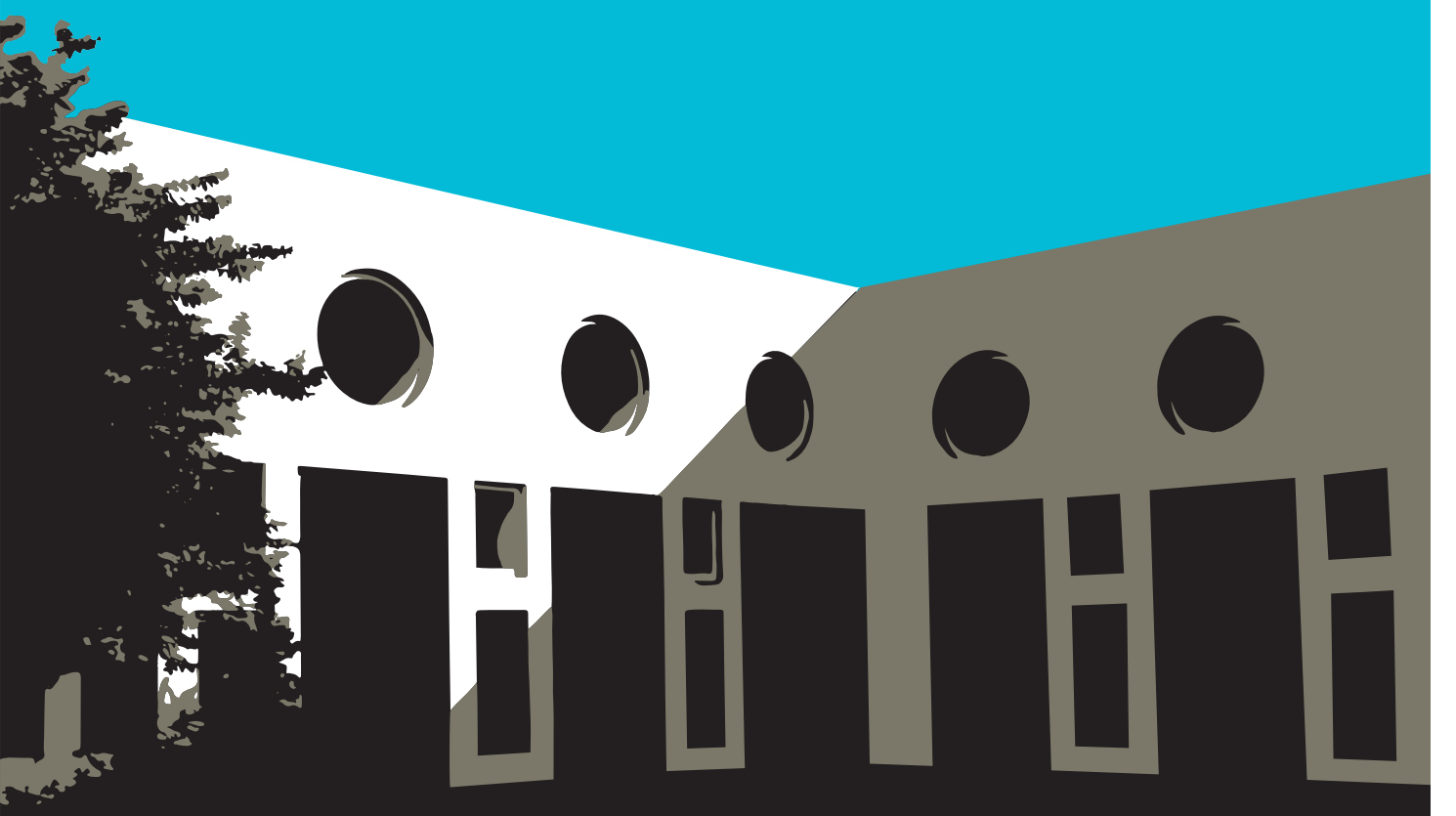
BURROUGHS WELLCOME FUND



Fueling Curiosity-Driven Research

2014 ANNUAL REPORT

For complete program information, including deadlines, please visit **www.bwfund.org**

Grant Programs

Biomedical Sciences

Career Awards for Medical Scientists: Five-year awards for physician scientists provide $700,000 to bridge advanced postdoctoral/ fellowship training and the early years of faculty service. This award addresses the on-going problem of increasing the number of physician scientists and will help facilitate the transition to a career in research.

