

International Workshop on Science & Technology for Healthy Longevity

Workshop Moderators, Speakers,
and Discussants

U.S. NATIONAL
ACADEMY OF MEDICINE

**Healthy
Longevity**

GLOBAL GRAND CHALLENGE



Science & Technology Workshop Co-Chairs

U.S. NATIONAL
ACADEMY OF MEDICINE

**Healthy
Longevity**

GLOBAL GRAND CHALLENGE





Ann Aerts, MD,MPH, has been Head of the Novartis Foundation since January 2013. During this time, she has led an organization committed to transforming the health of low-income populations. This included working with partners on in-country programs and research to identify the healthcare solutions that work best, supporting partners scaling-up proven solutions, and using the new evidence to inform national and global health policy. Dr. Aerts has led initiatives to improve cardiovascular health in urban populations, co-chaired a Broadband Commission working group that developed recommendations for using digital health to tackle noncommunicable diseases and achieve Universal Health Coverage, and drove a leprosy prevention program that influenced World Health Organization guidelines. Dr. Aerts' career has focused on patient centered care, spanning the international humanitarian sector, non-profits and pharma.

She was previously Franchise Medical Director for Critical Care at Novartis Pharma in Basel and Therapeutic Area Head of Cardiovascular and Metabolism for Novartis Pharma in Belgium. Prior to joining Novartis, she served as Director of the Lung and Tuberculosis Association in Belgium, Head of the Health Services Department of the International Committee of the Red Cross (ICRC) in Geneva, and Health Coordinator for ICRC in several countries. In 2014, PharmaVOICE nominated Dr. Aerts as one of the 100 Most Inspiring People in the life science industry. Dr. Aerts has authored numerous publications and is a member of the Broadband Commission, the Governing Council of the UN Technology Bank for Least Developed Countries and the International Advisory Board of the Commonwealth Centre for Digital Health. Dr. Aerts holds a Degree in Medicine and a Masters in Public Health from the University of Leuven, Belgium, and a Degree in Tropical Medicine from the Institute of Tropical Medicine in Antwerp, Belgium.



Tadataka (Tachi) Yamada, M.D., is a Venture Partner with Frazier Healthcare Partners and focuses on creating new companies. He chairs the boards of Phathom Pharmaceuticals, Passage Bio, Athira Pharma and Prometheus Biosciences and serves as a director of a number of private life science companies. Prior to joining Frazier he was Chief Medical and Scientific Officer, Executive Vice-President and a Board Member of Takeda Pharmaceuticals. He was formerly President of the Bill & Melinda Gates Foundation Global Health Program. In this capacity he oversaw grants totaling over \$9 billion in programs directed at applying technologies to address major health challenges of the developing world. Before joining the Gates Foundation Dr. Yamada was Chairman, Research and Development and a Member of the Board of Directors of GlaxoSmithKline.

Dr. Yamada was born in Japan and completed his education in the United States. He graduated from Stanford University with a BA in history and obtained his M.D. from New York University School of Medicine. He trained in gastroenterology at the UCLA School of Medicine and assumed his first faculty position there. He later moved to the University of Michigan where he ultimately became Chairman, Department of Internal Medicine and Physician-in-Chief at the University of Michigan Medical Center. A scientist and scholar in gastroenterology, Dr. Yamada is the author of more than 150 original manuscripts on the subject and edited *The Textbook of Gastroenterology* (now in its Sixth Edition).

In recognition of his contributions to medicine and science he has been elected to membership in the National Academy of Medicine (US) and the National Academy of Medicine (Mexico) and to Fellowship in the Academy of Medical Sciences (UK) and the American Academy of Arts and Sciences. Dr. Yamada is also Fellow of the Imperial College of Medicine, a Master of the American College of Physicians and a Fellow of the Royal College of Physicians. He has been conferred an honorary appointment as Knight Commander of the Most Excellent Order of the British Empire (KBE), the Honorary Citizen Award from the Government of Singapore and the Order of the Rising Sun, Gold and Silver Stars from the Japanese Government. He has also received honorary doctorate degrees from universities in the US and the UK. He has been the recipient of numerous awards including the SmithKline & French Award for Distinguished Achievement in Gastrointestinal Physiology from the American Physiological Society, the Friedenwald Medal from the American Gastroenterological Association and the Watanabe Prize in Translational Research from Indiana University and Eli Lilly & Co. Dr. Yamada is a Past-President of the Association of American Physicians and of the American Gastroenterological Association. He has served as Vice-Chair of the Council of the National Academy of Medicine and as a member of the President's Council of Advisors on Science and Technology. He is currently a member of the Board of Directors of the Clinton Health Access Initiative and of the University of Michigan Health System.

Session I: Transformative Advances in Biological Sciences - Speaker & Discussants

U.S. NATIONAL
ACADEMY OF MEDICINE

Healthy Longevity

GLOBAL GRAND CHALLENGE





Eric Verdin, M.D., - Keynote Speaker is the President and Chief Executive Officer of The Buck Institute for Research on Aging. A native of Belgium, Dr. Verdin received his Doctorate of Medicine (M.D.) from the University of Liege and additional clinical and research training at Harvard Medical School. He has held faculty positions at the University of Brussels, the National Institutes of Health (NIH), and the Picower Institute for Medical Research. Dr. Verdin is also a Professor of Medicine at UCSF. Dr. Verdin has published more than 210 scientific papers and holds more than 15 patents. He is a highly cited scientist (top one percent) and has been recognized for his research with a Glenn Award for Research in Biological Mechanisms of Aging and a senior scholarship from the Ellison Medical Foundation. He is an elected member of several prestigious scientific organizations including the American Association for the Advancement of Science, the American Society for Clinical Investigation and the Association of American Physicians. He serves on the Advisory Council of NIDA at the National Institutes of Health.



Gilda Barabino Ph.D., is President of Olin College of Engineering. She previously served as Daniel and Frances Berg Professor and Dean at The City College of New York's (CCNY) Grove School of Engineering. Prior to joining CCNY, she was Associate Chair for Graduate Studies and Professor in the Wallace H. Coulter Department of Biomedical Engineering at Georgia Tech and Emory. At Georgia Tech she also served as the inaugural Vice Provost for Academic Diversity. Prior to Georgia Tech and Emory, she rose to the rank of Professor of Chemical Engineering and was Vice Provost for Undergraduate Education at Northeastern University. She is a noted investigator in the areas of sickle cell disease, cellular and tissue engineering, and the role of race/ethnicity and gender in science and engineering

Nir Barzilai, M.D., is a Professor of Medicine and Genetics and Director of the Center of Biology of Aging and the principal investigator of the Einstein Nathan Shock Center and the Glenn center. He is also the recipient of an NIH Merit Award aiming to extend the healthy life span in rodents by biological interventions and studies families of centenarians that have provided genetic/biological insights on the protection against aging. Several drugs were developed based, in part, on these paradigm-changing studies. An author of over 280 peer-reviewed papers and a recipient of numerous prestigious awards, including the recipient of the 2010 Irving S. Wright Award of Distinction in Aging Research and is the 2018 recipient of the IPSEN Longevity award. The lead of TAME (Targeting/Taming Aging with Metformin) multi central study to prove that concept that multi morbidities of aging can be delayed in humans and change the FDA indications to allow for next generation interventions. He is on the board of AFAR, its scientific director and a founding member of the Academy for Lifespan and Health span, and co-founded CohBar and Lifebiosciences.



Andrew Brack, Ph.D., is a co-founder and Head of Aging at Arrive, a biotechnology company whose mission is to develop therapies that improve health span for all people. Dr. Brack is an Associate Professor in the Orthopaedic Surgery department at UCSF. His research focuses on aging, stem cells and tissue repair, with major discoveries in the identification of niche factors and the cellular heterogeneity that drive age-dependent tissue dysfunction. Subsequent work involves the development of machine learning approaches to predict stem cell aging. His work has been recognized with a scholarship from the Ellison Medical Foundation.



