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Sophia Fleri and Kyle Hess help lead classroom activities at a school in The Villas, an underprivileged Buenos Aires neighborhood.

**Honors Students Cross the Equator**

*September 27, 2016*

The best way to learn about a culture is to immerse oneself in it. For five honors students studying abroad in Argentina this summer, this meant exploring neighborhoods in Buenos Aires, marveling at waterfalls, tutoring local children, and even taking a little time to pursue individual research. Kyle Hess, Bernadette O’Donnell, Sophia Fleri, Malik Raymond, and Derrick Herrin were among several Georgia Southern students who took part in the Foreign Language Department’s study abroad program to Argentina, which focused on building students’ speaking and comprehension skills in Spanish.

For Sophia Fleri (mechanical engineering ’19), signing up for the trip was a no-brainer. “I went to the study abroad fair knowing I wanted to travel to a Spanish-speaking country. I had already been to Buenos Aires before during a mission trip to Las Termas del Rio Hondo in Northern Argentina, and I decided I really wanted to go back again.”

Derrick Herrin (mechanical engineering ’17) had a similar experience. While he had not visited Argentina before, an honors alternative spring break trip in Costa Rica left him with the desire to return to another Spanish-speaking country. “My senior year was coming up, and I realized if I wanted to graduate with no regrets, then I needed to study abroad,” he said.

Both students also wanted to improve their Spanish abilities during their summer abroad, a goal Malik Raymond (history ’17) had, as well. However, Raymond also had other plans—conducting research. He studied Buenos Aires’ population of Afro-Porteños, citizens of African descent, during the late 19th century. His interest in their culture began last spring when he discovered their poetry.

“During the previous spring, I went to Argentina’s national archival website and found poems that weren’t translated into English. I was trying to build up my Spanish by reading and translating the poems, and it occurred to me that maybe I could do something in that vein for my honors thesis,” said Raymond. “However, since I’m a history major and writing’s only my minor, I couldn’t, but I still wanted to do research on the history of the Afro-Porteños around the time period during which the poems were written, which was around the late 1870s and early 1880s.”

His research included visiting the National Library of Buenos Aires, which had an exhibit on the Afro-Porteños currently on display. It featured newspapers the Afro-Porteños had licensed themselves, filled with articles, poems, and other miscellaneous writings.

In spite of his busy research schedule, Raymond still had time to enjoy other activities in which the group took part. Places visited included a street museum called Paseo de la Cartoon, which pays homage to the characters of famous Argentine comics; the La Boca neighborhood, where the famous Boca Juniors soccer team is located; and several art museums and shopping districts. As a writing minor, Raymond enjoyed being in a place famous for having more bookstores per block than any other city in the world.

“I got lost there trying to find particular books that I wanted,” Raymond said. “It was a great place to explore.”

After acquainting themselves with the city, Herrin says they also got to know some of the local population.
“We helped tutor a group of underprivileged kids in English and Math. I really enjoyed that opportunity. It was a good way become more than a typical tourist and experience a more extensive range of Argentinian culture.”

When asked about his favorite part of the experience, Herrin said, “I really enjoyed talking with the people of Argentina about their culture, history, and so much more. Not only was I learning from them, but they were learning from me about US culture, history, etc. We compared our countries and cultures in a very refreshing, nonjudgmental way that put aside the cultural boundaries in favor of understanding of each other.”

Fleri undoubtedly enjoyed her experiences, as well, for she opted to stay in Las Termas del Rio Hondo for two weeks after the program ended.

"I highly encourage anyone studying Spanish to go on study abroad, but go early,” she said. “Don’t wait, because you have fewer opportunities as time goes by. I promise it’s worth it.”

Posted in **Uncategorized**
Jenny Shaffer Engineers a Third Trip to Germany

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Jenny Shaffer (German/Mechanical Engineering ‘17) spent her third summer in Germany gaining professional experience through the Materials Science Internship at Robert Bosch GmbH Center and Research and Advanced Engineering in Renningen. This highly competitive internship only accepts roughly thirty graduate students or alumni of the Deutscher Akademischer Austauschdienst Research Internship in Science and Engineering (DAAD RISE) Germany program, a program Shaffer participated in during summer 2015 at Ruhr-Universität in Bochum. Shaffer’s exemplary work from the previous summer provided her with skills to succeed in this advanced, graduate level internship.

