afar

american federation for
AGING RESEARCH

40th Anniversary

SCIENTIFIC SYMPOSIUM + AWARD CEREMONY

November 3, 2021

SCIENCE IS VITAL

Science is resilient.
It can overcome diseases,
create cures, and yes,
even beat pandemics.
It has the methodology
and the rigor
to withstand even
the most arduous scrutiny.
It keeps asking questions and,
until there's a breakthrough,
it isn't done.
That's why, when the world
needs answers, we turn to science.
Because in the end,

SCIENCE WILL WIN™

Scientific discoveries are made possible by the hundreds of thousands of people who participate in clinical trials.

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WELCOME

Thank you for joining the American Federation for Aging Research (AFAR) for **Science is Vital**. This symposium commemorates AFAR's 40th anniversary and recognizes the extraordinary impact of science in response to COVID-19 and in improving older adults' health.

AFAR's annual scientific symposium encourages stimulating discussion between top scientists and leaders across the private, philanthropic, and public sectors on cutting-edge topics in aging research while honoring members of the public and philanthropic communities for their dedication to healthy aging.

Today's prorgram bring together experts acrosss biomedical research, public health, and innovation to discuss the latest breakthroughs in the biology of aging and geroscience, the journey to vaccine and therapeutic discovery, and the promise of extending healthspan.

We are honored to recognize **Mikael Dolsten, MD, PhD, the Chief Scientific Officer and President of Worldwide Research, Development and Medical of Pfizer** for his visionary leadership in advancing Pfizer's scientific breakthrough leadership in small-molecule medicines, bio-therapeutics, gene therapies, and vaccines. We are pleased that Francis S. Collins, MD, PhD, Director of the National Institutes of Health (NIH) will be in conversation with Dr. Dolsten.

The future of discoveries in healthy aging depends on cross-sector collaboration and philanthropy. AFAR is invigorated and dedicated to our mission to advance and support healthy aging through biomedical research, and we are grateful for your interest in our program today and in our ongoing work to support the research pipeline that strives to help us all live healthier, longer.

Stephanie Lederman, AFAR Executive Director

PROGRAM

WELCOME

Stephanie Lederman, AFAR Executive Director

SYMPOSIUM

Moderator

Pol Vandenbroucke, MD

AFAR Board Member; Chief Medical Officer, Hospital Business Unit, Pfizer

Panelists

Nir Barzilai, MD

AFAR Scientific Director and Grantee; Chair of Aging Research, Albert Einstein College of Medicine

Ana Maria Cuervo, MD, PhD

AFAR Board Member and Grantee; Co-Director of the Institute for Aging Research, Albert Einstein College of Medicine

James L. Kirkland, MD, PhD

AFAR President and Grantee; Director of the Robert and Arlene Kogod Center on Aging, and Noaber Foundation Professor of Aging Research, Mayo Clinic

Respondent

Linda P. Fried, MD, MPH

Dean, Mailman School of Public Health, Columbia University

REMARKS

Stuart Firestein, PhD

Author, *Failure: Why Science is So Successful* and *Ignorance: How it Drives Science*

AWARD PRESENTATION

Mikael Dolsten, MD, PhD

Chief Scientific Officer and President, Worldwide Research, Development and Medical, Pfizer

CLOSING CONVERSATION

Steven N. Austad, PhD

AFAR Senior Scientific Director; Protective Life Endowed Chair in Healthy Aging Research, University of Alabama at Birmingham

Francis S. Collins, MD, PhD

Director, National Institutes of Health

Mikael Dolsten, MD, PhD

Chief Scientific Officer and President, Worldwide Research, Development and Medical, Pfizer

About our Honoree

Mikael Dolsten, MD, PhD
Chief Scientific Officer and
President of Worldwide Research,
Development and Medical, Pfizer

Dr. Dolsten focuses on advancing Pfizer's scientific breakthrough leadership in small-molecule medicines, biotherapeutics, gene therapies, and vaccines. Dr. Dolsten leads the Worldwide Research, Development and Medical (WRDM) organization at Pfizer, which is responsible for the development of all compounds through proof of concept, and provides pharmaceutical sciences, safety, and medical support to the entire R&D pipeline and all marketed medicines and vaccines and comprises all Pfizer research units. This includes Oncology, Internal Medicine, Inflammation and Immunology, Vaccines and Rare Disease, as well as the Centers for Therapeutic Innovation.

From 2020 to 2021, Dr. Dolsten and the WRDM were responsible for developing one of the three vaccines for COVID-19 approved by the Food and Drug Administration. As seen in *The New York Times,* using a nineteen-step process over 60 days, more than 150 million vaccine doses have been produced and injected into the arms of the public.

