THE
YEAR IN
SCIENCE:

WALTHS PAN

THROUGH BIOMEDICAL RESEARCH

annual report 2012



american federation for aging research

IN MEMORIAM

George E. Doty (1918-2012)



An enormously successful businessman, George E. Doty was also a humanitarian, philanthropist, mentor, and inspiration to many, including the American Federation for Aging Research, of which he was a founding board member. Thanks to his leadership and vision, George helped define and realize our vision and was a leader in support of researchers in the biology of aging. He worked to encourage the training of new scientists in geriatric research and physicians in the practice of geriatric medicine.

The George E. and Marie J. Doty Award is named in honor of him and his wife, Marie, who also played a leading role in advancing AFAR's mission. We present this award at our annual dinner in recognition of a lay leader who has significantly advanced the field.

We miss him deeply and honor his memory in this report.

ABOUT AFAR

Mission

The American Federation for Aging Research (AFAR) is a national nonprofit organization whose mission is to support and advance healthy aging through biomedical research.

Key Initiatives

AFAR focuses its activities on these major initiatives:

- Identifying and funding a broad range of cutting-edge research in the biology of aging most likely to increase knowledge about healthy aging.
- Attracting more physicians to specialize in geriatric medicine to meet the demands of an aging population with expert health care.
- Creating opportunities for scientists and clinicians to share knowledge and exchange ideas to drive innovation in aging research.
- Providing information to the public on new medical findings that can help people live longer lives less susceptible to disease and disability.

Research Focus: Increasing Healthspan

An American boy born when AFAR initiated its grants programs 31 years ago could reasonably expect to live to about age 70; a girl to almost 78. Today those numbers are up – boys to age 76, girls to 81 – and the numbers have steadily crept up over time. We know that actual lifespan for many people is much longer than these averages and more people are living to be over 100.

Biomedical research has driven a great deal of the recent progress. In earlier times, increases in life expectancy were a function of better public health and the development of vaccines against major childhood diseases. Today, because we know so much more about the fundamental mechanisms of aging and age-related disease, we stand on a new great and daunting frontier. How, with all we know now and all we will know in the next 30 years, can we extend lifespan AND ensure health in those precious longer years?

At AFAR, we believe the answers lie in supporting biomedical research. AFAR has provided approximately \$140 million to more than 3,000 talented scientific researchers, clinicians, and students in the last 31 years. They have moved the field and our knowledge base so far forward. And they and those who come after them will continue to do the same.

Their work will guide the design of public health strategies to decrease the risk of age-related diseases, help develop new therapies to delay the onset and improve the management of diseases, and ultimately help people live even longer. Success toward this objective will, in turn, contribute to reducing the cost of health care as people grow older.

So we turn our attention – not away from the labs where basic knowledge still accumulates and guides us toward longer lifespan – but toward increased "healthspan": the science of ensuring that we can grow older in good health.

RISK & REWARD

The Power of Private Philanthropy

Rockefeller, Howard Hughes, Robert Wood Johnson, Pew, Lasker – these foundations are a "who's who" of medical and science leadership in the private sector. Even with relatively limited resources compared to the National Institutes of Health, they have done what it is hard for government and private industry to do: take the level of risk that is key to powering amazing breakthroughs in knowledge and understanding in scientific and medical research.

As science ethicist Adam Keiper notes, "Private donors do not answer to voters or shareholders, and they are not constrained by the peer-review protocols that dominate government funding. They are free to experiment, to take risks, and to find and occupy their own distinctive niche."

Every AFAR grantee featured on these pages talks about risk – how AFAR's grant came at the pivotal, sometimes precarious moment in his or her work. It was there to kick-start a career, launch a research project, position a researcher for an NIH grant, encourage an "out-of-the-box" idea, or bring recognition. Some people have called AFAR's grant programs an "investment house" or an "incubator of talent" at the leading edge of discovery in the biology of aging. And, as George Martin, Steven Austad, and Roger McCarter note in these pages, we know that by understanding the biology of aging we unlock the door to all diseases that can kill us or diminish our quality of life.

