

GRO Forum

Greater Research Opportunities Undergraduate Student Fellowships

GROing with the flow

News from a GRO Fellow

OCTOBER 2016

Savannah Tjaden

“Water transcends the divides between nations, disciplines and people,” says Savannah Tjaden, a 2014 GRO Fellow. When she chose to major in hydrogeology at Northern Arizona University, Flagstaff, Ariz., Savannah did some

online research on water issues and the global water crisis. “I immediately I knew I was hooked!” she says. “I knew it would be a way to have a real impact on people’s lives and leave a positive mark on the world.”

Savannah is currently spending nine months in Pretoria, South Africa, as the recipient of a Fulbright research grant. She is working with the Water Research Commission, a legislatively mandated government organization that funds research on prevalent water issues in the country. Half of her time is devoted to her own project on climate change preparedness of existing transboundary water management in South Africa. The other half is spent with the WRC learning about water management challenges and solutions in South Africa. Savannah attends events, stakeholder meetings, public engagement forums and a wide range of presentations aimed at disseminating knowledge and working toward the practical application of that knowledge.

“I’m very passionate about transboundary water management,” Savannah says. This issue includes building

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SAVANNAH TJADEN

Savannah Tjaden (continued)

relationships between countries, preventing conflict, ensuring access to shared water resources and ensuring sufficient quantity and quality of water for environmental flows in rivers that cross boundaries. "Studying the influences of climate change on transboundary water management in South Africa is a once in a lifetime experience," Savannah continues. "It's exciting and I'm looking forward to learning as much as possible."

Savannah has always cared about the environment. A native of Idaho, she's spent lots of time outdoors. The GRO Fellowship enhanced her understanding of what it means to work in an environmental field. "It opened



SAVANNAH TJADEN

my eyes to the complexities of environmental work, both the research and the translation of science into effective policy," she says. Savannah also calls her internship at Region 10 headquarters in Seattle, Wash., one of the most influential experiences in her college career. "I gained a greater understanding of just how important collaboration and communication are to make progress and protect the environment," she says.

GRO Fellows Abroad

Keziah Groth-Tuft

"Living in a culture so different from my own meant that I was learning loads of lessons every day," says Keziah Groth-Tuft, a 2015 GRO Fellow, about her study abroad experience in Amman, Jordan. In addition to her coursework, she interned at the environmental organization JoFoE, the Jordanian Friends of Environment. Keziah researched funding opportunities for a project called Women Empowerment for Solar Electrification of Rural Villages, or "Solar Mamas." JoFoE trained illiterate Bedouin women to be solar engineers and bring economic opportunities and electricity to their remote desert villages. This project seeks not only to provide clean energy, but to raise awareness of climate change and empower women.



KEZIAH GROTH-TUFT



In 2016, Keziah studied intelligence analysis, international refugee law, cultural diversity and social capital, and the Scandinavian welfare state in Copenhagen, Denmark. A large part of her coursework involved field learning and travel, including multi-day trips to Sweden and Turkey. Keziah also had the opportunity to visit the Red Cross, Danish parliament and Trampoline House, an independent community center that provides refugees and asylum seekers in Denmark with support and community.

Keziah is working toward a degree in international studies with a focus on sustainability at Dickinson College, Carlisle, Pa. "I chose globalization and sustainability as my focus instead of focusing on a specific region because I see sustainability and globalization as relating to a variety of social justice issues such as global poverty and climate change," she says. "I felt this was the best way for me to combine my interests in international relations, social justice and environmental issues." She is already looking for another international opportunity – she's applying for a Fulbright grant to work on a master's degree in human rights and environmental law at Lancaster University in England.

Mae Kate Campbell

Mae Kate Campbell, a 2015 GRO Fellow, spent four months in Havana, Cuba, shortly after the U.S. reestablished diplomatic relations. "I expected to be the exception, but there were more than 100 American students there," she says. Mae Kate studied in the University of Havana's Department of Philosophy and History, taking courses in Marxist-Leninist

philosophy, contemporary capitalism, Cuban film, and Cuban history, art and culture.

She also gained experience with Cuba's unique agricultural system, which developed after the collapse of the Soviet Union. "It really affected the country," Mae Kate says. "There was extreme economic hardship and they were desperate to feed the people." With neither fertilizer nor imported oil for machinery, she says, "Cuba accidentally developed an organic system of urban farming. People started to grow things wherever they could, and it's still that way." Mae Kate was immersed in this lifestyle during a home stay at a rural agricultural community. "I helped with some of the cooking," she says. "We worked outdoors in a wooden structure under metal sheeting and there were chickens running around while we were chopping vegetables." A member of a dining co-op at Oberlin College, Oberlin, Ohio, Mae Kate cooks for 100 people one day a week, but she says, "I was totally lost here!"