Prior to joining Pfizer in 2009, Dr. Dolsten was President of Wyeth Research, where he led scientists involved in all R&D/Medical activities across the US, Europe and Asia. He served as Executive Vice President and Head of Worldwide Research for Boehringer Ingelheim from 2003-2008.

Dolsten earned his PhD in tumor immunology and MD from the University of Lund, Sweden, where he was Adjunct Professor in Tumor Immunology and was recently appointed Visiting Professor to advise on science and technology strategies. He serves on the PhRMA Research & Development Leadership Forum as well as on the PhRMA Foundation Board of Directors. He is a member of the board of Karyopharm Therapeutics and of Research! America. Additionally, Dr. Dolsten is a member of the Board of Overseers for the Scripps Research Institute and a Foreign Member of The Royal Swedish Academy of Engineering Sciences. Since 2014, Mikael has co-chaired the Accelerating Medicine Partnership with National Institutes of Health (NIH) Director Francis S. Collins. He advised the Obama Administration on regulatory and drug development issues as well as then Vice President Biden's Cancer Moonshot Initiative to accelerate cancer research. Through 2019, he was a council member of the Government-University-Industry Research Roundtable.

Dr. Dolsten is a named inventor on several patents and has published approximately 150 articles in international journals, with contributions in molecular cell biology, immunology, and oncology.

*AFAR is honored to present Mikael Dolsten with our **Honorary Leadership Award.** This award recognizes the achievements of individuals and organizations whose work has impacted the field of aging research and improved public health.*

SCIENCE IS VITAL

About our Presenters

in order of appearance

Pol Vandenbroucke, MD (Panel Moderator) is the Chief Medical Officer of the Hospital Business Unit at Pfizer, and an AFAR Board Member. Dr. Vandenbroucke's career has been dedicated to clinical development, medical affairs, and marketing in the U.S., Europe, Asia, and Latin America. Before his current position, he was responsible for medical strategy for Pfizer Inc. and for medical affairs of Pfizer's Essential Health portfolio in North America. He previously led the Clinical Development of all Pfizer compounds in Asia, Central/Eastern Europe, Latin America, and Africa-Middle East as well as Pfizer's established products globally. He was also responsible for developing compounds specifically for diseases of the developing world, such as malaria and river blindness. Dr. Vandenbroucke serves on the Board of BIO Ventures for Global Health and is a member of the Advisory Boards of the Steve Biko Centre for Bioethics, University of the Witwatersrand-Johannesburg, the Canadian Institutes of Health Research, and the Keck Graduate Institute. A frequent speaker on health, aging, diversity, and policy issues, he is also a Visiting Senior Lecturer at King's College, as well as the Module Coordinator for Medical Affairs in the Medicines Development Certificate Program at IFAPP Academy and King's College London. He is also a Fellow of the Faculty of Pharmaceutical Medicine of the Royal Colleges of Medicine of the United Kingdom.

Nir Barzilai, MD (Panelist) is the Scientific Director of AFAR, as well as a multiple AFAR grantee, and 2010 Irving S. Wright Award of Distinction recipient. At the Albert Einstein College of Medicine, he is the Ingeborg and the Ira Leon Rennert Chair of Aging Research and founding Director of the Institute for Aging Research, Director of the Nathan Shock Center for Excellence in the Basic Biology of Aging, and Director of the Glenn Center of Excellence in the Biology of Human Aging. Dr. Barzilai's interests focus on several basic mechanisms in the biology of aging, including the biological effects of nutrients on extending life and the genetic determinants of lifespan. His team discovered many longevity genes in humans, and they further characterized the phenotype and genotype of humans with exceptional longevity, through NIH awards. He is leading the TAME (Targeting Aging with Metformin) Trial, a multi-center study to prove the concept that the multi-morbidities of aging can be delayed in humans and change the FDA indications to allow for next generation interventions. He is a founder of CohBar Inc., a Medical Advisor for Life Biosciences, and a founding member of the Academy for Lifespan and Healthspan. Dr. Barzilai has published more than 270 peer-reviewed papers, reviews and chapters in textbooks. He has been featured in major papers, TV programs, and documentaries, as well as TEDx and TEDMED talks, and has presented on the promise for targeting aging at the Singapore Prime Minister Office, several International Banks, the Vatican, Pepsico, and the Milken Institute. His book, *Age Later: Healthspan, Lifespan, and the New Science of Longevity,* was published by St. Martin's Press in June of 2020.

