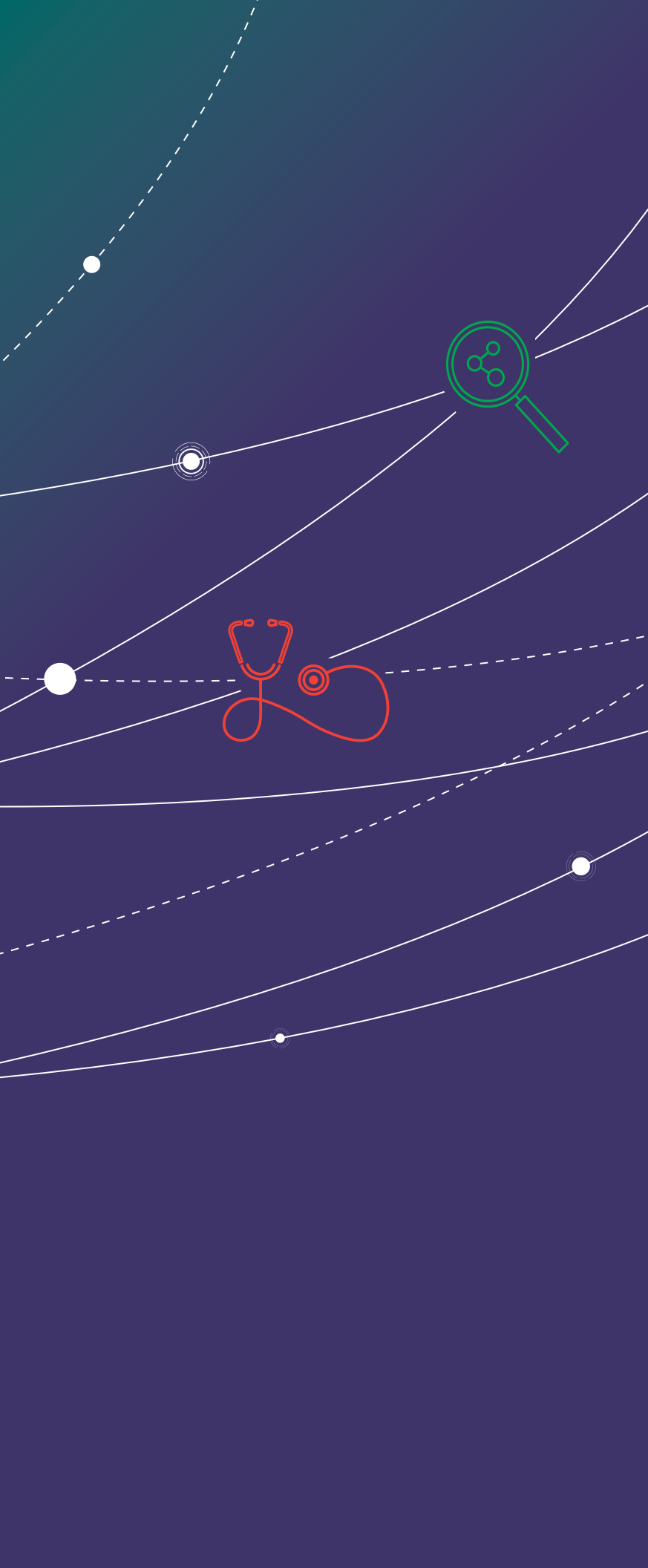


BURROUGHS
WELLCOME
FUND 

A SCIENCE PHILANTHROPY COLLABORATORY

2021 ANNUAL REPORT





Contents

About the Burroughs Wellcome Fund	4
President's Message	6
Competitive Grant Awardees	8
Biomedical Sciences	10
Career Development	12
Climate Change and Human Health	14
Diversity in Science	16
Infectious Diseases	20
Interfaces in Science	22
Regulatory Science	24
Reproductive Sciences	26
Science Communication	28
Science Education	30
Science and Philanthropy	34
Report on Finance	35
Grants Index	39
Advisory Committees	52
Board of Directors and Staff	56
Contact Information	56

The Burroughs Wellcome Fund

21 T. W. Alexander Drive
P. O. Box 13901
Research Triangle Park, NC 27709-3901
919.991.5100
@bwfund
www.bwfund.org

INVESTING IN BIOMEDICAL RESEARCH AND CAREER DEVELOPMENT



More than 60 years of Investing in Scientists and Biomedical Science

Founded in 1955, 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 biomedical sciences that are undervalued or in need of particular encouragement.

BWF's primary approach is to target individual researchers at degree-granting institutions in the United States and Canada, providing financial

support through our competitive, peer-reviewed award programs. In complement to our support of academic research, we also make grants to nonprofit organizations whose missions improve the overall environment for scientific activities and careers.

Above all, BWF establishes relationships and invests in the person. We prioritize the researcher's individual development—designing awards that enhance opportunities for training, collaboration, and idea-sharing. We then facilitate networks, gatherings, and conversations to further provide awardees with a diverse community of expertise, mentorship, and inspiration.

BWF believes that a diverse scientific workforce is essential to the process and advancement of research innovation, academic discovery, and public service.

Our investment in the person ensures that each award has life beyond any single grant—that creative, original, and unique solutions to biomedical problems will continue to rise throughout an investigator's career—and in turn, confer good health and strength for all humankind.

**“ BWF BELIEVES THAT A DIVERSE SCIENTIFIC WORKFORCE IS
ESSENTIAL TO THE PROCESS AND ADVANCEMENT OF RESEARCH
INNOVATION, ACADEMIC DISCOVERY, AND PUBLIC SERVICE. ”**



“AS WE ENTER 2022... WE HAVE LEARNED TO BE FLEXIBLE, RESILIENT, AND MORE APPRECIATIVE OF THE BENEFITS OF A HOLISTICALLY HUMANISTIC WORKSPACE. WE WILL LEVERAGE THIS NEW FOUNDATION FOR CREATIVE ENGAGEMENT AMONG SCIENTISTS, EDUCATORS, ARTISTS, JOURNALISTS, AND THE PUBLIC TO SOLVE THE SOCIETAL CHALLENGES OF TODAY AND TOMORROW.”

President's Message



The Burroughs Wellcome Fund community continues to weather the storm that the pandemic created. From the personal to the professional, we have all been challenged. Here in Research Triangle Park, we are

determined and dedicated to move forward and ensure that our mission to serve society continues unabated. We see potential silver linings to the grey clouds of the last two years.

Our staff, for the most part, has worked virtually during this time and we have used this time to enhance our infrastructure and upgrade many of our systems. We are increasing our global connectivity and engagement by enhancing our in-house virtual technology so that we may emerge from the pandemic as a greener foundation. I am extremely proud of the effective way the entire BWF community has come together to

ensure efficient, seamless operations of our programs. I am inspired by the innovation that has not only overcome challenges but opened new doorways into the future.

We are fortunate the stock market has remained strong, and our endowment allows us to provide room for philanthropic experiments and to take “risks” in our portfolio. The pandemic has provided an opportunity to be creative in our grantmaking portfolio. We have expanded our Science + Arts funding as well as increased our Science Communication budget. As a result of increased funding capacity, we have been able to provide more awards and enhance our new focus area of Climate Change and Human Health.

Additionally, we have helped support our network of awardees by providing flexible funding and no-cost extensions.

During this past year we have undertaken a vigorous and exciting strategic planning effort that continues into the early part of 2022. We will communicate more about this later in 2022 as plans begin to solidify.

A few highlights:

Diversity in Science

Ensuring that we are receiving applications and distributing grants to a broad and diverse audience is critical to the mission of the Fund. We have expanded funding in several grant programs and are continually seeking strategies that consider diversity, equity and inclusion through every mechanism within the Fund.

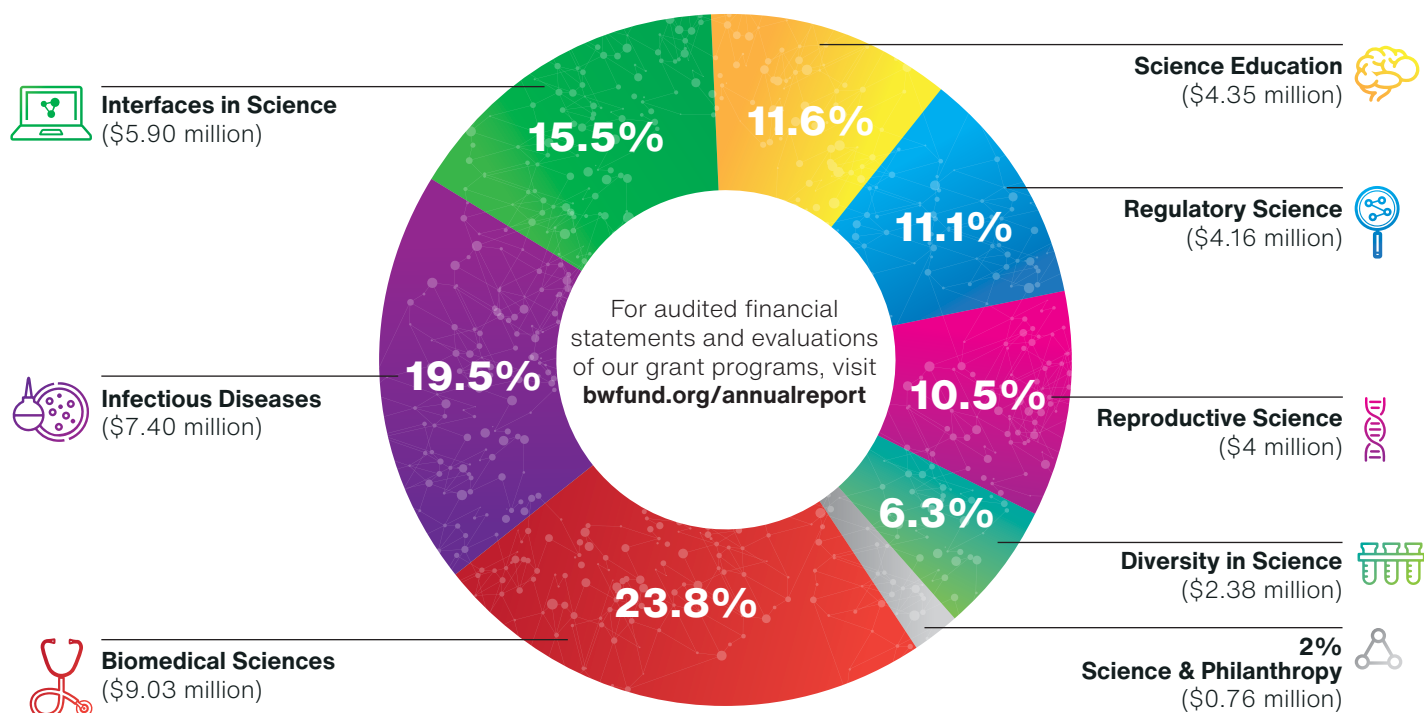
Climate Change and Human Health

Since 2020, we have partnered with the National Academies of Medicine to help fully develop and realize BWF's role in funding climate change and human health. We have funded pilot grants through the academies and have established an ongoing series of ad hoc grants dedicated to fostering new partnerships among those working in this area.

Science Communication and Arts

We have expanded our outreach in Science Communication and Science + Arts. We have contributed funding towards films, theater, an artist-in-residence program, and several

BWF awarded more than \$36 million in grants during fiscal year 2021



audiocast series. We have partnered with *National Geographic* to fund two incredible science communicators, Álvaro Laiz and Anand Varma.

Power of Partnerships

We have partnered with The Doris Duke Charitable Foundation and others to support physician-scientists across the United States. During the past year we have established several partnerships with other foundations to reach our goals more effectively. Our involvement with the Science Philanthropy Alliance and the Health Research Alliance have enabled

conversations among many science philanthropies and to encourage collaboration and best practices in the field.

As we enter 2022, may we be guided and encouraged by new normal – expanding reach, inclusiveness, and partnerships for engagement, research success and lifelong learning. We have learned to be flexible, resilient, and more appreciative of the benefits of a holistically humanistic workspace. We will leverage this new foundation for creative engagement among scientists, educators, artists,

journalists, and the public to solve the societal challenges of today and tomorrow.

Thank you.

