberg, FSA, CERA, MAAA VP & Corporate Actuary Allianz Life Insurance Company of North America Minneapolis, Minnesota Steven G. Vernon, FSA, EA, MAAA President Rest–of–Life Communications Oxnard, California	**Palm Ballroom 3 & 4**

12:10 – 1:40 pm	**Luncheon with Roundtable Discussions** *Attendees will have the opportunity to share ideas with one another and engage in lively discussion on one of the following important topics:* - Mortality investigations and quality of data at very high ages - Mortality models, mortality trends, annuity tables, and population projections - Quality of life of the increasing numbers of elderly - The financial impact of the increasing numbers of elderly on social programs and costs - Medical approaches to aging–attacking the diseases of old age or old age itself - Progress and consequences of anti–aging and effective treatment of ailments of the aged - The societal significance of centenarians - Financial products and services for the increasing aging population	**North Ballroom**
1:50 – 3:35 pm	**Concurrent Session 1**	
	1A: Distinguishing Health Status For Advanced Ages **Moderator:** Craig M. Baldwin, MS, MSAS, FSA, MAAA Vice President Transamerica Reinsurance Charlotte, North Carolina **Panelists:** Faye S. Albert, MBA, FSA, FCA, MAAA President Albert Associates Miami, Florida Thomas Ashley, MD, FACP Vice President and Chief Medical Director Gen Re LifeHealth Stamford, Connecticut Robert Gleeson, MD, FACP Vice President & Medical Director Northwestern Mutual Milwaukee, Wisconsin Stephen K. Holland, MD Senior Vice President & Medical Director Long–Term Care Group, Inc. Natick, Massachusetts	**Narcissus/Orange**
	1B: Perspectives on a Changing Global Retirement Paradigm **Moderator:** Kenneth W. Faig, Jr., FSA, MAAA Committee on Living to 100 Research Symposia Member **Discussant:** J. Bruce MacDonald, FSA, FCIA, MAAA Consulting Actuary Halifax, Nova Scotia, Canada **Papers:** *Living to 100 and Beyond in Canada with Dignity* Doug Andrews, MBA, FSA, FCIA, CFA PhD Candidate University of Waterloo Waterloo, Ontario, Canada *Micro Pension Plan: Indian Perspective* Prakash Bhattacharya, Be, CFA Bengal College of Engineering and Technology Durgapur, West Bengal, India *Retirement and Retirement Ages in Canada Revisited* Brian L. Burnell, FSA, FCIA, FIA Burnell Actuarial Consulting Halifax, Nova Scotia, Canada	**Camelia/ Dogwood**

3:35 – 3:50 pm	**Refreshment Break**	**Narcissus and Dogwood Foyers**
3:50 – 5:35 pm	**Concurrent Sessions 2**	
	2A: Demographic Implications of Aging Populations Internationally **Moderator:** Timothy F. Harris, FSA, MAAA Symposium Co-Chairperson **Discussant**: John W. Paddon, MA, FSA, MAAA Consulting Actuary Convent Station, New Jersey **Papers**: *Challenges on Improved Life Spans in India–The Actuarial Implications* N. V. Subramanyan, MBA, MPhil, ICWAI, CAIIB Manager–Business Analysis HSBC Software Development India Kalyaninagar, Pune, India *Economic Sustainability of Retirement Pensions in Mexico: Is There a Link with the Mexican-Origin Population in the U.S.?* Roberto Ham–Chande, PhD Researcher Department of Population Studies El Colegio de la Frontera Norte Tijuana, Mexico *Income Inequality and Life Expectancy: New Evidence* Robert L. Brown, PhD, FSA, FCIA, ACAS, HONFIA Professor Department of Statistics and Actuarial Science University of Waterloo Waterloo, Ontario, Canada Steven G. Prus, PhD (Presenter) Associate Professor Department of Sociology Carleton University Ottawa, Ontario, Canada	**Narcissus/Orange**
	2B: Emerging Definitions of Retirement **Moderator**: Anna M. Rappaport, MBA, FSA, EA, MAAA Anna Rappaport Consulting Chicago, Illinois **Panelists**: Doug Andrews, MBA, FSA, FCIA, FCA PhD Candidate University of Waterloo Waterloo, Ontario, Canada Steven Haberman, PhD, ASA, FIA Deputy Dean Cass Business School City University London, England Valerie A. Paganelli, FSA, EA, MAAA Senior Consulting Actuary Paganelli Consulting Seattle, Washington	**Palm Ballroom 3 & 4**

