



FROM INVESTMENT TO IMPACT

afar

american federation
for aging research

2023 ANNUAL REPORT



IN MEMORIAM



AFAR dedicates our 2023 Annual Report to Judith "Judy" Campisi, PhD.

Dr. Campisi was globally recognized for her research on aging and cancer, senescence, and senolytics,

Elected to the esteemed National Academy of Sciences in 2018, she was a Professor and Director of the Campisi Lab at the Buck Institute for Aging Research, as well as Adjunct Faculty at the USC Leonard Davis School of Gerontology.

Early in her career, Dr. Campisi received an AFAR Grant for Junior Faculty in 1990. She went on to serve on AFAR's board of Directors from 1999 to 2002 and received our 2002 Irving S. Wright Award of Distinction. Dr. Campisi also served on and/or chaired several of AFAR's scientific review committees from 1997 to 2019.

AFAR is grateful for Dr. Campisi's far-reaching contributions to aging research. Her invaluable legacy and inquisitive spirit will continue to inspire our work and mission.

FROM INVESTMENT TO IMPACT

Since our founding in 1981, the American Federation for Aging Research (AFAR) has been a leader in one of the most important scientific endeavors of our time — understanding the fundamentals of the biology of aging. This rigorous science is leading to discoveries that will help our rapidly aging population stay healthier for longer through therapeutic and lifestyle interventions that can delay or even prevent the most common and consequential diseases of old age.

As these pages detail, AFAR's decades-long leadership in this field remains multi-faceted — from supporting individual researchers and connecting professional networks to expanding awareness for the promise of aging research to add years of health to our lives.

Investing in the pipeline of researchers who dedicate their careers to the biology of aging has been and remains central to AFAR's work. AFAR has a proven track record of finding and funding the brightest talent at critical points in their research.

This report highlights four researchers who have leveraged the grants they have received from AFAR to impact the field and beyond: Bérénice Benayoun, Malene Hansen, Satchidananda Panda, and Ming Xu.

Each has gone on to publish their research in major journals, present at top-tier conferences, mentor the next generation of aging biologists in their labs, and foster collaboration through associations and networks in the field. They each have paid it forward by serving on AFAR's esteemed scientific review committees to select recipients of our annual grant programs. Notably, for these efforts and more, each has been awarded one of AFAR's peer-nominated Scientific Awards of Distinction.

And they are not alone: to date, AFAR has awarded more than \$200 million to fund the research of more than 4,400 investigators; in 2023, AFAR provided nearly \$12,500,000 to more than 60 grantees.

The cadre of scientists that AFAR has supported has helped us establish a vast network and deep expertise that we draw on to further impact the field at large. Our strategic initiatives help address bottlenecks in federal funding, research biobanks, and more. And through our leadership of three, multi-year initiatives of the National Institute on Aging of the National Institutes of Health, AFAR helps convene leaders, support collaboration, and deepen the career-long commitment of scientists and clinicians to aging research.

AFAR believes investing in science will positively impact all of our lives, and we are deeply invested in our mission: to support and advance healthy aging through biomedical research.

We thank every one of the dedicated scientists, contributors, funding partners, and donors named in this report — your investment inspires our momentum and fuels our impact.



Stephanie Lederman, EdM, Executive Director



BÉRÉNICÉ BENAYOUN, PHD

Associate Professor of
Gerontology and Biological
Sciences, University of
Southern California Leonard
Davis School of Gerontology

Using a new animal to learn how sexes age differently

Bérénice Benayoun was early in her postdoctoral fellowship when she decided that geroscientists needed a new species to study. She first considered *C. elegans* — the worms are cheap, and their short lifespans yield results in weeks. But worm and human physiology are quite different. Mice are more like humans, but they are expensive and live as long as three years. That means experiments on aging require waiting longer than many students spend in a lab and longer than the time limit on many grants.

Benayoun soon came to view the African turquoise killifish as the ideal compromise. With a four- to six-month lifespan, it is the shortest-lived vertebrate that can be bred in captivity. So that scientists could use the killifish to study aging, she produced the first sequencing, assembly, and annotation of the fish's genome.

Then, using the AFAR Grant for Junior Faculty she received in 2020, Benayoun recently completed developing a toolkit for cell type identification and targeted gene expression modulation in the fish's liver, blood, kidney, and spleen — organs that see huge functional decline with age. The toolkit is available for free to other aging biologists who are considering the killifish as a study subject.

"Thanks to AFAR, we've been able to really create something that I'm confident is going to benefit the entire aging research community," she says.

In addition to mouse studies, Benayoun is making killifish the focus of her lab's work to understand sex differences in aging, especially the effects of menopause. She expects her research will lead to a new generation of medicines tailored to meet the different needs, and therapeutic responses, of women and men.

Her current work has uncovered differences in how older male and female killifish experience metabolic dysfunction, neuroinflammation, and reproductive organ decline.

The first author of 17 scientific research articles and a credited author on 54 others, Benayoun is also on the editorial boards of *Geroscience*, *eLife*, *Translational Medicine of Aging*, and *Journals of Gerontology series A: Biological Sciences*.

For Benayoun, figuring out how females and males age differently, starting at the cellular level, is essential to designing drugs that will work for everybody and can be metabolized by everybody.

"Right now I'm just being loud and telling people, 'You need to take this into account.' I'm hoping in 10 years I will no longer be screaming at a wall that people need to do this, but that as a field we will have moved to where it is normal to do this."

MING XU, PHD

Assistant Professor, University of Connecticut Center on Aging and UConn Health Department of Genetics & Genome Sciences



Removing zombie cells so the body ages better

Ming Xu has been exploring the biology of aging for a dozen years. Fueled by four AFAR grants and our 2023 Vincent Cristofalo Rising Star Award in Aging Research (see page 14), his pioneering work is steadily helping solve a central question of geroscience: Does killing senescent cells — the relatively few damaged, old, or dysfunctional cells that begin accumulating with age that are often dubbed “zombie cells” — help the rest of the body remain healthier for longer?