Thanks to biomedical research and better clinical care, living to 100 isn't as unusual as it once was. The bigger deal now is figuring out how to help people grow older and be healthy and active. We know hundreds of ways to increase lifespan in animals; now we need to focus our research on increasing *healthspan* in humans. This is our chance to step up and invest in research that extends the healthy years of life. It may very well be one of the most important gifts we can give. And its power lies in the hands of private philanthropy.



Stephanie Lederman AFAR Executive Director



William J. Lipton
AFAR Board Chair

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"If I have seen further, it is by standing on the shoulders of giants."

—Sir Isaac Newton

Before the emergence of agencies dedicated to funding basic research on the biology of aging we knew of only one way to add healthy years to the usual lifespan of research animals. That method involved altering their diet by feeding them less. Today we know literally hundreds of ways to promote and extend "health-span" in research animals. This has been done by manipulating genes, by understanding cellular senescence, by restricting intake of specific nutrients, or by the use of pharmaceuticals that affect key processes underlying aging itself.

There is a collective knowledge that has arisen over time in the field which has shown us where to look next. The scientists who came before us have lighted our way. And those who come after will stand on the discoveries – even the smallest pieces of the puzzle – that we have pieced together as of today.

Growing old is the biggest risk factor for the major diseases of our society – including cancer, heart disease, stroke, Alzheimer's disease, Parkinson's disease, macular degeneration, cataracts, hearing loss, osteoporosis, osteoarthritis, muscle and nerve degeneration, and diabetes. By understanding the biology of aging, we may be able to unlock the door to rational methods of preventing and treating these and other diseases of aging that either cut our lives short or diminish our quality of life.

At AFAR, we seek ideas that are adventuresome and innovative. The best way to ensure the support of good ideas is to support a wide range of ideas, because most of them are going to be wrong; that is the nature of science. At AFAR, we have a lot more freedom to take risks. Just proposing something that is technically sophisticated is not sufficient. We are looking for approaches that combine a good idea with good methodology for investigating the idea.

Each year, AFAR's Research Committee considers hundreds of grant applications and filters them through three tiers of a complex review process. Our committee members are leaders with expertise in virtually every topic that comes our way. Because AFAR has a great reputation, we are able to recruit 336 scientists that represent our National Scientific Advisory Council (NSAC).

In this precarious funding climate, an AFAR grant may allow a scientist to start an independent research career or to keep going instead of having to close the lab and do something else. There are so many who are making major contributions to the field who might not even be in science without an AFAR grant.



Steven Austad, PhD Chair, AFAR Research Committee



George M. Martin, MD AFAR Scientific Director



Roger J. McCarter, PhD AFAR Board President

WHO WILL CARE FOR OLDER ADULTS

If a picture is worth a thousand words, this graphic tells a troubling story.

Down 40% since Only 23% of 2000 Ratio of medical scho geriatricians to patients 85+

medical schools require a geriatrics clerkship



Richard W. Besdine, MD **AFAR Medical Officer**

Caring for our rapidly growing elderly population has become the central health care challenge of our time, making geriatric medicine a discipline whose time has come. A sub-specialty of internal medicine, geriatric medicine encompasses the scientific study of aging, the provision of excellent, hands-on clinical care to older, vulnerable people, and teaching those skills to the next generation of physicians and researchers. Now is the time to pay greater attention to all three agendas.

The first challenge – delivering the care seniors need – demands a strategic rebalancing of our health care workforce. We desperately need more primary care physicians knowledgeable about special features of senior care, including geriatricians (there are only about 7,000 in America today), as well as biomedical faculty scientists and educators with expertise in geriatrics who can conduct research, develop and implement better models of care delivery, and train the next generation of doctors to deliver excellent and evidence-based care in those new models.

