NIH Common Fund Awards Four New Programs

The NIH Common Fund committed over $54 million in fiscal year 2015 to launch four new programs: the Glycoscience Program, the 4D Nucleome Program, the Gabriella Miller Kids First Research Program, and the Science of Behavior Change Program. The 2015 awards represented first-year funding of a multiyear program. The award descriptions follow as announced by the NIH. The complete press release is available online at http://www.nih.gov/news/health/oct2015/od-05.htm.

- The Glycoscience Program is addressing the difficulty of studying proteins and lipids that have complex sugars attached, a problem that stymies researchers in virtually every arena of biomedical research. These carbohydrate modifications play important roles in numerous disease processes, but they are exceedingly difficult to study. This program is awarding approximately $10 million to 23 research teams to make the study of carbohydrate chemistry and biology more accessible to the broad research community by developing tools and methods that are simple, reliable, and easy-to-use for non-specialists. The goal of the Glycoscience Program is to simplify carbohydrate research by developing simple methods and technologies for synthesizing carbohydrates, creating accessible tools for studying carbohydrates and their interaction partners, and fostering the integration and analysis of the information gained with the genomic and proteomic knowledge base. The program is led by the National Institute of General Medical Sciences and the National Institute of Dental and Craniofacial Research (NIDCR), and the awards are administered by several institutes and centers.
- The 4D Nucleome Program is leveraging recent technological advances to transform the way we understand gene regulation. In recent years, it has become clear that the DNA and DNA associated proteins found in each cell nucleus are precisely organized in three dimensions and this organization changes over time – the fourth dimension. However, the functional consequences of this organization on gene expression, cellular function, development, and disease are unknown. The 4D Nucleome Program is supporting its first set of 29 awards, in which researchers will work together as a consortium to investigate nuclear organization in space and time, with a focus on investment in future technology development. Totaling approximately $25 million, this program includes support for an interdisciplinary consortium to explore nuclear organization and function; development of new chemical, biochemical, and imaging tools; studies of structural and functional subregions within the nucleus; an organizational hub to facilitate collaboration and resource sharing; and a data center to coordinate and integrate data generated by the 4D Nucleome investigators. These awards are being administered by the National Cancer Institute, the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK), the National Institute of Biomedical Imaging and Bioengineering, the National Heart, Lung, and Blood Institute (NHLBI), and the National Institute on Drug Abuse (NIDA).
- The Gabriella Miller Kids First Pediatric Research Program will develop a data resource for the pediatric research community of clinical and genetic sequence data that will allow scientists to identify genetic pathways that underlie structural birth defects and childhood cancer. Increased understanding of the underlying genetics of these conditions would be a first step towards potentially developing prevention, early detection, and therapeutic interventions. DNA sequencing centers at Baylor College of Medicine, Houston, and Washington University, St. Louis, each received $6.3 million to generate genetic sequence data from structural birth defects and childhood cancer research cohorts. In future years, the program plans to support additional analyses and data coordination efforts which will enable molecular networks that may link apparently disparate conditions to be identified. The sequencing center grants are managed by the National Human Genome Research Institute.
- The Science of Behavior Change Program aims to implement a mechanism-focused, experimental medicine approach to behavior change research. Unhealthy behaviors, including lack of adherence to medical regimens, account for approximately 40 percent of premature deaths in the United States. The Science of Behavior Change Research Network will bring together teams of basic and clinical scientists to implement an experimental approach to behavior change, which will involve: identifying behavior change targets common across multiple diseases, developing assays to measure target engagement, testing interventions for efficacy, and disseminating validated assays and tools to researchers and clinicians. The network will receive approximately $7 million to fund a total of nine awards that are being administered by the National Institute on Aging, NIDA, the Eunice Kennedy Shriver National Institute of Child Health and Development, NHLBI, NIDDK, the National Center for Complementary and Integrative Health, the National Institute of Nursing Research, and NIDCR.

CDC Adds Six New Prevention Epicenters

The Centers for Disease Control and Prevention (CDC) announced $11 million in funding to establish six new Prevention Epicenters, bringing the total number of centers to 11. The new centers include: Emory University; The Johns Hopkins University; University of Illinois, Chicago; University of Iowa; University of Maryland, Baltimore, and the University of Utah. These institutes join existing Prevention Epicenters at: Cook County Health &Hospital System and Rush University Medical Center; Duke University; Harvard Pilgrim Health Care and University of California, Irvine; University of Pennsylvania, and Washington University.