Louis J. Muglia, MD, PhD
President and CEO
Burroughs Wellcome Fund

Competitive Grant Awardees

Career Award at the Scientific Interface

Kevin Dalton, PhD

Harvard University

Rebecca Donegan, PhD

Georgia Institute of Technology

Anne Draelos, PhD

Duke University

Rogelio Hernandez-Lopez, PhD

University of California-San Francisco

Antentor Hinton, PhD

University of Iowa Carver College of Medicine

Christina Hueschen, PhD

Stanford University

Vira Kravets, PhD

University of Colorado-Denver

Ruth Marisol Herrera Perez, PhD

Columbia University

Rebecca Sherbo, PhD

Harvard University

Charlotte Strandkvist, PhD

Harvard Medical School

Longzhi Tan, PhD

Stanford University

Career Awards for Medical Scientists

Serine Avagyan, MD, PhD

Dana-Farber | Boston Children's Hospital Cancer and Blood Disorders Center

Silvia Bernardi, MD

Columbia University

Jeeyeon Monica Cha, MD, PhD

Vanderbilt University

Raghu Ram Chivukula, MD, PhD

Massachusetts Institute of Technology

Erin Conrad, MD

University of Pennsylvania

Carlos Antonio Diaz-Balzac, MD, PhD

University of Rochester

Neir Eshel, MD, PhD

Stanford University

Russell Paul Goodman, MD, DPhil

Massachusetts General Hospital

Brian Christopher Miller, MD, PhD

Dana-Farber Cancer Institute

Rachel Niec, MD, PhD

Rockefeller University

Celestine N. Wanjalla, MD, PhD

Vanderbilt University

Kevin Wei, MD, PhD

Brigham and Women's Hospital

Career Guidance for Trainees

American Society for Cell Biology

BioKansas

Drexel University

Harvard University

Sena Institute of Technology Foundation

University of Nevada-Reno

University of North Carolina-Chapel Hill School of Pharmacy

University of Pittsburgh

University of Tennessee Health Science Center

Yale University School of Medicine

Graduate Diversity Enrichment Program

Ashley Michelle Aguillard

University of North Carolina-Chapel Hill

David Aponte Diaz

University of North Carolina-Chapel Hill

Danielle Marie Brathwaite

University of North Carolina-Chapel Hill

Danielle Leigh Chappell

University of North Carolina-Chapel Hill

Jeliah Shaquan Clark

University of North Carolina-Chapel Hill

Marta Cristina Cruz Cisneros

University of North Carolina-Chapel Hill

Austin Ogechukwu Maduka

Duke University

Carmen A Marable

University of North Carolina-Chapel Hill

Jamshaid Shahir

University of North Carolina-Chapel Hill

Ellysa Vogt

University of North Carolina-Chapel Hill

Shunafrica White

North Carolina A&T State University

Innovation in Regulatory Science Award

Amrita Basu, PhD

University of California-San Francisco

John F P Bridges, PhD

Ohio State University College of Medicine and Public Health

Abraham Joy, PhD

University of Akron

Laine Thomas, PhD

Duke University

Carole Yauk, PhD

University of Ottawa

Meredith Zozus, PhD

University of Texas Health Science Center-San Antonio

Investigators in the Pathogenesis of Infectious Disease

Matthew D. Daugherty, PhD

University of California-San Diego

Lawrence A. David, PhD

Duke University

Elizabeth S. Egan, MD, PhD

Stanford University School of Medicine

Gianna E. Hammer, PhD

Duke University

Timothy W. Hand, PhD

University of Pittsburgh

Nicholas S. Heaton, PhD

Duke University School of Medicine

Helen M. Lazear, PhD

University of North Carolina-Chapel Hill

Sebastian Lourido, PhD

Massachusetts Institute of Technology

Laura-Isobel McCall, PhD

University of Oklahoma

Jakob von Moltke, PhD

University of Washington School of Medicine

John Whitney, PhD

McMaster University

Next Gen Pregnancy Initiative

Vikki M Abrahams, PhD

Yale University

William Lee Kraus, PhD

University of Texas Southwestern Medical Center-Dallas

Diana Monsivais, PhD

Baylor College of Medicine

Katy Patras, PhD

Baylor College of Medicine

Joan T. Price, MD

University of North Carolina-Chapel Hill

Mijo Simunovic, PhD

Columbia University

Tamara Tilburgs, PhD

University of Cincinnati

Yong Wang, PhD

Washington University

Postdoctoral Diversity Enrichment Program

Ismail Abd Al Azim Ahmed, PhD

New York University

Sada M Boyd, PhD

University of California-Los Angeles

Simone Andrea Douglas-Green, PhD

Massachusetts Institute of Technology

Daniel Luis Gonzales, PhD

Purdue University

Keisha Nicole Hardeman, PhD

University of Texas Southwestern Medical Center-Dallas

Corine M. Jackman, PhD

Carnegie Mellon University

Alberto Jose Lopez, PhD

Vanderbilt University

Nikea Pittman, PhD

University of North Carolina-Chapel Hill

Maureen McGuirk Sampson, PhD

Emory University

Ninecia Scott, PhD

University of Alabama-Birmingham

Kaela S. Singleton, PhD

Emory University

Dylan James Suvlu, PhD

Massachusetts Institute of Technology

Tigist Tamir, PhD

Massachusetts Institute of Technology

Christine Vazquez, PhD

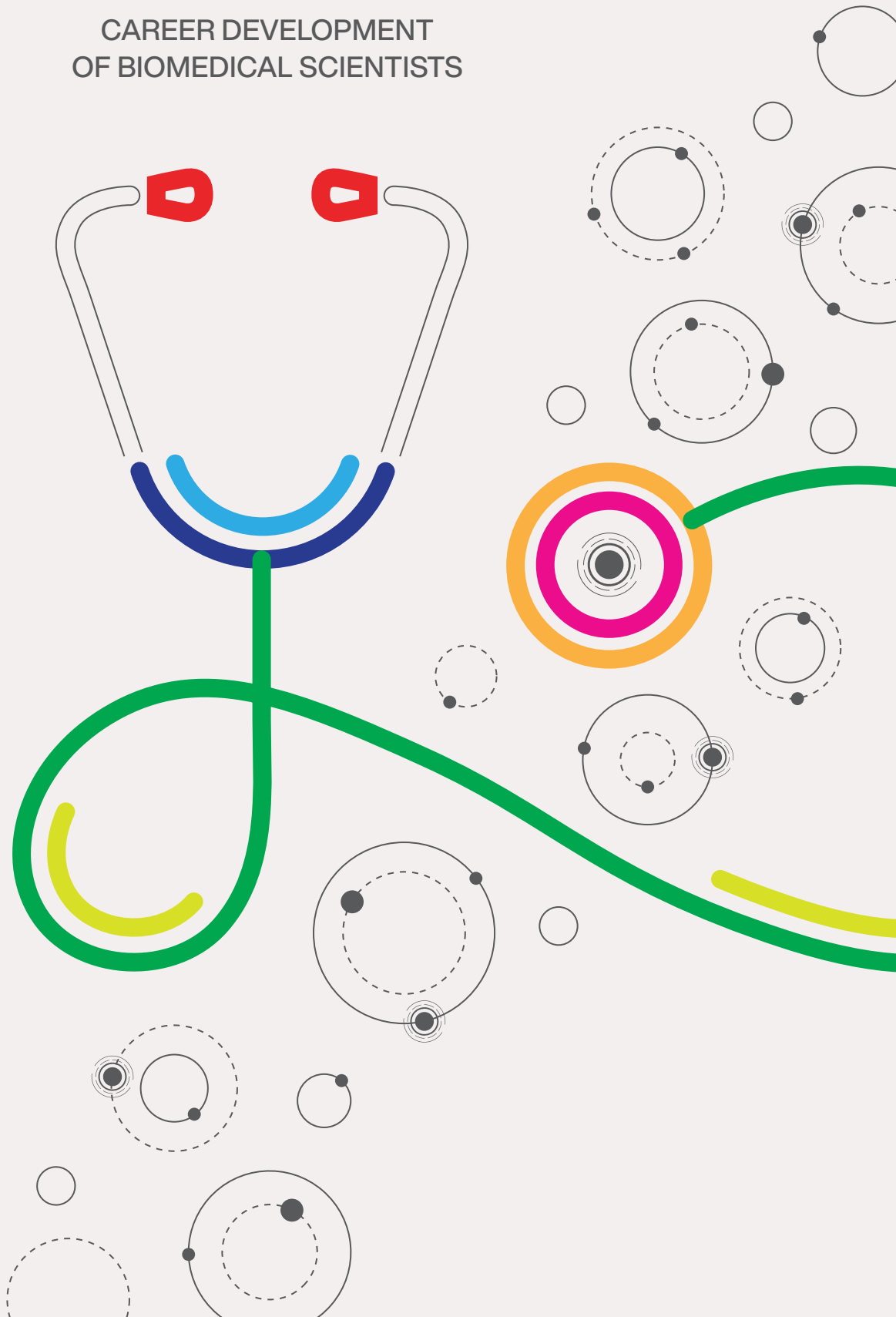
University of Pennsylvania

Junior West, PhD

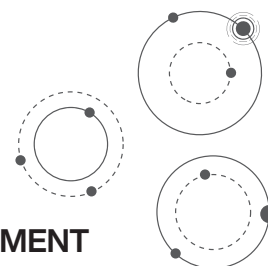
Johns Hopkins University School of Medicine

BIOMEDICAL SCIENCES

CAREER DEVELOPMENT
OF BIOMEDICAL SCIENTISTS



**“ BWF IS COMMITTED TO FOSTERING THE DEVELOPMENT
OF THE NEXT GENERATION OF BIOMEDICAL SCIENTISTS. ”**



Career Award for Medical Scientists

BWF is committed to fostering the development of the next generation of biomedical scientists and is committed to supporting degree-granting institutions to achieve this goal. The career development of young scientists has been a major funding theme at BWF and various programs have provided major support to promising young scientists to help them make the transition from late postdoctoral training to early faculty service.

The Career Awards for Medical Scientists (CAMS) was introduced in 2007 to specifically address the declining participation of physicians

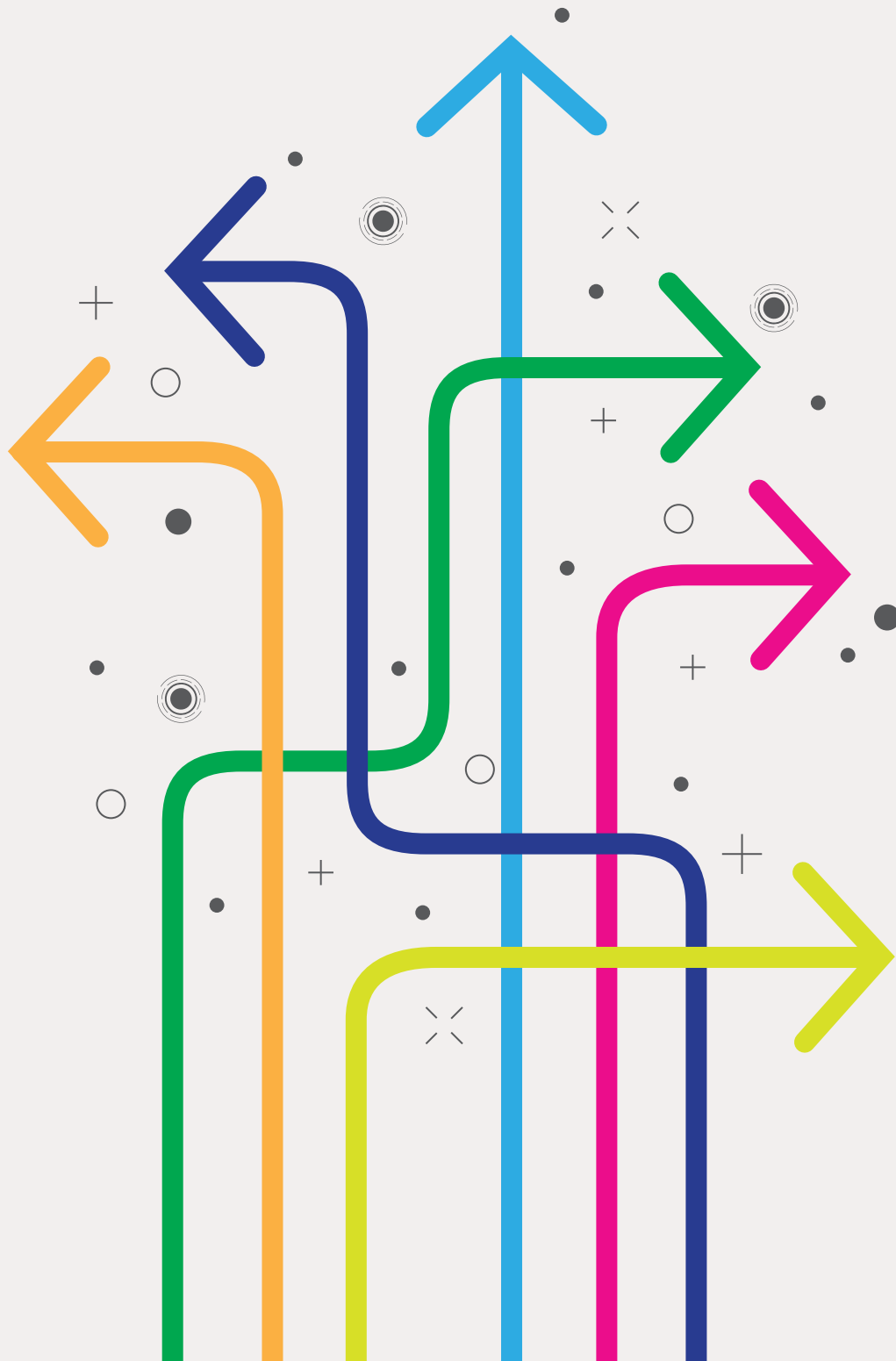
engaged in academic biomedical research. The CAMS award provides support to facilitate the transition from a mentored position to an independence for the early career physician scientist. The program is ideal for the physician scientist considering an academic career.

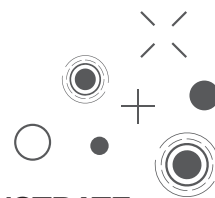
CAMS is a highly competitive program that provides \$700,000 in support over five years for physician scientists (MD, DO, DVM, DDS), who are committed to an academic career, to bridge postdoctoral/fellowship training and the early years of faculty service.

Proposals must be in the area of basic biomedical, disease-oriented, or translational research. BWF is also interested in artificial intelligence and machine learning. Proposals in health services research or involving large-scale clinical trials are not eligible. BWF anticipates making up to 10 awards including up to two awards to clinically trained psychiatrists who focus their research at the interface between psychiatry and neuroscience.

CAREER DEVELOPMENT

PROVIDING PROFESSIONAL GUIDANCE
FOR BIOMEDICAL RESEARCHERS





“HELPING TRAINEES UNDERSTAND, ACQUIRE, AND DEMONSTRATE SKILLS THAT MAKE THEM READY FOR COMPLEX CAREERS SHOULD BE THE GOAL OF SUBMITTED PROPOSALS.”

Career Guidance for Trainees

Moving from training to satisfying employment, whether within academe or in other realms, can require skills not always learned at the bench. Helping trainees understand, acquire, and demonstrate skills that make them ready for complex careers should be the goal of submitted proposals.

The Career Guidance for Trainees (CGT) program provides grants to support demonstration projects that will model affordable, transferable approaches to improving trainees' readiness for stable, fulfilling careers. For the 2021 round, we will be considering proposals for grants of \$15,000 - \$25,000. These smaller awards will allow us to make grants to more organizations. This decision

was made in the context of COVID-19's impact on support of career development activities at many institutions.

BWF will support pilot projects that demonstrate practical approaches to readying scientists for career transitions. Projects may be meant to enhance trainees' understanding of jobs beyond the Academy, or of career trajectories within academe, or of the flexibility of scientists' intellectual skill set.

CGT aims to advance ideas that have the potential to be deployed at larger scales. FASEB's Individual Development Plan, a tool that helps structure key conversations between

trainee and advisor, and Preparing Future Faculty, a program that provides trainees opportunities to observe and experience faculty responsibilities, are two examples of high impact programs that started small and expanded. By citing them as examples, we mean to encourage potential applicants to think big. In these proposals, send us ideas that could change how an organization like yours thinks about readying trainees for successful, fulfilling, happy careers that reflect the value of a scientific education.

CLIMATE CHANGE AND HUMAN HEALTH

SUPPORTING WORK AT THE INTERSECTION OF
CLIMATE CHANGE AND HUMAN HEALTH



“OUR GOAL IS TO PRIME NEW DISCOVERY IN AREAS THAT ARE DIFFICULT TO REACH THROUGH DISCIPLINE-SPECIFIC, SILO-DRIVEN APPROACHES.”



Climate and Health Interdisciplinary Award

The Burroughs Wellcome Fund Climate and Health Interdisciplinary Award provides support for collaborative exploratory work that opens new ground for comprehensively assessing or mitigating the impacts of climate change on human health. This program will support both individual scientists and multi-investigator teams. Early career faculty and postdoctoral fellows nearing their transition to independence are especially encouraged to apply, either individually or within teams.

Our goal is to prime new discovery in areas that are difficult to reach through discipline-specific, silo-driven approaches. Through this program we will provide flexible funding for conceiving and piloting work that will grow into productive and informative collaborations among researchers

approaching connected questions from fields that usually do not interact.

These awards will support research and research coordination to unravel the relationships of climate change and human health. The awards are meant to stimulate development of interdisciplinary and transdisciplinary approaches to problems with interconnected and potentially cumulative impacts on human health in general, and vulnerable populations, specifically.

Projects must draw on the basic or applied biomedical sciences—disciplines ranging from biochemistry to population health, including public health research focused on social justice and equity—collaborating with disciplines beyond biomedicine, for example field ecology, agricultural

sciences, veterinary medicine, law, public policy, other applied social sciences, geological and planetary sciences, architecture, engineering, mathematics, communications, or other relevant disciplines appropriate to the research proposed.

Proposals should be driven by broad questions that present significant potential for evidence-based discovery. Proposed aims must be measurable, well-articulated, substantial, achievable, and must include not only planning activities but also scholarly research findings. Projects in environmental health, health disparities, and One Health are competitive for this program when climate change is addressed as a core element. Solutions and insights from both global and hyperlocal viewpoints are of interest.

Climate Change and Human Health Seed Grants

The Burroughs Wellcome Fund aims to stimulate the growth of new connections between scholars working in largely disconnected fields

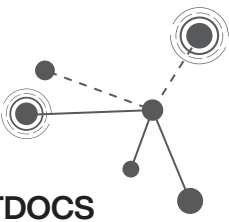
who might together change the course of climate change's impact on human health. Over the next two years, we will dedicate \$1M to

supporting small, early-stage grants of \$2,500 – \$50,000 toward achieving this goal.

