

ILLINOIS RESEARCH EXPERIENCE REDIRECTS ENGINEERING STUDENT TOWARD MED SCHOOL



Carolynna Teresa Quiles conducted tumor research this past summer at the University of Illinois, Urbana-Champaign. (Photo by Dan Addison, University Communications)

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Each summer students from around the nation come to University of Virginia labs and field sites to conduct a range of studies through a National Science Foundation-funded program, Research Experiences for Undergraduates.

UVA students also participate in this program at other colleges and universities, as well as at UVA, as a way of discovering focus areas for possible graduate school study.

This past summer, one of those outbound students was Carolyn Teresa Quiles, a fourth-year biomedical engineering major and psychology minor who went to the University of Illinois, Urbana-Champaign for its “Discoveries in Bioimaging” Research Experiences for Undergraduates program. There she worked closely with faculty and graduate student mentors on a bioprinting project to mimic the microenvironments in which tumors grow – work important to understanding the spread of cancers. She got plenty of opportunity to work on the project independently as well.

By summer’s end, Quiles won an Outstanding Young Researcher Award and an Outstanding Poster Award at the Illinois Summer Research Symposium. At the same time, she discovered a new career path.

She recently discussed her experience with UVA Today.

Q. How did you get into the program?

A. I really wanted to have a research experience before I graduated from UVA because I was certain I wanted to go to graduate school, and I wanted to see what it would be like. Some of my close friends in the Engineering School had done [Research Experiences for Undergraduates] at UVA the previous summer, so I searched online and found the Summer Research Opportunities Program, which allows you to apply to 10 schools’ REUs with a single application.

Q. What did you learn during your summer at Illinois?

A. This is going to sound strange, but I actually learned that research is not what I want to pursue after I graduate from UVA. It was a great experience and I learned a lot, but I realized I wanted to pursue something a little more fast-paced.

During the REU, we took a field trip of sorts to Jump Simulation Center, a brand-new medical center that trains medical students at the University of Illinois using simulation technology, and I was sold. I decided right then and there that I want to be a cardiologist, so I’ve since been taking the necessary steps to achieve that.

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The visit started with a number of interactive activities centered on the human heart, followed by a tour of the facility where the medical students train. Since it's a simulation center, all the rooms we toured are designed to look like actual hospital rooms, with working devices and trauma dummies. I felt a very "at-home" feeling I had never experienced before, and I realized I want to be interacting with patients and calling the hard shots.

The whole experience made me aware of just how stressful a career as a doctor must be, but it also opened my eyes to the fact that this is the way I want to help people.

It also made me realize how cool an organ the human heart is!

Q. How else has the experience inspired you?

A. First and foremost, the experience was eye-opening because it showed me that as an engineer, I truly can do anything I set my mind to, even if it's not specifically tied to my discipline. It was really intimidating to go into a program where I was expected to complete a research project, when I had never conducted research of this type or topic before. But the faculty and grad students at the University of Illinois were so welcoming and helpful that my once-intimidating project turned into a step-by-step process which made me increasingly comfortable with the work I was doing.

Throughout the project I was able to hone my engineering skillset and gain confidence in my technical skills, and I also developed great relationships with other students and faculty members.

At the end of it all, my hard work was recognized with two awards and an invitation to present my research this October at the Biomedical Engineering Society Conference in Phoenix.

Q. Are you doing any research at UVA?

A. My recent med school decision has shifted my focus toward taking all the courses necessary for that before I graduate, so I currently don't have the time. But during my first and second years I conducted research at the UVA-Coulter Translational Research Lab under its director, David Chen. I really enjoyed being an intern at the Coulter Lab, and the hands-on medical device work I did there is a big part of the reason I was originally inspired to go to grad school to research the design of medical devices.

