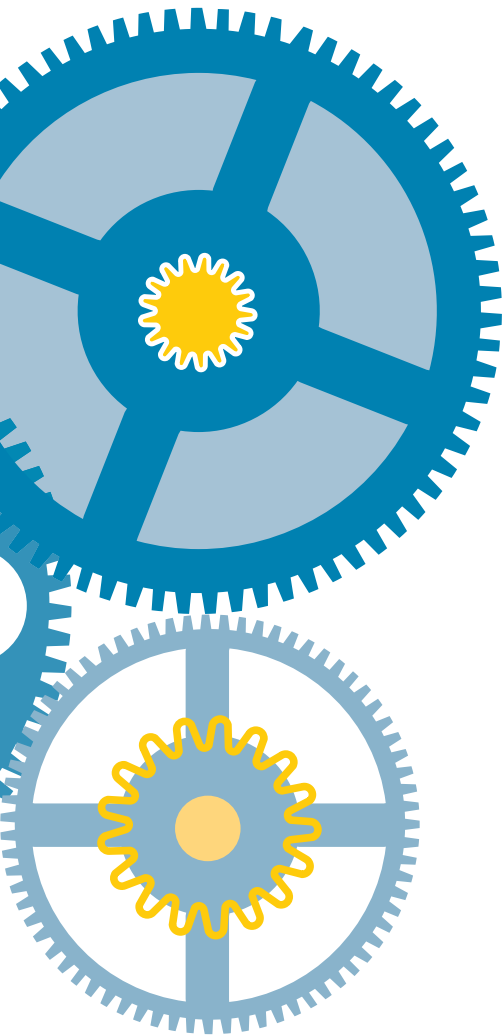


25th Anniversary Report 2005-2006



Advancing Great Minds

About the American Federation for Aging Research (AFAR)

AFAR's mission is to promote healthier aging through biomedical research. AFAR fulfills this mission by:

- Supporting biomedical research that promotes healthier aging and furthers our understanding of the aging process and its associated diseases and disorders;
- Building a cadre of new and early career scientists in aging research and geriatric medicine;
- Offering opportunities for scientists and physicians to exchange new ideas and knowledge about aging;
- Promoting awareness among the general public about the importance of aging research.

Since 1981, AFAR has awarded nearly \$87 million to more than 2,100 talented researchers as part of its broad-based series of grant programs. AFAR's work has led to significant advances in our understanding of the aging process, age-related diseases and healthy aging practices. AFAR communicates news of these innovations to the public through its consumer newsletter *Lifelong*, its organizational web site www.afar.org and two educational web sites, Infoaging (www.infoaging.org) and Health Compass (www.healthcompass.org).

Today, approximately 87% of the funds AFAR raises directly support aging research grants and other programs.

Dedication: George and Marie Doty



This annual report is dedicated to George and Marie Doty. Through their extraordinary generosity and vision, they helped lay AFAR's foundation and shaped its mission. They were early pioneers in realizing the need for more resources directed toward aging research and for the encouragement

of more clinicians to enter geriatrics. It is fitting that for our 25th anniversary we honor the people who have been with us from the beginning—George was a founding board member of AFAR—helping to shape the organization and ensuring its growth.

Advancing Great Minds: 25 Years



Stephanie Lederman
Executive Director

It is a pleasure to introduce this report celebrating the 25th anniversary of the founding of the American Federation for Aging Research. We at AFAR take justifiable pride in our accomplishments to date, and more particularly, the achievements of the more than 2,100 scientists we have supported since 1981.

In two and a half decades, we have learned a great deal about the aging process as well as the diseases and conditions related to aging. This report focuses in particular on some of our gains in the neurosciences. Since our inception, nearly half of AFAR's grants have been directed toward neurological research. This investment has yielded a greater understanding of how aging affects brain function and how the interplay of genes, environment and behavior influence neurodegeneration and susceptibility to such late-life diseases as Parkinson's disease and Alzheimer's disease. Three brief profiles in this report focus on AFAR-supported scientists in different areas of brain-related research.

We invest in great scientific minds. It takes about 10 years of training and funding to nurture promising scientific talent and create a full-fledged, independent investigator. AFAR's grants ensure that our nation's most talented scientists enter the field. Our partners in both the public and private sectors leverage AFAR's initial investment, providing the ongoing support necessary to sustain these researchers' careers over several decades. Indeed, 85% of AFAR's grantees continue to pursue research in aging. Many of today's leaders in the field received their start with an AFAR grant.

This process of advancing great minds in aging research will only become more important. The growing number of older adults demands that we redouble our efforts to find the new knowledge we need to understand the aging process completely and address the whole range of chronic diseases and conditions related to it.

