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The Medical Foundation, a division of HRiA

About Us

Since 1957, foundations, bank trusts and individuals have engaged us to create and manage customized biomedical research grant programs that accelerate the pace of scientific discoveries. As evidenced by the more than 145,000 visits to our website this year alone, our funding announcements reach thousands of potential applicants for every grant cycle. And, by building a distinguished Scientific Review Committee for each program, we ensure critical and unbiased selection of the best minds in science. In 2012, we were privileged to work with foundations and bank trust departments whose grant programs distributed more than $18 million to investigators and physician-scientists across the United States and worldwide.

Sally E. McNagny, M.D., M.P.H., F.A.C.P., Vice President

Since 2001, Dr. McNagny has served as Vice President and head of HRiA’s Medical Foundation division where she leads biomedical research grantmaking and life sciences consulting. Dr. McNagny also serves on the faculty at Harvard Medical School and is a Fellow of the American College of Physicians. She holds 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. Beginning in January 2012, Dr. McNagny began a two-year term as Board Chair of the Health Research Alliance, a membership organization of non-governmental funders of medical research and training whose member organizations distribute more than $1.5 billion annually.

John P. Kanki, Ph.D., Scientific Director

Dr. Kanki provides scientific oversight for the King Trust Postdoctoral Fellowship Program, the Jeffress Trust Awards Program and two Thome Foundation research programs in Alzheimer’s disease and age-related macular degeneration. Together with Dr. McNagny, he conducts life sciences consulting projects, identifies expert scientific reviewers and is involved in new client development. Dr. Kanki received a B.S. in Psychology with Honors from Wesleyan University and his Ph.D. from the University of California San Diego. His postdoctoral studies focused on neurobiology in the Department of Biology at the University of Michigan, embryonic pattern formation in the Department of Molecular Biology at Princeton University, and pancreatic organogenesis in the Department of Medicine at the University of Pennsylvania. For 12 years prior to joining HRiA’s Medical Foundation division, Dr. Kanki was a Senior Research Scientist at the Dana-Farber Cancer Institute in Boston supervising research on leukemia and neuroblastoma. Dr. Kanki is an accomplished grant and scientific writer with an extensive publication record.

www.hria.org/tmfservices
Our Team

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Linda Lam, M.B.A., Program Officer, LLam@hria.org, 617-279-2240, ext. 710
Linley Nykiel-Bub, Grants Associate, LNykiel-Bub@hria.org, 617-279-2240, ext. 320

Our team is supported by a talented array of finance, operations, human resources, design, and information technology professionals.

From the President of Health Resources in Action

I am pleased to share with you our 2012 Medical Foundation Division Review. This year’s Review highlights our clients’ work promoting the careers of newly minted scientists, awarding grants to established investigators, and making major institutional investments to advance medical discoveries.

For more than 55 years, HRiA has been at the forefront of efforts to improve health outcomes by supporting medical research and promoting effective policy and environmental change within communities. Since our inception in 1957, important health issues have receded while others have emerged. What hasn’t changed is our commitment to strengthening communities, advancing health equity and accelerating medical discoveries.

Uniquely positioned to work with a range of clients and partners, we bring extensive knowledge of public health practice and biomedical research funding to enhance the nation’s health. These capabilities were recognized last year by the Center for Medicare and Medicaid Services when we received one of only 107 Innovations Awards to pioneer new and less costly approaches to asthma control. From our community assessments that enable hospitals and health departments to better meet emerging needs to our development of new approaches to reduce problems such as youth violence, we create solutions to today’s most fundamental health challenges.

Health Resources in Action has become a trusted source of knowledge and expertise in the ongoing effort to advance individual and population health. Thank you for your interest in our work and in our mission.

We invite you to follow our progress at www.hria.org.

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Life Sciences Consulting and Strategic Planning

Finding the Best Minds in Science

The Medical Foundation division’s Life Sciences Consulting provides foundations, bank trust departments and individuals with the powerful combination of in-depth knowledge spanning laboratory science to clinical research, a wealth of data sources and commitment to finding the best minds in science.

Imagine you are a funder who wishes to support cutting-edge research relevant to a particular disease and you need help in identifying leaders in the field, learning about the latest breakthroughs and judging what research projects merit support. To assist such clients, we contact thought leaders from a vast network of research colleagues representing academic institutions, the nonprofit funding sector, and pharmaceutical and biotechnology companies. We also scan the N.I.H. grants database, review the scientific literature and evaluate abstracts of preliminary research findings presented at recent scientific meetings.

The Avis and Clifford Barrus Medical Research Foundation wanted to support innovative research in drug development that could lead to effective therapies for individuals suffering from severe, refractory depression. They retained us to search across the U.S. scientific research community and recommend several accomplished investigators for their consideration. Following review of invited applications, the Barrus Foundation Trustees elected to award $300,000 to Carrie K. Jones, Ph.D., Director of In Vitro and Translational Pharmacology at the Vanderbilt Center for Neuroscience Drug Discovery, Vanderbilt University Medical Center. Dr. Jones is developing a new compound that may offer rapid alleviation of depression by blocking glutamate receptors, a mode of action completely different from that of antidepressants currently being prescribed.

The Harold S. Geneen Charitable Trust enlisted our consulting services to identify promising junior faculty in cardiovascular research. Among those we recommended for consideration, the Geneen Trustees selected Margaret Doyle, Ph.D., University of Vermont, who is analyzing plasma biomarkers to develop a specialized blood test that may improve risk prediction of coronary artery disease. They are also supporting Bernhard Kuhn, Ph.D., Boston Children’s Hospital, whose research may elucidate the underlying mechanisms that control heart muscle regeneration.

