Jesús-Adrián Álvarez Ph.D. Candidate Institute of Public Health of the University of Southern Denmark

Jesús-Adrián Álvarez is currently PhD candidate at the Institute of Public Health of the University of Southern Denmark under the supervision of James W. Vaupel. Jesús-Adrián studied Actuarial Mathematics and received his MSc. in Population Studies at the University of Groningen in the Netherlands. During 2016- 2017 he was research fellow at the Max Planck Institute of Demographic Research, where he completed the research program European Doctoral School of Demography. In addition, Jesús-Adrián has a vast experience evaluating pension plans and in risk management since he spent several years at private companies such as Willis Towers Watson and AXA insurance company.

Kirill Andreev, Ph.D. Population Affairs Officer United Nations Population Division

Kirill Andreev is a Population Affairs Officer at the United Nations Population Division. Prior to joining the United Nations, he worked as Assistant Professor at Queens University, Canada (2001-2006), as Researcher and Database Manager at Max Planck Institute for Demographic Research in Rostock, Germany (1996-2001) and a research assistant at University of Southern Denmark (1992-1996). His research interest covers mortality analysis, population aging, population and mortality projections, data visualization and software applications for population research. Andreev holds a Ph.D. degree in Demography and Epidemiology from University of Southern Denmark.

Douglas Andrews, FSA, FCIA, FIA. PhD Adjunct Professor, Department of Statistics and Actuarial Science University of Waterloo

After a successful career as an actuary, a Chartered Financial Analyst, and a university professor, Andrews professional time is devoted now to conducting and communicating research as Adjunct Professor in the Department of Statistics and Actuarial Science at the University of Waterloo. He is managing an international research project that will provide insights useful for policy makers and professionals concerned about the impact that population aging may have on asset values. His research has an international perspective and is designed to produce practical policy recommendations. It is focused on aging, economics, investments, and risk management, and their implications for the management of social support systems, such as pensions, health care, and long-term care. Andrews received a BA and an MBA from the University of Toronto and a MA and a PhD from the University of Waterloo.

Marie-Pier Bergeron Boucher, Ph.D. Interdisciplinary Centre on Population Dynamics (CPop) University of Southern Denmark

Marie-Pier Bergeron Boucher is a postdoctoral researcher at the Interdisciplinary Centre on Population Dynamics (CPop) at the University of Southern Denmark. Coming from a background in demography, her research interests include the study of human mortality, longevity and ageing, with a particular interest in exploring new demographic methods to help understand and forecast population health and mortality in industrialised societies.

Assia Billig, FSA, FCIA, Ph.D. Chief Actuary OSFI

Assia Billig, FSA, FCIA, Ph.D., is the chief actuary of the Superintendent of Financial Institutions' (OSFI's) Office of the Chief Actuary (OCA). In this role, she is responsible for the financial health and sustainability of several public programs such as the Canada Pension Plan (CPP), the Old Age Security (OAS) and Employment Insurance (EI) programs, as well as federal public sector pension and insurance plans. She provides key reports and ongoing financial advice to the federal and provincial governments. Billig spent a decade in the OCA prior to her appointment as chief actuary. She is a well-known and widely respected actuary and scholar, both in Canada and internationally.

She is the vice chair of the IAA Social Security Committee and the chair of the Technical Commission on Statistical, Actuarial and Financial Studies of the International Social Security Association. Billig completed her undergraduate studies at Moscow State University and earned a Ph.D. in mathematics from the University of Alberta.

Rob Brown, FSA, ACAS, FCIA, HONFIA, Ph.D Retired Professor, Department of Statistics and Actuarial Science University of Waterloo

Rob Brown retired from the University of Waterloo program in actuarial science in 2010 after 39 years of teaching and research. In that time, he wrote seven books and more than 50 refereed papers. Brown's research focus is on the design of financial security programs in times of rapidly shifting demographics.

Brown was president of the Canadian Institute of Actuaries in 1990-91, president of the Society of Actuaries in 2000-01 and was president of the International Actuarial Association for 2014. Additionally, Brown was the research chair for the Ontario Expert Commission on Pensions in 2007-08.

Chih-Kai Chang, FSA, CERA, Ph.D. Associate Professor Feng Chia University

Chih-Kai Chang is an assistant professor at Feng Chia University in Taiwan. He served as the Director of Actuarial Development and Research Center which advocates for actuarial research, social service and education in Taiwan. His professional interests focus on the actuarial model and liability valuation for social insurance, health care and unemployment insurance. A strong advocate for developing social service with Actuarial Science, he involves his students in current projects and research on the National Pension Scheme for the Ministry of Health and Wealth, Occupational Injury and Disease Insurance and Unemployment insurance for the Labor Bureau in Taiwan. In addition, he served as a member for the Enterprise Risk Management Committee in the Actuarial Institute of Taiwan. His working experience includes the actuarial analyst of insurance companies, and consulting actuary specified in the development of life insurance products. He had been honored with awards for his contributions to teaching and research on actuarial science.

