Engineering Research in Germany

September 29, 2015

The typical study abroad program usually allows students to experience another culture through a classroom environment, but Jenny Shaffer’s second summer in Germany found her outside the traditional college experience, conducting cutting-edge research in her field alongside professionals. As one of 312 recipients of the Deutscher Akademischer Austauschdienst (DAAD) Research Internship in Science and Engineering, Shaffer (German/ mechanical engineering ‘17) spent three months at Ruhr-Universität in Bochum, one of Germany’s industrial hubs. Her internship focused on material science, a subfield of mechanical engineering built on researching new materials and improving materials already in use. She assisted a doctoral candidate, Maximilian Walter, with his thesis research on the development of new high speed steels to compare to the industry standard.

“What we wanted was metal with better wear resistance at higher temperatures,” said Shaffer. “My job was to take metals the industry was using, run them through several different types of heat treatments, and then see which one worked best. Then I took that treatment and tested it on our steels.”

Not only was their preliminary work on Walter’s thesis was highly successful, but this project also bolstered Shaffer’s interest in material science and let her see parts of Germany one does not usually visit while studying abroad. Last summer, she joined several Georgia Southern students in Regensburg for a cultural immersion study abroad trip, an experience Shaffer says was vital to this summer’s success.

“Regensburg was much more rural than Bochum, but the cultural immersion aspect of last summer’s trip gave me the language skills to connect with my coworkers,” said Shaffer.

Bochum was not the only new landmark on Shaffer’s itinerary: During one weekend, she gathered with her fellow DAAD interns in Heidelberg, a city of flourishing culture and historical charm, where hundreds of students from varying fields exchanged and presented their research.

“I loved getting to hear the other interns talk about their research,” said Shaffer. “It was cool to see students so passionate about what they were studying.”

Posted in Uncategorized

< Previous

Next >
Cesar Perez, a recent graduate in multimedia communications, got his start in the film industry by unusual means: he missed a casting call.

“Magic Mike XXL was filming in Savannah, so I sent in my resume and got called in, but I wasn’t able to go because I had exams,” said Perez.

Although Perez could not work on this particular film, the casting director, one of the biggest in the Southeast, asked Perez to keep in touch. This relationship ultimately led to stand-in roles in several films and TV shows filmed in the area, specifically in Georgia. Now, only a few months into his acting career, Perez has already worked alongside such household names as Robert DeNiro, Zac Efron, Danny McBride, and Adam Sandler—and that’s only naming a few.

Perez explained his role in these movies: “As a stand-in, you’re essentially an actor’s double, so you do everything they do in a scene. You help them set up the scene and prepare for filming it.”

Despite the job’s obvious perks, filming high-profile projects with Hollywood’s elite certainly isn’t an easy job. Sometimes, shoots can go on for hours, occasionally extending into the night.

“It is pretty exhausting work depending on the scene,” said Perez. “It’s time consuming, but everyone does their best to make sure everything goes smoothly. It’s all worth it for the finished product.”

Perez’s initial goal was to work in television production, but he’s content with the unexpected turn his career has taken. For now, he plans to stick with acting, but he’s open to whatever comes his way.

“Since Georgia’s film industry has grown so much, I may stay here,” said Perez, “but if opportunity knocks, I’m willing to take it.”
On August 16, while many other college students were heading back to campus for the upcoming semester, senior chemistry major Riley Theis was hundreds of miles away, presenting research in Boston for the National American Chemistry Society (NACS). The oral presentation she delivered was titled "Spectroscopic, Structural, and Energetic Analysis of Noble Gas Cations." This project fell under a subfield of chemistry called astrochemistry, a branch of science dedicated to better understanding the universe and its chemical components. Theis' research focused specifically on noble gases and their ability to create molecular bonds. A recent break-through in the field discovered a noble gas molecule, argon hydride, in an exploded star, a watershed moment in astrochemistry—noble gases typically are incapable of bonding to form molecules. This discovery inspired Theis' project, in which she tested other noble gases for the ability to bond in space, focusing on argon and neon.

"My mentor, Dr. Fortenberry, was very interested in the recent discovery of argon hydride, and I became interested in it as well," Theis explained. "We wanted to know if other bonds like this were possible."

Because these chemical bonds can only occur in space, Theis’ research is grounded in theory. She tested four different reactions to see if they could produce molecules similar to the one found in space. Her research gives optimism to the search for other noble gas molecules.

Theis said, "Our breakthrough occurred with ArOH+. This molecule had the highest bond strength of all the ones we tested, meaning it has a high potential of being found in space."

In addition to delivering a successful presentation, Theis found NACS, which drew professors, scientists, and students from all over the world, an excellent opportunity for meeting professionals in her field and individuals who shared her passion for astrochemistry.

"These conferences are a great place for networking and just getting to talk about things you enjoy," Theis said. "It was great to be able to see all the research that's out there."

Posted in Uncategorized