

New Investigator Awards in Alzheimer's Disease Research

An abstract graphic consisting of numerous thin, blue, wavy lines that flow from the bottom left towards the top right, creating a sense of movement and depth. The lines are closely packed and overlap, forming a textured, ribbon-like effect.

*A Successful Model for
Investing in Futures*

New knowledge about Alzheimer's disease has never been more important. Today, more than 5 million Americans live with this disease. The greatest risk factor for Alzheimer's is age, and with 10,000 baby boomers turning 65 each day, that number may triple by mid-century. Alzheimer's disease takes an immeasurable toll not only on people living with the disease, but also their families and friends, and society at large. Even modest advances in preventing or delaying Alzheimer's will have a huge global public health impact. We need innovative research—and the mediations and treatments it engenders—to help delay disease and forestall frailty and dependence.

Recognizing these trends, and motivated by a deep interest in improving the lives of those affected by Alzheimer's disease, The Rosalinde and Arthur Gilbert Foundation and the American Federation for Aging Research (AFAR), launched the New Investigator Awards in Alzheimer's Disease research program, awarding grants to our first cohort of investigators in 2007. Since then, The Rosalinde and Arthur Gilbert Foundation has invested \$3.7 million to support New Investigators in the United States and Israel conducting Alzheimer's disease research. These highly talented scientists and clinicians are selected through a rigorous review process. The Program has both helped develop their individual careers and nurtured a community of researchers who are the future of Alzheimer's disease research—part of the next generation of investigators who are advancing the research, strategies, and tools we need to tackle Alzheimer's disease and its devastating impact on patients and their caregivers.

This report describes the program's evolution, accomplishments, responsiveness to emerging needs in the field, and lessons learned. We hope the report will be of value to others who are committed to advancing research and career development in Alzheimer's disease.

Martin H. Blank, Jr.