Lori J. Curtis, Ph.D. Professor, Department of Economics University of Waterloo

Lori J. Curtis is a Professor in the Department of Economics, at the University of Waterloo (UW). Her research is broad ranging with an interdisciplinary focus. She specializes in the areas of health, poverty, and inequality particularly as it affects women and children. In her early years she focused on mothers, lone mothers in particular, and their children but more recently she has been examining the social and economic position of women as they move into retirement. In 2018, her research with five co-authors entitled Population Structure and Asset Values was selected for an ICA 2018 Best Paper Award in the category Demographic Change and Longevity. This research also received an International Centre for Pension Management Research Award 2017. She holds a PhD and MA in Economics from McMaster University and Honours BSc (mathematics and economics) from Trent University. She also holds a Diploma in Nursing from Durham College. In addition to the academic positions she has held, she worked in the health care industry and within Health Canada, a federal government department, where she ran a research group.

John Cutler, Esq. Senior Fellow National Academy of Social Insurance

Over the last 25 years, in both the public and private sectors, John Cutler has developed and applied unique expertise in the areas of health care, Medicare, long term care insurance, disability, aging, and insurance benefit design. Until July 2015, he served in the new National Healthcare Operations health care reform office of the US Office of Personnel Management (OPM). Since his retirement from the federal government he has maintained a consulting business, is a Senior Fellow for the National Academy of Social Insurance and is a special advisor to the Women's Institute for a Secure Retirement (WISER).

Cutler is active in several Society of Actuary committees, including the Aging and Retirement Strategic Research Program Steering Committee and the Long Term Care Section. He was one of the award winners for his paper for the SOA's monograph series on "Managing the Impact of Long Term Care Needs and Expense on Retirement Security" in 2014.

Cutler holds a BA degree from the University of Virginia in Government and Foreign Affairs and a Juris Doctor from the University of Georgia. He is a member of the Bar in the District of Columbia. He is active with Academy Health's LTSS Interest Group and the Fairfax County (Virginia) Long Term Care Coordinating Committee.

Thomas P. Edwalds, FSA, ACAS, MAAA Clinical Professor DePaul University

Tom Edwalds is a Clinical Professor of Finance at DePaul University and the Executive Director of the Fred Arditti Center for Risk Management at DePaul. Edwalds began at DePaul last year, arriving with 36 years of diverse and substantive experience in the insurance industry. Prior to joining DePaul, Edwalds held the position of Assistant Vice President for Biometric Research for Munich Re, where he was responsible for mortality and persistency research and experience studies for the US.

He is a recognized leader in the actuarial profession, currently serving on numerous Society of Actuaries research committees including the Committee on Living to 100 Research Symposia, the Actuarial Foundation Committee on Student Achievement, and the Casualty Actuarial Society Task Force on Cyber Risk. Edwalds also is an officer of the SOA's Taxation Section and the Chicago Actuarial Association. He was recognized for a decade of leadership in Society of Actuaries research initiatives with an Outstanding Volunteer Award in 2011.

Edwalds research interests and expertise include mortality risk, longevity risk, and extreme event risk. He holds both B.S. and M.S. degrees in Mathematics from the University of Illinois at Chicago.

Jean-Marc Fix, FSA, MAAA VP, Actuarial Research & Development Gen Re

Fix is vice-president of Actuarial Research & Development at Gen Re. Prior to this position, he was vice president, research and development, for both Optimum Re Insurance (United States) and Optimum Reassurance (Canada). Jean-Marc has over 25 years of experience in the life insurance industry and extensive experience in all actuarial as well as non-actuarial aspects of life insurance and critical illness product development. He has spoken on a variety of underwriting, product design, claims and reinsurance topics as they relate to actuaries, underwriters and medical directors. Fix currently chairs the Committee on Living to 100 Research Symposia and the Mortality and Longevity Strategic Research Program Steering Committee. He also is active in a number of other SOA and industry committees centering on mortality and underwriting and is a leader of the SOA's Reinsurance Section. Jean-Marc graduated Summa cum Laude from Whittier College with a BA in Mathematics.

Jonathan Forman, J.D. Kenneth E. McAfee Centennial Chair in Law University of Oklahoma

Professor Jonathan Barry Forman is the Kenneth E. McAfee Centennial Chair in Law at the University of Oklahoma, where he teaches courses on tax and pension law. Professor Forman served in Washington, DC, as the Professor in Residence for the Internal Revenue Service Office of Chief Counsel for the 2009–2010 academic year, and he was a member of the Board of Trustees of the Oklahoma Public Employees Retirement System (OPERS) from 2003 through 2011. Professor Forman is also active in the American Bar Association, the American College of Employee Benefits Counsel, the American College of Tax Counsel (a regent since 2017), the Association of American Law Professors, and the National Academy of Social Insurance. Professor Forman has lectured around the world, testified before Congress, and served on numerous federal and state advisory committees.

Professor Forman has more than 300 publications including MAKING AMERICA WORK (Urban Institute Press 2006); Survivor Funds, 37(1) PACE LAW REVIEW 204 (Fall 2016) (with Michael J. Sabin); Removing the Legal Impediments to Offering Lifetime Annuities in Pension Plans, 23(1) CONNECTICUT INSURANCE LAW JOURNAL 31–141 (Fall 2016); Making the Internal Revenue Service Work, 17(10) FLORIDA TAX REVIEW 725 (2015) (with Roberta F. Mann); and Tontine Pensions, 163(3) UNIVERSITY OF PENNSYLVANIA LAW REVIEW 755 (Feb. 2015) (with Michael J. Sabin). In addition to his many scholarly publications, Professor Forman has published op-eds in Barron's, the Los Angeles Times, the Dallas Morning News, the Cleveland Plain Dealer, the Washington Times, the Daily Oklahoman, and numerous other newspapers and magazines. Professor Forman earned his law degree from the University of Michigan in 1978, and he has master's degrees in economics and psychology. Also, prior to entering academia, it was his privilege to serve in all three branches of the federal government, including as Tax Counsel to the late Senator Daniel Patrick Moynihan (D-NY).

