

The Medical Foundation

Where Science and Philanthropy Converge

2017 Program Awardees
and Scientific Review Committees



The Medical Foundation
Health Resources in Action

Welcome

Since 1957, **The Medical Foundation at HRIa** has been a recognized leader in developing high-impact biomedical research grant programs that accelerate medical discoveries and advance public health.

The Medical Foundation is proud to:

- partner with private individuals, family foundations, and bank trusts to create and manage customized grant programs,
- offer life sciences consulting services to determine the best way to impact the field,
- work with distinguished scientific experts to impartially review proposals,
- and efficiently manage 14 funding opportunities.

In 2017, on behalf of our clients, The Medical Foundation awarded more than \$20 million in new grants to over 100 postdoctoral fellows, junior faculty, and independent research scientists worldwide.

This document recognizes each of the clients, committee members, and awardees who are helping to spur new findings in medicine and clinical care, advance scientific career development, and improve the health outcomes for countless numbers of people.

2017 Programs

- Dr. Ralph and Marian Falk Medical Research Trust
- Harold S. Geneen Charitable Trust Awards Program for Coronary Heart Disease Research
- Charles H. Hood Foundation Child Health Research Awards Program
- Jeffress Trust Awards Program in Interdisciplinary Research
- Charles A. King Trust Postdoctoral Research Fellowship Program
- Deborah Munroe Noonan Memorial Research Fund
- Robert E. Leet and Clara Guthrie Patterson Trust Mentored Research Awards
- Smith Family Awards Program for Excellence in Biomedical Research
- Henry and Marilyn Taub Foundation Grants Program for MDS Research
- Edward N. and Della L. Thome Memorial Foundation Awards Program in Alzheimer's Disease Drug Discovery Research

For the latest information, please visit:

The Medical Foundation: hria.org/tmf/TheMedicalFoundation



2017 Awardees

Dr. Ralph and Marian Falk Medical Research Trust

Catalyst Awards

Emad Alnemri, Ph.D.
Thomas Jefferson University
Role of DFNA5 in the Anti-Tumor Immune Response

Ernesto Bongarzone, Ph.D.
University of Illinois College of Medicine at Chicago
Promoting Remyelination in Multiple Sclerosis by Delivering Therapeutic MicroRNAs Via Oligodendrocyte-Targeting Microvesicles

Mark Kay, M.D., Ph.D.
Stanford University
Enhancement of Therapeutic AAV-Mediated Gene Targeting Without Nucleases

Ari Melnick, M.D.
Weill Medical College of Cornell University
SIRT3 as a Therapeutic Target for Therapy Resistant B-cell Lymphomas

Mark Mitton-Fry, Ph.D.
The Ohio State University
Novel Therapies for MRSA and Innovative Methods For Tackling Bacterial Resistance

Harikrishna Nakshatri, Ph.D., B.V.Sc.
Indiana University School of Medicine
The Effect of Extra Physiologic Oxygen Shock/stress (EPHOSS) on Cancer Stem Cell and Drug Sensitivity Measurements

Xin Qi, Ph.D.
Case Western Reserve University
Identification of Enhancers of Mitochondrial Function as Candidate Therapeutics of Huntington's Disease

Eric Shusta, Ph.D.
University of Wisconsin-Madison
A New Strategy for Brain Cancer Immunotherapy

Stephen Strittmatter, M.D., Ph.D.
Yale University
Fyn Kinase Inhibition for the Tauopathy in Fronto-Temporal Dementia and Glaucoma

Frits van Rhee, M.D., Ph.D.
University of Arkansas College of Medicine
Expanded Natural Killer Cell Therapy for High-Risk Multiple Myeloma

2017 Awardees

Dr. Ralph and Marian Falk Medical Research Trust

Transformational Awards

Andrew Aplin, Ph.D.
Thomas Jefferson University
Targeted Inhibitor Strategies in Uveal Melanoma

Samira Azarin, Ph.D.
University of Minnesota
Scaffold-Based Vaccination Strategy to Target Metastatic Disease

Paul Bollyky, M.D., Ph.D.
Stanford University
Targeting Bacteriophage to Treat Biofilm Infections

John Imig, Ph.D.
Medical College of Wisconsin
Novel Therapy of Kidney Disease

For more information, please visit:

Falk Catalyst Awards: hria.org/tmf/FalkCAP

Falk Transformational Awards: hria.org/tmf/FalkTAP

2017 Awardees

Harold S. Geneen Charitable Trust Awards Program for Coronary Heart Disease Research

Andreas Koenig, Ph.D.