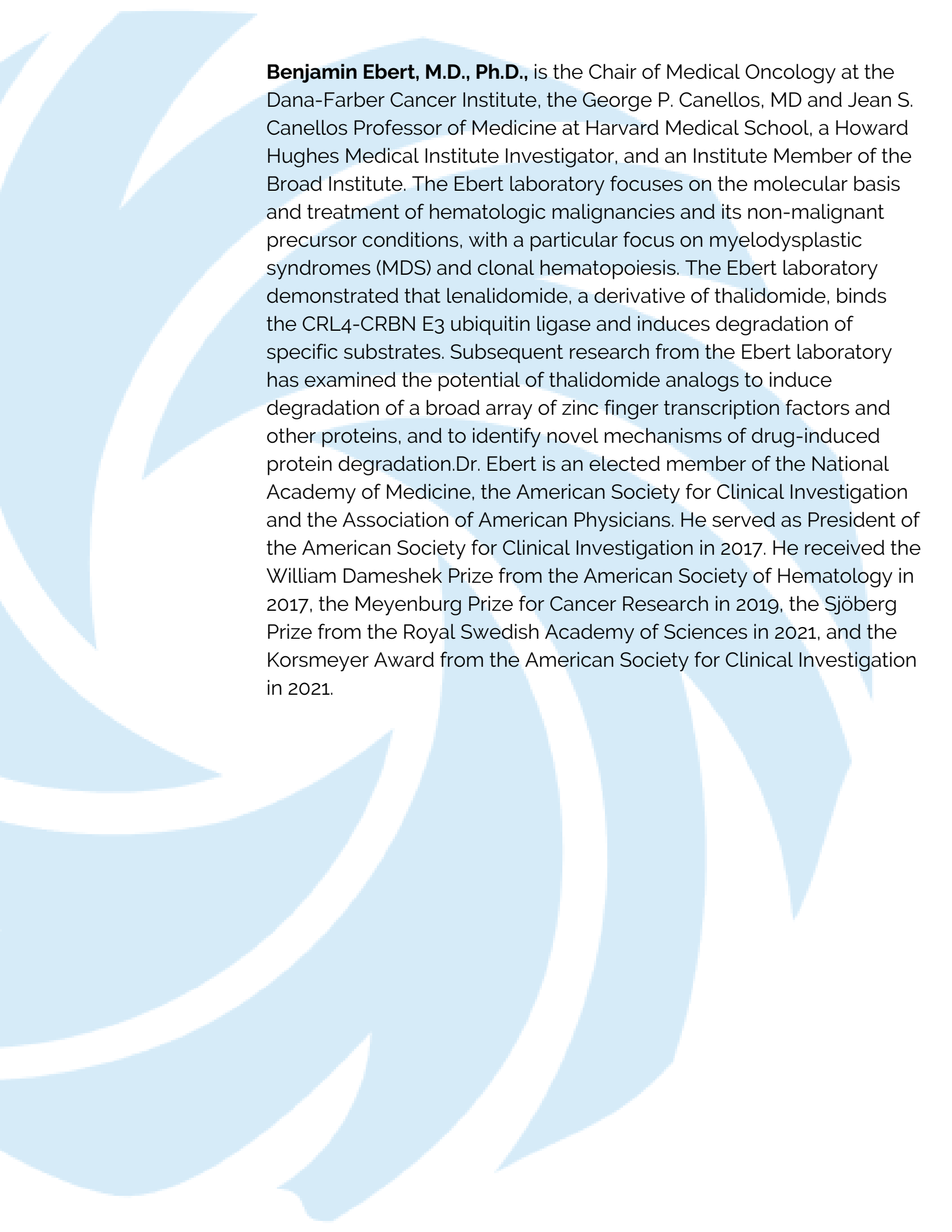
Pinchas Cohen, M.D., is the dean of the USC Leonard Davis School of Gerontology at the University of Southern California. Dr. Cohen Graduated with highest honors from the Technion Medical School, trained at Stanford, and held faculty positions at the University of Pennsylvania and UCLA. He is an internationally acclaimed researcher in aging research, and the emerging field of microproteins.



Ana Maria Cuervo, MD, Ph.D., obtained her M.D. and Ph.D. in Biochemistry and Molecular biology from the University of Valencia (Spain) and received postdoctoral training at Tufts University in Boston. In 2002, she started her laboratory at Albert Einstein College of Medicine, where she is now co-director of the Institute for Aging Research. She is a recognized leader in the field of protein degradation and the biology of aging for her work on the impact of autophagy on aging and age-related disorders, with emphasis in neurodegeneration and metabolic disorders. Dr. Cuervo has been the recipient of prestigious awards, including the P. Benson Award in Cell Biology, the Keith Porter, the Nathan Shock, the Vincent Cristofalo, the Bennett J. Cohen in Aging Biology, the Marshall Horwitz Prize, and the Saul Korey Prize in Translational Medicine. Dr. Cuervo has delivered prominent lectures such as the Robert R. Konh, the NIH Director's, the Roy Walford, the Feodor Lynen, the Margaret Pittman, the SEBBM L'Oreal-UNESCO for Women in Science or the Harvey Lecture



Prof. Elaine Dennison, MB, BChir (Cantab), MA, MSc, FRCP, Ph.D., is Professor of Musculoskeletal Epidemiology and Honorary Consultant in Rheumatology within Medicine at the University of Southampton. Having worked as a Principal Investigator of the Hertfordshire Cohort Study for many years, her research interest centres on musculoskeletal aging. Based at the MRC Lifecourse Epidemiology Unit, she is particularly interested in how events early in life interact with adult lifestyle factors to determine how we age.



Benjamin Ebert, M.D., Ph.D., is the Chair of Medical Oncology at the Dana-Farber Cancer Institute, the George P. Canellos, MD and Jean S. Canellos Professor of Medicine at Harvard Medical School, a Howard Hughes Medical Institute Investigator, and an Institute Member of the Broad Institute. The Ebert laboratory focuses on the molecular basis and treatment of hematologic malignancies and its non-malignant precursor conditions, with a particular focus on myelodysplastic syndromes (MDS) and clonal hematopoiesis. The Ebert laboratory demonstrated that lenalidomide, a derivative of thalidomide, binds the CRL4-CRBN E3 ubiquitin ligase and induces degradation of specific substrates. Subsequent research from the Ebert laboratory has examined the potential of thalidomide analogs to induce degradation of a broad array of zinc finger transcription factors and other proteins, and to identify novel mechanisms of drug-induced protein degradation. Dr. Ebert is an elected member of the National Academy of Medicine, the American Society for Clinical Investigation and the Association of American Physicians. He served as President of the American Society for Clinical Investigation in 2017. He received the William Dameshek Prize from the American Society of Hematology in 2017, the Meyenburg Prize for Cancer Research in 2019, the Sjöberg Prize from the Royal Swedish Academy of Sciences in 2021, and the Korsmeyer Award from the American Society for Clinical Investigation in 2021.