Exploring Philanthropy’s Role and Impact in Supporting Biomedical Research

Philanthropy has a critical role to play in supporting research discovery. When a client is considering whether to fund scientific investigations, we offer strategic planning to help guide the process. Based upon specific interests, time horizon and funds available, we lay out a range of approaches that maximize the impact of their philanthropic support for biomedical research.

Unlike the National Institutes of Health which must answer to Congress, philanthropists are free to seek out investigators more likely to innovate, experiment and take risks. Nongovernmental funders are able to move quickly to fill identified gaps in support and can choose their own distinctive niche. We also work with our clients to define goals at the outset of any funding program so that a clear evaluation plan is in place to measure the degree to which program objectives are achieved.
Working together to maximize the impact of philanthropic dollars on biomedical research and training to advance health

The Medical Foundation division is proud to be a member of the Health Research Alliance (HRA), an international consortium of nonprofit nongovernmental funding organizations. Its 52 member organizations collectively provide more than $1.5 billion each year to support biomedical research and training with the ultimate goal of improving health. The Health Research Alliance brings together its members to foster communication and collaboration, provide comprehensive data and analysis about the funding of biomedical research and training, identify gaps in funding, facilitate innovative grantmaking and address key issues necessary to accelerate research discovery. Dr. Sally McNagny, Vice President of The Medical Foundation, serves as Chair of the Board for the Health Research Alliance.

In 2012, HRA and its Executive Director, Kate Ahlport, M.S.P.H. implemented three major initiatives. Working with the Food and Drug Administration (FDA), HRA established the New Frontiers in Science Distinguished Lectureship Program that aims to help strengthen scientific expertise at the FDA and foster interactions between the scientific community and the FDA. HRA is also expanding its grants database that currently includes information about more than 15,000 research projects supported by member organizations. The database will allow HRA members to track research funding trends, highlight funding overlap across organizations and allow for comparisons between the NIH and philanthropic funding sectors. Finally, HRA is contributing to making scientific publications of investigators funded by HRA member organizations freely available to the public through its public access initiative.
Gene Discovery in Anorexia Nervosa

Anorexia nervosa (AN) is not a choice but rather a serious biologically based mental illness that adversely affects the lives of millions of women and men every year. Although adolescent and young adult women are most commonly afflicted, AN can strike at any age and does not discriminate on the basis of sex, race, ethnicity or socioeconomic status. With the highest mortality rate of any psychiatric illness and with no effective medications, there is an urgent need to understand the biological causes and to develop new treatments.

The Klarman Family Foundation (KFF) recognizes the critical importance of supporting research that may translate into new treatments for eating disorders. Since 2008, the Foundation’s Grants Program in Eating Disorders Research (highlighted on page 12) has funded outstanding scientists who are exploring the neurobiological basis of eating disorders. Through the years, some applicants proposed to study the genetics of AN since there is growing evidence that AN is heritable. The KFF Scientific Review Committee cautioned that successful genetic research requires large numbers of DNA samples and that no such resource existed in the world.

In March, 2012 KFF convened a meeting of leading human geneticists. The experts emphasized that genetic exploration of AN lags far behind that of other psychiatric disorders and they recommended that KFF support the collection of a large sample for genetic analysis. The value of such an endeavor goes beyond understanding eating disorders. Since individuals with AN frequently have symptoms of other disorders such as anxiety, depression, obsessions, and compulsions, a large collection of DNA samples with clinical information would also enable valuable cross-disorder genetic comparisons with other psychiatric disorders. To maximize the scientific impact, KFF was advised to require that the samples, clinical information, and genetic analyses be made widely accessible to the international scientific community.

The establishment of the Anorexia Nervosa Genetics Initiative (ANGI)

KFF is pleased to announce the launch of the Anorexia Nervosa Genetics Initiative (ANGI). Through a competitive, peer-review process, KFF selected Cynthia Bulik, Ph.D. and her research team in the United States, Sweden, Australia, and Denmark to collect clinical information and blood samples from over 8,000 girls and women with AN as well as individuals without an eating disorder to serve as controls. The ANGI team will analyze the DNA by using genome-wide association (GWA), an approach that involves finding variations across complete sets of DNA that are associated with a particular disease, in this case, AN. These variations may not themselves directly cause the disease, and thus the research

KFF Initiative Oversight Committee

Joel Hirschhorn, M.D., Ph.D., Chair
Jordan Smoller, M.D., Sc.D.
Mark Daly, Ph.D.
Thomas Lehner, Ph.D.
Sally McNamay, M.D., M.P.H., Scientific Research Officer
team will take additional steps, such as sequencing DNA base pairs near the variations to identify what we expect to be many genetic changes involved in AN. Recruitment will begin early in 2013 and genetic analyses will be completed in 2017.

KFF established an Initiative Oversight Committee that is responsible for scientific monitoring. Study participants will provide broad consent so that their DNA and clinical information can be used in a range of research studies exploring gene discovery in AN and other conditions. The Initiative Oversight Committee will work with the ANGI team to establish a Resource Sharing Plan so that samples along with genetic and clinical data are readily available for research purposes to qualified investigators.

ANGI was created to help solve the mystery of how genes and the environment act and interact to cause AN in a way that will aid future scientists in developing targeted treatments. KFF hopes that its investment will inspire others to support research in this and in other biologically based psychiatric illnesses. The Medical Foundation division has been retained by KFF to manage the Initiative. To learn more, contact Sally E. McNagny, M.D., M.P.H., the Initiative’s Scientific Research Officer at SMcNagny@hria.org.