Ana Maria Cuervo, MD, PhD (Panelist) is an AFAR board member and grantee. She is the Co-Director of the Institute for Aging Research at Albert Einstein College of Medicine, and a member of the Einstein Liver Research Center and Cancer Center. In 2001 she started her lab at Einstein, where she studies the role of protein-degradation in aging and age-related disorders,- with emphasis in neurodegeneration and metabolic disorders. Dr. Cuervo's group is interested in understanding how altered proteins can be eliminated from the cells and their components recycled. Her group has linked alterations in lysosomal protein degradation (autophagy) with different neurodegenerative diseases including Parkinson's, Alzheimer's and Huntington's disease. She has organized and chaired international conferences on protein degradation and on aging, belongs to the editorial board of scientific journals in this topic, and is currently co-editor-in-chief of *Aging Cell*. Dr. Cuervo has served in NIH advisory panels, special emphasis panels, and study sections, as well as the NIA Scientific Council and the NIH Council of Councils, and has been recently elected member of the NIA Board of Scientific Counselors and member of the Advisory Committee to the NIH Deputy Director. She has received numerous awards for the pioneering work of her team, such as AFAR's 2008 Vincent Cristofalo Rising Star in Aging Award. She is an elected member of the esteemed International Academic of the Royal Academy of Medicine of the Valencia Community; Real Academia de Ciencias Exactas, Fisicas y Naturales; the American Academy of Arts and Sciences and the National Academy of Science.

James L. Kirkland, MD, PhD (Panelist) is President of AFAR, an AFAR grantee, and Irving S. Wright Award of Distinction recipient. He is the Director of the Robert and Arlene Kogod Center on Aging and the Noaber Foundation Professor of Aging Research at Mayo Clinic. Dr. Kirkland's research focuses on cellular senescence, age-related adipose tissue and metabolic dysfunction, and development of agents and strategies for targeting fundamental aging mechanisms to treat age-related chronic diseases and disabilities and to extend healthspan. He published the first article about drugs that clear senescent cells/senolytic agents. Dr. Kirkland showed these agents delay, prevent, or alleviate multiple disorders in mouse models of human chronic diseases and aging phenotypes. Conditions alleviated in mouse models include frailty, diabetes, hepatic steatosis, cirrhosis, renal dysfunction, neuropsychiatric disorders, dementias, pulmonary fibrosis, osteoporosis, osteoarthritis, retinal degeneration, diastolic dysfunction, cardiac ischemia, vascular hyporeactivity, infertility, and skin disorders, among others. He demonstrated that intermittent, orally administered senolytics reduce senescent cell abundance in adipose tissue and blood markers of senescent cell burden in blood of patients with diabetic kidney disease. Multiple clinical trials are currently underway of the senolytics that Dr. Kirkland discovered. He is a scientific advisory board member for several companies and academic organizations and has been a member of the National Advisory Council on Aging of the National Institutes of Health, and past chair of the Biological Sciences Section of the Gerontological Society of America. He holds honorary appointments at Boston University and the University of Groningen in the Netherlands. He is a board-certified specialist in internal medicine, geriatrics, and endocrinology and metabolism.

Linda P. Fried, MD, MPH (Panel Respondent) is the Dean of the Mailman School of Public Health, at Columbia University. She has served in this role since 2008 and additionally serves as the Director of the Robert N. Butler Columbia Aging Center. Trained in cardiovascular and chronic disease epidemiology and geriatrics, she has dedicated her career to the science of healthy aging and creating a healthspan that matches our increased life expectancy, prevention of frailty, disability and cardiovascular disease, and defining how to transition to a world where greater longevity benefits people of all ages. A leader in the fields of epidemiology and geriatric medicine, Dr. Fried is an elected member of the U.S. National Academy of Medicine (NAM) and currently serves as a re-elected member of its Executive Council. She is also Co-Chair of the NAM Global Commission to create a Global Roadmap for Healthy Longevity.

Stuart P. Firestein, PhD (Guest Speaker) is the former Chair of the Department of Biological Sciences at Columbia University. Dedicated to promoting the accessibility of science to a public audience, Dr. Firestein serves as an advisor for the Alfred P. Sloan Foundation's program for the Public Understanding of Science. He is a Fellow of the American Association for the Advancement of Sciene (AAAS), an Alfred Sloan Fellow, and a Guggenheim Fellow. His books *Ignorance: How it Drives Science* and *Failure: Why Science is So Successful* have been translated into ten languages.