Most middle-aged Americans can now expect to live well into their eighties and even nineties. That is good news, but with longevity often comes accumulation of chronic diseases - from heart disease to diabetes to depression – which is the number one driver of health care costs. The anticipatory management of complex chronic diseases will delay and even prevent some of the late and devastating complications of these common chronic diseases, and is at the heart of geriatricians' expertise. Geriatricians embrace complexity and treat the whole person in ways our colleagues in other fields often do not, making us natural leaders in the all-important fight against chronic illnesses.

Most physicians readily acknowledge that the satisfaction of feeling needed by and useful to their patients is a powerful motivator. Perhaps this is why geriatricians, who are at the lower end of the physician compensation scale, consistently report some of the highest levels of professional satisfaction and the lowest rates of burnout.

AFAR has three grant programs specifically aimed at supporting and increasing the numbers of physicians working in geriatric medicine and research:

- The John A. Hartford Foundation Centers of Excellence in Geriatric Medicine and Geriatric Psychiatry program targets the critical shortage of geriatrics faculty who conduct research to improve care and who teach evidence-based care across the specialities and sub-specialities. Currently, 28 Centers of Excellence receive support to train geriatrics fellows and junior faculty in the special knowledge and skills that ensure quality health care for older adults. AFAR serves as the national program office.
- The Medical Student Training in Aging (MSTAR) program provides medical students early exposure to geriatric medicine by providing a balanced experience in research, didactic, and clinical training. The experience reinforces their interests throughout their medical training, and will ultimately draw needed professionals to the field.
- The Beeson Career Development Awards in Aging Research program provides important financial and career development support for highly promising junior faculty committed to academic careers in agingrelated research, teaching, and practice.

Geriatrics is not just important to the health of millions of older patients; it is increasingly essential to the well-being of health care in the United States. For anyone who cares about the practice of medicine, what could be more compelling than that?

A new grant program was established entitled the Glenn/AFAR Scholarships for Research in the Biology of Aging. The award carries a \$5,000 stipend and is awarded to graduate students conducting research in the biology of aging and age-related diseases and disorders.

AFAR will fund a grant on aging and arthritis in the 2013 grant cycle through a new collaboration with the Arthritis National Research Foundation.

The MetLife Awards for Medical Research in Alzheimer's Disease were presented to Christine Van Broeckhoven, PhD, DSc, University of Antwerp, and Clifford R. Jack, Jr., MD, Mayo Clinic, on May 15 in NYC. A Promising Investigator Award was presented to Randall J. Bateman, MD, Washington University School of Medicine. AFAR administered the award program and organized the awards presentation. The keynote address was delivered by Gail Sheehy.

Scientific Meetings & Publications

A seminar on "Stroke Prevention for Older Adults in Atrial Fibrillation," sponsored by an unrestricted educational grant from Bristol-Myers Squibb and Pfizer, was held on April 5, at the Cornell Club-NY. The meeting was chaired by Richard W. Besdine, MD, AFAR Medical Officer, and Daniel W. Singer, MD, Harvard Medical School/Harvard School of Public Health.

The 25th Annual Grantee Conference was held on June 3-4, in Santa Barbara, CA. The Rosalinde and Arthur Gilbert Foundation Grantees meeting was also held at this time.

The Glenn Foundation for Medical Research and AFAR convened the third annual Paul F. Glenn Symposium on translational research in aging in Santa Barbara June 4-6.

The 17th Beeson Annual Meeting was held September 19-22 in Alexandria, VA. Seventy-two Scholars and alumni participated from 39 institutions. Representatives from the NIH and the John A. Hartford Foundation also attended the meeting.

A seminar on "Pain Management: Innovation, Information, and Translation" was held on October 16, at the Cornell Club and was chaired by M. Carrington Reid, MD, Weill Cornell Medical School, and Stephen Thielke, MD, MSPH, University of Washington. The event was sponsored by an unrestricted educational grant from TEVA.

