

HHMI's Gilliam Fellowships Aim to Increase Diversity in the Sciences

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The Howard Hughes Medical Institute (HHMI) has selected five exceptional individuals to receive the 2010 Gilliam Fellowships for Advanced Study. These students will join a dynamic group of 30 Gilliam fellows, who share a passion for science and a commitment to increasing diversity in the sciences.

“It’s been very gratifying to see the impact of the Gilliam fellows program,” says Peter J. Bruns, HHMI’s vice president for grants and special programs. “In some ways, this is a special year for the program because we anticipate that some of the first Gilliam fellows will receive their Ph.D. degrees this spring.”

The Gilliam fellows program aims to enrich science research and increase the diversity of college and university faculty members. Fellows, who come from groups underrepresented in the sciences or from disadvantaged backgrounds, have worked in the labs of top HHMI scientists as undergraduates and are committed to pursuing a doctoral degree in science.

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HHMI established the fellowships in 2004 in honor of the late James H. Gilliam Jr., a charter Trustee of the Institute who spent his life nurturing excellence and diversity in education and science. Each Gilliam fellow receives \$44,000 in graduate school support annually for up to five years to help move them toward a career in science research and teaching.

Prior to being named Gilliam fellows, each student participated in HHMI’s Exceptional Research Opportunities Program (EXROP), an initiative that nurtures the scientific curiosity, imagination, and dreams of some of this nation’s most talented aspiring scientists. This program is open to high-achieving undergraduate students who come from disadvantaged backgrounds or groups traditionally underrepresented in the sciences. The students are nominated by colleges and universities that receive HHMI education grants. Since 2003, the EXROP Program has placed 359 students from 97 colleges and universities in the labs of 130 researchers. Of the students

who have finished their baccalaureate degree, 93 percent are still in science, either teaching, working in a research lab, or pursuing an advanced degree.

Alumni of EXROP are eligible to apply for Gilliam fellowships. Four of the five new fellows are currently applying to Ph.D. granting programs, while the fifth student is already enrolled in an M.D./Ph.D. program. “This program is providing opportunities to an outstanding group of highly talented individuals who have a demonstrated interest in and aptitude for research,” says William R. Galey, who oversees the Gilliam program as HHMI’s director for graduate and medical education programs.

The five new Gilliam fellows, chosen from 26 applicants, came to science from different paths, and their scientific interests are just as diverse. For example,

* After his grandmother died of liver cancer, Carleton College graduate Flavian Brown decided to devote his career to cancer research. Not only has Brown committed to working long hours in the lab, he’s also dedicated to helping students who, like him, need just a few opportunities and a few good role models to thrive.

* Silvia N. Kariuki, a graduate of the University of Chicago, became interested in science watching her parents work to eradicate the parasitic disease schistosomiasis in her native Kenya. She has decided to study systemic lupus erythematosus, a chronic autoimmune disease that affects millions of people worldwide.

Part of what makes the EXROP and Gilliam programs unique is the opportunity for students from traditionally underrepresented groups to meet other students who are following the same scientific path. Each spring, EXROP and Gilliam students come together and present their research at HHMI headquarters in Chevy Chase, Maryland. The goal is to create a support network of scientists at all career stages who can help students feel comfortable in research and academia, Bruns says. “We choose these students not only for their potential as scientists but also for their potential as leaders who are concerned about diversity.”

Flavian Brown

Flavian D. Brown was raised by his grandmother in a low-income neighborhood on Chicago’s South Side. But when he was just 14, the woman whom Brown refers to as his “rock” died from liver cancer. Although stunned, Brown vowed to dedicate his life to cancer research in her memory.

Brown’s home life was severely shaken after his grandmother’s death, with his mother, three older siblings, and himself wrestling with mourning and rebuilding the center of their family. Experiencing such hardship during his teenage years motivated Brown. “Coming from that background fueled my desire to work as hard as I could to succeed academically,” he says.



▣ **Flavian D. Brown**
Carleton College
Northfield, MN

Photo: Tom Roster
A high-resolution photograph is available on request.

That drive has paid off. At 22, Brown has already studied with cancer researchers at some of the world's top medical institutions. He's setting his sights on obtaining a Ph.D. and helping others who come from backgrounds like his own. "I hope someday to have the opportunity to run my own research laboratory while also having access to the classroom," he says. "I want to make sure that I'm highly visible so that I can serve as a role model for underrepresented and underserved students."

Brown showed early promise, shining in science fairs during junior high. But his first chance to work in the lab came as a high school junior, when he presented a project at a city-wide science competition. One of the judges, a biochemist at Chicago's Rush University Medical Center, was so impressed with Brown's talk that she asked him to work at Rush that summer.

Brown welcomed the opportunity, and soon realized that research was more fulfilling than he imagined. "I liked the idea of discovery," he says. "I saw that if you could ask questions that were innovative and create experiments that were novel, you might discover something that had never been found before. That's always been the appeal for me." Brown spent two summers at Rush studying molecules that enhance the growth of cells and tissues.

On the basis of Brown's stellar academic record, the Posse Foundation offered him a full-tuition scholarship to Carleton College in Northfield, Minnesota. The Posse Foundation identifies, recruits, and trains public high school students with extraordinary academic and leadership potential and places those students in small groups, or posses, at top-tier colleges and universities. While at Carleton, he learned how to design experiments, analyze data, and work more effectively—some of the foundations of good science. He also began piling up academic awards, eventually graduating magna cum laude with distinction.

As a sophomore, Brown was accepted into HHMI's Exceptional Research Opportunities Program (EXROP) and spent the summer doing research on non-small cell lung cancer under the guidance of HHMI investigator Stuart L. Schreiber at Harvard University. "We were interested in identifying molecules that could serve as a therapeutic for non-small cell lung cancer," he explains. These treatments, known as genotype-specific therapies, were so intriguing to him that he returned to Schreiber's lab the summer following his junior year to continue working on the project.

But cancer wasn't Brown's only interest. He was also cultivating a support network for students of color at Carleton, where he served for two years as president of the Men of Color organization and one year as an intercultural peer leader. "I often facilitated discussions regarding the academic challenges faced by students of color in science classes, and I organized study groups and devised strategies for members to improve their overall academic standing," he says. "I realized that the collegiate experience for the next generation of diverse students would be better if there were more high-achieving students of color serving as role models and mentors."

After graduating in 2009, Brown joined the Mayo Clinic's Post-Baccalaureate Research Education Program, a year-long fellowship for 10 underrepresented students that provides intensive mentoring and research training to prepare them for top doctoral programs. He's currently working with Mayo immunology researcher Diane F. Jelinek to understand the genetic and external factors that contribute to the development of multiple myeloma, a blood cancer.

With funding from the Gilliam fellowship, Brown thinks he's got a better shot at receiving an acceptance letter from the top immunology programs where he has applied for graduate school. But he's also excited to be part of the extended network of bright and motivated Gilliam fellows. "I think it will allow me to collaborate with different investigators and have opportunities that aren't available to most graduate students. And I think it will allow for collaborations that will be beneficial downstream, as well," he says. "The possibilities are endless."

Not resting on his achievements, Brown also plans to make time to help students who, like him, just need a few opportunities and role models to thrive. "When students see and interact with someone who has some sort of similarity to their background, they can get the kind of guidance they need to navigate the field," he says. "I'm interested in science and research, but I also realize that I can fulfill my desire to create opportunities and equality in education."