New path for diverse, next-gen researchers

By Leslie Mertz

Wayne State University’s ReBUILDetroit program is fostering the researchers of tomorrow. They include Omni Sullivan of Taylor, who had developed an interest in nursing while in high school prior to being accepted as a “BUILD scholar” for her freshman college year. “Before coming in, I didn’t know anything about what research was, or the process of research, but (the program) has widened my knowledge about research and the sciences in general, and the impact of research on society,” she says.

The program also appealed to Detroiter Armillo Cazares. “The reason I got involved was because I wanted to go to college and focus on biomedical studies,” Cazares explains. “BUILD reached out to me and they explained everything the program offers, including undergraduate research, and connections with individuals in places like the medical school and the graduate school. Me coming from a Hispanic family — I’m a first-generation college student — it sounded amazing. I had to jump on the opportunity.”
Sullivan and Cazares are among the 17 students who comprised the first cohort of BUILD scholars in the 2015-2016 school year. So far, the program and its students are flourishing, according to Ambika Mathur, dean of Wayne State’s Graduate School and principal investigator of the $21.2 million, five-year grant to a consortium of Detroit institutions, including Wayne State, for the ReBUILDetroit program. “This learning community has been very successful,” she remarks. “The students work with each other, they challenge each other, and they motivate each other. They’re eager and excited, and they come to even the early-morning classes bright-eyed, bushy-tailed and engaged in conversation. It’s really nice to see the passion,” Mathur adds.

The ReBUILDetroit program originated with Wayne State President M. Roy Wilson. Before he joined Wayne State, Wilson was deputy director for strategic scientific planning and program coordination at the National Institute on Minority Health and Health Disparities of the National Institutes of Health, and in that capacity had worked on funding mechanisms for a variety of programs to increase diversity in the biomedical arena. He encouraged Mathur to investigate those possibilities, so she partnered with the University of Detroit Mercy and Marygrove College and submitted a proposal for the ReBUILDetroit program. “There were more than a hundred applications from around the country, and the NIH only funded 10, including ours,” she says. “As it turned out, we had the best score in the country in this highly competitive grant process, so we were very pleased.”
Under the program, students come to campus in the summer before they start their freshman year, and take part in a seven-week experience that both prepares them for college and exposes them to basic research methodologies. Sullivan recalls, “They gave us a tour and got us situated into becoming a college student, so just having that support system in general was very helpful coming in. Without it, I would have been lost.”

During the fall and winter semesters, the students take a full curriculum that includes research-oriented courses, and during the summers, they join working research groups. Sullivan spent this past summer in a nursing-research lab studying domestic violence, while Cazares was part of a neurobiology lab in the School of Medicine.

Beyond the research focus, Mathur said, ReBUILDetroit also accelerates the degree program, allowing students to earn a bachelor’s and master’s degree in five rather than the traditional six years, and also allows them to transfer 30 credits from their master’s curriculum to a doctoral program. This encourages the students from diverse backgrounds to consider advanced degrees, she says.

“Overall, the idea is to develop a pipeline for students from disadvantaged backgrounds to become the next cadre of research investigators, and we are using several best practices in undergraduate education to do it. For instance, we know from the literature that students who engage in research are more likely to be retained at their institute, have better graduation rates, and go on to more productive careers,” Mathur explains.

The program seems to be working. Mathur notes the 17 Wayne State students, who are all either Pell Grant eligible or from groups underrepresented in biomedical sciences, took an average credit load of 30 credits in the fall and winter semesters. They scored an average grade point average of 3.5 at the end of the fall semester, and 3.68 at the end of the winter semester, and completed eight to 10 weeks of faculty- mentored research over the summer.

In addition, the students from all three institutions came together at the Charles H. Wright Museum of African American History in Detroit for a fall 2016 research symposium, which was “absolutely fabulous,” Mathur says. “The presidents and provosts from each of the participating institutions, and community members all came, and the keynote speaker was Dr. David Asai, the senior director for science programs at the Howard Hughes Medical Institute, who was absolutely floored by the level of sophistication of our students as they talked about their research. That was extremely rewarding.”

Although Sullivan and Cazares are only entering their second year of the ReBUILDetroit program, they are both looking forward. “Thanks to this program, I have the opportunity to try different things, so next summer I hope to be doing research in microbiology,” says Sullivan, who developed an interest in that field after taking a microbiology course. “I’m excited for the future and to see where I could be, and I don’t think I would be able to do that, or it would at least be more difficult for me to do that, if I weren’t in this program.”

Cazares agrees. “I was interested in research (in high school), but now I’ve become a more curious person and I’ve grown to love it more.” His goal is to attend medical school, and perhaps “tag on a Ph.D. and M.D.,” he says.

For Mathur, all of the students are stars. “My philosophy is that if you raise the bar, people will rise to the occasion. They have risen to every expectation.

“It’s a beautiful group of students, and I am so proud and happy with them and for them.”

More information about the ReBUILDetroit program, including an application, is available at http://wayne.edu/gradschool/build/