Shaffer’s roles included “designing and implementing experiments to program the global conditions inside a corrosion chamber and comparing the effects of the local environmental load on the corrosion rates of stainless steel, aluminum, and titanium parts inside the chamber.” Shaffer felt that she had “freedom to design and test [her] own experiments.”

The professional atmosphere provided Shaffer with real life experiences of what a career in engineering has to offer. Working at the Robert Bosch GmbH Center, Shaffer utilized her classroom knowledge to flourish in a corporate environment. “This trip felt more like a ‘trial run’ if I were to actually live and work in Germany someday,” said Shaffer.

Because she took part in the internship program twice, Shaffer was invited to serve as keynote speaker for the 2016 DAAD RISE conference on July 7-9, 2016 in Heidelberg, Germany, a conference whose audience included the program’s current students, employees, and dignitaries from the US, British, and Canadian embassies, including the US Consul General from the Frankfurt general consulate.

“The purpose of the presentation was to show an alumna’s perspective of the DAAD RISE Germany and RISE Professional programs and emphasize the importance of cultural exchange in our increasingly global society,” said Shaffer. “I went over my research from both internships and then encouraged students to pursue their passions overseas and network with their peers from the programs.”

However, the trip was not entirely focused on working for the internship. Shaffer was able to experience the city’s culture, while forming relationships with others. The city of Renningen provides both “pre-war and modern architecture.” Shaffer explained, “Many of the historical castles and buildings were reconstructed after being destroyed in the Allied air raids during WWII, and these buildings stand next to modern buildings in a hodgepodge of culture in the city center.”

Shaffer’s studies of the German language at Georgia Southern University, and a DAAD scholarship to Germany after her freshmen year, prepared her for tackling the language barrier. Working in a technological environment provided her with a new set of specialized terms related to her topic of study. “My coworkers were super sweet, and they would discuss a wide array of topics at the cantina each day, from politics to healthcare to philosophy to food,” said Shaffer.

Her journey this summer was not confined to her work. While traveling throughout Germany, she made new friendships that will last beyond the weeks spent interning.
One day, Shaffer was traveling by train, when a small engine fire caused an evacuation. She was left to spend four hours in a small town, which she used to her advantage and “ended up meeting two wonderful ladies, one of which who ended up giving [her] a ride home and becoming a pen pal! Deutsche Bahn [the town] certainly knows how to make memories,” said Shaffer.

Spending a summer abroad is an amazing experience, but spending three summers abroad is a chance of a lifetime. Shaffer’s advice to students who are looking for adventures abroad is to simply apply. “Never pass up an opportunity simply because you think the odds are low.”

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Of Dogs and Doctors: Presenting Research in Dublin

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The year of 2016 has presented Dr. Jerri Kropp and her students with myriad opportunities to share their research in the field of early childhood education. In addition to presenting at the Council for Undergraduate Research this summer, Kropp recently spent a week in Dublin, Ireland with honors alumnae Mikaela Shupp (business management and Spanish ’16) and Mary Wallace-Noe (child & family development’11), where they were able to present their findings on an international stage. During the first week in September, they attended the 26th Annual European Early Childhood Education Research Association (EECERA) Conference held at Dublin City University, the largest conference of its kind. This year’s conference included 920 attendees from 44 different countries representing 6 continents. Of all the presentations given at EECERA, two of them included Dr. Kropp. She presented “Benefits of Having a Therapy Dog in the Classroom: A Review of Research,” alongside Shupp, and “How to Reduce Children’s Fears of Doctor Visits Using Medical Play” with Wallace-Noe.