Adrian Gallop, FIA Actuary Government Actuary's Department, United Kingdom

Gallop is a senior consulting actuary working at the UK Government Actuary's Department. His responsibilities include advising GAD and the Office for National Statistics (ONS) on mortality matters, including the assumptions about future mortality used in the official population projections produced by ONS. He is a member of the UK actuarial profession's Mortality Research Steering Committee, the CMI Annuities committee and the CMI High age mortality working party.

Leonid A. Gavrilov, Ph.D. Research Associate Center on Aging, NORC University of Chicago

Leonid A. Gavrilov is an expert in biodemographic studies of human aging, mortality and longevity. He has over 25 years of professional experience in biodemographic studies and has published more than 80 scientific articles on related topics in collaboration with Dr. Natalia S. Gavrilova. Their book 'The Biology of Life Span: A Quantitative approach' is cited as recommended reference by the Encyclopedia Britannica.

Gavrilov is a Principal Investigator of several award-winning research projects, funded by the Society of Actuaries, National Institute on Aging (NIA), European Union (INTAS program) and the U.S. Civilian Research and Development Foundation (CRDF), including the NIA-funded research project "Biodemography of Exceptional Longevity in the United States."

Gavrilov is an Editorial Board Member of the scientific peer-reviewed journals Experimental Gerontology, Gerontology, Rejuvenation Research and Advances in Aging Research. He is currently working at the Academic Research Centers, NORC at the University of Chicago. He is a Fellow of the Gerontological Society of America.

Natalia S. Gavrilova, Ph.D. Research Associate Center on Aging, NORC University of Chicago

Natalia S. Gavrilova, Ph.D., is an expert in demographic methods, biomarkers of health and longevity. She received her Ph.D. in anthropology and population science at the Moscow State University in Russia and her master's degree in computer science at the University of Chicago. Her research projects were funded by international funding agencies, including the International Science Foundation, the European Union, and the National Institute on Aging (USA).

Gavrilova is an invited author in a number of publication projects, including the Macmillan Encyclopedia of Aging, the Encyclopedia of the Life Course and Human Development, International Handbook of Population Aging, Handbook of the Biology of Aging and others. She is an Editorial Board Member of the scientific journal "Demografie" and grant reviewer for the National Institute on Aging and the Maurice Falk Institute for Economic Research in Israel. Gavrilova is a Fellow of the Gerontological Society of America and is currently working at the University of Chicago.

Viktoriya Glushko Ph.D. Student University of Lausanne

Viktoriya Glushko is a PhD-student under the supervision of Pr. Séverine Arnold at the Faculty of Business and Economics, University of Lausanne. Her research focuses on the cause-specific mortality modeling. Before joining the PhD program Viktoriya worked as an actuary for a pension consultant advising the companies on actuarial aspects of pension plan management.

Stephen C. Goss, ASA, MAAA Chief Actuary Social Security Administration

Stephen Goss joined the Office of the Chief Actuary in 1973 and he has worked in areas related to health insurance, as well as pension, disability and survivor protection. Goss has written articles and actuarial studies on several topics and has made presentations and participated in panel discussions at numerous conferences. He has worked closely with members of the executive branch, members of Congress and their staff and numerous commissions, in addition to his work in private organizations.

Sam Gutterman, FSA, CERA, FCAS, FCA, HONFIA, MAAA, CLU, CPCU,

Sam Gutterman retired from PricewaterhouseCoopers LLP, where he had been a member of the Actuarial and Insurance Management Solutions Group. During his time at PwC he provided actuarial consulting services for insurance related and government clients, in addition to firm-wide insurance and actuarial projects. At PwC, he would also assist in audits of insurance company.

Gutterman has served as chairperson of several actuarial profession committees, as well as a past-President of the Society of Actuaries. Gutterman is currently a member of the SOA's Committee on Living to 100 Research Symposia, Aging and Retirement Strategic Research Program Steering Committee, and Mortality and Longevity Strategic Research Program Steering Committee.

R. Dale Hall, FSA, CERA, MAAA, CFA Managing Director of Research Society of Actuaries

As managing Director of Research, R. Dale Hall coordinates the SOA's strategic research partnerships, and oversees SOA experience studies, practice research, and data-driven in-house research initiatives. He is a frequent speaker at insurance and retirement industry meetings including presentations to the actuarial task forces NAIC and highlighting the breadth of SOA research to international audiences. He has appeared on behalf of the SOA in a variety of media outlets including coverage on C-SPAN and National Geographic's BREAKTHROUGH television series and hosts the weekly Society of Actuaries Research Insights Podcast. Prior to joining the SOA in 2013, Hall spent over 20 years in the US insurance industry, and was an active volunteer for the SOA, AAA and ACLI actuarial committees.