“It takes about 10 years of training and funding to nurture promising scientific talent and create a full-fledged, independent investigator.”

A handwritten signature in cursive script that reads "Stephanie Lederman".



Diana Jacobs Kalman
Chair of the Board
of Directors

Research and Its Implications for an Aging Population

The aging of the nation's population poses a unique challenge to scientific research. We will soon experience the largest cohort of older adults in our history as each day some 6,000 people turn 65. How they age will greatly influence the country's economic, health and social systems.

With this demographic shift, the most common diseases of aging, heart disease, cancer, stroke, diabetes and Alzheimer's disease, will continue to cause an increasing number of deaths in the United States. Investing in biomedical research in order to understand and thus delay or even prevent these diseases is a critical healthcare strategy, one that has ramifications for the economic and social costs of disease.

Given the limited public and private funding for research on aging, AFAR's support is crucial. Our ability to develop the drugs, interventions and knowledge that will enable the growing number of older adults to live healthier longer depends on advances in the kind of basic science that AFAR identifies and supports so well.

In addition, there will be a need for more researchers and physicians trained in geriatrics and geriatric medicine. To meet these needs, AFAR is committed to populating the field with scientists focusing on aging research, creating leaders and encouraging more clinicians to specialize in geriatric medicine.

We are grateful to our contributors who have supported our research programs, and at this anniversary milestone, we reach out to new partners, who will join us to launch and sustain careers that will play a critical role in the well-being of our older citizens.

“Our ability to develop the drugs, interventions and knowledge... depends on advances in the kind of basic science that AFAR identifies and supports so well.”

A handwritten signature in black ink that reads "Diana J. Kalman". The signature is written in a cursive style with a large, stylized 'D' and 'K'.



Mark H. Beers, MD
President

Aging Research and AFAR: Advancing on Many Fronts

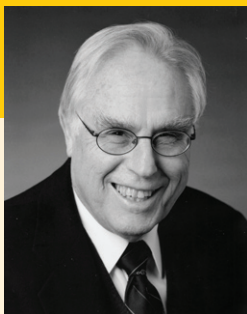
Why does the world need scientists to study the mysteries of aging? It is not so we can discover how to live forever or retain the youthful elasticity of our skin at age 90. It is because aging underlies most diseases and the functional changes that determine whether we enjoy late life or suffer in frailty and dependency. We want to age in good health, taking pleasure in our later years with independence and comfort. To study individual disease mechanisms without first exploring the mechanisms of aging is like trying to build a house before laying a foundation: the structure will not stand.

The magnets in most universities and hospitals strongly pull young minds to fields defined by disease and organ systems. Compared to better funded medical research disciplines, the biology of aging seems almost invisible. That is why AFAR works so tirelessly to ensure that young scientists are attracted to the study of aging and have what they need to become productive contributors to the field. AFAR also brings these young researchers together with senior scientists to vet their ideas, stimulate mutual growth and foster the professional and intellectual relationships that every scientist needs. We facilitate the cross-pollination of our grantees, introducing the riddles of one discipline in aging to others so novel insights into problem-solving can develop.

In the past 25 years, AFAR has accomplished far more than our founders could have imagined. We have provided nearly \$87 million dollars to support more than 2,100 young scientists. We have expanded our scientific programs from bench to clinic and have helped establish the credibility of the study of aging. Our awardees have contributed substantially to the world's understanding of aging in ways that remarkably improve human health. Many of our early grantees now serve as mentors to a younger generation. Yet, we imagine doing more because much more needs to be done: the foundation for addressing the multiple diseases and conditions of aging is not yet completely laid.

“To study individual disease mechanisms without first exploring the mechanisms of aging is like trying to build a house before laying a foundation: the structure will not stand.”

Mark Beers



George M. Martin, MD
Scientific Director AFAR
and Professor of
Pathology Emeritus
University of Washington

The Science of Advancing Great Minds

AFAR's 25th anniversary celebration will have a neurobiological flavor, highlighted by a conference, co-sponsored with the New York Academy of Sciences, on "Imaging and the Brain," an area that has enjoyed striking technical and conceptual advances in recent years. This focus on the brain is altogether fitting, given that almost half of all AFAR grants have been directed to discoveries about usual and unusual patterns of brain aging.

