

# 2023 HOPE SCHOLARSHIP RECIPIENT

## MARK BRIGHT BRAY

Ph.D. Candidate | University of Pennsylvania

*Scholarship sponsored by Cytiva*

Mark Bray is a second-year Ph.D. student in the Biochemistry & Molecular Biophysics program at the University of Pennsylvania (UPENN) Peelman School of Medicine. He was born in Ghana and grew up in the greater Worcester area of Massachusetts. Mark attended the BSCP Skills Workshops for College and High School Students in 2018 and the BSCP Biomedical Science Careers Student Conference in 2021 and 2022. Before entering his Ph.D. program, Mark graduated with high distinction from Worcester Polytechnic Institute (WPI) with dual degrees in Biomedical Engineering and Professional Writing. While at WPI, Mark worked as a research assistant in Dr. Glenn Gaudette's lab investigating the use of novel biological scaffolds to regenerate cardiovascular tissue. Mark served as the Academic Excellence Chairperson of the WPI chapter of the National Society of Black Engineers, where he removed barriers to students' academic and professional success by building a free textbook library, connecting alumni members to the chapter's current members, and organizing career panels and graduate school workshops. Mark also served as an Engineering Ambassador, giving presentations and engaging in hands-on workshops to inspire K-12 students about the exciting opportunities in STEM. Mark is strongly committed to increasing the representation of historically excluded people in STEM fields. He volunteers as a pen pal through Letters to a Pre-Scientist, a nationwide program that connects "pre-scientists" from low-income communities to STEM professionals. Mark was honored with several awards for his academic and extracurricular pursuits, including the Two Towers Prize, the Robert A. Peura Biomedical Engineering Scholarship, and the Louis Stokes Alliance for Minority Participation SPOT Research Scholarship. After graduating from WPI, Mark completed a Rosetta Commons Post-baccalaureate Fellowship in Dr. Scott Horowitz's lab at the University of Denver. There, he crystallized novel proteins for the testing of improved protein structure refinement tools in Foldit, the citizen science protein-folding game. Now in the second year of his Ph.D., Mark has joined Dr. Greg Bowman's lab at UPENN and uses experimental and computational biophysical methods to study macromolecular dynamics. Through his work, he hopes to improve our understanding of diseases and improve human health. Outside of research, Mark enjoys photography, biking, and running.

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## J'NYE SIBLEY

College Student | Lesley University

*Scholarship sponsored by Cytiva*

J'Nye Sibley is a first-generation college student born and raised in Boston, Massachusetts. She is currently a senior pursuing a degree in Biology and a certification in holistic health and wellness at Lesley University. J'Nye's passions evolved while a freshman in high school, through her involvement in the Brigham and Women's Hospital (BWH) Youth Summer Program, designed to expose underserved youth to vast health care professions and disciplines. In 2020, J'Nye was awarded a Presidential Scholarship from Lesley College of Liberal Arts and Sciences, the Bullock Family Award and the 2020-2024 Kimball Boston Chapter David Lindsey Akins Distinguished Scholar and Martha Mae Foster Memorial Award. At Lesley University, she presented a research poster on the correlation between environmental inequities and chronic bronchial asthma in African-American adolescents as compared to the general population in Massachusetts. She was selected by the university's Student Health Services and Human Arts Innovation Committee to receive an annual grant to implement the Wellness Champion program. J'Nye led a campus-wide health education initiative through the Mindfulness-Based Stress Reduction model in the pillars of lifestyle and preventive medicine, reassuringly meeting the needs of students and campus wellbeing. In 2023, J'Nye presented the Wellness Champion program's findings and outlook at the Lesley University Inaugural Community of Scholars Day. She spent her academic year in the lab of Aaron Bradford, Ph.D., where she conducted a research project on the signal propagation of *Physarum polycephalum* culture in microbial cell differentiation for prospective regenerative networks. J'Nye is an active member of the Phi Eta Sigma National Honors Society, was recently awarded the Arno Nowotny Founders Scholarship, and was selected as the Northeast Regional Chair in constitution and chapter connectivity. In 2023 she was selected to participate in the University of Massachusetts Chan Medical School Summer Enrichment Program. J'Nye attended the BSCP Biomedical Science Careers Student Conference in 2021, 2022 and 2023, the BSCP Skills Workshops for College and High School Students in 2022, and the BSCP New England Science Symposium in 2023. J'Nye plans on pursuing a pre-health post-baccalaureate degree program in her interests of allergy and immunology, research and holistic health.

