

the GRO Forum



Environmental Protection Agency Greater Research Opportunities Undergraduate Student Fellowships

Issue 1, 2013

Where are they now? Catching up with GRO Alumni



Alexander Guzzetta

Alex Guzzetta thinks like a scientist. "Having the opportunity to uncover something new is really exciting to me," he says. "I developed a passion for research in biology in high school and my interest in environmentally-applicable research topics when I went to college." He's currently busy taking a full class load and working on a research project at California State University, Fresno (CSU-Fresno). He's also applying to graduate schools in anticipation of his graduation in May 2013 with a degree in biology.

Alex is thankful for the support provided by the Greater Research Opportunities (GRO) Fellowship that he received in 2010. He was able to quit his part-time job and spend as much time as he wanted to working on his independent research project. "Having that extra time really allowed me to accomplish things that I wouldn't have otherwise been able to do with a more restrictive schedule," he said. "I'd encourage all GRO Fellows to make the most of their fellowship by dedicating extra time to their research projects."

Alex's interest in the environment blossomed once he started working with Dr. Alejandro Calderón-Urrea, a biology professor at CSU-Fresno. His first independent research project related to plant parasites called nematodes, also known as roundworms. Nematodes are extremely abundant in nature and are an ongoing challenge to agriculture, where harmful pesticides are used to control infection. Alex studied the possibility of using nematode-resistant plants as a potential means of limiting the use of pesticides.

"I grew up in California's Central Valley," Alex says. The area is home to California's most productive agricultural areas so as he notes, "Pesticides are a constant presence in the lives of people who live there." As he moves forward in his career, Alex says that he's particularly interested in human environmental health. If he could work on any topic he wanted, he says, "I would attempt to find a link between agricultural pesticide use and the development of human diseases such as cancer."

Alex's current research project applies to another important environmental issue, sustainable energy. It's a study of how different types of media used in the lab to grow cells affect the metabolism of certain types of algae. "The ultimate goal of this project is to understand how media influences algal metabolism and oil production so we can design better media to increase oil output for the production of biodiesel," he says.

Both projects appeal to Alex because their implications are not restricted to the lab. "Working on projects that have the potential for real world applications toward improving the environment is really interesting to me," Alex says, "because I can see the problems in my everyday life that I am attempting to solve."

He learned firsthand how science is taken out of the lab and translated to environmental management during his GRO summer internship at EPA's Atlantic Ecology Division in Narragansett, R.I. "I got a sense of how the EPA goes about investigating human impact on the natural environment," Alex says. "It was really interesting to see the breadth of projects that were based out of AED and how their results are directly applicable to the development of rational regulatory policies to help preserve the environment."

Alex worked on a project that assessed the effects of bifenthrin, an insecticide that is highly toxic to aquatic organisms, on the diversity of a group of organisms in estuaries. The project used genetic material collected directly from organisms in the field. "One of the coolest parts of my project was being able to go out into the Pettaquamscutt estuary and harvest the sediment cores used in our culture system," he says. "Before then, I'd never performed field research, so that was a fun experience."

Alex is impressed by the multidisciplinary approach to science that he saw at AED, and thinks the importance of collaboration and teamwork in scientific research is the most important thing he learned during his internship. "I saw people who were trained in biology, mathematics, engineering, chemistry and many other fields come together to work toward a common goal of environmental protection," he says. "I realized that there really is a role for every kind of expertise in the environmental field."

Having an internship in coastal Rhode Island wasn't all work, though. Alex made the most of his time on the East Coast, an area which was new to him. "It was a great opportunity to visit a new place and meet some great people," he says. Among the fun things he did over the summer were cycling around Block Island, going to the Newport Jazz Festival, and visiting Boston, New York City and Niagara Falls.

Fellows' reflections – summer 2012 GRO internships

“All in all, my internship in Corvallis was an amazing experience. If I could go back and do it all again, I gladly would.”

Mackenzie Billings ▶



“Working at EPA has taught me that I really enjoy research. I am going to make it my definite goal to earn my doctoral degree. I love working in an environment of people from all different places and backgrounds coming together for a common goal that could affect the way that people perceive the world around them.”

Tyanna Smith ▶



“I have five years of experience working in research laboratories, and the experience of working with this team was phenomenal. We understood each other, solved problems very quickly in the lab, and had the facilities to do our work. The people were very kind and helpful; I'm truly coming back to Puerto Rico with a smile on my face.”