To offer just one example, Mark D'Esposito, MD, a 1995 AFAR grant recipient, 1997 Beeson Scholar and now a professor at Berkeley, used AFAR funds to pursue pioneering work on the imaging of the human brain and has gone on to mentor the next generation of promising scientists, including Adam Gazzaley, MD, PhD. Dr. Gazzaley is also affiliated with Berkeley and a recipient of two AFAR awards: a 2005 Pfizer/AFAR Innovations in Aging Research grant and a 2002 Glenn/AFAR Post-Doctoral Fellowship. We now look forward to providing an AFAR award to one of his future trainees.

Thanks to AFAR researchers and countless others, we have made significant gains in our knowledge of the aging brain and our ability to treat a number of "brain" diseases over the last quarter-century. For example, we now recognize that dementias are diseases of the brain rather than inevitable consequences of aging. Researchers have found that certain genes, once thought to be relevant only to life before reproductive age, also influence the health of the aging brain. We have also learned that life's exposures, ranging from personal stress to diet to socialization to intellectual stimulation, all influence the brain as we get older. Scientists and clinicians have expanded our ability to prevent and treat cerebrovascular disease, most notably hypertension. We have made important improvements in the recognition and treatment of geropsychiatric disorders, particularly depression.

At AFAR, we take great satisfaction in our role in developing these particular contributions to the aging research endeavor. Critical to our success are the volunteer efforts of hundreds of top scientists who review the many grant applications we receive each year. In that regard, we salute Rich Miller, MD, PhD, for his many years of leadership of AFAR's tough-minded Research Committee. We also rejoice in the selection of a superb successor, Roger McCarter, PhD, a leader in research on the physiology of aging mammals.

Finally, I cannot end this brief report without expressing the profound gratitude of the Martin family for the establishment, by AFAR and The Ellison Medical Foundation, of the Julie Martin Mid-Career Award in Aging Research. AFAR has historically supported research by young assistant professors. This new award recognizes the great potential of mid-career scientists, especially those new to our field of scholarship, to make outstanding original contributions. Given the current retrenchment in the level of funding by the federal agencies, such initiatives by AFAR and other nonprofit research foundations are now more important than ever.

George M. Martin

American Federation for Aging Research: The First 25 Years

1981

Irving S. Wright, MD, gathers aging research leaders at the annual meeting of the American College of Physicians in New Orleans and founds AFAR.

1987

George E. Doty is elected Chair of the Board of Directors.

The Merck Company Foundation sponsors new fellowships in geriatric clinical pharmacology.

1982

The first AFAR Research Grants are awarded.

First Irving S. Wright Award given to Nathan W. Shock, PhD.

1988

AFAR holds first grantee conference, bringing scientists together to share information, discuss research and create opportunities for future cooperation.

1984

First AFAR state affiliate formed in Ohio.

1991

The John A. Hartford Foundation funds new Gero-Physician-Scientist Training Program to provide physicians in various specialties an opportunity to pursue training and research in geriatric medicine.

1986

Charles A. Dana AFAR Traveling Scholars Program established to encourage interest in geriatric medicine among future physicians.

1993

Hadley Ford is elected Chair of the Board of Directors.

“The best way, the fastest way and the cheapest way to learn how to prevent the diseases and disabilities of aging may be to focus on aging itself...”

Richard Miller, MD, PhD
Associate Director for Research at the
University of Michigan Geriatrics Center

1994

AFAR receives \$14 million grant from The Atlantic Philanthropies and The Commonwealth Fund to administer the Paul Beeson Physician Faculty Scholars in Aging Research Program, the nation's largest non-governmental award program in academic geriatrics and aging research.

AFAR and The John A. Hartford Foundation collaborate to start the Hartford/AFAR Medical Student Geriatric Scholars Program.

The Glenn Foundation for Medical Research funds new Glenn/AFAR Student Scholarship Program for Research in the Biology of Aging.

Annual AFAR Research Grants top \$1 million.

1996

AFAR launches four-part media briefing series on older women's health with support from the Bristol-Myers Squibb Foundation.

AFAR develops a website, www.afar.org.

1997

AFAR launches Dorothy Dillon Eweson Lecture Series to educate medical specialists on advances in aging research within their own fields.

Diane Nixon names grant in memory of her mother, Nan Allen Nixon.

The John A. Hartford Foundation funds AFAR to establish a Coordinating Center for the Hartford Foundation's Centers of Excellence Initiative.

AFAR launches *Lifelong*, a newsletter for older patients published in *Geriatrics* magazine.

The Merck Company Foundation and AFAR create the Merck/AFAR Research Scholarships in Geriatric Pharmacology.

First "Friends of AFAR" dinner is held in New York City.

AFAR goes global with the first International Conference on Biomedical Aspects of Aging Research held in Venice, Italy.

Sponsors of the Paul Beeson Physician Faculty Scholars in Aging Program commit additional \$14 million to fund 31 new Scholars.