The Rosalinde and Arthur Gilbert Foundation

Stephanie Lederman

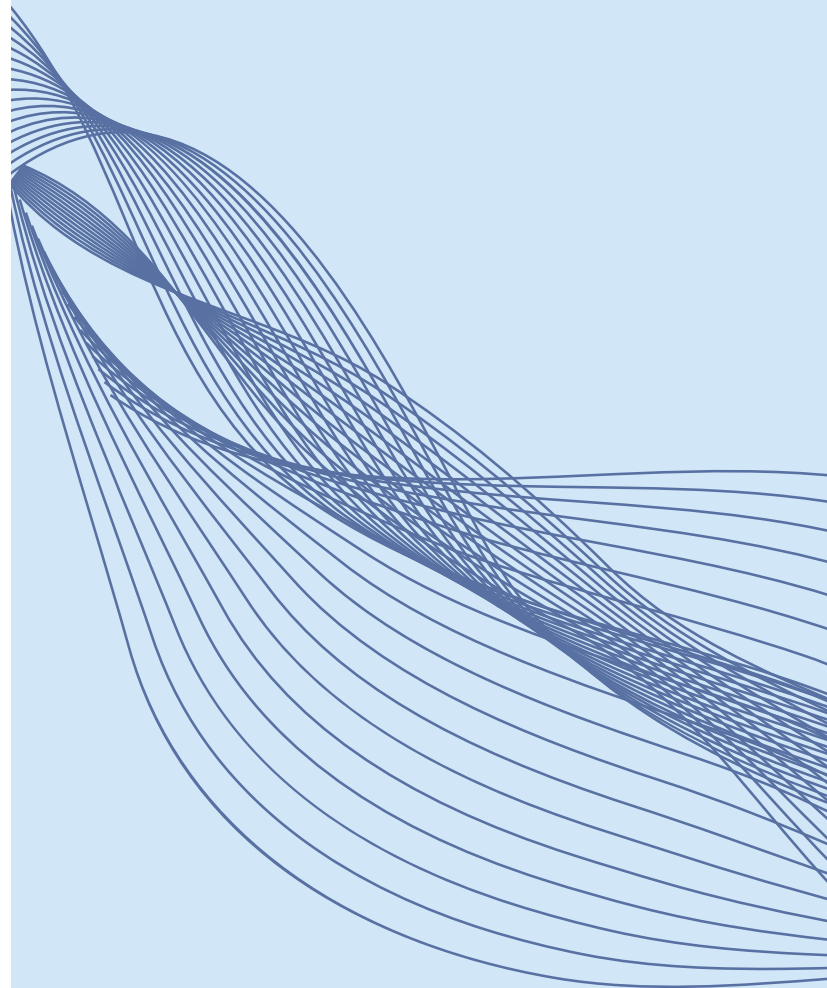
American Federation for Aging Research

PROGRAM OVERVIEW

The Rosalinde and Arthur Gilbert Foundation and the American Federation for Aging Research created the New Investigators in Alzheimer's Disease Research Program in 2007 with two overarching goals:

- Support research areas in which more scientific investigation is needed to prevent, diagnose, and treat Alzheimer's disease.
- Address the challenging funding environment for new researchers in all areas of Alzheimer's research during the crucial career transition from postdoctoral fellow to independent investigator.

Ultimately, we aimed to nurture a dynamic cadre of junior scientists in the United States and Israel, who are capable of undertaking such research, committed to mentoring and teaching the next generation of scientists, and willing to provide needed leadership for the field.



KEY ELEMENTS

The New Investigator Program was designed to achieve the following objectives:

- Nurture and encourage junior investigators to pursue research and academic careers in the neurosciences, Alzheimer's disease, and healthy brain aging in particular.
- Fund diverse areas of research and “out of the box” ideas while also stimulating support in research areas that move basic discoveries from “bench to bedside.”
- Build a strong community of Alzheimer's disease researchers in the US and Israel.
- Establish a scientifically rigorous and nationally respected grant review process.

We started from the premise that a modest investment, \$100,000 for up to two years of grant support per investigator, given at the right time, catalyzes an individual's scientific productivity and accelerates their career advancement. We instituted a two-level review process, recruiting recognized experts in the field of Alzheimer's disease for the first phase; in recent years these have included several alumni Investigators. For the second stage of the process, each member of the selection committee reviews and ranks each application, allowing for a rigorous comparative analysis of a diverse range of applications, and enhancing the quality of the review process. Our annual New Investigator meeting provides opportunities to build professional networks and collaborations with fellow investigators and other colleagues, engage in scientific exchange, share practical information on how to run a research program, and plan strategically for a productive career in academic research.

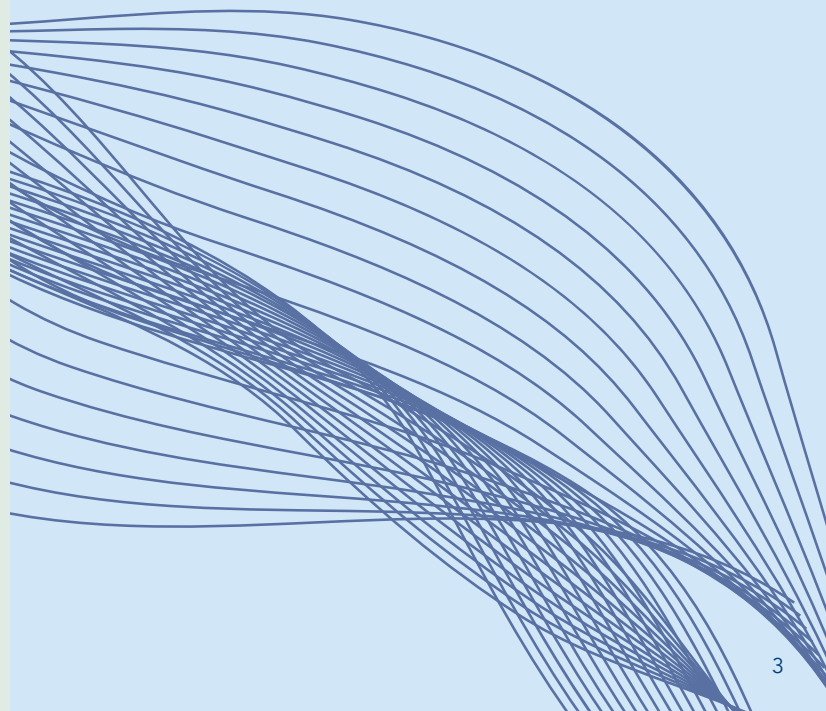
“I initiated a direct collaboration with one investigator studying the unfolded protein response with whom we shared patient tissues. Such a collaboration was only possible because of direct interactions at the meeting. Hearing of others' work was useful not only scientifically, but also for career advice.”