Sally Hass Independent Consultant Sally C. Hass Consulting

Sally is an internationally recognized expert in retirement and life planning education in the workplace. Her unique approach gives employees both the tools and motivation to take charge of the planning for the rest of their lives. What she does makes a difference in the employee and the employer relationship and it changes lives. Her consulting practice focuses on the design and delivery of world class educational approach and experience. Sally also works with employers to provide solutions relating to an aging workforce where there is concern about talent shortages and lost knowledge. She has successfully implemented solutions that elongated the careers of key talent and made changes that resulted in a nimbler and more competitive workforce.

Zhiping Huang Graduate Student University of New South Wales

Zhiping Huang is currently an Honours (one-year research) student in the School of Risk and Actuarial Studies, UNSW Business School, and the Centre of Excellence in Population Ageing Research (CEPAR). She has completed the combined degrees of Bachelor of Actuarial Studies and Bachelor of Commerce at the University of New South Wales (UNSW Sydney). Her research is on mortality modeling for insurance, pensions and financial applications and her thesis topic of the Honours degree is "Multi-factor Affine Mortality Models with Applications to Longevity Risk".

Nhan Huynh Ph.D. Student University of California, Santa Barbara

Nhan Huynh is a Ph.D. student in statistics and applied probability at the University of California, Santa Barbara. Her research interests include predictive modeling for health care, mortality, and insured risks applications. Among her recent publications is "Using Survival Analysis to Predict Workers Compensation Termination" that appeared in *Variance* April 2018 and "A Predictive Model for Readmissions Among Medicare Patients in a California Hospital" published in *Population Health Management* Nov. 2017.

Kai Kaufhold, Aktuar DAV Partner NMG Consulting

Kai leads the Longevity & Prediction Consulting practice at NMG Consulting, which provides quantitative analytics services to clients in North America, Europe and Asia. Before joining NMG in 2017, Kai ran his own actuarial consulting firm, Ad Res in Cologne. He has more than 20 years' experience in life insurance and reinsurance. Kai is an active volunteer with the German actuarial association, the DAV, as well as the SOA and the Singapore Actuarial Society, which he recently joined. The SOA's Living to 100 Symposium is one of Kai's favourite events, because it brings together practitioners and researchers from various disciplines and engenders cross-disciplinary dialogue and collaboration.

W. Ward Kingkade, Ph.D.

Statistician/Demographer

U.S. Bureau of the Census

Ward Kingkade began his career at the Andrus Gerontology Center at USC in 1982, and has always been interested in topics related to the evolution of longevity and the health and welfare of the elderly. Since 1984 he has worked at the US Census Bureau, at first in the International Programs Center, where he dealt with topics related to developments in mortality in the former Soviet Union and Eastern Europe, longevity in the Caucasus republics, and sex differentials in life expectancy. In the decade after 2000, he worked in the (domestic) US Population area, particularly on ethnic patterns of mortality and natality. He recently worked on housing program participation, including housing assistance for the elderly and disabled.

Allen M. Klein, FSA, MAAA Principal and Consulting Actuary Milliman

Allen M. Klein is a Principal and Consulting Actuary at Milliman. His primary responsibilities at Milliman include industry experience studies and helping clients with mortality, longevity, and underwriting related issues. This may involve product development, assumption setting, and mergers and acquisitions. Klein's expertise on mortality and underwriting includes traditional products, simplified issue, final expense, older age, and preferred.

Prior to joining Milliman, Klein worked for a large stock life insurance company where he was responsible for experience studies across all lines of business. He has worked for other life insurance companies as a reinsurer and consultant, where he has been responsible for strategic planning, product development and traditional reinsurance.

Xiaoming Liu, ASA, Ph.D.

Xiaoming Liu is an Associate Professor in the Department of Statistical and Actuarial Sciences at the University of Western Ontario. Her research interests lie in the area of actuarial science, mathematical finance, and stochastic processes. In particular, she focuses on mortality risk modeling and its related problems such as pricing and risk management of insurance policies with the consideration of different risk factors.

Joseph Lu, FIA Director, Longevity Science Legal & General Retirement

Joseph Lu leads a multidisciplinary team of experts to research and develop innovative ways to improve the understanding of the risk of people living longer than expected, commonly called longevity risk. He works for Legal & General, one of the UKs leading annuity providers. Lu's work covers insurance products such as, Individual Annuities, Longevity risk solutions and Insurance pension de-risking solutions such as Pensions Buyouts and Buy-ins.

Lu gained a bio-medical research background from University of Leicester's College of Medicine, Biological Sciences and Psychology before becoming an actuary. He is active in research & development with the Actuarial Profession. He is the co-author of 2 prize-winning papers 'Longevity in the 21st Century' and 'Two Dimensional Mortality Data: Patterns and Projections' presented to the Institute and Faculty of Actuaries. He has been voted Life Actuary of the Year by the actuarial community through the Actuarial Post. He has been working with the Longevity Science Advisory Panel, bringing together experts from various disciplines to understand the implication of scientific development on longevity. Lu has been focusing on longevity risk issues over the last 12 years.

Ben Miclette, FSA, FCIA Consultant Miclette Actuarial Consulting Inc.