Participating academic institutions are aimed at finding the best methods to prevent the spread of infectious diseases in health care facilities. The goal is to improve health and safety measures for patients and care providers to protect against high-risk disease threats such as Ebola. The Epicenters Program began in 1997. According to the CDC press release, the program has yielded the following discoveries resulting in health care

improvements (www.cdc.gov/media/releases/2015/p1005-medical-research-centers.html):

- Demonstrating that use of skin antiseptics and nasal decolonization for all intensive care unit (ICU) patients on arrival
  - Led to 40 percent fewer infections caused by methicillin-resistant *Staphylococcus aureus* (MRSA), a type of staph bacteria that is resistant to many antibiotics.
  - Resulted in hospitals using this novel strategy to improve antibiotic resistance prevention among ICU patients.
- Designing an effective prevention package for long-term acute care hospitals to stop the spread of carbapenem-resistant Enterobacteriaceae (CRE), a major drug-resistant threat
- Cut CRE bloodstream infections by 56 percent.
- CDC created a national CRE prevention toolkit to help more hospitals adopt this proven approach.
- Designing a tracking system to help get patients off ventilators sooner, improving their recovery time,
  - Got patients off ventilators, out of the ICU, and out of the hospital sooner.
  - Led to CDC incorporating a new measurement guide for prevention into the National Healthcare Safety Network (NHSN) for U.S. hospitals.

Additional information on the Prevention Epicenter Program and past awardees is available online at www.cdc.gov/hai/epicenters/.

2015 Nobel Prize in Physiology or Medicine

The 2015 Nobel Prize in Physiology or Medicine was divided; one half awarded jointly to William C. Campbell and Satoshi Ōmura "for their discoveries concerning a novel therapy against infections caused by roundworm parasites" and the other half to Youyou Tu "for her discoveries concerning a novel therapy against Malaria". The work of William C. Campbell and Satoshi Ōmura led to development of the drug, Ivermectin, which has significantly decreased the incidence of onchocerciasis (River Blindness) and Lymphatic Filariasis. Ivermectin has also proven to be an effective therapy against a number of other parasitic diseases. Youyou Tu discovered Artemisinin, a drug that has significantly reduced the mortality rates among patients treated for Malaria.

A native of Ireland, Dr. Campbell is a research fellow emeritus at Drew University in Madison, New Jersey, USA. He completed his PhD in the United States at the University of Wisconsin–Madison in 1957. His research interests include parasitology and chemotherapy of parasitic infections. From 1957 to 1990, he worked at Merck, Sharp & Dohme Corp., where he led a team that developed avermectin based on discoveries by Dr. Omura.

A native of Japan, Dr. Ōmura is professor emeritus at Kitasato University, Japan. He earned a PhD in Pharmaceutical Science in 1968 and PhD in Chemistry in 1970 from the University of Tokyo, Japan. He is a former President at Kitasato Institute in Tokyo, for which he served as President Emeritus from 2008–2012. He is known for research in the field of Bioorganic Chemistry. His work yielded *Streptomyces avermitilis,* the source of the bioactive compound avermectin. Dr. Campbell's subsequent discovery and modification of avermectin led to development of the antiparasitic drug, ivermectin.

A native of China, Dr. Tu is the chief professor at the China Academy of Traditional Chinese Medicine. She graduated from the Department of Pharmaceutical Sciences of what is now known as the Peking University Health Science Center in Beijing, China, in 1955. Dr. Tu also trained in traditional Chinese medicine. Her use of traditional herbal medicine led to the discovery of artemisinin, an extract of the plant *Artemisia annua.*

A summary each awardee's scientific achievements, as well as details of the Nobel Prize, can be found online at www.nobelprizemedicine.org.

CDC Announces CCRCP Grant Awards

The Centers for Disease Control and Prevention (CDC) awarded grants totaling $22,800,000 as part of the Colorectal Cancer Control Program (CRCCP). The program is aimed at increasing colorectal cancer screening rates among men and women over the age of 50. According to the CDC, the CRCCP has provided nearly 55,000 colorectal cancer screening exams and diagnosed 165 colorectal cancers and 8,441 cases of precancerous polyps since the program began in 2009.