- Suman Jayadev, MD
2008 New Investigator

In the last decade, the New Investigator program has supported 49 Investigators in the United States and Israel at 37 institutions. The funded topics have covered a broad spectrum, from studying animal and cellular models, biomarkers, human genetics, and imaging, to clinical studies related to Alzheimer's disease and healthy brain aging. The main criterion has always been to find the best candidates who demonstrate the ability to come up with innovative ideas and design research projects that are worthy of funding. We believe that bringing together expertise from a wide range of disciplines to work toward a common goal can accelerate the movement of research discoveries to clinical applications and produce new perspectives, insights, and approaches to improving the diagnosis, prevention, and treatment of Alzheimer's disease.

“Science is a highly collaborative undertaking. The long-term investment in early career researchers in the US and Israel by the New Investigator program has fostered the exchange of ideas and lasting partnerships between these scientists.”

- Nir Barzilai, MD
AFAR Deputy Scientific Director

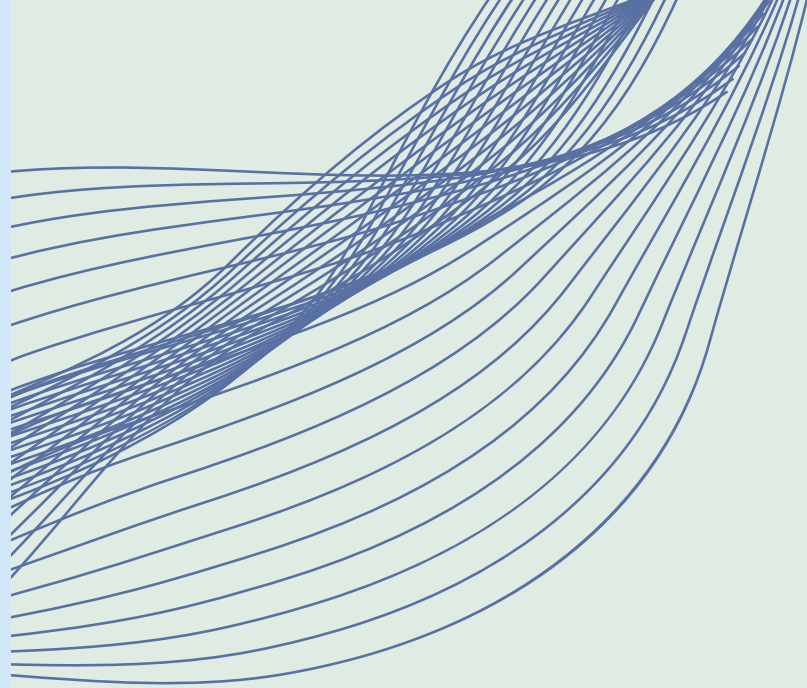


LEARNING COMMUNITY

We formed a learning community to foster collaboration, accelerate research, and support career progress. One of the major program elements to support this learning community is the annual meeting where we nurture and develop a collective identity and cohesiveness among the Investigators. Through the annual meetings and other activities, Investigators can better exchange information and network more effectively. These intimate gatherings, which typically include 3-4 New Investigators and a dozen alumni, provide the Investigators with access to colleagues who are working on similar scientific issues related to Alzheimer's disease, though often in different disciplines. The meeting is an essential component of the program, and consists of a mix of scientific and leadership development sessions, networking, and mentorship opportunities. Alumni participation further stimulates the development of scholarship, leadership, and informal mentorship to the current Investigators, and strengthens the network among alumni and current Investigators.

“The feedback on the challenges that I faced really changed the way I approached the challenges, and I am very grateful for that. The group was able to help me re-frame those as strengths, which in turn changed the way I negotiate and the way I have approached grant writing.”

- Christina Hugenschmidt, PhD
2012 New Investigator



PHILANTHROPIC PARTNERSHIPS

Attracting additional sponsors to the New Investigator Program has been critical to its growth. The Rosalinde and Arthur Gilbert Foundation and AFAR tapped their knowledge, networks, experience, and reputations to leverage grantmaking for maximum impact. We are grateful to our philanthropic partners for their pivotal roles in the success of the New Investigators Program:

- **The Diane and Guilford Glazer Foundation** and the **Neurosciences Education and Research Foundation** provided additional support to Investigators, which has been critical to sustaining the program.
- **The IDT Charitable Foundation and Bader Philanthropies, Inc.** helped underwrite a scientific meeting in Israel (see p. 5) that brought our Israel-based grantees together with leaders in the Israeli Alzheimer's community.