Steven N. Austad, PhD (Conversation Moderator) is the Senior Scientific Director of AFAR. Dr. Austad is the Protective Life Endowed Chair in Healthy Aging Research, a Distinguished Professor, and Chair of the Department of Biology at the University of Alabama at Birmingham (UAB). He is also founding Director of UAB's Nathan Shock Center of Excellence in the Basic Biology of Aging and co-director of the UAB Integrative Center for Aging Research. He also serves as co-principal investigator of the National Institute on Aging's Nathan Shock Centers Coordinating Center. Dr. Austad's multiple-award-winning research uses a variety of traditional and non-traditional animal species, employing both laboratory and field studies, to seek to discover underlying causes of aging with a long-term goal of developing interventions that slow the age-related decay in human health. He is the author or editor of five books and more than 200 scientific papers and book chapters covering nearly every aspect of the biological aging process from the level of cells to the level of populations. He also serves on the External Advisory Committee of the Mayo Clinic's Kogod Center on Aging and the Observational Study Monitoring Board of the multi-institutional NIH-supported Longevity Consortium. Dr. Austad maintains a keen interest in communicating science to the general public and has written more than 150 essays and op-eds for print and electronic media, has previously served on the Science Advisory Board of National Public Radio, and has been a consultant for exhibitions on aging for the American Museum of Natural History (New York City) and more. He has written popular science articles for numerous publications including *Natural History*, *Scientific American, National Wildlife,* and *International Wildlife*. His trade book, *Why We Age* (1997, 1999), has been translated into eight languages. His latest book, *Methuselah's Zoo: what nature can teach us about living longer, healthier lives* (MIT Press), is due out in 2022.

Francis S. Collins, MD, PhD (Closing Conversation) was appointed the 16th Director of the National Institutes of Health (NIH) by President Barack Obama and confirmed by the Senate. He was sworn in on August 17, 2009. In 2017, President Donald Trump asked Dr. Collins to continue to serve as the NIH Director. President Joe Biden did the same in 2021. Dr. Collins is the only Presidentially appointed NIH Director to serve more than one administration. In this role, Dr. Collins oversees the work of the largest supporter of biomedical research in the world, spanning the spectrum from basic to clinical research. Dr. Collins is a physician-geneticist noted for his landmark discoveries of disease genes and his leadership of the international Human Genome Project, which culminated in April 2003 with the completion of a finished sequence of the human DNA instruction book. He served as director of the National Human Genome Research Institute at NIH from 1993-2008. Dr. Collins is an elected member of both the National Academy of Medicine and the National Academy of Sciences, was awarded the Presidential Medal of Freedom in November 2007, and received the National Medal of Science in 2009. In 2020, he was elected as a Foreign Member of the Royal Society (UK) and was also named the 50th winner of the Templeton Prize, which celebrates scientific and spiritual curiosity.

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We are proud to support

AFAR

in all that it does to
help us live longer
to a ripe young age.

Laura & Nir Barzilai

Congratulations to
Mikael Dolsten, MD, PhD
and to
AFAR staff and leadership
for 40 years of
Supporting Breakthrough
Biomedical Research
on Aging

Diana Jacobs Kalman
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WE JOIN IN CONGRATULATING

Mikael Dolsten, MD, PhD

FOR LEADING PFIZER'S BREAKTHROUGH ACHIEVEMENTS IN VACCINE AND THERAPEUTIC DISCOVERIES

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Thank you for your expertise in leading

the field of aging research for 40 years.

We are honored to play a small role in supporting

our brilliant doctors and scientists efforts

to dramatically improve the quality of aging

in the near future.

WEISFELD FAMILY FOUNDATION

Congratulations
to AFAR and
the outstanding
scientists it supports
on their 40 years
of contributions to
our understanding
of healthy aging.

