CUMC Program to Raise Diversity in Science Celebrates 15th Anniversary

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Participants in the 2017 Summer Program for Underrepresented Students (SPURS) presented their research at a poster session in CUMC’s Russ Berrie Medical Science Pavilion.

CUMC’s Summer Program for Underrepresented Students (SPURS) celebrated its 15th anniversary this summer with one of its largest classes in the program’s history.

This year, 24 college students from around the country spent two months conducting research in the labs of 23 CUMC faculty members.

SPURS was created in 2002 by Andrew Marks, MD, chair of the Department of Physiology & Cellular Biophysics and the Clyde and Helen Wu Professor of Medicine, as a way to increase the
number of biomedical researchers drawn from underrepresented and economically disadvantaged
groups.

Since then it has provided research opportunities to 216 students. Just over 80 percent of SPURS
alumni go on to pursue careers in biomedical research or health care, and 60 percent are
currently pursuing or have received advanced degrees from biomedical or health programs.
Three former SPURS scholars now hold faculty positions.

A diverse biomedical research workforce is crucial to producing the best science and addressing
the medical needs of an increasingly diverse nation, says SPURS co-director Monica Goldklang,
MD, assistant professor of medicine. But even though underrepresented students earned 21
percent of undergraduate degrees, they received only 8.5 percent of the nation’s research
doctoral degrees. At the faculty level, only 8 percent of research positions are held by African
Americans or Hispanics.

“We’re intervening at what we think is a critical time,” says SPURS alumnus Michael Holsey, a
CUMC graduate student who has been coordinating the program since 2011. There are many
underrepresented students in college who have the potential to become scientists, he says, but for
various reasons, comparatively few reach graduate school.

SPURS helps students in several ways. The opportunity to conduct research is a huge factor,
because graduate schools favor applicants who have research experience beyond the classroom.
“As a low-income student, I don’t think I would have had the opportunity to do laboratory research without this program,” says Priscilla Daboni, a 2017 SPURS participant from the University of Chicago, who investigated new drug candidates for treating asthma. “SPURS takes care of room and board [all participants are housed in Columbia University dormitories], and I only had to focus on doing the research.”

SPURS is an intense research experience, but it also shows students a path they can take to become a scientist, says SPURS executive director Jeanine D’Armiento, MD, PhD, associate professor of medicine. “Students tells us that their experience in the lab is eye-opening for them,” she says. “The research they do is important, but it changes the way they think of themselves and their potential. They realize that they fit in.”

For Columbia student Kaylee Wedderburn-Pugh, who worked on a cellular receptor linked to Huntington’s disease, time in the lab gave her confidence. “The SPURS program allowed me to be part of a team that engages in cutting-edge translational research. In the program I have learned about lab procedures, engaged in independent research, and mentored students. The entire experience has reinforced my decision to pursue an MD/PhD.”

SPURS students also get the opportunity, through weekly seminars, to meet scientists from a variety of backgrounds. “To know that people who are very successful had to struggle earlier in life, I thought was very powerful,” says Briana Davis, a SPURS student from North Carolina Central University who spent the summer investigating how the brain integrates taste and hunger. “As a black female student, it made a big impact on me to hear from a successful black researcher that he could keep his identity as a black man and do well,” she says. “Without this program, I may not have had confidence to apply to Ivy League schools for graduate work.”

After 15 years, Dr. Marks remains committed to ensuring the program’s future. “Knowing how much the program has meant to so many students is a source of enormous pride and happiness,” he says. “Simply put, SPURS provides opportunities that change lives.”

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