



**GREATER  
RESEARCH  
OPPORTUNITIES  
UNDERGRADUATE  
FELLOWSHIPS**

*30<sup>th</sup> Anniversary Celebration*



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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, D.C. 20460

OFFICE OF  
RESEARCH AND DEVELOPMENT

Research Partners,

When I accepted the position as the Director for the National Center for Environmental Research, I gained the remarkable opportunity to oversee and support the Greater Research Opportunities (GRO) Undergraduate Fellowships Program. Throughout the GRO Program's many years in existence, its mission has remained the same: to develop and encourage a new generation of well-prepared environmental professionals. By providing Fellows with financial support and experiences, they are more prepared for motivated and meaningful careers in the environmental and public health fields.

This booklet gives a few examples of how the GRO Program has impacted the lives and careers of its Fellows. During the Fellowship, the students gain invaluable experiences and develop a range of critical thinking, collaboration and problem-solving skills. Over the past 30 years, the GRO Program has provided more than \$12 million in funding to more than 300 undergraduate students in pursuit of environmental careers in the social sciences and Science, Technology, Engineering and Mathematics (STEM) fields.

Through the GRO Program's unique 12-week summer internship requirement, Fellows have worked across the country in EPA facilities, including all 10 of EPA's regional headquarters and other EPA research laboratories. These internships help deepen students' interests in environmental fields and forge meaningful relationships while applying their knowledge toward real-world situations. All of the previous GRO recipients, along with the 2015 awardees, are poised to contribute to their scientific communities while supporting our shared mission to protect human health and the environment.

Overall, it is remarkable to see what the Fellows have accomplished since their undergraduate years, and I'm elated the credit is due in part to the support and experiences they received from the GRO Program. Please join me in celebrating 30 remarkable years of the GRO program and its impact on generations of environmental scientists and professionals.

A handwritten signature in black ink that reads "James H. Johnson, Jr." with a stylized flourish at the end.

James H. Johnson, Jr., Ph.D.

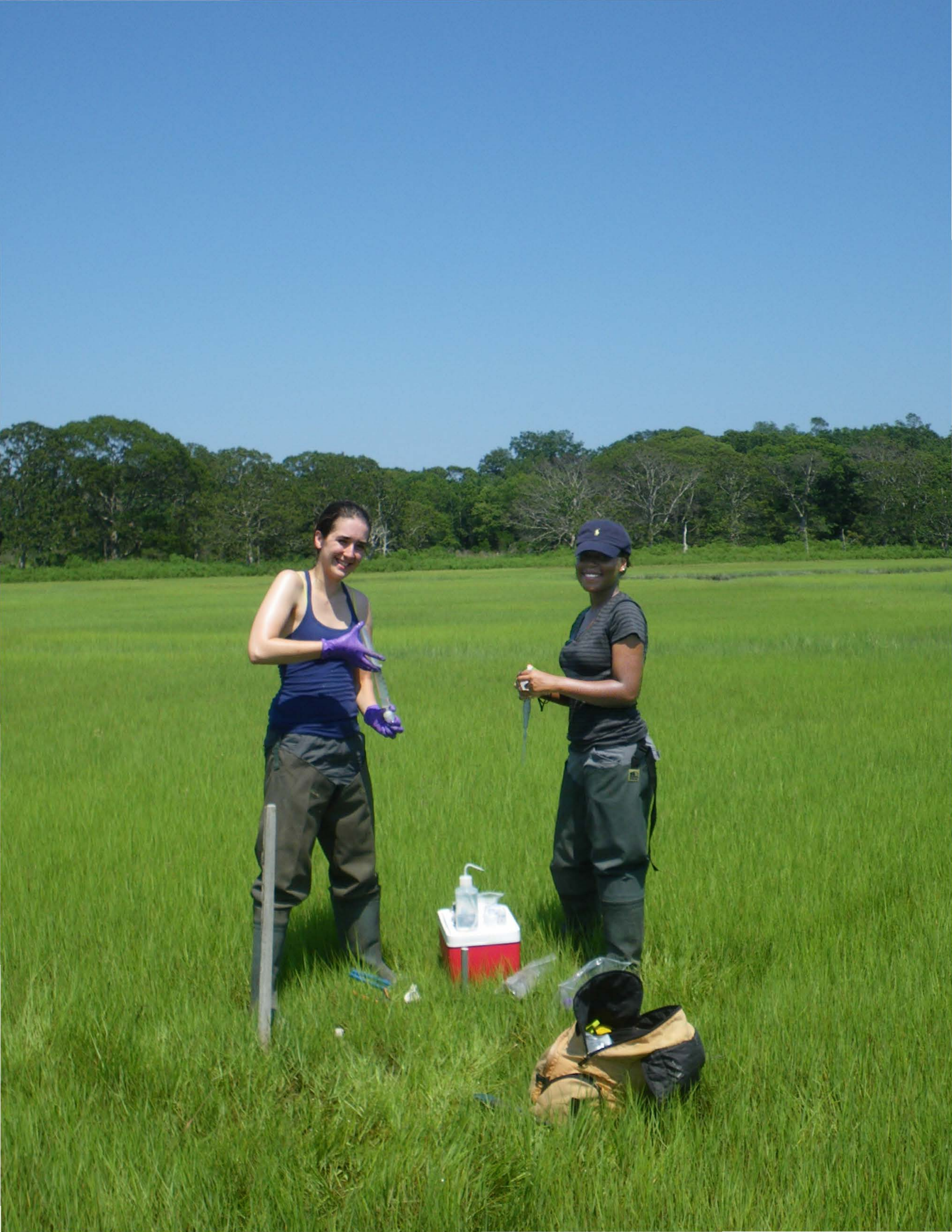
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# History of the Program



