

2009 Division Review



The Medical Foundation *A division of Health Resources in Action*



Raymond Considine, President
Health Resources in Action

Welcome

It gives me great pleasure to introduce the 2009 Review of Health Resources in Action's Medical Foundation division.

The past year was an important one for our organization, resulting in a new look and a new name. As Health Resources in Action (HRiA), we have renewed our commitment to helping people create healthier lives through our diverse portfolio of services to foundations, nonprofit organizations, governmental agencies, banks and communities. Our name reflects the breadth of our vision to advance public health and medical research. The Medical Foundation, a key pillar of our work, will continue as an operating division of HRiA, building upon over half a century of success advancing biomedical research.

In the 2009 Review, you will read about how we have helped clients invest \$20 million in scientific research during the past year. We describe our expanding Life Sciences consulting services that are already unlocking opportunities for greater impact in biomedical research. The Review also highlights each of our clients' grant programs, recognizes Award Recipients, and acknowledges the 113 distinguished investigators who served on our eleven Scientific Review Committees.

At HRiA, we continue the reliability you have come to trust, while laying the foundation for greater contributions in the years ahead. Follow our progress at www.hria.org.

Accelerating Medical Discovery

Whether it is leveraging a strategic investment in biomedical research or a desire to understand the latest research about a specific medical condition, clients turn to us for objective and experienced advice. At HRiA's Medical Foundation division, we specialize in creating successful programs for family foundations, bank trust departments and private individuals who want to accelerate the discovery of new therapies by supporting biomedical research. Our success in creating and managing medical research grant programs comes from an international network of scientific and nonprofit collaborators, experience in creating similar programs, and an interdisciplinary team of scientific and management professionals.

In the 21st century, biomedical research is a deeply collaborative endeavor. Scientists from academic centers work with colleagues in the biotechnology and pharmaceutical industries, and rely on funding from diverse sources, including the National Institutes of Health (NIH), foundations, and industry. We have developed strong



PHOTO: RUSS CAMPBELL, BWF

Dr. Margaret Hamburg, FDA Commissioner, and keynote speaker at the 2009 Health Research Alliance meeting is greeted by Dr. Sally E. McNagny, director of The Medical Foundation division and Board member of the Health Research Alliance.

relationships with key representatives from each of these sectors and build coalitions that can advance scientific breakthroughs. To this end, we serve a leadership role as a member of the Health Research Alliance, an international consortium of nonprofit funding organizations whose members collectively provide approximately \$1.5 billion each year to support biomedical research and training.

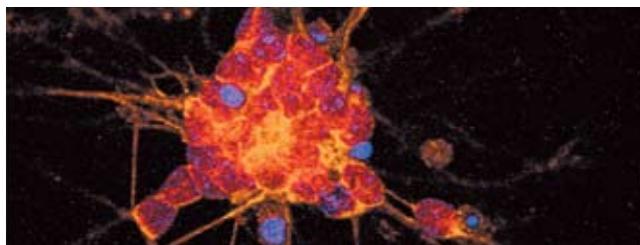
Continued on page 4

Extraordinary Scientific Breakthroughs

Award Recipients' research has the potential to uncover new insights into the basic biological, genetic, or physiological processes that hold the keys to understanding disease and make significant progress toward alleviating human suffering. We take this opportunity to highlight but a few of the profound scientific achievements

of two former Award Recipients. Their research is as diverse as the world we live in and we are humbled to have played a role in supporting their contributions to science and our shared society.

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The Medical Foundation

a division of Health Resources in Action

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Boston, MA 02116

The Medical Foundation, a division of HRiA

www.hria.org/tmfservices

About Us

Foundations, bank trust departments and individuals often want their funding to make a significant difference in developing effective treatments for devastating medical conditions. Other funders may wish to advance a particular field of investigation such as child health research or launch the careers of promising life sciences investigators.

We are dedicated to creating customized biomedical research grant programs that encompass each client's vision. By building a unique Scientific Review Committee for each program, we ensure critical and unbiased

evaluation of all applications. In 2009, we were privileged to work with foundations and bank trust departments whose biomedical research grant programs collectively received 834 applications and awarded more than \$20 million to outstanding investigators across the United States and worldwide.

Services We Provide

- Creation and oversight of biomedical research grant programs
- Life Sciences Consulting and Grant Program Evaluation

Our Staff



**Sally E. McNagny, M.D.,
M.P.H., F.A.C.P.**
Vice President
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Dr. McNagny oversees The Medical Foundation division and also serves on the faculty at Harvard Medical School. She

received a B.S. in Biology from Stanford University, an M.D. from Harvard Medical School, an M.P.H. from the Harvard School of Public Health, and completed her medical residency in 1988 at the Brigham and Women's Hospital. She served on the faculty at Emory University School of Medicine for 12 years, where she was Principal Investigator of Emory's N.I.H. Women's Health Initiative and other clinical research trials in the field of postmenopausal hormone replacement therapy. She also conducted health services research studies in access to care, high blood pressure management and smoking cessation. Currently, Dr. McNagny is a board member of the Health Research Alliance, a membership organization of non-governmental funders of medical research and training whose members award over \$1.5 billion annually.



Tyler C. Brown, Ph.D.
Scientific Program Officer
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Dr. Brown's scientific training includes a Ph.D. in Neuroscience and interdisciplinary research as a Post-Doctoral Fellow at the University of Michigan. Prior to

joining The Medical Foundation, he managed a broad portfolio of research projects as a Scientific Editor at the leading neuroscience journal *Neuron*. Dr. Brown contributes a diverse range of scientific expertise and analytical problem-solving skills to the team. As a Scientific Program Officer, he serves as an adviser for the basic science awards programs and as a communications liaison between clients and the scientific community. In addition to extending consultation services, Dr. Brown manages the inaugural awards programs announced by the recently named, Edward N. & Della L. Thome Memorial Foundation.



Gay Lockwood, M.S.W.
Senior Program Officer
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Ms. Lockwood manages a variety of grant programs, oversees annual scientific poster sessions, and works with award recipients throughout the

funding cycle to monitor their research progress and fiscal obligations. She brings organizational, resource and program management skills from prior positions in both diplomatic and healthcare settings. Ms. Lockwood's expertise in developing grant contracts, conflict of interest policies and application guidelines is informed by over 20 years of solid relationships with academic research institutions and senior scientists. She also serves on the Grants Administration Working Group of the Health Research Alliance which develops best practices in biomedical research grantmaking.



Jeanne Brown
Program Officer
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Ms. Brown's experience is in client relations, project, and operations management in both healthcare and academic settings. She specializes in

building processes that enhance overall grantmaking. She applies her knowledge and best practices in the administration of several programs including one international grantmaking program. In addition, Ms. Brown oversees the data information system that interfaces with and integrates the online grant submission process. She brings core skills such as planning, budget development and problem solving to the team.



Linda Lam
Program Officer
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Ms. Lam is trained in business administration with experience in database development and management. In addition to managing several grant

programs, she organizes Scientific Review Committee meetings in New York City as well as two-day scientific meetings in Boston. Ms. Lam updates the international distribution list that is used to alert institutions of funding opportunities. She also designs systems to track grant recipients throughout their funding period and works with the Finance Department to manage award payments. Ms. Lam is currently pursuing an M.B.A. in health administration at Suffolk University.



Kristen Harding
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Ms. Harding is responsible for managing the division's online grant system and database. She is instrumental in the design process and

production of email funding announcements that are distributed to research institutions worldwide. She is also an essential component in the overall maintenance of the database and the division's webpage. Ms. Harding provides additional support for the grant programs and performs a wide variety of administrative tasks to ensure that the everyday operations run seamlessly.

Other Professional Staff

Drawing from a talented staff at Health Resources in Action, The Medical Foundation division is assisted by Finance, Information Technology, Communications, and Operations professionals.

Life Science Consulting and Program Evaluation Services

Consultation

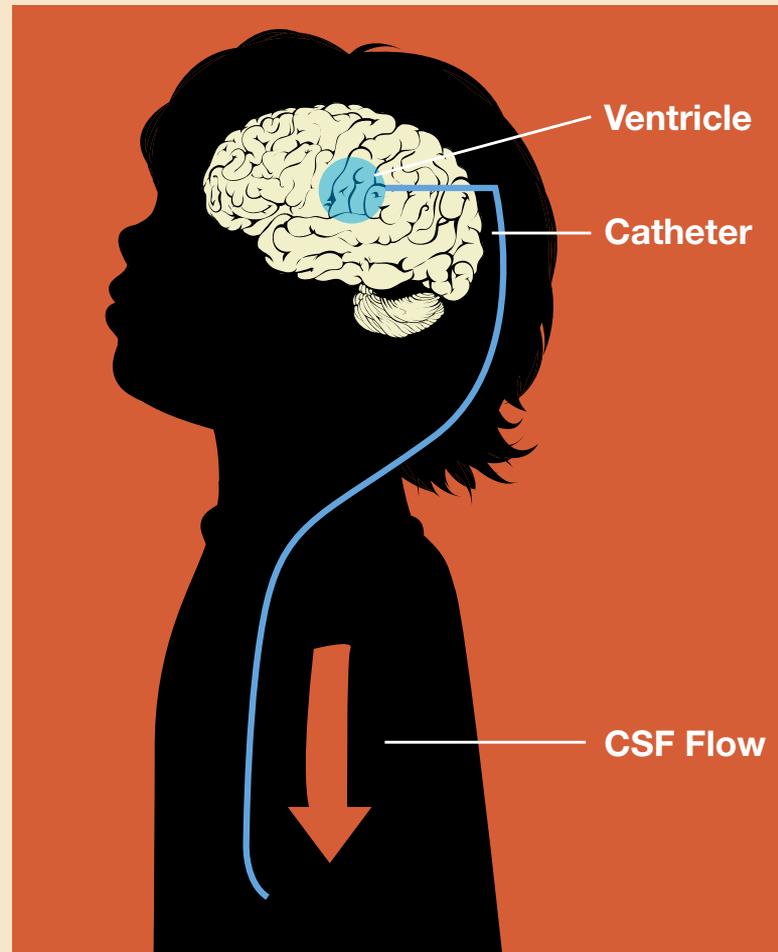
Imagine your child is born with congenital hydrocephalus, a condition where cerebral spinal fluid (CSF), the fluid around the brain, builds up to life threatening levels. Your child will likely require a lifetime of neurosurgical interventions to place mechanical shunts deep in the brain with tubes leading down into the abdominal cavity that allow drainage of CSF. Although shunts are life-saving, the devices are often complicated by intermittent headaches, mechanical failure and infection that require repeated hospitalization for neurosurgical operations and shunt revisions.