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## JASMINE MILLER

M.D. Candidate | University of Connecticut School of Medicine

*Scholarship sponsored by Vertex*

Jasmine Miller was born and raised in Providence, Rhode Island with an abundant, loving family. She is currently a third-year medical student at the University of Connecticut School of Medicine. She graduated *summa cum laude* from the University of Rhode Island (URI) in 2016 where she obtained a Bachelor of Science in Biological Sciences, and experienced study abroad in San Jose, Costa Rica learning Spanish, art and medicine. As a pre-medical undergraduate student at URI, she pursued many different endeavors that aligned with her passion to heal and problem solve. She studied pesticide detection of various water sources in an organic chemistry lab as a fellow in the National Science Foundation Established Program to Stimulate Competitive Research; health disparities in Connecticut as a UConn HCOP Fellow; and Lyme disease tick-risk factors in Rhode Island, for her URI Honors Program capstone project. As a URI Science and Engineering Fellow she taught school-aged children about climate change, global warming, water quality and farming – all topics that still resonate with her today. She also taught her peers science as a teaching assistant in the Human Physiology Laboratory. Outside of working on her pre-med career, she also manifested her personal development skills as a BSCP participant, attending the BSCP Biomedical Science Careers Student Conference in 2016, 2021 and 2023, as well as a resident hall advisor for freshman students and an assistant coordinator for the URI Seeds of Success undergraduate diversity science program. Her work at URI helped her to obtain various scholarships, including the U.S. Department of State Benjamin A. Gilman International Scholarship and the URI Saint Elmo Brady Award for outstanding achievement in science, as well as established her as a member of the Rhode Island Onyx Senior Honor Society. After graduating she continued to study of medicine in the realm of psychiatry as a research assistant at Brown University. During her time at Brown, she worked on a research project to study the underlying motivations for OCD, hoarding disorder, panic disorder and social anxiety. Currently as a medical student, she is rotating through various specialties in numerous hospitals throughout the state. She loves learning about medicine, and is still looking for the field that is just right for her. She plans to use the skills and lessons she has learned throughout life to incorporate mental health, cultural authenticity, and natural medicine into her healing practices as a future allopathic physician.

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## JAHZARA NORDEUS

College Student | University of Massachusetts Amherst

*Scholarship sponsored by the Biogen Foundation*

Jahzara Nordeus is a first-generation college student born and raised in Boston, Massachusetts. She is currently in the Honors Program at the University of Massachusetts (UMass) Amherst studying Plant & Soil Sciences. In high school she had a deep interest in the sciences and excelled in those subject areas, achieving honor roll and headmasters awards throughout. During the summer of her sophomore year, she worked in the Beth Israel Deaconess Medical Center's cancer clinical trials office where she practiced technological organization, managed electronic data and learned how to administer confidential data. She became a Harvard Medical School Hinton Scholar during her junior year of high school where she learned about BSCP. The following two summers she interned at Vertex Pharmaceuticals, where she learned about the biotechnology industry. During the summer of 2022, she mentored 27 high school students and performed lab manager duties in the Vertex Learning Lab. She assisted with establishing protocols for growing nematode cultures, gel electrophoresis labs, as well as engineering E. coli using CRISPR to express different colored proteins. In the summer of 2023, she decided to learn something new and explored video game coding where she mentored kids aged 7-15 on making creative projects using technology. For the past year she has been a part of the UMass Biology Undergraduate Apprenticeship Program and has been a lab assistant in the Bartlett Lab where she performs lab work involved in understanding the genetics of plant development. She has been focusing specifically on the genes that control flower development in the grasses, with the goal of understanding how these genes have evolved to give us floral diversity, and how we might manipulate floral development for improving crops in the future. Jahzara has attended the BSCP Biomedical Science Careers Student Conferences in 2022 and 2023, and the BSCP New England Science Symposium in 2023. She was also a panelist at the BSCP Skills Workshop for College and High School Students in 2022, where she gave advice to incoming college students.