- **The Santa Barbara Foundation** supported a meeting with other funding organizations (see p. 5) and a collaborative grant on Alzheimer's disease between a New Investigator and a senior Alzheimer's researcher.

The New Investigator Program has also increased AFAR's visibility in the Alzheimer's disease research field, which has resulted in expanded Alzheimer's disease and aging grant opportunities available through AFAR from other funding sources.

STRATEGIES TO MEET EMERGING NEEDS

To optimize program impact, The Rosalinde and Arthur Gilbert Foundation and AFAR rely upon a wide range of different inputs, including assessments and evaluations by staff, feedback from advisors and the Investigators, and analysis of gaps and opportunities in Alzheimer's disease research field. We responded to emerging needs identified through these methods in the following ways:

The annual meetings have stimulated New Investigators' desire to establish more formal collaborations with their peers. Through the creation of the *Collaborative Research Program*, The Rosalinde and Arthur Gilbert Foundation and AFAR provided a grant mechanism to nurture collaborations among New Investigators who are approaching research questions from different yet complementary angles, helping them to expand their research programs and become more competitive in the field. These projects can often lead to unexpected yet promising areas of investigation.

Outreach to Israel-based Investigators strengthens the network between the United States and Israeli Alzheimer's research communities and increases the visibility of the Israeli New Investigators and their contributions to the field. These efforts culminated in the *Alzheimer Association of Israel/AFAR Alzheimer's Disease Research Brainstorming Meeting*, which was held November 20-22, 2014, in Nahsholim, Israel and co-funded by Bader Philanthropies, Inc. Topics included basic, translational, clinical and health services research. Policy priorities were also discussed, including strategic implementation of the Israeli National Strategic Plan addressing Alzheimer's disease and other dementias.

As the New Investigator Program evolved and matured over ten years, our Investigators increasingly expressed the need to develop an integrated and interdisciplinary research agenda and develop strategies to bring promising findings to the clinical setting as quickly as possible. In November 2015, The Rosalinde and Arthur Gilbert Foundation and AFAR, in partnership with the Santa Barbara Foundation, organized a meeting that took a deeper look at the challenges and opportunities associated with translational research in Alzheimer's disease. We gathered an esteemed group of stakeholders including philanthropic leaders, policy makers, and experts in Alzheimer's disease and aging research, representing a range of disciplines and produced the report *Effective Translation of Alzheimer's Disease Research: Opportunities for Private Philanthropy* that summarizes the key learnings from this convening and provides guidance for philanthropic leaders considering how to invest most effectively in developing treatments and other interventions that reduce, and may even one day eliminate, Alzheimer's disease.