The 10th Annual Awards Dinner, honoring Brian Daniels, MD, senior vice president of Global Development and Medical Affairs at Bristol-Myers Squibb; and Michael Hodin, PhD, adjunct senior fellow at the Council on Foreign Relations and executive director of the Global Coalition on Aging, with a tribute to the late George and Marie Doty, and a symposium bringing together academic, industry, and foundation leaders to discuss Innovation and the Future of Healthy Aging, were planned for October 29. Due to Hurricane Sandy, the events will be held on April 15, 2013.

On November 26, the Journal of Gerontology published a consensus paper which came as a result of a conference organized by AFAR. Elena Volpi, MD, PhD, University of Texas Medical Branch, was the corresponding author of the paper, which was titled, "Is the Optimal Level of Protein Intake for Older Adults Greater Than the Recommended Dietary Allowance?"

Media

Dr. Besdine continued his Huffington Post blog with four installments: "Alzheimer's Disease: You Can Reduce Your Risk," "Stroke: The Overlooked Killer," "Fear of Falling," and "The Medications Seniors Can't Live With – or Without."

A media briefing was held on February 14 at the Cornell Club-NY on "Novel Advances in Pain Management Research." The speakers were Kathleen M. Foley, MD, Memorial Sloan-Kettering Cancer Center, M. Carrington Reid, MD, Weill Cornell Medical School, and Anne Louise Oaklander, MD, PhD, Harvard Medical School. The briefing was supported by The Mayday Fund.

A webinar, "Who Cares for Older Adults? – Workforce Implications of an Aging Population," was held on May 31, in collaboration with Grantmakers in Aging and co-sponsored by AFAR and the John A. Hartford Foundation. Richard W. Besdine, MD, AFAR Medical Officer, spoke on the geriatric medicine work force and John Feather, Grantmakers in Aging CEO, served as the moderator.

"To Screen or Not to Screen: New developments on the risks and rewards of health screenings for older adults: bone density, prostate cancer and Alzheimer's disease" an AFAR webinar, was presented on July 25. Richard W. Besdine, MD, AFAR Medical Officer, and Christine K. Cassel, MD, President and CEO of the American Board of Internal Medicine and ABIM Foundation, led the discussion. The Webinar was made possible by an unrestricted education grant from the Cigna Foundation.

Community Events

In conjunction with the Peapack-Gladstone Bank, a seminar on "Health and Wealth" featuring M. Carrington Reid, MD, Weill Cornell Medical School, was held on August 15.



ON THE
SHOULDERS
OF
GIANTS



Assistant Professor, Department of Genetics Albert Einstein College of Medicine Dr. Atzmon's recent work involves the identification of the first longevity gene, CETP, followed by other newly discovered genes that may provide protection from a variety of diseases such as diabetes, hypertension, and coronary heart disease.

To assist in the development of junior investigator careers in aging research, AFAR provides up to \$100,000 for a one- to two-year award to junior faculty (MDs and PhDs) to study a broad range of topics that can lead to greater understanding of the basic mechanisms of aging.

About his work ...

"You and I can be identical twins with the same DNA but we will age differently. I might get to 100 and you only to 80. The question I am working on is 'Why do the physical characteristics of seemingly identical genetic backgrounds diverge as they age?' Changes in the epigenetic control of gene expression are one of the central mechanisms that influence responses to age-related diseases and therefore lifespan."

About his AFAR grant ...

"What AFAR does is great because it encourages and funds so many ideas that otherwise would not be developed. For me, the Genome Project is the most important milestone because it's not just for aging, it's for everything. Today, nine years later, I have the technology, the time and – thanks to AFAR – the budget to do this work."

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THE NEW INVESTIGATOR AWARDS IN

ESTHER OH, MD

Assistant Professor,
Geriatric Medicine and
Gerontology
Johns Hopkins
University School of
Medicine

Dr. Oh's research aims to develop a biological marker for the preclinical stage of Alzheimer's disease.