1998

The John A. Hartford Foundation and AFAR create the Academic Fellowship Program in Geriatric Medicine and Geriatric Psychiatry.

1999

Pfizer Inc joins with AFAR to create the Pfizer/AFAR Research Grant Program.

2000

AFAR and the Institute for the Study of Aging create the AFAR/ISOA Program for Drug Discovery in Cognitive Decline and Alzheimer's Disease.

The Fan Fox and Leslie R. Samuels Foundation adds support for local medical students through the AFAR/Samuels Foundation Medical Student Geriatric Scholars Program.

AFAR launches Infoaging.org, a consumer information website.

The Starr Foundation joins the team of Beeson Program sponsors.

2001

AFAR and the Glenn Foundation for Medical Research create awards program for postdoctoral fellows.

Foundation for Fighting Blindness and AFAR establish a joint program for career development awards in support of research on age-related macular degeneration.

2002

AFAR receives funding from the Merck Company Foundation with a matching grant from the Glenn Foundation for Medical Research to co-fund a segment of the Science of Aging Knowledge Environment (SAGE-KE) project.

The William Randolph Hearst Foundation contributes to the AFAR Research Grant Program.

2003

AFAR launches upstate affiliate program in Rochester, NY, funded by the Starr Foundation.

The Ellison Medical Foundation and AFAR team up to support senior postdoctoral fellows.

AFAR and the Merck Institute on Aging and Health create HealthCompass.org.

2004

Diana Jacobs Kalman elected Chair of the Board of Directors.

AFAR launches southeast affiliate at Emory University in Atlanta, GA.

AFAR celebrates the 10th anniversary of the Beeson Program with the added support of the National Institute on Aging and the new name of The Paul B. Beeson Career Development Awards in Aging Research.

The Pfizer/AFAR Innovations in Aging Research Award is created.

The William Randolph Hearst Foundation adds support to the Medical Student Geriatric Scholars Program.

The Terrapin Society, AFAR's planned giving program, is created.

2005

The Glenn Foundation and AFAR collaborate to create the Glenn/AFAR Breakthroughs in Gerontology (BIG) Award, which provides funding for "high-risk, high-yield" research.

AFAR, The John A. Hartford Foundation and other foundations partner with the NIA on the Medical Student Geriatric Program, renamed the Medical Student Summer Research Training in Aging Program. Foundations include The William Randolph Hearst Foundation, The Cleveland Foundation, Cardinal Health Foundation, Lillian R. Gleitsman Foundation, Community Health Foundation of Western & Central New York, The New York Community Trust and an anonymous donor.

The Novartis Foundation joins with AFAR to establish the Aging Well Initiative.

2006

The Julie Martin Mid-Career Award in Aging Research is created by The Ellison Medical Foundation.

The Fannie E. Rippel Foundation establishes the Fannie E. Rippel Foundation/AFAR New Investigator Awards on Gender Differences in Cardiovascular Disease in Older Adults.

AFAR remembers dedicated board member

Dorothy Dillon Eweson (1913-2005).

Highlights from 2005-2006

Leadership

- **Mark Beers, MD**, was elected president and Terrie Wetle, PhD, elected president elect. Eight new board members were added: John M. Bonk, P.G.B. Trust; Helen K. Edelberg, MD, MPH, Sanofi-Aventis; Donald A. Snider, PhD, James N. Jarvie Commonweal Service; Roger McCarter, PhD, Penn State University; John B. Rhodes, Booz-Allen Hamilton (retired); Joyce Yaeger, M Booth & Associates and Gary L. Zwerling, Goldman Sachs (retired).
- **Roger McCarter, PhD**, will take over the chair of AFAR's Research Committee beginning in 2007 from Richard Miller, MD, PhD, who has been chair for five years.
- In May 2005, Diana Jacobs Kalman led AFAR's second **board retreat** to assess its mission, analyze the challenges and opportunities in the current research environment and redefine its goals and strategic plan for the next five years. Thirty board members and staff attended the two-day gathering.
- enriching experience in aging-related research and geriatrics, under the mentorship of top experts in the field. Foundation sponsors include: **The John A. Hartford Foundation, The William Randolph Hearst Foundation, The Cleveland Foundation, Cardinal Health Foundation, Lillian R. Gleitsman Foundation, Community Health Foundation of Western and Central New York** and **The New York Community Trust** as well as an **anonymous donor**.
- In 2005, **The Ellison Medical Foundation** renewed its commitment to the **Ellison Medical Foundation/AFAR Senior Postdoctoral Fellowship Program**, supporting three additional groups of senior postdoctoral fellows at a crucial period in their training. The program encourages and furthers the careers of postdoctoral fellows in the fundamental mechanisms of aging, supporting up to three postdoctoral fellows annually, with two-year \$100,000 awards.