At least in mice, the answer is “yes” — Xu’s studies have found that killing senescent cells wards off age-related diseases. He is now using human tissue to study whether the same will also prove true in older people.

His findings have prompted a major clinical trial of a drug cocktail (dasatinib and quercetin) with the potential to eliminate these senescent cells and thereby combat several of the most prominent diseases of aging, including osteoporosis, kidney failure, and Alzheimer’s.

Xu’s novel basic research is having a noticeable impact on the the field; it has advanced the understanding of age-related disease mechanisms, revealed new targets for therapies to treat these ailments, and laid the foundation for trials that could usher a wave of new senolytics (drugs that rid the body of senescent cells).

Along the way he has published six first-author and five senior and corresponding author original research papers in such journals as *Aging Cell* (four times), *Nature Medicine* (twice), *Nature Aging, Cell Metabolism*, and *npj Regenerative Medicine*.

And he’s helped keep the aging research pipeline stocked with talent: In the past three years, half of the six scientists in his lab have obtained AFAR grants, including the Diana Jacobs Kalman Scholarship for Research in the Biology of Aging and the Glenn Foundation for Medical Research Postdoctoral Fellowship in Aging Research.

That was the award that provided Xu with his first research funding, in 2015. He received an Irene Diamond Fund/AFAR Postdoctoral Transition Award two years later, a Glenn Foundation for Medical Research and AFAR Grant for Junior Faculty two years after that, and then, in 2022, the AFAR / Hevolution New Investigator Award in Aging Biology and Geroscience Research. He now sits on AFAR’s National Scientific Advisory Council.

“Some of the most exciting and important data that I’ve generated has been exclusively funded by AFAR, which has really laid the foundation for my whole career,” Xu says. “I’m committed to continue basic research, even though I want to expand my career by working on the interventions that can extend healthspan and lifespan.”



MALENE HANSEN, PHD

Chief Scientific Officer
and Professor, Buck Institute
for Research on Aging

Leading cellular recycling research, mentoring new talent

For more than two decades, Malene Hansen's path-breaking work has helped advance significant studies and inspired new researchers. She has spent her career studying autophagy, from the ancient Greek for "self-eating," in which the cells digest their own damaged components and use that material to generate new and better parts.

At the Hansen Lab at the Buck Institute, her work focuses on the link between autophagy and aging along with the diseases of aging, especially neurodegenerative disorders. A key objective is to understand how cell recycling is normally regulated as we get older, and how it might extend healthspan.

Hansen calls this "the importance of taking out the trash." Her impact on autophagy research garnered her AFAR's prestigious, peer-nominated Irving S. Wright Award of Distinction in 2021.

Her discoveries have been boosted by consecutive support from AFAR. She first received the Ellison Medical Foundation/AFAR Senior Postdoctoral Fellowship in 2005 at UCSF, a Grant for Junior Faculty in 2010, and the Julie Martin Mid-Career Award in Aging Research in 2014. In 2020 came her largest grant, the Glenn Foundation's Breakthroughs in Gerontology (BIG) Award. This incremental support reflects the importance of funding investigators at critical points in their research.

Today, Hansen is not only an influential leader in the field, but also a respected mentor to the next generation of aging biologists.

She has organized several global conferences, including three of the Cold Spring Harbor Laboratory's meetings on Mechanisms of Aging as well as one on Proteostasis; the 2020 Keystone meeting on Aging; and the 2020 and 2022 Gordon Research Conference on Autophagy. She has also lent her expertise to AFAR's National Scientific Advisory Council, and she is currently serving on the Scientific Advisory Board for the Glenn Foundation for Medical Research.

At the Buck, Hansen helps lead the esteemed institute's scientific direction while encouraging faculty development and mentoring graduate students and postdoctoral fellows. Her ongoing dedication to growing the research pipeline by fostering talent is far-reaching.

"There's a lot of basic biology, a lot of molecular understanding of aging, that has been accomplished now. And so if the point is to use this knowledge to go after age-related diseases and extend healthspan, then training the next generation of scientists is equally important. There has to be somebody that can then take that next observation on to the next level. So my time is two-sided: both doing my own research, and helping grow the field from the bottom up."

SATCHIDANANDA PANDA, PHD

Professor of Regulatory Biology, Salk Institute



Listening to the body's clock to extend healthspan

Some biologists studying aging have dozens of research papers to their name, and to be sure Satchin Panda is among them. But he also may be the only geroscientist who not only has three TED Talks posted online (viewed more than 900,000 times altogether) but also has written a pair of books for consumer audiences and created a scientific app that's been crowd-sourcing data for almost a decade.

Panda's move beyond the lab into mainstream culture stems from the fundamental conclusion of a quarter-century researching circadian clocks, the 24-hour timetables in every cell that program our genes for peak performance: Too many of us live out of sync with our circadian rhythm, and aligning our behavior with our body's internal tempo can not only improve current health but also extend our healthy lifespans.

His lab's first major discovery was that confining a mouse's eating and drinking to the same eight hours every day (and no more than 12 hours) wards off age-related chronic illnesses such as diabetes, heart disease, and immune decline.

It is also the best way to maintain the body's robust circadian rhythm that promotes good health, he found, and those conclusions have led millions in the past decade to adopt time-restricted schedules for eating, also known as intermittent fasting.

Those provocative findings in mice did not readily lead to funding to learn if the same was true in humans, but that changed after Panda received AFAR's 2014 Julie Martin Mid-Career Award in Aging Research. It not only funded development of the My Circadian Clock app to collect essential data on when and what people eat, but also served as a mark of legitimacy that catalyzed a steady flow of federal and private research grants.