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## SARA GONZALEZ

College Student | Brown University

*Scholarship sponsored by Sanofi*

Sara Gonzalez is currently a freshman at Brown University as a part of Brown's Program in Liberal Medical Education, an eight-year dual-degree program with The Warren Alpert Medical School of Brown University. With the goal of pursuing STEM education in college while having a simultaneous interest in social justice issues, she was a 2021-2022 mentee in the first cohort of the Our Future Is Science Mentorship Program (OFIS), a joint initiative of The Aspen Institute Science & Society; Society Program and the Coda Societies. Inspired by issues in the Greater Boston area, her capstone project involved a review of the literature and evidence to better understand the relationship between food insecurity and cognitive performance among high schoolers. In sharing about these issues with students and faculty, this project has since expanded and led to the design of a community-based research project testing the extent to which a student and community partner-led farm-to-school program effectively addresses high rates of food insecurity among local youth and their families. In the summer of 2022, Sara was awarded an internship with the Dana-Farber Harvard Cancer Center's Continuing Umbrella of Research Experiences Program (CURE), where she investigated the mechanisms of lipotoxicity with study PI, Dr. Ayon Ibrahim, from the Harvard School of Public Health. In the fall of 2022 Sara was accepted as an OFIS Ambassador to help shape the program, engage in STEM-social justice and professional development activities, and support future cohorts of OFIS mentees. Sara worked as a Patient Care Technician at Beth Israel Deaconess Medical Center this year, and aspires to emphasize the value of collaboration from all roles in the healthcare field. Sara has attended the BSCP Skills Workshops for College and High School Students in 2022 and the BSCP Biomedical Science Careers Student Conference in 2023. Outside of school, Sara has played competitive soccer for the past 11 years and continues to play for the Brown women's club soccer team. Sara is currently working towards her personal training certification, a gateway towards her goal to become a sports medicine physician.

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## DOMINIQUE PABLITO

Ph.D. Candidate | Brown University

*Scholarship sponsored by Anonymous Sponsor*

Dominique Pablito is Native American and belongs to the Zuni, Navajo, and Comanche Tribes. She was raised by her grandparents on the Zuni and Navajo reservations, and speaks Zuni, Navajo, English and French. Dominique tells us that she grew up in a four-bedroom house with 11 other family members. She shared a bedroom and slept on the floor with her mother and brother. Her family did not have running water or electricity in their home, which is a common lifestyle for many of the residents of the Navajo Nation. She graduated high school at the age of 15 and completed her Bachelor's Degree in Chemistry from the University of Utah at the age of 20. In 2017, Dominique participated in the National Cancer Institute's (NCI) CURE program at the Huntsman Cancer Institute. She worked in Dr. Srividya Bhaskara's Lab where she studied histone deacetylases (HDACs) and their role in genomic instability. In 2018, Dominique was awarded a National Institutes of Health Diversity Supplement Grant. She then spent the summer completing an REU at Harvard University where she worked under Dr. George Whitesides. There, she tested the biocompatibility of many surfactants and polymers to develop a low-cost testing method for bacterial infections. She presented her findings at the 2017 BSCP New England Science Symposium. In the Summer of 2019, Dominique completed a combined internship at Harvard Medical School and Massachusetts General Hospital where she worked in Dr. Tayyaba Hasan's Lab. There, she assisted in the optimization of cancer treatments using photodynamic therapy. In 2019, she received the "Rising Star" award from the NCI and won first place for her poster presentation at the American Indian Science and Engineering Society's (AISES) National Conference. She was later awarded the National Science Foundation's Graduate Research Fellowship and was inducted into the AISES Lighting the Pathway Program. In addition to her research, she has also been invited to present her outreach work titled, "A Roadmap to Maximize Success as an Indigenous Undergraduate Student," at many universities and high schools across the country. She attended both the BSCP Biomedical Science Careers Student Conference and BSCP New England Science Symposium in 2023. Dominique is currently a fourth-year Ph.D. Candidate at Brown University in the Molecular Biology, Cell Biology, and Biochemistry Department. Her thesis research seeks to identify new therapeutic target genes and candidate small molecules to treat glioblastoma multiforme (GBM). She plans to use her Ph.D. to open a research training lab in Gallup, New Mexico for students attending surrounding reservation schools. Dominique also plans to attend medical school with hopes of practicing obstetrics and gynecology on the Navajo Reservation. She intends to create an indigenous birthing program for Indian Health Services that integrates both western and traditional medicine.