University of Vermont

Genomic Variation in the Lipid Anchor Biosynthesis Protein PIGC as Cardiovascular Risk Factor

Padmini Sirish, Ph.D.

University of California, Davis

Improving Cell-Based Therapy for Coronary Heart Diseases

For more information, please visit: hria.org/tmf/Geneen

2017 Awardees

Charles H. Hood Foundation Child Health Research Awards Program

January Cycle

Philip Kranzusch, Ph.D.
Dana-Farber Cancer Institute
Mechanism of STING Signaling and Auto-Activation during Pediatric Inflammatory Disease

Amy Lee, Ph.D.
Brandeis University
Regulation of mRNA Translation Initiation in Development

Nikhil Malvankar, Ph.D.
Yale University
Targeting Bacterial Infections in Cystic Fibrosis by Imaging Electrical Interactions between Host Surface and a Pathogen

Andrea Reboldi, Ph.D.
University of Massachusetts Medical School
Microbial And Dietary Reprogramming of Intestinal Immune Memory

Peter Rohloff, M.D., Ph.D.
Brigham and Women's Hospital
Using Mobile Health Technology to Improve the Continuum of Neonatal Care in Rural Guatemala

Rong Yang, Ph.D.
Boston Children's Hospital
Antibiotic-Free Treatment and Prophylaxis of Otitis Media

July Cycle

Todd Anthony, Ph.D.
Boston Children's Hospital
Neural Circuit-Level Mechanisms that Control Persistent Consequences of Early Life Stress

Mehdi Hedjazi Moghari, Ph.D.
Boston Children's Hospital
Improved 3D Cine Cardiovascular Magnetic Resonance Imaging for Children

Danielle Levac, P.T., Ph.D.
Northeastern University
From Virtual Reality to Real Life Skill: Enhancing the potential of Virtual Environments for Rehabilitation in children with Cerebral Palsy

Carrie Lucas, Ph.D.
Yale School of Medicine
Mechanisms of Disease in Pediatric Lymphocyte Disorders Caused by PI3K Gene Mutations

Andrea Reboldi, Ph.D.
University of Massachusetts Medical School
Microbial And Dietary Reprogramming of Intestinal Immune Memory

2017 Awardees

Charles H. Hood Foundation Major Grants Initiative to Advance Child Health

Jonathan Davis, M.D.
Tufts Medical Center
Establishing Risk in Neonatal Abstinence Syndrome

Stella Kourembanas, M.D.
Boston Children's Hospital
Preterm birth: Lung complications and stem cells

For more information, please visit: hria.org/tmf/Hood

2017 Awardees

Jeffress Trust Awards Program in Interdisciplinary Research

Robert Brinkerhoff, Ph.D.

University of Richmond

Quantitative Genomic Analysis of Black-legged Tick Populations in Virginia to Identify Processes Associated with Increased Lyme Disease Incidence

Bethany Brinkman, Ph.D.

Sweet Briar College

Water Treatment In Context: Appropriate Technology and Water Quality

Kateri DuBay, Ph.D.

University of Virginia

Modeling The Effect Of An Oscillatory Cellular Environment On Protein Folding

Bartlett Douglas Edmonds, Ph.D.

Virginia Polytechnic Institute and State University

Determining the Time-dependent Photoionization Structure of Mass Outflows in Active Galactic Nuclei

John Friend, Ph.D.

Washington and Lee University

Translational Control at the Boundary between the Pluripotent and Differentiated State

Gaurav Giri, Ph.D.

University of Virginia

Creating High Performance Flexible, Transparent Electronics Using Solution Shearing and Multiscale Modelling

David Haak, Ph.D.

Virginia Polytechnic Institute and State University

Do RNA Viruses Hijack Host Alternative Splicing Machinery for Infections? A Bioinformatician's View

Julie Pollock, Ph.D.

University of Richmond

Experimental And Computational Investigations Of MEMO1 And Its Role In Breast Cancer

Wanli Qiao, Ph.D.