Nine years later, more than 100,000 people (disproportionately older than 60) have used the app to share almost 14 million diet records, the data for a report coming later this year. The app has also been used to gather data for 29 publications, 10 completed clinical studies and six more underway at American universities, investigating intermittent fasting's effect on a variety of health conditions and populations, from firefighters to breast cancer chemotherapy patients.

Another of Panda's discoveries about circadian clocks — they tell different organs to work more or less efficiently at different times of day — has spurred other biologists to learn which drugs for the diseases of aging work better if administered at an ideal time.

As Panda says in his most recent TED Talk, "If we think about an ideal longevity plan, it should be so powerful, so magical to prevent diseases from happening." Embracing our circadian rhythm may be among the best options.

AFAR GRANT PROGRAMS

AFAR's grants portfolio supplies the pipeline of researchers working to understand the basic biology of aging and age-related diseases in order to extend our years of health and decrease periods of sickness.

Our grant programs help early career scientists acquire the knowledge, skills, and experience needed to obtain larger grants as they build a body of research. Also critical are grants tailored to mid-career and senior investigators, which allow them to remain focused on aging and expand their research programs.

AFAR's 2023 grants portfolio included (in order of appearance on the following pages):

- AFAR Grants for Junior Faculty + Glenn Foundation for Medical Research Grants for Junior Faculty
- Hevolution/AFAR New Investigator Awards in Aging Biology and Geroscience Research
- Glenn Foundation for Medical Research Postdoctoral Fellowships in Aging Research
- Glenn Foundation Discovery Awards
- McKnight Brain Research Foundation Innovator Awards in Cognitive Aging and Memory Loss
- The Sagol Network GerOmic Award for Junior Faculty
- Diana Jacobs Kalman/AFAR Scholarships for Research in the Biology of Aging

Through these programs, AFAR provided approximately \$12,500,000 to more than 60 investigators in 2023.

Additionally, AFAR encourages medical and graduate students to pursue aging research or aging-related career paths through the Medical Student Training in Aging Research (MSTAR) and Clarence Pearson Fellowship in Public Health and Aging programs.

 [Learn more about AFAR's grants program at *www.afar.org/funding-opportunities*](http://www.afar.org/funding-opportunities)

SCIENTIFIC REVIEW PROCESS

AFAR's rigorous grant reviews help ensure that the most promising scientific ideas and investigators receive our support. Members of our Scientific Review Committees are accomplished scientists who represent a wide range of expertise in biomedical research on aging. Many are also past AFAR grantees, and they play an important role in identifying the talent and research that AFAR supports.

Each year, they volunteer their time and expertise to review hundreds of grant applications and then recommend scientists and research projects that have the greatest likelihood of making significant contributions to help us stay healthier longer as we grow older.

2023 Review Committees are listed on the following pages. Additionally, AFAR's National Scientific Advisory Council (NSAC) members lend their scientific expertise to our grant review process; many members of the NSAC participate in the Letter of Intent phase of grant submission as well as the final review panels. AFAR is grateful for our reviewers' contributions, which are essential to our grant programs' success.

 [For a complete list of 2023 reviewers, visit *www.afar.org/scientific-committees*](http://www.afar.org/scientific-committees)

AFAR GRANTS FOR JUNIOR FACULTY

GLENN FOUNDATION FOR MEDICAL RESEARCH GRANTS FOR JUNIOR FACULTY

This program provides up to \$150,000 for a one- to two-year award to junior faculty (MDs and PhDs) to conduct research that will serve as the basis for longer term research efforts on the biology of aging. The major goal of this program is to assist in the development of the careers of junior investigators committed to pursuing careers in aging research.

Cory Baumann, PhD
Assistant Professor
Ohio University

Roarke Kamber, PhD
Assistant Professor
University of California San Francisco

Jude Phillip, PhD
Assistant Professor
Johns Hopkins University

Daniel Czyz, PhD
Assistant Professor
University of Florida

Hiroshi Kumagai, PhD
Assistant Professor
University of Southern California

Jessica Spinelli, PhD
Assistant Professor
University of Massachusetts
Chan Medical School

Ana Daugherty, PhD
Assistant Professor
Wayne State University

Ricardo Martínez Zamudio, PhD
Assistant Professor
Rutgers Robert Wood Johnson
Medical School

Andrea Stavoe, PhD
Assistant Professor
University of Texas Health
Science Center at Houston

Hilary Grosso Jasutkar, MD, PhD
Instructor of Neurology
Rutgers University

Denis Mogilenko, PhD
Assistant Professor
Vanderbilt University Medical Center

Qinchuan Wang, PhD
Assistant Professor
Johns Hopkins University

Shuo Han, PhD
Assistant Professor
Duke University School of Medicine

Allyson Palmer, MD, PhD
Assistant Professor
Mayo Clinic

SELECTION COMMITTEE
Catherine Kaczorowski, PhD, *Chair*
University of Michigan

Holly M. Brown-Borg, PhD
University of North Dakota

Anthony J.A. Molina, PhD
University of California San Diego

Dudley Lamming, PhD
University of Wisconsin-Madison
School of Medicine and Public Health

Daniel Promislow, PhD
University of Washington

AFAR is grateful to the Glenn Foundation for Medical Research for its support of this grant program.

Other major funders include: the AFAR Board of Directors, Anonymous, The James A. and Dorothy R. Brunn Foundation, the Irene Diamond Fund, David W. Gore, the Lowell F. Johnson Foundation, the Irving Kahn Fund, Diana Jacobs Kalman, Diane Nixon, and The Irving S. Wright Endowment.

“Having benefited from a pair of AFAR awards earlier in my career, and having had the privilege of mentoring many grantees over the course of my career, I’m ever mindful of the broad impact that our grants have — supporting the brightest researchers in the field of the biology of aging to turn promising ideas into research findings and allowing them to pursue their dreams and expand their reach. This goes to the core of AFAR’s mission.”