DIVERSITY IN SCIENCE

ENRICHING BIOMEDICAL RESEARCH
WITH NEW VOICES AND FACES





**“ ENRICHMENT SUPPORT FOR UNDERREPRESENTED POSTDOCS
HAS PROVEN TO BE EFFECTIVE IN THEIR CAREER PROGRESSION. ”**

Graduate Diversity Enrichment Program

The Burroughs Wellcome Fund is committed to supporting the next generation of biomedical scientists and researchers. A significant portion of its grant programming includes the career development of young scientists. The existing Postdoctoral Diversity Enrichment Program Award (PDEP) was established to address the continuing lag in the advancement of underrepresented scientists and to position awardees to be more competitive in their pursuit of securing academic and research positions. Enrichment support for underrepresented postdocs has proven to be effective in their career progression. More than 109 awards have been made to early career scientists since the establishment of the Postdoctoral Enrichment Program Award in 2013.

Despite several decades of federally supported programs, racial and ethnic minority Americans continue to be underrepresented among PhD recipients and in the science and engineering workforce. In biomedical sciences, graduate enrollment is 68% white, 12.9% Asian, 5.4%

black, 5.9% Hispanic, 7% unknown and less than .5% American Indian.

Students with strong SAT scores, high grades and success in high school honors math and science courses often leave the undergraduate college STEM pipeline, and the loss is disproportionate among underrepresented students. BWF seeks to support those underrepresented students who go on to become graduate doctoral students in STEM fields and thus increase the diversity of individuals completing degree requirements and entering postdoctoral programs.

To address access to enrichment opportunities and supporting resources, BWF is committed to funding the next generation of scientists and researchers and seeks to support PhD students in efforts to increase diversity in science. The primary goal of the Graduate Diversity Enrichment Program (GDEP) is to enhance the graduate student experience and provide early exposure to various professional environments and networks for which future research and/or professoriate opportunities might manifest.

Funds will support the following:

1. Activities for the graduate student to travel and participate in or present at conferences, workshops, courses and training.
2. Costs associated with the purchase of equipment, materials and supplies related to their research, presentation, short course enrollment, workshops and training.
3. Participation in peer network system of diversity and/ or underrepresented graduate students.

The Graduate Diversity Enrichment Program provides a total of \$5,000 over two years to provide underrepresented minority PhD students enrolled in NC Institutions of higher education with opportunities for greater science and research enrichment experiences.

“ BWF IS COMMITTED TO FUNDING THE NEXT GENERATION OF SCIENTISTS AND RESEARCHERS, THUS WE HAVE AN INTEREST IN ADVANCING THE CAREERS OF UNDERREPRESENTED MINORITY POSTDOCTORAL FELLOWS. ”



Postdoctoral Diversity Enrichment Program

The Burroughs Wellcome Fund (BWF) is committed to fostering the development of the next generation of biomedical scientists and is committed to supporting only degree-granting institutions to achieve this goal. The career development of young scientists has been a major funding theme at BWF. The continuing lag in advancement of underrepresented minority scientists is a significant problem for the scientific community. Despite several decades of federally supported programs, Americans from these minority populations continue to be underrepresented among PhD recipients and in the science and engineering workforce. Many well prepared underrepresented minority students—including people of Latino, Native-American, Pacific Island, and

African-American descent—are interested in pursuing scientific or engineering careers. Many students with strong SAT scores, high grades, and success in high school honors math and science courses leave the college science pipeline, but the loss is disproportionate among women and minorities. Thus, factors other than school preparation, science aptitude, and interest must be responsible for the low achievement and low persistence of these subgroups of undergraduate and graduate science and engineering students. Identifying and mitigating these negative factors, then retaining these well-educated students with Science & Engineering interests would improve the United States' ability to compete in today's global scientific community. (SCIENCE, 31 March

2006, Preparing Minority Scientists and Engineers, Michael Summers and Freeman Hrabowski).

For this reason, the Burroughs Wellcome Fund created the Postdoctoral Diversity Enrichment (PDEP) Program in 2012. BWF is committed to funding the next generation of scientists and researchers, thus we have an interest in advancing the careers of underrepresented minority postdoctoral fellows.

The primary goal of PDEP is to substantially enhance the postdoctoral training and experience of underrepresented minority junior scientists. Funds will be provided to support the following enrichment activities:

1. Activities for the postdoctoral fellow to enhance research productivity, e.g. workshops, courses, travel, collaborations, and training in new techniques

2. Activities for the postdoctoral mentor to increase the mentoring of PDEP fellows in university-based programs:

- Career guidance of the underrepresented minority postdoctoral fellow
- Research guidance that increases the productivity of the PDEP fellow
- Attendance at one annual meeting of mentors hosted and/or sponsored by the Burroughs Wellcome Fund

3. Participation in a peer network system of underrepresented minority postdoctoral scholars

PDEP provides a total of \$60,000 over three years to support the career development activities for underrepresented minority postdoctoral fellows in a degree-granting institution in the United States or Canada whose training and professional development are guided by mentors committed to helping them advance to stellar careers in biomedical or medical research. Generally, up to 15 awards will be granted for enrichment activities annually. This grant is meant to supplement the training of postdocs whose research activities are already supported. It is not a research grant.

The program provides a total of \$60,000 over three years as follows:

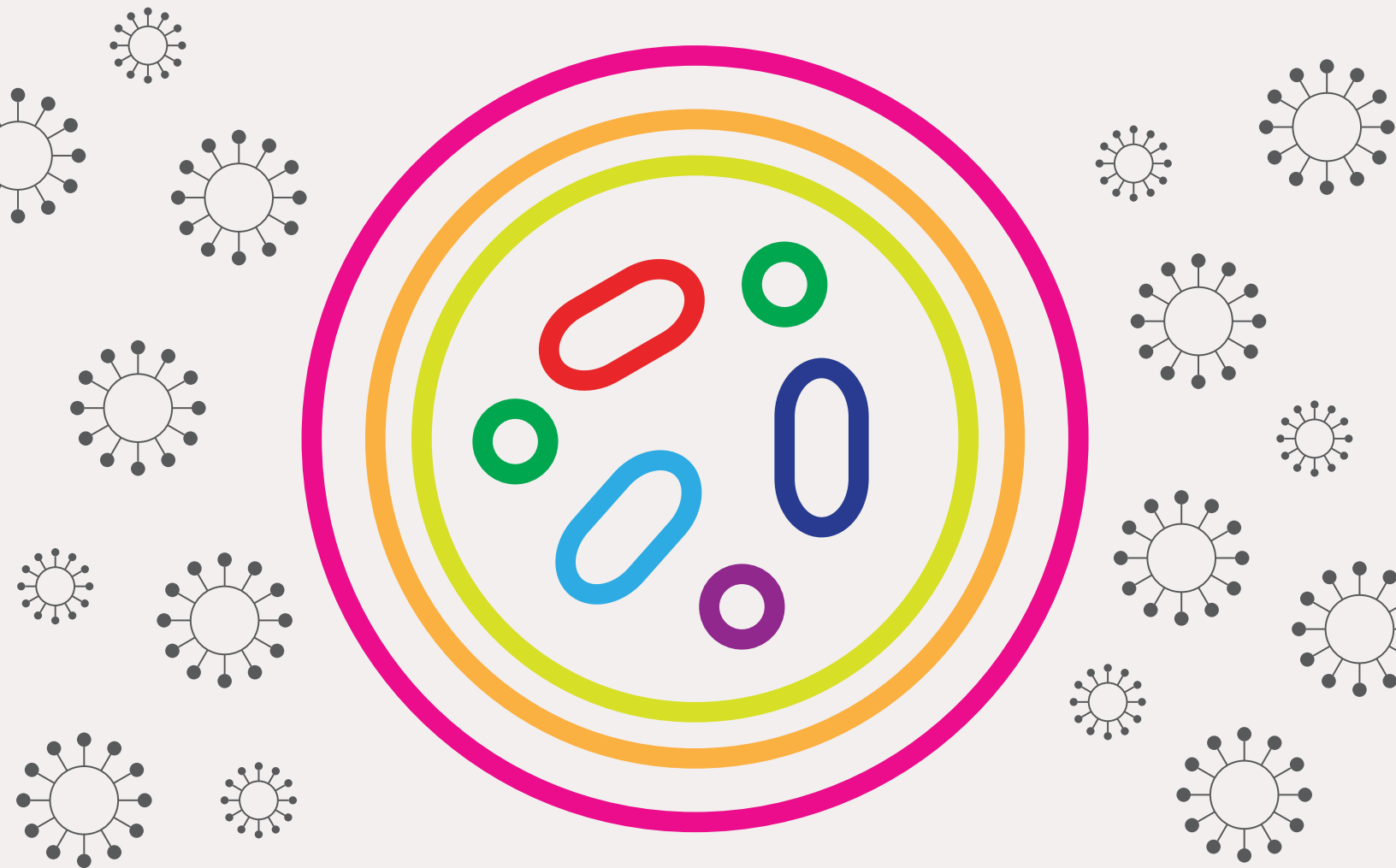
Year one: \$20,000 will be granted to support enrichment activities of the postdoctoral fellow (\$10,000 for research supplies or equipment uniquely required to enhance the postdoctoral fellow's research and \$10,000 for education and training, including for mentors in the research lab where the postdoctoral fellow is assigned.) The PDEP award cannot be used to support salary expenses or indirect costs.

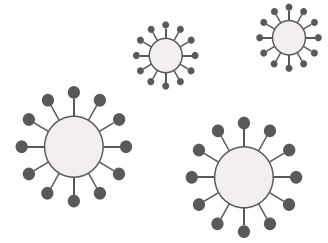
Year two: \$20,000
(same allocation as year one)

Year three: \$20,000 will be granted to help the postdoctoral fellow advance research efforts towards the professoriate. The funds must be used to develop independent, innovative areas of research.

INFECTIOUS DISEASES

ANSWERING PERSISTING QUESTIONS ON THE
MECHANISMS AND NATURE OF HUMAN PATHOGENS





**“ PROVIDES OPPORTUNITIES FOR ASSISTANT PROFESSORS
TO BRING MULTIDISCIPLINARY APPROACHES TO THE
STUDY OF HUMAN INFECTIOUS DISEASES. ”**

Investigators in the Pathogenesis of Infectious Disease

The Investigators in the Pathogenesis of Infectious Disease program provides opportunities for assistant professors to bring multidisciplinary approaches to the study of human infectious diseases. The goal of the program is to provide opportunities for accomplished investigators still early in their careers to study what happens at the points where the systems of humans and potentially infectious agents connect. The program supports research that sheds light on the fundamentals that affect the outcomes of these

encounters: how colonization, infection, commensalism and other relationships play out at levels ranging from molecular interactions to systemic ones.

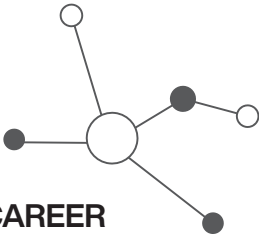
PATH is a competitive award program that provides \$500,000 over a period of five years to support accomplished investigators at the assistant professor level to study pathogenesis, with a focus on the interplay between infectious agents and their hosts, shedding light on how both are affected by

their encounters. The awards are intended to give recipients the freedom and flexibility to pursue new avenues of inquiry, stimulating higher-risk research projects that hold potential for significantly advancing understanding of how infectious diseases work and how health is maintained.

INTERFACES IN SCIENCE

INVESTING IN CROSS-TRAINED RESEARCHERS TO
MAKE TRANSDISCIPLINARY BREAKTHROUGHS





“ THIS GRANT IS INTENDED TO FOSTER THE EARLY CAREER DEVELOPMENT OF RESEARCHERS WHO ARE DEDICATED TO PURSUING A CAREER IN ACADEMIC RESEARCH.”

Career Awards at the Scientific Interface

Recognizing the vital role cross-trained scientists will play in furthering biomedical science, the Burroughs Wellcome Fund developed the Career Awards at the Scientific Interface (CASI). This grant is intended to foster the early career development of researchers who are dedicated to pursuing a career in academic research. The ideal applicants are researchers who have transitioned from graduate work in the physical/mathematical/computational sciences or engineering into postdoctoral work in the biological sciences.

The awards provide \$500,000 over five years to bridge advanced postdoctoral training and the first three years of faculty service. These awards are open to U.S. and Canadian citizens, permanent residents, or temporary residents.

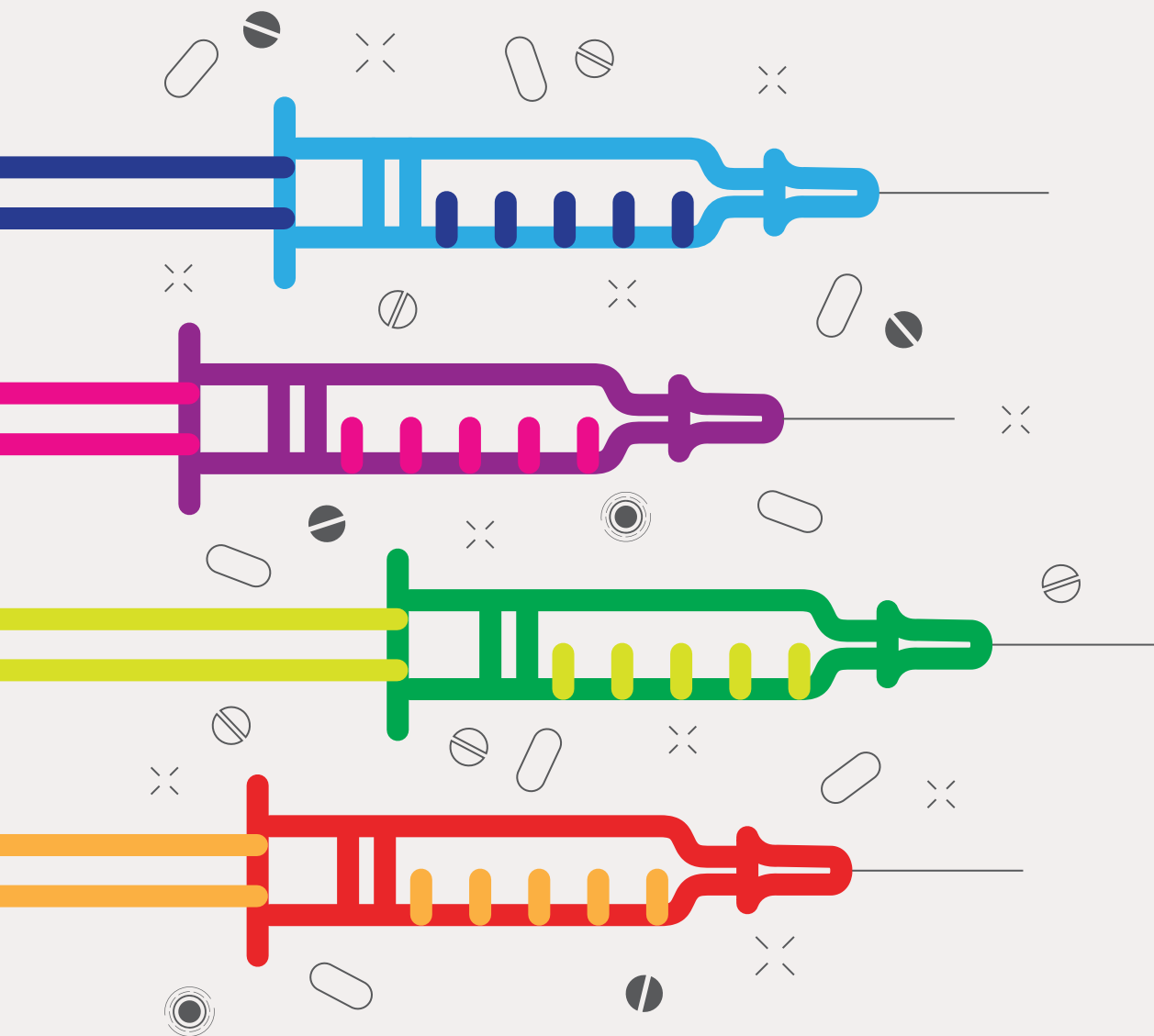
Scientific advances such as genomics, quantitative structural biology, imaging techniques, and modeling of complex systems have created opportunities for exciting research careers at the interface between the physical/computational sciences and the biological sciences.