Each grantee must target services toward adults 50–75 years of age without symptoms, as well as low-income, under- or uninsured, racial and ethnic groups disproportionately affected and/or with geographic barriers to screening, and at-risk populations.

2015 grantees include 24 state health departments, six universities, and one American Indian tribe. The grantees are:

- Alabama State Department of Health
- Arkansas Department of Health
- California Department of Public Health
- Colorado Dept. of Public Health and Environment
- Delaware Department of Health and Social Services*
- District of Columbia Department of Health
- Florida Department of Health
- Great Plains Tribal Chairmen's Health Board
- Idaho Department of Health and Welfare
- Iowa Department of Public Health
- Kentucky Cabinet for Health and Family Services
- Louisiana State University Health Sciences Center
- Maine Department of Health and Human Services
- Mary Hitchcock Memorial Hospital (NH)
- Maryland Department of Health and Mental Hygiene
- Massachusetts Department of Public Health
- Michigan Department of Community Health*
- Minnesota Department of Health*
- Montana Dept. of Public Health & Human Services

- Nevada Division of Public and Behavioral Health*
- New York State Department of Health*
- Oregon Health Authority
- Rhode Island Department of Health
- South Dakota Department of Health
- University of Chicago
- University of Puerto Rico
- University of South Carolina
- University of Wisconsin
- Virginia Department of Health
- Washington State Department of Health*
- West Virginia University

**Grantee has been awarded additional funds to provide direct colorectal cancer screening and follow-up services to people who meet specific criteria.*

For more information about CDC's Colorectal Cancer Control Program, visit www.cdc.gov/cancer/crccp/.

2015 Albert Lasker Awards Announced

The 2015 Albert Lasker Awards have been announced. Complete details of each award are available on the Lasker Foundation website at laskerfoundation.org.

Albert Lasker Basic Medical Research Award

This award honors scientists whose fundamental investigations have provided techniques, information, or concepts contributing to the elimination of major causes of disability and death.

Stephen J. Elledge and Evelyn M. Witkin received the 2015 Albert Lasker Basic Medical Research Award "for discoveries concerning the DNA-damage response—a fundamental mechanism that protects the genomes of all living organisms".

Lasker~DeBakey Clinical Medical Research Award

This award honors investigators whose contributions have improved the clinical treatment of patients.

James P. Allison was honored with the 2015 Lasker~DeBakey Clinical Medical Research Award "for the discovery and development of a monoclonal antibody therapy that unleashes the immune system to combat cancer".

Lasker~ Bloomberg Public Service Award

This award honors men and women who have helped make possible the federal legislation and funding that supports research, and who have created public communication, public health, and advocacy programs of major importance.

Médecins Sans Frontières (Doctors Without Borders) received the 2015 Lasker~ Bloomberg Public Service Award "for bold leadership in responding to the recent Ebola outbreak in Africa and for sustained and effective frontline responses to health emergencies".

NIH Awards Support Research of Environmental Factors in Child Health and Development

The National Institutes of Health (NIH) awarded nearly $144 million in new grants to support development of new tools and measures to investigate environmental exposures from the womb through later years in a child's life. The awarded projects are aimed at providing researchers with a variety of tools to more accurately measure, record and analyze environmental exposure. These projects will bolster the next phase of research on the effects of environmental exposures on child health and development. A multi-year initiative, the Environmental influences on Child Health Outcomes (ECHO) program will launch in fiscal year 2016.

The five NIH institutes and centers involved in the projects are the Eunice Kennedy Shriver National Institute of Child Health and Human Development, National Center for Advancing Translational Sciences, National Institute of Arthritis and Musculoskeletal and Skin Diseases, National Institute of Biomedical Imaging and Bioengineering, and National Institute of Environmental Health Sciences.