Collaborative Research Travel Grants: Provide up to $15,000 in support for interdisciplinary biomedical researchers from degree-granting institutions to travel to a laboratory to acquire a new research technique or to facilitate collaboration.

Career Guidance

Career Guidance for Trainees: Provides up to $50,000 over a one-year period to support demonstration projects that will model affordable approaches to improving trainees' readiness for stable, fulfilling careers.

Diversity in Science

Postdoctoral Enrichment Program: Provides $60,000 over three years to support the development of underrepresented minority postdoctoral fellows in biomedical research.

Infectious Diseases

Investigators in the Pathogenesis of Infectious Disease: Five-year awards provide $500,000 for opportunities for accomplished investigators at the assistant professor level to study infectious disease pathogenesis, with a focus on the intersection of human and microbial biology. The program is intended to shed light on the overarching issues of how human hosts handle infectious challenge.

Interfaces in Science

Career Awards at the Scientific Interface: Five-year awards provide $500,000 to bridge advanced postdoctoral training and the early years of faculty service. These awards are intended to foster the early career development of researchers with backgrounds in the physical/mathematical/ computational/ engineering sciences whose work addresses biological questions.

Regulatory Science

Innovation in Regulatory Science Awards: Provides up to $500,000 over five years to academic investigators developing new methodologies or innovative approaches in regulatory science that will ultimately inform regulatory decisions.

Reproductive Science

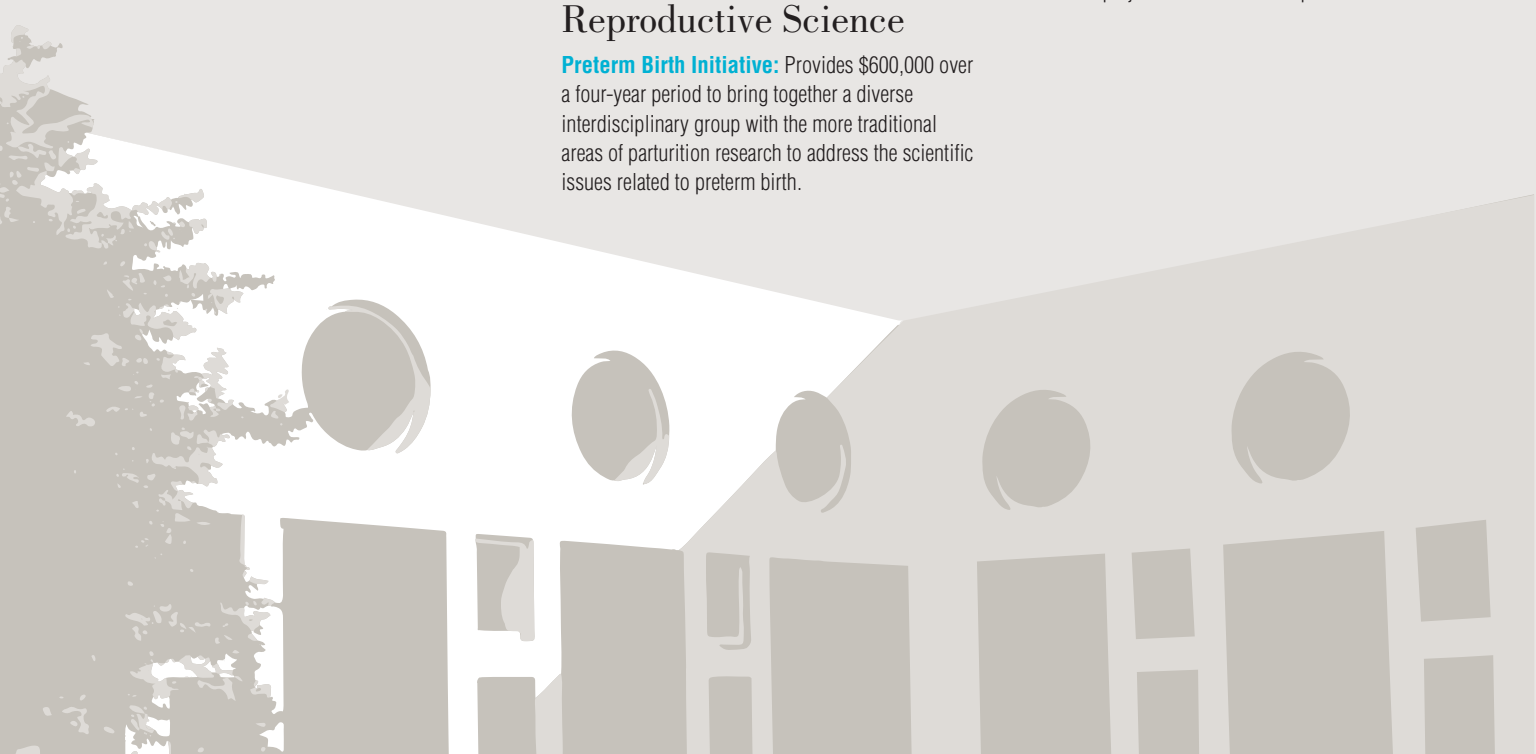
Preterm Birth Initiative: Provides $600,000 over a four-year period to bring together a diverse interdisciplinary group with the more traditional areas of parturition research to address the scientific issues related to preterm birth.