**ANGI Lead Investigators**

**United States: University of North Carolina at Chapel Hill**
Cynthia Bulik, Ph.D., Principal Investigator
Patrick Sullivan, M.D., FRANZCP
Fred Wright, Ph.D.

**Sweden: Karolinska Institutet**
Mikael Landén, M.D., Ph.D.
Andreas Birgegärd, Ph.D.
Claes Norring, Ph.D.
Paul Lichtenstein, Ph.D.

**Australia: Queensland Institute of Medical Research**
Nicholas Martin, Ph.D.
Grant Montgomery, Ph.D.
Tracey Wade, Ph.D.

**Denmark: Aarhus University**
Preben Bo Mortensen, M.D., Ph.D.

Cynthia Bulik, Ph.D., Principal Investigator
The Medical Foundation division was recently retained by U.S. Trust, Bank of America Private Wealth Management to recommend a new scientific focus and review process for the grants program of the Thomas F. and Kate Miller Jeffress Memorial Trust. The new Jeffress Trust Program was to remain faithful to its founding mission, to “benefit the people of Virginia in, and devoted to, research in chemical, medical or other scientific fields,” but to be reshaped to incorporate application review by an objective Scientific Review Committee and to utilize efficient electronic grant submission and processing.

The real challenge for this restructuring was the enormous scientific scope of the Jeffress Trust mission that spanned such diverse fields as geology, chemistry, biology, astronomy, and mathematics. Establishing an objective, but not unwieldy, committee review of such a wide range of research proposals would be a daunting task. The Medical Foundation division interviewed leading scientists in Virginia and reviewed NIH and NSF support in the state to identify funding gaps. Based upon our findings, we developed a funding concept that would cross scientific disciplines, include both large and small universities and promote a future of cutting-edge research for Virginia.

Rather than limiting the new Program’s scientific scope, we recommended focusing on a single scientific strategy that would cross research fields while keeping grant review and Program oversight manageable.

This unifying strategy recognizes recent revolutionary advances in computational sciences, information technologies, mathematics and quantitative analytics that have contributed to major advances across all scientific fields. Computational science (not computer science) uses mathematical models and simulations to understand complex systems and processes in the natural world (e.g. predicting protein folding or climate change), and provides powerful new ways in which huge amounts of data can be manipulated and analyzed to gain scientific insight (e.g. bioinformatics). In Virginia, significant numbers of private and public work in geosciences, engineering and other industries and businesses are actively seeking researchers and workers with such analytic skills and knowledge. Developing such a ‘culture of computational science’ in the state has the potential to reap both scientific and economic benefits.

After careful consideration, U.S. Trust, Bank of America, Trustee of the Jeffress Trust, approved our recommendations and the new Jeffress Trust Awards Program in Interdisciplinary Research was announced. The Program funds research that incorporates computational and quantitative strategies within traditional scientific disciplines. Awarded Virginia scientists will use the power of mathematical modeling and statistical analyses to answer pressing research questions across all fields, ranging from geosciences to human genetics. Faculty in Astronomy can work with computational scientists to develop new approaches to interpret the terabytes of information collected each night from observatories. Geologists will have the capacity to develop new algorithms to analyze global weather and seismic data to improve prediction and disaster preparedness. Physicians working in cancer research will use thousands of stored images from tumor biopsies to develop better pattern recognition models for more accurate diagnoses. Plant geneticists will collaborate with computational scientists to discover which genes make crops more pathogen-resistant.

The Jeffress Trust Awards Program in Interdisciplinary Research will provide up to ten one year, $100,000 awards each year to faculty and their students. The Awards support pilot studies that break through disciplinary silos to encourage innovative cross-disciplinary collaborations and expand creative, high impact research that can catalyze future scientific research in Virginia.

In October, John Kanki, Ph.D., The Medical Foundation division’s Scientific Director and Jeanne Brown, Program Officer, launched the inaugural 2013 Jeffress Trust Awards Program.

Learn more at www.tmfgrants.org/Jeffress.
“Computational Science is now well recognized by the scientific community as a critical enabling discipline underpinning modern research and development in all fields of science, engineering, and medicine. Many fields of science, such as climate and atmospheric sciences, elementary particle physics, and chemistry, have been transformed by computational modeling and simulation. The prediction of material properties and self assembly, emergent behavior in complex systems, and the formation and interaction of stars and galaxies have likewise benefitted in critical ways from the development and application of mathematical models and algorithms, software, and ever-increasing computer speeds.” Computational Science, Mathematical and Physical Sciences Advisory Committee (MPSAC)
Blood vessels in infantile hemangioma, a tumor that occurs in 5-10% of infants of European descent. The tumor is comprised of a mass of disorganized blood vessels where abnormal pericytes (green cells wrapped around the vessels) fail to regulate blood vessel growth.

Courtesy of Elisa Boscolo, Ph.D.