How could private funding make a major impact on improving shunt technology? Our team of clinical investigators and basic scientists recently responded to a client who asked us this question. In our life sciences consulting work, we evaluate the scientific literature; access a wide network of experts across industry, the N.I.H. and academic institutions; and present analytic, in-depth recommendations. Our goal is to empower clients with information that enhances the effectiveness of their biomedical research funding strategies.

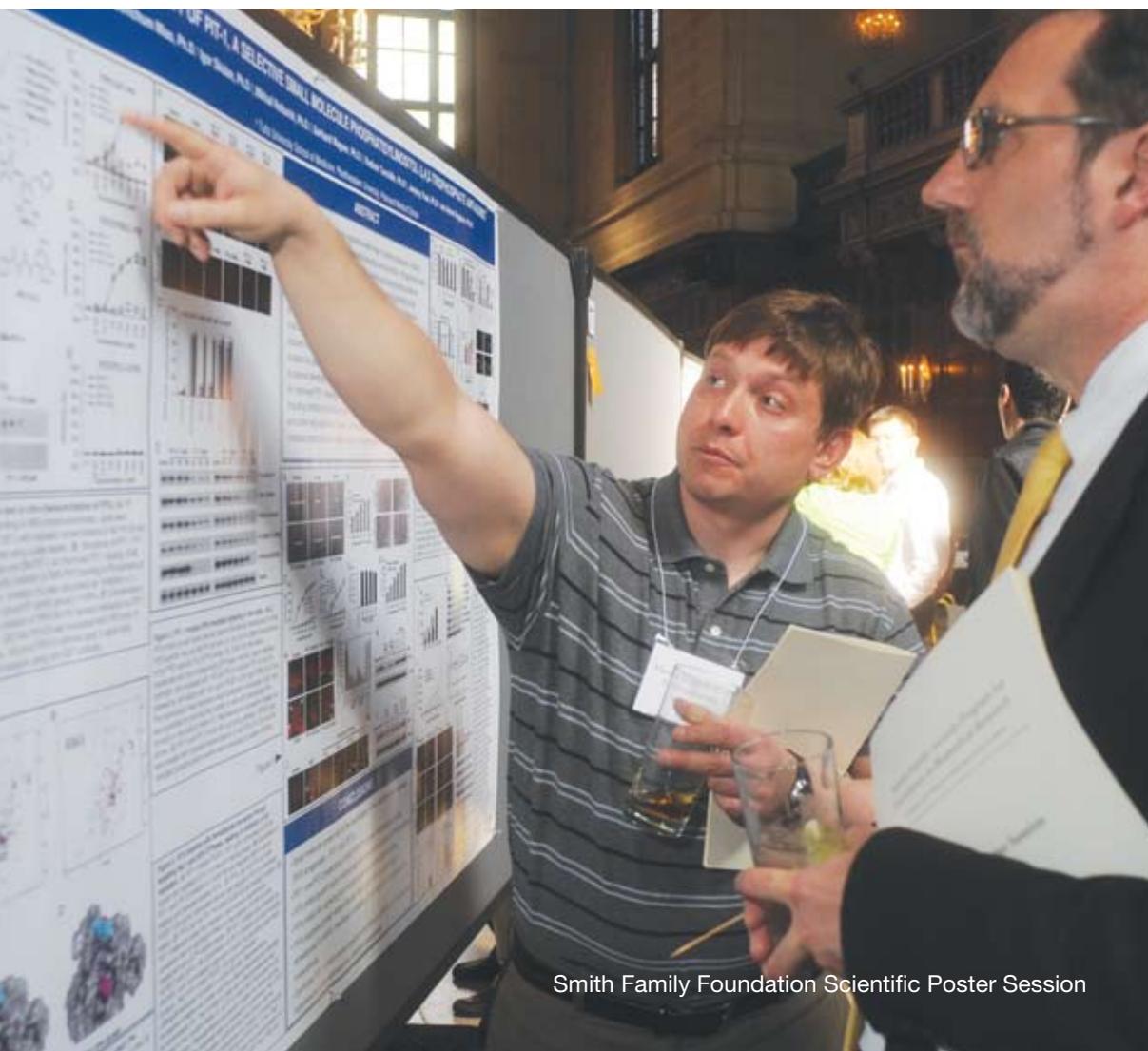
Grant Program Evaluation

More than 1,200 private foundations and public charities in the United States make awards to support life sciences research each year. What are the indicators of program success, how are they measured and to what are they compared? In 2009, we presented our analysis of the Smith Family Foundation New Investigator Awards Program at the Pew Charitable Trusts headquarters as a model for evaluating other early career funding award programs.

Guided by each program's mission, evaluations lead to improvements in such factors as the biomedical research focus, applicant eligibility, or instructions to the Scientific Review Committee. We develop explicit tools that provide accurate data analysis and help to shape long-range program objectives. Learn more about our evaluation capabilities by contacting Sally McNagny, M.D., M.P.H. or Tyler Brown, Ph.D.



Hydrocephalus Shunt Illustration



Smith Family Foundation Scientific Poster Session

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Working with Our Colleagues to Accelerate Medical Discovery



PHOTO: RUSS CAMPBELL, BWF

Dr. Francis Collins, Director of the NIH, speaks at the 2009 Health Research Alliance conference about his priorities for federally funded research initiatives.

Collaborating with our peers within the Health Research Alliance (HRA) informs us about global and national issues that affect the scientific community. At a recent HRA meeting, **Dr. Margaret Hamburg, FDA Commissioner**, emphasized the importance of identifying “new practices that will increase the quality and the efficiency of clinical studies.” She also stressed the need for research that would compare the outcomes of available medical treatments, thus allowing clinicians and patients to choose the most effective solution to meet individual healthcare needs.

Dr. Francis Collins, Director of the NIH, also spoke to HRA members and laid out his vision for the NIH. He highlighted the unprecedented opportunities in genomics to harness new technologies that may uncover the underlying biological causes of disease. Similar to Dr. Hamburg’s message from the FDA, Dr. Collins voiced the agency’s commitment to translating basic science discoveries into innovative treatments that can improve the nation’s health.

Federal funding priorities were presented by **Dr. Al Teich, Director of Science and Policy Programs at the American Association for the Advancement of Science (AAAS)**. He outlined how the American Recovery and Reinvestment Act, or the “stimulus package,” will increase federal funding and shape the scientific workforce.

By working with our colleagues at the Health Research Alliance, we learn about a range of approaches to speed drug discovery and development. For instance, the **Multiple Myeloma Research Foundation** described the complexities in establishing a new tissue bank for housing samples from multiple myeloma patients across the United States. These stored blood and tissue samples have already been used to test many promising drug compounds, a few of which have quickly moved into the clinical trial pipeline.

A track record of success...

For decades, we have created and managed successful biomedical research programs that have awarded more than \$145 million to Award Recipients across the United States, Europe and Israel. On the inside pages of this 2009 Review, we present each client’s mission, program goals and Award Recipients. From the **Goldhirsh Foundation** support for brain tumor research,

to **Klarman Family Foundation** funding for eating disorders, or the progress on lymphatic disorders that has been made with support from the **Lymphatic Research Foundation**, our staff has worked with clients to find a particular niche where financial support is directed to stimulate progress toward a cure.

A grant program that is personalized...

We start by understanding client goals in supporting biomedical research and then help to achieve them. Staff reviews relevant scientific literature and interviews world-renowned scientists to determine the specific area of research where new funding can make the greatest difference. Our recommendations may be to support young researchers with high-risk/high-reward projects that would not be funded by other sources; or we may discover a crucial area that, if supported, will speed the efforts of others in drug discovery.

Once we have worked with clients to define the program focus, we write the application guidelines and build a Scientific Review Committee to critique all applications. Our Scientific Review Committees include Nobel laureates, lead researchers from pharmaceutical and biotechnology companies, NIH investigators and professors from across the United States and Europe (see page 16 for a list of our 2009 Committees).