“It is vitally important to support junior faculty with new, creative research ideas that can lead to new insights about the causes and course of the disease.”

- Steven N. Austad, PhD
AFAR Scientific Director

MEASURING OUR IMPACT

The Rosalinde and Arthur Gilbert Foundation and AFAR are committed to continuous learning and program refinement through evaluation. We regularly survey the Investigators to evaluate their research progress and career development. We also have conducted in-depth interviews with leaders in the field, and informally collected feedback through guided group discussions at our annual meetings. Survey results consistently showed that the program has a direct impact on advancing New Investigators' research programs, careers and leadership in the field. They have reported, among other benefits, accelerated productivity, promotions, and ability to secure R01 funding.

“The grant enabled me to pursue high-risk/high-gain research in a field I am new to. It also allowed me to interact with established researchers in the field as part of the AFAR meetings, discussing ideas for new experiments, and hearing about cutting edge findings in an intimate setting where I could inquire about these findings one on one.”

- Itamar Kahn, PhD
2012 New Investigator

2015 ASSESSMENT RESULTS

Every three years we survey past Investigators to determine if the program is meeting its objectives, assess the direct or indirect impact of the New Investigator program on participants' research and careers and inform program modifications. Key findings from the 2015 survey (n=31) are summarized here:

Research

- 95% were conducting Alzheimer's disease research.
- 95% were conducting research related to their New Investigator project.
- 60% had published their research.
- 50% reported their research had led them to develop their own new hypotheses.

Funding and Career Development

- 50% received R01 funding.
- 46% received a promotion.
- 56% received awards, prizes, honors, or special appointments.
- 71% said the New Investigator award was playing an important role in these career advancements.

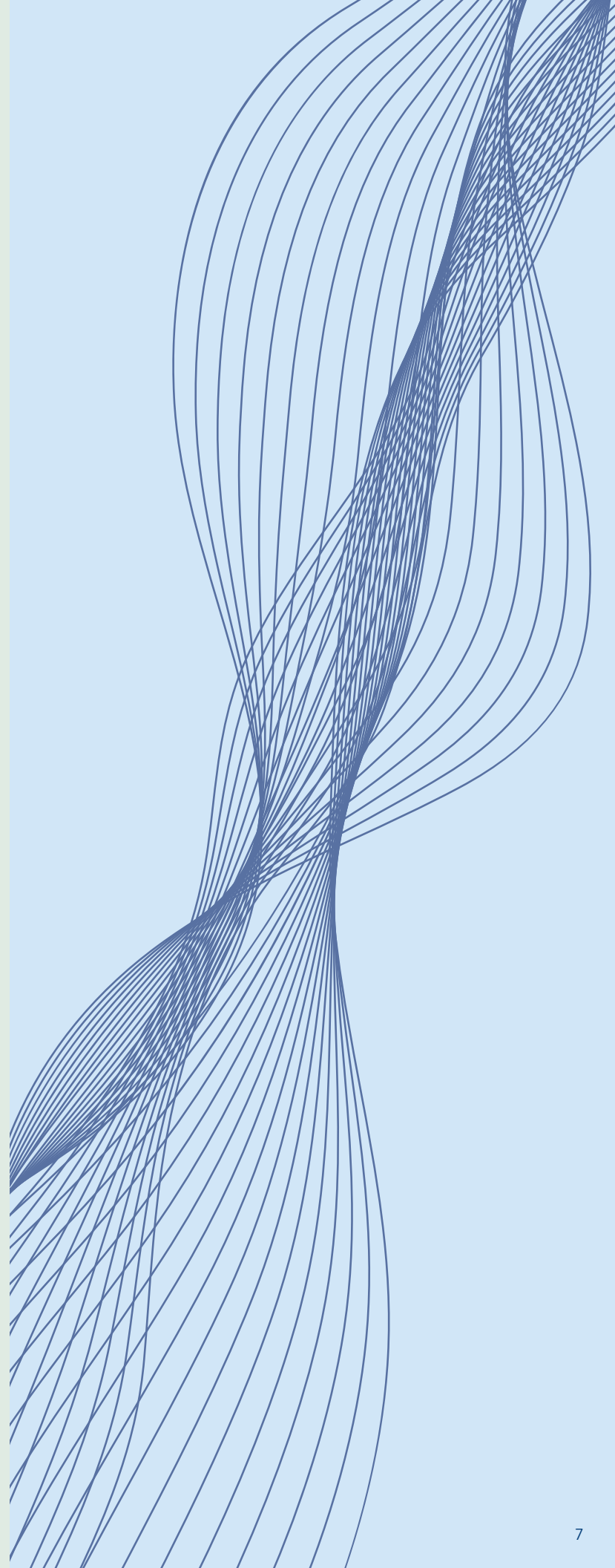
The Investigators described a variety of additional impacts of the New Investigator program on their research, careers and the larger Alzheimer's disease research enterprise.

