

Discovering a Passion for Research

By Brad Stager

Sometimes what students learn about themselves is just as important as the subjects they study.

For Sanim Rahman, a junior studying chemical engineering, discovering a passion for research is setting him on a journey toward academic achievement and professional fulfillment. Rahman says the motivation to conduct research comes naturally to him.

“It arose out of curiosity, the curiosity of solving a problem that no one has solved before and seeing the applications it has.”

After graduating from high school in Orlando, Florida, Rahman considered his educational options and determined that the University of South Florida offered what he was looking for.

“When I was reading about the College of Engineering and the research they provide and some of the alumni they produce that are going to top companies, I felt like it was really a program on the rise with a lot of opportunities and I wanted to be a part of that.”

Rahman also says during a pre-enrollment visit to USF campus, he found the Tampa campus to be culturally appealing.

“It’s a very diverse population, both on and off campus.”

Earning a bachelor of science in chemical engineering is the first step for Rahman in achieving his goal of working in the biomedical field.

“I was very interested in biomedical technology and chemical engineering is one of those majors that would be a good fit to understanding the theoretical side and the chemical applications of biomedical engineering,” he says.

“I’m very interested in understanding biomedical devices and how they can improve people’s lives.”

Rahman has made good use of opportunities to succeed that are available at the College. He received an Excellence in Undergraduate Research Award for his presentation, "Controlled Synthesis of Gold Nanoparticles," at the university's 2016 Undergraduate Research and Arts Colloquium and received honorable mention for the 2017 Goldwater Scholarship from the Barry Goldwater Scholarship and Excellence in Education Foundation.

Publishing your ideas in the intellectual marketplace is part of establishing credibility as a researcher and Rahman has done so through Scholar Commons, a service of the University of South Florida Tampa Library. His article, "Size and Concentration Analysis of Gold Nanoparticles With Ultraviolet-Visible Spectroscopy," was published in "Undergraduate Journal of Mathematical Modeling: One + Two," an online, open access journal published by USF, featuring mathematics articles written by engineering and science students.

Rahman is also getting practical work experience in functional materials research by participating in the College's Research Experience for Undergraduates (REU) program.

Activities outside of the classroom and research lab are also a big part of Rahman's USF experience. During his sophomore year, he served as a resident assistant at the Castor Engineering Living Learning Community (ELLC), an on-campus residential learning community designed for students majoring in engineering. Rahman says it's a lifestyle environment conducive to student success.

"It is a very open community of engineering students with tutoring and everyone working towards the same academic goal."

Promoting research skills among undergraduates, and across disciplines, is the mission of the Undergraduate Research Society at USF, of which Rahman is a co-founder and co-president. He says its 500 members are studying a wide variety of subjects

"We're very interdisciplinary. We want to include fields from engineering to the arts and show how these different disciplines can work together to solve the problems of society, as well as promote research and knowledge."

While Rahman is drawing upon his own energy and intellect to accomplish goals, he credits his professors at the College of Engineering for helping guide his effort and curiosity toward constructive ends.

“They saw something in me, believed in me and encouraged me to excel,” says Rahman, who says he wants to earn his PhD, become a professor and conduct research, particularly in regard to neurodegenerative disorders.