Programs

- Now in its 11th year, the **Paul Beeson Career Development Awards in Aging Program** continues to create a cadre of leading physician-scientists committed to academic careers in aging-related research, teaching and practice. As our partnership with the National Institute on Aging (NIA) flourishes, the Beeson Program itself has become a model of interdisciplinary cooperation between the government and foundations. **The NIA, The Atlantic Philanthropies, The John A. Hartford Foundation, The Starr Foundation** and an **anonymous donor** all continue to sponsor the program. Up to 12 Scholars are funded annually, with each award worth \$600,000 to \$800,000 over three years. In 2005, the program selected 11 new Scholars.
- **The Medical Student Summer Research in Aging Program** is another example of a successful partnership between the NIA, AFAR and the private sector, including local community foundations. Through combined resources, the program funds up to 140 medical students annually with an
- **The Ellison Medical Foundation** also announced the creation of a new Ellison/AFAR research grant program: **The Julie Martin Mid-Career Award in Aging Research**, named in memory of Julie Martin, the late wife of AFAR's scientific director, George M. Martin, MD. This program will support outstanding mid-career scientists who have not been engaged in aging research, but whose research is relevant to aging and could lead to novel approaches. Starting in 2006, this grant program will award up to four, four-year awards of \$550,000.
- To address the need for more study into how cardiovascular disease affects older men and women differently, AFAR partnered with the **Fannie E. Rippel Foundation** to establish the **Fannie E. Rippel Foundation/AFAR New Investigator Awards on Gender Differences in Cardiovascular Disease in Older Adults**. Two \$60,000 research awards will support an important area in which more scientific investigation is needed to improve the prevention, diagnosis and treatment of heart disease in people over age 65. The awards will also serve to encourage junior investigators to pursue research and academic careers in aging-related cardiovascular research utilizing a gender-based approach.

- **The Breakthroughs in Gerontology (BIG) Awards** supported by the **Glenn Foundation** fund a small number of pilot research programs that may be of relatively high risk, but which offer significant promise of yielding transforming discoveries in the fundamental biology of aging. Up to four grants of \$125,000 each will be awarded.
- **The John A. Hartford Foundation's** 24 centers of excellence (CoEs) possess considerable capacity to recruit and develop physician leaders in geriatrics. As there is currently no formal mechanism for collecting and disseminating this expertise, the Foundation and AFAR established a **Network Resource Center**, which will facilitate the continued development of academic geriatric medicine and its practitioners by identifying and disseminating best practices in geriatrics recruitment and career development.

Special Projects

- AFAR embarked on a pro bono **advertising campaign** in partnership with the Lankenau Institute for Medical Research in Philadelphia, securing placement in national publications that included: *People*, *Sports Illustrated*, *Fortune for Small Business* and *Travel & Leisure*.
- In October 2005, AFAR convened leading scientists, biotechnology and foundation representatives at ***Stem Cells and Aging: Celebrating the Promise***, held in San Francisco. The meeting and dinner featured Zach Hall, PhD, president of the California Institute for Regenerative Medicine and Irving Weissman, PhD, director of the Stanford Institute for Stem Cell Biology and Regenerative Medicine. The program is part of AFAR's geographic expansion efforts to open a California-based affiliate.
- AFAR, in partnership with the Alliance for Aging Research, produced ***The Science of Aging Gracefully: Scientists and the Public Talk About Aging Research***, released in conjunction with the once-per-decade White House Conference on Aging. The report

features an analysis of a poll of leading aging researchers about their impressions of advances in the next decade and includes data from the public about their knowledge and expectations for such research. Sponsors of this report include the **Metlife Foundation**, **The Atlantic Philanthropies**, **The Ellison Medical Foundation**, **The John A. Hartford Foundation**, **Pfizer Inc** and the **Retirement Research Foundation**.

- Through our long-standing and successful partnership with **Pfizer Inc**, AFAR launched a scientists media luncheon series featuring leading scientists who discuss their research on longevity genes, regenerative medicine and the aging brain. The program has attracted a regular media following including NBC News, *BusinessWeek*, *The Wall Street Journal*, *O Magazine*, *Parade* and *Ladies' Home Journal*.
- On May 16 and 17 2006, AFAR in collaboration with the New York Academy of Sciences, hosted a conference, ***Imaging and the Aging Brain***, bringing together imaging scientists, those studying the aging brain, industry experts and clinicians to explore the most current methodologies and their application to brain physiology, behavior and age-related diseases. An active and renowned scientific committee planned a premier program featuring leading figures in neuroscience. The committee includes: Mony J. de Leon, EdD, New York University; Howard Federoff, MD, PhD, University of Rochester; Joy Hirsch, PhD, Columbia University; George M. Martin, MD, University of Washington, Seattle; John Morrison, PhD, Mount Sinai School of Medicine and Donald A. Snider, PhD, James N. Jarvie Commonwealth Service.