- Data collection to apply for larger grants
- Credibility at institution
- Accelerated career track
- Enhanced exchange of ideas and collaboration with peers
- Useful feedback on career and research challenges

LESSONS LEARNED

A decade of the New Investigators Program has yielded valuable lessons about what it takes to make an Alzheimer's disease research program successful. Sustained support is critical for advancing the prevention, diagnosis and treatment of Alzheimer's disease, and ultimately a cure. Investing in junior investigators and fostering a learning community prepares the newest generation of gifted researchers to take on leadership roles. Collaboration across diverse disciplines and sectors strengthens research and accelerates its translation into clinical practice. The following lessons learned from the New Investigators Program are aimed at philanthropy, the Alzheimer's disease research field, policy makers, and other stakeholders interested in supporting Alzheimer's disease research and career development:

- Alzheimer's disease research is a global, massive undertaking. In order for investments to be deployed effectively and efficiently, funders should consider a “niche” that best meets resources, experience, and objectives.
- Private support sustains the research careers of junior investigators during challenging periods such as the transition from post-doctoral fellow to assistant professor.
- Partnering with an organization that has scientific expertise and experience developing research grant programs allows funders without these capacities to invest in biomedical research confidently.
- Setting ambitious but feasible program outcomes linked to the program's objectives facilitates accurate measurement of progress.
- Funding partnerships facilitate sharing of lessons learned, expand and enhance program scope and influence, and leverage resources for maximum impact.
- Listening to the emerging needs of the scientific community enhances the ability to be more responsive to changing scientific and funding environments.
- Learning communities are a vital component of career development awards, as they foster networking, collaboration and mentorship, which in turn enhance and strengthen research, career, and leadership development.