As announced by the NIH, the three initiatives for the awards are:

1. Develop new tools to enhance studies of environmental influences of pediatric diseases. As part of this initiative, researchers will develop sensor-based, integrated health monitoring systems through a program called Pediatric Research using Integrated Sensor Monitoring Systems . These systems will allow researchers to measure environmental, physiological and behavioral factors in epidemiological studies in children. This initiative will also establish the Children's Health and Exposure Analysis Resource to provide the NIH-funded research community access to laboratory and statistical analyses to add or expand environmental exposures as a component of their research. Through the Pediatric Patient Reported Outcomes in Chronic Diseases Consortium, researchers will capitalize on recent advances in the science of patient-reported outcomes by capturing the voice and experience of children and their families living with a variety of chronic diseases and conditions.
2. Study the influence of the environment on in utero development to identify the cause of future diseases and conditions. A major component of this initiative is the extension of the Human Placenta Project, which aims to support the initial stages of development of next-generation placental imaging and assessment technologies and methods. The focus of this research is on identifying specific technology gaps and developing new technologies or new applications of current technologies to explore the effects of environmental factors on placental structure and function throughout pregnancy. In addition, this initiative will expand the National Center for Advancing Translational Sciences' Tox21 program to investigate the effects of environmental chemicals on human development using robotic screening of cultured cells.
3. Expand the examination of environmental influences on later child development by leveraging existing programs. This initiative seeks to supplement existing research grants to facilitate collaborative efforts to add or enhance high-dimensional molecular analysis approaches in existing pregnancy, birth and children's environmental health populations.

Complete announcement available at http://www.nih.gov/news/health/sep2015/od-28.htm.

NIH Announces Common Fund 2015 High-Risk, High-Reward Research Awardees

The National Institutes of Health (NIH) awarded seventy-eight grants to scientists as part of the High Risk-High Reward program. Supported by the NIH Common Fund, the program fosters the development of novel research approaches that show promise in the areas of biomedical and behavioral research through the NIH Pioneer, New Innovator, Transformative Research, and Early Independence Awards. Approximately $121 million in funding has been awarded this year. As announced by the NIH, the award descriptions and awardees follow.

2015 NIH Pioneer Award recipients

The Pioneer Award challenges investigators at all career levels to develop highly innovative approaches that could have a powerful impact on a broad area of biomedical or behavioral research.

- Giovanni Bosco, PhD, Dartmouth Geisel School of Medicine
  Project Title: Trans-Generational Effects of Social Learning?
- Jeffery S. Cox, PhD, University of California San Francisco
  Project Title: Host-Directed Strategies to Create Synergistic Antibacterial Therapies
- Matthew David Disney, PhD, The Scripps Research Institute
  Project Title: Using a Disease-Affected Cell to Synthesize Its Own Drug
- Zemer Gitai, PhD, Princeton University
  Project Title: Mechano-Microbiology: How Physical Forces Control Bacterial-Host Interactions
- Jonathon Howard, PhD, Yale University
  Project Title: Cell Biological Limitations Constrain Dendritic Branching Morphology and Neuronal Function
- Craig Montell, PhD, University of California Santa Barbara
  Project Title: Creation of a New Generation of Transgenic Mosquitoes to Control Infectious Disease
- Coleen T. Murphy, PhD, Princeton University
  Project Title: Toward the Tissue-ome: A Map of the C. elegans Cell-specific Transcriptome
- Gwendalyn J. Randolph, PhD, Washington University School of Medicine, St. Louis
  Project Title: Integrating Cell & Lipoprotein Trafficking with Vascular Biology in Human IBD
- Steven J. Schiff, M.D., PhD, The Pennsylvania State University
  Project Title: Control of the Neonatal Septisome and Hydrocephalus in Sub-Saharan Africa
- Hao Wu, PhD, Boston Children's Hospital and Harvard Medical School
  Project Title: SMOCs: Novel Signal Transduction Complexes as New Targets for Drug Discovery
- Tony Wyss-Coray, PhD, Stanford University School of Medicine and VA Palo Alto
  Project Title: A Bioorthogonal Approach to Study Mammalian Aging
- Ryohei Yasuda, PhD, Max Planck Florida Institute for Neuroscience
  Project Title: Deciphering Biochemical Networks in Single Dendritic Spines
- Sheng Zhong, PhD, University of California San Diego
  Project Title: Mapping RNA Interactomes by Sequencing

2015 NIH Director's New Innovator Award recipients

The New Innovator Award initiative, established in 2007, supports investigators who are within 10 years of their terminal degree or clinical residency, but who have not yet received a Research Project Grant (R01) or equivalent NIH grant, to conduct exceptionally innovative research.