Charley and Barbara Beever

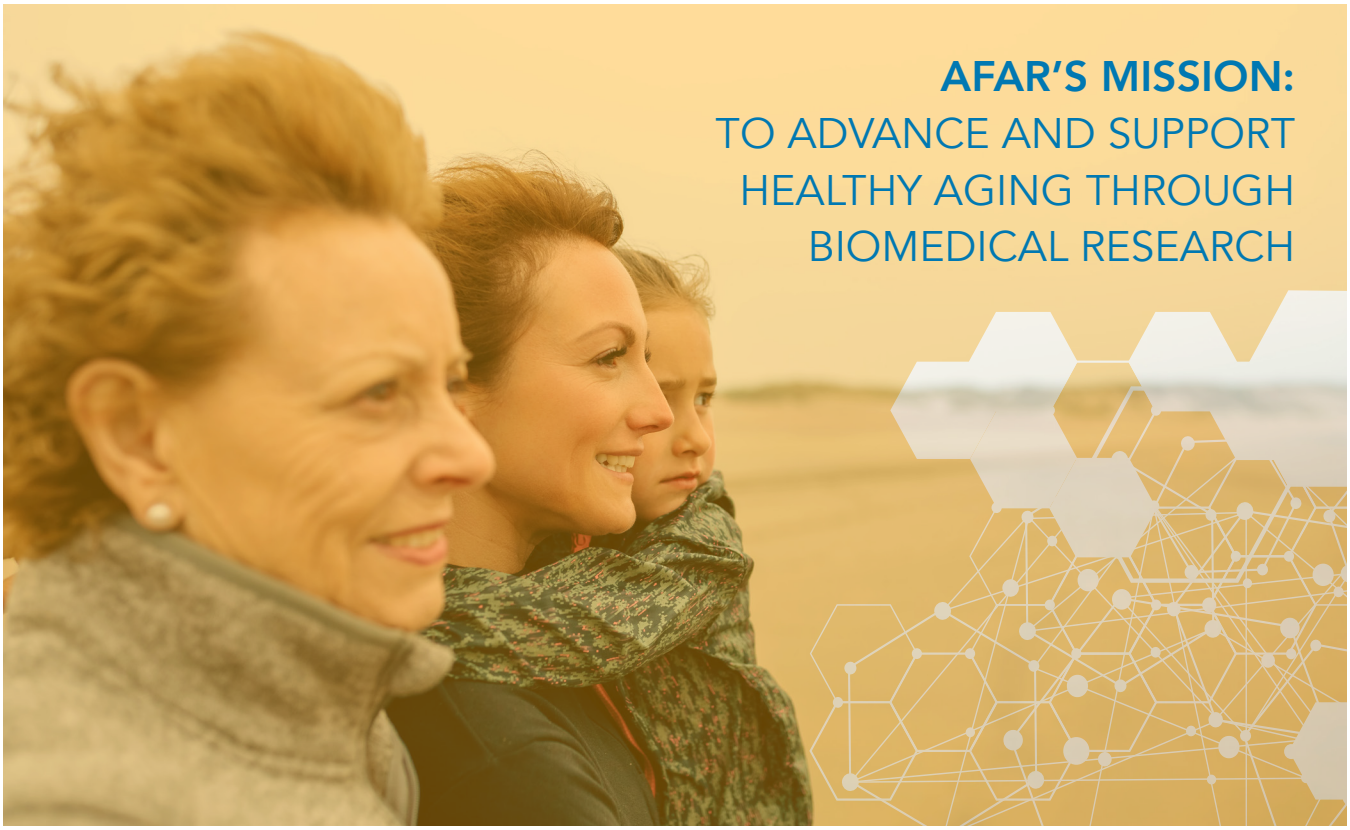
With deep
admiration
for AFAR
and its
dedication to
scientific rigor
and its
commitment to
healthy aging
for all.

Ann Connolly and Gordon Medenica

The future of healthy aging depends on research, and the future of aging research depends on AFAR.

Thank you, AFAR, for your leadership and vision.

Richard W. Besdine, MD and Terrie Fox Wetle, PhD



Congratulations
to AFAR on its
40th anniversary
and wishes for
many more
productive years.

Harvey Jay Cohen, MD
AFAR Board of Directors

James L. Kirkland
congratulates
Mikael Dolsten, MD, PhD
and AFAR
for Driving Innovations
in Aging Research
for 40 years.

Congratulations
AFAR for 40 years
of pioneering
research that
helps us
live healthier
and longer.

Joyce M. Yaeger
AFAR Board of Directors

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During the last century, innovations in public health and biomedical science have generated a dramatic transformation in how long we can live.

Today, however, the question is not simply how to live longer, but how to live healthier longer.

For four decades, the American Federation for Aging Research (AFAR) has been committed to developing the science of healthy aging, providing more than $189 million to close to 4,300 investigators at premier research institutions nationwide.

AFAR-funded scientists are continually developing insights about how to preserve our vitality as we age. They are finding that modifying basic cellular processes can delay—or even prevent—many chronic diseases, often at the same time.

They're also finding that it's never too early and never too late to improve our health. Whether in our 30s, 60s, or 90s, we can reap the benefits of exercise and better nutrition. And novel therapies, such as emerging drugs, hold similar promise to help us avoid disease and enhance our quality of life—at any age.

Thanks to the science AFAR supports, we are making constant progress toward a simple and compelling vision: the ability for all of us to live healthier each and every day of our lives.

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