This program supports research where more scientific investigation is needed to improve the prevention, diagnosis, and treatment of Alzheimer's disease. The program also encourages junior investigators in the United States and Israel to pursue research and academic careers in the neurosciences, and Alzheimer's disease in particular. Areas of research include learning and memory as well as nutrition, exercise, and cardiovascular risk factors as they relate to the brain and the aging process. The Rosalinde and Arthur Gilbert Foundation and The Diane and Guilford Glazer Foundation fund the awards.

About her work ...

"The research premise is simple: can an oral glucose tolerance test see if the blood levels of amyloid protein – the protein we think accumulates in the brains of people with Alzheimer's disease – change over a two-hour time period after drinking 75 grams of sugar. If such a simple test could function as a biomarker, I would know we were onto something exciting. Now because of AFAR's grant, we are developing a simple blood test to show that the pattern of that protein level is different between patients who are normal and patients who have Alzheimer's disease."

About her AFAR grant ...

"AFAR's funding was a wonderful bridge for me, as I may not have been able to pursue my project.
But the AFAR grant opened up so many doors, and I received other grants including NIH funding. All because of the AFAR grant."



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GLENN/AFAR BREAKTHROUGHS IN GERONTOLOGY (BIG) AWARDS

LUIGI FONTANA, MD, PhD

Research Associate Professor of Medicine Co-director of the Washington University Longevity Program Washington University School of Medicine Dr. Fontana's research focuses on the potential role of diet and exercise in slowing the aging process.

BIG Awards support high-risk pilot programs that promise to yield transforming discoveries in the fundamental biology of aging. The hope is that this will lead to major new insights into the molecular factors that coordinate aging in multiple cells and tissues and the ways in which the aging process is differentially timed in long-lived species. This may mean looking at genetic controls of aging and longevity, delay of aging by pharmacological agents or dietary means, or the mechanisms by which alterations in hormones, anti-oxidant defenses, or repair processes promote longevity. The Glenn Foundation for Medical Research sponsors the BIG Program.

About his work ...

"We know that calorie restriction without malnutrition in normal-weight mice is the most powerful intervention to slow aging. And in humans right now, calorie restriction can completely prevent cardiovascular disease and protect against obesity and type 2 diabetes. Regardless of its impact on human longevity, we do know that people on calorie restriction will have much less chronic disease."

About his AFAR grant ...

"AFAR funds are very important for scientists like me who are working in an uncharted and unexplored area of research. I am probably one of a few physicians-scientists working in the human biology of aging, which will be key to preventing diseases in humans."



PAUL B. BEESON CAREER DEVELOPMENT AWARDS IN AGING RESEARCH PROGRAM

E. WESLEY ELY, MD, MPH

Professor of Medicine and Critical Care Vanderbilt University Medical Center icudelirium.org Dr. Ely's research has focused on improving the care and outcomes of critically ill patients with severe sepsis and respiratory failure, with special emphasis on the cognitive problems facing older patients during and following the ICU, including delirium and long-term cognitive impairment.

In its 18-year history, the Paul B. Beeson Career Development Awards in Aging Research Program has come to exemplify one of the most successful public-private partnerships in aging research, teaching, and clinical practice. Beeson Awards are often life- and career-changing. A hallmark of the program is the collaboration that scholars create across multiple disciplines and in educating and mentoring the next generation of leaders in geriatric medicine and aging research. The Awards are named for Dr. Paul B. Beeson, a renowned physician, researcher, and teacher, and are funded by The National Institute on Aging, The John A. Hartford Foundation, The Atlantic Philanthropies, and The Starr Foundation, and are administered by the National Institute on Aging and the American Federation for Aging Research.

About his work ...

"Millions of older patients are treated in intensive care units and end up with cognitive impairment that looks like dementia. They come into the hospital for a common surgical procedure thinking 'I'll just come in and leave.' But for some unforeseen reason, they end up delirious for three days. When they wake, they discover they have problems thinking, balancing a checkbook, finding their car in the lot. It's a private nightmare for them and it inhibits their quality of life."