Linda P. Fried MD, MPH, Dean of Columbia's Mailman School of Public Health since 2008 is a leader in the fields of epidemiology and geriatric medicine. Trained in cardiovascular and chronic disease epidemiology, she has dedicated her career to the science of healthy aging and prevention of frailty, disability and cardiovascular disease, and defining how to transition to a world where greater longevity benefits people of all ages. An internationally renowned scientist, she has led seminal work in defining frailty as a new clinical syndrome and illuminating its causes, based in the unravelling of the complex dynamical systems that underlie resilience, and on the potential for prevention, and establishing evidence as to the causes and outcomes of cardiovascular disease and of disability in older age. Since 2006, Dr. Fried has served as a member of the international MacArthur Foundation think tank "Aging Society Network", to create a roadmap to a successful society of longer lives. She has proposed the concept that it is possible to create a Third Demographic Dividend that enables society and individuals of all ages to experience the benefits of our now-longer lives, based on innovation in design of society's environments and roles for older adults. Dr. Fried has been the Principal Investigator of major longitudinal cohort studies, including the Cardiovascular Health Study (1989-2008; NHLBI), the Women's Health and Aging Studies I (1990-2008; NIA) and II (1993-2008; NIA), recipient of NIH MERIT Award to determine the pathophysiology of frailty (1998-2008; NIA), and Director of the Johns Hopkins Functional Status Laboratory (1987-1995). She has also served as Principal Investigator of NIH-funded randomized controlled trials, including the GEM trial of Gingko Biloba (NHLBI) and the 4 Experience Corps trial (NIA Program Project). Dr. Fried is also co-designer of the AARP's Experience Corps, and co-led initial national and Baltimore-based implementation and evaluation. Programmatically, at the Johns Hopkins Medical Institutions until 2008 (where she served as the Director of the pan-medical center Center on Aging and Health, of the Division of Geriatric Medicine, and of the Training Program in the Epidemiology and Biostatistics of Aging), she was the founding Principal Investigator of the Johns Hopkins older Americans Independence Center (Pepper Center; NIA) and co-Principal Investigator of the NIA-funded Demography of Aging Center, Status of Women in Academic Medicine, Deputy Department Chair for Clinical Research, and the Mason F. Lord Professor of Geriatric Medicine.

Joshua Hare, M.D., is a practicing cardiologist with board certifications in cardiology and advanced heart failure and cardiac transplantation. During his research career, he has pioneered the use of allogenic adult cell therapy for multiple disease areas. Under his leadership, and in partnership with many faculty across the University of Miami campus, ISCI developed cell-based therapy programs in cancer biology, cardiology, aging, neonatology, skin diseases, bone diseases, neurologic diseases, ophthalmology, and a program devoted to the ethics of stem cell therapy.



Leonie Heilbronn, Ph.D., is an internationally recognised translational investigator in obesity and metabolic research. She has a particular interest in role of nutrition and meal timing on metabolism and has contributed to current concepts in calorie restriction, intermittent fasting and time restricted eating. She has published more than 125 peer-reviewed manuscripts, and has a current h-index of 42. She is based at the University of Adelaide and is an Associate Editor of Obesity and Obesity Research and Clinical Practice, Vice President of the Australia and New Zealand Obesity Society, and an Associate Member of the Australian Academy of Health and Medical Sciences.



Paul Irving is chairman of the Milken Institute Center for the Future of Aging, chairman of Encore.org, and distinguished scholar-in-residence at the University Of Southern California Leonard Davis School Of Gerontology. He previously served as the Milken Institute's president, an advanced leadership fellow at Harvard University, and chairman and CEO of Manatt, Phelps & Phillips, LLP, a national law and consulting firm. Irving is a director of East West Bancorp, Inc. and serves on the Global Advisory Council of the Stanford University Distinguished Careers Institute, the Board of Councilors of the USC Davis School, the Global Coalition on Aging Advisory Council, the Advisory Board of WorkingNation, and the Purposeful Aging Los Angeles Steering Committee. A member of the National Academy of Medicine International Commission on Healthy Longevity, Irving previously served on the Bipartisan Policy Center Senior Health and Housing Task Force and as a participant in the 2015 White House Conference on Aging. Author/editor of "The Upside of Aging: How Long Life Is Changing the World of Health, Work, Innovation, Policy, and Purpose," a Wall Street Journal expert panelist and contributor to the Harvard Business Review, PBS Next Avenue, and Forbes.

Guido Kroemer, M.D., Ph.D., is currently Professor at the Faculty of Medicine of the University of Paris, Director of the research team "Metabolism, Cancer and Immunity" of the French Medical Research Council (INSERM), Director of the Metabolomics and Cell Biology platforms of the Gustave Roussy Comprehensive Cancer Center, and Hospital Practitioner at the Hôpital Européen George Pompidou, Paris, France.



Satchidananda Panda, Ph.D., is a Professor at The Salk Institute in La Jolla, California where his lab performs basic and translational research into links between circadian rhythms, chronic disease, and health. His lab has shown that lifestyle or drug interventions that promote robust circadian rhythms can be used to prevent, manage, and even reverse a wide range of chronic diseases, thereby promoting healthy aging. Major areas of his research that are directly relevant to the biology of healthy longevity including the following: His discovery of a blue light sensor in the retina has driven changes in the way we light the built environment to optimize sleep, mood, and brain function; He discovered that eating within a consistent 8-12 hours each day, called time-restricted eating or intermittent fasting, can prevent or reverse chronic diseases and increase the healthy lifespan; His circadian genomics studies in primates have suggested that most FDA-approved drugs should be administered at a specific time of day to improve efficacy and minimize adverse side effects; Finally, his lab, along with others, has demonstrated that drugs targeting components of the circadian clock have widespread health benefits and can potentially be used to treat chronic diseases, such as liver disease, cancer, and Alzheimer's disease.



Jeanette Vega Morales, MD, MPH, PhD is the Chief Medical and Innovation Officer at Red de Salud UC-Christus, the main private health provider in Chile. She has over 20 years of experience in international health. Her areas of expertise include social determinants of healthy, health equity and health systems. Former Director of FONASA, the National Chilean Public Health Insurance Agency, as part of President Bachelet's government, between 2014 and March 2018 and former Vice Minister of health, between 2008 and 2010. She has served as Managing Director of Health at the Rockefeller Foundation between 2011 and 2014. Previously she was a Director at the World Health Organization in Geneva, where she led the equity in health agenda, and the Commission on Social Determinants of Health Secretariat.



John Piggott, Ph.D., is Director of the ARC Centre of Excellence in Population Ageing Research (CEPAR), and of the Australian Institute for Population Ageing Research at the University of New South Wales, Australia, where he is Scientia Professor of Economics. In 2016, he was re-elected as a member of the University's Council. Dr Piggott has a long standing interest in retirement and pension economics and finance. His publications include more than 100 journal articles and chapters in books. He has also co-authored two books, both published by Cambridge University Press. In 2016 he co-edited two volumes on ageing. Elsevier's Handbook of the Economics of Population Ageing and Population Ageing and Australia's Future, published by the Academy of Social Sciences in Australia (ASSA) and ANU Press. He serves as book review editor of the Cambridge journal, the Journal of Pension Economics and Finance, as an Associate Editor of the Journal of the Economics of Ageing, and has recently been appointed to the editorial board of the Journal of Retirement. His Australian policy experience includes membership of both the Henry Tax Review Panel and the Ministerial Superannuation Advisory Committee. Internationally, he worked for nearly a decade with the Japanese Government on pension and ageing issues, and in 2004 was tasked with evaluating World Bank assistance on pension reform in the Asian region for the Bank's Operations Evaluation Department.



Thomas A. Rando, MD, PhD is a Professor in the Department of Neurology and Neurological Sciences at the Stanford University School of Medicine. Dr. Rando is the founding director of the Glenn Center for the Biology of Aging at Stanford University, and he is the Deputy Director of the Stanford Center on Longevity. He is the Program Director for an NIA-funded training program in aging research for graduate students and postdoctoral fellows at Stanford. Dr. Rando's research focuses on stem cell biology and the biology of aging. He has been a pioneer in the field of systemic factors as regulators of cellular aging beginning with seminal studies done in his laboratory using the technique of heterochronic parabiosis. These studies have formed the foundation of current approaches to epigenetic rejuvenation. He is a scientific founder of Fountain Therapeutics whose mission is to develop therapies for diseases of aging based these fundamental biological principles. Dr. Rando has received numerous awards including the NIH Director's Pioneer Award and the "Breakthroughs in Gerontology" Award from the American Federation for Aging Research. .