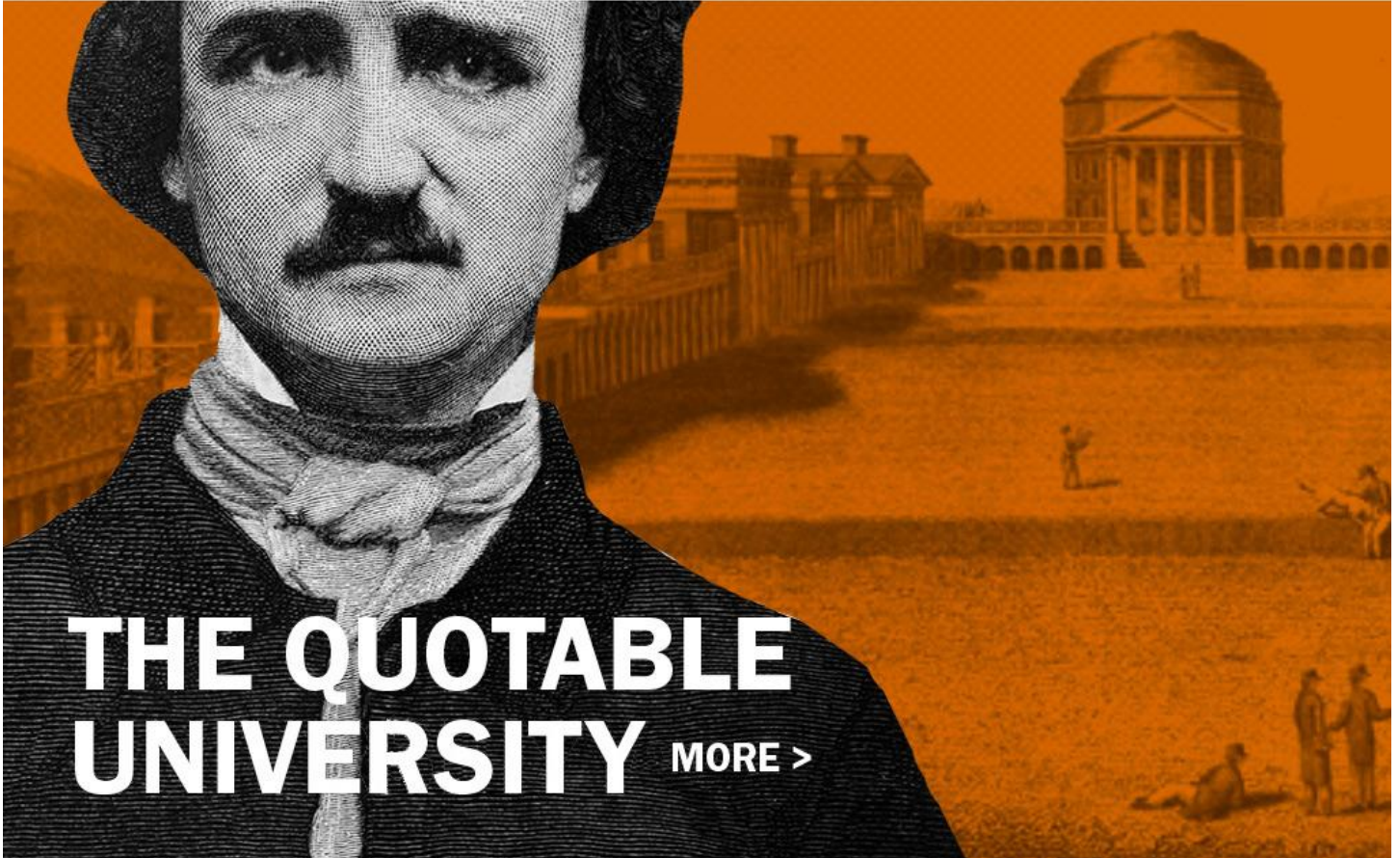
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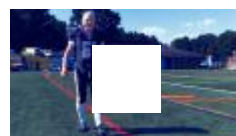
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