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William Shipman

Majoring in biology at Morehouse College in Atlanta, GA, William interned in Chapel Hill, NC, where he studied topics related to human health and air pollution.

"I once viewed the EPA as an agency that focused primarily on ecological and field studies. However, after this summer, I know now that throughout the EPA's facilities, a wide variety of research is conducted, including molecular biology research. In addition to gaining technical and interpersonal skills during the summer, my academic interests also were honed. I now know that I am very interested in toxicology and pathology."

Lan Tran

Lan, an environmental science major at Virginia Wesleyan College, Norfolk, VA, studied aquatic communities during her internship in Edison, NJ.

"This internship tested me at many levels in the field and showed me how thoroughly I enjoy field work; however, there is so much more I need to learn. The complex interactions between the biotic and abiotic factors of aquatic systems and how the resulting changes affect people are important to understand fully because they determine environmental management policy."

the
GRO Forum
Environmental Protection Agency Greater Research Opportunities Undergraduate Student Fellowships

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where are they now? Catching up with GRO Alumni

Gary Chan

"It was impossible not to notice the majesty of the New York skyline while in the air, or the morning sun striking the Statue of Liberty in the harbor. The aerial views from the helicopter are truly lasting memories," says Gary Chan about his 2006 summer internship with the Coastal Crusader helicopter monitoring program in Edison, NJ. A 2007 graduate of the Grove School of Engineering at the City College of New York (CCNY), which is part of the City University of New York, Gary earned his Bachelor's in civil engineering with a concentration in environmental and water resources engineering. Now pursuing a Master's degree at the Columbia University Fu Foundation School of Engineering and Applied Science, he is also employed full-time as a civil engineer.

Gary recalls becoming interested in the environment as a child, when his interest took the form of watching nature documentaries. His interest solidified during his freshman year in college, when he participated in a study-abroad course on ecology and evolution in the Galapagos Islands in Ecuador. Gary then decided to pursue both an education and a profession that were environmentally-related. "I saw how much effort it takes to maintain a pristine environment and how the natural environment could be adversely affected if we don't pay attention to the actions we take," he said.

After earning his Bachelor's degree, Gary began work on his Master's of Science in civil engineering, which he expects to finish by the end of 2009. In his full-time job as a civil engineer, Gary conducts professional projects including environmental investigations for public and private developments. He has also obtained professional accreditation through the LEED program of the U.S. Green Building Council. LEED is a means of verifying that buildings and communities are designed to improve performance in areas such as energy savings, water use, emissions reduction, indoor environmental quality, and resource stewardship.

While a GRO Fellow, Gary completed his internship at the EPA Region 2 laboratories in the Monitoring and Assessment Branch of the Division of Environmental Science and Assessment, under the mentorship of Helen Grebe. On daily morning helicopter flights, Gary surveyed the waterways around New York City in search of "floatables," that is, debris and oil slicks. He also had the opportunity to conduct daily water sampling from the helicopter at locations from the beaches of Long Island and the New Jersey shore, to open water up to nine miles off the coast and as far south as Delaware Bay. To assess water quality, the samples he collected were tested for bacteria (fecal coliforms and enterococci), dissolved oxygen, phytoplankton levels, and nutrients such as nitrogen and phosphorus. Gary also had the opportunity to work at the microbiology lab in Edison, testing the bacteriological samples that he had collected from beaches via helicopter.

Gary Chan during his summer internship in Edison, NJ, with the helicopter used for surveys and sampling in the Coastal Crusader program.

With his GRO internship, Gary hoped to gain experience both in field work and in a new area of research that he would not otherwise have been able to explore. He found both these expectations to be true, and also gained lasting knowledge and skills. "I learned a lot about how the waterways around New York City are cleaned and maintained throughout the summer," Gary said. "I still use the data analysis skills that were used during the internship at work and at school. Also, I learned a lot of lab techniques that were beyond the scope of what I had done at school."