Carlos Juan Cruz ▶



“I had a great and positive experience in my internship. I really appreciate everything those I worked with and those I encountered at the laboratory did for me. They all contributed in their special way to help me achieve what I accomplished and to complete the internship successfully.”

George Osei ▶



“My impression of the Western Ecology Division is a fabulous one. I feel like I fit in here. The people here are all filled with so much knowledge; you could pick their brains for hours! And this internship surrounded me with science lovers, which was tough to leave.”

Katie Steele ▶



“My adventurous tendencies landed me somewhere interesting. I could almost call the EPA lab in Narragansett home. It's never difficult to find someone to answer your question, or to gather a group together for field work.”

Clarice Esch ▶



Introducing the 2012-2014 GRO Fellows

Alice Zammiller

California State
Polytechnic University
Pomona, CA

Alice Theibault

Hobart and William
Smith Colleges
Geneva, NY

Amanda Stone

Salisbury University
Salisbury, MD

Amanda Ballard

Loyola Marymount
University
Los Angeles, CA

Andrew Alleman

Texas Tech University
Lubbock, TX

Assata Thompson

Spelman College
Atlanta, GA

Catherine Winters

Hartwick College
Oneonta, NY

Cori Speights

Texas A&M University –
Corpus Christi
Corpus Christi, TX

David Baltusaitis

Loyola University of
Chicago
Chicago, IL

David Dreier

Baylor University
Waco, TX

Eliza Sherpa

Skidmore College
Saratoga Springs, NY

Ellen Bechtel

Wellesley College
Wellesley, MA

Eric Kretsch

University of Rhode
Island
Kingston, RI

Erin Corrigan

Clarkson University
Potsdam, NY

George Grant

Castleton State College
Castleton, VT

Heidi Keller

Barnard College
New York, NY

James Gaynor

Concordia University
Portland, OR

John Griffioen

Lake Superior State
University
Brimley, MI

Kamil Khanipov

University of Houston –
University Park
Houston, TX

Katy Austin

State University of New
York
Syracuse, NY

Kenneth Ruffatto

Illinois Institute of
Technology
Chicago, IL

Keri Caudle

Fort Hays State
University
Hays, KS

Kessa Turnbull

Oberlin College
Oberlin, OH

Kevin Dickey

Rochester Institute of
Technology
Rochester, NY

Keyyana Blount

Salisbury University
Salisbury, MD

Kinyata Cooper

Howard University
Washington, DC

Lotanna Ikeotuonye

Howard University
Washington, DC

Mary Beliveau

Seton Hall University
South Orange, NJ

Megan Dalbec

Michigan Technological
University
Houghton, MI

Michael Enright

Ripon College
Ripon, WI

Morgan Owen-Cruise

Michigan Technological
University
Houghton, MI

Natalie Flinn

Villanova University
Villanova, PA

Nicholas Ravotti

Green Mountain College
Poultney, VT

Rachael Korinek

University of Wisconsin –
Eau Claire
Eau Claire, WI

Sara Lafia

California State
Polytechnic University
Pomona, CA

Sarah Hardy

Lafayette College
Easton, PA

Sarah Huang

Ursinus College
Collegeville, PA

Sergio Gonzalez

Loyola Marymount
University
Los Angeles, CA

Tanya Bulock

University of Nevada –
Reno
Reno, NV

In summer 2012, GRO Fellow Aiden Irish interned in EPA's Alaska Operations Office in Anchorage. His internship project, Sustainable Energy Opportunities: Best Practices for Alaska Tribes, was sent to all of the Tribes in Alaska as a valuable resource on alternative energy options in their communities. It's also available on EPA's website. "The best and most significant experiences of this internship took place on the trips to rural Alaska communities," Aiden says. "Wherever I end up going in life, the experiences of living, working and exploring in the 'real' Alaska will be influential to how I view environmental and cultural issues around the world."



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GRO Fellow Tiana Ramos interned at EPA Region 2 Headquarters in New York City. She posted on EPA's "Greening the Apple" blog about moving to NYC and working on EPA's July 2012 Applying Green Building Research Today symposium. Tiana is working toward her B.A. in Environmental Studies and Economics at Wellesley College.

Ciarra Greene, a member of the Nez Perce Tribe, provides her perspectives on being a Native American woman, scientist and alumna of the GRO Fellowship Program in a post on EPA's science blog "It All Starts with Science." Ciarra is currently pursuing a Master's degree at the University of Idaho.