The EPA Greater Research Opportunities (GRO) Undergraduate Fellowships Program celebrates more than 30 years in existence, since its initial inception in 1981. It has changed names several times throughout the years, but the mission to develop a steady stream of well-prepared environmental professionals has remained steadfast. The first variation of the program, the Minority Institutions Assistance (MIA) program was initiated in 1981 when then-President Ronald Reagan passed Executive Order 12320 (September 15, 1981). The Executive Order mandated an increase in research support for eligible minority institutions and the provision of educational fellowships for students attending these institutions. The MIA program was implemented in 1982 to meet the mandates of the Executive Order as part of the Office of Research and Development's Scientific, Technology, Engineering and Mathematics (STEM) initiatives. The program was managed within ORD's Office of Exploratory Research, known today as the National Center for Environmental Research (NCER).

In the early 1990s the program was renamed the Culturally Diverse Academic Institutions (CDAI) Undergraduate Student Fellowships program. It aimed to strengthen the capacity of minority institutions and to provide quality education to undergraduate students by encouraging and supporting their professional training toward advanced degrees in environmentally related fields. The program provided financial assistance to students majoring in environmental science, physical sciences, biological

sciences, computer science, environmental health, social sciences, mathematics, and engineering.

In 2000, the program became known as the Minority Academic Institutions Undergraduate Student Fellowships program. In 2003, NCER changed the name once again to the Greater Research Opportunities (GRO) Undergraduate Student Fellowships program to broaden the eligibility of applicants from colleges and universities that were not highly funded for research and development capacity. Under GRO, only students from institutions receiving less than \$35 million in annual federal research and development funding were eligible to apply to the fellowship.

During the fall of each year, EPA solicits sophomore students to apply to the GRO Fellowships Program. Since its inception, program has supported hundreds of students in pursuit of their academic degrees. Alumni fellows who chose to contribute to this report cite the Fellowship as key to their ability to pursue their education. "The Fellowship provided funding which my family really needed," says one Fellow. Another says, "The Fellowship helped me focus on school instead of on how to pay for it." A small sampling of the diverse disciplines in which alumni Fellows now excel includes environmental and civil engineering, chemistry, marine science, biological sciences, medicine, mathematics, education, and many others.



# Goals of the Program



The GRO Undergraduate Fellowship Program is part of the nation's effort to help ensure that the United States meets its current and projected human resource needs in the environmental science, engineering and policy fields. By enhancing and supporting quality environmental education for undergraduate students, the program encourages promising students to pursue careers in environmentally related fields and to continue their education beyond the baccalaureate level. This goal is consistent with EPA's mission to protect human health and the environment. The GRO Fellowship program has benefited the public by consistently providing the nation with well-trained environmental specialists to meet environmental challenges in our society. The country must engage all available minds to address the environmental challenges it faces. Minorities, women and persons with disabilities historically have been underrepresented in the STEM fields. For this reason, EPA strongly encourages women, minorities and persons with disabilities to apply for GRO Fellowships. GRO-supported Fellows continue to provide new environmental research in the physical, biological, health and social sciences and in engineering.