Gary was also able to participate in one of EPA's public outreach activities during his internship. EPA held a press conference on the boardwalk in Atlantic City, NJ highlighting the helicopter monitoring program, namely, the summer water quality sampling along the beaches of the Jersey shore. Gary demonstrated the techniques for collecting water samples from the helicopter at the conclusion of the press conference, which was televised on a New Jersey public broadcasting station. He recalls, "It was a very long day because of the preparations involved but a pretty memorable experience for me. It was also memorable that I was able to briefly meet the Regional Administrator at the time."

Being a GRO Fellow both solidified Gary's intention to continue in an environmentally-related field and broadened his perspective by introducing him to environmental policy and its implementation. He maintains a broad interest in the environment, including such issues as reducing the impacts of global warming on the environment. If he had unlimited time and resources, Gary says, "I would like to learn more about two areas that are related to global warming: carbon sequestration and research into new sustainable technologies that could be applied to the design of new green buildings or structures that would reduce the carbon footprint of the project."

fellows' reflections - summer 2009 GRO internships

Charisse Carter
A biology major at Norfolk State University in Virginia, Charisse traveled to Atlanta, GA, to work on water quality monitoring.

Working in Regional Headquarters was a different research experience from what I have done in previous projects. I was able to see the difference in how research is done in a working environment versus in academia. Both perspectives are equally important.

Brandi Clark
In Cincinnati, OH, Brandi, a chemistry major at the Missouri University of Science and

I felt that the work I did for EPA had a practical impact and that the results could be used to advise drinking water utilities in the future. This is one thing I liked about doing research for EPA the knowledge that your research can have a positive effect on real people. This summer has strengthened my interest in this type of research..

Naveed Davoodian
A student at the College of the Atlantic, in Bar Harbor, ME, Naveed assessed the effectiveness of wetland mitigation banks in an internship at EPA s South Florida Office.

Overall, I had an excellent internship experience. I was able to both apply and expand my knowledge of plant identification, geology, law, and economics. This internship has allowed me to bridge gaps between areas that interest me and their practical applications, which will allow me to more fluidly use science to address pressing environmental issues in the future.

Nadine Dodge
Region 1 Headquarters in Boston, MA, was the internship location for Nadine, an environmental science major at Skidmore College in Saratoga Springs, NY.

My summer internship project was aptly aligned with Region 1 s work in the realm of climate change mitigation and adaptation. The end products of my internship will help inform both EPA employees and the wastewater and drinking water communities of the impacts of climate change and the opportunity for adaptation.

Betsy Huyser
Betsy, an engineering major at Calvin College in Grand Rapids, MI, interned at EPA Region 10 in Seattle, WA, where she studied renewable energy and contaminated sites.

The freedom I was given to define my project and determine how I would go about reaching the main goals was a challenge because it required that I be able to keep myself on track and be self motivated to make good use of my time and produce the best work I could. This was very rewarding because it allowed me to make decisions about the best way to approach the project and have some control over my work, which made the project a more enjoyable and valuable learning experience.

Nathan Jones
The Colorado Rockies formed the backdrop for Nathan s internship at Region 8 HQ in Denver, CO. Nathan is an engineering major at the University of Arkansas, Fayetteville.

I had an amazing time working with the Watershed Team this summer. I learned a lot about non point source (NPS) pollution management and database development. I also learned a lot about myself. I have always liked taking on challenges, and the NPS pollution problem seems like something to which I could devote my career. It is an area where we can still make a difference and really have an impact on society as a whole.

Todd Massari
Todd worked on shellfish restoration at the Atlantic Ecology Division, Narragansett, RI, near where he studies marine biology at Roger Williams University, Bristol, RI.

Perhaps more than anything else, this internship allowed me to learn about myself and what I like and dislike. I learned that I enjoy field work the most and need to have constant variety in my work to stay on top of things and not get bored and frustrated. This experience has taught me what it would be like to be a graduate student in the sciences. I enjoyed learning this and realized that graduate school is right for me in the near future but not right away.

Jonathan McKinney
Jon studies environmental engineering at the Missouri University of Science and Technology, Rolla, MO, and stepped out of his comfort zone to study plant biology at the Western Ecology Division in Corvallis, OR.