The Ladder of Opportunity

AFAR's 2005 Grant Programs

The American Federation for Aging Research offered a range of grant opportunities for medical and graduate students, fellows and junior faculty. All of these efforts have been designed to attract the most talented new scientists to the field and help them launch careers in aging research.

AFAR Research Grants

The AFAR Research Grant program provides up to \$60,000 for a one-to-two-year award to junior faculty (MDs and PhDs) to do research that will serve as the basis for longer term research efforts. AFAR-supported investigators study a broad range of biomedical and clinical topics. Sponsors include: AFAR Board of Directors, The Bedminster Fund, The Clarence and Anne Dillon Dunwalke Trust, Eisai Inc., The Glenn Foundation for Medical Research, The Partners of Goldman Sachs & Company, F.M. Kirby Foundation, Inc., Diane Nixon, Pfizer Inc, The Richard and Hinda Rosenthal Foundation, Joseph L.K. Snyder Trust, The Starr Foundation and the Irving S. Wright Endowment.

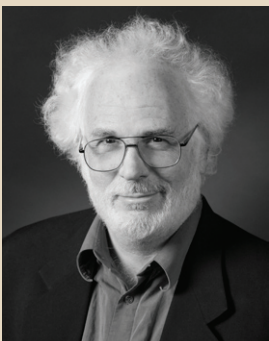
Paul Beeson Career Development Awards in Aging Research Program

The National Institute on Aging, The NIH Office of Dietary Supplements, The John A. Hartford Foundation, The Atlantic Philanthropies (USA), The Starr Foundation and an anonymous donor are collaborating on this initiative to sustain and promote the research careers of clinically trained individuals who are pursuing research careers in aging.

Glenn/AFAR Breakthroughs in Gerontology (BIG) Awards

The Glenn/AFAR BIG program provides support to a small number of pilot research programs that may be of relatively high risk but which offer significant promise of yielding transforming discoveries in the fundamental biology of aging.

AFAR's Rigorous Review Process



Richard Miller, MD PhD
Chair
AFAR Research Committee

Many aging research grant programs, including the American Federation for Aging Research, receive five to seven times as many qualified proposals as can be funded. AFAR uses a rigorous review process to determine that its grantees are the cream of this very competitive crop.

Each year, the organization receives more than 150 applications for its one-to-two year, \$60,000 Research Grant awards. Its National Scientific Advisory

Council (NSAC), consisting of more than 200 of the nation's leading researchers in aging and aging-related fields, carefully considers each proposal's scientific merit. The size and expertise of the NSAC is critical as AFAR welcomes proposals on the entire spectrum of concerns related to aging research. Volunteer members of this diverse panel screen, read and score the applications before referring them to AFAR's Research Committee. After another two-day deliberation,

Ellison Medical Foundation/AFAR Senior Postdoctoral Fellows Research Program

This program encourages and furthers the careers of postdoctoral fellows (both MDs and PhDs) with at least three and not more than five years of prior postdoctoral training, in the fundamental mechanisms of aging.

Pfizer/AFAR Innovations in Aging Research Award

These two-year awards are directed at promising junior faculty scientists working on the basic biology of aging and its relationship to human disease.

Medical Student Summer Research Training in Aging Program

To encourage medical students—particularly budding researchers—to consider a career in academic geriatrics, this program awards short-term scholarships. AFAR has partnered with the NIA and several foundations to continue and strengthen the original Hartford/AFAR Medical Student Geriatric Scholars Program. Participating foundations include The John A. Hartford Foundation, The William Randolph Hearst Foundation, The Cleveland Foundation, Cardinal Health Foundation, Lillian R. Gleitsman Foundation, Community Health Foundation of Western & Central New York, The New York Community Trust and an anonymous donor.

Merck/AFAR Junior Investigator Award in Geriatric Clinical Pharmacology

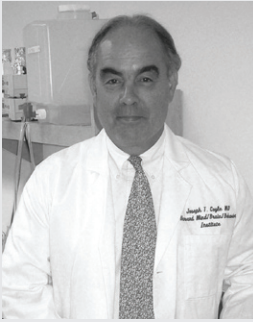
These two-year awards addressed the critical need of developing more physicians with a command of geriatric clinical pharmacology.

the Committee then recommends finalists. Since 2002, Richard A. Miller, MD, PhD, has chaired this committee. Beginning in 2007, Roger McCarter, PhD, will serve as chair.