The Minority Academic Institutions and Greater Research Opportunities Fellowship programs awarded funding to students from 167 different institutions throughout the United States between 2000 and 2013. The institutions awarded included 21.58% Historically Black Colleges and Universities, 8.56% Hispanic Serving Institutions, 0.68% Tribal Colleges and Universities and 0.34% Alaska Native and Native Hawaiian Serving Institutions (Figure A). Institution participation varied throughout the years with Spelman College, Norfolk State University and Lafayette College representing three of the most-awarded schools during this time (Figure B).

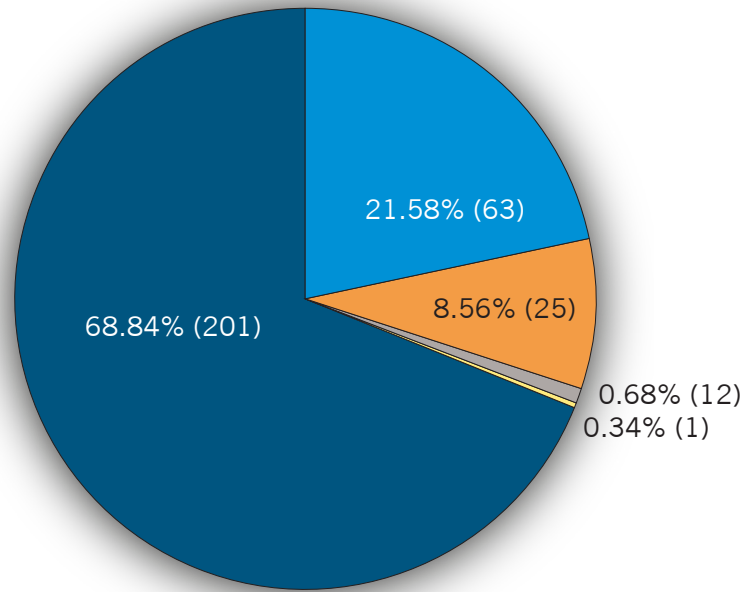
EPA recognizes that STEM competence is essential to the nation's future well-being in terms of national security and competitive economic advantage. The Fellowship program is consistent with EPA's strategic goals and objectives to

foster the next generation of well-trained environmental scientists and engineers. Table A shows the distribution of research topic areas between 2000 and 2013.

In order to enhance the GRO Fellows' STEM experience, students are required to work a 12-week summer internship at an EPA facility (Table B, Figure C). This internship gives the Fellows the opportunity to work on environmental projects under the guidance of EPA scientists and engineers. Fellows' summer internship projects are designed to complement and enhance their undergraduate educational experience. Moreover, the internships provide EPA hosts the opportunity to interact with the next generation of professionals in STEM fields. Internship hosts praise the caliber of the students with whom they work. A mentor from Region IV headquarters in Atlanta, Ga., says, "GRO Fellows have added value to EPA's work to protect public health and the environment. They bring energy and fresh ideas that ensure that EPA is effectively meeting its mission." A mentor from the New England Regional Lab, Chelmsford, Mass., says, "I have received some of the best interns I have ever worked with from the GRO program."

EPA continues to offer undergraduate fellowships to some of the best and brightest students in environmentally-related fields of study. Through EPA's ongoing commitment to support STEM for undergraduate students, the nation's up-and-coming scientists and engineers can continue to provide new environmental research in the physical, biological, health and social sciences and in engineering.