After funding begins, we track and evaluate the research progress of each Award Recipient so that clients can see concrete results. In short, we are dedicated to accelerating medical discoveries by leveraging every client dollar in support of innovative laboratory and clinical research projects.

Learn more about our clients’ programs and the remarkable Award Recipients in the following pages.



Dr. Tyler Brown, Scientific Program Officer of The Medical Foundation division talks with Dr. Albert Teich, Director of Science and Policy Programs at AAAS about the future of funding for scientific research.

Extraordinary Scientific Breakthroughs and Accomplished Careers



Hookworm

Leading the Fight to Eradicate Neglected Tropical Diseases

Lymphatic filariasis, onchocerciasis, schistosomiasis and hookworm infection — these are the names of just a few of the illnesses called “neglected tropical diseases.” Over 1 billion people in developing countries, or a sixth of the world’s population, are currently afflicted by these debilitating diseases.

Neglected tropical diseases prey on impoverished populations, particularly children, in the developing world — frequently in some of the most war-torn conflict zones. Chronic infection associated with neglected tropical diseases has been linked to physical and cognitive impairments — both of which lead to decreased productivity and limit educational opportunities.

In 1991, the Hood Foundation funded **Peter Hotez, M.D., Ph.D.** to uncover the basic properties of hookworm biology. Today, Dr. Hotez is a Distinguished Research Professor at The George Washington University School of Medicine and Founding director of the Human Hookworm Vaccine Initiative at the Sabin Institute in Washington, DC.

In the years following the initial research supported by the Hood Foundation, Dr. Hotez and colleagues have created a low-cost package of drugs capable of treating the seven most common neglected tropical diseases. In 2006, Dr. Hotez became the Director of the Global Network for Neglected Tropical Diseases launched at the Clinton Global Initiative with the goal of eliminating the suffering of people worldwide impacted by these diseases.

With the support of the Bill and Melinda Gates Foundation, the NIH and other foundations, Dr. Hotez is now leading studies to test a hookworm vaccine. Like smallpox, hookworm disease may someday be a scourge of the past.

Leveraging Technology for the Future of Cancer Research

1993 will likely be remembered for notable events, such as the first attack on the World Trade Center in New York City, the election of President Bill Clinton, and the deaths of popular figures Arthur Ashe and Audrey Hepburn. However, in the scientific world, 1993 was the year of “p53.” That year, nearly 1,000 articles were published with some mention of the ubiquitous molecule “p53.” The leading academic journal, *Science*, even named p53 “Molecule of the Year.”

What is p53 and why all the excitement? From the 1970’s to early 1990’s, scientists discovered a large number of gene mutations linked to cancer. These so called “cancer genes,” such as p53, were the subject of intense scrutiny to understand how normal cells turn into deadly cancer cells.

In early 1992, **Tyler Jacks, Ph.D.**, like many new investigators, had yet to receive funding from the NIH or other federal resources to support his laboratory at MIT. Later that year, Dr. Jacks was granted a Smith Family Foundation New Investigator Award that supported his research to clarify the true function of p53. His approach to the study of p53, and several other cancer genes, was to construct a unique mouse model that carried a mutant copy of the p53 gene. These animals were highly cancer prone and because they only differed from normal animals in the status of the p53 gene, any distinctive features could be directly linked to the p53 mutation.

In what has become a group of seminal research manuscripts, Dr. Jacks’ laboratory showed that p53 is required for certain cells in the body to undergo a process of cellular suicide under adverse conditions. This process occurs normally at various times during development and throughout adult life, but also has the potential to be invoked to eliminate damaged or abnormal cells found in cancerous tumors. Dr. Jacks’ research showed that an emerging tumor cell which mutates, or inactivates p53 is more likely to survive and grow into a life-threatening malignancy because of its reduced propensity to commit cellular suicide. Thus, p53 emerged as a potential target for cancer treatment and set off a wave of new studies in the field.

Dr. Jacks is currently the director of the new David H. Koch Institute, an outgrowth of the M.I.T. Center for Cancer Research and an Investigator of the Howard Hughes Medical Institute. Today, Dr. Jacks’ lab is credited with generating several sophisticated mouse models that accurately mimic many major human cancer types, thus providing the framework for testing new therapies before they are translated to the clinic.

Nearly 20 years later, p53 is still at the forefront of many innovative approaches to developing novel cancer therapies and Dr. Jacks continues as a leader in cancer research.



Migrating cancer cell

Edward N. and Della L. Thome Memorial Foundation, Bank of America, N.A., Trustee, Awards Program in Age-Related Macular Degeneration Research

A Program sponsored by Bank of America, N.A.

The Edward N. & Della L. Thome Memorial Foundation was created in 2002 to advance the health of older adults through the support of direct service projects and medical research on diseases and disorders affecting older adults. In keeping with the Foundation's mission, a new Awards Program in age-related macular degeneration (AMD) research was launched this year. The goal of the Awards Program is to support translational research that will lead to improved therapies for individuals suffering from AMD.

As steward of the Thome Memorial Foundation, Bank of America, N.A. works with The Medical Foundation division's Scientific Review Committee to select the most qualified candidates. In 2009, the AMD Awards Program Committee was chaired by Joan Miller, M.D.,

the Henry Willard Williams Professor of Ophthalmology and Chief and Chair, Department of Ophthalmology, Massachusetts Eye and Ear Infirmary, Harvard Medical School.

In 2009, the Program awarded \$8.7 million to investigators working in nonprofit academic, medical, or research institutions within the United States. Both Three-year awards of \$750,000 (\$250,000 per year) and One-year pilot studies of up to \$150,000 were made, for a total of 14 Awards. In 2010, on behalf of Bank of America, N.A., Trustee, The Medical Foundation division will launch the Thome Memorial Foundation Awards Program in Alzheimer's Disease Research.

Award Recipients

Dr. Curcio graduated from Brown University and trained at the University of Rochester, Boston University, and University of Washington. Since 1990, Dr. Curcio has been on faculty at the Department of Ophthalmology at the University of Alabama at Birmingham.

The retina is a living tissue behind a lens, making it readily accessible for contemporary clinical imaging techniques. Age-related macular degeneration is diagnosed by its appearance in fundus photography and its treatments are monitored with spectral domain optical coherence tomography (SD-OCT). This technique allows visualization of retina cross-sections at a very high level of detail. Dr. Curcio's research seeks to provide a firmer anatomical basis for the decisions made with SD-OCT, thus improving the usefulness of this technology in the diagnosis and treatment of AMD.



Christine Curcio, Ph.D.



Peter Campochiaro, M.D.

Dr. Campochiaro was trained at the University of Notre Dame, Johns Hopkins School of Medicine, the University of Virginia, and Wilmer Eye Institute, before joining the Wilmer Faculty in 1991. Dr. Campochiaro is currently the Eccles Professor of Ophthalmology and Neuroscience at the Johns Hopkins University School of Medicine. Over the course of his research career he has developed several animal models of ocular neovascularization and performed many preclinical studies that demonstrated that vascular endothelial growth factor (VEGF) plays a critical role in abnormal blood vessel growth as occurs in wet AMD.

In addition to overseeing several ongoing clinical trials, his current research focuses on gaining a better understanding of proteins that are normally produced in the body that inhibit the growth of abnormal blood vessels. His research group has synthesized small fragments of these proteins and is testing their ability to inhibit abnormal blood vessel growth under the retina. Their hope is that the best of these inhibitors can be formulated into very tiny particles that can be injected into the eye and then release the inhibitor over several months. The long-term goal of Dr. Campochiaro's research is to develop new treatments that will further improve the lives of patients with AMD.

2009 Award Recipients

Three-Year Awards (\$750,000)

Rajendra Apte, M.D., Ph.D.

Washington University School of Medicine

Peter Campochiaro, M.D.

Johns Hopkins University School of Medicine

Constance Cepko, Ph.D.

Harvard Medical School

Margaret DeAngelis, Ph.D.

Massachusetts Eye & Ear Infirmary

Albert Edwards, M.D., Ph.D.

University of Oregon

Scott Fraser, Ph.D.

California Institute of Technology

James Handa, M.D.

Johns Hopkins University School of Medicine

Bryan Jones, Ph.D.

University of Utah School of Medicine

Patsy Nishina, Ph.D.

The Jackson Laboratory

Victor Perez, M.D.

University of Miami

Janet Sparrow, Ph.D.

Columbia University

One-Year Awards (\$150,000)

Christine Curcio, Ph.D.

University of Alabama at Birmingham

Patricia D'Amore, Ph.D.

Schepens Eye Research Institute

Douglas Vollrath, M.D., Ph.D.

Stanford University School of Medicine

Scientific Program Officer

Tyler C. Brown, Ph.D.

TylerBrown@hria.org

Program Eligibility

Faculty at nonprofit research institutions

Geographic Eligibility

United States

Research Focus

Translational research that will lead to improved therapies for individuals suffering from AMD

Award

Three-year awards in the amount of \$750,000; One-year awards in the amount of \$150,000

www.tmfgrants.org/Thome

Davis Foundation Postdoctoral Fellowship Program in Eating Disorders Research



A Program of the Hilda and Preston Davis Foundation

The Hilda and Preston Davis Foundation was established "...to advance the development of all areas of the lives of children and young adults... with special emphasis... on those suffering from eating disorders." After consultation with academic and governmental experts in eating disorders research, the Davis Foundation established the Fellowship Program to increase the number of outstanding neuroscientists who explore the biological causes of anorexia nervosa and bulimia nervosa. By attracting postdoctoral fellows to the field, dollars allocated are leveraged into a lifetime career commitment to eating disorders research.