George Mason University

High-dimensional Statistics and Biomolecular Modeling as a Powerful Microscope over Pathogenic Mutations in Proteinopathies

Patrick Sachs, Ph.D.

Old Dominion University

Three-dimensional Bioprinting for High-throughput In-vitro Modeling of Asymmetric Stem Cell Divisions

Burak Tanyu, Ph.D.

George Mason University

Evaluating the Potential of Bio-Inspired Soils to Enhance Nature Based Coastal Resiliency Systems by Combining Experimental and Computational Methods

2017 Awardees

Robert Waters, Ph.D.

University of Mary Washington

Visualizing Big Data to Determine the Effects of Physical Exercise on Social Ethology, Social Rank and Neurophysiology in Laboratory Mice

Daniel Weller, Ph.D.

University of Virginia

Perceptually Aware Model Training for Image Reconstruction

Jie Xu, Ph.D.

George Mason University

Increasing Power Grids Resilience To Weather Via Optimal Power Line Hardening

Sen Zhang, Ph.D.

University of Virginia

Advanced Electrocatalysts Through Core-Shell Nanostructures

For more information, please visit: hria.org/tmf/Jeffress

2017 Awardees

Charles A. King Trust Postdoctoral Fellowship Program Basic Science

Halil Aksoylar, Ph.D.
Harvard School of Public Health
Regulation of Macrophage Activation by Mitochondrial Metabolism

Lisa Bebell, M.D.
Massachusetts General Hospital
HIV Infection, Antiretroviral Therapy and Placental Inflammation in Uganda: Potential Mechanisms for Poor Outcomes in HIV-Exposed Infants

Reza Behrouzi, Ph.D.
Harvard Medical School
Structural Characterization of Silent Chromatin Domains by Single Particle Cryo-EM

Caroline Heintz Dr. sc. nat.
Harvard School of Public Health
The Physiological Role and Regulation of Splicing Factor 1 in Aging and Longevity

Ni Ji, Ph.D.
Massachusetts Institute of Technology
Circuit Mechanisms Underlying Sustained Behavioral States in C. Elegans

Lan Jiang, Ph.D.
Boston Children's Hospital
Identifying and Functional Characterizing Imprinting Control Regions of Novel DNA Methylation-Independent Imprinting Genes

Mei Ng, Ph.D.
Massachusetts General Hospital
Alleviating Solid Stress to Enhance Immunotherapy in Metastatic Breast Cancer

Andrey Parkhitko, Ph.D.
Harvard Medical School
Studying Methionine Flux and its Role in Aging and Neurodegeneration

Jianbin Ruan, Ph.D.
Boston Children's Hospital
The Killer Protein Gasdermin D: Activation Mechanism and a New Potential Therapeutic Target

Brian Russo, Ph.D., M.A.
Massachusetts General Hospital
The Type 3 Secretion System Translocon Pore in Bacterial Pathogenesis

John Salogiannis, Ph.D.
Boston Children's Hospital
Mechanisms of Microtubule-Based Transport via Organelle Contacts

2017 Awardees

Kfir Sharabi, Ph.D.

Dana-Farber Cancer Institute

Dissecting Mechanisms that Control Hepatic Glucose Production Using a Newly Identified Anti-Diabetic Drug

Clare Smith, Ph.D.

University of Massachusetts Medical School

System Genetics of Tuberculosis Susceptibility

Yixing Yuchi, Ph.D.

Joslin Diabetes Center

Resolution of T2D after Gastric Bypass Surgery: Deciphering the Impact of ESM1

Charles A. King Trust Postdoctoral Fellowship Program

Clinical/Health Services

Jonathan Iaccarino, M.D.

Boston Medical Center

Comorbidities in Lung Cancer Screening: Improving Decision-Making and Patient Selection

Ryan Jacoby, Ph.D.

Massachusetts General Hospital

The Role of Cognitive Control in the Transdiagnostic Conceptualization of "Intrusive Thoughts"

For more information, please visit:

hria.org/tmf/KingBasic

hria.org/tmf/KingClinical

2017 Awardees

Deborah Munroe Noonan Memorial Research Fund

Corinna Bauer, Ph.D.

Massachusetts Eye and Ear Infirmary

Determining the Neural Correlates of Visual Attention Deficits in Adolescents with Cortical/Cerebral Visual Impairment (CVI)

Michael Cohen, M.D.