Tackling key problems in biology will require scientists trained in areas such as chemistry, physics, applied mathematics, computer science, and engineering. Proposals that include deep or machine learning applications of artificial intelligence are particularly encouraged.

Special consideration will be given to proposals that investigate the connection between climate change and human health.

REGULATORY SCIENCE

KEEPING GOVERNMENT REGULATIONS APACE
WITH BIOMEDICAL ADVANCES



**“ BWF AIMS TO PROVIDE RESEARCH SUPPORT
TO STIMULATE INNOVATION IN THIS AREA. ”**



Innovation in Regulatory Science Award

The Burroughs Wellcome Fund (BWF) recognizes Regulatory Science as an important yet underfunded area of research. With this initiative, BWF aims to provide research support to stimulate innovation in this area.

The process of translating biomedical discoveries into new therapies has become increasingly complex considering evolving science and technology and requires that the science of regulation keep up with the advances in biomedical science and technology. For example, existing animal models of human disease are often poor predictors of efficacy of new therapeutic approaches in humans. As new technologies produce new types of preclinical models, innovation is needed in the evaluation of these models to justify

movement into clinical studies. Although numerous reports have documented the importance of this area of research to the future of the biomedical enterprise, it remains inadequately supported.

Regulatory science has been defined as the “development and use of new tools, standards, and approaches to more efficiently develop products and to more effectively evaluate product safety, efficacy, and quality.” Regulatory science has become a centerpiece of the Food and Drug Administration’s (FDA) strategy for fostering innovation, and the academic and foundation communities have been called to take an active role in building this emerging field. BWF encourages investigators to address regulatory science in areas of the FDA’s


strategic priorities including product manufacturing & quality, and food safety & applied nutrition.

BWF’s Innovation in Regulatory Science Awards provides \$500,000 over five years to academic researchers developing new methodologies or innovative approaches in regulatory science that will ultimately inform the regulatory decisions made by the FDA and others. This would necessarily draw upon the talents of individuals trained in mathematics, computer science, applied physics, medicine, engineering, toxicology, epidemiology, biostatistics, systems pharmacology, and food safety and nutrition as examples.

REPRODUCTIVE SCIENCES

NOURISHING NEW RESEARCH INTO
PARTURITION SCIENCE





**“ GROWING EVIDENCE SUGGESTS RELATIONSHIPS
BETWEEN THE DURATION OF PREGNANCY, FETAL
GROWTH, AND ADVERSE PREGNANCY OUTCOMES. ”**

Next Gen Pregnancy Initiative

Building upon the original goals of the BWF Preterm Birth Initiative, a recently convened Pregnancy Think Tank has helped shape the next generation of BWF preterm birth awards. Growing evidence suggests relationships between the duration of pregnancy, fetal growth, and adverse pregnancy outcomes such as preterm birth, preeclampsia, intrauterine growth restriction, stillbirth, and maternal medical complications including maternal mortality. Other areas of interest are climate change and environmental impact on pregnancy, complications associated with ART, and epigenome-wide association studies. We seek to expand the scope of this award mechanism to capture these and other pregnancy outcomes as we

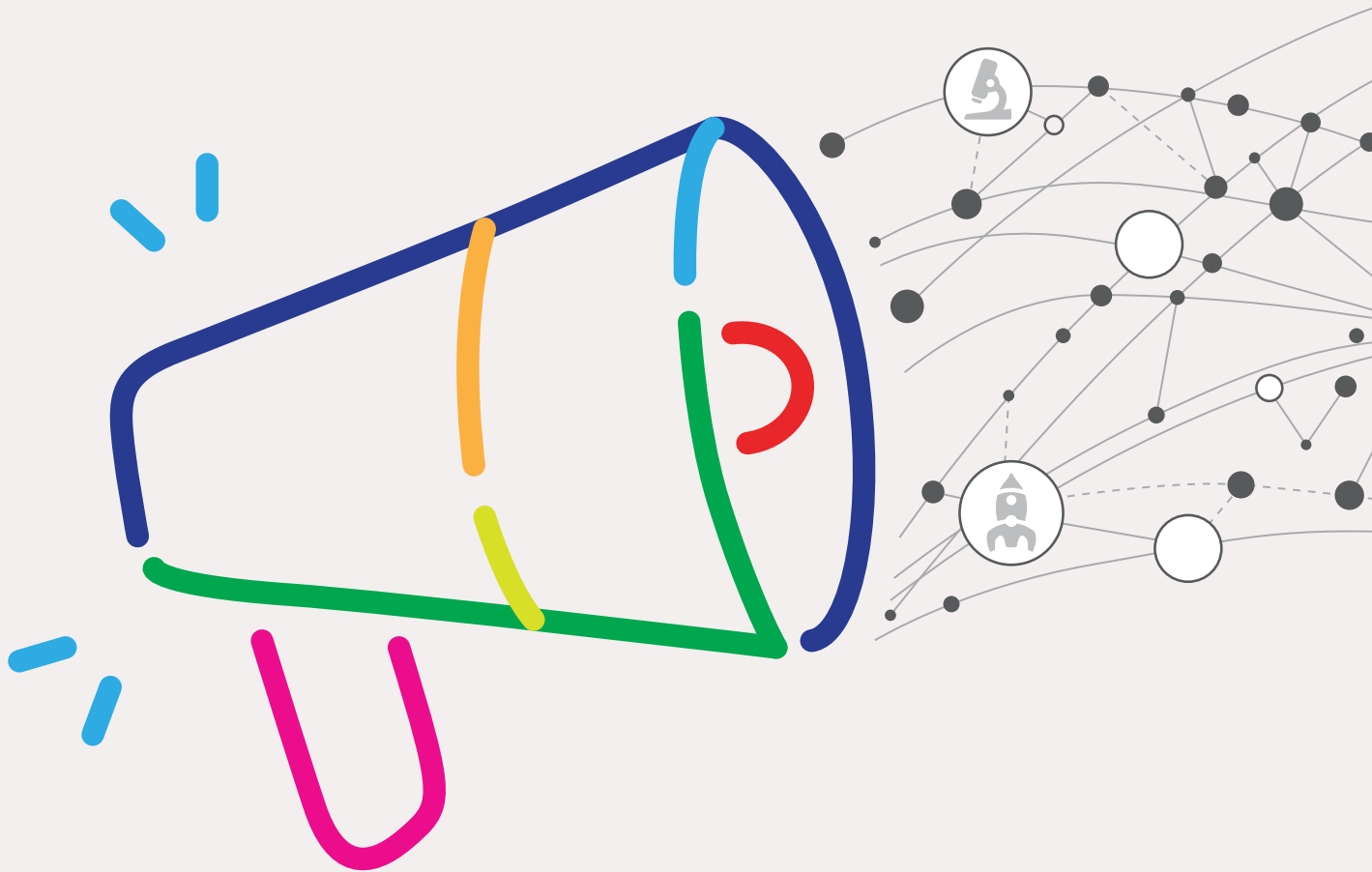
believe they will be mutually informative and accelerate discovery. Each award will provide up to \$500,000 over a four-year period (\$125,000 per year).


The initiative is designed to stimulate both creative individual scientists and multi-investigator teams to approach healthy and adverse pregnancy outcomes using creative basic and translation science methods. The formation of new connections between reproductive scientists and investigators who are involved in other areas is particularly encouraged. Postdoctoral fellows nearing their transition to independent investigator status through senior established investigators are encouraged to apply.

Molecular and computational approaches such as genetics/genomics, immunology, microbiology, evolutionary biology, mathematics, engineering, and other basic sciences hold enormous potential for new insights independently or in conjunction with more traditional areas of parturition research such as maternal-fetal medicine, obstetrics, and pediatrics. We encourage applications seeking actionable therapeutic interventions, novel diagnostics, and device development for real time data capture, and particularly those investigating mechanisms of racial disparities in pregnancy outcomes.

SCIENCE COMMUNICATION

SUPPORTING A BROAD RANGE OF INITIATIVES AROUND
SCIENCE COMMUNICATION AND SCIENCE IN THE ARTS





**“ SCIENCE COMMUNICATION PROPOSALS SHOULD PROMOTE
AND INSPIRE THE WONDER, AWE, AND PROMISE OF SCIENCE. ”**

Science Communication

Since 2020, the Burroughs Wellcome Fund has established science communication as an area of strategic focus and has increased financial investment and commitment in this area. BWF awards noncompetitive grants (ad hocs) for science communication and science in the arts activities. BWF supports a broad range of initiatives around science communication and science

in the arts that are ideally aligned with our larger portfolio programs and strategic initiatives.

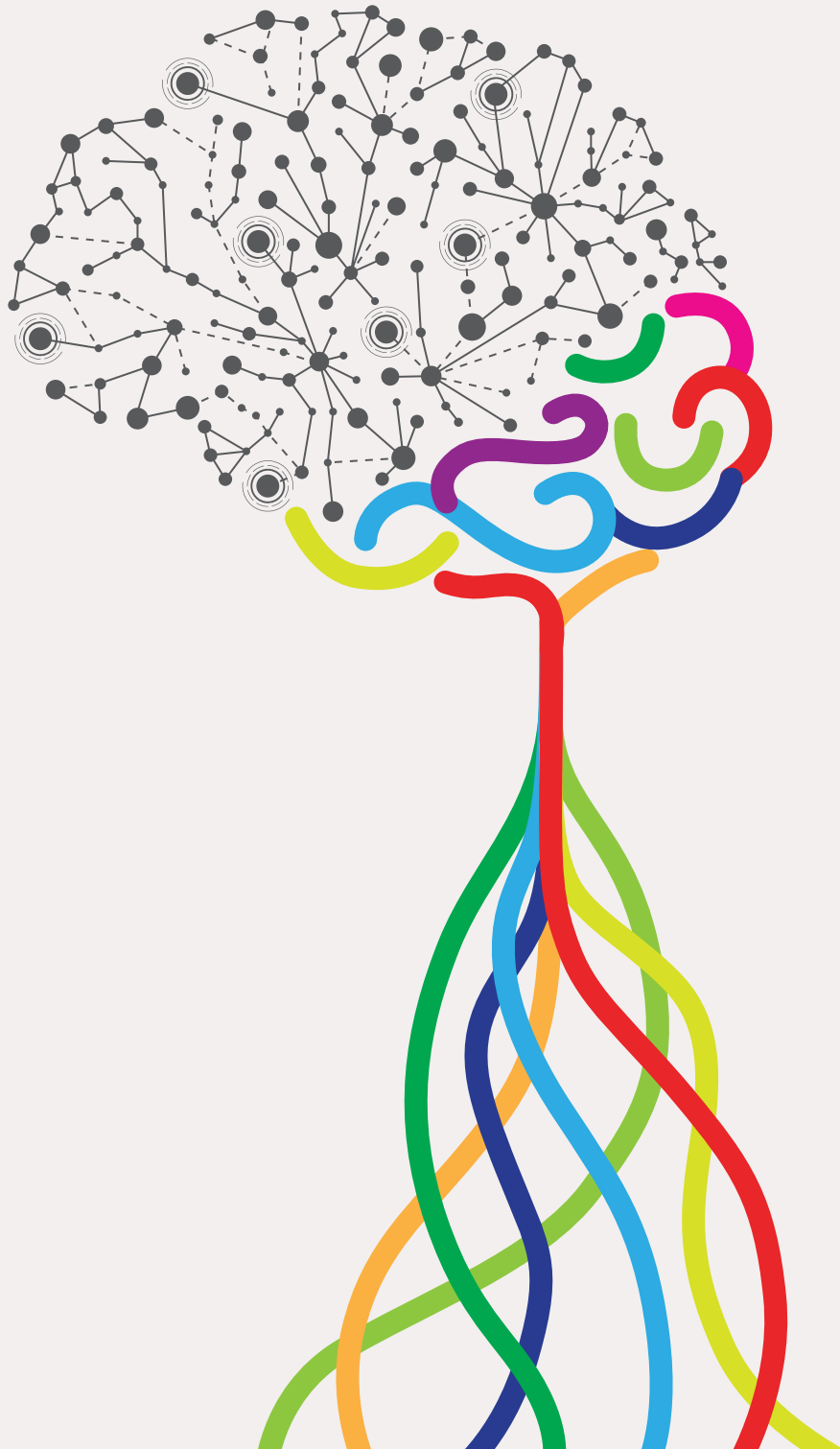
Proposals should be focused on one or several of the following areas: foster a prioritization of science communication planning and strategy among BWF audiences; promote science journalism and communication to encourage conversations and

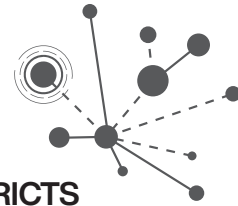
engagement of science in civic life; strategies to deter misinformation in science communication; and initiatives that promote and inspire the wonder, awe, and promise of science.

Proposals must be vetted with the Communications Team (communications@bwfund.org) prior to submission and review.

SCIENCE EDUCATION

EMPOWERING NORTH CAROLINA'S
CHILDREN WITH SCIENTIFIC POTENTIAL





**“ THE AWARD OFFERS SCHOOLS AND SCHOOL DISTRICTS
THE OPPORTUNITY TO FULLY DEVELOP AND EMPOWER
TEACHERS AS LEADERS IN THE FIELD. ”**

Career Award for Science and Mathematics Teachers

The Burroughs Wellcome Fund's Career Award for Science and Mathematics Teachers recognizes outstanding STEM teachers in the North Carolina public primary and secondary schools.

The award provides \$175,000 over five years and is available to North Carolina teachers who have an outstanding performance record in educating children and who demonstrate solid knowledge of STEM content.

This award presents opportunities for professional development and collaboration with other master science and/or mathematics teachers who will help to ensure their success as teachers and their

satisfaction with the field of teaching. The award offers schools and school districts the opportunity to fully develop and empower teachers as leaders in the field.

Special consideration will be given to teachers working in hard-to-staff, economically deprived classrooms in North Carolina. Special consideration will also be given to efforts that integrate environmental science and climate change into STEM-related curriculum.

BWF and the State Board of Education recognize that improving STEM education in North Carolina will require systemic revision of K-12 instruction. Teachers who are content-area experts and have

pedagogical skills are critical to ensuring students' success in understanding STEM subjects. These teachers can make a difference by serving as change agents, not only for their students, but also for other educators across the state.

The largest hurdle in accomplishing these goals has been a severe shortage of STEM teachers (even beyond North Carolina's ongoing teacher shortage). In 2015, only 13 percent of the University of North Carolina system's 4,675 newly prepared teachers were certified in computer science/technology, science, and mathematics.



Promoting Innovation in Science and Mathematics

BWF supports teaching professionals in their efforts to provide quality hands-on, inquiry-based activities for their students. This award provides up to \$3,000 for one year to cover the cost of equipment, materials, and supplies. An additional \$1,500 may be requested for professional development related to the implementation of new equipment or use of materials in the classroom. Awards are made to teaching professionals that hold a

professional educator's license to teach in a North Carolina K-12 public school.