By taking Dr. Kropp and Dr. Maurer’s honors First-Year Experience (FYE) course on animal-assisted therapy, Shupp began a professional partnership with Dr. Kropp that has lasted throughout her undergraduate career. The pair had already presented together twice, once at a University System of Georgia conference, and another time at the Georgia Association of Family & Consumer Sciences conference.

"I was happy to work with Mikaela again," Dr. Kropp said. "Because we’ve been working together a number of times, I feel like we’re always on the same page in terms of our approaches to working on and giving presentations."

After Dr. Kropp asked Shupp to present with her, Shupp applied for funding from Georgia Southern’s Undergraduate Research Council, which made the experience possible for her. Meanwhile, the pair immediately started work on their presentation. They had begun a review of the research when Mikaela was a sophomore, but their task was to read and add the most current existing literature on therapy dogs in the classroom.

Shupp said, “In conducting a review of research, you try to find similarities and common themes among studies. We knew we had read nearly everything we possibly could when authors were citing other authors we’d already read.”

The impact their study had on other conference attendees emphasizes how truly vital the study of therapy dogs is to early childhood education research. Before the conference even began, a program director from Wales who wanted to begin a research project on dogs in classrooms contacted Dr. Kropp based on reading just the abstract for her presentation.

“She contacted me and said she wanted to implement a program and collect data in several schools in Wales and wanted to meet us in person,” Dr. Kropp said. “Our session was in the last slot of sessions on the last day of the conference though, so she had to leave early to catch her flight, but she ran to our session to briefly talk to us before leaving.”

Dr. Kropp and Shupp also made contact with other colleagues with similar interests, such as a professor and psychotherapist from Spain who presented a poster on a study of therapy dogs with children who have been abused. He plans on two future studies involving therapy dogs in children’s hospitals and in classrooms—exactly Dr. Kropp’s avenue of research.
Shupp also enjoyed the opportunity to meet researchers from other countries: “One of the most interesting aspects of the conference was meeting people from other places, especially considering that the topic was education and everyone was coming from completely different education systems. In our session alone, which was on improving child outcomes, one set of presenters was from Denmark, and the other was from the UK. It was just really cool meeting people from other countries with the same interests.”

She also had the chance to see another Georgia Southern alumna in action—Mary Wallace-Noe, a current Masters of Public Health Candidate, presented research with Dr. Kropp that began with Wallace-Noe’s honors thesis. Dr. Kropp had collected data for several years involving a class assignment where students conduct medical play sessions with children ages 2 to 11 in child care settings and afterschool programs. Students visited 23 different programs and Kropp and Wallace-Noe conducted a content analysis of 56 reviews of the medical play sessions. The research question was whether or not medical play in childcare settings would lessen children’s fear of doctor visits by familiarizing them with medical equipment during a session of dramatic play.

Wallace-Noe emphasized the importance of their research: “The experience of play allows children to express fears and misconceptions they may not feel comfortable sharing in an openly vulnerable way. It presents them with the opportunity to play doctor and be in control the situation so their fears can begin to diminish. Play is very powerful in the hands of a young child.”

Dr. Kropp agreed, saying, “Medical play sessions in childcare centers help children cope with repeated experiences with doctors and medical staff. Young children spend a lot of time at the doctor’s office for well visits, including vaccinations, as well as sick visits, including colds, injuries, and respiratory infections. Incorporating these sessions into preschool curriculum can help child cope with past medical experiences and prepare for future medical encounters.”

After the presentations were over, everyone was pleased with their results, particularly Dr. Kropp, who sees both presentations as opportunities for future research and publication.
Summer Research Update
September 27, 2016

For many undergraduates, summer is the optimal time to participate in research. Through ten-week summer programs called Research Experiences for Undergraduates (REUs), STEM majors get the chance to put their education into action at both esteemed research universities and stand-alone research laboratories funded by the National Science Foundation (NSF). Three honors students recently took advantage of these opportunities, which found them scattered across the country. Mattie Brasleton (chemistry ‘18) was stationed at Vanderbilt University, while Nick Shuber (chemistry and Spanish ‘17) worked with professors at Indiana University. Rather than spending his summer at a university, Reid Loveless (biology ‘18) ventured off the coast of Maine to Mount Desert Island, site of the MDI Biological Laboratory.