Science Education

Career Awards for Science and Mathematics Teachers: Five-year awards provide $175,000 to eligible science or mathematics teachers in the North Carolina public primary and secondary schools. The purpose of this award is to recognize teachers who have demonstrated solid knowledge of science or mathematics content and have outstanding performance records in educating children. The award is a partnership between the North Carolina State Board of Education and BWF.

Student Science Enrichment Program: Three-year awards provide up to $180,000 to North Carolina nonprofit organizations, including public/ private schools, universities, colleges, and museums. This program supports creative inquiry-based science enrichment activities that occur outside the typical school day for K-12 students. The program's goals are to nurture students' enthusiasm about science, expose them to the excitement of scientific discovery, and interest them in pursuing careers in research or a variety of other careers in science.

Promoting Innovation in Science and Mathematics: Awards up to $4,500 provide teachers with funding for materials, equipment, and training to conduct hands-on, inquiry-based science and mathematics projects in North Carolina public schools.



John E. Burris, Ph.D.
President
Burroughs Wellcome Fund

President's Message

Economic news, in general, is brighter than just a few years ago. The housing market is on the upswing, jobless rates are dropping, and commentators say we are no longer in "the Great Recession."

But the news from one very significant sector of the economy —biomedical research—is bleak. Funding from the National Institutes of Health, the backbone of biomedical research funding in America, has steadily decreased in real dollars since 2004. In 2013, the National Institutes of Science received $29.3 billion, when adjusted for inflation is almost 12 percent less than in 2004. NIH-funded research supports an estimated 402,000 jobs across America, yet investment in the NIH has been flat for more than a decade. Postdoctoral researchers, the workhorse of biomedical research, are forced out of science when their mentor's funding ends, or they find themselves in a series of postdoc positions without the prospect of running their own labs.

There are other challenges eroding America's biomedical research enterprise. In a March 2014 article in the Proceedings of the National Academy of Sciences, several well-respected scientists, including Harold Varmus, director of the National Cancer Institute and former director of the NIH, highlighted "systemic flaws" in U.S. biomedical research. During the last decades of the 20th century the NIH budget doubled, then doubled again. Then, it dropped. This inconsistent and unreliable investment goes hand-in-glove with methods for choosing who receives grant funding, and for what. A recent shift in focus toward "translational research" risks compromising the science of fundamental questions that open doors yet unknown.

Over time, the current system has created a great imbalance in the workforce. The number of postdoctoral positions, originally intended to provide several years of additional training before a scientist advances to a faculty or other position, far outweighs the number of available faculty positions, as well as other satisfying career options. The result is a highly educated, highly skilled workforce who may not have the career options. Many decide to leave science, which is never a good return on an investment. Others move from one postdoc position to another, biding their time as long as possible.