- Thomas A. Rando, MD, PhD, 2023 President-Elect, Board of Directors

HEVOLUTION /AFAR NEW INVESTIGATOR AWARDS IN AGING BIOLOGY AND GEROSCIENCE RESEARCH

This grant program enables early-career investigators with labs in the United States and Canada to advance research projects in the basic biology of aging, as well as geroscience projects that translate advances in basic research on aging biology from the laboratory to the clinic.

Kevin Beier, PhD
Assistant Professor
University of California Irvine

Alexander Bick, PhD
Assistant Professor
Vanderbilt University Medical Center

Caitlin Davis, PhD
Assistant Professor
Yale University

Jason DeFreitas, PhD
Professor of Exercise Science
Syracuse University

Luke Evans, PhD
Assistant Professor
University of Colorado Boulder

Bhanu Ganesh, PhD
Assistant Professor
University of Texas Health Science
Center Houston

SELECTION COMMITTEE

Gordon J. Lithgow, PhD, *Chair*
Buck Institute for Research on Aging

Jonathan Gootenberg, PhD
Investigator/Faculty Member
Beth Israel Deaconess Medical
Center/Harvard Medical School

Sung Min Han, PhD
Assistant Professor
University of Florida

Dan Jane-wit, PhD
Associate Professor
Yale School of Medicine

Janine Kwapis, PhD
Assistant Professor
Pennsylvania State University

Sreemathi Logan, PhD
Assistant Professor
University of Oklahoma
Health Sciences

Payel Sen, PhD
Stadtman Investigator
National Institute on Aging NIH

Evandro Fang, PhD
University of Oslo and
Akershus University Hospital

Brian Kennedy, PhD
National University of Singapore

Laura Niedernhofer, MD, PhD
University of Minnesota

Simone Sidoli, PhD
Assistant Professor
Albert Einstein College of Medicine

Rebecca Voorhees, PhD
Assistant Professor
California Institute of Technology

Siyuan Wang, PhD
Associate Professor
Yale University

Reyhan Westbrook, PhD
Associate Professor
Johns Hopkins University

Maxwell Wilson, PhD
Assistant Professor
University of California Santa Barbara

Bokai Zhu, PhD
Assistant Professor
University of Pittsburgh

Holly Van Remmen, PhD
Oklahoma Medical Research Foundation

Ming Xu, PhD
UConn Health

AFAR is grateful to Hevolution Foundation for its support of this grant program.

HEVOLUTION

GLENN FOUNDATION FOR MEDICAL RESEARCH POSTDOCTORAL FELLOWSHIPS IN AGING RESEARCH

This program provides support for postdoctoral fellows (MD, MD/PhD, and PhD) who specifically direct their research towards basic aging mechanisms and/or translational findings that have direct benefits to human aging and healthspan.

Turan Aghayev, MD, PhD
University of California San Francisco

Zachary Sebo, PhD
Northwestern University

Jiping Yang, PhD
Columbia University Medical Center

Zhongchi Li, PhD
Weill Cornell Medicine

Gunjan Singh, PhD
Brown University

Hanlin Zhang, PhD
University of California Berkeley

Ting Miao, PhD
Harvard Medical School

Lichao Wang, PhD
The University of Connecticut
Health Center

Sen Zhang, PhD
University of Illinois at Chicago

Daniel Robinson, PhD
Stanford University

SELECTION COMMITTEE
Ashley Webb, PhD, *Chair*
Buck Institute for Research on Aging

Hua Bai, PhD
Iowa State University
Bérénice Benayoun, PhD
University of Southern California

Scott Leiser, PhD
University of Michigan Medical School

Marc Vermulst, PhD
University of Southern California

Jennifer Garrison, PhD
Buck Institute for Research on Aging

GLENN FOUNDATION DISCOVERY AWARDS

The awards were created to support research projects with strong potential to develop pioneering discoveries to understand the underlying biological mechanisms that govern normal human aging and its related physiological decline.

Ya-Chieh Hsu, PhD
Professor
Harvard University

Xuebing Wu, PhD
Assistant Professor
Columbia University Irving Medical Center

SELECTION COMMITTEE
Darren Baker, PhD, *Chair*
Mayo Clinic

Heinrich Jasper, PhD
Genentech, Inc.
Li-Huei Tsai, PhD
Massachusetts Institute
of Technology

Charlotte Peterson, PhD
University of Kentucky

Jonathan Wanagat, MD, PhD
David Geffen School of Medicine
at UCLA

AFAR is grateful to the Glenn Foundation for Medical Research for its support of these grant programs.

GLENN FOUNDATION
FOR MEDICAL RESEARCH



THE MCKNIGHT BRAIN RESEARCH FOUNDATION INNOVATOR AWARDS IN COGNITIVE AGING AND MEMORY LOSS

The major goal of the program is to identify emerging scientific leaders by building a cadre of outstanding research scientists across the United States to lead transformative research in the field of cognitive aging. The program targets full-time independent investigators at the rank of Assistant Professor or Associate Professor (or equivalent). One award is made to support innovative studies focusing on clinical translational research and another supports innovative studies of basic biological mechanisms underlying cognitive aging and age-related memory loss.

Denise Cai, PhD
Associate Professor
Icahn School of Medicine
at Mount Sinai

Christoph Thaiss, PhD
Assistant Professor
University of Pennsylvania

SELECTION COMMITTEE
Ana Maria Cuervo, MD, PhD, *Chair*
Albert Einstein College of Medicine

Rozalyn Anderson, PhD
University of Wisconsin School of Medicine
and Public Health

Roy H. Hamilton, MD, MS
University of Pennsylvania Perelman
School of Medicine and The McKnight
Brain Research Foundation

Patricia Boyle, PhD
Rush University and The McKnight Brain
Research Foundation

Madhav Thambisetty, MD, PhD
The McKnight Brain Research Foundation

Rafael de Cabo, PhD
National Institute on Aging, NIH

AFAR is grateful to the McKnight Brain Research Foundation for its support of this grant program.