2012 Award Recipients

Irina Bezsonova, M.Sc., Ph.D.
University of Connecticut Health Center
The Role of USP7 in Pediatric Neuroblastoma

Elisa Boscolo, Ph.D.
Boston Children’s Hospital
NOTCH Signaling during Pathological Blood Vessel Formation and Maturation

Jonathan Comer, Ph.D.
Boston University
A Controlled Trial of Telemethods to Expand the Availability of Parent-Child Interaction Therapy for Disruptive Preschoolers

Roger Edwards, Sc.D.
Northeastern University
Use of a Computer Agent to Promote and Support Breastfeeding

Arvin Garg, M.D., M.P.H.
Boston Medical Center
Do Basic Unmet Material Needs and Social Safety Nets Influence Child Maltreatment Risk? A Nested Case-Control Study

M. Kyle Hadden, Ph.D.
University of Connecticut
Vitamin D3 Analogues as Hedgehog Pathway Inhibitors

Janghoo Lim, Ph.D.
Yale University
Molecular Pathogenesis Studies of Childhood Neurological Disorders; Rett and Angelman Syndromes

Katie McLaughlin, Ph.D.
Boston Children’s Hospital
Neurobiological Mechanisms Linking Adverse Childhood Experiences to Adolescent Mental Disorders

Valerie Schumacher, Ph.D.
Boston Children’s Hospital
A Role for Staufen 2-Containing RNA Granules in Chronic Kidney Disease

Zhu Wang, Ph.D.
Connecticut Children’s Medical Center
Statistical Methods for Postoperative Morbidity after Cardiac Surgery in Children

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. By introducing pasteurization, his company significantly improved the lives of thousands of New England children. His interest in science and the health of New England families inspired his son, Harvey P. Hood II, to incorporate the Charles H. Hood Foundation in 1942 with the mission to improve the health and quality of life for children in New England. His son, Charles H. Hood II, assumed the presidency of the Foundation in 1974 and became President Emeritus in 2009. Under the present leadership of John O. Parker, the Hood Foundation will continue the family tradition of supporting outstanding biomedical research to improve the lives of children.

The Charles H. Hood Foundation has demonstrated that supporting promising investigators at the beginning of their careers assists researchers in securing long-term funding from private and government sources. Ultimately, this kind of leverage funding helps to build the biomedical research workforce that will contribute to improving the health and well-being of children now and in the future. Since 1942, the Child Health Research Awards Program has funded 609 investigators totaling more than $56,675,000.

In October 2012, the Foundation celebrated 70 years of grantmaking by hosting a scientific poster session and dinner. Award Recipients, Committee members and Institutional leaders attended the event which also included three talks from distinguished former Awardees. The event honored both the research community and the Foundation’s trustees who have dedicated themselves to the advancement and improvement of pediatric care.

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, public health, health services, and epidemiology research relevant to child health

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

www.tmfgrants.org/Hood
Deborah Munroe Noonan Memorial Research Fund
Bank of America, N.A., Trustee

A Program sponsored by U.S. Trust, Bank of America Private Wealth Management

The Deborah Munroe Noonan Memorial Research Fund was established in 1947 by Frank M. Noonan in memory of his mother to improve the lives of children who were left crippled by polio. As Trustee of the Fund, Bank of America, N.A. 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. From the development of better early childhood screening methods to improved approaches that help disabled adolescents transition to adulthood, the Noonan Fund has recognized and promoted important projects throughout its long history. The 153 awards supported by the Noonan Research Fund have brought much needed scientific examination of the challenges faced by children with disabilities to enhance how they live, learn and play.

In 2012, the Scientific Review Committee, chaired by Laurel Leslie, M.D., M.P.H. of Tufts University School of Medicine, recommended to U.S. Trust a group of exceptional researchers. In her research, Lindsay Demers, Ph.D. will use the Early Intervention Collaborative Study database of 190 children with special needs and their families, who have been followed for more than 20 years. She will explore the impact of early interventions on this cohort of children. Katherine Driscoll, Ph.D. will conduct a pilot study involving a new cognitive-behavioral therapy protocol specifically for treatment of anxiety in young children with Autism Spectrum Disorder (ASD). Emily Feinberg, Sc.D. will assess the feasibility and acceptability of a novel application of the patient navigator approach to improve timely autism diagnoses in minority children from low-income families. Using a one-group pre- and post-test design, Gael Orsmond, Ph.D. will study how production of videos about their personal social experiences may enhance self-reflection in adolescents with autism diagnoses. Using her engineering expertise, Leia Stirling, Ph.D. will conduct a demonstration project to develop the human-machine interface associated with a robot-assisted therapy for grasping tasks in children with cerebral palsy. The Noonan Memorial Research Fund looks forward to following the progress of these innovative research and demonstration projects.

In 2012, the Scientific Review Committee, chaired by Laurel Leslie, M.D., M.P.H. of Tufts University School of Medicine, recommended to U.S. Trust an exceptional group of researchers. In her research, Lindsay Demers, Ph.D. will use the Early Intervention Collaborative Study database of 190 children with special needs and their families, who have been followed for more than 20 years. She will explore the impact of early interventions on this cohort of children. Katherine Driscoll, Ph.D. will conduct a pilot study involving a new cognitive-behavioral therapy protocol specifically for treatment of anxiety in young children with Autism Spectrum Disorder (ASD). Emily Feinberg, Sc.D. will assess the feasibility and acceptability of a novel application of the patient navigator approach to improve timely autism diagnoses in minority children from low-income families. Using a one-group pre- and post-test design, Gael Orsmond, Ph.D. will study how production of videos about their personal social experiences may enhance self-reflection in adolescents with autism diagnoses. Using her engineering expertise, Leia Stirling, Ph.D. will conduct a demonstration project to develop the human-machine interface associated with a robot-assisted therapy for grasping tasks in children with cerebral palsy. The Noonan Memorial Research Fund looks forward to following the progress of these innovative research and demonstration projects.