In the case of the other scholarship, fellowship and grant programs that AFAR administers, scientists with an expertise applicable to the particular grant program evaluate the applications in a similarly rigorous fashion. To benefit from these high-quality administrative

skills and review processes, many foundations, individuals and corporations turn to AFAR to manage their aging programs. The organization's excellent reputation is due in large part to the committed—and voluntary—work of senior researchers in its network. Thanks to their efforts, AFAR consistently administers first-class grant programs and ensures that its programs make only the highest quality choices.

Early Innovations in Alzheimer's



Joseph T. Coyle, MD
Eben S. Draper
Professor of Psychiatry
and Neuroscience
Harvard Medical School,
McLean Hospital
1982 Grantee

A quarter of a century ago, Joseph T. Coyle, MD, reached a critical juncture in his early work. His laboratory required a major piece of equipment for his research on Alzheimer's disease (AD). At the time, young investigators struggled to get enough support from National Institutes of Health (NIH) grants to purchase equipment. It was one of AFAR's first-round of grants that gave him the funding he needed.

Coyle's research team eventually showed in an animal model that a medication called galantamine corrected the working memory deficit characteristic of Alzheimer's. It did so by inhibiting the breakdown of an enzyme that restores nerve function. Subsequent clinical trials demonstrated its efficacy in humans. Today, galantamine is one of a very small number of drugs approved to treat AD.

During the last decade, the focus of interest in Coyle's laboratory has shifted from Alzheimer's to schizophrenia. Clinical trials have shown that treatment with agents he is now testing improve cognition and reduce social deficits in schizophrenics.

"AFAR plays an especially important role in filling the gaps left by NIH's restricted funding."

Today, Coyle is a pre-eminent presence in his field. He served as chairman of the Consolidated Department of Psychiatry at Harvard Medical School for ten years and now holds the Eben S. Draper Chair of Psychiatry and Neuroscience there. He has published more than 500 scientific articles, edited seven books and has been the editor-in-chief of the *Archives of General Psychiatry*. He has received several awards, notably the John Jacob Abel Award from the American Society for Pharmacology and Experimental Therapeutics, the Gold Medal Award from the Society for Biological Psychiatry, the Efron Award from the American College of Neuropsychopharmacology and the Foundation Fund Research Award from the American Psychiatric Association, among many others.

AFAR Founder Irving S. Wright: An Appreciation



In 1981, Irving S. Wright, MD, had the foresight to realize that there would be a substantial age boom in the years ahead, yet scant resources devoted to research on aging and clinical care to support such a boom.

Dr. Wright, a pioneer in the development of anti-coagulants and a former president of both the American College of Physicians and the American Heart

Association, convened a group of 35 leading geriatricians, gerontologists and lay people to map out the needs for an aging society. Key to addressing this need would be a greater commitment to the field of aging research, providing financial support to encourage more scientists to enter the field and more geriatricians to care for an aging population.

Where Memory Resides



Carol Barnes, PhD

Professor of
Psychology and
Neurology, University
of Arizona
1987 Grantee

**“And that’s the
goal—to provide
the people of this
generation with
the arsenal they
need to achieve
healthy aging.”**

Carol Barnes, PhD, has always had a passion for investigating the neurobiology of aging and AFAR has played a part in that passion almost since the beginning of her professional career. She recalls meeting and talking with others in the field when she attended her first AFAR conference in 1988. “There was no National Institute on Aging in 1972 when I first became interested in age-related memory disorders,” she recalls, “so it was very encouraging to me that there were others out there interested in this fascinating and important subject.”

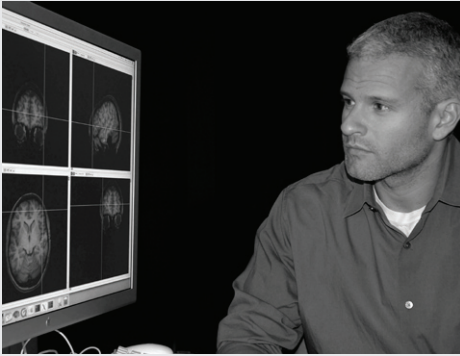
As her career progressed, Barnes focused on rat models to learn more about the relationship of the hippocampus and cortical structures in the brain to memory. By 1987, when she was an associate professor at the University of Colorado, she had taken her research as far as it could go with the equipment available to her. To further broaden her understanding, she needed a more powerful computer. AFAR provided her with a grant to study the “Effects of Aging on Sensory-Motor Information Processing Capabilities of Mammalian Association Cortex.” The funding went not only toward purchasing a new computer, but also toward making critical technical advances in her field. Barnes’s lab was among the first in the world to implant recording probes in rats’ brains, which allowed researchers to decode information about the way cellular networks worked.