	Anna M. Rappaport, MBA, FSA, EA, MAAA Anna Rappaport Consulting Chicago, Illinois Steven G. Vernon, FSA, EA, MAAA President Rest–of–Life Communications Oxnard, California	
6:00 – 7:00 pm	**Networking Reception**	**Poolside**
Tuesday, January 8, 2008		
7:00 – 8:00 am	**Continental Breakfast and Registration**	**Palm Foyer 3**
8:00 – 9:45 am	**General Session 2: Social Insurance Perspectives and Implications** **Moderator and Discussant:** Sam Gutterman, FSA, FCAS, FCA, MAAA, HONFIA Director and Consulting Actuary PricewaterhouseCoopers LLP Chicago, Illinois **Panelists:** Adrian P. Gallop, FIA Government Actuary's Department London, England Jean-Claude Menard, FSA, FCIA Chief Actuary Office of the Superintendent of Financial Institutions Canada Ottawa, Ontario, Canada Stephen C. Goss, MS, ASA, MAAA Chief Actuary Social Security Administration Baltimore, Maryland	**Palm Ballroom 3 & 4**
9:45 – 10:00 am	**Refreshment Break**	**Palm Foyer 3**
10:00 – 11:45 am	**Concurrent Sessions 3**	
	3A: Social Insurance Follow–up: Methodologies and Implications **Moderator**: Sam Gutterman, FSA, FCAS, FCA, MAAA, HONFIA Director and Consulting Actuary PricewaterhouseCoopers LLP **Panelists**: Stephen C. Goss, MS, ASA, MAAA Chief Actuary Social Security Administration Baltimore, Maryland Danita L. Pattemore, ASA Actuarial Officer Office of the Superintendent of Financial Institutions Canada Ottawa, Ontario, Canada Alvin K. Winters ASA, EA, MAAA Actuary Social Security Administration Baltimore, Maryland	**Narcissus/Orange**

	3B: Quality of Life of Elderly **Moderator:** Timothy F. Harris, FSA, MAAA Symposium Co-Chairperson **Discussant**: Deborah Briceland–Betts, JD National Director Women's Programs AARP Foundation Washington, D.C. **Papers**: *Living to 100–A Woman's Issue* Anna M. Rappaport, MBA, FSA, EA, MAAA Anna Rappaport Consulting Chicago, Illinois *Evaluation of Approaches to Reducing Women's Longevity Risk* Beverly J. Orth, JD, FSA Principal Mercer Human Resource Consulting Portland, Oregon *Estimates of the Incidence, Prevalence, Duration, Intensity, and Cost of Chronic Disability among the U.S. Elderly* Eric Stallard, ASA, FCA, MAAA Research Professor, Department of Sociology and Associate Director, Center for Population Health and Aging Duke University Durham, North Carolina	**Camelia/Dogwood**
11:55 am – 1:40 pm	**Luncheon with Speaker: The MacArthur Initiative on an Aging Society: Population Forecasts for the U.S.** S. Jay Olshansky, PhD Professor School of Public Health University of Illinois at Chicago Chicago, Illinois	**North Ballroom**
1:50 – 3:15 pm	**Concurrent Sessions 4**	
	4A: New Models of Advanced Age Mortality **Moderator:** Kenneth W. Faig, Jr., FSA, MAAA Committee on Living to 100 Research Symposia Member **Discussant**: Thomas P. Edwalds, MS, FSA, ACAS, MAAA Assistant Vice President, Mortality Research Munich American Reassurance Co Chicago, Illinois **Papers**: *Inference for Logistic–type Models for the Force of Mortality* Louis G. Doray, PhD, ASA Professor Department of Math and Statistics University of Montreal Montreal, Quebec, Canada *Predictive Modeling for Advanced Age Mortality* Lijia Guo, PhD, ASA, MAAA Principal Financial Engineer/Actuary Algorithmics Inc. Newton, Massachusetts	**Narcissus/Orange**