THE SAGOL NETWORK GEROMIC AWARD FOR JUNIOR FACULTY

The major goal of this program is to assist in the development of the careers of junior investigators committed to pursuing careers in the field of aging research and geromics, in particular –omics research focused on aging and/or age-related disease research.

Timothy Rhoads, PhD
Assistant Professor
University of Wisconsin-Madison

The Grants for Junior Faculty Selection Committee reviews Sagol Award applications.

AFAR is grateful to Sami Sagol and the Sagol Network for their support of this grant program.



DIANA JACOBS KALMAN/AFAR SCHOLARSHIPS FOR RESEARCH IN THE BIOLOGY OF AGING

This program is designed to give students enrolled in MD, DO, PhD, or combined-degree programs the opportunity to conduct a three-to-six-month research project focused on biomedical research in aging.

Uchit Bhaskar
University of Texas at San Antonio

Michael Gilbert
University of Pennsylvania

Aya Kobeissi
SUNY Upstate
Medical University

Mitchell Marta-Ariza
NYU Grossman
School of Medicine

Avery Sukienik
University of Virginia

Nikoleta Tamvaka
Mayo Clinic

Shruti Venkat
Icahn School of Medicine
at Mount Sinai

Ping Wang
Case Western Reserve University

Grace Yu
Mayo Clinic

SELECTION COMMITTEE
Nathan LeBrasseur, PhD, MS, *Chair*
Mayo Clinic

Anna Csiszar, MD, PhD
University of Oklahoma
Health Sciences Center

Lindsay De Biase, PhD
David Geffen School of Medicine at UCLA

Christina E. Hugenschmidt, PhD
Wake Forest School of Medicine

Jason Karpac, PhD
Texas A&M University

Jason Roh, MD, MHS
Harvard Medical School

Michael Stout, PhD
The University of Oklahoma

AFAR is grateful to Diana Jacobs Kalman for her support of this grant program.

MEDICAL STUDENT TRAINING IN AGING RESEARCH SCHOLARS

The Medical Student Training in Aging Research (MSTAR) program provides medical students with an enriching experience in aging-related research and geriatrics. AFAR provides scholarships for Weill Cornell Medicine students.

Rana Barghout
Weill Cornell Medicine

Jay Jaber
Baylor College of Medicine

Abhay Tiwari
Weill Cornell Medicine

CLARENCE PEARSON FELLOWSHIP IN PUBLIC HEALTH AND AGING

The Clarence Pearson Fellowship in Public Health and Aging provides an opportunity for graduate students in the social sciences to gain exposure to aging research and contribute to projects that help advance the field and AFAR's work.

Rachel Farber
MPH Candidate
Columbia University

AFAR is grateful to Laurie Norris for her ongoing support of this fellowship.

Privately funded at Weill Cornell Medicine with the support of Network for Good, Earl (Trip) and Allyson Samson, Norm Volk, and the Kathryn Wriston Fund.

AFAR STRATEGIC INITIATIVES

AFAR's decades-long commitment to healthy aging has not only advanced research but also laid the groundwork for new discoveries and technologies. Building on this success and the expansion of the field, AFAR's strategic initiatives — currently Amplifying Geroscience, FAST (Finding Aging biomarkers by Searching existing Trials), SuperAgers, and TAME (Targeting Aging with Metformin) — address critical bottlenecks in the basic biology of aging and geroscience by leveraging our extensive expertise and established networks. These strategic initiatives are shaped to address the most pressing needs in aging research. Two, below, were especially impactful in 2023.

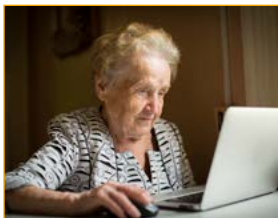


AMPLIFYING GEROSCIENCE

Through this initiative, AFAR aims to educate policymakers about the transformative and broad benefits of geroscience on older citizens' health and our nation's economy. In the spring, AFAR-affiliated experts met with dozens of congressional staff from both parties. Thanks to this, the Senate urged the National Institute on Aging (NIA), the Advanced Projects Research Agency for Health (ARPA-H), and the Defense Department (DoD) to prioritize geroscience. This included recommending that the NIA increase its support for early-stage investigators in geroscience and that ARPA-H prioritize research on biomarkers related to aging and epigenetic reprogramming. The Senate also instructed DoD to add "accelerated aging processes related to military service" to its Peer-Reviewed Medical Research Program (PRMRP). Now, for the first time, researchers are able to apply for geroscience grants from the PRMRP. In the fall, the NIH submitted a report to Congress that built on these efforts.



Learn more at www.afar.org/amplifying-geroscience-initiative



SUPERAGERS INITIATIVE

This multi-year, ambitious effort aims to help discover the secrets of exceptional longevity. It is led by AFAR and Albert Einstein College of Medicine with Boston University School of Medicine. Its centerpiece is the SuperAgers Family Study, which seeks to recruit as many as 10,000 people 95 and older — as well as their offspring and offspring's spouse. The Study's data will be preserved in a newly created "biobank," which will serve as a much-needed resource for researchers working to prevent or treat age-related diseases and conditions. In May 2023, *Nature Aging* published an article on the Study by Principal Investigator (and AFAR grantee) Sofiya Milman, MD, MS. The Study also garnered attention in *AARP*, *The Boston Globe*, *The Philadelphia Inquirer*, *Yahoo News*, and more. By year end, the Study surpassed its pilot recruitment goals, utilizing a specially designed enrollment website created by Vibrent Health.



Learn more www.afar.org/superagers

AFAR is grateful to James Fickel and the Fickel Family Foundation for their generous support of the Amplifying GeroScience and SuperAgers initiatives.