2012 Award Recipients

Lindsay Demers, Ph.D.
Brandeis University
Impact of Early Intervention on Development Pathways from Preschool to Adulthood

Katherine Driscoll, Ph.D.
Boston Children’s Hospital
Parent-Child Cognitive Behavioral Therapy for Anxiety in Young Children with Autism Spectrum Disorders

Emily Feinberg, Sc.D.
Boston Medical Center
Reducing Disparities in Timely Autism Diagnosis through Family Navigation

Gael Orsmond, Ph.D.
Boston University
The VIP Intervention: Using Video Self-Reflection to Enhance Social Well-Being for Adolescents with an Autism Spectrum Disorder

Leia Stirling, Ph.D.
Harvard Medical School
Development and Evaluation of a Human-Machine Interface for Grasp Assistance Using a Robotic Thumb Orthosis in Children with Cerebral Palsy and Stroke

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 $80,000

www.tmfgrants.org/Noonan
The Klarman Family Foundation is interested in providing strategic investment 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 exceptional science and to encourage outstanding investigators from related disciplines to direct their attention to eating disorders research. The long-term goal is to improve the lives of patients suffering from these conditions. Since 2008, thirty-nine projects, totaling $11,625,836 in research funding, have been supported. Twenty-six separate institutions throughout the United States and Canada are represented.

In April 2012, Award recipients gathered in Boston for the Foundation’s annual Scientific Meeting and presented updates on their funded research to the Trustees and the Scientific Review Committee. Joel Elmquist, D.V.M., Ph.D., Professor and Director, Division of Hypothalamic Research at UT Southwestern Medical Center and Timothy Moran, Ph.D., Paul R. McHugh Professor and Vice Chair, Department of Psychiatry and Behavioral Science at Johns Hopkins University School of Medicine served as Committee Co-Chairs. The 2013 Committee will be chaired by Jeffrey Friedman, M.D., Ph.D., the Marilyn M. Simpson Professor and Howard Hughes Medical Investigator in the Department of Molecular Genetics at The Rockefeller University.

2012 Award Recipients

ONE YEAR PILOT STUDY
Kenneth Carr, Ph.D.
NYU School of Medicine
Effects of Food Restriction on Sucrose-Induced AMPA Receptor Trafficking and Behavior

Andres Lozano, M.D., Ph.D.
University Health Network (Toronto)
Deep Brain Stimulation for the Treatment of Refractory Anorexia Nervosa: Pilot Trial

Jacqueline McGinty, Ph.D.
Medical University of South Carolina
Prefrontal Cortical BDNF and High Fat Food Seeking

TWO YEAR AWARD
Cynthia Bulik, Ph.D.
University of North Carolina at Chapel Hill
Determing the Role of Uncommon Exon Variation in Anorexia Nervosa

Kathryn Cunningham, Ph.D.
University of Texas Medical Branch
Fine-Tuning the 5-HT2AR:5-HT2CR Rheostat for Therapeutics in Binge Eating Disorder

Bingshan Li, Ph.D.
Vanderbilt University Medical Center
Mapping and Functional Characterization of Genetic Variants Associated with Anorexia Nervosa

Marina Picciotto, Ph.D.
Yale University
Acetylcholine: A Novel Regulator of Circuits Involved in Food Intake and Eating Disorders

Leslie Vosshall, Ph.D.
The Rockefeller University
G Protein-Coupled Receptors Regulating the Sensation of Hunger and Satiety

Yong Xu, M.D., Ph.D.
Baylor College of Medicine
A Central Estrogen-5-HT Circuit Regulates Binge Eating

Program Officer
Gay Lockwood
GLockwood@hria.org

Program Eligibility
Faculty at nonprofit academic, medical or research 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 pilot studies up to $150,000

www.tmfgrants.org/Klarman
Charles A. King Trust Postdoctoral Fellowship Program

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. The longstanding commitment of the Charles A. King Trust and other contributors, has culminated in the number of Fellowship award recipients surpassing eight hundred (807), a very impressive milestone.

In 2012, two scientific review committees evaluated 202 submissions, the most ever in the history of the Program. The distinguished members of the Clinical and Health Services Research Review Committee and the Basic Science Review Committee devote considerable time to read and discuss applications prior to making their funding recommendations. The selection process is highly competitive and many worthy applicants fail to be funded. Thus, The Medical Foundation division remains committed to identifying new sources of fellowship support and is deeply grateful for generous support provided by The Bushrod H. Campbell and Adah F. Hall Charity Fund, the Charles H. Hood Foundation, The Harold Whitworth Pierce Charitable Trust and the John W. Alden Trust.

This year the King Trust funded basic research seeking to understand the basis of human longevity along with clinical research to improve long term care of the aged. Studies ranged from the basis of reward and neural disease to understanding cancer, inflammation, pathogen resistance and the development of novel drug screening technologies. The creativity and scope of these exemplary projects embody the comprehensive mission of the Charles A. King Trust.