The long term goal of the Program is to accelerate medical research discoveries that will lead to effective new therapies. Research areas of interest include but are not limited to neural pathways of feeding

behavior in animal models; molecular genetic analysis of relevant neural circuit assembly and function; testing of new chemical compounds that might be used in animal models as experimental treatments; and brain imaging technologies that identify neurochemical pathways in patients with these disorders. Clinical psychotherapeutic studies, medication trials and obesity research are currently outside the scope of this Program.

During the 2009 grant cycle, the Program funded ten postdoctoral fellows from many of the top laboratories in the United States. The first Davis Foundation Fellowship Scientific Review Committee meeting, chaired by Dr. Jeffrey Friedman was held in New York City, June 2009.

Award Recipients

Dr. Adams graduated from the University of Aberdeen, Scotland with a Ph.D. in Neuroscience with a focus on molecular processes that regulate energy homeostasis. In Aberdeen, he developed transgenic mouse models and discovered a previously unreported novel fat aversion phenotype. In early 2007, he moved to the laboratory of Dr. Eleftheria Maratos-Flier at Beth Israel Deaconess Medical Centre (BIDMC) and further dedicated his research toward uncovering new biological insights of eating disorders, in particular anorexia nervosa (AN).

Recently, his work has centered around a new animal model of anorexia nervosa, mice lacking a specific hormone that leads them to engage in counterproductive exercise behavior in the context of food restriction. This condition mimics the hyperactivity syndrome observed in patients with anorexia. Dr. Adams' research has the potential to uncover the molecular mechanisms involved in this complex and debilitating disease and will advance his goal to translate his research into clinically relevant novel treatments for AN.



Andrew Adams, Ph.D.



Shinjae Chung, Ph.D.

Dr. Chung received her B.S. in Biology at Korea University and a Ph.D. at UC Irvine where she began her studies on the physiological functions of the G protein coupled receptors (GPCR) systems and their importance in various human diseases. She is currently a postdoctoral fellow at the University of California, Irvine under the mentorship of Dr. Olivier Civelli.

Eating disorders are characterized by severe disturbances in eating patterns and are associated with metabolic complications such as hormonal abnormalities. Dr. Chung's recent work is focused on specific hormones that may be involved in the etiology of eating disorders, in particular the obsessive craving for food. Her long-term goal is to clarify the complex relationships among food intake, body weight and hormone regulation, ultimately to improve the treatments of eating disorders.

2009 Award Recipients

Andrew Adams, Ph.D.

Beth Israel Deaconess Medical Center

Patricia Bonnavion, Ph.D.

Stanford University School of Medicine

Shinjae Chung, Ph.D.

University of California, Irvine

Monica Dus, Ph.D.

NYU Medical Center / NYU School of Medicine

Vikas Duvvuri, M.D., Ph.D.

University of California, San Diego

Pouneh Fazeli, M.D.

Massachusetts General Hospital

Leah Kelly, Ph.D.

The Rockefeller University

Timo Mueller, Ph.D.

University of Cincinnati

Karli Watson, Ph.D.

Duke University

Gabor Wittmann, Ph.D.

Tufts Medical Center

Program Officer

Jeanne Brown
JBrown@hria.org

Program Eligibility

Postdoctoral fellows within their first three years of training

Geographic Eligibility

United States

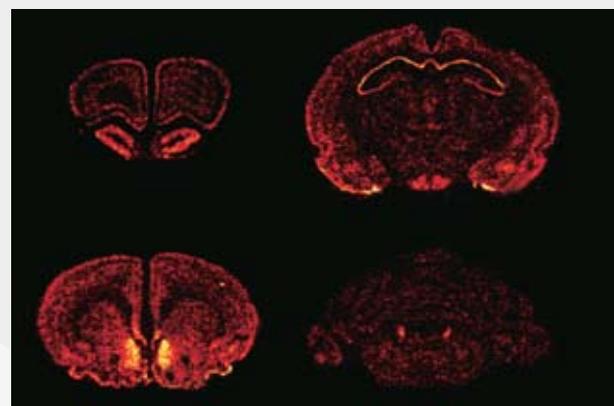
Research Focus

Basic research with direct relevance to the biological causes of eating disorders

Award

Three-year fellowships in the amount of \$141,000-\$177,000

www.tmfgrants.org/Davis



MCH receptor distribution (yellow) in the rat brain



Richard and Susan Smith, Co-Presidents

Smith Family Awards Program for Excellence in Biomedical Research

A Program of the Richard and Susan Smith Family Foundation

The Smith Family Foundation created a grantmaking program in 1991 to support promising junior faculty to find breakthroughs in AIDS/HIV, cancer, heart disease, diabetes or neuroscience. Formerly known as the Smith Family New Investigator Awards Program, the Program was renamed last year as the Smith Family Awards Program for Excellence in Biomedical Research. The mission is to launch the careers of outstanding investigators with the ultimate goal of achieving medical breakthroughs. Applications may focus on all fields of basic biomedical science. Now in its 18th year, the Program has funded 114 scientists for a total investment of \$18.1 million.

The Smith Family Foundation welcomes contributing partners to support the Awards Program. The Jessie B. Cox Charitable Trust, the Dolphin Trust, the Richard Allan Barry Fund at the Boston Foundation, the Ludcke Foundation, the Nancy Lurie Marks Family Foundation, and several anonymous donors have provided past support.

Since 2002, the Foundation has hosted an annual scientific poster session during which current and former award recipients and their postdoctoral fellows showcase their research and interact with colleagues within the scientific community. In 2009, the Smith Family presented their bi-annual \$65,000 Prize for Outstanding Scientific Contributions to Amy Wagers, Ph.D., a 1994 Smith Award recipient from Joslin Diabetes Center. Dr. Wagers discussed her work on stem cell research and these cells' critical function to effectively repair damaged tissues.

This year marked the departure of Committee member Ed Harlow, Ph.D. who had served as Chair for the past five years. It is with much gratitude that we acknowledge his years of exceptional and devoted service to the Smith Family Foundation.

Award Recipients

Program Officer

Gay Lockwood
GLockwood@hria.org

Eligibility

Investigators within two years of their first independent faculty appointment

Geographic Eligibility

Massachusetts, Yale University and Brown University

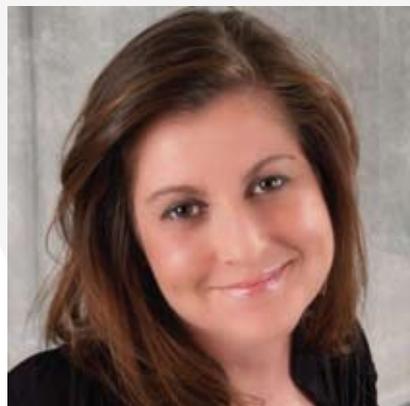
Research Focus

Basic biomedical research

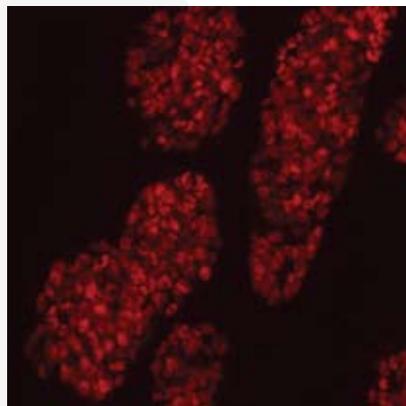
Award

Three-year awards in the amount of \$300,000

www.tmfgrants.org/Smith



Laurie Boyer, Ph.D.



Embryonic stem cells

2009 Award Recipients

Laurie Boyer, Ph.D.

Massachusetts Institute of Technology

Timothy Gardner, Ph.D.

Boston University

Joshua Kritzer, Ph.D.

Tufts University

Hongwei Wang, Ph.D.

Yale University

Florian Winau, M.D.

Immune Disease Institute,
Harvard Medical School and
Children's Hospital Boston

Dr. Laurie Boyer earned a Ph.D. in Biomedical Science from the University of Massachusetts Medical School and performed post-doctoral work at the Whitehead Institute for Biomedical Research in Cambridge where she made important contributions to the fields of gene regulation and stem cell biology. She is currently an Assistant Professor in the Biology Department at the Massachusetts Institute of Technology.

Dr. Boyer's research focuses on determining the molecular mechanisms that control gene expression during mammalian development. During development, embryonic stem cells give rise to the functionally diverse cell types that become the basis for all tissues and organs. However, the processes through which these cells commit to a single cell type within a particular part of the body remain poorly understood. The goal of Dr. Boyer's research is to decode the diverse molecular messages contained in the DNA sequence of every cell to gain a better understanding of this critical stage of development. Ultimately, this knowledge could be used to control the cell fate decisions that are necessary to achieve success in stem cell therapeutics and for the design of novel drugs to prevent cancer progression.