Miclette has more than 20 years of experience in the Living Benefits and Health insurance markets, having worked in Canada, the United States, and internationally. He is a regular speaker at industry events and participates as a member of various industry committees including the Canadian Institute of Actuaries Members Services Council, the Canadian Life and Health Insurance Association Study Group on Critical Illness benchmark definitions and the International Actuarial Association committee on Population Issues. He also serves on the Board of the Canadian Institute of Actuaries and is a member of the Society of Actuaries Mortality and Longevity Strategic Research Program Steering Committee.

Sofiya Milman. M.D. Associate Professor of Medicine, Divisions of Endocrinology and Geriatrics Albert Einstein's College of Medicine

Dr. Sofiya Milman is an Associate Professor of Medicine in the Divisions of Endocrinology and Geriatrics and is the Director of Human Longevity Studies at Einstein's Institute for Aging Research . Dr. Milman's research focuses on a unique population of centenarians and their families who are generally free of age-related diseases. Healthy longevity runs in most of these families, suggesting a heritable basis for this phenomenon. Dr. Milman's team conducts translational research focused on the discovery of genomic mechanisms that regulate endocrine and metabolic pathways that protect against common age-related diseases, like diabetes, cardiovascular disease and Alzheimer's.

Many of the discovered longevity genes and phenotypes are related to hormonal pathways. Changes in most hormones are observed throughout the human lifespan, but it remains unknown whether the observed changes cause aging, are associated with age but are not the cause of aging, or are protective for the aging body. Identification of protective endocrine parameters will inform our understanding of the mechanisms of healthy aging and lead to the discovery of interventions that protect from age-related diseases.

A biological pathway that has been repeatedly implicated in aging is the somatotropic axis that involves signaling via growth hormone and insulin-like growth factor-I (IGF-I). Substantial evidence exists that diminished signaling via this pathway delays aging, resulting in longer lifespan and health-span, not only in animal models, but also in humans. In fact, Dr. Milman's research demonstrated that lower IGF-I levels were associated with longer survival and better cognition in humans with exceptional longevity and provided evidence against supplementing older adults with growth hormone in an attempt to delay aging. Dr. Milman's team uses computational approaches to integrate genetic information, such as whole-exome sequencing, with rich phenotype data in families with inherited longevity to understand the genetic and molecular mechanisms that lead to protective effects of low IGF-I.

S. Jay Olshansky, Ph.D. Professor School of Public Health University of Illinois at Chicago

S. Jay Olshansky is a research associate at the Center on Aging at the University of Chicago and at the London School of Hygiene and Tropical Medicine. His internationally known research has focused on estimating the upper limits to human longevity, exploring the health and public policy implications associated with individual and population aging, and global implications of the reemergence of infectious diseases.

Nadine Ouellette, Ph.D. Assistant Professor Faculty of Arts and Sciences - Department of Demography University of Montreal

Nadine Ouellette is an assistant professor in the Department of Demography at the University of Montreal. Her research work focuses on the study of evolution of mortality especially at high ages, the modal age of death and the analysis of the convergence and divergence of mortality and its causes. She is the coordinator of the Canadian Longevity Database, data specialist for Canada for the Human Mortality Database, and data for England-Wales from the Human Cause of Death Database. Nadine is also a member of the Committee on Living to 100 Research Symposia

Thomas T. Perls, M.D., M.P.H., FACP Associate Professor of Medicine Boston University School of Medicine Senior Associate, Geriatrics Medicine Boston Medical Center

Dr. Thomas T. Perls is among the international leaders in the field of human exceptional longevity. He is founder and director of the New England Centenarian Study, the largest study of centenarians and their families in the world. He is also a principal investigator of the NIA-funded Long Life Family Study. Dr. Perls is also a vocal critic of the "anti-aging" industry. Dr. Perls received his medical degree from the University of Rochester School of Medicine and his master's degree from Harvard University School of Public Health. Perls' research interests include genetics and exceptional longevity and has had numerous articles published in peer-reviewed journals.

Karl Polzer Founder/CEO Center on Capital & Social Equity

Karl Polzer is an independent consultant and political economist specializing in long term care, health care, and retirement financing policy with 30 years of policy and advocacy experience in Washington, DC. After working for the federal government, a think tank, and a business association, in 2015 he founded the Center on Capital & Social Equity (www.inequalityink.org) whose goals are to better understand growing economic inequality and advocate for a more inclusive economy. He is a member of the National Academy of Social Insurance. Recent articles in national publications look at the impact of inequality in policy areas including long term care financing reform, paid sick leave for low wage workers, national retirement security strategy, and Social Security benefits and solvency. The SOA has published a couple of his analyses including a paper exploring how changes in defined contribution withdrawal rules might reduce the risk of living to very old age and needing long term care (the SOA gave him a cash award for this work). Another piece for the SOA was entitled: "How the American Retirement Savings System Magnifies Wealth Inequality." Polzer earned a master's degree in public administration in 1989 from the Kennedy School of Government at Harvard University. Before that, he worked as a newspaper reporter and won several national awards for investigative journalism relating to environmental health and criminal justice.

Anna Rappaport, FSA, MAAA Consulting Actuary Anna Rappaport Consulting

Anna Rappaport is an actuary, consultant, author, and speaker, and is a nationally and internationally recognized expert on the impact of change on retirement systems and workforce issues. Anna is a past-President of the Society of Actuaries and chairs its Aging and Retirement Strategic Research Program Steering Committee. She is a member of the Committee on Living to 100 Research Symposia and has presented papers and spoken at each of the past Living to 100 Research Symposia.