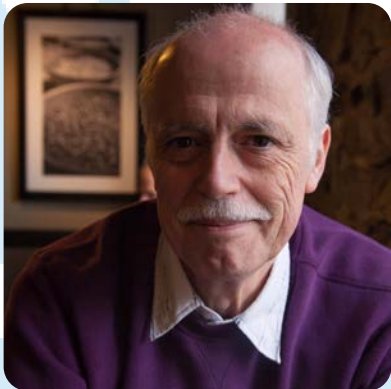
Susanna Rosi, Ph.D., is the Lewis and Ruth Cozen Chair II, Professor in the Department of Physical Therapy Rehabilitation Science and Neurological Surgery and Director of Neurocognitive Research at the Brain and Spinal Injury Center. The Rosi laboratory studies how brain injury and neuroinflammation impact cognitive functions. Her work provided the first mechanistic evidence for the role of microglia in the development of cognitive deficits after therapeutic brain irradiation and charged particle exposure. Her studies uncovered sex-dependent differences in behavioral and cognitive response to irradiation demonstrating promising cellular and molecular intervention targets for cognitive deficits. Her work advanced our understanding of charged particle-induced cognitive challenges in a sex-dimorphic manner, provided evidence for early peripheral biomarkers for identifying late cognitive deficits, and offered potential therapeutic strategies for mitigating radiation-induced cognitive loss. For her significant contribution to the field of normal tissue radiation she received the 2021 JW Osborne Award. She discovered the role of the integrated stress response in traumatic brain injury and aging. Her collaborative work with Peter Walter was first to demonstrate the curative effects of ISRIB in TBI-induced dementia, as well as its rejuvenating effects on cognitive brain function in aged mice.



Andrew J. Scott, DPhil, MSc is Professor of Economics at London Business School having previously held positions at Oxford University, London School of Economics and Harvard University. His work focuses on the economics of longevity and he is the co-author of "The 100 Year Life" and "The New Long Life". He was Managing Editor for the Royal Economic Society's Economic Journal and Non-Executive Director for the UK's Financial Services Authority 2009-2013. He is currently on the advisory board of the UK's Office for Budget Responsibility, the Cabinet Office Honours Committee (Science and Technology), co-founder of The Longevity Forum, a member of the WEF council on Healthy Ageing and Longevity and a consulting scholar at Stanford University's Center on Longevity. Andrew is also the recipient of an ESRC grant for researching the economic longevity dividend.



Manuel Serrano, Ph.D., obtained his PhD in 1991, from the Universidad Autónoma de Madrid. From 1991 to 1996, Serrano worked in the team of David Beach in Cold Spring Harbor Laboratory, NY. During this period, Serrano made his most important discovery with the identification and characterization of the gene p16, one of the most important genes for anti-cancer protection. Serrano returned to Spain in 1997 to lead a research group, first at the National Center of Biotechnology (CNB), and then, from 2003 to 2017, at the Spanish National Cancer Research Center (CNIO), both in Madrid. In 2017, Serrano moved to the Institute for Research in Biomedicine (IRB), in Barcelona. Manuel Serrano is internationally recognized in the field of tumor suppression. In addition to the discovery of p16, one of his main discoveries has been the identification of cellular senescence as a main anti-oncogenic response. Recently, his laboratory has also shown that cellular senescence participates in several tissue remodeling processes during embryo development. The Serrano team was pioneer in the generation of genetically-modified mice resistant to cancer and found a link between tumor suppressor genes and aging.



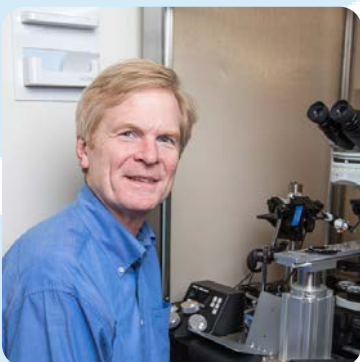
Felipe Sierra, Ph.D., obtained a PhD in Biochemistry and Molecular Biology from the University of Florida in 1983. After working in Switzerland (University of Geneva and then Nestlé) for 10 years, he returned to Academia at the Medical College of Pennsylvania, and later at the Lankenau Institute for Medical Research in Pennsylvania, a position concomitant with a primary appointment at the University of Chile in Santiago. In 2002, Dr. Sierra relocated again to the US, this time as Program Director within the Division of Aging Biology, NIA. He became the Director of this unit in April 2006, until his retirement in April 2020. At that time he took a leadership position in Toulouse, France, as Director for Geroscience in the Inspire Program. Together with Dr. Ron Kohanski, Dr. Sierra was also the co-founder and co-leader of the trans-NIH Geroscience Interest Group (GSIG). Together they are editors of "Advances in Geroscience" (Springer International Publishing, 2016) and co-authors on several publications about geroscience. The group seeks to promote research on the "geroscience hypothesis" which states that slowing the rate of aging will delay the initiation or diminish the severity of adult-onset diseases and loss-of-resilience. He has received multiple recognitions for this work, including twice the NIH Director's Awards, a BEACON Award and a Career Achievement Award from the American Aging Association.

Cassandra Szoeki, G.A.I.C.D., Ph.D., F.R.A.C.P., A.M.A.(M), A.F.A.I.D.H., M.B.B.S., B.Sc.(Hons.) Genetics, is the Director of the Healthy Ageing Program at the University of Melbourne, which is part of the Melbourne Academic Centre for Health and author of the book; *Secrets of Women's Healthy Ageing*. She is recognised internationally for her contributions to healthy ageing research, being the Australian clinical representative in the world-wide Alzheimer's Disease Initiative and on the executive of the International Women's Brain Project. Prof. Szoeki has held teaching roles in several academic institutions and specialist colleges. She is the recipient of several National Health and Medical Research Council Fellowships, a Tall Poppy Award and a Prize from the Royal Australasian College of Physicians. She currently sits on the Council of the Australian Medical Association (Vic), Department of Health (Vic), Medical Panels, the Academic Board of University of Melbourne, Executive team of the Australian Association of Gerontology and is the Chief medical officer for the Australian Healthy Ageing Organisation

Masayo Takahashi, M.D., Ph.D., joined the RIKEN CDB as a Team Leader of the Lab for Retinal Regeneration in 2006. In 2013, her team launched a pilot clinical study of autologous iPS cell-derived RPE cell sheets for exudative aged-related macular degeneration (AMD), and performed the first RPE cell sheet graft transplantation in September 2014. In August 2019, she started a new carrier as a president of start up company; Vision Care Inc. , that will collaborate with RIKEN and Kobe Eye Center with the ultimate goal of bringing stem cell therapies to patients.



Malú Gámez Tansey, Ph.D. is the Co-Director of the Center for Translational Research in Neurodegenerative Disease and the Norman and Susan Fixel Chair in Neuroscience and Neurology at the University of Florida.



Chris Walsh, M.D., Ph.D., MA, is a neurologist whose lab studies genes and mechanisms that regulate the human cerebral cortex. The lab has identified dozens of genes responsible for human brain diseases like epilepsy, autism and intellectual disability, and found that some are caused by somatic mutations present in, some but not all, cells. They have also shown that the genome of each neuron shows hundreds to thousands of somatic mutations relative to the germline genome, and that point mutations accumulate with age in human neurons despite the absence of cell division.