"AFAR's strategic initiatives are a testimony to our ability to listen to and lead what the field needs next. And AFAR's ability to successfully compete for NIA funding to provide leadership support for three of its initiatives speaks highly of our reputation and service in the aging research community."

- Steven N. Austad, PhD, 2023 Interim Chair, Board of Directors, and Senior Scientific Director

NIA-FUNDED INITIATIVES

AFAR has successfully competed for funding from the National Institute on Aging (NIA) of the National Institutes of Health (NIH) to provide infrastructure support and leadership for three initiatives. The multi-year initiatives host webinars and meetings, publish research, offer grants and awards, provide resources, promote opportunities for professional development, and more.

AFAR serves as the Coordinating Center for the eight Nathan Shock Centers, which provide leadership and technical support in the pursuit of basic research into the biology of aging. The Nathan Shock Centers Coordinating Center (NSC3) provides coordination and communication between the Centers, the NIA, and the biology of aging research community. *The NSC3 is funded by the National Institute on Aging of the National Institutes of Health under Award Number U24AG056053.*



**NATHAN SHOCK CENTERS
OF EXCELLENCE IN THE
BASIC BIOLOGY OF AGING**



www.nathanshockcenters.org

AFAR and Wake Forest University School of Medicine co-manage the Research Centers Collaborative Network (RCCN). The RCCN aims to initiate new cross-disciplinary collaborative networks that bring together key thought leaders from each of the seven NIA center programs. Activities include workshops and webinars, pilot programs, early career faculty education, web-based resource identification tools, and fundraising development. *The RCCN is funded by the National Institute on Aging of the National Institutes of Health under Award Number U24AG058556.*



**RESEARCH CENTERS
COLLABORATIVE NETWORK**
of the National Institute on Aging, NIH



www.rccn-aging.org

AFAR serves as the national program office for the Clinician-Scientists Transdisciplinary Aging Research (Clin-STAR) Coordinating Center. The Coordinating Center organizes initiatives for the cultivation, connection, and synergy of clinician-scientists in aging research from disparate specialties across the United States. The program particularly focuses on early-stage investigators committed to careers in aging research. *The Clin-STAR Coordinating Center is funded by the National Institute on Aging of the National Institutes of Health under Award Number U24AG065204.*



www.clin-star.org

Each November, AFAR also organizes two key meetings for clinician-scientists supported through NIA funding: The Clin-STAR Annual Meeting and the Beeson Annual Meeting. These meetings are held right after one another, with one overlapping day to optimize networking and mentoring. Clin-STAR meeting attendees include recipients of the NIA Grants for Early Medical/Surgical Specialists' Transition to Aging Research (GEMSSTAR) program, as well as Clin-STAR pilot grantees, Health Equity Program Scholars, and travel awardees. Current and alumni scholars from the NIA's Paul B. Beeson Emerging Leaders Careers Development Award in Aging (K76) attend the Beeson Annual Meeting. *The Clin-STAR Annual meeting is supported through the Clin-STAR Coordinating Center grant (U24AG065204). The Beeson Annual Meeting is supported by an R13 Conference Grant (R13AG058415) from the National Institute on Aging (NIA) and Atlantic Philanthropies.*



Clin-STAR Health Equity Program Scholars connected with program mentors at the 2023 Clin-STAR annual meeting organized by AFAR.

AFAR SCIENTIFIC AWARDS

AFAR presents three honorary scientific awards annually to members of the aging research community whose outstanding work advances the field. These awards are named after visionary scientists whose leadership continues to inspire AFAR and the field. Each award is a framed citation and carries a cash prize of \$5,000.

The 2023 recipients each presented a lecture at a special ceremony at the Gerontological Society of America (GSA) Annual Meeting on November 10 in Tampa, Florida.

Rafael de Cabo, PhD IRVING S. WRIGHT AWARD OF DISTINCTION



Established in 1982, this award is named in honor of AFAR's founder and recognizes exceptional contributions to basic or clinical research in the field of aging. Dr. de Cabo is Senior Investigator of the Experimental Gerontology Section and Chief of the Translational Gerontology Branch at the National Institute on Aging (NIA) of the National Institute of Health (NIH). Upon accepting the award, he presented the lecture, "Caloric Restriction and Aging: From Calories to Fasting."

Ming Xu, PhD



VINCENT CRISTOFALO RISING STAR AWARD IN AGING RESEARCH

Established in 2008, this award is named in honor of the late Dr. Cristofalo for his career-long dedication to aging research and to encouraging young scientists to investigate important problems in the biology of aging. As highlighted in our feature on page 3, Dr. Xu is an Assistant Professor at the UConn Center of Aging and the Department of Genetics & Genome Sciences at UConn Health. Upon accepting the award, he presented the lecture, "Targeting p21-highly-expressing cells to slow down aging and extend lifespan with good health."

Claire Ankuda, MD, MPH, MSc



TERRIE FOX WETLE RISING STAR AWARD IN HEALTH SERVICES AND AGING RESEARCH

Established in 2020, this award is named after current AFAR board member and past Board President Terrie Fox Wetle, PhD, and honors an early or mid-career health services researcher who has already made important contributions with work that respects the value of multidisciplinary health services science and that is likely to be highly influential in shaping practice and research for decades to come. Dr. Ankuda is a hospice and palliative medicine physician and Associate Professor at the Icahn School of Medicine at Mount Sinai in the Brookdale Department of Geriatrics and Palliative Medicine. Upon accepting the award, she presented the lecture, "How Medicare Advantage Is Shaping the Care of Older Adults with Serious Illness."