About his AFAR grant ...

"Without any funding for this work, we would not have had the ability to get this research effort started. Because of the grant we were able to design an exercise for a patient's brain and measure how well it works. AFAR has been integral to this and without its investment in this field, we would still be at square one."



THE HARTFORD CENTERS OF EXCELLENCE (COE) IN GERIATRIC MEDICINE AND GERIATRIC PSYCHIATRY AND TRAINING

M. CARRINGTON REID, MD, PhD

Center Director at Weill Medical College of Cornell University Dr. Reid's research has focused on the epidemiology and treatment of various persistent pain disorders in older adults. This work has involved elucidating risk factors for poor outcomes (e.g., declines in physical performance), as well as the development and testing of non-drug interventions to improve outcomes.

The Hartford Centers of Excellence (CoE) in Geriatric Medicine and Geriatric Psychiatry and Training Program, administered by AFAR and funded by the John A. Hartford Foundation, aims to increase the number of current and future academic geriatricians, as well as specialty and subspecialty physicians with an interest in the geriatrics-related aspects of their discipline. The program addresses the severe shortage of doctors trained in geriatric medicine, a crisis heightened by the rapidly aging population. Since 2010, the CoE program has granted almost \$7.5 million. This year, AFAR will distribute nearly \$2.5 million in career development awards to 83 advanced Fellows and junior faculty members at 28 Centers of Excellence.

About the work ...

Under Dr. Reid's leadership, the Center funds fellows and junior faculty with pilot funding to advance their investigative or educational activities. "The CoE support has allowed us to consistently recruit fellows to our program and has launched the careers of junior faculty. The support has helped our center continue to grow and achieve success both locally and nationally."

About the AFAR grant ...

"We're perched on the edge of this tsunami of aging and yet the inattention – in terms of resources and generating a better understanding of the problem and how to make life better in later life – is simply astounding. In the last 10 years, the number of geriatricians working with people over 85 has dropped about 40%. The Centers of Excellence program is critically needed to reverse the trend and redirect health care professionals back into the field."



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THE JULIE MARTIN MID-CAREER AWARDS IN AGING RESEARCH

BRIAN KENNEDY, PhD

CEO & President Buck Institute for Research on Aging A major focus of Dr. Kennedy's current research is to study the target of rapamycin (TOR) pathway, which has been shown to extend mouse lifespan, in order to determine if pathways like TOR can be regulated to treat the diseases of aging.