	4B : Mortality Measurement and Prediction **Moderator:** Robert J. Johansen, MA, FSA, MAAA Symposium Co-Chairperson **Papers**: *Mortality Measurement at Advanced Ages: A Study of the Social Security Administration Death Master File* Leonid A. Gavrilov, PhD (Presenter) Research Associate of the Center for Demographic Studies Center on Aging, NORC University of Chicago Chicago, Illinois Natalia S. Gavrilova, PhD Research Associate of the Center for Demographic Studies Center on Aging, NORC University of Chicago Chicago, Illinois *Typology and Review of Measures of Human Aging, Longevity and Superlongevity, with Applications to U.S. Data and Some Implications for U.S. Public Programs* Jacob S. Siegel, MA Demographic Consultant J. Stuart Siegel Demographic Services North Bethesda, Maryland	**Camelia/Dogwood**
3:15 – 3:30 pm	**Refreshment Break**	**Narcissus and Dogwood Foyers**
3:30 – 4:55 pm	**Concurrent Sessions 5**	
	5A: Longevity Risk Pricing **Moderator:** Robert J. Johansen, MA, FSA, MAAA Symposium Co-Chairperson **Discussant**: Michael L. Kaster, MBA, FSA, MAAA Senior Consultant Watson Wyatt Insurance & Financial Services, Inc. Berwyn, Pennsylvania **Papers**: *Living to 100: Survival to Advanced Ages: Insurance Industry Implication on Retirement Planning and the Secondary Market in Insurance* Jay Vadiveloo, PhD, FSA, CFA, MAAA (Presenter) Professor and Director of the Deloitte–University of Connecticut Actuarial Center and Senior Manager Deloitte Consulting LLP Hartford, Connecticut Peng Zhou, PhD, FSA Investment Officer Sun Life Financial Wellesley Hills, Massachusetts Charles Vinsonhaler, PhD, ASA Professor Department of Mathematics University of Connecticut Storrs, Connecticut	**Narcissus/Orange**

	Sudath Ranasinghe PhD Candidate University of Connecticut Storrs, Connecticut *Longevity Risk Pricing* Jiajia Cui, MPhil PhD Candidate Tilburg University Tilburg, the Netherlands	
	5B: Prediction from Data **Moderator:** Timothy F. Harris, FSA, MAAA Symposium Co-Chairperson **Discussant**: Joseph Lu, MPhil, FIA Senior Actuary Synesis Life London, England **Papers**: *Data Validation and Measurement of Cohort Mortality among Centenarians in Quebec (Canada) According to Place of Birth and Ethnic Origin* Melissa Beaudry–Godin, MS PhD Candidate Department of Demography University of Montreal Montreal, Quebec, Canada Robert Bourbeau, PhD (Presenter) Professor and Chairperson, Department of Demography University of Montreal Montreal, Quebec, Canada Bertrand Desjardins, PhD Researcher, Department of Demography University of Montreal Montreal, Quebec, Canada *Physical and Socio-Economic Characteristics at Young Age as Predictors of Survival to 100. A study of a new historical data resource (the US WWI draft cards)* Natalia S. Gavrilova, PhD (Presenter) Research Associate of the Center for Demographic Studies Center on Aging, NORC University of Chicago Chicago, Illinois Leonid A. Gavrilov, PhD Research Associate of the Center for Demographic Studies Center on Aging, NORC University of Chicago Chicago, Illinois	**Camelia/Dogwood**
Wednesday, January 9, 2008		
7:00 – 8:00 am	**Continental Breakfast**	**Palm Foyer 3**
8:00 – 9:45 am	**Concurrent Sessions 6**	