Session II: Transformative Advances in Technologies - Moderator, Speaker, and Discussants

U.S. NATIONAL
ACADEMY OF MEDICINE

Healthy Longevity

GLOBAL GRAND CHALLENGE





Mehmood Khan, M.D., - Moderator is a sustainability expert and a seasoned leader in research and development for food, pharma, and agriculture. On March 4, 2019, he was announced as the incoming CEO for Life Biosciences, which has raised more than \$75 million to pursue the eight pathways of age-related decline. Prior to his appointment, he was Vice Chairman and Chief Scientific Officer at PepsiCo, where he oversaw Pepsi's Performance with Purpose sustainability initiatives, inspired by the fundamental belief that business success is inextricably linked to sustainability. In his role leading PepsiCo's research and development efforts, Dr. Khan developed novel technologies in food and beverage products, nutrition, manufacturing, packaging, and distribution. Dr. Khan also served as Chair of the PepsiCo's Sustainability Council. Before his role at PepsiCo, Dr. Khan led Takeda Pharmaceuticals Company's worldwide research and development efforts as President of Takeda Global Research & Development Center. Before moving into industry Dr. Khan had an extensive medical career as a recognized expert in diabetes, endocrinology, metabolism, and nutrition, having served as a faculty member at the Mayo Clinic and Mayo Medical School, as well as the Director of the Diabetes, Endocrine, and Nutritional Trials Unit in Mayo's endocrinology division.



Joseph F. Coughlin, Ph.D., - Keynote Speaker is Director of the Massachusetts Institute of Technology AgeLab. He teaches in MIT's Department of Urban Studies & Planning and the Sloan School's Advanced Management Program. Coughlin conducts research on the impact of global demographic change and technology trends on consumer behavior and business strategy. He advises a wide variety of global firms in financial services, healthcare, leisure and travel, luxury goods, real estate, retail, technology, and transportation. Coughlin has served on advisory boards for firms such as Bell Canada, British Telecom, Daimler, Fidelity Investments and Sanofi-Aventis. He was appointed by President George W. Bush to the White House Advisory Committee on Aging and by Governor Charlie Baker to the Governor's Council on Aging in Massachusetts where he co-chaired the Innovation & Technology Subcommittee. A Behavioral Sciences Fellow of the Gerontological Society of America and a Fellow of Switzerland's World Demographics & Ageing Forum, Coughlin is a Senior Contributor to Forbes and writes regularly for MarketWatch and the Wall Street Journal. He was named by Fast Company Magazine as one the '100 Most Creative in Business' and by the Wall Street Journal as inventing the future of retirement.



John Beard, MD, PhD, works globally with academia, policy makers and the private sector to reimagine the second half of life. He is a Professor with the University of New South Wales, Chief Advisor for the European Institute of Innovation and Technology Health consortium (EIT Health), visiting professor at Toulouse and Peking Universities and has a number of private sector appointments. For 10 years until 2019, he was Director of Ageing and Life Course with the World Health Organization in Geneva. He was editor and author for the World report on ageing and health which formed the basis for the 2016 Global Strategy and Action Plan on Ageing and Health that provides a political mandate for global action. In 2012, he established the WHOGlobal Network of Age-friendly Cities and Communities which now comprises over 1000 member municipalities responsible for more than 250 million people. Other projects developed by his team included the Integrated Care for Older People (ICOPE) programme, a global campaign to combat ageism and reframe the way we think about ageing and older age, and work with research partners to identify and fill the many knowledge gaps in the field of ageing. Dr. Beard was co-editor of the 2014 Lancet series on Ageing. Prior to joining WHO, Dr. Beard held a range of senior public health and academic roles in Australia and the USA. He remains actively involved in several large international research projects on healthy ageing.



Todd Coleman, Ph.D., received B.S. degrees in electrical engineering and computer engineering from the University of Michigan. He received M.S. and Ph.D. degrees from MIT in electrical engineering and did postdoctoral studies at Mass General Hospital in neuroscience. He is currently a Professor of Bioengineering at UCSD and directs the Neural Interaction Laboratory, which uses tools from applied probability, physiology, and bio-electronics to address basic science and translational problems. Dr. Coleman has been selected as a National Academy of Engineering Gilbreth Lecturer, a TEDMED speaker, and a Fellow of the American Institute for Medical and Biological Engineering.



Shelia R. Cotten, is the Associate Vice President for Research Development and a Provost's Distinguished Professor at Clemson University. She has joint faculty appointments in the Sociology, Anthropology and Criminal Justice Department and the Department of Communication. Her research examines technology use across the life course, and the health, social, educational, and workforce impacts of technology use. Much of her research has focused on the digital divide and digital inequalities, with a special emphasis on helping older adults to successfully use emerging technologies to enhance their health and quality of life. Her current research focuses on perceptions, use, and impacts of emerging technologies – such as autonomous vehicles, wearables, and smart homes. Her research has been funded by the National Institute on Aging, the National Science Foundation, and other organizations. Before joining Clemson, Dr. Cotten was Michigan State University Foundation Professor and Associate Chair for Research in the Department of Media and Information at Michigan State University.



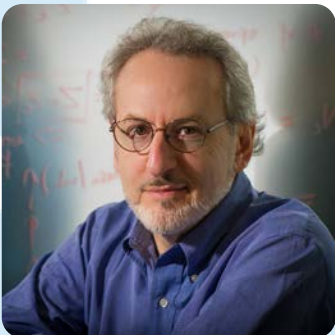
Sara J. Czaja, Ph.D., Sara J. Czaja is a Professor of Gerontology and the Director of the Center on Aging and Behavioral Research at Weill Cornell College of Medicine. She is also the Director of the Center on Research and Education for Aging and Technology Enhancement (CREATE), which focuses on the interface between older adults and technology systems and the Co-Director of the ENHANCE (Enhancing Neurocognitive Health, Abilities, Networks, & Community Engagement) Center, which focuses on technology support for older adults with a cognitive impairment. Dr. Czaja has extensive experience in aging research and a long commitment to developing strategies to improve the quality of life for older adults. Her research interests include: aging and cognition, family caregiving, aging and technology, training, and functional assessment. She is a fellow of the American Psychological Association, the Human Factors and Ergonomics Society and the Gerontological Society of America. She is also Past President of Division 20 (Adult Development and Aging) of the American Psychological Association. She served as a member of National Academies of Science Engineering and Medicine (NASEM) Board on Human Systems Integration, a member of the NASEM Committee on the Public Health Dimensions of Cognitive Aging and as a member of the NASEM Committee on Family Caregiving for Older Adults.



Judy R. Dubno, Ph.D., is a Distinguished University Professor and Director of Research in the Department of Otolaryngology–Head and Neck Surgery at the Medical University of South Carolina in Charleston. Her research on human auditory function and age-related hearing loss has been supported by grants from the National Institutes of Health (NIH) since 1981. She previously served on an Advisory Council of the NIH, four National Academies of Science, Engineering, and Medicine consensus committees, and as President of the Association for Research in Otolaryngology and the Acoustical Society of America. She received the 2018 Honors of the American Speech-Language-Hearing Association, the 2018 South Carolina Governor's Award for Excellence in Science, and the 2020 Gold Medal from the Acoustical Society of America.



Tasuku Honjo, Ph.D., M.D., is well known for his discovery of AID that is essential for class switch recombination and somatic hypermutation. He has established the basic conceptual framework of class switch recombination. In addition, he discovered PD-1, a negative coreceptor at the effector phase of immune response and showed that PD-1 modulation contributes to treatments of tumor, viral infection and autoimmunity. For these contributions, Dr. Honjo has received many awards including the Nobel Prize in Physiology or Medicine.



Donald Ingber, Ph.D., M.D., is the Founding Director of the Wyss Institute for Biologically Inspired Engineering at Harvard University, Judah Folkman Professor of Vascular Biology at Harvard Medical School and the Vascular Biology Program at Boston Children's Hospital, and Professor of Bioengineering at the Harvard John A. Paulson School of Engineering and Applied Sciences. He received his B.A., M.A., M.Phil., M.D. and Ph.D. from Yale University. Ingber is a pioneer in the field of biologically inspired engineering, and at the Wyss Institute, he currently leads scientific and engineering teams that cross a broad range of disciplines to develop breakthrough bioinspired technologies to advance healthcare and to improve sustainability. His work has led to major advances in mechanobiology, cell structure, tumor angiogenesis, tissue engineering, systems biology, nanobiotechnology and translational medicine, with his most recent pioneering contribution being the development of human Organ-on-Chips as replacements for animal testing and personalized medicine. Through his work, Ingber has helped to break down boundaries between science, art and design, and he also has made great strides in translating his innovations into commercial products with many now either in clinical trials or currently being sold.