Massachusetts Eye and Ear Infirmary

Use of Amplification in Children with Unilateral Hearing Loss

Julia O'Rourke, Ph.D.

Massachusetts General Hospital

Improving Healthcare for Children with Autism Spectrum Disorder through a Collaborative Care Model

Meg Simione, Ph.D.

Massachusetts General Hospital

An Explanatory Model of Pediatric Feeding Disorders: A Multi-Level Assessment of Health and Functioning

Heidi Stanish, Ph.D.

University of Massachusetts Boston

Building Physical Literacy Among Children with Developmental Disabilities Through Sport Sampling

Meg Stone, M.A., M.P.H.

Triangle, Inc.

Preventing Abuse and Violence Against Middle School Students with Intellectual Disabilities

For more information, please visit: hria.org/tmf/Noonan

2017 Awardees

Patterson Trust Fellowship Program in Clinical Research January Cycle

Lynnette Averill, Ph.D.
Yale University
Connectivity Networks Underlying Ketamine-Induced Improvements in Suicidal Ideation

Kumar Dharmarajan, M.D.
Yale School of Medicine
Recovery After Cardiopulmonary Hospitalization: The REACH Study

Jessica Hollenbach, Ph.D.
Connecticut Children's Medical Center
Interrogating the Placental Microbiome Among Pregnant Women with Asthma

Emily McDonald, Ph.D.
Rhode Island Hospital
The Impact of Maternal Alcohol Consumption on the Placenta Microbiome

Dennis Moledina, MBBS
Yale School of Medicine
Early Non-invasive Diagnosis of Human Acute Tubulo-Interstitial Nephritis (AIN) with Cytokines Representing T-helper Cell Pathway

Sarah Mougalian, M.D.
Yale University
Improving Adherence to Endocrine Therapy in Breast Cancer Using Mobile Technology

Jessica Nouws, Ph.D.
Yale School of Medicine
Insulin Resistance of Adolescent Obesity: Role of Inflammation and Fat Storage Capacity

Nikhil Singh, M.D., Ph.D.
Yale University
Cellular and Molecular Characterization of Human Acute Kidney Injury

Samuel Wilkinson, M.D.
Yale School of Medicine
Examining the Efficacy of Cognitive Behavior Therapy to Sustain the Antidepressant Effects of Intravenous Ketamine

October Cycle

Jennifer Dearborn-Tomazos, M.D., M.P.H.
Yale School of Medicine
Intentional Weight Loss in Obese Patients after Ischemic Stroke: a Feasibility and Safety Study

Mary Driscoll, Ph.D.
Connecticut VA Healthcare System
An Ecological Momentary Assessment of Relational Demand and its Implications for a Pain Self-Management Intervention Among Women Veterans with Chronic Back Pain

Alfonso Galderisi, M.D.
Yale University
Pathogenesis of Youth Onset Pre-diabetes and Type 2 Diabetes: Effect of TCF7L2 on Beta Cell Function and Incretin Response

2017 Awardees

Tracy Madsen, M.D., M.Sc.

Rhode Island Hospital

StoP STRoKE: Sex-Specific Prevention of Stroke Through Reproductive Risk Factors and Sex-steroid Effects

Erin Mead, Ph.D.

University of Connecticut Health Center

Addictive Potential of Little Cigars/Cigarillos in Dual Users: Effect by Flavor and Gender

Kofi Mensah, M.D., Ph.D.

Yale School of Medicine

Erosive Rheumatoid Arthritis Correlates with Defective B Cell Expression of Ataxia-Telangiectasia Mutated Protein

Julia Rozanova, Ph.D.

Yale University

Improving HIV Prevention and Addiction Treatment in Prisons

Tregony Simoneau, M.D.

Connecticut Children's Medical Center

Identifying Biomarkers of Allergic Asthma: What Can the Long Non-coding RNA Tell Us

Jennifer Tsui, Ph.D., M.P.H.

Rutgers Cancer Institute of New Jersey

Improving Health Care Delivery Processes to Enhance Care Quality for Underserved Cancer Patients in New Jersey

Yu Zhang, M.D.