Klarman Family Foundation Grants Program in Eating Disorders Research

A Program of The Klarman Family Foundation



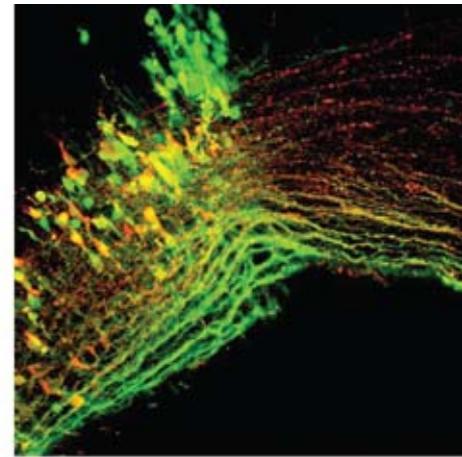
THE KLARMAN FAMILY FOUNDATION

The Klarman Family Foundation is interested in providing strategic investments in translational research that will accelerate progress in developing effective treatments for anorexia nervosa, bulimia nervosa and binge eating disorder. The Program's short-term goal is to support the most outstanding science and expand the pool of scientists whose research explores the basic biology of eating disorders. The long-term goal is to improve the lives of patients suffering from these conditions.

Open to faculty throughout the United States, Canada and Israel, the Program was launched in 2007. Now entering its third year, fourteen investigators have been supported representing twelve separate institutions throughout the United States. Ed Scolnick, M.D., chairs

the Scientific Review Committee of ten distinguished investigators. Formerly President of Merck Research Laboratories, he is currently director of the Psychiatric Disease Program and the Stanley Center for Psychiatric Research at the Broad Institute. The Program awards up to \$2 million each year, making it one of the largest supporters of eating disorders research in the world.

In April, Award Recipients presented their research findings to the Klarman Foundation and the Scientific Review Committee at a scientific poster session and dinner in Boston. The exchange of ideas and research results was invaluable and these scientists will return in April 2010 to interact with the recipients funded in 2009.



Award Recipients

Dr. Dulac obtained her Ph.D. from the University of Paris and continued her research training as a postdoctoral fellow with Richard Axel, M.D. at Columbia University. Currently, she is an Investigator at the Howard Hughes Medical Institute, the Higgins Professor of Molecular and Cellular Biology and Department Chair at Harvard University. Her laboratory is interested in the molecular organization of neural circuits underlying behavior in mammals.

Recent results from Dr. Dulac's lab have opened a new frontier for the understanding of epigenetic mechanisms in the brain which govern feeding behavior. Her studies have revealed that expression of certain types of genes is regulated by epigenetic modifications inherited from parents. For example, she has discovered that in female mice, genes on the maternal X chromosome are preferentially "turned on" in cortical brain regions compared to genes on the paternal X chromosome. Previous research has supported the theory that feeding behavior is influenced by the choice of gene activation between maternal and paternal genes. Thus, her research is poised to uncover several new insights into appetite regulation.



Catherine Dulac, Ph.D.



Jeffrey M. Friedman, M.D., Ph.D.

Dr. Friedman graduated from Rensselaer Polytechnic Institute and received his M.D. from Albany Medical College of Union University. He completed two residencies at Albany Medical Center Hospital and moved to Rockefeller as a postgraduate fellow and associate physician, where he completed his Ph.D. Dr. Friedman is currently the Marilyn M. Simpson Professor at Rockefeller University and an investigator at the Howard Hughes Medical Institute. Dr. Friedman also directs the Starr Center for Human Genetics, one of the country's largest centers for the study of diseases linked to heredity.

For the past two decades, Dr. Friedman has studied the molecular mechanisms that regulate food intake and body weight. Feeding disorders such as binge eating, bulimia and anorexia nervosa are pressing public health concerns; yet, no effective medications currently exist. Dr. Friedman's research seeks to identify novel therapeutic targets that modulate activity in brain cells that control feeding. Future drug development strategies would, therefore, target molecules specific to those cells directly controlling feeding.

2009 Award Recipients

Two-Year Awards

Catherine Dulac, Ph.D.

Harvard University

Charles V. Mobbs, Ph.D.

Mount Sinai School of Medicine

Richard Palmiter, Ph.D.

University of Washington

One-Year Awards

Kathryn Cunningham, Ph.D.

University of Texas Medical Branch

Jeffrey M. Friedman, M.D., Ph.D.

The Rockefeller University

Jeri Janowsky, Ph.D.

Oregon Health and Science University

Program Officer

Gay Lockwood

GLockwood@hria.org

Program Eligibility

Faculty at nonprofit institutions

Geographic Eligibility

United States, Canada, and Israel

Research Focus

Research with direct relevance to the basic biology of eating disorders

Award

Two-year awards in the amount of \$400,000; One-year awards up to \$150,000

www.tmfgrants.org/Klarman

Goldhirsh Foundation Brain Tumor Research Awards Program

A Program of the Goldhirsh Foundation



Bernard Goldhirsh, Founder

The Goldhirsh Foundation was established by Bernard A. Goldhirsh in 2000, shortly after he was diagnosed with brain cancer. He envisioned a grants program that would fund high-risk innovative brain tumor research. Prior to his death in 2003, he directed the Scientific Advisory Committee to identify those rare scientists who have brilliant ideas as well as a style of “thinking outside the box.” Mr. Goldhirsh’s own career exemplified this entrepreneurial spirit. He launched two multi-million dollar magazines — *Sail* and *Inc.*, the latter becoming one of the most successful magazines in history.

The Goldhirsh Foundation Brain Tumor Research Awards Program has awarded \$16.4 million to outstanding investigators working in U.S. and Israeli research institutions. Award

recipients are developing novel drug delivery systems, creating new imaging techniques and investigating mechanisms by which glioblastoma tumors invade normal tissue.

Other investigators are examining the basic biology of brain tumors while three Award recipients have launched clinical trials to assess efficacy of new treatments. Collectively, the Goldhirsh Award recipients have advanced medical discoveries in brain tumor research.

Award Recipients

Program Officer

Linda Lam
LLam@goldhirshfoundation.org

Program Eligibility

Investigators working in nonprofit research organizations

Geographic Eligibility

United States, Canada and Israel

Research Focus

Clinical and basic science research relevant to brain tumors

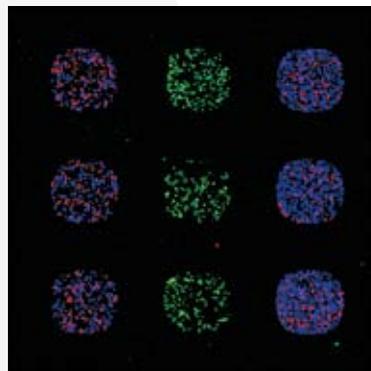
Award

Three-year awards in the amount of \$600,000; One-year awards in the amount of \$100,000

www.goldhirshfoundation.org



Paul Mischel, M.D.



Immunofluorescent tagging of different cell populations within brain tumors

Dr. Paul Mischel is the Lya and Harrison Latta Professor of Pathology at the University of California, Los Angeles (UCLA) and is President-Elect of the American Society for Clinical Investigation. Dr. Mischel received the Farber Award, the top brain tumor research award given jointly by the Society for Neuro-Oncology and the American Association of Neurosurgery.

Glioblastoma, the most common adult brain tumor, contains different types of cancer cells (i.e. stem cells and non-stem cells) that interact with each other and with immune cells, all of which may be important for determining response to targeted therapy. Traditional diagnostics cannot resolve this complex mix of cell types. Through a unique collaboration between UCLA and the California Institute of Technology, Dr. Mischel and his team bring together expertise in brain tumor biology and nanotechnology to develop molecularly guided treatments for glioblastoma.

With Goldhirsh Foundation support, Dr. Mischel will identify novel tumor cell surface markers that define relevant cell populations. Once cell populations have been characterized, he will test the impact of small molecules on tumor cell survival. Completion of this project will improve the care of patients by identifying tumor cell populations that promote clinical resistance to therapies, defining more effective combination therapies, and providing a pipeline of cell surface markers that can serve as imaging and/or therapeutic targets.

2009 Award Recipients

Three-Year Awards (\$600,000)

Lara Collier, Ph.D.
University of Wisconsin-Madison

Paul Mischel, M.D.
University of California, Los Angeles

Luis Parada, Ph.D.
University of Texas
Southwestern Medical School

One-Year Awards (\$100,000)

Alain Charest, Ph.D.
Tufts Medical Center

Sean Morrison, Ph.D.
University of Michigan

Charles A. King Trust Postdoctoral Fellowship Program

Bank of America, N.A., Edward Dane and Lucy West, Co-Trustees

A Program sponsored by Bank of America, N.A.

The Charles A. King Trust was established in 1936 to support the “investigation of diseases of human beings, and the alleviation of human suffering through the improved treatment of human diseases.” In keeping with these principles, the King Trust today supports postdoctoral fellows in the basic sciences as well as clinical and health services research. Bank of America, NA, Edward Dane and Lucy West serve as Co-Trustees of the Charles A. King Trust. Because of the long-standing commitment of the Charles A. King Trust and other contributors, 762 scientists have received these fellowship awards.

Two Scientific Review Committees were responsible for evaluating the 171 applications received in 2009.