Read Ask the Expert interviews with the 2023 Scientific Award recipients at www.afar.org/ask-the-expert-interviews

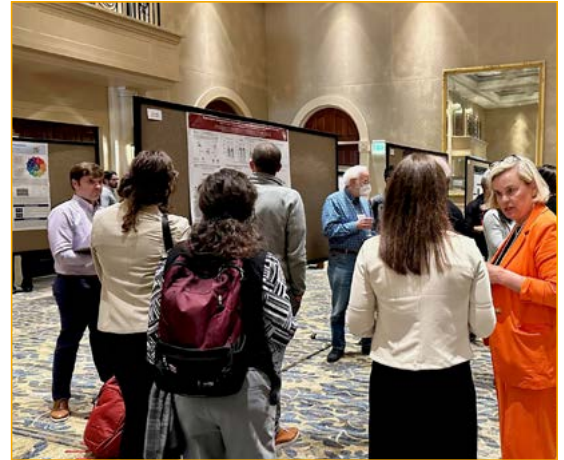
ANNUAL GRANTEE CONFERENCE

From May 31 to June 2, 2023, AFAR hosted the joint annual Paul F. Glenn/AFAR Conference on the Biology of Aging in Santa Barbara, CA. AFAR grantees, senior leaders the field, and representatives from foundations convened to hear reports on AFAR-supported research and share insights on emerging directions in the field.

The event featured presentations, panel discussions, and a poster session where more than 30 AFAR grantees and Nathan Shock Center pilot awardees presented their research. A vital source of scientific exchange, and inspiration, the annual conference is a unique opportunity for emerging and established leaders in aging research to gather and network.

A range of AFAR-affiliated experts and colleagues presented. Carl Bergstrom, PhD, from the University of Washington provided the keynote address discussing misinformation in and about science.

AFAR is grateful to the Glenn Foundation for Medical Research, as well as the many attendees, speakers, and researchers, for their help in making these annual meetings possible.



An integral part of the AFAR grantee conference, poster sessions allow junior investigators to receive feedback from peers and established researchers.

WEBINARS

LIVE BETTER LONGER

AFAR and *Prevention* co-hosted the *Live Better Longer* series. AFAR experts and *Prevention's* editors discuss the science behind the latest interventions and innovations to promote healthy aging.

LIVE BETTER LONGER WEBINAR | ADVANCES IN BRAIN HEALTH
WED 04.26.23 | 3-4pm ET | featuring

Sarah Smith
Prevention

Emilie Reas, PhD
UC San Diego

Tara Tracy, PhD
Buck Institute

presented by

BEGINNING IN BIOTECH

To help researchers who are seeking to bridge their work in academic and private labs, AFAR board member Sergey Young curated and moderated a webinar for the scientific community featuring founders of longevity biotechs.

BEGINNING IN BIOTECH | TUES OCT 3 2023
11am-12pm EST
 american federation for aging research

FREE WEBINAR FOR THE SCIENTIFIC COMMUNITY FEATURING

KRISTEN FORTNEY, PhD
BIOAGE

JIM MELLON
JUVENESCENCE

JAMES PEYER
Cambrian

SERGEY YOUNG
LONGEVITY VISION FUND



Watch webinar recordings at www.afar.org/afar-webinars

SCIENCE IS VITAL TO HEALTHY AGING. YOUR SUPPORT IS VITAL TO AFAR.



PROMISING INVESTMENT

Your gift invests in high-impact, long-term research. AFAR grantees leverage their support from AFAR to receive larger federal grants later in their careers.



GLOBAL REACH

Your gift helps build the pipeline of research and creates opportunities for scientific exchange, across the United States and beyond, that would not otherwise occur.



FISCAL RESPONSIBILITY

Thanks to AFAR's low overhead costs, nearly 95% of funds contributed go to directly supporting aging research.



HEALTHY FUTURES

AFAR grantees are moving basic research into clinical interventions that can help you and your loved ones live healthier, longer.

HELP ADVANCE RESEARCH THAT WILL HELP US ALL LIVE HEALTHIER, LONGER:

- Make a gift to underwrite or endow a named research grant. Naming opportunities in support of AFAR research grants or disease-specific grants are available at multiple levels of giving. AFAR can also help design grant programs.
- Make a gift to our annual fund, the central vehicle for supporting our core research grant programs. Gifts may be made annually, quarterly, or monthly as a recurring donor.
- Sponsor an AFAR scientific conference or educational program. Sponsorship opportunities are available at many levels.
- Make a planned gift as a member of the Irving S. Wright Legacy Society.
- Make a memorial or a tribute gift to honor a loved one or an occasion.
- Make a gift of stock or other tangible property; while supporting aging research, you avoid paying capital gains taxes.
- Designate AFAR as the recipient of your donor-advised fund.



Learn more at www.afar.org/give

SUMMARIZED FINANCIAL INFORMATION

Year Ended December 31, 2023

SUMMARIZED OPERATING RESULTS

OPERATING REVENUE

Contributions	\$16,383,712	91%
Investment Income, Net	109,206	1%
Endowment Earnings	87,000	
Government Grants	1,341,818	7%
Total Operating Revenue	\$17,921,736	100%

EXPENSES

Research Grants & Scientific Programs	\$16,136,544	95%
Management and General	698,038	4%
Fundraising	199,508	1%
Total Supporting Expense	\$897,546	5%
Total Operating Expense	\$17,034,090	100%
Total Operating Surplus	887,646	

SUMMARIZED BALANCE SHEET

Assets

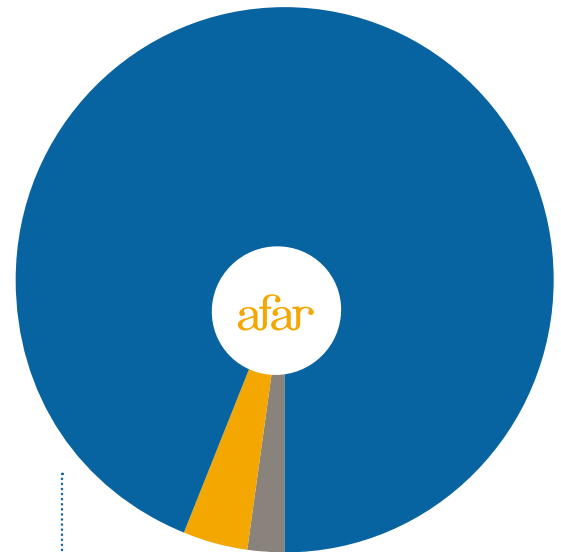
Cash and Equivalents	\$5,397,100	12%
Operating Investments	3,653,526	8%
Contributions Receivable	22,196,147	48%
Endowment Investments	13,420,594	29%
Other	1,954,623	4%
Total Assets	46,621,990	100%