After experiences like climbing the highest mountain in Cuba, where she says, "I saw more stars than I thought it was possible to see," Mae Kate hopes that Cuba will pursue environmentally responsible and sustainable growth in the face of challenges like a possible increase in tourism and associated development. She did some research on environmental legislation in Cuba and says, "They recognize that they are in a unique position, just now industrializing heavily." She believes that the Cuban people value the environment, and hopes that the government puts effort and money into reducing air pollution and preserving the country's beautiful beaches and remaining green spaces.

Maya Kaup

Maya Kaup, a 2015 GRO Fellow, has always loved animals. She's studied busy, active squirrels, and has always wanted to work with an animal at the other end of the energy spectrum, the sloth, which she says appeals to the focused and methodological part of her personality. In 2016, Maya

studied abroad at the National University of Costa Rica, and while she didn't get to work directly with sloths, she learned a lot about tropical ecology and the environmental challenges facing Costa Rica, a major tourist destination.

The construction of large resorts in the country has implications beyond clear-cutting and pollution. "The guests don't leave the resorts, so they don't support local businesses," Maya, a student of Willamette University, Salem, Ore., says. "Local residents with smaller hotels and eco-lodges lose business to them." Another issue is the rise of for-profit wildlife sanctuaries, where animals like sloths are taken from the wild and kept for tourists to visit. Animals often are kept in sub-optimal conditions with poor nutrition and little medical care. "I want to educate people that animals including sloths are being exploited," she says. "Many of them aren't released back to the wild. It's about earning money, not conservation."

One of the perceptions that stuck with Maya after her trip was the difference between living in Costa Rica and being a tourist. "It's beautiful outside of the cities, where the tourists go," she says. "But people living in cities don't necessarily share that connection with nature. Most don't experience the natural beauty of the country." She hopes that the Costa Rican government will continue to enact environmental protection laws and set aside land for conservation.

Grace DeSantis

"Studying in Costa Rica was the most eye-opening four months of my life," says Grace DeSantis, a 2015 GRO Fellow who attends SUNY College at Plattsburgh, Plattsburgh, N.Y. "I saw the most incredible pieces of nature. I swam in bioluminescent water, looked down into an active volcano, hiked through rainforests teeming with biodiversity, zip lined through a cloud forest and snorkeled in the most beautiful coral reefs." She not only became more appreciative of the environment, but also the people she encountered. "I met so many people who touched my heart, including my welcoming and generous host family, a great group of friends who I'm still in contact with today, and professors who taught me so much more than just the class agenda," Grace says.

Her favorite memory is a field trip for her Tropical Ecology and Costa Rican Environmental Policy classes. The group stayed at a family-owned lodge in San Isidro del General for two nights and participated in multiple activities, such as determining the species richness of trees and shrubs in highland versus lowland rainforest plots and going on a sunrise hike up to the top of a mountain called Cerro de Saquiras. They learned about the family's environmentally friendly practices, such as building the entire lodge out of fallen trees rather than cutting down standing ones, and using local and home-grown produce, meat and medicines rather than buying imported products. "Visiting this lodge



MAYA KAUP

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Grace DeSantis (continued)

was such an incredible trip because I got to experience the workings of an in-progress sustainable lifestyle,” Grace says.

Studying in Costa Rica helped Grace realize what she wants to do after completing her bachelor degrees in environmental science and environmental planning and management. “I’d like to focus my professional career on environmental management. It fascinated me to hear about another country’s mentality towards the environment and I aspire to continue studying similar topics in the future,” she says. “I hope to have the opportunity to travel within my career and help others learn about and implement environmentally friendly practices.”

Humanizing Science



JOSÉ MARRERO ROSADO

José Marrero Rosado

Biochemistry and anthropology don’t seem like subjects that go together, but 2015 GRO Fellow José Marrero Rosado is using this interesting combination of majors to study anthropogenic contaminants, which are those that come from human activity. “In both fields I can find answers related to ‘what is going on?’ or ‘what went wrong?’” José says. At the micro level, biochemistry gives him the opportunity to learn how something as seemingly unimportant as a small protein can cause a problem when it doesn’t fulfill its function. “On the other hand,” José says, “with anthropology, I can transfer some techniques used in biochemistry and molecular biology to answer questions about what went wrong at the biological level when one finds skeletal remains.”

A student at Syracuse University, Syracuse, N.Y., José is currently working in two research labs, investigating the toxicity of two chemicals discovered in Onondaga Lake and also lead poisoning in skeletal remains from 19th century New York City. “I feel a responsibility to understand how humans are polluting the world, but more importantly, how we can fix it,” he says. While research like his can benefit humans, he notes, “It’s the well-being of all the other organisms that makes me particularly interested in this topic.”

José believes that being a GRO Fellow gives him a duty to not take the environment for granted. “It must be respected, protected and taken care of,” he says. “GRO Fellows want to know what, how and why, and with these answers, change the world for the better, regardless of how minimal.”