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

www.tmfgrants.org/King

2012 Award Recipients

**Madelyn Baez-Santiago, Ph.D.**
*Brandeis University*
Dynamic and Tonic Coding of Taste from the Brainstem to the Forebrain

**Matthew Banghart, Ph.D.**
*Harvard Medical School*
Compartment-Specific Signaling by Striatal Opioid Peptides

**Hannah Blitzblau, Ph.D.**
*Whitehead Institute for Biomedical Research*
Telomere-Directed DNA Fragmentation and Genome Stability in Meiosis

**Marc Gershow, Ph.D.**
*Harvard University*
Olfactory Processing in the Drosophila Larva

**Alon Goren, Ph.D.**
*Broad Institute of MIT and Harvard*
Chromatin Regulatory Circuits in Mammalian Pre-implantation Development

**Kirk Jensen, Ph.D.**
*Massachusetts Institute of Technology*
How a Wide Spread Mammalian Parasite Dampens Intestinal Inflammation Through the Injection of a Potent Anti-inflammatory Effector Kinase

**Dae Hyun Kim, M.D., M.P.H.*
*Beth Israel Deaconess Medical Center*
Comparative Effectiveness of Self-Reported Information, Physical Performance Tests, and Noninvasive Measurements of Vascular Disease Burden in Predicting Persistent Disability in Aging Population

**Seokhee Kim, Ph.D.**
*Massachusetts Institute of Technology*
Regulation of Antagonistic Protease and Chaperone Activities in an Enzyme Required for Virulence

**Dudley Lamming, Ph.D.**
*Whitehead Institute for Biomedical Research*
Mammalian Target of Rapamycin Complex 2 (mTORC2) Signaling in the Control of Glucose Homeostasis and Aging

**Lukas Neukomm, Ph.D.**
*University of Massachusetts Medical School*
Genetic Pathways Mediating Axon Death

**Buck Samuel, Ph.D.**
*Massachusetts General Hospital*
Molecular Examination of the Microbial Influences on Host Health

**Luke Stoeckel, Ph.D.*
*Massachusetts General Hospital*
Self-Regulation of Brain Activation in Addiction

**Xu Tan, Ph.D.**
*Brigham and Women’s Hospital*
Multiplex Screen for Interacting Compounds Targeting Hepatitis C Virus

**Ekaterina Toropova, Ph.D.**
*Harvard University*
Structural Basis for the Regulation of the Molecular Motor Dynein by Lis1

*King Clinical and Health Services Research Fellows*
The Edward N. and 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 Americans. In keeping with the Foundation’s mission, the Trust supports research in age-related macular degeneration (AMD), the major cause of blindness in older adults. The goal of the Awards Program is to support translational research that will lead to improved therapies for individuals suffering from AMD. The Scientific Review Committee is chaired by Joan Miller, M.D., the Henry Willard Williams Professor of Ophthalmology and Chief and Chair of the Department of Ophthalmology, Massachusetts Eye and Ear Infirmary. Since its inception, the Program has awarded $14.7 million to 22 investigators working on translational AMD research in nonprofit academic, medical, or research institutions across the United States.

In 2011, from 120 applications, eight investigators were chosen, each to receive $750,000 over three years. During the first year of their respective awards these investigators have made substantial progress, including unprecedented analysis of the temporal sequence of AMD progression, establishment of new AMD animal models and the identification of novel contributing genes and metabolic factors. Researchers are examining the relationship between amyloid-beta deposits in the eye and AMD, while others dissect the disease’s underlying signal transduction pathways. Studies are also well underway to explore the complex role of microglia, a type of immune cell, in AMD. Collectively, this innovative work is leading us towards finding new targets for therapeutic intervention.

Program Officer
Linda Lam
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Program Eligibility
Faculty at nonprofit research institutions (next grant cycle in 2013)

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
In addition to its Age-Related Macular Degeneration Awards Program, the Edward N. and Della L. Thome Memorial Foundation also supports drug discovery research for Alzheimer’s disease (AD). The goal of the Awards Program is to support innovative research that will lead to improved therapies for individuals suffering from Alzheimer’s disease. As Trustee 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. Researchers with expertise in target compound validation and small molecule therapeutics in medicinal chemistry compete for these prestigious Awards. The Scientific Review Committee is chaired by Dr. Li-Huei Tsai, Professor and Director of the Picower Institute for Learning and Memory at MIT and a Howard Hughes Medical Institute Investigator.

The proposals submitted in 2012 were outstanding and involved novel lines of attack to treat this challenging disease. Several investigators proposed new approaches to decrease amyloid-beta (Abeta), the principal component of amyloid plaques found in abundance in the brains of patients with AD. These projects included innovative drug screens based upon Abeta toxicity, compounds targeting the Abeta receptor and drugs that regulate Abeta degradation.

Investigators also focused on developing drugs that increase the degradation of the protein Tau which, like Abeta, forms detrimental brain deposits in AD and other neurodegenerative diseases; others explored compounds targeting either the innate immune system or synaptic function, both of which are negatively affected in AD and may have critical roles in pathogenesis. By funding these innovative and diverse research strategies, the Thome Foundation is accelerating the pace of drug discovery in order to improve the lives of individuals suffering from Alzheimer’s disease.
Since 1992, the Smith Family Foundation has been dedicated to launching the careers of outstanding junior faculty in basic life sciences research with the ultimate goal of accelerating the pace of meaningful medical breakthroughs. Prior to application submission, each institution conducts its own internal review and chooses the two most talented researchers to apply. Each application is then carefully scrutinized by at least two prominent scientists on the Program’s Scientific Review Committee prior to the in-person Committee meeting. Tyler Jacks, Ph.D., Chair of the Committee, is Professor of Biology, a Howard Hughes Medical Institute Investigator and Director of the David H. Koch Institute for Integrative Cancer Research at MIT. He received one of the first Smith Family Awards in 1992.

Having just concluded its 21st year, the Program has funded 130 scientists for a total investment of $23 million. The Foundation hosts an annual scientific poster session during which current and former Award recipients and their laboratory members present their research findings and interact with colleagues. Local recipients of the Pew Scholars Awards and the Searle Scholars Awards are also invited to this event.