BWF recognizes the important role that K-12 teachers play in the lives of students by stimulating a passion for science and mathematics innovations. In this time of tight budgets, BWF wants to support teaching professionals in their efforts to provide quality hands-on, inquiry-based activities for their

students. BWF launched this program to support North Carolina K-12 teachers in their efforts to promote excitement for science and mathematics in the classroom by providing grants for materials, equipment, and supplies related to the implementation of high-quality curriculum and activities in the classroom.



Student Science Enrichment Program

The Student STEM Enrichment Program (SSEP) supports diverse programs with a common goal: to enable K-12 students to participate in creative, active learning STEM activities and pursue inquiry-based exploration in BWF's home state of North Carolina. These awards provide up to \$60,000 per year for three years. Since the program's inception in 1996, BWF has awarded 250 grants totaling \$37.7 million to 110 organizations that reach more than 43,000 North Carolina students.

SSEP awards support career-oriented and practical programs intended to provide creative STEM enrichment activities for students in K-12 education who have exceptional skills and interest in science, technology, engineering, and mathematics, as well as those perceived to have high potential.

After school and out of school time programs demonstrate value in helping to close opportunity gaps for underserved and underrepresented students. These programs must enable students to explore inquiry-based approaches to STEM activities, which BWF believes to be an effective way to increase students' understanding and appreciation of the scientific and inquiry-based method. To increase academic achievement, programs must provide a well-defined structure that aligns with the school-day curriculum, well-trained staff, and student follow up.

Program Goals

In line with the mission of the Burroughs Wellcome Fund, projects that are funded under SSEP must seek to attain three goals:

- Improving students' competence in science and mathematics
- Nurturing student enthusiasm for science and mathematics
- Engaging students in pursuing careers in research or other science-related areas

The activities designed to lead to these goals must align with the North Carolina Standard Course of Study for science and mathematics pertinent to the grade levels of the student participants (see NC Essential Standards). Activities should involve active learning and be inquiry-based.

Additional resources to consider are Next Generation Science Standards and National Council of Teachers of Mathematics.

SCIENCE AND PHILANTHROPY

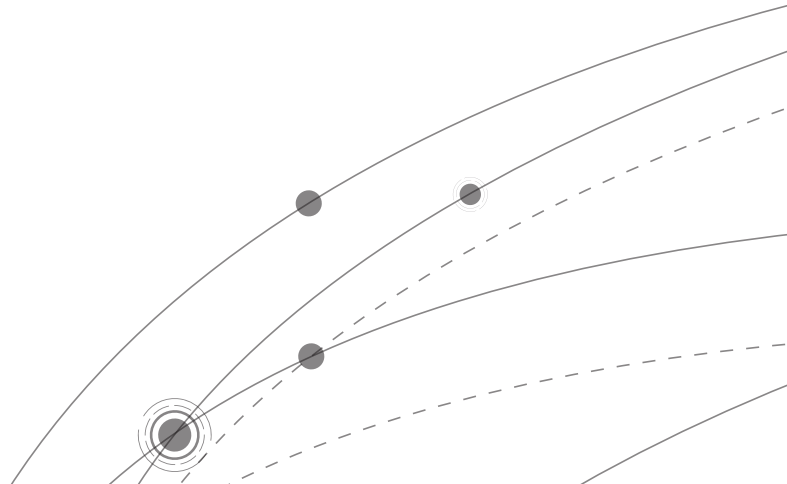
The Burroughs Wellcome Fund makes noncompetitive grants for activities and career development opportunities for scientists that fall outside of our competitive award programs, but are closely related to our targeted areas.

We place special priority on working with nonprofit organizations, including government agencies, to leverage financial support for our

targeted areas of research, and on encouraging other foundations to support biomedical research. Proposals must be vetted with the Communications Team (communications@bwfund.org) prior to submission and review.

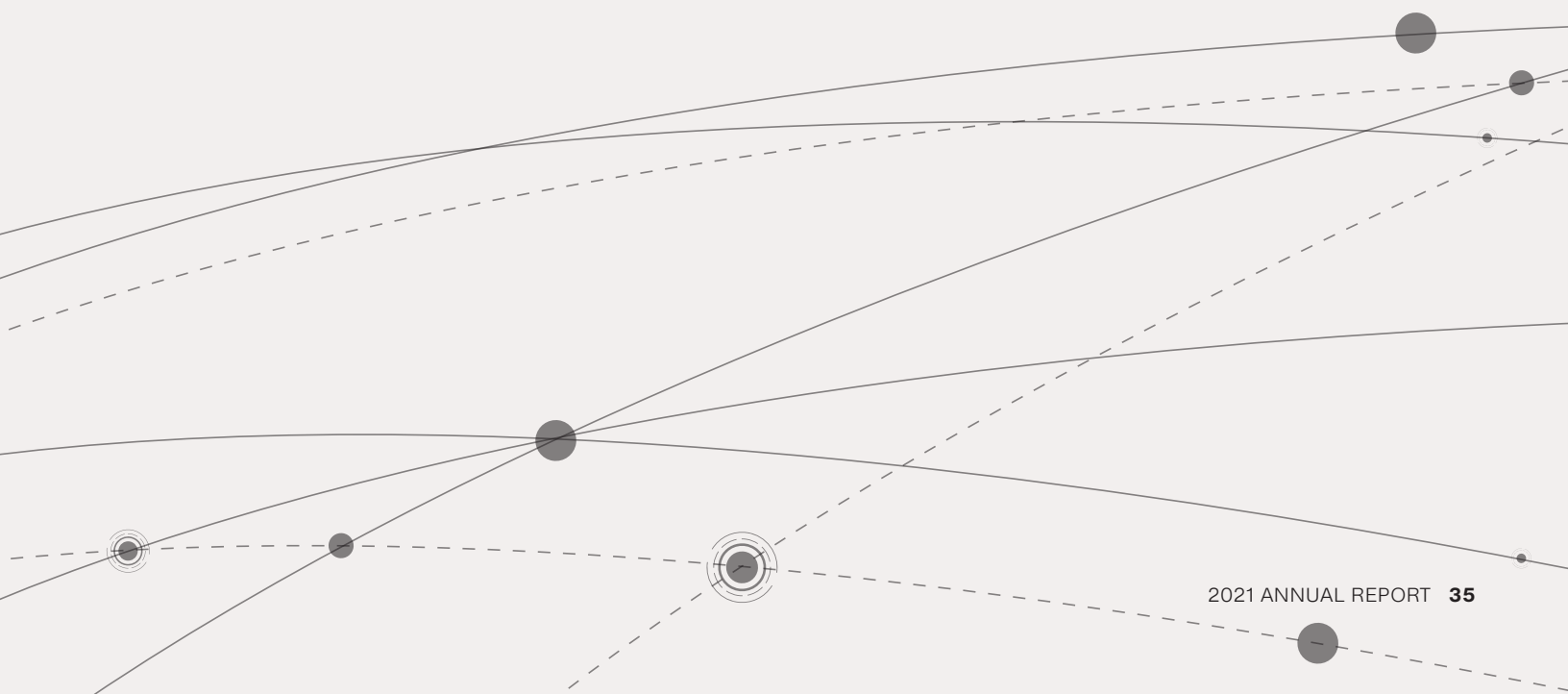
Applicants should describe the focus of the activity, the expected outcomes, and the qualifications of the organization or individuals

involved; provide certification of the sponsor's Internal Revenue Service tax-exempt status; and give the total budget for the activity, including any financial support obtained or promised. Proposals are given careful preliminary review, and those deemed appropriate are presented for consideration by BWF's Board of Directors.



REPORT ON FINANCE

The Burroughs Wellcome Fund's investments totaled \$924.8 million at August 31, 2021, the end of our fiscal year. BWF's primary financial goal is to pursue an investment strategy that will support annual spending needs and maintain a constant real level of assets over the long term. To achieve this goal, a high percentage of our investments are placed in strategies that derive the bulk of their returns from exposure to U.S. and international capital markets. Hence, fluctuations in BWF's investment results will be due largely to variability in capital market returns.



BWF's investment policies are developed with the recommendations and review of the Investment Committee, which is appointed by and reports to BWF's Board of Directors. The committee, which meets three times a year, has seven voting members, including five representatives from outside BWF and two representatives of our board. The board's chair, BWF's president, and BWF's vice president for finance also serve on the committee as nonvoting members.

As part of BWF's investment strategy, we have established "allocation targets"—that is, percentages of our total assets to be invested in particular asset classes. Investment managers hired by BWF pursue more focused mandates within each sector. As of the end of the fiscal year, BWF's asset mix and market values were:

- U.S. large capitalization equity assets had a market value of \$196.3 million. The sector's target allocation was 25 percent, and actual holdings stood at 21.2 percent.
- U.S. small capitalization equity assets had a market value of \$160.5 million. The sector's target allocation was 18 percent, and actual holdings stood at 17.4 percent.
- International equity assets had a market value of \$240.2 million. The sector's target allocation was 32 percent, and actual holdings stood at 26.0 percent.

- Fixed income assets had a market value of \$130.1 million. The sector's target allocation was 22 percent, and actual holdings stood at 14.1 percent.
- Cash equivalent assets had a market value of \$15.2 million. The sector's target allocation was 3 percent, and actual holdings stood at 1.6 percent.
- Alternative assets had a market value of \$182.5 million. The sector did not have a target allocation, and actual holdings stood at 19.7 percent. The maximum permitted allocation to alternative assets stood at 20.0 percent at cost.

The total market value of BWF's investments increased by \$149.4 million, or 19.3 percent, from the end of the previous fiscal year. This increase in assets was due mainly to strong returns for world equities during the fiscal year. BWF's total investment return before investment management fees for the fiscal year was +24.8 percent. The U.S. large capitalization equity sector returned +30.2 percent, the U.S. small capitalization equity sector had a +47.3 percent gain, the international equity sector returned +26.6 percent for the fiscal year, and fixed income produced a +3.7 percent result.

As of August 31, 2021, BWF employed 16 marketable securities investment managers. In the U.S. large capitalization equity sector, the managers were Brown Advisory; LSV

Asset Management; and Martingale Asset Management. BMO Asset Management, Loomis Sayles, Bridge City Asset Management and Essex Investment Management managed U.S. small capitalization equities. Camden Asset Management; C.S. McKee; Rimrock Capital Management; Barings; and Amundi Pioneer were the fixed income managers. Capital Guardian Trust Company; Hardman Johnston Global Advisors; Acadian Asset Management; and Hansberger Growth Investors managed international equities. BWF also held investments in four venture capital funds: Intersouth Partners VI, Spray Venture Funds I and II and Mission Ventures II. Winston Partners managed a fund of equity oriented hedge funds. Blackrock Alternative Advisors managed a fund of absolute return strategies. Hamilton Lane Advisors managed five funds of private equity strategies and three private debt strategies. Dyal Capital managed a private equity fund. Neuberger Berman managed an insurance linked strategy and a private equity strategy. Finally, the Fund internally managed a diversified portfolio of mainly passive investments which was named the Tactical Portfolio. The Tactical Portfolio included investments in U.S. equities, international equities and global bonds.

Statements of Financial Position

AUGUST 31, 2021 AND 2020 (all dollar amounts presented in thousands)

	2021	2020
ASSETS		
Cash and cash equivalents	\$ 2,547	\$ 2,924
Investments	936,107	778,877
Accrued interest and dividends receivable	1,262	1,206
Other assets	146	116
Property and equipment, net	6,742	7,178
Total assets	\$ 946,804	\$ 790,301
LIABILITIES AND NET ASSETS		
Transactions payable, net	\$ 6,442	\$ 4,168
Accounts payable and other liabilities	1,115	927
Excise tax payable	1,370	262
Deferred federal excise taxes	3,533	2,120
Unpaid awards	110,312	103,118
Total liabilities	122,772	110,595
Unrestricted net assets	824,032	679,706
Total liabilities and net assets	\$ 946,804	\$ 790,301

Statements of Activities

AUGUST 31, 2021 AND 2020 (all dollar amounts presented in thousands)

	2021	2020
REVENUES		
Interest and dividends, less investment expenses of \$3,622 and \$3,277 in 2021 and 2020, respectively	\$ 6,120	\$ 6,286
Net realized gain on sale of investments	75,998	18,560
<u>Total revenues and realized gains</u>	<u>\$ 82,118</u>	<u>\$ 24,846</u>
EXPENSES		
Program services	\$ 36,713	\$ 21,115
Management and general	7,177	6,596
<u>Total expenses before net unrealized appreciation (depreciation) and deferred federal excise tax</u>	<u>43,890</u>	<u>27,711</u>
Net unrealized appreciation (depreciation) of investments, net of provision for deferred federal excise tax (expense) / benefit of \$(1,413) and \$139 in 2021 and 2020, respectively	106,098	43,050
Change in net assets	144,326	40,185
Net assets at beginning of year	679,706	639,521
<u>Net assets at end of year</u>	<u>\$ 824,032</u>	<u>\$ 679,706</u>

GRANTS INDEX

BWF makes all grants to nonprofit organizations. For most of the programs, the name of the individual on whose behalf the grant is made is listed first, the title of the award recipient's project is listed second, and the name of the organization that received the money is listed third.

For programs that may have coaward recipients, the award recipients and their organizations are listed first, followed by the project title. For grants made directly to organizations and not on behalf of an individual, the name of the organization is listed first, followed by the title of the project or a brief description of the activity being supported.

In addition to making competitive awards, BWF makes noncompetitive grants—Ad Hocs—for activities that are closely related to our major focus areas. These grants are intended to enhance the general environment for research in the targeted areas.