For Brasleton, pursuing an REU was a way for her to clarify her career path. Vanderbilt exposed her to the pharmaceutical side of chemistry, where she worked alongside Dr. Eva Harth on multi-component injectable hydrogels for dual drug release. This project culminated in a presentation at the 14th Annual Research Symposium in the Robinson Research Building at Vanderbilt University.

“It was kind of overwhelming presenting my research at first,” Brasleton said. “After the first few people came up and asked about my work, I knew what I wanted to say, and it became a much more enjoyable experience.”

While Brasleton’s research stayed within the field of chemistry, Shuber’s summer in Indiana allowed him to explore other sciences outside his chemistry major through experimentation with an unusual piece of technology—a laser made from virus capsids.

“The program I did was for materials science, so we were all making something,” said Shuber. “Some groups were making solar panels, while others were making macro molecules or testing types of equipment. My primary investigator (PI) was actually a physicist, and I’m a chemist, and the project we were working on was biological, so we were doing a biophysical chemistry lab.”

As a research associate, Shuber worked alongside his PI and several graduate students to make lasers from gold nanoparticles and virus capsids. While such materials might seem strange, they actually have their advantages. Virus capsules can disassemble and reassemble through simple changes in environment, so one can easily manipulate a capsule’s environment to make it assemble around a gold nanoparticle. Molecules placed on the outside of this structure fluoresce under certain types of light, making it able to shoot amplified lasers.

Shuber explained the importance of such an invention: “A lot of people are looking at them for cancer surgery because they emit light, so if you shine light on them, they’ll emit even brighter light. They’ve already got proteins that can seek out cancer cells, and if you attach that on the outside of the virus capsid, the viruses will seek the cancer cell, and if you shine a light, the cancer cells will light up like a Christmas tree, making them easier to identify and remove. The laser may also be strong enough to kill cancer cells that are too small to be removed by surgery.”

Loveless also participated in biological research this summer, spending his time at the MDI Biological Laboratory, which is devoted to improving human health by making strides in biomedical research and education. Offering a wide range of courses and facilities, MDIBL brings together diverse sets of
students and scientists year round. While Loveless was there, for example, he shared the research facility with Yale’s first-year medical students.

His research focused on cellular physiology, specifically the volume-regulated anion channel (VRAC), a transmembrane channel that is ubiquitously expressed in all vertebrate cells and plays a central role in the regulation of cell volume.

“There’s not much known about the formation of the channel,” said Loveless. “We know that it’s composed of five LRRC8A-E proteins and that different combinations of these proteins give rise to channels with different functional properties. Exactly which combination leads to which functional property and how cells are able to tailor the channel to best suit their physiological needs is something we are still trying to figure out.”

He further emphasized the importance of this research: “Furthering knowledge of VRAC and gaining a better understanding to its molecular processes holds the potential for future drug therapies that specifically target VRAC function, especially in cancer and stroke patients.”

In addition to conducting research, Loveless was able to attend several workshops on topics ranging from bioethics to bioentrepreneurship.

He said, “The whole experience really opened my eyes to what research is about. It connected me to a lot of like-minded peers, great mentors, and people who I know I can call if I have a question or possibly wish to collaborate with on future research projects. I would recommend it to anyone interested in research.”

This is a point with which Shuber concurs: “REUs are a great way to test the waters for grad school. They expose you to things you wouldn’t normally encounter about your field because you’re out there. You can talk to other grad students, because you’re in their offices with them for 10 weeks. So you can chat with them, see where they are. I’m able to make a more educated decision on where I want to go for grad school and what I want to study based on my experience.”

Even though Brasleton’s experience did not give her a better idea of what kind of job she would like to have after graduation, she still gained essential research skills from her REU.

“I learned so much while I was at Vanderbilt. I gained better lab techniques that I can use here with the research I do here, as well as better professional writing skills. It was truly a productive and educational ten weeks.”

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