Today, as a professor of psychology and neurology at the University of Arizona, Barnes continues to study the aging brain. In fact, she and her research team were the first to record neural cell signals from a geriatric primate, a rhesus macaque, in an awake state, leading to an entirely new area of study.

For the future, she hopes her work will lead to a better understanding of the molecular basis of Alzheimer’s disease, and she is pleased with the progress that medicine has made in treating vascular dementia caused by circulatory disease. “I have a strong feeling that we have the means to reduce the dementing components of vascular disease dramatically,” she says.

From a modest start of awarding \$60,000 to four investigators in its first year, AFAR has grown more than 200-fold. In 2005, AFAR awarded 105 scientists and medical students more than \$12 million and in the process, has become a powerful force for aging research.

What Grabs Our Attention



The human brain's ability to focus selectively on relevant information and ignore distracting or irrelevant information, called top-down modulation, changes with age in many people. With help from two AFAR grants, Adam Gazzaley MD, PhD, assistant professor of neurology and physiology at the University of California, San Francisco, and an adjunct assistant professor of neuroscience at the University of California, Berkeley, has been studying these changes since 2002.

Adam Gazzaley, MD, PhD

Assistant Professor of
Neurology and Physiology,
University of California,
San Francisco, and Adjunct
Assistant Professor of
Neuroscience, University of
California, Berkeley
2002 and 2005 Grantee

His first grant, a Glenn/AFAR Post-Doctoral Fellowship, supported his work at Berkeley, where he learned how to apply the techniques of functional magnetic resonance imaging (fMRI) and electroencephalography (EEG) to study the relationship between changes in brain activity and declining memory and attention in older adults. Under the mentorship of AFAR grantee and Beeson Award winner Mark D'Esposito, MD, and Robert Knight, MD, he discovered that top-down modulation involves both enhancing brain activity associated with focusing on relevant information, and the suppression of brain activity associated with being aware of irrelevant information.

Further research revealed that older adults could still focus perfectly well on what was important to them, but their ability to filter out distractions grew worse with age. That impaired not only concentration, but short-term memory as well. Fortunately, this doesn't happen to everyone, which suggests that there may be ways to avoid this sort of cognitive decline and age more successfully.

To support Gazzaley's current research into successful and unsuccessful aging, in 2005, AFAR provided him with a Pfizer/AFAR Innovations in Aging Research Award. "AFAR has been essential for transitioning my research toward a new approach in studying the aging brain," he says. "It has launched my research career as an independent scientist. In addition to financial support, the opportunity to meet new mentors and colleagues through AFAR has been invaluable."

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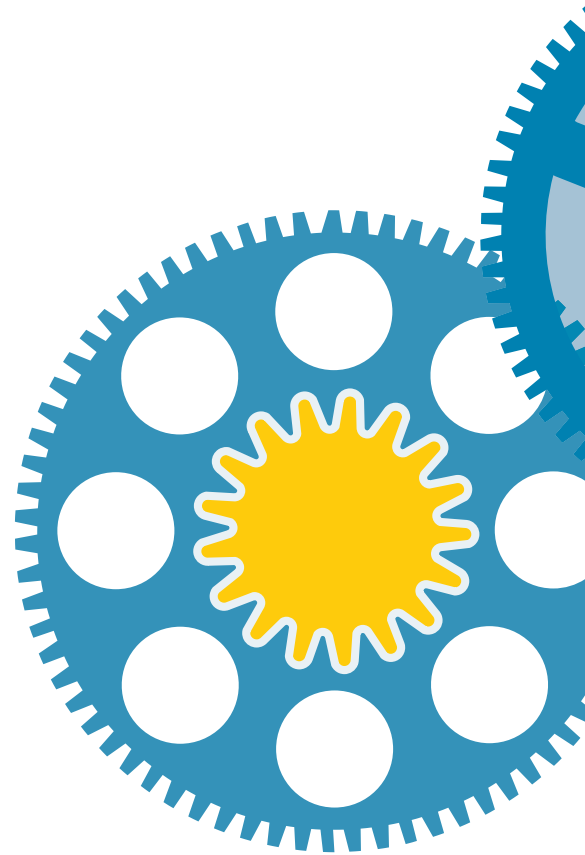
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