For full audited financials visit **bwfund.org/annualreport**



Program Summary

AUGUST 31, 2021

	Awarded Net of Cancelled	Amount Paid	Percentage of Total Paid
BIOMEDICAL SCIENCES			
Career Awards in the Medical Sciences	\$ 7,190,000	\$ 7,407,100	
Physician-Scientist Institutional Award	–	3,000,000	
Research Travel Grant	6,082	6,082	
Ad Hoc	899,823	972,670	
Total	\$ 8,095,905	\$ 11,385,853	38%
DIVERSITY IN SCIENCE			
Graduate Diversity Enrichment Program	\$ –	\$ 27,500	
Postdoctoral Diversity Enrichment Program	1,009,646	847,862	
Ad Hoc	1,172,682	519,314	
Total	\$ 2,180,328	\$ 1,394,676	5%
INFECTIOUS DISEASES			
Career Guidance	\$ 252,896	\$ 215,401	
Investigators in Pathogenesis of Infectious Disease	5,500,000	4,209,483	
Ad Hoc	1,645,075	1,338,075	
Total	\$ 7,397,970	\$ 5,762,959	19%
INTERFACES IN SCIENCE			
Career Award at the Scientific Interface	\$ 5,187,313	\$ 3,667,313	
Ad Hoc	347,614	419,902	
Total	\$ 5,534,927	\$ 4,087,215	14%

Program Summary

AUGUST 31, 2021

	Awarded Net of Cancelled	Amount Paid	Percentage of Total Paid
REGULATORY SCIENCE			
Innovation in Regulatory Science Awards	\$ 3,025,166	\$ 1,255,166	
Ad Hoc	1,130,000	160,000	
Total	\$ 4,155,166	\$ 1,415,166	5%
REPRODUCTIVE SCIENCES			
Next Gen Pregnancy Initiative	\$ 4,000,000	\$ 2,162,500	
Total	\$ 4,000,000	\$ 2,162,500	7%
SCIENCE AND PHILANTHROPY			
Ad Hoc	\$ 758,460	\$ 815,655	
Total	\$ 758,460	\$ 815,655	3%
SCIENCE EDUCATION			
Career Award for Science and Mathematics Teachers	\$ 700,000	\$ 336,692	
Student STEM Enrichment Program	2,436,297	933,213	
Ad Hoc	1,214,539	1,359,539	
Total	\$ 4,350,836	\$ 2,629,444	9%
GRAND TOTAL	\$ 36,473,593	29,653,467	100%

Biomedical Sciences

Career Awards for Medical Scientists

Serine Avagyan, MD, PhD

Dana-Farber | Boston Children's Hospital
Cancer and Blood Disorders Center
Hematopoietic stem cell clonal diversity in GATA2 deficiency associated blood disorders

Silvia Bernardi, MD

Columbia University
Neural bases of conceptual generalization and transfer learning: mechanisms that go awry in psychiatric illness

Jeeyeon Monica Cha, MD, PhD

Vanderbilt University
Understanding sexually dimorphic responses of the pancreatic beta cell in diabetes

Raghu Ram Chivukula, MD, PhD

Massachusetts Institute of Technology
Elucidating the Role of Lysosome Dysfunction in Pulmonary Fibrosis

Erin Conrad, MD

University of Pennsylvania
Understanding the Role of Somatic Mutations in Severe Adult-Onset Inflammatory Diseases

Carlos Antonio Diaz-Balzac, MD, PhD

University of Rochester
Transcriptional regulation of neural circuit formation in intellectual disabilities

Neir Eshel, MD, PhD

Stanford University
Dopamine and serotonin at the intersection of reward and aggression

Russell Paul Goodman, MD, DPhil

Massachusetts General Hospital
Targeting Hepatic Reductive Stress to Treat Fatty Liver Disease

Brian Christopher Miller, MD, PhD

Dana-Farber Cancer Institute
Targeting Myeloid Cells as a Personalized Immunotherapy Approach to Cancer

Rachel Niec, MD, PhD

Rockefeller University
Lymphatic regulation of the intestinal stem cell niche

Celestine N. Wanjalla, MD, PhD

Vanderbilt University
Understanding the role of CD4+ T helper cells in cardiovascular disease progression in persons with HIV

Kevin Wei, MD, PhD

Brigham and Women's Hospital
Notch3 as a therapeutic target in rheumatoid arthritis

Career Guidance

Career Guidance for Trainees

American Society for Cell Biology

Rose Hendricks
How People Learn: Supporting Trainees by Supporting Trainers at Scientific Societies

BioKansas

Training Culturally Competent Leaders to Improve Equitable and Inclusive Practices

Drexel University

TOTAL STEM – Training Opportunities for Assessment and Learning in STEM

Harvard University

Online Science Policy Training Platform

Sena Institute of Technology Foundation

Entrepreneurial exchange experience for graduate and postdoctoral fellows in Ghana

University of Nevada-Reno

Developing a Postdoctoral Academic and Industry Career Empowerment (PAICE) program

University of North Carolina-Chapel Hill School of Pharmacy

Micro-Credentials to Support Career Readiness for Pharmaceutical Industry Roles

University of Pittsburgh

Career Mentoring and Planning Program

University of Pittsburgh

Promoting PEERs: tiered mentoring to foster career development across marginalized student populations

University of Tennessee Health Science Center

Interdisciplinary Team Projects to Enhance Career Readiness

Yale University School of Medicine

The Intersections Science Fellows Symposium: A multi-institutional collaborative model to diversify the professoriate

Diversity in Science

Graduate Diversity Enrichment Program

Ashley Michelle Aguillard

University of North Carolina-Chapel Hill

David Aponte Diaz

University of North Carolina-Chapel Hill

Danielle Marie Brathwaite

University of North Carolina-Chapel Hill

Danielle Leigh Chappell

University of North Carolina-Chapel Hill

Jeliyah Shaquan Clark

University of North Carolina-Chapel Hill

Marta Cristina Cruz Cisneros

University of North Carolina-Chapel Hill

Austin Ogechukwu Maduka

Duke University

Carmen A Marable

University of North Carolina-Chapel Hill

Jamshaid Shahir

University of North Carolina-Chapel Hill

Ellysa Vogt

University of North Carolina-Chapel Hill

Shunafrica White

North Carolina A&T State University

Postdoctoral Diversity Enrichment Program

Ismail Abd Al Azim Ahmed, PhD

New York University

Oxytocin Neuromodulation of Maternal Behavior

Mentor: Robert Froemke, PhD

Sada M Boyd, PhD

University of California-Los Angeles

Examining the evolution and interaction of antibiotic and copper resistance in bacteria

Mentor: Pamela Yeh, PhD

Simone Andrea Douglas-Green, PhD

Massachusetts Institute of Technology

Characterization and Biological Manipulation of The Protein Corona to Improve Delivery of Cartilage-Penetrating Nanocarriers

Mentor: Paula Hammond, PhD

Daniel Luis Gonzales, PhD

Purdue University

A Soft, Nanoscale Neural Interface for Mapping Subcellular Activity

Mentor: Krishna Jayant, PhD

Keisha Nicole Hardeman, PhD

University of Texas Southwestern Medical Center-Dallas

The Role of Hepatic Zonation and Metabolic Dysfunction in NAFLD

Mentor: Shawn Burgess, PhD

Corine M. Jackman, PhD

Carnegie Mellon University

Demonstrating cell-cell communication in droplets to identify antimicrobials for streptococcal infection

Mentor: Shelley Anna, PhD

Alberto Jose Lopez, PhD

Vanderbilt University

Characterizing epigenetic regulation of cocaine-induced neuronal activity and behavioral dysfunction

Mentor: Erin Calipari, PhD

Nikea Pittman, PhD

University of North Carolina-Chapel Hill

Defining the complete RclC pathway for Detoxifying Oxidative Stress

Mentor: Saskia Neher, PhD

Maureen McGuirk Sampson, PhD

Emory University

Astrocyte Neuroprotection and Inflammation in Developmental Lead (Pb) Exposure

Mentor: Steven Sloan, MD, PhD

Ninecia Scott, PhD

University of Alabama-Birmingham

Host-bacterial determinants of cardiac damage and invasive pneumococcal disease

Mentor: Carlos Orihuela, PhD

Kaela S. Singleton, PhD

Emory University

Molecular Mechanisms of Pediatric Neurodegeneration

Mentor: Victor Faundez, MD, PhD

Dylan James Suvlu, PhD

Massachusetts Institute of Technology

Plasmon Enhanced Quantum Sequencing of DNA

Mentor: Adam Willard, PhD

Tigist Tamir, PhD

Massachusetts Institute of Technology

Elucidating the role of tyrosine phosphorylation of metabolic enzymes in hepatocellular carcinoma

Mentor: Forest White, PhD

Christine Vazquez, PhD

University of Pennsylvania

Dissecting the mechanisms of EV-D68 neuronal pathogenesis and dissemination

Mentor: Kellie Jurado, PhD

Junior West, PhD

Johns Hopkins University School of Medicine

Using mammary organoids to study the apical junctional complex during morphogenesis and breast cancer

Mentor: Andrew Ewald, PhD

Infectious Diseases

Investigators in the Pathogenesis of Infectious Disease

Matthew D. Daugherty, PhD

University of California-San Diego

Finding the pressure points: Evolution-guided discovery of novel host-virus conflicts

Lawrence A. David, PhD

Duke University

Dietary strategies for enhancing bacterial pathogen resistance in the gut

Elizabeth S. Egan, MD, PhD

Stanford University School of Medicine

*Dissecting host-parasite interactions between *Plasmodium falciparum* and the bone marrow*

Gianna E. Hammer, PhD

Duke University

Decoding T cell mediated mechanisms underpinning sterilizing immunity without adverse pathology at mucosal barriers

Timothy W. Hand, PhD

University of Pittsburgh

Mechanisms of tissue resident memory T cell protection against enteric infection

Nicholas S. Heaton, PhD

Duke University School of Medicine

Hormone mediated regulation of antiviral immune responses

Helen M. Lazear, PhD

University of North Carolina-Chapel Hill

Host Range Determinants of Emerging Flaviviruses

Sebastian Lourido, PhD

Massachusetts Institute of Technology

Mapping pathogen coevolution through host diversity

Laura-Isobel McCall, PhD

University of Oklahoma

Role of spatial metabolic heterogeneity in disease tropism

Jakob von Moltke, PhD

University of Washington School of Medicine

Establishment, maintenance, and antigen specificity of T cell memory in helminth infection

John Whitney, PhD

McMaster University

Role of adenosine-containing alarmones in commensal and pathogenic bacteria

Interfaces in Science

Career Awards at the Scientific Interface

Kevin Dalton, PhD

Harvard University

Machine Learning Models for Next Generation X-Ray Diffraction Experiments

Rebecca Donegan, PhD

Georgia Institute of Technology

Heme as a nutrient source at the host-pathogen interface

Anne Draelos, PhD

Duke University

Adaptive Algorithms for Online Neural Modeling

Rogelio Hernandez-Lopez, PhD

University of California-San Francisco

A multiscale quantitative approach for engineering cellular therapies and disease modeling

Antentor Hinton, PhD

University of Iowa Carver College of Medicine

Reimaging, Restoring, and Repurposing Mitochondria and MERC networks

Christina Hueschen, PhD

Stanford University

Physical Biology of Parasites

Vira Kravets, PhD

University of Colorado-Denver

Beta cell networks and neural interactions in healthy and diabetic conditions

Ruth Marisol Herrera Perez, PhD

Columbia University

Engineering models to control cell communication in self-organizing systems

Rebecca Sherbo, PhD

Harvard University

Sustainable food out of thin air

Charlotte Strandkvist, PhD

Harvard Medical School

Studying cell fate decisions and dynamics with time-resolved single cell genomics

Longzhi Tan, PhD

Stanford University

Probing the 3D Chromatin and Spatial Transcriptomic Basis of Neurodevelopment, Social Behaviors, and Autism with Single-cell Precision

Regulatory Science

Innovation in Regulatory Science Award

Amrita Basu, PhD

University of California-San Francisco
Developing a Toxicity Framework using Patient-Reported Outcomes in Breast Cancer Clinical Trials

John F P Bridges, PhD

Ohio State University College of Medicine and Public Health
Advancing methods for measuring patient preferences in regulatory science

Abraham Joy, PhD

University of Akron
A screening tool for predicting immune response to polymers designed for soft implantable devices

Laine Thomas, PhD

Duke University
Innovative Biostatistical Methods for Analysis and Assessment of Clinical Trials Augmented by Real World Data

Carole Yauk, PhD

University of Ottawa
Revolutionizing mutagenicity testing and assessment through the use of a novel error-corrected sequencing technology

Meredith Zozus, PhD

University of Texas Health Science Center-San Antonio
Unlocking and Evaluating Real-World Data for Use in Regulatory Decision Making

Reproductive Science

Next Gen Pregnancy Initiative

Vikki M Abrahams, PhD

Yale University
Mechanisms regulating fetal membrane and neutrophil responses to infection

William Lee Kraus, PhD

University of Texas Southwestern Medical Center-Dallas
A Multi-Omics Approach to Understanding Human Placenta Gene Expression

Diana Monsivais, PhD

Baylor College of Medicine
Endometrial signaling pathways during peri-implantation as determinants of pregnancy success

Katy Patras, PhD

Baylor College of Medicine
Characterizing the role of the vaginal microbiota in group B Streptococcus colonization and dissemination

Joan T. Price, MD

University of North Carolina-Chapel Hill
Periconception evaluation of the vaginal microbiome and immune response to predict adverse birth outcomes in women with and without HIV

Mijo Simunovic, PhD

Columbia University
Dissecting the signaling and biomechanics of embryo implantation and failure using quantitative organoids of early human embryogenesis

Tamara Tilburgs, PhD

University of Cincinnati
The role of HLA-G+/C+ extra villous trophoblasts in placental inflammation

Yong Wang, PhD

Washington University
Noninvasive imaging of human myometrial microstructures and electrical contraction patterns during pregnancy

Ad Hoc

Biomedical Sciences

Career Development of Postdoctoral Scientists

American Society for Cell Biology

Support for the ASCB CellBio Virtual Annual Meeting, December 2-16, 2020

Cincinnati Education and Research for Veterans Foundation, Inc.

Support for Gene Dose Mapping in Diseases that Disproportionately Affect Women and Minorities

Indiana University

Support for The Medical Physician Engineers, Scientists, and Clinicians Preparatory program (MPESC-Prep)

International Society for Antiviral Research

Support for the 2021 Gertrude Elion Memorial Lecture Award / 34th International Conference on Antiviral Research, March 22-25, 2021

Johns Hopkins University School of Medicine

Support for Careers in Science and Medicine Initiative Funding

Society for Neuroscience

Support for Trainee Professional Development Awards (TPDAs) at the SfN Global Connectome Virtual Event, January 11-13, 2021

Squirrel Monkey Haven

Support for the STEM-focused Virtual Educational Outreach by Squirrel Monkey Haven

Medical Sciences

American Foundation for Suicide Prevention

Support for AFSP's mission to save lives and bring hope to those affected by suicide in lieu of honorarium for CAMS advisory committee member Sarah H. Lisanby, MD (Examining the Neurobiology of Suicidal Behavior in Adolescents)

Association for Clinical and Translational Science

Support for the 2021 Translational Science Meeting, March 30 - April 2, 2021

University of Toronto

Support for the CITAC Annual General Meeting - "Navigating Uncertainty, Embracing Change, and Empowering the Next Generation of Clinician Scientists", November 12-13, 2020, Toronto, Ontario, Canada

Vanderbilt University

Support for the Vanderbilt-Meharry Medical School James Carter Scholars Program: a pilot program to enhance the transition from medical student to physician-scientists and leaders, 2021-2026

Climate Change

The Sylvia Bozeman and Rhonda Hughes EDGE Foundation

Opportunity for Students from Under-Represented Populations to Build Professional Skills and Networks in Quantitative Life and Earth Sciences at the Interface of Climate Change and Health

University of North Carolina-Chapel Hill

Climate and Environmental Change and Preterm Birth

University of North Carolina-Chapel Hill

Using the power of place-based, solutions-focused case studies, and hands-on STEM instruction to engage diverse youth in learning about extreme heat in Durham, NC

University of Tennessee-Knoxville

A Tasting Menu of Quantitative Modeling for Researchers in the Life and Earth Sciences Tackling the Interface of Climate Change and Health

Diversity in Science

Case Western Reserve University

International Center for Health Genomics

Chatham County Schools

SUPERINTENDENTS OF COLOR FORUM

Duke University

Duke Preparing Research scholars In bioMEDical Sciences (PRIME) Program

Duke University

LGBTQIA+ Student Engagement

Duke University

Graduate Diversity Enrichment Program STEM Outreach

Duke University

U.S. Public Perspectives on Race and Genetics

Massachusetts Institute of Technology

The Blackwell-Johnson-Banneker Statistics Education Project

National Association of Academies of Science

Roundtable on Black Men and Black Women in Science, Engineering, and Medicine

National Humanities Center

S.E.E.D. Fellows

National Paideia Center

Dialogues on Racial Justice (TIP)

NCCU Foundation, Inc.

BWF - Cheatham White Scholars at NCCU

NCCU Foundation, Inc.