	6A: Projection and Statistical Modeling of Mortality at Late Age **Moderator:** Timothy F. Harris, FSA, MAAA Symposium Co-Chairperson **Discussant**: W. Ward Kingkade, PhD Statistician/Demographer Population Division U.S. Bureau of the Census Washington D.C. **Papers:** *On Simulation-Based Approaches to Risk Measurement in Mortality with Specific Reference to Binomial Lee-Carter Modeling* Steven Haberman, PhD, ASA, FIA (Presenter) Professor of Actuarial Science and Deputy Dean Cass Business School City University London, England Arthur Renshaw, PhD Cass Business School City University London, England *A Study of the Lee–Carter Model with a Jump* Jack C. Yue, PhD, ASA Professor, Department of Statistics National Chengchi University Taipei, Taiwan Sharon S. Yang, PhD (Presenter) Assistant Professor Department of Business Mathematics, College of Business Soochow University Taipei, Taiwan Hong–Chih Huang, PhD Assistant Professor Department of Risk Management and Insurance National Chengchi University Taipei, Taiwan *Testing Deterministic Versus Stochastic Trends in the Lee–Carter Mortality Indexes and Its Implications for Projecting Mortality Improvements at Advanced Ages* Wai–Sum Chan, PhD, FSA Professor, Department of Finance Chinese University of Hong Kong Hong Kong, PR China Siu–Hang Li, PhD (Presenter) Assistant Professor Department of Statistics and Actuarial Science University of Waterloo Waterloo, Ontario, Canada Siu–Hung Cheung, PhD Associate Professor, Department of Statistics Chinese University of Hong Kong Hong Kong, PR China	**Narcissus/Orange**

	6B: Health Status and Its Impact on Mortality **Moderator:** Kenneth W. Faig, Jr., FSA, MAAA Committee on Living to 100 Research Symposia Member **Discussant**: S. Jay Olshansky, PhD Professor School of Public Health University of Illinois at Chicago Chicago, Illinois **Papers**: *Health Expectancy* Faye S. Albert, MBA, FSA, FCA, MAAA President Albert Associates Miami, Florida James C. Brooks, Jr., FSA, MAAA (Presenter) Actuarial Consultant John M Bragg & Associates Inc. Marietta, Georgia John M. Bragg, FSA, ACAS, MAAA Chairman John M Bragg & Associates Inc. Atlanta, Georgia *Human Behaviour: An Impediment toward Future Mortality Improvement* Sam Gutterman, MAS, FSA, FCAS, FCA, MAAA, HONFIA Director & Consulting Actuary PricewaterhouseCoopers LLP Chicago, Illinois *Health, Wealth and Wisdom–Living Long, Living Well* Michael J. Cowell, ALM, FSA Yarmouth, Maine	**Camelia/Dogwood**
9:45 – 10:00 am	**Refreshment Break**	**Palm Foyer 3**
10:00 – 11:45 am	**General Session 3: Theories on Aging** **Moderator:** Robert J. Johansen, MA, FSA, MAAA Symposium Co-Chairperson **Discussant:** Stephen C. Goss, MS, ASA, MAAA Chief Actuary Social Security Administration Baltimore, Maryland **Papers:** *Entropy Explains Aging, Genetic Determinism Explains Longevity, and Undefined Terminology Explains Misunderstanding Both* Leonard Hayflick, PhD Professor of Anatomy University of California, San Francisco, School of Medicine San Francisco, California *Is There a Limit to the Compression of Mortality?* Jean-Marie Robine INSERM, Health and Demography	**Palm Ballroom 3 & 4**

	Siu Lan K. Cheung (Presenter) Hong Kong University of Science and Technology Shiro Horiuchi CUNY Institute of Demographic Research A. Roger Thatcher Former Director of the Office of Population Censuses and Surveys, London	
11:55 am – 12: 40 pm	**General Session 4: Compression of Morbidity** **Moderator:** Timothy F. Harris, FSA, MAAA Symposium Co-Chairperson **Discussant:** Faye S. Albert, MBA, FSA, FCA, MAAA President Albert Associates Miami, Florida **Papers:** *Is the Compression of Morbidity a Universal Phenomenon?* Jean Marie Robine (Presenter) INSERM, Health and Demography Siu Lan K. Cheung Hong Kong University of Science and Technology Shiro Horiuchi CUNY Institute of Demographic Research A. Roger Thatcher Former Director of the Office of Population Censuses and Surveys, London	**Palm Ballroom 3 & 4**
12:40 – 1:00 pm	**Closing Remarks** Symposium Co–Chairperson: Robert J. Johansen MA, FSA, MAAA Symposium Co–Chairperson: Timothy F. Harris, FSA, MAAA Committee on Living to 100 Research Symposia Member: Sam Gutterman, MAS, FSA, FCAS, FCA, MAAA, HONFIA	**Palm Ballroom 3 & 4**