Belinda Lange, BSc Bphysio(Hons), Ph.D., Belinda is the Research Lead for Technology in the Caring Futures Institute in the College of Nursing and Health Sciences at Flinders University. She received her PhD and degree in Physiotherapy with Honours from the University of South Australia and her Science Degree from Flinders University. Belinda has 20 years of experience in the co-design, development and evaluation of digital health technologies in clinical and community settings across military and civilian populations. She is a Fellow of the Australasian Institute of Digital Health and Deputy Chair of the Southern Adelaide Clinical Human Research Ethics Committee. She worked at the University of Southern California's Institute for Creative Technologies in Los Angeles from 2006 to 2014 and has been an Associate Professor at Flinders University since 2016, serving as Academic Lead for Physiotherapy from 2016 to 2019. Belinda has published 75 peer-reviewed papers and seven book chapters. She has been the Chief Investigator on over \$1.9 million in external funding for projects that developed and clinically evaluated virtual reality tools for healthy aging and neurological rehabilitation. Her work has been recognised in international media appearances and through Best Paper awards at international conferences. As a physiotherapist and an expert in digital health, Belinda is passionate about partnering with clinicians and consumers to explore how technology can enhance outcomes of training, wellness and rehabilitation.



Chien Earn Lee, MBBS, Masters of Medicine (Public Health), is currently the Deputy Group Chief Executive Officer, Regional Health System, SingHealth that seeks to enable the population in Eastern Singapore to keep well, get well and live well. He was previously the Chief Executive Officer of Changi General Hospital, a 1000 bed acute teaching hospital. . He also Chairs the Planning Committee for the upcoming Eastern General and Community Hospitals. Prior appointments included senior leadership positions in the Ministry of Health Singapore where he was involved in the strategic development and improvement of healthcare services as well as health regulation and finance. Prof Lee is an Adjunct Professor in the Saw Swee Hock School of Public Health, National University of Singapore, the Duke-NUS Medical School and the Singapore University of Technology and Design. He was/is a member of international committees such as International Steering Committee, WHO Collaborating Centre for Patient Safety; Steering Committee, Asia-Pacific Observatory on Health Systems and Policies; Joint Commission International Standards Advisory Panel. Locally Prof Lee was the Chairman of the Singapore Healthcare Improvement Network (SHINE) and a member of the Medishield Life.



Elizabeth Mynatt Ph.D. is a Regents' and Distinguished Professor in the College of Computing and the Executive Director of Georgia Tech's Institute for People and Technology that pursues innovative research to promote healthy, productive and fulfilling lives on a global scale. Mynatt serves on the National Academies Computer Science and Telecommunications Board and the NSF CISE Advisory Board. She has been recognized as an ACM Fellow and a member of the ACM SIGCHI Academy. Over the past 15 years, Mynatt's research has focused on the role of ubiquitous computing in health. She's worked with several partners, including the Centers for Disease Control and Prevention, to understand the design and adoption of socio-technical computer-based systems that enable people to alter their behavior as a means of improving their health. She's currently a principal investigator on the MyPath project, an application that provides breast cancer patients with personalized recommendations during their cancer journey. The National Cancer Institute has sponsored the research, and it was also featured in a report to President Barack Obama by the President's Cancer Panel. Mynatt is an internationally recognized expert in the areas of ubiquitous computing and assistive technologies. Mynatt's co-leads the Emory-Georgia Tech program to empower people with mild cognitive impairment (MCI). She is also one of the principal researchers in the Aware Home Research Initiative; investigating the design of future home technologies, especially those that enable older adults to continue living independently as opposed to moving to an institutional care setting.



Hiroki Nakatani, MD, MHPed, Ph.D., PhD is presently Professor for Global Initiatives at Keio University. He is also a Specially Appointed Professor at Osaka University. In addition, he plays advisory roles for the Ministry of Health, Labour and Welfare, Government of Japan; the National Center for Global Health & Medicine; the International Medical Information Center; and Eisai, Co Ltd.

He was also Director-General at the Japanese Department of Health and Welfare of Disabled Persons before serving as the WHO's Assistant Director-General between 2007 and 2015. During a long career at the Ministry, he acquired extensive technical experience in public health to lead the technical cluster including tuberculosis and HIV/AIDS, as well as immunization, non-communicable diseases, health promotion, health emergencies, and health workforce development. His senior-level responsibilities in the Ministry included a focus on administration, management, as well as organizational and legislative development. At the WHO, he led the technical cluster comprising HIV/AIDS, tuberculosis, malaria and neglected tropical diseases.

Ziad Obermeyer, Ph.D., is Associate Professor and Blue Cross of California Distinguished Professor of Health Policy and Management at UC Berkeley. His research and teaching focus on machine learning as a tool for improving human decision making in health. He has received numerous awards (from the National Academy of Medicine, the National Institutes of Health, and multiple academic societies), and published in a wide range of journals (Science, Nature Medicine, the New England Journal of Medicine, computer science conferences like ICML). He is a Faculty Research Fellow at the National Bureau of Economic Research, and continues to practice emergency medicine in underserved communities. Previously, he was a consultant at McKinsey & Co., and an Assistant Professor at Harvard Medical School.



Wendy A. Rogers, Ph.D., is a Shahid and Ann Carlson Khan Professor of Applied Health Sciences at the University of Illinois Urbana-Champaign. She is the Director of the McKechnie Family LIFE Home; the Health Technology Education Program; Program Director of CHART (Collaborations in Health, Aging, Research, and Technology); and Director of the Human Factors and Aging Laboratory. Her research interests include design for aging; technology acceptance; human-automation interaction; aging-in-place; human-robot interaction; aging with disabilities; cognitive aging; skill acquisition; and training. Dr. Rogers' research is funded by the National Institutes of Health through the National Institute on Aging and through the National Institute of Nursing Research. In addition, her work is funded by the Department of Health and Human Services through the National Institute on Disability, Independent Living, and Rehabilitation Research.



Marjorie Skubic, Ph.D., is currently a Professor in the Electrical Engineering and Computer Science Department at the University of Missouri. Her research interests include sensor networks for ambient intelligence, preventative health screening and rehabilitation tools, and user interfaces to foster proactive healthcare. In 2006, Dr. Skubic established the Center for Eldercare and Rehabilitation Technology at the University of Missouri and serves as the Center Director for this transdisciplinary team. The center's work supports proactive models of healthcare such as monitoring systems that noninvasively track the physical and cognitive health of older adults in their homes and generate alerts for health changes, increasing fall risk, and actual fall events. Recent work has also investigated rehabilitation support for stroke patients and patients recovering from hand surgery.



Jutta Treviranus, Ph.D., MA, BSc, is the director and founder of the Inclusive Design Research Centre (IDRC) and professor at OCAD University in Toronto where she founded a graduate program in inclusive design. Since 1980 she has been proactively intervening in emerging technical practices to ensure that they recognize, understand and serve the full range of human diversity.

Xinxin (Katie) Zhu, Ph.D., is a clinician and health data science professional with substantial experience in health management, biomedical informatics research, advisory and consulting, with an established track record of developing creative solutions to complex healthcare challenges. She brings comprehensive knowledge and multidisciplinary experience to her current role as the Executive Director of the Center for Biomedical Data Science at Yale University. In addition to her medical training and practice in anesthesiology, she also received her M.S. in Computer Science from Rensselaer Polytechnic Institute and Ph.D. in Biomedical Informatics from Columbia University under the U.S. National Library of Medicine fellowship. Prior to joining Yale faculty, Dr. Zhu served as an External Advisory Board member to the Center for Advanced Technology at Columbia University, physician scientist lead at IBM Watson Research Center, Chief Medical Information Officer at Kforce Government Solutions, associate medical director at Pfizer, clinical project manager at Philips, and healthcare subject matter expert at the U.S. Department of Veterans Affairs. She is the recipient of many excellence awards, and author of numerous scientific publications and 13 granted patents, as well as co-editor for an Elsevier book on Digital Health. Dr. Zhu has served as the Co-Chair for the American Medical Informatics Association's Global Health Informatics Working Group, VP of Membership for the Consumer and Pervasive Health Informatics Working Group, as well as Scientific Program and Women Leadership Committee members. She is the Co-Chair for International Medical Informatics Association's Organizational and Social Issues in Healthcare Working Group. She was elected to the fellowship of the American Medical Informatics Association, and the International Academy of Health Sciences Informatics.