The Burroughs Wellcome Fund is an independent private foundation with two primary goals: *To help scientists early in their careers develop as independent investigators and to*

Fiscal Year 2014 Major Competitive Grant Awardees

Career Awards at the Scientific Interface

Ariana E. Anderson, Ph.D.
University of California-Los Angeles

Amit Choudhary, Ph.D.
Harvard University
Broad Institute

Matthew C. Good, Ph.D.
University of California-Berkeley

Prashant Mali, Ph.D.
Harvard Medical School
University of California-San Diego

Nikhil S. Malvankar, Ph.D.
University of Massachusetts-Amherst

Elizabeth A. Nance, Ph.D.
Johns Hopkins University

Elizabeth Hesper Rego, Ph.D.
Harvard School of Public Health

Ramkumar Sabesan, Ph.D.
University of California-Berkeley
School of Optometry

Kimberly Murley Stroka, Ph.D.
Johns Hopkins University School
of Medicine

Michael D. Vahey, Ph.D.
University of California-Berkeley
School of Public Health

Heng Xu, Ph.D.
Baylor College of Medicine

Xin Zhang, Ph.D.
Scripps Research Institute

Career Awards for Medical Scientists

Theresa Alenghat, D.V.M., Ph.D.
University of Pennsylvania

Christina Eleanor Barkauskas, M.D.
Duke University

James Edward Cassat, M.D., Ph.D.
Vanderbilt University School
of Medicine

Kevin Jon Cheung, M.D.
Johns Hopkins University

Ethan Michael Goldberg, M.D., Ph.D.
University of Pennsylvania
Perelman School of Medicine

Malay Haldar, M.D., Ph.D.
Washington University School
of Medicine

Marcin Imielinski, M.D., Ph.D.
Harvard Medical School

Jeffery M. Klco, M.D., Ph.D.
Washington University School
of Medicine

Jason Knight, M.D., Ph.D.
University of Michigan-Ann Arbor

Anita Katherine McElroy, M.D., Ph.D.
Emory University School of
Medicine

Sudarshan Rajagopal, M.D., Ph.D.
Duke University Medical Center

Sean Robinson Stowell, M.D., Ph.D.
Emory University School
of Medicine

Innovation in Regulatory Science

Brian Alexander, M.D.
Dana Farbar Cancer Institute

Randolph Ashton, Ph.D.
University of Wisconsin-Madison

J. Matthew Brennan, M.D.
Duke University Medical Center

Mark Burkard, M.D., Ph.D.
University of Wisconsin

Mary L'Abbe, Ph.D.
University of Toronto

Our investment in scientists affords them the opportunity to take risks and the chance to make critical, incremental and, sometimes, major insights in understanding.

advance fields in the basic biomedical sciences that are undervalued or in need of particular encouragement. We identify the most talented, motivated scientists doing the most promising work in research that is underserved by NIH or corporate funding.

In 2014, the Burroughs Wellcome Fund distributed $28.4 million in grants to scientists around the country, including $3 million to K-12 teachers in our home state of North Carolina. Our investment in scientists affords them the opportunity to take risks and the chance to make critical, incremental and, sometimes, major insights in understanding.

By investing in science education, we are looking to the future for the next generation of scientific leaders. Our funding enables the best science and mathematics teachers to flourish through career development opportunities. Our program in informal science and mathematics education helps develop the joy of curiosity and discovery so crucial to the research enterprise.

Our investments are primarily directed at the long-term health of fundamental academic research. We are hopeful that our awardees can leverage our funding into fruitful careers. However, without significant investments in time, energy and finances to improve the biomedical research landscape, our scientists' careers, and those of many other American scientists, are in jeopardy. With their careers go a significant number of jobs directly and indirectly related to biomedical research, as well as the scientific knowledge that would have been produced.

The Burroughs Wellcome Fund is committed to supporting biomedical researchers long into the future. We encourage substantial, in-depth and urgent discussions from a variety of constituents that will set U.S. biomedical research on a course that enables our national potential to be realized.

Institutional Program Unifying Population and Laboratory Based Sciences

Dartmouth College
Carmen J. Marsit, Ph.D.
Scott M. Williams, Ph.D.

University of Michigan-Ann Arbor
Betsy Foxman, Ph.D.
Tom Schmidt, Ph.D.

University of Rochester
Nancy M. Bennett, M.D.
Stephen Dewhurst, Ph.D.

Washington University St. Louis
Graham A. Colditz, M.D.
Susan K. Dutcher, Ph.D.