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.

2012 Award Recipients

Mark Andermann, Ph.D.
Beth Israel Deaconess Medical Center
Cortical Networks Guiding Hunger-Dependent Attention to Food Cues

Jessica Cardin, Ph.D.
Yale University
GABAergic Contributions to Neural and Cognitive Deficits in a Genetic Model of Schizophrenia

Ethan Garner, Ph.D.
Harvard University
Building a Mechanistic Understanding of Bacterial Cell Wall Growth using High-Resolution Dynamic Imaging

Elsie Sunderland, Ph.D.
Harvard School of Public Health
Sources, Trends and Effects of Immunotoxic Perfluorinated Compounds

Eduardo Torres, Ph.D.
University of Massachusetts Medical School
Role of Protein Turnover Pathways in Aneuploid Cells

Model depicting the outside cell wall of rod-shaped bacteria. Cell wall synthetic machines (blue spheres) move around the cell circumference in both directions, knitting in bands of new cell wall (yellow stripes). 

Courtesy of Ethan Garner, Ph.D.; Illustration by Janet Iwasa
Brain circuits that process rewards and punishments. Waveforms of a neuron recorded from the macaque brain. Courtesy of Erin Rich, M.D., Ph.D.

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. Since 2009, twenty-five postdoctoral investigators from across the United States have received Davis Fellowships.

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.

In 2012, the Davis Foundation hosted a meeting in New York City that brought together Scientific Review Committee members and the Davis Fellows to foster career development, discuss recent research findings and forge future collaborations. The Foundation is pleased to support this year’s talented Fellows who are conducting gene discovery in anorexia nervosa, developing potential new targets for drug development, and studying the basic biology of feeding behavior in rodent models.

2012 Award Recipients

Pushkar Kulkarni, Ph.D.
Northeastern University
Positive Allosteric Modulators of CB1 Cannabinoid Receptor for the Treatment of Anorexia Nervosa

Dong Li, Ph.D.
Children’s Hospital of Philadelphia
Whole Exome Sequencing of Extreme-Trait Anorexia Nervosa

Stephanie Padilla, Ph.D.
University of Washington
Defining the Circuits and Cells Downstream of AgRP Neurons that Determine Food Intake Behavior

Erin Rich, M.D., Ph.D.
University of California Berkeley
The Role of Limbic and Prefrontal Cortex in Coding Food and Non-food Values

Sara Trace, Ph.D.
University of North Carolina at Chapel Hill
Cross-Disorder Genomewide Association Studies in Anorexia Nervosa
The Lymphatic Research Foundation (LRF) Postdoctoral Fellowship Awards Program and the LRF Additional Support Awards for NIH-Funded F32 Postdoctoral Fellows

Programs of the Lymphatic Research Foundation

The Lymphatic Research Foundation (LRF) was established in 1998 to advance research discovery in 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. These efforts have led to the scientific community responding with greater attention to the lymphatic system and the important role it plays in diseases afflicting millions.

Since 2005, LRF has partnered with The Medical Foundation division to create and manage the LRF fellowship programs. The goals of these Programs are to expand and strengthen the international pool of outstanding junior investigators in the field of lymphatic research. Fellowships support researchers who have recently received their doctoral degrees, a critical point in the career development of young scientists when they are choosing their future research paths.

Recipient of the F32 Additional Support Award for NIH Fellows, Carolyn Bayer, Ph.D. is tackling an especially challenging problem. Her research seeks to use different imaging modalities, combined with tissue-targeted contrast agents, to acquire non-invasive images of the lymphatic and blood vessels associated with tumors. Alireza Haghighi Kakhki, M.D., Ph.D. proposes to identify the mutated gene that causes a rare inherited form of lymphedema and may lead to a better understanding of its role in lymphatic development. Yiqing Yang, Ph.D. is studying one of the fundamental relationships between the immune and lymphatic systems.

Working with genetically altered mice that lack lymphatic vessels, she is exploring how the lack of lymphatic vessels impacts immune system development. The Scientific Review Committee will assess the research progress of all Award Recipients following completion of their first year of support.

LRF sponsored an educational symposium in 2012 in conjunction with the Cancer Center of Santa Barbara, entitled “Lymphatic Research Symposium with an Emphasis on Lymphedema and Cancer.” LRF is planning a series of live-streamed symposia throughout 2013 to highlight areas of interest to both researchers and patients. LRF welcomes all opportunities to bring together researchers and the patients who stand to benefit most from their efforts, sparking new understanding on both sides.

2012 Award Recipients

Carolyn Bayer, Ph.D. (F32 Fellow)
University of Texas at Austin
Molecular Photacoustic Imaging Using Multitargeted Contrast Agents

Alireza Haghighi Kakhki, M.D., Ph.D.
University of Oxford
University of Pittsburgh
Genetic Basis of the Yellow Nails-Lymphedema-Pleural Effusion Syndrome

Yiqing Yang, Ph.D.
University of Pennsylvania
The Interaction between Lymphatic Vessels and Secondary Lymphoid Organs in Development