Session III: Implementing Advances in Science & Technology - Speaker & Discussants

U.S. NATIONAL
ACADEMY OF MEDICINE

Healthy Longevity

GLOBAL GRAND CHALLENGE





Michele Grimm, PhD - Keynote Speaker is the Wielenga Creative Engineering Endowed Professor of Mechanical Engineering at Michigan State University. She is a Fellow of the American Society of Mechanical Engineers, the Biomedical Engineering Society, and the American Institute of Medical and Biological Engineering. Dr. Grimm completed her B.S. in Biomedical Engineering and Engineering Mechanics at The Johns Hopkins University in 1990 and her Ph.D. in Bioengineering at the University of Pennsylvania in 1994. For the past 25 years, a significant portion of her research has involved injury biomechanics – from characterizing important tissue properties to developing appropriate models for the assessment of injury mechanisms. She has just finished a 3-year rotation as a program director at the National Science Foundation, overseeing the Biomechanics and Mechanobiology, Engineering of Biomedical Systems, and Disability & Rehabilitation Engineering Programs. During this time, she served as co-chair of the White House's Office of Science & Technology Policy (OSTP) Task Force on Research and Development for Technology to Support Aging Adults.

Charles Alessi LRCP, MRCS, is a globally recognized and trusted leader in health care. He brings to HIMSS a wealth of experience, particularly around health systems and the interface between healthcare, social care and the personalization of wellness. He is a physician in London, with more than 35 years of experience in all aspects of clinical practice in the UK National Health Service. Most recently, he served as the Chairman of the National Association of Primary Care, part of the NHS confederation, where he was at the heart of the recent health and social care reforms. He is also the Senior Advisor to Public Health England, a position leading thought leadership around productive healthy ageing including dementia, targeting risk reduction. Furthermore, he fulfils key roles in PHE around digital interventions, particularly those that involve behavioral change. Other responsibilities include air quality and antibiotic prescribing. He forms part of the World Health Organization (WHO) Expert Panel that is formulating new guidelines around risk reduction in dementia globally and also leads thought leadership around productive healthy aging. He has extensive experience in military medicine, being a past Medical Director and Director of Clinical Governance for the British forces in Germany and was recently appointed to serve on the Reference Committee tasked with renewing military medicine in the United Kingdom.



Alison Bryant, Ph.D., leads the world-class Research Center and heads up the Technology & Digital Equity impact area for AARP. In these roles, she is focused on helping the organization, consumers, and external stakeholders understand, engage with, and innovate for the 50+ consumer and their families.



Leo Celi, MD, MS, MPH, as clinical research director and principal research scientist at the MIT Laboratory for Computational Physiology (LCP), and as a practicing intensive care unit (ICU) physician at the Beth Israel Deaconess Medical Center (BIDMC), Leo brings together clinicians and data scientists to support research using data routinely collected in the process of care. His group built and maintains the publicly-available Medical Information Mart for Intensive Care (MIMIC) database and the Philips-MIT eICU Collaborative Research Database, with more than 20,000 users from around the world. In addition, Leo is one of the course directors for HST.936 – global health informatics to improve quality of care, and HST.953 – collaborative data science in medicine, both at MIT. He is an editor of the textbook for each course, both released under an open access license. "Secondary Analysis of Electronic Health Records" has been downloaded more than a million times, and has been translated to Mandarin, Spanish and Korean. He is the inaugural editor of PLOS Digital Health.



Omer T. Inan, Ph.D., is Associate Professor of Electrical and Computer Engineering, and Adjunct Associate Professor of Biomedical Engineering, at the Georgia Institute of Technology. He received his B.S., M.S., and Ph.D. in Electrical Engineering from Stanford University in 2004, 2005, and 2009, respectively. His research focuses on non-invasive physiological sensing and modulation for human health and performance. He has published 120 journal papers and 122 conference papers / abstracts, and has seven issued patents. Dr. Inan, a Senior Member of the IEEE, received the IEEE Sensors Council Young Professional Award, the Office of Naval Research Young Investigator Award, and the NSF CAREER Award in 2018. In 2021, he received an Academy Award for Technical Achievement from The Academy of Motion Picture Arts and Sciences, and the Georgia Tech Outstanding Doctoral Thesis Advisor Award. He is a Three-Time National Collegiate Athletic Association All-American in the discus throw.



Michelle Litchman, PhD, FNP-BC, FAANP, FADCES, is an Assistant Professor at the University of Utah College of Nursing, Adjunct Assistant Professor of Internal Medicine, Nurse Practitioner at the Utah Diabetes and Endocrinology Center, and Medical Director of the Intensive Diabetes Education and Support Program. Her NIH and foundation-funded research focuses on 1) increasing access to diabetes care for underserved populations, 2) the social context of chronic disease management as it relates to online and family environments, 3) the impact of technology-augmented clinical interventions on diabetes outcomes. Her work has been highlighted across national media outlets, such as NPR Science Friday and CNN, and has influenced both policy and practice.

Kaushik Sunder Rajan, Ph.D., is Professor of Anthropology and Co-Director, Chicago Center for Contemporary Theory at the University of Chicago. He works on the global political economy of the life sciences and biomedicine, with an empirical focus on India, South Africa and the United States. He is the author of *Biocapital: The Constitution of Postgenomic Life* (2006), *Pharmocracy: Value, Politics and Knowledge in Global Biomedicine* (2017), and *Multisituated: Ethnography as Diasporic Praxis* (forthcoming, 2021). He is currently embarked on a research project that studies the intersections between health, law and constitutionalism in South Africa.



David C. Rhew, M.D., is the Global Chief Medical Officer (CMO) & VP of Healthcare for Microsoft. He is Adjunct Professor at Stanford University; holds six U.S. technology patents that enable authoring, mapping, and integration of clinical decision support into electronic health records; and has been recognized as one of the 50 most influential clinical executives by Modern Healthcare. Dr. Rhew received his Bachelors of Science degrees in computer science and cellular molecular biology from University of Michigan. He received his MD degree from Northwestern University and completed internal medicine residency at Cedars-Sinai Medical Center. He completed fellowships in health services research at Cedars-Sinai and infectious diseases at the University of California, Los Angeles. He has served as CMO and VP for Samsung; SVP and CMO at Zynx Health Incorporated; clinician/researcher at the VA Greater Los Angeles Healthcare System and RAND; and Associate Clinical Professor of Medicine at UCLA.



Dykki Settle, B.A., currently leads the Center of Digital and Data Excellence as the Chief Digital Officer at PATH. Most recently, he served as the Director of the Digital Health team for that past four years after joining in June 2015. He seeks to bridge the gap between global health and how users learn and adopt information and communication technology (ICT), focusing on technical strategy development, overseeing project implementations, and solution assessment. Previously, Settle served as the Director of Health Workforce Informatics at IntraHealth International. In that role, he led the design, development, and implementations of the iHRIS Suite of opensource health workforce information system software, the mHero health workforce mobile communications and coordination platform and other tools that are now being rolled out in global, regional and country programs worldwide. Mr. Settle has provided technical leadership in bringing together stakeholders focusing on health workforce information systems and ICT applications in developing countries, utilizing his open-source experience and expertise to support a global agenda in health technologies and approaches. He has led and supported global health informatics work around the world in more than twenty-five countries.