Roland Rau, Ph.D. Max Planck Fellow Max Planck Institute for Demographic Research University of Rostock

Roland Rau is professor of demography at the University of Rostock where he currently serves also as chair of the department of sociology & demography. In addition, he is a research fellow at the Max Planck Institute for Demographic Research. He spent two years as a research scholar at Duke University and was guest researcher at Florida State University and the University of Southern Denmark. His main research interests are in mathematical and statistical demography, survival improvements in developed countries, and population ageing.

Stefan Ramonat, FSA, FCIA Senior Associate Mercer

Stefan Ramonat is a consultant in Mercer Canada's Wealth business, based in the company's Ottawa office. In addition to providing a variety of consulting services to clients with respect to their defined benefit pension plans, he is a member of Mercer's Actuarial Resource Network (ARN), a group that provides education and advice for Mercer actuaries on issues relating to pension plan funding and financial reporting. In particular, Stefan leads the technical aspects of the development and application of internal capital related to mortality/longevity analysis for Mercer Canada, including invoking modern statistical techniques to construct the "Mercer Mortality Model" based on the experience over a large number of pension plans that can aide groups of any size in analyzing their expected mortality patterns. He also applies similar techniques to provide detailed analysis of mortality and past trends for many of the largest pension plans in Canada and elsewhere. He has spoken on mortality and longevity at seminars and annual meetings of the Canadian Institute of Actuaries and is actively involved in research and education, including co-authoring a resource on the graduation of mortality experience using statistical methods for the Society of Actuaries. Stefan graduated from the University of Waterloo. and is a Fellow of both the Society of Actuaries and the Canadian Institute of Actuaries.

Jean-Marie Robine, Ph.D. Research Director INSERM

Jean-Marie Robine is a research director at INSERM, the French National Institute of Health and Medical Research, the Unit 710 in Montpellier, where he heads the research team Biodemography of Longevity and Vitality. He is the project leader of the Joint Action European Life and Health Expectancy Information System, which provides analysis of disability-free life expectancies in the European Union (Healthy Life Years-HLY). He is co-responsible for the development of the International Database on Longevity (IDL) in association with the Max Planck Institute for Demographic Research (Rostock) and INED (Paris). He is one of the principal investigators of the Genetic of Healthy Ageing project (GEHA) and the project leader of the healthy longevity project granted by AXA Research Fund: the Five-Country Oldest Old Project (5-COOP).

Johannes Schupp Consultant ifa

Johannes Schupp is a consultant at the Institut für Finanz- und Aktuarwissenschaften (ifa), an actuarial consulting firm based in Ulm, Germany. The focus of his consulting work is on the development and implementation of innovative life insurance products and actuarial biometric models.

Johannes is a PhD student in actuarial science at the institute of insurance at Ulm University. His research topics focus on mortality modelling and the identification of long-term changing mortality trends. He holds a Master of Science degree from Ulm University and is a member of the German Society of Actuaries (DAV).

Mark Shemtob, FSA, MAAA, CFP Mark Shemtob Financial Planner LLC

Mark Shemtob, FSA, MAAA, CFP has 35 years of experience in providing actuarial and consulting services to employer retirement programs. In addition, for the past 10 years, Mark has worked closely with retirees in developing personal retirement plans. Mark has been an adjunct lecturer in the finance department at Rutgers University, authored many professional articles on retirement planning, and volunteered on pension committees of the American Academy of Actuaries currently serving on the Lifetime Income Joint Risk Committee, the Pension Committee, and the Retirement System Assessment and Policy Committee. Mark holds a masters degree from Columbia University and received his Financial Planner Certification education from Fairleigh Dickinson University.

Jacob Siegel, FASA, FGSA

Jacob S. Siegel MA, FASA, FGSA is semi-retired. Since formal retirement, he has authored several books in demography. sociolinguistics, and gerontology, principally The Demography and Epidemiology of Human Health and Aging. He was formerly Professorial Lecturer in Demography, Georgetown University, and Senior Demographic Statistician, Population Division, U.S. Census Bureau. He is the author of over one hundred papers, presentations at professional meetings, and monographs covering such subjects as the completeness of coverage of the census, estimates of centenarians, congressional district delineation, aging of the American population, trends in retirement age, and linguistic ability with advancing age.

Steve Siegel, ASA, MAAA Senior Practice Research Actuary Society of Actuaries

Steven Siegel is a senior practice research actuary for the Society of Actuaries (SOA). He is primarily responsible for the management of all research-related efforts in the SOA's retirement and finance areas of practice as well as other general SOA research initiatives. As part of this role, he is the staff lead on the SOA's Aging and Retirement Strategic Research program which was launched in the Fall of 2018. Steven has authored articles for industry publications, including SOA's magazine The Actuary and newsletters.

Prior to joining the SOA, Steven was an assistant vice president at CNA Insurance Company, where he managed a staff of actuaries involved in the pricing and design of group disability, accident and life products. Steven also served as a health actuary for nearly 15 years and was involved with HMO and PPO rating and product development at Blue Cross and Blue Shield of Illinois.