Investigators in the Pathogenesis of Infectious Disease

Robert A. Cramer, Ph.D.
Dartmouth College

Michael A. Fischbach, Ph.D.
University of California-San Francisco

De'Broski R. Herbert, Ph.D.
University of California-San Francisco

Tobias M. Hohl, M.D., Ph.D.
Memorial Sloan-Kettering Cancer Center

Alexei V. Korennykh, Ph.D.
Princeton University

Matthias Marti, Ph.D.
Harvard University

Erika L. Pearce, D.Phil., Ph.D.
Washington University

Manuela Raffatellu, M.D.
University of California-Irvine

Daniel B. Stetson, Ph.D.
University of Washington

Niraj H. Tolia, Ph.D.
Washington University School of Medicine

Victor J. Torres, Ph.D.
New York University School of Medicine

Robert T. Wheeler, Ph.D.
University of Maine

Postdoctoral Enrichment Program

Jonathan Abraham, M.D., Ph.D.
Boston Children's Hospital
Harvard Medical School

Albert Ernesto Almada, Ph.D.
Harvard University

Sara Conard, Ph.D.
University of North Carolina-Chapel Hill

Oliver Isauro Fregoso, Ph.D.
Fred Hutchinson Cancer Research Center
University of Washington

Galo Garcia III, Ph.D.
University of California-San Francisco

Courtney Rory Goodwin, M.D., Ph.D.
Johns Hopkins University School of Medicine

Dennis Jones, Ph.D.
Harvard Medical School
Massachusetts General Hospital

Markita Patricia Landry, Ph.D.
Massachusetts Institute of Technology

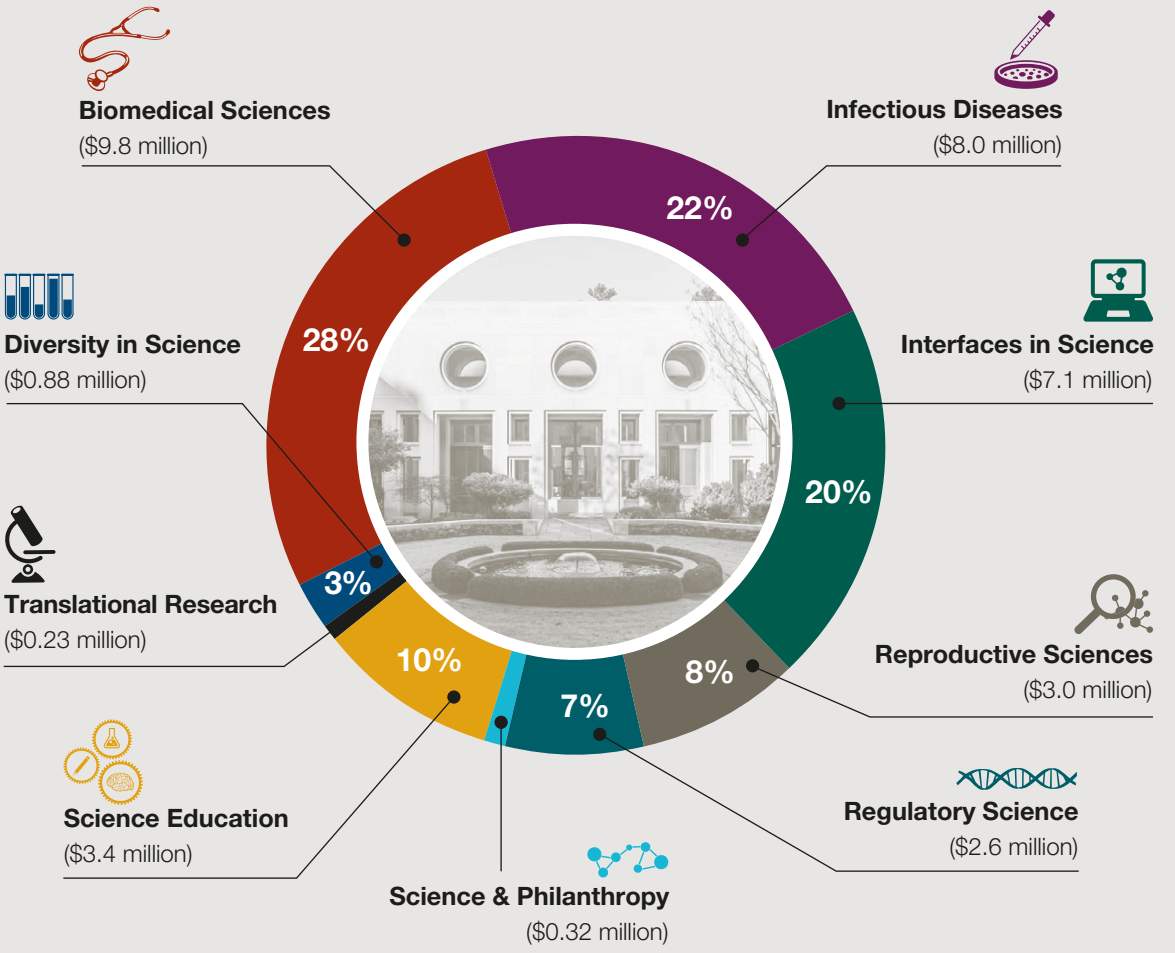
Sonya Elina Neal, Ph.D.
University of California-San Diego