Yale School of Medicine

Evaluating the Effect of Anti-Program Death Immune Therapy on Anti-Tumor T Cell Responses in Non-Small Cell Lung Cancer Patients

For more information, please visit: hria.org/tmf/Patterson

2017 Awardees

Smith Family Awards Program for Excellence in Biomedical Research

Aaron Hata, M.D., Ph.D.

Massachusetts General Hospital

Determining the Impact of Therapy-Induced Mutations on Tumor Heterogeneity and Evolution of Acquired Drug Resistance

Amity Manning, Ph.D.

Worcester Polytechnic Institute

Epigenetic Regulation of Mitotic Fidelity

Babak Momeni, Ph.D.

Boston College

Elucidating the Molecular Mechanisms of Microbial Interactions Using Tn-Seq

W. Benjamin Rogers, Ph.D.

Brandeis University

Developing DNA Nanotechnology Tools for Probing RNA Secondary Structure and RNA-Protein Interactions

Sichen Shao, Ph.D.

Harvard Medical School

Mechanistic Dissection of Tail-Anchored Membrane Protein Sorting

Bryan Spring, Ph.D.

Northeastern University

Peering into Cancer Stem Cell Niches to Guide Suppression of Multiple Signaling Loop Pathways

For more information, please visit: hria.org/tmf/Smith

2017 Awardees

The Henry and Marilyn Taub Foundation Grants Program for MDS Research

Iannis Aifantis, Ph.D.

New York University School of Medicine

Pharmacological Restoration of TET2 Function in MDS with High-Dose Vitamin C

Benjamin Ebert, M.D., Ph.D.

Brigham and Women's Hospital

Targeting TP53-mutant MDS

Coleman Lindsley, M.D., Ph.D.

Dana-Farber Cancer Institute

Understanding distinct mechanisms of U2AF1-S34 and Q157 mutations in MDS pathogenesis

Matthew Walter, M.D.

Washington University School of Medicine in St. Louis

The Role of U2AF1 Mutations in MDS Pathogenesis

For more information, please visit: hria.org/tmf/Taub

2017 Awardees

The Edward N. & Della L. Thome Memorial Foundation Awards Program in Alzheimer's Disease Drug Discovery Research

Sandeep Datta, M.D., Ph.D.

Harvard Medical School

Identifying antagonists for a novel AD risk gene

David Holtzman, M.D.

Washington University in St. Louis

Development and testing of novel TREM2-targeted therapeutics

Kenneth Kosik, M.D.

University of California Santa Barbara

Farnesyltransferase inhibitors to Treat Neurofibrillary Pathology of Alzheimer's Disease

Seulki Lee, Ph.D.

Johns Hopkins University School of Medicine

A Novel GLP-1 Receptor Agonist for the Treatment of Alzheimer's Disease

Chien-liang Lin, Ph.D.

The Ohio State University

Restoration of tripartite glutamatergic synapse as a therapeutic strategy for Alzheimer's disease

Thomas Wisniewski, M.D.

New York University School of Medicine

Developing Peptoid Inhibitors to Target the ApoE/A β Interaction as a Novel Alzheimer's Disease Therapy

For more information, please visit: hria.org/tmf/ThomeAD

2017 Scientific Review Committees

Dr. Ralph and Marian Falk Medical Research Trust Awards Programs Catalyst and Transformational

Bo Saxberg, M.D., Ph.D. (Chair)
William Barsan, M.D.
Eric Beyer, M.D., Ph.D.
Bruce Bloom, D.D.S.
Mehrnoosh Ghiam, Ph.D.
Elizabeth Horn, Ph.D.
Anthony Koleske, Ph.D.
Andrey Rzhetsky, Ph.D.
Edward Spack, Ph.D.
Andrew Wooten, M.S., M.T.M.

Charles H. Hood Foundation Child Health Research Awards Program

Elizabeth Engle, M.D. (Chair)
Elizabeth D. Barnett, M.D.
Clifford W. Bogue, M.D.
Howard Cabral, Ph.D., MPH
Jeff Gruen, M.D.
Jill L. Maron, M.D., MPH
Camilia Martin, M.D., M.S.
Beth A. McCormick, Ph.D.
Madhusmita Misra, M.D., MPH
Eric M. Morrow, Ph.D., M.D.
Susanne Tanski, M.D., MPH
Elsie Taveras, M.D., MPH

Thomas F. and Kate Miller Jeffress Memorial Trust Awards Program

Donald Brown, Ph.D. (Chair)
Farzad Farnoud, Ph.D.
Ina Hoeschele, Ph.D.
Debra Hydorn, Ph.D.
Yiannis Papelis, Ph.D.
Stacie Ringleb, Ph.D.
Rebecca Segal, Ph.D.
Leah Shaw, Ph.D.
Larry (Liansheng) Tang, Ph.D.
Diego Troya, Ph.D.
Seth Weinberg, Ph.D.