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 and LRF’s mission

Award
Two-year fellowships in the amount of $82,000 - $95,000

LRF Additional Support Award funds only U.S. NIH Fellows whose research is relevant to the lymphatic system ($20,000 over two years)

www.tmfgrants.org/LRF
2012 Scientific Review Committees

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

Charles A. King Trust Postdoctoral Fellowship Program
(Basic Science Research)
Phillip D. Zamore, Ph.D. (Chair)
Ingolf Bach, Ph.D.
Stephen C. Blacklow, M.D., Ph.D.
Steve Buratowski, Ph.D.
David M. Center, M.D.
Constance Cepko, Ph.D.
Michael J. Eck, M.D., Ph.D.
Bennett Goldberg, Ph.D.
Dale L. Greiner, Ph.D.
Robin R. Ingalls, M.D.
Michelle A. Kelliher, Ph.D.
Vijay K. Kuchroo, D.V.M., Ph.D.
Anthony G. Letalis, M.D., Ph.D.
Eve Marder, Ph.D.
Matthew L. Meyerson, M.D., Ph.D.
Melissa J. Moore, Ph.D.
Carl D. Novina, Ph.D.
Mary-Lou Pardue, Ph.D.
Norbert Perrimon, Ph.D.
Daniel Remick, M.D.
Dagmar Ringe, Ph.D.
Josh Sanes, Ph.D.
Alexander Schier, Ph.D.
Ralph Scully, M.B.B.S., Ph.D.
Hazel Sive, Ph.D.
Gary S. Stein, Ph.D.
Vickery Trinkaus-Randall, Ph.D.
Philip Tischler, M.D.
Da-Zhi Wang, Ph.D.
David J. Waxman, Ph.D.
Matthew A. Wilson, Ph.D.
Gary Yellen, Ph.D.

Charles A. King Trust Postdoctoral Fellowship Program
(Clinical and Health Services Research)
Jane Weeks, M.D., M.Sc. (Chair)
Ann Aschengrau, Sc.D.
James I. Hudson, M.D., Sc.D.
Gordon Huggins, M.D.
David M. Kent, M.D., M.S.
Nan Laird, Ph.D.
Bruce E. Landon, M.D., M.B.A., M.Sc.
Carl-Fredrik Westin, Ph.D.

Charles H. Hood Foundation Child Health Research Awards Program
Stella Kourembanas, M.D. (Chair)
Bobby J. Cherayil, M.D.
Jonathan M. Davis, M.D.
Marie E. Egan, M.D., FAAP
Jordan Kreidberg, M.D., Ph.D.
Mary M. Lee, M.D.
Stephen Petlon, M.D.
David W. Rowe, M.D.
James Sargent, M.D.
Susanne E. Tanski, M.D., M.P.H.
Elizabeth Thiele, M.D., Ph.D.
Paige Williams, Ph.D.

Davis Foundation Postdoctoral Fellowship in Eating Disorders Research
Roger Cone, Ph.D. (Chair)
Angelo Del Parigi, M.D.
Catherine Kotz, Ph.D.
Eleftheria Maratos-Flier, M.D.
Eric J. Nestler, M.D., Ph.D.
Mark W. Sleeman, Ph.D.
Matthias Tschoep, M.D.

Deborah Munroe Noonan Memorial Research Fund
Laurel Leslie, M.D., M.P.H. (Chair)
Andria Amador, CAGS, NCSP
James Glauber, M.D., M.P.H
Karen Kuhlthau, Ph.D.
Susan L. Parish, 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. Adams, M.D.
Constance Cepko, Ph.D.
Emily Y. Chew, M.D.
Gregory S. Hageman, Ph.D.
James T. Handa, M.D.
Sabri Markabi, M.D.
Tom Reh, Ph.D.
Cynthia A. Toth, M.D.

Edward N. & Della L. Thome Memorial Foundation Awards Program in Alzheimer’s Disease Drug Discovery Research
Li Hui Tsai, Ph.D. (Chair)
Kelly R. Bales, Ph.D.
Greg M. Cole, Ph.D.
Bradley T. Hyman, M.D., Ph.D.
Marty Jelson, Ph.D.
Frank M. LaFerla, Ph.D.
Patrick C. May, Ph.D.
Pierre N. Tariot, M.D.
D. Martin Watters, Ph.D.
Ryan Watts, Ph.D.
Hui Zheng, Ph.D.

Klarman Family Foundation Grants Program in Eating Disorders Research
Joel K. Elmquist, D.V.M., Ph.D. (Co-Chair)
Timothy H. Moran, Ph.D. (Co-Chair)
Regina Carelli, Ph.D.
Esther Dechant, M.D.
Sabrina Diano, Ph.D.
Irwin Lucki, Ph.D.
Emmanuel Mignot, M.D., Ph.D.
Martin G. Myers, Jr., M.D., Ph.D.
James B. Potash, M.D., M.P.H.
Linda Rinaman, Ph.D.
Gary Schwartz, Ph.D.
Scott Sternson, Ph.D.

Lymphatic Research Foundation Awards Programs
Mihaela Skobe, Ph.D.
Reza Dana, M.D., M.P.H., M.Sc.
Michael J. Davis, Ph.D.
Mark Kahn, M.D.
Jan Klajewski, Ph.D.
Nancy Ruddle, Ph.D.

Smith Family Awards Program for Excellence in Biomedical Research
Tyler Jacks, Ph.D. (Chair)
Catherine Dulac, Ph.D.
Larry Feig, Ph.D.
Leslie Griffith, M.D., Ph.D.
Louis Kunkel, Ph.D.
Bradford B. Lowell, M.D., Ph.D.
Ann Marshak-Rothstein, Ph.D.
John A. Porco, Jr., Ph.D.
Gary Ruvkun, Ph.D.
Bernardo Sabatini, M.D., Ph.D.
David T. Scadden, M.D.
Matthew Waldor, M.D., Ph.D.