**Figure A: Institution Type Funded 2000-2013**



- Non-MAI  
(Non-Minority Academic Institutions)
- HBCUs  
(Historically Black Colleges and Universities)
- HSIs  
(Hispanic Serving Institutions)
- TCUs  
(Tribal Colleges and Universities)
- ANNHSIs  
(Alaska Native and Native Hawaiian-Serving Institutions)

**Table A: Funded Research Topic Area 1997-2013**

Natural and Life Sciences	101	30.42%
Environmental Sciences and Interdisciplinary Programs	100	30.12%
Engineering	54	16.27%
Social Sciences	20	6.02%
Physical Sciences	49	14.76%
Mathematics and Computer Science	8	2.41%
<b>Total</b>	<b>332</b>	

**Table B: GRO Summer Internship Locations****EPA Headquarters**

Office of International and Tribal Affairs (OITA)	Washington, D.C.
Office of Pesticide Programs (OPP)	Washington, D.C., and Fort Meade, Md.
Office of Policy (OP)	Washington, D.C.
Office of Pollution Prevention and Toxics (OPPT)	Washington, D.C.
Office of Research and Development (ORD)	Washington, D.C.
Office of Water (OW)	Washington, D.C.

**Region 1**

Region 1 Headquarter (R1 HQ)	Boston, Mass.
New England Regional Laboratory (R1 Lab)	Chelmsford, Mass.

**Region 2**

Region 2 Headquarters (R2 HQ)	New York, N.Y.
Region 2 Laboratory (R2 Lab)	Edison, N.J.

**Region 3**

Region 3 Headquarters (R3 HQ)	Philadelphia, Pa.
Region 3 Laboratory (R3 Lab)	Wheeling, W.V.
Chesapeake Bay Program Office (CBPO)	Annapolis, Md.

**Region 4**

Region 4 Headquarters (R4 HQ)	Atlanta, Ga.
South Florida Office (SFO)	West Palm Beach, Fla.

**Region 5**

Region 5 Headquarters (R5 HQ)	Chicago, Ill.
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**Region 6**

Region 6 Headquarters (R6 HQ)	Dallas, Texas
Region 6 Laboratory (R6 Lab)	Houston, Texas

**Region 7**

Region 7 Headquarters (R7 HQ)	Lenexa, Kan.
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## Region 8

Region 8 Headquarters (R8 HQ)	Denver, Colo.
Region 8 Laboratory (R8 Lab)	Golden, Colo.

## Region 9

Region 9 Headquarters (R9 HQ)	San Francisco, Calif.
Region 9 Laboratory (R9 Lab)	Richmond, Calif.
Pacific Islands Contact Office (PICO)	Honolulu, Hawaii
Southern California Field Office (SCFO)	Los Angeles, Calif.

## Region 10

Region 10 Headquarters (R10 HQ)	Seattle, Wash.
Region 10 Laboratory (R10 Lab)	Port Orchard, Wash.
Alaska Operations Office (AOO)	Anchorage, Alaska
Oregon Operations Office (OOO)	Portland, Ore.

## National Exposure Research Laboratory (NERL)

Ecological Exposure Research Division	Cincinnati, Ohio
Ecosystems Research Division	Athens, Ga.

## National Health and Environmental Effects Research Laboratory (NHEERL)

Atlantic Ecology Division	Narragansett, R.I. (AED)
Gulf Coast Ecology Division	Gulf Breeze, Fla. (GED)
Mid-Continent Ecology Division	Duluth, Minn. (MED)
Western Ecology Division	Corvallis and Newport, Ore. (WED)
Pacific Coast Ecology Branch	Newport, Ore. (PCEB)
Environmental Public Health Division	Research Triangle Park, N.C.

## National Risk Management Research Laboratory (NRMRL)

Water Supply and Water Resources Division	Cincinnati, Ohio
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## Office of Air and Radiation (OAR)

Radiation and Indoor Environments National Laboratory (RIENL)	Las Vegas, Nev.
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Figure B

# GRO Team



The EPA GRO Fellowship Program has empowered hundreds of students from diverse backgrounds and interests to pursue their passion in environmental sciences and environmentally related fields. The annual call for applications attracted students to explore studies in scientific topics that expanded over the years to reflect the interdisciplinary nature of the environmental and public health challenges facing EPA, including social and decision sciences. The application process challenged students to define their individual academic and career goals, identify an environmental issue and how they would study it and to articulate the broader societal impacts of environmental issues. The student applications themselves have been an inspiration to EPA staff through their illustration of the depth of student understanding and enthusiasm for the mission of environmental protection.