2017 Scientific Review Committees

Charles A. King Trust Postdoctoral Fellowship Program Clinical and Health Services Research

Kenneth J. Mukamal, MD, M.P.H. (Chair)
David A. Frank, MD, Ph.D
Matthew P. Frosch, MD, Ph.D.
John Griffith, Ph.D.
Marek Kubicki, MD
Neal Silverman, Ph.D.
Christine Wanke, MD

Charles A. King Trust Postdoctoral Fellowship Program Basic Science

Catherine Dulac, Ph.D. (Chair)
Ingolf Bach, Ph.D.
David Center, M.D.
Erin Cram, Ph.D.
Dale Greiner, Ph.D.
Michael Hemann, Ph.D.
Takao Hensch, Ph.D.
Paul Huang, M.D., Ph.D.
Robin Ingalls, M.D.
Jonathan Kagan, Ph.D.
Michelle Kelliher, Ph.D.
Gabriel Kreiman, Ph.D.
Mitzi Kuroda, Ph.D.
Andrew Lane, M.D., Ph.D.
Karl Munger, Ph.D.
Sacha Nelson, M.D., Ph.D.
Ralph Scully, Ph.D.
Lois Smith, M.D., Ph.D.
Amy Walker, Ph.D.
Graham Walker, Ph.D.
David Waxman, Ph.D.
Kristin White, Ph.D.
Matthew Wilson, Ph.D.

2017 Scientific Review Committees

Deborah Munroe Noonan Memorial Research Fund

Gael Orsmond, Ph.D. (Chair)
Deborah (Debby) Allen, Sc.D.
Beth Dworetzky, M.S.
Laurie Glader, M.D.
John (Jack) Maypole, M.D.
Robert Volpe, Ph.D.

Robert E. Leet and Clara Guthrie Patterson Trust Awards Program in Clinical Research

Lori Bastian, M.D., MPH (Chair)
Robert Aseltine, Jr., Ph.D.
Mark Litt, Ph.D.
M. Maral Mouradian, M.D.
Kristin Mattocks, Ph.D.
Eric Mortensen, M.D.
Heber Nielsen, M.D.
Elijah Paintsil, M.D.
Theresa Shireman, Ph.D.
David Steffens, M.D.

Richard and Susan Smith Family Awards Program for Excellence in Biomedical Research

Gary Ruvkun, Ph.D. (Chair)
Iain Cheeseman, Ph.D.
Ralph Isberg, Ph.D.
Venkatesh N. Murthy, Ph.D.
Suzanne Paradis, Ph.D.
Hidde Ploegh, Ph.D.
Kornelia Polyak, M.D., Ph.D.
Aviv Regev, Ph.D.
Susan Swain, Ph.D.
Amy Wagers, Ph.D.
Muhammad H. Zaman, Ph.D.

2017 Scientific Review Committees

The Henry & Marilyn Taub Foundation Grants Program for Myelodysplastic Syndromes Research

Timothy Graubert, M.D.
Maria "Ken" Figueroa, M.D.
Lucy Godley, M.D., Ph.D.
Ross Levine, M.D.
Eric Padron, M.D.
Daniel T. Starczynowski, Ph.D.
Britta Will, Ph.D

Edward N. & Della L. Thome Memorial Foundation Awards Program in Alzheimer's Disease Drug Discovery Research

Li-Huei Tsai, Ph.D. (Chair)
John Alam, M.D.
Kelly Bales, Ph.D.
Matthew Blurton-Jones, Ph.D.
Gregory Cole, Ph.D.
Li Gan, Ph.D.
Todd Golde, M.D., Ph.D.
Kenneth Rhodes, Ph.D.
Pierre Tariot, M.D.
Robert Vassar, Ph.D.