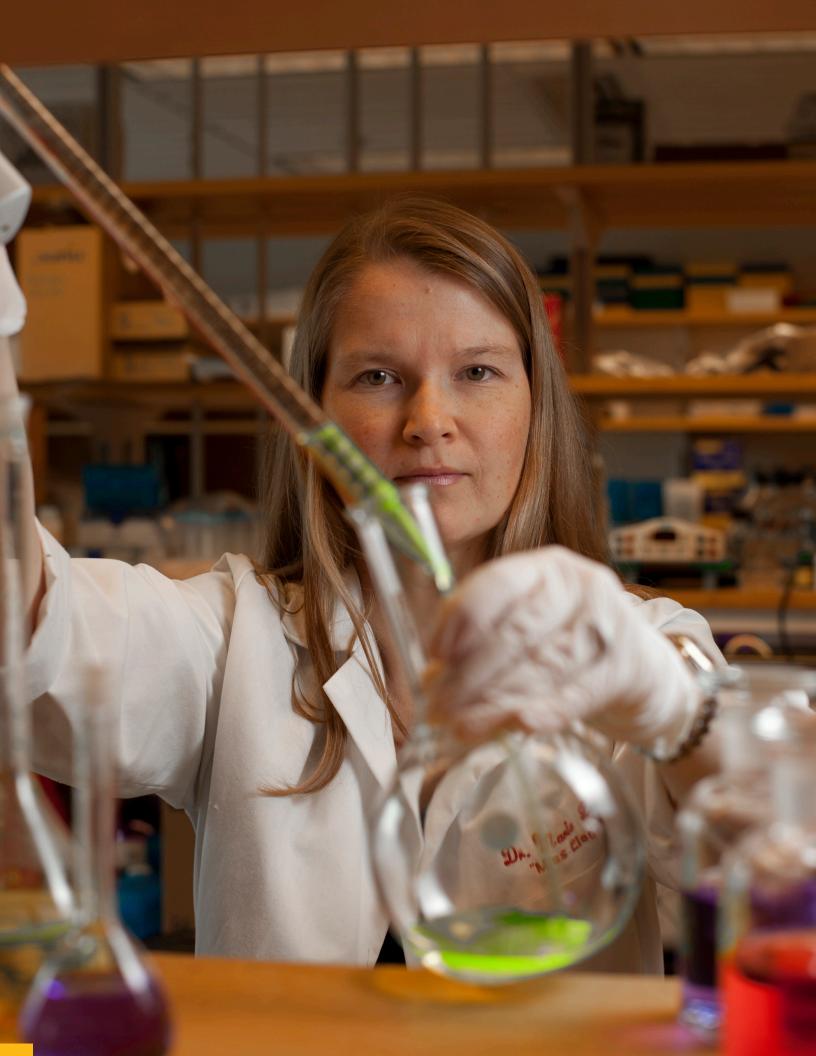
This program recognizes outstanding mid-career scientists who propose new directions of high importance to biological gerontology, especially in areas where NIH awards or other traditional sources are unlikely because the research is high risk. It is sponsored by The Ellison Medical Foundation and honors the late Julie Martin, wife of George M. Martin, MD, Scientific Director of AFAR.

About his work ...

"If you give rapamycin to a mouse in its middle age, you can make it live 15 percent longer – it will also be healthier. I don't know if rapamycin is right for humans or not, but I do know that the more drugs we develop, the more likely we'll find one that will work with humans. Yes, we have these eureka moments, but it's important to realize not every idea in aging research will pay off. What's important is that a few of the ideas turn out to be right."

About his AFAR grant ...

"I can't say enough good things about AFAR's grant programs. They can really kick-start a career when young researchers don't really have enough data to get NIH grants. One of AFAR's real strengths is that they put resources in the biology of aging; you're not selecting one disease over another. Aging is the biggest risk factor for many diseases so by understanding aging, we might be able to develop therapeutics that work across a whole range of different diseases at the same time."



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ELLISON MEDICAL FOUNDATION/AFAR POSTDOCTORAL FELLOWS IN AGING RESEARCH PROGRAM

MARIA LEHTINEN, PhD

Assistant Professor of Pathology Harvard University Dr. Lehtinen's research focuses on understanding how the cerebrospinal fluid provides an adaptive and instructive signaling niche for the developing, adult, and aging brain, and helping to identify the central command that coordinates this process. The Ellison Medical Foundation, in partnership with AFAR, created this program to encourage and further the careers of postdoctoral fellows with outstanding promise in the basic biological and biomedical sciences to enable them to get established in the field of aging. These are one-year grants ranging from \$45,218 to \$59,402 per fellow.

About her work ...

"One of the most exciting moments in my career was when I started to think about cerebrospinal fluid (CSF) in the first place – how it might be more than just a fluid cushion for the nervous system, and how it might change in an age-dependent way. We soon realized that CSF has to be a source of environmental signals to neural stem cells, not just a passive sink for nervous system waste. This new view of the CSF fluid environment opens up many exciting avenues of investigation about how we might modify or control CSF later in life to help maintain brain health."

About her AFAR grant ...

"Because of our AFAR grant, our work was published last year and has received a lot of attention. This experience has been an exciting journey and has helped lay the foundation for the research that I'm pursuing in my own independent research lab right now."