Steven earned a bachelor's degree in theoretical mathematics (summa cum laude) from Loyola University of Chicago. He is an associate of the SOA and a member of the American Academy of Actuaries (MAAA).

David Smith, Ph.D Senior Lecturer in Actuarial Science, Faculty of Actuarial Science and Insurance Cass Business School

Dr. David Smith is a Senior Lecturer in Actuarial Science in the Faculty of Actuarial Science and Insurance, Cass Business School, where he is Course Director of the BSc (Hons) Actuarial Science degree. He has carried out a great deal of research with Professor Les Mayhew in developing new methods of projecting populations as well as investigating new ways that the increasing costs of pensions and long-term care in the UK could be funded. He completed the Institute of Actuaries' professional examinations in 2002.

Larry Stern Consulting Actuary Canterbury Consulting, LLC

Larry Stern is a sole practicing, reinsurance intermediary and consulting actuary located in Charlotte, NC. His company name is Canterbury Consulting, LLC. Larry has 45 years life insurance industry experience having worked for three different direct writers (last position Senior VP and Chief Actuary), a global consulting firm (Tillinghast; principle and practice leader for product development), a reinsurer (Scottish Re; EVP Financial Reinsurance Line of Business), and since 2002 President of his own company. He has dealt with all aspects of product/marketing strategies, reinsurance/risk management and capital issues throughout his career. Larry graduated with highest honors from Indiana University with a degree in life insurance, actuarial science from the Kelley School of Business. Larry is a past Chair and current member of the SOA Nominating Committee, has served on several other section councils (Chairs of Product Development, Entrepreneurial Actuaries, and Reinsurance), written many articles for industry publications, and is a frequent speaker at industry meetings. Larry is a current member of the Mortality and Longevity Strategic Research Program Steering Committee.

Mary Stone, FSA, MAAA, EA, FCA Staff Fellow - Retirement Society of Actuaries

Mary Stone is a strategic retirement consulting actuary with a broad range of experience providing plan design, financial management, investment and compliance consulting for clients with defined benefits and defined contribution plans. Mary is a Retirement Staff Fellow of the Society of Actuaries. Prior to joining the Society of Actuaries, Mary spent over 20 years in retirement consulting, presenting regularly to client senior management and governance committees; valued for clear, understandable presentation of complex ideas to non-technical audiences.

Ronora E. Stryker, ASA, MAAA Senior Practice Research Actuary Society of Actuaries

Ronora Stryker is a Senior Practice Research Actuary for the Society of Actuaries. In her role, she supports the SOA's mortality and longevity and enterprise risk management practice research initiatives. She is a staff lead for the Living to 100 Symposium and the Mortality and Longevity Strategic Research Program. Ronora has authored numerous articles and speaks frequently at industry meetings on the research she supports. Prior to joining the SOA, Ronora was a consulting actuary specializing in individual health insurance pricing and product development.

N.V. Subramanyan Dy Vice President Prudential

Subramanyan is a Dy Vice President with Prudential, Singapore. He heads the Product Modelling and Product Transformation activities in the Pricing department. He has 30+ years of experience in the Life Insurance industry value chain including Actuarial, New Business & Underwriting and IT. He is an Associate of the Chartered Insurance Institute (UK), Fellow of the Insurance Institute of India and is pursuing to qualify as a full-fledged Actuary. He has a passion for research in the field of Insurance and has over 15 papers recognized and published in reputed international forums like:

- 1. Conference of ICLAM (International Committee for Insurance Medicine) 2019
- 2. SOA's Living to 100 Symposia in 2008 & 2011
- 3. Winner of Shri S.K.Desai Award from the Indian Institute of India for research in 2005, 2008 & 2009
- 4. Winner of Shri D.Subrahmaniam Award from the Indian Institute of India for research in 2003 & 2004

In addition, he is an avid movie buff and likes to travel the world.

Erwin Tan, MD Policy, Research & International Affairs Director Thought Leadership – Health AARP

Erwin J. Tan MD is a physician and fellowship trained geriatrician. He is the AARP Director of Thought Leadership- Health. Dr. Tan previously served as the Director of Senior Corps at the Corporation for National and Community Service. From 2004 to 2010, he served as an Assistant Professor of Medicine at the Johns Hopkins School of Medicine where he was an attending physician in the Division of Geriatric Medicine. He was also a co-investigator in the Baltimore Experience Corps Study. From 2003-2004, Dr. Tan was a White House Fellow serving as a Special Assistant to the Secretary of Veterans Affairs. Before coming to the Washington, D.C. Metropolitan area, Dr. Tan was a faculty member at the University of California, San Francisco School of Medicine, where he was the Medical Director for the High User Case Management Program and served as Geriatric Medicine Fellow and a Primary Care Medicine Resident. Dr. Tan was commissioned as a 2nd Lieutenant in the United States Army Reserves. He received a bachelor's from Brown University where he attended the Tougaloo College exchange program. Dr. Tan

graduated from New York University School of Medicine as a member of the Alpha Omega Alpha honor society. Dr. Tan was born in Indonesia and is a naturalized citizen of the United States.