E. John Orav, Ph.D. Associate Professor of Biostatistics, Harvard School of Public Health served as Chair of the Clinical and Health Services Research Review Committee. H. Robert Horvitz, Ph.D. chaired the Basic Science Committee. Dr. Horvitz is Professor of Biology at M.I.T., a Howard Hughes Medical Institute Investigator and a 2002 Nobel Laureate in Physiology or Medicine. Both Committee Chairs are instrumental in recommending reviewers and offering guidance to The Medical Foundation division throughout the year. Committee members are also responsible for critiquing Research Progress and Final Reports.

Current and Former Contributors to the Fellowship Program

- Alice Willard Dorr Foundation
- Anonymous Donors
- Bushrod H. Campbell and Adah F. Hall Charity Fund
- Charles H. Hood Foundation
- Eastern Associated Foundation
- Ellison Foundation
- General Cinema Corporation
- The Harold Whitworth Pierce Charitable Trust
- Humane Society of the Commonwealth of Massachusetts
- Hyams Foundation
- John W. Alden Trust
- June Rockwell Levy Foundation
- Ludcke Foundation
- Marion L. Decrow Memorial Foundation
- Nelson E. Weeks Fund of the Permanent Charity Fund
- Theodore Edson Parker Foundation
- United Way of Massachusetts Bay

Award Recipients



Karen Lienkamp, Ph.D.
(Basic Science Research)



Angela Leung, M.D.
(Clinical Research)

Born in Freiburg, Germany, **Dr. Lienkamp** studied Chemistry at the University of Cambridge, UK and the Freie Universität Berlin, Germany and received her Ph.D. at Max-Planck-Institute for Polymer Research in Mainz, Germany. Bacteria that are resistant to antibiotics are spreading in hospitals and throughout the environment. The aim of Dr. Lienkamp’s research is to develop highly active antibacterial surfaces on medical devices that can selectively kill bacteria, without being toxic or harmful to patients. Her research has the potential to significantly reduce infection and improve the quality of life of patients exposed to catheters and other medical devices.

Dr. Leung received a B.A. in Biochemistry from Occidental College, an M.D. from Boston University, and completed her Internal Medicine residency and Endocrinology fellowship at Boston University Medical Center. Dr. Leung’s research investigates the relationships between breast milk iodine levels, environmental chemical exposures that could lower iodine levels (perchlorate and cigarette smoke), and infants’ thyroid function. Her research findings may help guide recommendations about how much iodine infants should receive during an important period of brain growth and has the opportunity to make a significant health impact.

2009 Award Recipients

Basic Science Research

- Matthew Call, Ph.D.**
Harvard Medical School
- Frauke Drees, Ph.D.**
Massachusetts Institute of Technology
- Sophie Dumont, Ph.D.**
Harvard Medical School
- Jesse Goldberg, M.D., Ph.D.**
Massachusetts Institute of Technology
- Dominique Helmlinger, Ph.D.**
Harvard Medical School
- Weikai Li, Ph.D.**
Harvard Medical School
- Karen Lienkamp, Ph.D.**
University of Massachusetts Amherst
- Alexander Loewer, Ph.D.**
Harvard Medical School
- Michelle Longworth, Ph.D.**
Massachusetts General Hospital
- Justine Melo, Ph.D.**
Massachusetts General Hospital
- Soyeon Park, Ph.D.**
Harvard Medical School
- Kirthi Reddy, Ph.D.**
Massachusetts Institute of Technology
- Przemyslaw Mike Sapieha, Ph.D.**
Harvard Medical School
- Yifeng Zhang, Ph.D.**
Harvard University

Clinical and Health Services Research

- Stacey Kenfield, Sc.D., M.Sc.**
Harvard School of Public Health
- Angela Leung, M.D.**
Boston University Medical Center

Program Officer

Linda Lam
LLam@hria.org

Program Eligibility

M.D. and Ph.D. researchers who are pursuing additional training prior to their first faculty appointment

Geographic Eligibility

Massachusetts

Research Focus

Basic science, clinical and health services research

Award

Two-year fellowships ranging from \$86,000–\$100,000

www.tmfgrants.org/King



Charles H. Hood



Harvey P. Hood II



Charles H. Hood II

Hood Foundation Child Health Research Awards Program

A Program of the Charles H. Hood Foundation

The history of the Charles H. Hood Foundation demonstrates a century-long tradition of commitment to community and child health. In the late 1800's, Charles H. Hood was a pioneer in the dairy industry, making important advancements in the sanitary production and distribution of milk. By introducing pasteurization, his company significantly improved the lives of thousands of New England children. His interest in science and his commitment to the health of New England families inspired his son, Harvey P. Hood II, to formally incorporate the Charles H. Hood Foundation in 1942 with the mission of improving the health and quality of life for children in New England.

In an online survey, the 1986–2006 Award Recipients responded that the Award enabled them to obtain preliminary

data necessary for NIH grant applications, pursue innovative research ideas, and provided peer recognition as new faculty members with promise for an academic career. Compared to unfunded applicants, Award Recipients received almost twice as much NIH funding and were more likely to be promoted and have their papers cited by other scientists.

The Program supports junior faculty involved in research projects that are hypothesis-driven and relevant to child health. In the past 67 years, a total of \$26,794,850 has supported 522 Award recipients, many of whom are leaders in pediatric research today.

Award Recipients

Program Officer

Gay Lockwood
GLockwood@hria.org

Program Eligibility

Investigators within five years of their first faculty appointment

Geographic Eligibility

New England

Research Focus

Clinical, basic science, epidemiology and health services research relevant to child health

Award

Two-year awards in the amount of \$150,000

www.tmfgrants.org/Hood



Jill Maron, M.D., M.P.H.



Jason Harris, M.D., M.P.H.

Dr. Maron received an A.B. in Biological Anthropology from Harvard University and her M.D. and M.P.H. degrees from Tulane University. She completed her Pediatric Residency at Brown Medical School and her subspecialty training in Newborn Medicine at Tufts Medical Center. In 2006, she became an Assistant Professor of Pediatrics at Tufts Medical Center. Dr. Maron's research involves the study of necrotizing enterocolitis (NEC), a severe and often devastating gastrointestinal disease that can develop in babies born prematurely. Dr. Maron uses sophisticated genomic analyses to elucidate the underlying biological mechanisms of NEC. By comparing premature infants that do and do not develop NEC, she may identify biomarkers that help predict infants at risk for developing the disease.

Dr. Harris received his M.D. from Duke University, an M.P.H. from the Harvard School of Public Health and completed a pediatric residency at Massachusetts General Hospital (MGH) and an infectious disease fellowship at Children's Hospital Boston. Since 2003 he has been working in collaboration with other investigators at MGH and the International Centre for Diarrhoeal Disease Research in Dhaka, Bangladesh to better understand the immune response to cholera and typhoid fever. Because of the high childhood mortality from diarrhoeal disease in the developing world, there is a pressing need for more research to develop effective vaccines to treat these infections. With support from the Hood Foundation, Dr. Harris will assess how the immune system's white blood cells called "T cells" respond in patients with cholera compared to vaccine recipients to determine how their initial T cell response determines the development of long-term immunity. The goal of this work is to lay the foundation for the design of an improved cholera vaccine.

2009 Award Recipients

Jason Harris, M.D., M.P.H.
Massachusetts General Hospital

Sek Won Kong, M.D.
Children's Hospital Boston

Zhengyu Liu, Ph.D.
Massachusetts General Hospital

Jill Maron, M.D., M.P.H.
Floating Hospital for Children at Tufts Medical Center

Junhao Mao, Ph.D.
University of Massachusetts Medical School

Lisa Minter, Ph.D.
University of Massachusetts Amherst

Lars Mueller, M.D.
Children's Hospital Boston

Peter Nigrovic, M.D.
Brigham and Women's Hospital

Gromoslaw A. Smolen, Ph.D.
Massachusetts General Hospital Cancer Center

Kathleen E. Walsh, M.D., M.Sc.
University of Massachusetts Medical School

Ann Chen Wu, M.D., M.P.H.
Harvard Medical School and Harvard Pilgrim Health Care

Deborah Munroe Noonan Memorial Research Fund

Bank of America, N.A., Trustee

A Program sponsored by Bank of America, N.A.



The Deborah Munroe Noonan Memorial Research Fund, established in 1947 by Frank M. Noonan in memory of his mother, was created to improve the lives of children who were left crippled by polio. As Trustee of the Fund, Bank of America later broadened the scope to include support of innovative clinical research or demonstration projects whose results may improve the quality of life for children with disabilities.

The Noonan Fund plays a critical role in supporting an area of research where funding is scarce. Former award recipients have pioneered interventions that have successfully increased physical activity in children

with intellectual disabilities while other investigators have developed methods for more accurate early diagnosis and treatment of children with attention deficit disorders.

Family-centered homecare for children with severe disabilities has also benefited from research project findings. The Noonan Fund has supported 138 outstanding research projects, improving the lives of children locally as well as nationally.

Award Recipients



Charles D. Hamad, Ph.D.



Decontamination drill

Dr. Charles D. Hamad is the Executive Director of the Center for Excellence in Developmental Disabilities at the E. K. Shriver Center, Associate Professor in the Department of Pediatrics at UMASS Medical School, and Assistant Professor in the Department of Pediatrics at Tufts University School of Medicine. A licensed Child and Developmental Psychologist by training, Dr. Hamad has extensive experience working with children and their families.