- Mohamed S. Abou Donia, PhD, Princeton University
  Project Title: Uncultivated Bacterial Symbionts of Humans: an Untapped Resource for Drug Discovery
- Alexander Barnes, PhD, Washington University in St. Louis
  Project Title: High-Sensitivity NMR at Room Temperature for Molecular Structure and Dynamics
- Artem Barski, PhD, Cincinnati Children's Hospital Medical Center and University of Cincinnati
  Project Title: Direct Epigenetic Reprogramming of T Cells
- Sanjay Basu, M.D., PhD, Stanford University
  Project Title: Cohort Filtering Models to Identify Social Program Effects on Health Disparities
- Eric J. Bennett, PhD, University of California San Diego
  Project Title: Manipulating Protein Homeostasis through Specialized Quality Control Ribosomes
- Brenda L. Bloodgood, PhD, University of California, San Diego
  Project Title: Charting a New Path for Rapid Signaling from the Synapse to the Nucleus
- Gloria A. Brar, PhD, University of California-Berkeley
  Project Title: Dissecting the Roles of Pervasive Short ORFs in Meiosis
- Francesca Cole, PhD, University of Texas MD Anderson Cancer Center
  Project Title: Mechanistic Derivation of Germ Line Mutation by Genome-Wide Mouse Tetrad Analysis
- Sophie Dumont, PhD, University of California, San Francisco
  Project Title: Rewiring Cellular Architecture to Probe Mechanical Signal Processing at Kinetochores
- Jessica Feldman, PhD, Stanford University
  Project Title: Mechanisms Controlling Microtubule Organization during Cell Differentiation
- Liang Feng, PhD, Stanford University
  Project Title: Molecular Mechanism and Novel Therapeutic Strategy in Alzheimer's Disease
- Karunesh Ganguly, MD, PhD, University of California, San Francisco (UCSF) & San Francisco VA Medical Center (SFVAMC)
  Project Title: Neuroprosthetic Control of an Anthropomorphic Exoskeleton in Tetraplegics
- Marc Gershow, PhD, New York University
  Project Title: Dissecting Olfactory Decision Making Using Optical Neurophysiology
- Kamil Godula, PhD, University of California San Diego
  Project Title: In Vivo Glycan Engineering at the Cell-Matrix Interface to Control Stem Cell Fate
- Jesse H. Goldberg, MD, PhD, Cornell University
  Project Title: Identifying Pathways for Motor Variability in the Mammalian Brain
- Juliana Idoyaga, PhD, Stanford University
  Project Title: Harnessing Human Dendritic Cell Subsets for the Design of Novel Immunotherapies
- Daniel Jarosz, PhD, Stanford University
  Project Title: Protein-Based Molecular Memories in Gene Regulation, Disease, and Development
- Jakob D. Jensen, PhD, University of Utah
  Project Title: Communal Feedback as an Innovative Alternative to Skin Self-Exam