NEW INVESTIGATORS IN ALZHEIMER'S DISEASE

*For New Investigators in Alzheimer's Disease Bios,
please click [here](#).*

2016

Bess Frost, PhD
University of Texas Health Science Center
at San Antonio

Yonatan Savir, PhD
Technion – Israel Institute of Technology

Yin Shen, PhD
University of California, San Francisco

2015

Todd Cohen, PhD
University of North Carolina at Chapel Hill*

Jason Hinman, MD, PhD
University of California, Los Angeles*

Manu Sharma, PhD
Weill Cornell Medical College

Marc Vermulst, PhD
Children's Hospital of Philadelphia

Alon Zaslaver, PhD
The Hebrew University of Jerusalem

2014

Catherine Kaczorowski, PhD
The Jackson Laboratory

Michal Arbel, PhD †
Massachusetts General Hospital

Roberto Fernandez-Romero, MD, MPH, PhD
University of Virginia

Joshua Shulman, MD, PhD
Baylor College of Medicine

2013

Mark Andermann, PhD
Beth Israel Deaconess Medical Center

Itzik Cooper, PhD
Sheba Medical Center, Tel-Hashomer

Carlos Cruchaga, PhD
Washington University

Radostaw Dobrowolski, PhD
Rutgers University*

Kim Green, PhD
University of California, Irvine

Tae Ho Lee, PhD
Beth Israel Deaconess Medical Center

2012

Christina Hugenschmidt, PhD
Wake Forest University*

Daniel Kaganovich, PhD
Hebrew University of Jerusalem

Itamar Kahn, PhD
Technion - Israel Institute of Technology

Edward Plowey, MD, PhD
Stanford University

Xinglong Wang, PhD
Case Western Reserve University

2011

Einor Ben Assayag, PhD
Tel Aviv Medical Center

Robert Morrison, PhD
Loyola University

Salvatore Oddo, PhD
Arizona State University School of Life Sciences

Ramit Ravona-Springer, MD
Sheba Medical Center

Subhojit Roy, PhD
University of Wisconsin, Madison

2010

Christopher Ackerson, PhD
Colorado State University

Fenghua Hu, PhD
Cornell University

Vinay Parikh, PhD
Temple University

Nikki Stricker, PhD
Boston VA Healthcare System

Qi Zhang, PhD
Vanderbilt University Medical Center

2009

Ehud Cohen, PhD
The Hebrew University of Jerusalem

Esther Oh, MD
Johns Hopkins University

Raquel Lieberman, PhD
Georgia Institute of Technology

Gad Marshall, MD
Brigham and Women's Hospital

Lucia Pastorino, PhD
Boston University

2008

Christopher Conrad, PhD
LAM Therapeutics

Koichi Iijima, PhD
Thomas Jefferson University

Suman Jayadev, MD
University of Washington

Ling Qi, PhD
The University of Michigan Medical School

Inna Slutsky, PhD
Tel Aviv University

2007

Yaniv Assaf, PhD
Tel Aviv University

Olivier Boutaud, PhD
Vanderbilt University School of Medicine

Chad Dickey, PhD †
University of South Florida

Isabella Graef, MD
Stanford University

Indu Kheterpal, PhD
Albemarle Corporation

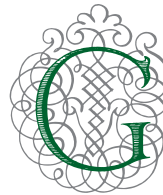
Grace (Beth) Stutzmann, PhD
Rosalind Franklin University

*funded through other sources

† deceased

The Rosalinde and Arthur Gilbert Foundation

The mission of The Rosalinde and Arthur Gilbert Foundation is to invest in programs that promote education, tolerance, social services, healthcare, and the arts. The Foundation builds on the ideals and pursuits of its founders, Rosalinde and Arthur Gilbert. In the area of Alzheimer's disease, The Rosalinde and Arthur Gilbert Foundation focuses its grantmaking on advancing research by early career investigators in the United States and Israel and investments in Alzheimer's disease caregiving. For more information, please see: www.thegilbertfoundation.org



THE ROSALINDE AND ARTHUR
GILBERT FOUNDATION

American Federation for Aging Research

The American Federation for Aging Research is devoted to helping people live longer, healthier lives. Since 1981, AFAR has played a major role in advancing knowledge of aging by providing grants to scientists, physicians, and students conducting aging-related research. These investigators are committed to understanding the basic mechanisms of aging, and finding the causes, cures, and treatments of many age-related diseases, such as cancer, Alzheimer's disease, and diabetes. AFAR is committed to nurturing the talent and brainpower in aging research and geriatric medicine to ensure the health of millions of older people. Learn more at www.afar.org.

afar american federation
for aging research

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