Children with disabilities and special health care needs are particularly vulnerable to the effects of man-made or natural disasters or emergencies. Their families may be challenged to strategize in advance for emergency situations, access a public shelter or shelter at home, or communicate with emergency responders. With Noonan Fund support, Dr. Hamad and Sue Wolf-Fordham, J.D. will develop a demonstration training curriculum for parents of children with disabilities or special health care needs (ages 0-21) designed to increase emergency preparedness knowledge, skills and parenting behavior to enable successful planning for emergency needs. Developed in collaboration with parents and emergency response professionals, the curriculum will address needs raised by both groups and highlighted in the literature. The plan will be implemented as an in-person parent training workshop with an emergency planning tools workbook for parents to complete to develop a family emergency plan.

2009 Award Recipients

Charles Hamad, Ph.D., M.A.
University of Massachusetts
Medical School

Patricia Kavanagh, M.D.
Boston University School of Medicine

Deirdre Logan, Ph.D.
Children's Hospital Boston

Christina Ullrich, M.D., M.P.H.
Dana-Farber Cancer Institute

Program Officer

Jeanne Brown
JBrown@hria.org

Program Eligibility

Investigators working in nonprofit organizations

Geographic Eligibility

Greater Boston

Research Focus

Clinical research or demonstration projects relevant to children with disabilities

Award

One-year awards in the amount of \$75,000

www.tmfgrants.org/Noonan



Jacqueline Reinhard, LRF Executive Director;
Stanley Rockson, M.D.; Tina and Allan Neill;
Wendy Chaite, LRF Founder

Lymphatic Research Foundation (LRF) Postdoctoral Fellowship Awards Program

A Program of the Lymphatic Research Foundation

Wendy Chaite, Esq., established the Lymphatic Research Foundation (LRF) in 1998 to advance research of the lymphatic system and to find the cause of and cure for lymphatic diseases, lymphedema, and related disorders. In only a few years, the Foundation created successful alliances with academic institutions, professional associations, industry, and the National Institutes of Health. As momentum grew, the scientific community has responded with greater attention to the lymphatic system and the key role it plays in diseases afflicting millions.

Since 2005, LRF has partnered with The Medical Foundation division to create and manage the LRF Postdoctoral Fellowship Awards Program. The goal of the Program is to expand and strengthen the pool of outstanding junior investigators in the field of lymphatic research. Fellowships support researchers who have recently received their doctorates, a critical point in

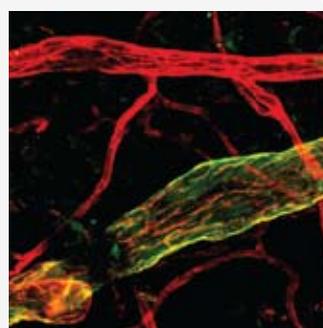
career development when young scientists choose their lifelong research focus. Over time, the Program will contribute to future leadership, fostering discoveries that will lead to therapeutic advances.

Through the generous philanthropy of Allan and Tina Neill of Alabama, LRF established the first-ever endowed academic chair dedicated to advancing scientific and medical knowledge of the lymphatic system. Dr. Stanley G. Rockson now holds the Allan and Tina Neill Professorship of Lymphatic Research and Medicine at Stanford University School of Medicine. An invaluable impact of this endowment resides in the capacity to train a new generation of researchers and clinicians to study the lymphatic system and care for patients. Dr. Rockson will develop training materials and a formal curriculum to teach future researchers and clinicians about lymphatic biology and disease.

Award Recipients



Damien Gerald, Ph.D.



Blood (red) and lymphatic vessels (yellow/green)

Dr. Damien Gerald completed his training at the Institut Pasteur and was awarded a Ph.D. on the Fundamental Basis of Oncogenesis in 2005 from the University Paris VII, France. Currently he is a postdoctoral fellow in the Department of Pathology and Center for Vascular Biology Research at the Beth Israel Deaconess Medical Center, Harvard Medical School.

Blood vessels and lymphatics are critical tissue components in wound healing, cancer, lymphedema and retinopathy. With the support of the Lymphatic Research Foundation, Dr. Gerald is exploring new molecular pathways involved in human blood and lymphatic cell biology. In preliminary experiments, he has discovered that specific proteins can be used to differentially regulate growth of blood and lymphatic vessels in both wound healing and disease states. These studies will contribute to the understanding of lymphatic growth and set the stage for future therapeutic interventions targeted at these unique regulatory proteins.

2008 Award Recipients

Xabier Lopez Aranguren, Ph.D.
Katholieke Universiteit Leuven (Belgium)

Damien Gerald, Ph.D.
Beth Israel Deaconess Medical Center

Sunkuk Kwon, Ph.D.
University of Texas Health Science Center,
Houston

Program Officer

Linda Lam
LLam@hria.org

Program Eligibility

Postdoctoral fellows within their first three years of training

Geographic Eligibility

Worldwide

Research Focus

Clinical and basic science research relevant to the lymphatic system

Award

Two-year fellowships in the amount of \$81,000–\$95,000

www.tmfgrants.org/LRF

Robert Leet and Clara Guthrie Patterson Trust Postdoctoral Fellowship Program in Brain Circuitry

Bank of America, Trustee

A Program sponsored by Bank of America, Hartford, CT

The Robert Leet and Clara Guthrie Patterson Trust was created to improve healthcare through support of medical research. Since 1980, the Trust has made awards to outstanding research scientists in a broad range of disciplines. In 2005, Bank of America contracted with The Medical Foundation division to create a new grants program for the support of postdoctoral biomedical investigators in the research area of brain (neural) circuitry.

Neural circuitry focuses on the relationship between the intricate organization of brain wiring and the emergence of behavior, both normal and

abnormal. Thus, neural circuits must, in some way, account for high-level functions such as memory, self-awareness, language, joy and anger. Research conducted by Patterson Trust Fellows may help to clarify the causes of diseases that affect millions, including schizophrenia, mood disorders, epilepsy, and autism, and degenerative brain disorders such as Alzheimer's disease and Parkinson's.

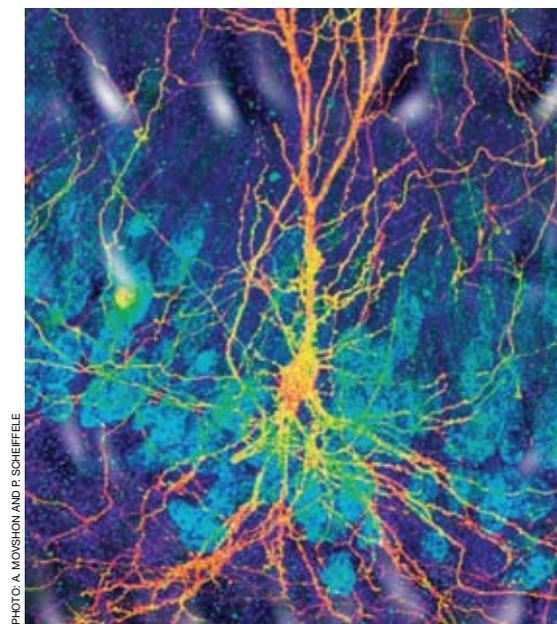
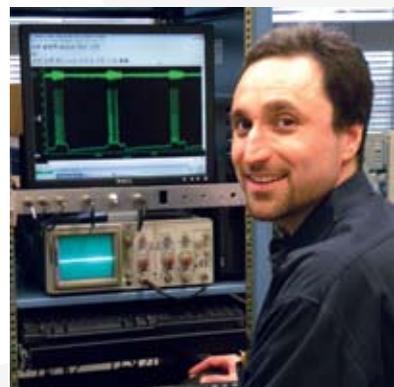
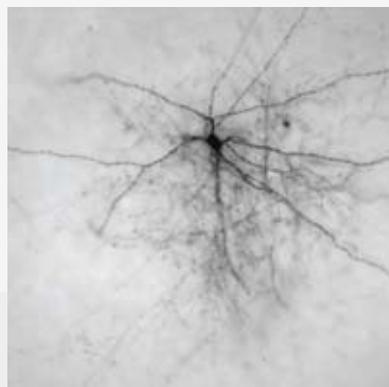


PHOTO: A. MOVSHON AND P. SCHEIFFELE

Award Recipients



Babak Tahvildari, Ph.D.



Interneuron in the cerebral cortex

Dr. Tahvildari earned his Ph.D. degree in Neurological Sciences under co-supervision of Dr. Charles Bourque and the late Dr. Angel Alonso at McGill University, Montreal, Canada. During his Ph.D training, he investigated the functional organization of the entorhinal cortex, a brain region important for learning and memory. In 2007, he joined Dr. David McCormick's laboratory at Yale University as a postdoctoral associate.

Brain cells possess diverse processes allowing them to communicate with each other through electrical and chemical signals. Although brain cell networks can oscillate at very broad frequencies through highly interconnected neurons, it is not well understood how the participation of different types of nerve cells influence the generation, maintenance and termination of such oscillatory states.

Dr. Tahvildari is investigating the contribution of diverse populations of brain cells including local inhibitory interneurons and excitatory principal neurons during such neuronal network activity. He targets these neurons using transgenic mice lines expressing green fluorescent protein in different cell subpopulations and further examines the electrical and chemical signals that excitatory and inhibitory cortical neurons receive during neuronal network oscillation. His research will help to clarify the mechanisms by which the brain dynamically regulates its functional connectivity and excitability. This information is critical not only to our understanding of the basic operation of the cerebral cortex, but also for the dysfunctional properties of the cortex ranging from epilepsy to schizophrenia.