- Martin C. Jonikas, PhD, Carnegie Institution for Science
  Project Title: Transforming Our Understanding of Eukaryotic Gene Functions through Chemical Genetics in the Green Alga Chlamydomonas reinhardtii
- Martin Kampmann, PhD, University of California, San Francisco
  Project Title: Rewiring of the Human Protein Homeostasis Network in Normal and Disease Contexts
- Zachary A. Knight, PhD, University of California, San Francisco
  Project Title: Sequencing Neural Circuits Controlling Thermoregulation
- Darren J. Lipomi, PhD, University of California, San Diego
  Project Title: Stretchable, Biodegradable, and Self-Healing Semiconductors for Wearable and Implantable Sensors
- Chang C. Liu, PhD, University of California, Irvine
  Project Title: A High-Throughput Continuous Evolution System for In Vivo Biosensor Engineering
- Deepika Mohan, MD, MPH, University of Pittsburgh School of Medicine
  Project Title: A Novel Intervention to Make Heuristics a Source of Power for Physicians
- James B. Munro, PhD, Tufts University Boston
  Project Title: Structural Dynamics of Single Ebolavirus GP Molecules
- Matthew J. Paszek, PhD, Cornell University
  Project Title: Mechanobiology of the Cellular Glycocalyx
- Jennifer E. Phillips-Cremins, PhD, University of Pennsylvania
  Project Title: Engineering 3-D Epigenome Topology with Light
- Manu Prakash, PhD, Stanford University
  Project Title: Mosquitoes Meet Microfluidics: Novel Tools for Ecological Surveillance of Insect-Borne Disease
- Abhishek Prasad, PhD, University of Miami
  Project Title: Spinal Cord Neural Interface for Neuroprosthetics in a Primate Model
- Gregory W. Schwartz, PhD, Feinberg School of Medicine, Northwestern University
  Project Title: Novel Circuit Mapping Strategies to Reverse Engineer the Retina
- Evan A. Scott, PhD, Northwestern University
  Project Title: Development of Combination Immunotherapies for Atherosclerotic Inflammation
- Mohammad R. Seyedsayamdost, PhD, Princeton University
  Project Title: Implementing Innovative Approaches to Access the Hidden Metabolomes of Bacteria
- Alek K. Shalek, PhD, Massachusetts Institute of Technology|Ragon Institute of MGH, MIT and Harvard|Broad Institute of MIT and Harvard
  Project Title: "Bottom - Up" Profiling of Interacting Cellular Systems
- Matthew D. Shoulders, PhD, Massachusetts Institute of Technology
  Project Title: Continuous Directed Evolution of Biomolecules in Human Cells for Medical Research
- Robert C. Spitale, PhD, University of California, Irvine
  Project Title: Cracking the RNA Localization Code
- Cole Trapnell, PhD, University of Washington
  Project Title: Charting the Regulatory Topography of the Cell Differentiation Landscape with Single-Cell RNA-Seq
- Marmar Vaseghi, MD, MS, University of California, Los Angeles
  Project Title: Cardiac Afferent Neurotransmission and Modulation of Ventricular Parasympathetic Control
- Melissa R. Warden, PhD, Cornell University
  Project Title: Imaging the Evolving Neural Circuit Dynamics of Depression
- Jessica L. Whited, PhD, Harvard Medical School and Brigham & Women's Hospital
  Project Title: Leveraging Single-Cell Analysis to Elucidate Mechanisms of Vertebrate Limb Regeneration
- Min Yu, MD, PhD, University of Southern California
  Project Title: Developing Individualized Medicine Targeting Metastatic Breast Cancer Stem Cells
- Wenjun Zhang, PhD, University of California Berkeley
  Project Title: In Situ Natural Product Labeling and Applications

2015 NIH Transformative Research Award recipients

The Transformative Research Awards program, established in 2009, promotes cross-cutting, interdisciplinary approaches and is open to individuals and teams of investigators who propose research that could create or challenge existing models.

- Nancy Allbritton, MD, PhD, University of North Carolina and North Carolina State University
  Project Title: Development of Human Intestinal Simulacra
- Ramsey D. Badawi, PhD, University of California, Davis
  Project Title: EXPLORER: Changing the Molecular Imaging Paradigm with Total Body PET
- Thomas H. Barker, PhD, Georgia Institute of Technology
  Project Title: Mechanosensors that Detect and Treat Lung Fibrosis
- Scott Bultman, PhD, University of North Carolina at Chapel Hill, School of Medicine
  Project Title: Development of Human Intestinal Simulacra
- Simon R. Cherry, PhD, University of California, Davis
  Project Title: EXPLORER: Changing the Molecular Imaging Paradigm with Total Body PET
- Dana C. Dolinoy, MSc, PhD, University of Michigan School of Public Health
  Project Title: Development of piRNAs for Target-Specific Methylation
- Julie C. Dunning Hotopp, PhD, University of Maryland School of Medicine
  Project Title: Extent and Significance of Bacterial DNA Integrations in the Human Cancer Genome
- Shawn M. Gomez, EngScD, UNC-Chapel Hill and NC State University
  Project Title: Development of Human Intestinal Simulacra
- Martin W. Hetzer, PhD, Salk Institute for Biological Studies, La Jolla
  Project Title: The Role of Long-Lived Proteins in the Survival of Nerve Cells
- Scott T. Magness, PhD, University of North Carolina
  Project Title: Development of Human Intestinal Simulacra
- Edward S. Mocarski, PhD, Emory University School of Medicine
  Project Title: Innate Activation and Death Signals in Health and Disease
- Saeed Tavazoie, PhD, Columbia University
  Project Title: Massively Parallel Mapping of All Molecular Interactions in a Single Tube
- Feng Zhang, PhD, The Broad Institute
  Project Title: Massively-Parallel Functional Interrogation of Psychiatric Genetics

2015 NIH Director's Early Independence Award recipients

The Early Independence Award, with the first awards given in 2011, provides an opportunity for exceptional junior scientists, who have recently received their doctoral degree or finished medical residency, to skip traditional post-doctoral training and move immediately into independent research positions.