Liabilities and Net Assets

Research Grants and Scholarships Payable	\$15,114,525	
Other	811,033	
Total Liabilities	15,925,558	34%

Net Assets

Without Donor Restrictions	8,074,940	
With Donor Restrictions	22,621,492	
Total Net Assets	30,696,432	66%
Total Liabilities and Net Assets	\$46,621,990	100%



95% Research Grants and Scientific Programs

4% Management and General

1% Fundraising

AFAR is proud to maintain high fiscal standards internally, and we require the same of our grantee institutions.

PERFECT SCORE ON CHARITY NAVIGATOR

In 2023, AFAR has earned a perfect 100% Score from Charity Navigator, the largest and most-utilized independent charity evaluator in America.

This rating, earned by less than one-tenth of one percent of charities, designates AFAR as an official "Give with Confidence" charity, which indicates that we use our donations with the utmost efficacy and responsibility based on Charity Navigator's criteria.



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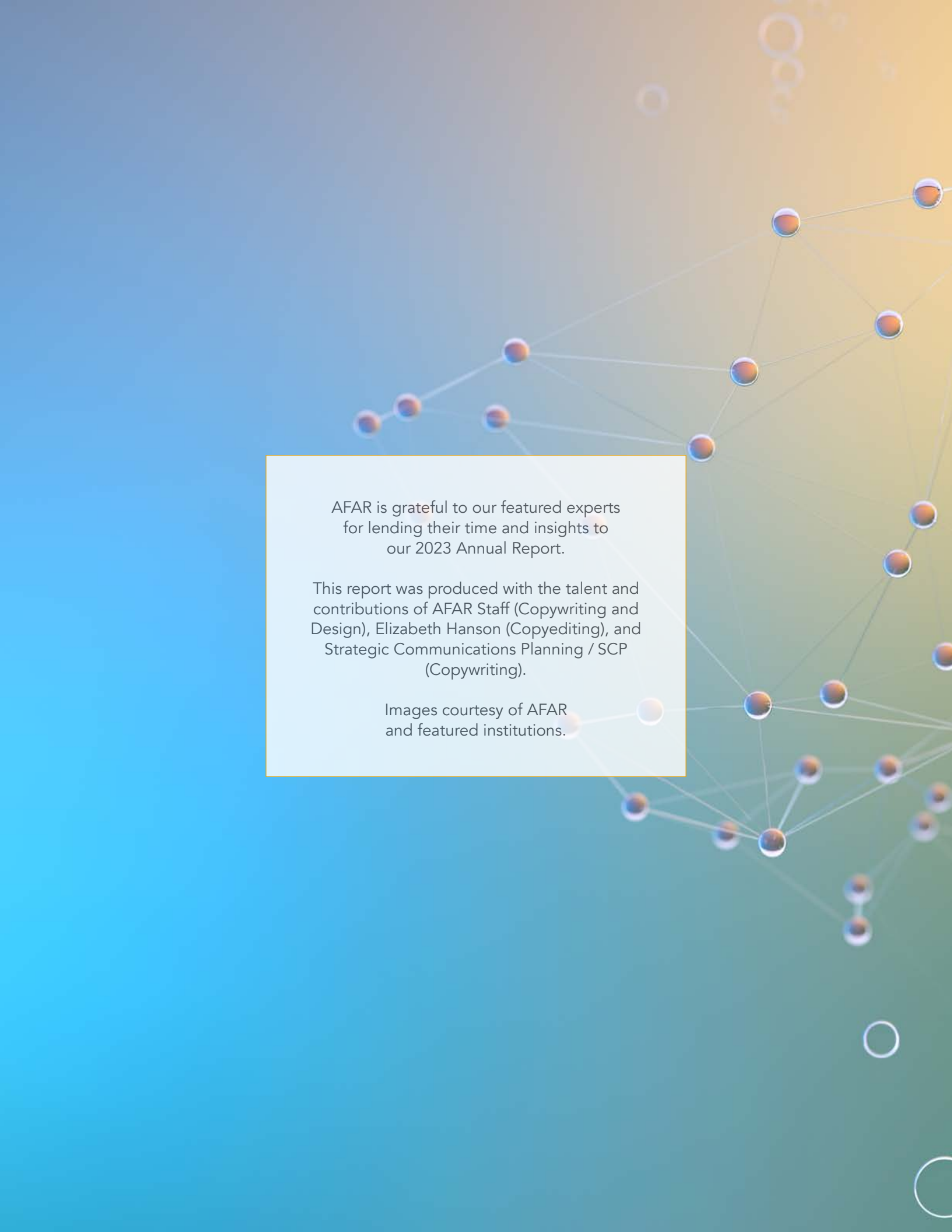
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Odette van der Willik
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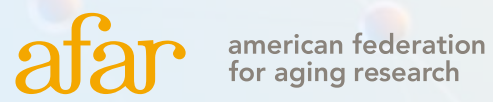
Kara A. Wilson
Manager, Strategic Partnerships and Initiatives



AFAR is grateful to our featured experts
for lending their time and insights to
our 2023 Annual Report.

This report was produced with the talent and
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Strategic Communications Planning / SCP
(Copywriting).

Images courtesy of AFAR
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