Working at the EPA s WED this summer was a good experience in which I learned a lot about how biological research is performed and about myself. I hope to use the experience I have gained to better my own skills in engineering research and I plan to continue trying to get some experience in other fields of research.

Tyler O'Dell
Tyler, a student at Lake Superior State University, Sault Ste. Marie, MI, furthered his skills in chemistry by interning at EPA s environmental research center in Cincinnati, OH.

This internship allowed me to meet and work with a diversely educated group of people with experience in a variety of fields, which provided insight into positions I had not previously considered. My primary interest, however, is still synthetic organic chemistry, and this project has fueled my interest in pursuing synthetic work in graduate school.

Adam Olszewski
A biology major at Mercyhurst College in Erie, PA, Adam got a new perspective on surveying and sampling water bodies during his internship in Edison, NJ.

To stare the Statue of Liberty in the face while hovering 300 feet above the Hudson River is not a chance that many people get in their lifetime. The helicopter flights were enjoyable on their own, but I also found satisfaction in moving EPA s goals forward by helping to protect the local environments through pollution cleanup. Learning new lab skills, developing the ones I already have, and getting to work with all of the supportive and friendly people in the lab all helped to make this summer a rewarding one.

introducing
the 2009-2010 GRO fellows

Diana Adebambo
Norfolk State University
Norfolk, VA

Kelsey Boyd
Lafayette College
Easton, PA

Kereen Griffith
University of Texas, San Antonio
San Antonio, TX

John Maravich
Virginia Wesleyan College
Norfolk, VA

Nikita Peperni
Southern Connecticut State Univ.
New Haven, CT

Annette Sparks
North Carolina A&T State University
Greensboro, NC

Jillian Allen
Brandeis University
Waltham, MA

Angel Casanova
University of Puetro Rico at Humacao
Humacao, PR

Amanda Hayes
Calvin College
Grand Rapids, M

Kate McPherson
University of Maine
Orono, ME

Ellen Perkins
Wheaton College
Norton, MA

Casey Stephenson
Fort Lewis College
Durango, CO

Jarymar Arana
St. Edward's University
Austin, TX

Rhiana Cok
Calvin College
Grand Rapids, MI

Shannon Klotsko
Costal Carolina University
Conway, SC

Elizabeth Medlock
DePauw University
Greencastle, IN

Jessica Pulliam
Eastern Kentucky University
Richmond, KY

Matthew Tancos
Ball State University
Muncie, IN

Jennifer Arceo
California Lutheran University
Thousand Oaks, CA

Austin Cook-Lindsay
Baylor University
Waco, TX

Khilia Logan
Norfolk State Unversity
Norfolk, VA

Nathan Nesbitt
Worcester Polytechnic Institute
Worcester, MA

Alexander Ramsower
Arizona Western College
Yuma, AZ

Kristin Waller
Syracuse University
Syracuse, NY

Laura Senefeld
Winona State University
Winona, MN

Bernadette Wiggin
Bowling Green State University
Bowling Green, OH

Joshua Pierce
Joshua, a student at Texas Tech University, Lubbock, TX, is an environmental toxicology major. He expanded his experience by studying environmental stressors in marine organisms at the Atlantic Ecology Division in Narragansett, RI.

"My time in the lab included a few difficulties, such as how to best rebound from inconclusive results. I have used my time here to shape the way I view these difficulties and to learn the best way to use the experiences to move forward. This internship was a good experience in learning about who I am as a scientist and how I should go about performing research."

Annie Putman
Annie applied her skills as a chemistry major at Michigan Technological University, Houghton, MI, to aquatic ecosystem assessments at EPA's New England Laboratory, North Chelmsford, MA.

"Our time on the rivers was an experience of natural beauty. This was my first job in a professional workplace, and I felt welcomed and encouraged by [my hosts'] congenial approach. [We] built an affable working relationship. This strong base, rooted in respect and trust, allowed us to overcome the most frustrating obstacles through communication and creative problem-solving."