- Joseph Bondy-Denomy, PhD, University of California, San Francisco
  Project Title: Discovering New Roles for CRISPR-Cas in Bacterial Pathogenesis
- Marie A. Bragg, PhD, New York University

Project Title: Impact of Racially Targeted Food and Beverage Ads on Adolescent Behavior

- Shadmehr Demehri, MD, PhD, Massachusetts General Hospital
  Project Title: The Mechanism of TSLP Anti-Tumor Effects in the Skin
- Terence P. Gade, MD, PhD, Perelman School of Medicine, University of Pennsylvania
  Project Title: Image-Based Phenotyping of Hepatocellular Carcinoma Cell Survival Under Ischemic Stress: Toward Metabolic Imaging of Cancer Dormancy Using Hyperpolarized Carbon-13 Technology
- Dylan G. Gee, PhD, Weill Cornell Medical College and Yale University
  Project Title: Novel Mechanisms of Fear Reduction Targeting the Biological State of the Developing Brain
- Matthew Blake Greenblatt, MD, PhD, Weill Medical College of Cornell University
  Project Title: Modulation of Bone Formation by SHN3
- Elaine L. Hill, PhD, University of Rochester School of Medicine
  Project Title: The Health Consequences of Shale Gas Development
- Patrick David Hsu, PhD, Salk Institute for Biological Studies
  Project Title: Eukaryotic Transcriptome Engineering via Sequence-Specific Regulation of Endogenous RNA
- William J. Israelsen, PhD, UT Southwestern Medical Center
  Project Title: Development and Use of a Novel, Tractable Rodent Model for Studies of Hibernation Metabolism
- Andrew C. Kruse, PhD, Harvard Medical School
  Project Title: Molecular Mechanisms of Adiponectin Signaling and PAQR Function
- Dmitry Lyumkis, PhD, The Salk Institute for Biological Studies
  Project Title: Breaking Barriers in Structural Biology: Novel CryoEM Methods and Applications
- John D. Medaglia, PhD, University of Pennsylvania
  Project Title: Dynamic Network Neuroscience and Control Theory: Toward Interventions for Cognitive Control Dysfunction
- Jason Sheltzer, PhD, Cold Spring Harbor Laboratory
  Project Title: Identification and Characterization of Genomic Features Affecting Survival Duration in Cancer
- David A. Solomon, MD, PhD, University of California, San Francisco
  Project Title: Cohesin Gene Mutations in Tumorigenesis
- Adam M. Sonabend, MD, Columbia University College of Physicians and Surgeons, Herbert Irving Comprehensive Cancer Center
  Project Title: TOP2A Effects on Transcription in Gliomas: Implications for Personalized Therapy
- Zhao Zhang, PhD, Carnegie Institution for Science
  Project Title: Somatic Transposition-Mediated Genome Variegation during Development, Disease and Aging Conditions

Additional information on current awardees and the NIH Common Fund High Risk-High Reward Research Program is available at http://commonfund.nih.gov/highrisk.

UB Medical School Receives $30 Million Naming Gift

The University at Buffalo (UB) Medical School received a $30 million gift from Jeremy M. Jacobs, his wife, Margaret, and their family. In recognition of the family's philanthropy, the school will be named the Jacobs School of Medicine and Biomedical Sciences. This marks the first naming of a UB school in the university's history.

This naming gift brings the Jacobs family's giving to UB to more than $50 million and brings the UB's current fundraising campaign to $160 million of its $200 million goal. The funds will be used to support medical education, research programs, student scholarships and continued construction of the new medical school building, which is slated for completion in 2017.

A longtime UB supporter, Mr. Jacobs is chairman of the global hospitality and food service company Delaware North. His support of the UB has spanned more than three decades. He currently co-chairs the UB medical school's fundraising committee with Nancy H. Nielsen, MD, PhD, senior associate dean for health policy, and Robert Wilmers, chairman and chief executive officer of M&T Bank, and he has served as chairman of the UB Council since 1998. He was chair of the UB Foundation from 1980–1987 and has served as an adviser to the UB School of Management. Mr. Jacobs also owns the Boston Bruins and chairs the National Hockey League's board of governors. His late brother, Lawrence Jacobs, MD, served as chair of UB's Department of Neurology and was an internationally recognized leader in multiple sclerosis research.