Jim Toole, FSA, CERA, MAAA Managing Director FTI Consulting

Jim Toole is a Managing Director at FTI Consulting and has more than 25 years of experience in the life, health, and P&C industries. Toole is a former Chair of the Health Section and recently served as Vice President of the Board of Directors of the SOA. He was co-editor of the SOA textbook "Insurance Industry Mergers and Acquisitions" and served as lead researcher on the SOA project analyzing the potential impact of a pandemic on the U.S. life and health insurance industries. Health policy interests include medical errors, health disparities, community benefit, and health impact assessments.

John Turner, Ph. D. Director Pension Policy Center

John A. Turner is Director of the Pension Policy Center, where he provides pension policy analysis for U.S. and international organizations. He served as Senior Policy Advisor in the AARP Public Policy Institute. Previously, he worked at the International Labour Office in Geneva, Switzerland, on social security reform around the world, focusing on lower income countries, and coediting the book, *Social Security Pensions: Development and Reform*. He has also worked in research offices at the U.S. Social Security Administration and the U.S. Labor Department, where he was the Deputy Director of the pension research office for nine years. He taught as an adjunct lecturer in Economics at George Washington University and Georgetown University and was a Fulbright Senior Scholar in France at the Institut de Recherches Economiques et Sociales.

He is a member of the National Academy of Social Insurance, has served on the Board of Directors for the European Network for Research on Supplementary Pensions, is a Fellow of the Pensions Institute (U.K.), serves on the Editorial Boards for *Benefits Quarterly* and the *Journal of Retirement*, was the U.S. private pension correspondent to the International Social Security Association, and was chair of the pension committee for the nearly 700 Methodist churches in the Baltimore Conference.

He has published more than 100 articles in refereed journals on pension and social security policy with several receiving prizes. He has a PhD in Economics from the University of Chicago.

Péter Vékás, Ph.D. Assistant Professor, Department of Operations Research and Actuarial Science Corvinus University of Budapest

Péter Vékás, Ph.D. is an Assistant Professor in the Department of Operations Research and Actuarial Science in the School of Economics at Corvinus University of Budapest. His research interests include statistical modeling, data analysis, pensions, actuarial science.

Andres Villegas, Ph.D. Associate Investigator ARC Centre of Excellence in Population Ageing Research (CEPAR)

Villegas is a Lecturer at the School of Risk and Actuarial Studies and an Associate Investigator at the ARC Centre of Excellence in Population Ageing Research (CEPAR) where he was previously | Research Fellow. He completed his doctoral studies at Cass Business School in London focusing on the modelling and projection of mortality. Villegas's research interests include mortality modelling, longevity risk management and the application of optimization techniques in actuarial science and finance. Villegas is committed to the development of tools that can help making academic research more accessible to industry and to the wider actuarial community. He is the developer and maintainer of the R Package StMoMo for stochastic mortality modelling which in the past two years has achieved 8000+ downloads and is now being used by researchers, risk managers, insurance supervisors and students around the world.

Villegas has spent some time working as a risk and actuarial analyst at Suramericana's Medellín office and now continues to advise the Colombian insurance industry in mortality related topics.

Gordon Woo, Ph.D. Longevity Risk Analyst RMS Inc

Gordon Woo is the architect of the RMS LifeRisks longevity risk model, which was developed a decade ago. He has a special interest in cognitive and psychological longevity factors, and has developed a resilience index based on these. Dr. Woo is a Cambridge graduate, he completed his PhD at MIT, and was a member of the Harvard Society of Fellows. He is a visiting professor at University College London, and an adjunct professor at Nanyang Technological University, Singapore.

Hsin-Chung Wang Associate Professor, Department of Finance and Actuarial Science Aletheia University

Hsin-Chung Wang had 8 years working experience at the Cathay Life Insurance Company, the largest insurance company in Taiwan. He received Ph.D. degree in Statistics from National Chengchi University in Taiwan. He is now an associate professor in the Department of Finance and Actuarial Science, Aletheia University, and also serves as director in Chung Hua Senior High School. His major research interest is related to statistics and actuarial science, especially emphasizing on longevity risk and experience study (such as mortality rates and incidence rates). His research work appears in *Insurance Mathematics and Economics, ASTIN Bulletin, North American Actuarial Journal* and *Journal of Population Studies*.

Jonathan Ziveyi Associate Investigator ARC Centre of Excellence in Population Ageing Research

Jonathan is an Associate Investigator at the ARC Centre of Excellence in Population Ageing Research based at the UNSW Business School where he is a Senior Lecturer in the School of Risk and Actuarial Studies. He received his PhD in Quantitative Finance from the University of Technology Sydney where his thesis was on the evaluation of early exercise exotic options. His current research interests include longevity risk management, valuation of guarantees embedded in variable annuities and option pricing under stochastic volatility. His research output has been published in esteemed quantitative finance and actuarial journals such as The ASTIN Bulletin, Insurance: Mathematics and Economics, Quantitative Finance among others and has been presented at various international conferences

Kenneth Zhou, ASA, ACIA, PhD Assistant Professor, School of Mathematical and Statistical Sciences Arizona State University

Kenneth Q. Zhou is an assistant professor of actuarial science in the School of Mathematical and Statistical Sciences at Arizona State University. He received his PhD from the University of Waterloo under the supervision of Professor Johnny Li. His research interests focus on longevity risk management, stochastic mortality modeling, and Bayesian modeling and forecasting.