TriCEM Tiered Mentorship Training Program at NCCU

North Carolina A&T State University

TriCEM Tiered Mentorship Training Program

North Carolina A&T State University

Funding Support for the LGBTA
Resource Center at NC A&T

North Carolina Mathematics and Science Education Network

Tar Heel Three Minute Thesis (3MT®)
Event

North Carolina Museum of Natural Sciences

RACE 2.0 - Phase 3

Public School Forum of North Carolina

The Dudley Flood Center for Educational
Equity & Opportunity
Expanding Equitable Access to
Educational Opportunities

STEM Next Opportunity Fund

NC Social Impact Racial Equity
Community of Practice

University of North Carolina-Chapel Hill

Providing opportunities to showcase
student research

University of North Carolina-Chapel Hill

Promoting Environmental Justice
and Health Equity in Perinatal Health
Research

University of North Carolina-Chapel Hill

Chancellor's Science Scholars Summer
Excellerator

University of North Carolina-Chapel Hill

Graduate Diversity Enrichment Program
STEM Outreach

Infectious Diseases**American Society for Microbiology**

Support for the 9th American Society
for Microbiology (ASM) Conference on
Biofilms that will be held in Charlotte, NC
on November 14–18, 2021

American Society for Microbiology

Support for 2021 American Society
for Microbiology (ASM) Professional
Development Initiatives

American Society of Tropical Medicine and Hygiene

Support for the American
Committee of Molecular, Cellular and
Immunoparasitology (ACMCIP) Scientific
Program at the November 2020 Annual
Meeting of the American Society of
Tropical Medicine and Hygiene (ASTMH)

American Society of Tropical Medicine and Hygiene

Support for the American Society of
Tropical Medicine and Hygiene (ASTMH)
69th Annual Meeting to be held virtually
on November 15-19, 2020

American Society of Tropical Medicine and Hygiene

Support for ACMCIP (American
Committee of Molecular, Cellular and
Immunoparasitology) Scientific Sessions
at ASTMH (American Society of Tropical
Medicine and Hygiene) 2021 Annual
Meeting to be held November 17-21,
2021 in National Harbor, MD

Binning Singletons Inc

Support for "Binning Singletons"

Black Girls Do STEM

Support for the Black Girls Do STEM in
lieu of 2021 honoraria to Dr. Thi Nguyen
for BWF CGT Advisory Committee
service

Center for Open Science

Support for the Center for Open Science
in Charlottesville, VA in lieu of 2021
honoraria to Dr. Maryrose Franko for
BWF CGT Advisory Committee service

Environmental Mutagenesis and Genomics Society

Support for the 13th International
Conference on Environmental
Mutagens, "Maintaining Genomic Health
in a Changing World" to be held August
27- September 1, 2022 in Ottawa,
Ontario, Canada

Federation of American Societies for Experimental Biology

Support for Federation of American
Societies for Experimental Biology
(FASEB) conference on Microbial
Pathogenesis: Mechanisms of Infectious
Disease to be held virtually July 13-15,
2021

Genetics Society of America

Support for enhancing accessibility
to the 2020 Molecular Parasitology
Meeting to be held virtually September
20–24, 2020

Genetics Society of America

Registration fee support for low and
middle income country participants
to Genetics Society of America (GSA)
Conferences to be held virtually in 2021

Georgia Tech Research Corporation

Support for International Biennial
Pseudomonas 2021 Conference to be
held September 27-October 2, 2021 in
Atlanta, GA

Gordon Research Conferences

Support for the Gordon Research
Conference, "Collective Behavior 2021"
to be held June 6-11 2021 In Newport, RI

Gordon Research Conferences

Support for the 21st Gordon Research Conference on Phagocytes: Phagocyte-Centric Perspective on Health and Disease: From Actin to Zebrafish to be held June 6-11, 2021 at Waterville Valley, NH

Gordon Research Conferences

Support for 2021 Gordon Research Conference on Viruses and Cells to be held May 23-28, 2021 at Rey Don Jaime Grand Hotel site in Spain

Gordon Research Conferences

Support for 2022 Gordon Research Conference (GRC) on Biology of Acute Respiratory Infection on February 26th-March 4th, 2022, at Ventura, CA

Graduate Career Consortium

Support for the GCC Annual Conference Meeting the Moment: Re-evaluating and Reinventing Career and Professional Development: A Virtual Conference for Leaders in Graduate, Postdoctoral Career & Professional Development to be held June 23-25, 2021

Harvard T.H. Chan School of Public Health

Support for connecting parasitologists in a post-pandemic world

Health Care Without Harm

Support for "Health Professionals For Climate Action"

Massachusetts Institute of Technology

Support for "Sustainability and Climate Change Across Learning Environments in STEM: Lifting national environmental literacy through SCALES"

Michigan State University

Support for the 27th annual Midwest Microbial Pathogenesis Conference to be held September 17th – 19th, 2021 at Michigan State University

National Academy of Sciences

Support for the National Academy of Medicine Grand Challenge on Human Health and Climate Change

National Academy of Sciences

Support for the National Academy of Science (NAS) Initiative to Promote Human Rights Responses within the Global Community

National Academy of Sciences

Support to Forum on Microbial Threats

National Academy of Sciences/Institute of Medicine

Support for NAM-BWF Climate Change and Human Health Workshop Series: Connecting Researchers Across Disciplines

St. Louis Community College Foundation

Climate Change Agents' Guide to Story Mapping

The Inspire Project Inc.

Support for Operation Outbreak (OO), an innovative, multidisciplinary app-based platform that enables experiential learning around infectious disease outbreak for use in STEM education.

Tufts University

Support for enhancing delegate diversity at Clostridia12, the International Conference on the Molecular Biology & Pathogenesis of the Clostridia to be held September 13-16, 2021 in Banff, Canada

University of California-Santa Cruz

Support for "Improving accessibility and usability: We have a virus browser - now what?"

University of California-Santa Cruz

Support for the Bacterial Locomotion and Signal Transduction (BLAST) meeting that will be held virtually January 17-22, 2021

Vanderbilt University Medical Center

Support for the Vanderbilt Institute for Infection, Immunology, and Inflammation (VI4) Artist in Residence (AiR) Program (VI4-AiR)

Yale University

Support for a conference on Climate Change and Health in Small Island Developing States: Focus on the Caribbean to be held virtually October 6-8, 2021

Interfaces in Science**American Indian Science And Engineering Society**

Support for the 2021 AISES National Conference, October 15-17, 2021

American Institute of Chemical Engineers

Support for the 2021 Synthetic Biology: Engineering, Evolution and Design (SEED) Conference, June 15-18, 2021

American Physical Society

Support for the APS Inclusion, Diversity, and Equity Alliance

Biomedical Engineering Society

Support for the 2021 BMES Annual Meeting Young Investigator Awards, October 6-9, 2021

Biophysical Society

Support for the Biophysical Society Programs at the virtual 2021 Annual Meeting in February 2021 and throughout the first half of the year

Computational and Systems Neuroscience (Cosyne)

Support for 2021 COSYNE (Computational and Systems Neuroscience) Annual Meeting (virtual)

Georgia Tech Research Corporation

Support for the QBioS Hands-On Modeling Workshop 2021 – Epidemics and Outbreaks: Supporting Peer-to-Peer Instruction and Public Engagement

Graduate Center Foundation, Inc.

Support for the Initiative for the Theoretical Sciences

Health Research Alliance, Inc. (HRA)

Support for an intern for the Research Workforce and Early Career Development Working Group

National Society of Black Engineers

Support for the Summer Engineering Experience for Kids (SEEK) 2022 Program

New Venture Fund

Support for the Open and Equitable Model Funding Program, a collaborative effort among several funds

Society for Biomaterials

Supplemental support for the Cato T. Laurencin, M.D., Ph.D., Travel Fellowship through 2022

Society of Hispanic Professional Engineers

Support for the BWF Graduate Student Travel Fund

Society of Women Engineers

Support for Academic Leadership for Women in Engineering (ALWE), January 8-9, 2021

University of Michigan-Ann Arbor

Support for the Robotics PhD Student Coaching Program

University of Utah

Support for Rising Stars Postdoc Symposium in 2022 to support faculty diversity in biochemistry

Vanderbilt University Medical Center

Support for the Vanderbilt-Meharry PARTNERS COVID-19 Fund to Retain Clinical Scientists

Regulatory Science**American Association for Cancer Research (AACR)**

Support for the AACR Special Conference on Artificial Intelligence, Diagnosis, and Imaging, January 11-14, 2021

American Society for Clinical Pharmacology & Therapeutics

Support for the ASCPT 2021 Annual Meeting

American Society of Gene & Cell Therapy

Support for the Outstanding New Investigator Symposium, ASGCT's 24th Annual Meeting; May 11-14, 2021

Everylife Foundation for Rare Diseases

Support for the 2020 Annual Rare Disease Scientific Workshop, December 15, 2020

Foundation for Food and Agriculture Research

Support for the Kirchner Food Fellowship (HBCU Cohort)

Health Research Alliance, Inc. (HRA)

General support for 2021-2022 activities

International Society for Cellular Therapy

Support for the ISCT 2021 Virtual Annual Meeting

International Society for Stem Cell Research

Support for ISSCR 2021 Virtual Conference

International Society for Stem Cell Research

Support for the ISSCR Stem Cells and Conservation Digital Series

National Academy of Sciences

Support for the Forum on Regenerative Medicine

New York Stem Cell Foundation

Support for the 2020 NYSCF Conference Support

Reproductive Science**Perinatal Research Society**

Support for the Burroughs Wellcome Fund URM Recruitment Program for the Perinatal Research Society (PRS) Workshop and annual meeting.

Scripps Research Institute - Florida

Support for the Placental Glycoscape Summer Undergraduate Intern

University of California-San Francisco

Support for Transdisciplinary Research Training to Reduce Disparities in Preterm Birth and Improve Maternal and Neonatal Outcomes: Training in microbiome medicine for minority postdoctoral fellows

University of Missouri-Columbia School of Medicine

Support for RSDP Scholar Research Related Expenses 2020-2021

University of Missouri-Columbia School of Medicine

Support for RSDP Scholar Research Supplement Expenses 2020-2021

Vanderbilt University

Support for the Community Resource to Reveal Mechanisms for Mammalian Birth Timing

Women and Infants Hospital of Rhode Island

Support for Computational Approaches to the Genetics of Complex Diseases: Proteinarium - A network analysis of complex disease

Yale University

Support for three-species model system for menstruation biology

Science and Philanthropy**Communications/Science Writing****Community Initiatives**

Support for Partnership on ComSciCon 2021 Flagship Workshop

EducationNC

Support for general operating expenses for EducationNC's Focus on STEM

Media Impact Funders

General support for the Media Impact Funders

North Carolina Community Foundation/ North Carolina Network of Grantmakers

Support for NCNG Communications Virtual Classroom

Science Talk

Support for the "Resilience in science communication: Science Talk '21 conference"

The Conversation U.S.

Support for Diversity Driving Discovery

Yale University School of Public Health

Support for Contact: A dialogue about COVID-19 and climate change through live performance

General Philanthropy**American Association for the Advancement of Science**

Support for the 2021 Mass Media Fellowship

Aspen Institute

Support for the Aspen Global Congress on Scientific Thinking & Action

Children's Hospital of Pittsburgh Foundation

Support for the Dr. Dena Hofkosh Endowed Fund for Faculty Development, directed by BWF Board Member Terence S. Dermody, M.D.

Food and Environment Reporting Network (FERN)

Support for coverage of Biomedical Research and Science Communication Training

Hopewell Fund

Support for the Science in Society Funder Collaborative

National Humanities Center

Support for the Artificial Intelligence and the Humanities Colloquium

National Postdoctoral Association

Support for the creation of the 2021 National Postdoctoral Association (NPA) Institutional Policy Report

North Carolina Community Foundation/ North Carolina Network of Grantmakers

Support for the NCNG Connected Conference. March 2021

North Carolina Sea Grant

Support for North Carolina Science, Technology, Engineering and Mathematics Policy Fellowship

Open Notebook

Support for the TON/BWF Early-career fellowship program

Queen's University

Support for the Conference on Statistics, Science, and Public Policy

Research!America

Supplemental support for the the Burroughs Wellcome Fund Internship Program

Science Friday Initiative

Support for the project titled "Local Voices, Local Impact: Public Health Stories from the Front Lines of Climate Change"

University of California-Los Angeles

Support for the project "this body is so impermanent..." which provides an artistic framework of the impact of COVID-19 on global humanity and medicine through special programming

Science Education**Science Education****Afterschool Alliance**

STEM Ecosystem VISTA Member Support

Apex Friendship High School

Professional Development; 2021 CASMT Finalist

Cedar Ridge High School

Professional Development: 2021 CASMT Awardee

Chapel Hill - Carrboro City Schools

Education Policy Fellowship Program

Charitable Ventures

Science Education

Cumberland County Board of Education

Support for the Singapore Math Pilot project in Cumberland County schools, including Alderman Road Elementary School, Gray's Creek Elementary School and Gallberry Farm Elementary School

Durham Colored Library, Inc.

Techies4Tomorrow

Durham Public Schools Foundation

Accelerating Digital Equity Campaign

Grantmakers for Education

Grantmakers for Education Membership Dues

Grassroots Science Museums Collaborative

North Carolina Science Network and the COVID-19 Impacts

McDowell County Schools

Support for the Singapore Math Project: Building a Strong Math Foundation Through Constructing, Drawing, and Solving, a proposal by Eastfield Global Magnet School, McDowell County Schools

Nash Community College

SSEP rural areas program development

National Association of Academies of Science

Belonging in the Science Research World

National Girls Collaborative

The Connectory Exchange Collaboration

NCSTA

2021 NCSTA Professional Development Institute

North Carolina A&T State University

NC Piedmont K-12 STEM Ecosystem Planning Project (SSEP Pilot Program)

North Carolina Association for Biomedical Research

Bridging the Gap 2021

North Carolina State University

Diversity in Leadership Fellowships

North Carolina State University

Science Olympiad Equitable Inclusion Program (SOSEIP)

North Carolina State University

Imhotep and Kyran Anderson Academies Virtual Program Capacity Building Grant

Oakboro Choice STEM School

Professional Development: 2021 CASMT Finalist

Profound Ladies

Profound Ladies, Infrastructure Building & Support

Public School Forum of North Carolina

Leveraging Policy & Research, Capacity-Building, and Networks to Expand Equitable Access to Educational Opportunities

Salk Institute for Biological Studies

Heithoff-Brody High School Summer Scholars

Social and Environmental Entrepreneurs

Wonder Connection Programming Expansion

Tides Center

Addressing the STEM teacher shortage during COVID-19

University of Mount Olive

UMO STEM on the Screen

University of North Carolina-Wilmington

Developing and Supporting STEM Educators of Color

Wilkes County Schools

Singapore Math Project – North Wilkesboro Elementary School – Wilkes County School District

Science, Math, and Technology Science Champion
American Association of School Administrators (AASA)

LEARNING 2025: National Commission on Student-Centered, Equity-Focused Education

James B. Hunt Jr. Institute for Educational Leadership and Policy Foundation

Supporting Ongoing Efforts to Advance College and Career Readiness for all North Carolinians

Morehead Planetarium and Science Center

NC STEM EVENTS CALENDAR

North Carolina Alliance for School Leadership Development

NC Digital Leadership for Superintendents – Enhancing Your Innovative Model

North Carolina Alliance for School Leadership Development

North Carolina Emerging Trends Network for Superintendents – New Innovators Cohort

North Carolina Alliance for School Leadership Development

Aspiring Superintendent Program Cohort V

North Carolina Alliance for School Leadership Development

Next Generation Superintendent Development Program Cohort VIII

North Carolina Chamber

NC Chamber Conference on Education and Workforce

North Carolina School of Science and Math

Support for the NC Student Student Academy of Science Delegation to attend the 2021 AAAS/AJAS Annual Meeting (remotely)

North Carolina Science Fair Foundation

2020-2021 NC Science and Engineering Fair

North Carolina State University

STEMwork Symposiums and STEMwork expansion to Southeastern Region

North Carolina State University

North Carolina STEM Education Strategic Plan – Public Dissemination

Research Triangle Institute

Building Literacy through STEM Virtual Academy

Smithsonian Institution

Smithsonian STEM Schools for Sustainable Development

University of North Carolina-Charlotte

AEOP NC STEM Research Academy

ADVISORY COMMITTEES

The Burroughs Wellcome Fund uses advisory committees for each competitive award program to review grant applications and make recommendations to BWF's Board of Directors, which makes the final decisions. We select members of these committees for their scientific and educational expertise in the program areas. In addition, BWF uses a financial advisory committee to help in developing and reviewing the BWF's investment policies. This committee is appointed by and reports to the Board of Directors.