MEDICAL STUDENT TRAINING IN AGING RESEARCH (MSTAR) PROGRAM

From the Diary of an MSTAR Student

As part of AFAR's dedication to increasing the numbers of researchers and clinicians working in aging, the Medical Student Training in Aging Research (MSTAR) scholarship program creates a rich 8–12 week experience for medical students under the mentorship of top experts in the field. The program funds work in basic sciences, clinical research, health services research, and in clinical and didactic training.

MSTAR students gain a wealth of experiences they might not otherwise have during medical school, especially early in their training, which is when most scholars participate in the program. Many former MSTAR scholars have pursued successful and varied careers in geriatrics and aging-related research. They have joined the growing number of dedicated scientists, innovative thinkers, and talented physicians whose specialized knowledge and skills in aging are increasing in demand as our population ages.

The program is jointly supported by the John A. Hartford Foundation, MetLife Foundation, the National Institute on Aging (NIA), and the Lillian R. Gleitsman Foundation, and is administered by AFAR and the National Institute on Aging.

The current program strengthens the original Hartford/AFAR Medical Student Geriatric Scholars Program, established in 1994, which to date has trained 1,745 students from more than 100 medical schools.

"As an MSTAR scholar, I have had the opportunity to shadow geriatric fellows and attending physicians during their morning rounds this summer. This firsthand exposure to geriatric medicine has provided me with a much better understanding of the difficulties facing elderly patients, as well as the multidisciplinary approach that is needed to effectively address them."

—Caitlin Biedron, Wayne State University School of Medicine

"I just finished the first three weeks of the program and it has been nothing but a positive experience thus far. As a primary investigator in this study and one who gets to interact with the subjects, I've gotten to meet and briefly get to know a small, but still diverse and interesting group of older adults with rich and active lives."

—David S. Priemer, Saint Louis University School of Medicine

"I have been asked to complete cognitive testing on a few patients at their clinic visits. Working with dementia patients one-on-one reminds me of why it is that I chose to go into medicine in the first place. It is possible to have a positive impact on their lives by providing comprehensive care—something I hope to continue throughout my training and future career in medicine."

—Kelley T. Saunders, University of Arizona College of Medicine, Phoenix

"The mentoring I've received has been fantastic. In the lab, I have been given increasing amounts of responsibility... the MSTAR Program has made me ponder where I would practice, what I would do in academic medicine, and what kinds of patients I want to see."

—Sydney Harvey, University of North Texas Health Sciences Center at Fort Worth

"I have made great headway on the project, which focuses on the cognitive status and behavior of heart failure patients following acute symptom onset. I am very excited to explore my interests in geriatrics in the domain of epidemiological research. I feel privileged to be a part of a community of clinicians and researchers, whose common goal is to enhance health care in the aging population."

—Seth Levin, University of Massachusetts Medical School

AFAR'S REVIEW AND SELECTION PROCESS

AFAR has a nationally respected and scientifically rigorous grant review process. We award grants after conducting a three-level review process. First, a small committee evaluates the relevance and significance of the proposed research to the field of aging and the candidate's eligibility.

We then assign the applications for scientific review to the National Scientific Advisory Council (NSAC), which is comprised of 336 of the nation's leading medical and biological research scientists in aging and aging-related fields – all of whom donate their time to serve on AFAR's committees. Because of the committee members' breadth of knowledge and research expertise, AFAR can review, award, and evaluate grant applications covering the entire spectrum of biomedical research on aging. We assign each application to three NSAC members with expertise in the area of research.

Once their reviews and scores are submitted to AFAR, the most competitive applications are presented to a smaller group of appointed experts for final review. This committee not only reviews the quality of the proposed research, but also factors in the other selection criteria, such as the likelihood that the applicant will be able to successfully transition to an independent research position. This committee makes the recommendations, which are then presented to the AFAR Board of Directors for approval.

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