Adrianne Marie Rosales, Ph.D.
University of Colorado-Boulder

Joshua Charles Saldivar, Ph.D.
Stanford University

Rosa Anna Uribe, Ph.D.
California Institute of Technology

BWF awarded $35.3 million in grants during fiscal year 2014.



For audited financial statements and evaluations of our grant programs, visit **www.bwfund.org/annualreport** or scan the QR code.

Preterm Birth Initiative

Trevor D. Burt, M.D.
University of California-San Francisco

Kang Chen, Ph.D.
Wayne State University

David N. Cornfield, M.D.
Stanford University School of Medicine

Stephen Lye, Ph.D.
University of Toronto

Vincent Joseph Lynch, Ph.D.
University of Chicago

Student Science Enrichment Program

Beaufort County Police Activities League
Youth Career and STEM Enrichment Program Using Aviation and Robotics

Cape Fear Community College Foundation
CT-RISE: Chem-Techathon: Renewing Interest in Science Education

Cherokee Middle School
Cherokee Science Investigation – Medical Mania

Discovery Place
After-School STEM Enrichment Project at Palisades Park

East Carolina University
Increasing participation and proficiency in science at grade 5 through inquiry based learning

Friends of the North Carolina State Museum of Natural Sciences
Dragonfly Detectives: Introducing Children to Citizen Science

Guilford County Schools
GCS: Building Robotics!

North Carolina State University
Project PLANTS: Planting Leaders in Agriculture and Nature Through Science

North Carolina State University
Authentic learning as a means to promote student enthusiasm for science careers by establishing a model biotechnology company in a rural Tier 1 high school

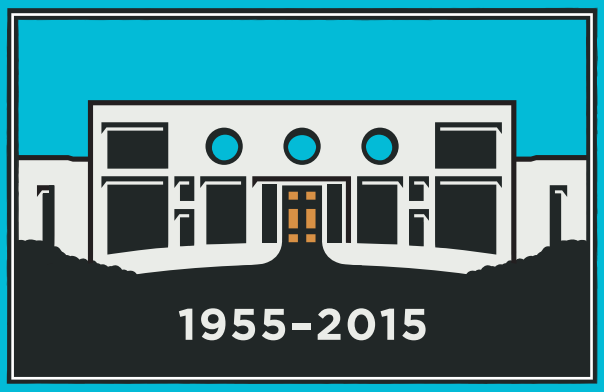
North Carolina State University PAMS Foundation
Coastal Inquirers

Pfeiffer University
PROJECT GENES: Genetics Education for the Next Era of Science

Swain County High School
Project Endeavor

Wake County Public School System
STEM Wise

West Marion Elementary School
Project Wild Thing



The Burroughs Wellcome Fund is an independent private foundation dedicated to advancing the biomedical sciences by supporting research and other scientific and educational activities. Within this broad mission, BWF seeks to accomplish two primary goals—to help scientists early in their careers develop as independent investigators and to advance fields in the basic biomedical sciences that are undervalued or in need of particular encouragement.

Financial support is channeled primarily through competitive peer-reviewed award programs. Grants are made primarily to degree-granting institutions on behalf of individual researchers. To complement these competitive award programs, grants are also made to nonprofit organizations conducting activities intended to improve the general environment for science.

BWF was founded in 1955 as the corporate foundation of Burroughs Wellcome Co., the U.S. branch of the Wellcome pharmaceutical enterprise, based in the United Kingdom. In 1993, BWF received a $400 million gift from the Wellcome Trust, the main entity in the enterprise, to become a fully independent foundation.

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Wendell Jones
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Senior Program Associate and Database Specialist

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Tiffanie Taylor
Program Associate

D. Carr Thompson
Senior Program Officer
Retired November 2014

Kendra Tucker
Senior Programs Assistant and Data Specialist

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