2009 Award Recipients

Yashar Ahmadian Tehrani, Ph.D.
Columbia University

Natalia De Marco Garcia, Ph.D.
NYU Medical Center
NYU School of Medicine

Soo Hyun Lee, Ph.D.
NYU Medical Center
NYU School of Medicine

Jiangteng Lu, Ph.D.
Cold Spring Harbor Laboratory

Ruchir Shah, Ph.D.
New York University

Babak Tahvildari, Ph.D.
Yale University

Marianna Yanike, Ph.D.
Columbia University

Program Officer
Linda Lam
LLam@hria.org

Program Eligibility
No fellowships are being offered in 2010

Geographic Eligibility
Connecticut, New Jersey and New York

Research Focus
Research with direct relevance to brain circuitry

Award
Two-year fellowships in the amount of \$89,000-\$104,000

www.tmfgrants.org/Patterson

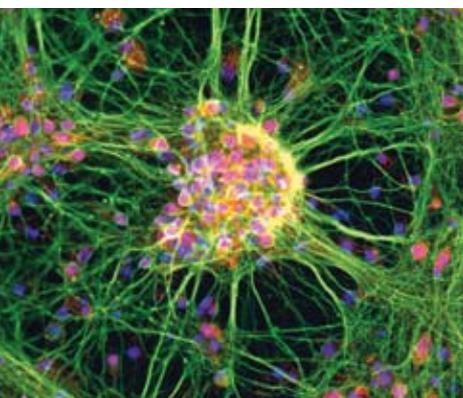
2009 Scientific Review Committees

Each year, Scientific Review Committee members contribute their expertise as well as hundreds of donated hours to read, discuss and ultimately recommend to clients the most outstanding applicants for each grant program. We are grateful for their service and thank them for their commitment.

Charles A. King Trust Postdoctoral Fellowship Program

(Basic Science Research)

H. Robert Horvitz, Ph.D. (Chair)
Athena Andreadis, Ph.D.
Barbara Bierer, M.D.
Myles A. Brown, M.D.
Constance Cepko, Ph.D.
Bruce Demple, Ph.D.
Robert Desimone, Ph.D.
John Frangioni, M.D., Ph.D.
Ulla Hansen, Ph.D.
Daniel Hebert, Ph.D.
Brigitte Huber, Ph.D.
Barbara Kahn, M.D.
Joshua M. Kaplan, Ph.D.
Jeannie Lee, M.D., Ph.D.
Claire Moore, Ph.D.
Marjorie Oettinger, Ph.D.
Mary-Lou Pardue, Ph.D.
Dagmar Ringe, Ph.D.
Ann Marshak Rothstein, Ph.D.
Joshua Sanes, Ph.D.
Pamela Sklar, M.D., Ph.D.
David Van Vactor, Ph.D.
Gregory L. Verdine, Ph.D.
Christopher A. Walsh, M.D., Ph.D.
Gary Yellen, Ph.D.
Phillip Zamore, Ph.D.
Leonard Zon, M.D.



Charles A. King Trust Postdoctoral Fellowship Program

(Clinical and Health Services Research)

E. John Orav, Ph.D. (Chair)
C. Robert Horsburgh, Jr., M.D., M.U.S.
James I. Hudson, M.D., Sc.D.
Gordon Huggins, M.D.
David M. Kent, MD, MS
Bruce E. Landon, M.D., M.B.A., M.Sc.
Jane Weeks, M.D., M.Sc., Sc.M.

Charles H. Hood Foundation Child Health Research Awards Program

David R. Beier, M.D., Ph.D. (Chair)
Howard Bauchner, M.D., F.A.A.P.
Charlotte M. Boney, M.D.
Jeffrey R. Gruen, M.D.
Stella Kourembanas, M.D.
Mary M. Lee, M.D.
John R. Schreiber, M.D.
Kevin Staley, M.D.
John L. Sullivan, M.D.
Patrick M. Vivier, M.D., Ph.D.

Davis Foundation Postdoctoral Fellowship in Eating Disorders Research

Jeffrey Friedman, M.D., Ph.D. (Chair)
Roger Cone, Ph.D.
Angelo Del Parigi, M.D.
Tamas Horvath, D.V.M., Ph.D.
Charles V. Mobbs, Ph.D.
Mark W. Sleeman, Ph.D.
Matthias Tschop, M.D.

Deborah Munroe Noonan Memorial Research Fund

Marji Erickson Warfield, Ph.D. (Chair)
Helene Dumas, M.S., P.T.
Rani Elwy, Ph.D.
James Glauber, M.D., Ph.D.
Linda Grant, M.D., M.P.H.
Karen Kuhlthau, Ph.D.
Leonard Rappaport, M.D., M.S.
Richard Robison, D.Min.
Michael Silverstein, M.D., M.P.H.

Edward N. & Della L. Thome Memorial Foundation Awards Program in Age-Related Macular Degeneration Research

Joan W. Miller, M.D. (Chair)
Anthony P. Adamis, M.D.
Catherine Bowes Rickman, Ph.D.
Emily Y. Chew, M.D.
William W. Hauswirth, Ph.D.
Allen C. Ho, M.D.
Ivana K. Kim, M.D.
Jean-Michel Gries, Ph.D., M.B.A.
Tom Reh, Ph.D.
Cynthia A. Toth, M.D.
Don Zack, M.D., Ph.D.

Goldhirsh Foundation Brain Tumor Research Awards Program

Webster K. Cavenee, Ph.D. (Chair)
Daniel J. Brat, M.D., Ph.D.
Xandra O. Breakefield, Ph.D.
Robert M. Friedlander, M.D.
David H. Gutmann, M.D., Ph.D.
Robert B. Jenkins, M.D., Ph.D.
David H. Rowitch, M.D., Ph.D.
Dinah Sah, Ph.D.
W. K. Alfred Yung, M.D.

Klarman Family Foundation Grants Program in Eating Disorders Research

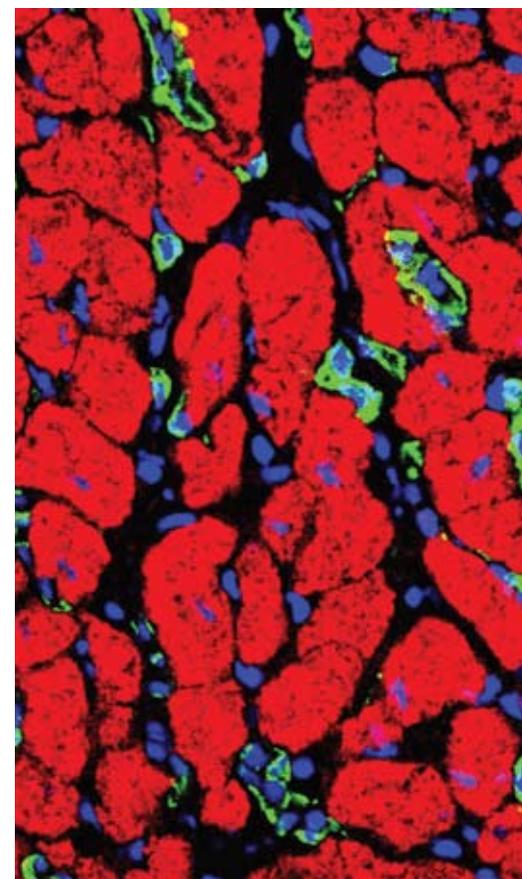
Edward Scolnick, M.D. (Chair)
Esther Dechant, M.D.
Evan Deneris, Ph.D.
Joel K. Elmquist, D.V.M., Ph.D.
John D. E. Gabrieli, Ph.D.
Jay Gingrich, M.D., Ph.D.
Jill Goldstein, Ph.D.
Eleftheria Maratos-Flier, M.D.
Emmanuel Mignot, M.D., Ph.D.
Timothy H. Moran, Ph.D.

Lymphatic Research Foundation Awards Programs

Guillermo Oliver, Ph.D. (Chair)
Michael Detmar, M.D.
Thomas Glover, Ph.D.
Miheala Skobe, Ph.D.
Melody Swartz, Ph.D.
Miiikka Vikkula, M.D., Ph.D.
David Zawieja, Ph.D.

Patterson Trust Fellowship Program in Brain Circuitry

Thomas M. Jessell, Ph.D. (Chair)
J. Anthony Movshon, Ph.D. (Co-Chair)
György Buzsáki, M.D., Ph.D.
Pasko Rakic, M.D., Ph.D.
Harvey A. Swadlow, Ph.D.
David W. Tank, Ph.D.
Leslie Vosshall, Ph.D.



Smith Family Awards Program for Excellence in Biomedical Research

Ed Harlow, Ph.D. (Chair)
George Q. Daley, M.D., Ph.D.
David Lambright, Ph.D.
Jacqueline Lees, Ph.D.
Judy Lieberman, Ph.D., M.D.
Bradford B. Lowell, M.D., Ph.D.
David T. Scadden, M.D.
Brian S. Schaffhausen, Ph.D.
Li-Hue Tsai, Ph.D.
Shannon Turley, Ph.D.