Biomedical Sciences

Career Awards for Medical Scientists

Derek Abbott, MD, PhD (Co-Chair)

Arline H. and Curtis F. Gavin Professor of Medicine
Department of Pathology
Case Western Reserve University

Geoffrey Aguirre, MD, PhD

Associate Professor of Neurology
University of Pennsylvania Perelman School of Medicine
Department of Neurology
Hospital of the University of Pennsylvania

Leslie J. Berg, PhD

Professor and Chair
Immunology and Microbiology Department
University of Colorado School of Medicine

Chester W. Brown, MD, PhD

St. Jude Chair of Excellence in Genetics
Professor of Division Chief of Genetics
Department of Pediatrics
University of Tennessee Health Science Center

Paul Buckmaster, DVM, PhD

Professor
Dept. of Comparative Medicine
Stanford University

Kathleen H. Burns, MD, PhD

Chair, Department of Pathology
Dana-Farber Cancer Institute
Professor of Pathology
Harvard Medical School

Kathleen Caron, PhD (Co-Chair)

Professor of Cell Biology & Physiology and Genetics
Chair, Dept. of Cell Biology & Physiology
University of North Carolina-Chapel Hill

Jeanine D'Armiento, MD, PhD

Professor of Medicine in Anesthesiology
Director of the Center for Molecular Pulmonary Disease in Anesthesiology and Physiology and Cellular Biophysics
Director, Center for LAM and Rare Lung Disease
Chair, University Senate
Columbia University

Seth Field, MD, PhD

Harrington Discovery Institute
Case Western Reserve University

Sarah H. Lisanby, MD

Director, Division of Translational Research
Director, Noninvasive Neuromodulation Unit, Experimental Therapeutics and Pathophysiology Branch
National Institute of Mental Health

Heather C. Mefford, MD, PhD

Center for Pediatric Neurological Disease Research
Department of Cellular and Molecular Biology
St. Jude Children's Research Hospital

W. Kimryn Rathmell, MD, PhD

Cornelius Abernathy Craig Professor of Medicine and Biochemistry
Director, Division of Hematology and Oncology
Vanderbilt University Medical Center

Upinder Singh, MD

Division Chief, Infectious Diseases and Geographic Medicine
Associate Professor, Depts. of Internal Medicine, Microbiology and Immunology
Stanford University School of Medicine

Barry Sleckman, MD, PhD

Professor of Pathology and Laboratory Medicine
Weill Cornell Medical College, Cornell University

Diversity in Science

Postdoctoral Diversity Enrichment Program

Joey V. Barnett, PhD

Professor
Vanderbilt University

Kami Kim, MD (Chair)

Professor
University of South Florida

George M. Langford, PhD

Professor of Biology
Dean Emeritus of the College of Arts
and Sciences
Syracuse University

Gina R. Poe, PhD

Professor
University of California-Los Angeles

Michael Summers, PhD

HHMI Investigator Professor of
Chemistry and Biochemistry
University of Maryland, Baltimore County

Blanton S. Tolbert, PhD

Professor
Case Western Reserve University

Infectious Diseases

Investigators in the Pathogenesis of Infectious Disease

Craig E. Cameron, PhD

Professor and Chair of Microbiology
and Immunology
University of North Carolina-Chapel Hill

Blossom Damania, PhD (Co-Chair)

Professor of Microbiology & Immunology
and Vice Dean for Research
University of North Carolina-Chapel Hill

Maurizio Del Poeta, MD

Professor, Department of Molecular
Genetics & Microbiology
Stony Brook School of Medicine

Michael S. Diamond, MD, PhD

Professor, Department of Medicine,
Molecular Microbiology, Pathology
& Immunology
Washington University School of Medicine

Katherine A. Fitzgerald, PhD

Professor, Department of Medicine
University of Massachusetts Medical School

Denise Kirschner, PhD

Professor, Department of Microbiology
and Immunology
University of Michigan School of Medicine

Carolina Lopez, PhD

Professor and BJC Investigator in
Molecular Microbiology
Washington University School of Medicine

Eric G. Pamer, MD

Director, Duchossois Family Institute
University of Chicago

**Barbara Papadopoulos, BPharm, PhD,
FCAHS**

Professor of Microbiology and
Director, Division of Infectious Diseases
and Immunity
CHU de Quebec Research Center
Laval University School of Medicine

Eric Skaar, PhD, MPH (Co-Chair)

Director, Vanderbilt Institute for Infection,
Immunology, and Inflammation (VI4)
Ernest W. Goodpasture Professor
Vice Chair for Basic Research
Chief, Division of Molecular Pathogenesis
Vanderbilt University Medical Center

Vanessa Sperandio, PhD

Professor of Microbiology
and Biochemistry
University of Texas Southwestern
Medical Center

Interfaces in Science

Career Awards at the Scientific Interface

David Acheson, MD

President and CEO
The Acheson Group, LLC

Sandy Allerheiligen, PhD

Senior Vice President of Health
Economics & Education
Certara

Martha Brumfield, PhD

Senior Advisor, Past President and CEO,
Critical Path Institute
Associate Professor, College of Pharmacy
University of Arizona

Robert Califf, MD

Head of Clinical Strategy and Policy
Verily Life Sciences and Google Health

Andrea Leonard-Segal, MD

Associate Clinical Professor of Medicine
George Washington University School
of Medicine

Wendy R. Sanhai, PhD, MBA

Federal Strategy and Operations
Deloitte Consulting, LLP
Associate Professor (adj) School
of Medicine
Duke University
Senior Executive Education Fellow
University of Maryland Robert H. Smith,
School of Business

Christy L. Shaffer, PhD

General Partner, Hatteras Venture Partners
Managing Director, Hatteras Discovery

Alastair J.J. Wood, MD (Chair)

Professor of Medicine and Pharmacology
Weill Medical College of Cornell University
Partner, Symphony Capital, LLC

Regulatory Science

Innovation in Regulatory Science

Anne Churchland, PhD

Professor, Department of Neurobiology
University of California-Los Angeles

Todd Coleman, PhD

Professor of Bioengineering
University of California-San Diego

Jennifer Elisseeff, PhD

Professor and Director, Translational
Tissue Engineering Center
Wilmer Eye Institute
Depts of Biomedical Engineering,
Orthopedic Surgery, Chemical and
Biological Engineering, and Materials
Science and Engineering
Johns Hopkins University

Loren Frank, PhD

Investigator, Howard Hughes
Medical Institute
Professor, Sandler Neurosciences Center
University of California-San Francisco

Robert E. Kass, PhD

Maurice Falk Professor of Statistics and
Computational Neuroscience
Department of Statistics, Machine
Learning, and the Center for Neural
Basis of Cognition
Carnegie Mellon University

Melissa Lambeth Kemp, PhD

Professor
Wallace H. Coulter Department
of Biomedical Engineering
Georgia Institute of Technology
and Emory University

Andrea Liu, PhD

Hepburn Professor of Physics
Department of Physics and Astronomy
University of Pennsylvania

Alison Marsden, PhD

Associate Professor
Departments of Bioengineering
and Pediatrics
Institute for Computational and
Mathematical Engineering
Stanford University

Matthew R. Redinbo, PhD

Kenan Distinguished Professor
Departments of Chemistry, Biochemistry,
Microbiology and Genomics
University of North Carolina-Chapel Hill

Shyni Varghese, PhD

Professor of Biomedical Engineering,
Mechanical Engineering & Materials
Science and Orthopaedic Surgery
Duke University

Reproductive Science

Next Gen Pregnancy Initiative

Irina Burd, MD, PhD

Director, Integrated Research Center for Fetal Medicine
Director, Maternal Fetal Medicine Fellowship Program
Professor of Gyn/OB and Neurology
Department of Gynecology and Obstetrics
Johns Hopkins University

Susan Fisher, PhD

Professor
Depts. of Obstetrics, Gynecology and Reproductive Sciences
University of California-San Francisco

Amy P. Murtha, MD

Chair, Dept. of Obstetrics, Gynecology and Reproductive Sciences
University of California-San Francisco

Carole Ober, PhD

Blum-Riese Professor, Chair,
Department of Human Genetics
Department of Obstetrics and Gynecology
Committee on Genetics and Systems Biology
University of Chicago

Mana Parast, MD, PhD

Professor Department of Pathology
University of California-San Diego

Hyagriv N. Simhan, MD, MS

Professor, Obstetrics, Gynecology, and Reproductive Sciences
Executive Vice Chair, Obstetrical Services
Director, Patient Care Delivery Innovation and Technology, UPMC
University of Pittsburgh School of Medicine

Jerome F. Strauss, III, MD, PhD (Chair)

Professor of Obstetrics and Gynecology, Human and Molecular Genetics, Biochemistry and Molecular Biology, and Physiology and Biophysics
Virginia Commonwealth University

Science Education

Career Awards for Science and Mathematics Teachers

David Marsland

Science Content Specialist
Discovery Education

Angela Quick, EdD

RTI International

Honorable Bobbie Richardson, EdS

North Carolina General Assembly
Former Director of Exception Children, Vance County Schools (retired)

Student STEM Enrichment Program

John E. Burris, PhD

Past President
Burroughs Wellcome Fund

Yolanda Comedy, PhD

American Association for the Advancement of Science

Connie Locklear

Division of Indian Education
Public Schools of Robeson County

Eric D. Packenham

Principal Investigator, GEAR UP Grant,
US Department of Education
Senior Lecturer, Utah State University

Celestine Pea, PhD

STEM Education Consultant

Steve Saucier

President
Carolina Aviation Museum

William Franklin Scott Sr.

Retired, High School and Middle School Principal

Marco Zarate

Co-founder
North Carolina Society of Hispanic Professionals

Board of Directors and Staff

Board of Directors

Brenda Andrews, PhD
Brian Druker, MD
Terence S. Dermody, MD
Paula T. Hammond, PhD
Robert J. Lefkowitz, MD, PhD
Wendell Lim, PhD
Kelsey Martin, MD, PhD (Chair)
Louis J. Muglia, MD, PhD
Lauretta Reeves, CFA, AWMA
Christine Seidman, MD
Jenny Ting, PhD
Honorary Member
Philip R. Tracy

Executive Staff

Louis J. Muglia, MD, PhD
President and CEO
Scott Schoedler
Vice President, Finance

Communications

Russ Campbell
Senior Communications Officer
Mandeep Sekhon
Associate Communications
and Special Projects Officer

Facilities and Administration

Brent Epps
Senior Facility Site
Coordinator
Glenda H. Gilbert
Senior Facility Manager and
HR Administrator
Betsy Stewart
Senior Facility Administrative
Coordinator

Finance

Ken Browndorf
Senior Asset and
Accounting Manager
Jennifer Caraballo
Senior Accountant

Information Technology

Sammy Caraballo
Senior Systems and
Web Engineer
Wendell Jones
Senior Technology
Coordinator

Meetings

Barbara Evans
Senior Executive
Administrative and
Meeting Assistant
Lori Hedrick
Senior Meeting Professional

Programs

Daniel Baroff
Program Assistant
and Data Specialist
Paige Cooper, PhD
Program Officer
Darcy Lewandowski
Program Associate
Alfred Mays
Senior Program Officer
Victoria McGovern, PhD
Senior Program Officer
Samantha Moore
Program Assistant
and Data Specialist
Kelly Rose, PhD
Program Officer
Melanie Scott
Senior Program Associate
and Data Specialist
Tiffanie Taylor
Senior Program Associate
Kendra Tucker
Program Associate
and Data Specialist

Program Contact Information

Biomedical Sciences; Reproductive Sciences

Paige Cooper, PhD
Program Officer
pcooper@bwfund.org
Kendra Tucker
Program Associate
ktucker@bwfund.org

Career Guidance; Infectious Diseases; Population and Laboratory Based Sciences

Victoria P. McGovern, PhD
Senior Program Officer
vmcgovern@bwfund.org
Darcy Lewandowski
Program Associate
dlewandowski@bwfund.org

Diversity in Science; Science Education

Alfred Mays
Senior Program Officer
amays@bwfund.org
Tiffanie Taylor
Senior Program Associate
ttaylor@bwfund.org

Interfaces in Science; Regulatory Science; Translational Research

Kelly Rose, PhD
Program Officer
krose@bwfund.org
Melanie B. Scott
Senior Program Associate
mscott@bwfund.org

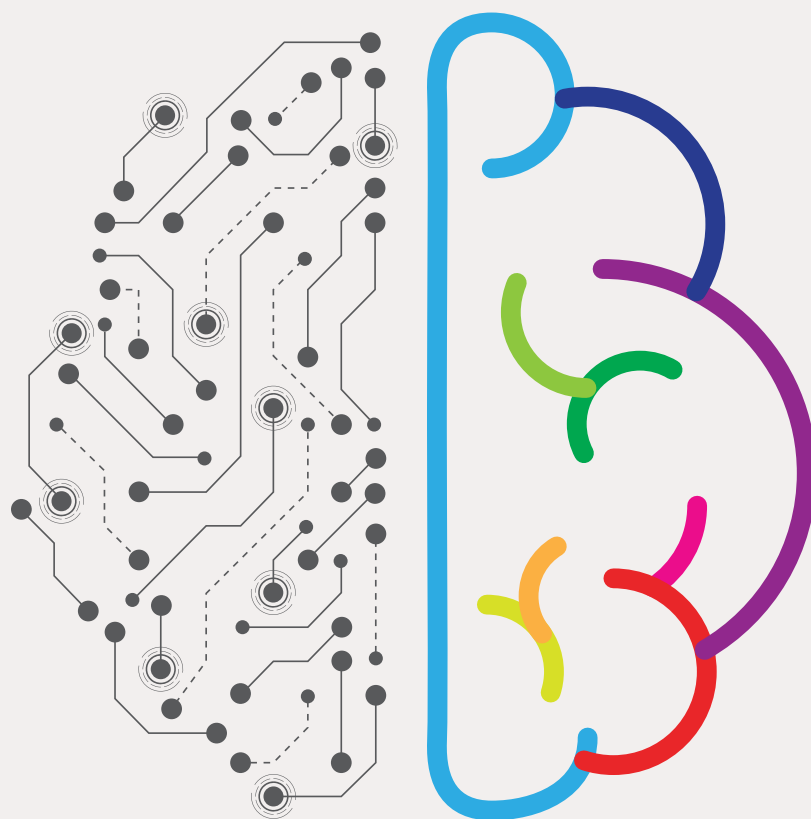
Communications/Media

Russ Campbell
Senior Communications Officer
news@bwfund.org
Mandeep Sekhon
Associate Communications
and Special Projects Officer
msekhon@bwfund.org

Program Information

The most up-to-date
information about our pro-
grams, including complete
application information, can
be found on our website at
www.bwfund.org.





BURROUGHS
WELLCOME
FUND 

21 T. W. Alexander Drive
P. O. Box 13901
Research Triangle Park, NC 27709-3901
919.991.5100
@bwfund
www.bwfund.org