Makoto Suematsu, M.D., Ph.D., launched the Supercentenarian Research Center in Keio University in 2014. Appointed to the Founding President Japan Agency for Medical Research and Development in 2015. Coming back to Keio as Professor and Chair in Biochemistry in 2020. Interested in gas biology, investigating protein rejuvenation by reactive sulfur species

Diana Zandi, M.S., has extensive expertise in global digital health in public and private sector at country, regional and international levels. She is currently leading the digital health activities within the Integrated Health Services in the clinical settings as well as Digital and Assistive Technologies for ageing initiative at the World Health Organization HQ in Geneva.



Marita G. Titler, Ph.D., is a Professor and Dumas Endowed Chair Emeritus at the University of Michigan, School of Nursing. She has held multiple positions including the Associate Dean for Practice, Department Chair for Systems, Populations and Leadership, and Associate Director for MICHR – the UM CTSA. Her program of research is in implementation science, and outcomes effectiveness research with a focus on older populations. Since 1994, she has received continuous federal funding to conduct her research. She directed for 15 years the Research Translation and Dissemination Core of the NINR funded Gerontology Nursing Intervention Research Center (P30). She has been PI on five implementation studies funded by AHRQ, NIH and RWJF, including multi-site implementation studies on acute pain management of older adults hospitalized for hip fracture (1R01 HS10482; 2 R01 HS010482), cancer pain management in home hospices (R01 CA115363), and use of a psychoeducational program (FOCUS) for cancer patients and their family caregivers (UL1TR000433). Dr. Titler is the PI of the T32 institutional training grant Complexity: Innovations in Promoting Health and Safety (T32 NR016914). She is a sponsor for a K01 (K01AG065420) funded by National Institutes on Aging on Culturally Responsive Support Programming for Black Caregivers of Person with Dementia. She is currently funded as Co-I on three NIH (R01s) and foundation funded studies. She serves on study sections for NIH, AHRQ, the Canadian Foundation for Innovation, and the Canadian Institute for Health Research.



Tien Wong, MBBS, Ph.D., completed medical school at the National University of Singapore (NUS). He obtained a MPH and PhD from the Johns Hopkins University, USA and received his clinical residency training in ophthalmology at the Singapore National Eye Centre (SNEC). Prof Wong is currently the Medical Director of the SNEC, and was previously Chair of the Department of Ophthalmology at NUS and Chair of the University of Melbourne, Australia. Prof Wong has published >1,400 peer-reviewed papers (h-index of 171, 2018 Highly Cited Researcher). He is a two-times recipient of the Singapore Translational Researcher (STaR) Award (2008 and 2014). He is a Board member of the International Council of Ophthalmology, the Academy of Medicine Singapore, the Singapore Medical Council, and the National Medical Research Council Singapore. For his contributions, Prof Wong has been recognized with the Australian Commonwealth Health Minister's Award, the Arnall Patz Medal from the Macula Society, the Alcon Research Institute Award and others.



John Eu-Li Wong, MBBS, Professor John Eu-Li Wong, Isabel Chan Professor in Medical Sciences, is Senior Vice President (Health Innovation & Translation) at the National University of Singapore. A medical oncologist-haematologist, Prof Wong obtained his MBBS from NUS and did his residency and fellowship at the New York Hospital-Cornell Medical Center, where he was the Chief Resident in Medicine, and Memorial Sloan-Kettering Cancer Center. He is actively involved in the development of Biomedical Sciences as a key pillar of Singapore's economy, as well as the development of Singapore's first academic health system linking the National University Hospital and NUS' medical, public health, dental, and nursing schools under one unified governance. Prof Wong represents Singapore in the M8 Alliance of Academic Health Centers and the Association of Academic Health Centers – International. He is a member of the World Economic Forum Global Agenda Council on Personalized and Precision Medicine, the Nature Index Panel of Senior Medical Advisors, the International Editorial Board of the American Journal of Medicine, and the Editorial Board of the Journal of the American Medical Association. He jointly founded the Cancer Therapeutics Research Group, a multinational consortium of nine academic institutions, and has served as a member of the International Education Council for Molecular Targeted Therapy for Cancer, the American Society of Clinical Oncology International Affairs Committee, and the International Oncology Foundation Advisory Board. Prof Wong's research interests are in the development of new drugs, new treatment strategies and differences between Asian and Caucasian cancers. He was awarded the Degree of Doctor Philosophiae Honoris Causa from the Hebrew University of Jerusalem in 2019; Singapore National Day Awards 2016 - Public Administration Medal (Gold); Singapore's President's Science & Technology Medal in 2014; the Outstanding Service Award from the National University of Singapore in 2013; recognised by the NUS Medical Society in 2011 for his contributions to medical student education; the Singapore Medical Association Lecturer in 2010; the Sass Foundation Award in conjunction with MD Anderson Cancer Center in 2010; the National Outstanding Clinician Award in 2009 by the Ministry of Health; the Singapore National Day Awards 2005 - Public Administration Medal (Silver); and a Special Letter of Commendation from the Singapore Armed Forces in 1983. He is a Fellow of the Academy of Medicine Singapore, the Royal College of Physicians in Edinburgh and London, and the American College of Physicians. He was elected as an international member of the US National Academy of Medicine in 2019.

Session IV: Opportunities & Gaps in Science & Technology - Speakers

U.S. NATIONAL
ACADEMY OF MEDICINE

Healthy Longevity

GLOBAL GRAND CHALLENGE





Tom Cheung, PhD, - Biological Sciences Speaker is currently the S H Ho Associate Professor of Life Science, in the Division of Life Science at HKUST. He is the Director of the HKUST-BGI Joint Research Center and the HKUST-Nan Fung Life Sciences Joint Laboratory. He is also a member of The Hong Kong Center for Neurodegenerative Diseases, Center for Stem Cell Research, Center for Aging Science, and the State Key Laboratory of Molecular Neuroscience at HKUST. Prof. Cheung is a skilled and accomplished stem cell scientist and research on the biology of aging. The main focus of the Cheung laboratory at HKUST is to specify the molecular pathways that control stem cell quiescence and stem cell-mediated tissue regeneration to achieve a better understanding of somatic stem cell function in the context of tissue regeneration, diseases and aging. The Cheung Lab has solid experiences on mouse genetics, next-generation sequencing, single-cell sequencing and bioinformatics platforms.



Elena Bonfiglioli - Transformative Technologies Speaker, as lead for Health and Life Sciences in Europe, Middle East and Africa, Elena is responsible to drive strategy and business development for public health and pharma, working together with a community of over 150+ professionals across the region. Elena spearheaded key initiatives on Health 4.0 and health digital transformation. Mobilizing a core group of industry stakeholders, Elena started the European Cloud in Health Advisory Council, a vendor-neutral C-level forum aimed to foster cloud-first innovation in the health sector. Elena started at Microsoft in 2003 as Director of Corporate Affairs and Corporate Responsibility. She is the co-founder and Board Member of the Women in Leadership (WiL) Network, a joint effort between Microsoft, INSEAD and the Women Forum.



Selina Seah, M.D., - Implementation Advances Speaker, appointed as Assistant Chief Executive Officer, Changi General Hospital, and the Development Lead for a new regional health campus to serve the growing needs in the eastern part of Singapore, Selina provides leadership and direction for care transformation, looking at developing enablers in infrastructure, technology and innovations. She is also the Director for the Centre for Healthcare Assistive Robotics and Technology (CHART), which provide oversight for the Smart Systems Programme Office at Ministry of Health, to drive the adoption of robotics and assistive technology and evaluate its impact. With an eye on Singapore's future healthcare landscape, she is also working on strategic partnerships as Deputy Chair at the SingHealth-Duke NUS's Academic Medicine Innovation Institute.