Undoubtedly, EPA's GRO Fellowships helped students to pursue in their undergraduate environmental science studies by defraying the cost of education. But GRO has been much more than a financial assistance program. Through summer internships, each student worked with career EPA scientists to apply concepts learned in the classroom to solve real-world environmental and health challenges. EPA mentors enthusiastically volunteered their time to guide GRO interns through project design, research and analyses. The reports from GRO alumni are a testament to the value of the internship program. It is not uncommon for EPA mentors to continue to provide career advice or serve as advisors to students beyond the internship phase.

The GRO internship program would not have existed without the dedication of the EPA mentors and the academic advisors who inspired their students. While many EPA staff contributed to the success of this program through its transformations, the leader was Georgette Boddie who quietly and effectively championed the GRO program for almost 20 years.

At its heart, this program has been about nurturing the desire for continual learning in students and developing our nation's future scientists and environmental leaders. The success of this program is evident in the alumni stories presented in this report. The value of GRO to EPA's mission will continue through the actions of the graduates of this program and the lasting professional relationships that stem from the fellowship experiences.

Jayne Michaud, MPH  
Fellowship Team Lead

# Reflections from GRO Undergraduate Fellowship Recipients



The GRO Undergraduate Fellowship provided me with great opportunities throughout the past two years. I have been blessed with [both] funding and the internship at Region 4 [headquarters] in Atlanta, Ga. [The Fellowship] has definitely opened many doors for my future.

– 2006 GRO Fellow

This was a great fellowship for undergrads. It allowed me to completely focus on my studies, without having to worry about finances so much. The internship is a great part of the fellowship: it helped me to decide what I wanted to do.

– 2006 GRO Fellow

[The GRO] Fellowship program was great. It provided me with several opportunities including an internship and research. It also helped ease the financial burden of a college education.

– 2007 GRO Fellow

I greatly appreciate the opportunities and experiences [the Fellowship] provided, both in [my] research and in my summer internship.

– 2007 GRO Fellow

The GRO program is an amazing opportunity and I am so grateful to have received this fellowship. I have gained invaluable skills in the laboratory that will help me succeed in a Ph.D. program. The summer internship was a phenomenal experience. Overall, this program has not only provided the means for me to gain skills in the lab but has given me direction in my future career.

– 2007 GRO Fellow

[This is a] great program. The internship set me up well for a professional/academic career!

– 2008 GRO Fellow

This was an incredible experience and learning opportunity. I was impressed with how well everything was handled and with the caliber of my internship.

– 2008 GRO Fellow

I appreciated having the opportunity to learn and work under the EPA GRO program. This is a very comprehensive tool to expose undergraduate students to careers in EPA, provide subject matter experts as mentors and to learn first-hand about research that is being conducted in response to issues in communities.

– 2008 GRO Fellow

This fellowship was instrumental in my development as a scientist. The internship aspect of it was especially enlightening because it gave [me] perspective from within a government agency regarding environmental issues. I hope this fellowship can continue to assist students in the future.

– 2008 GRO Fellow

This program has been an extraordinary experience for me. I have learned a great deal and had the ability to participate in research and activities that I otherwise would [not] have had the option to engage in. I hope that more students are able to have the opportunity to work within EPA and pursue studies related to the environmental field.

– 2009 GRO Fellow

I can honestly say that the EPA GRO Fellowship has truly shaped my career. I've been affiliated with EPA since the start of the Fellowship and now have the opportunity for a career at EPA. Thank you! Without you, I'm pretty sure my career path would have been entirely different.

– 2009 GRO Fellow

The undergraduate GRO Fellowship helped me understand the endless career possibilities [in] science and environmental health.

– 2010 GRO Fellow

I have nothing but good things to say about the GRO Fellowship. The GRO enabled me to attend the Condon School of Economics for summer study. These together earned me another scholarship for summer study at Harvard and in turn a White House internship. I graduated first in class and it all started with GRO. Thanks so much!

– 2010 GRO Fellow

I thought the program was perfect. The [internship] experience was great, and the monies provided were crucial to the funding of my undergraduate thesis work.

– 2010 GRO Fellow

The Fellowship program was fantastic and has enabled me to do so much more than I expected.

– 2010 GRO Fellow

This fellowship was an excellent experience – the research experience I gained during my summer in an EPA laboratory is invaluable, and the scientists I came to know are truly inspiring individuals. Please continue to motivate undergraduates to challenge themselves and pursue education outside of school!

– 2011 GRO Fellow

This program provided an extraordinary opportunity for training, which not only enhanced [my] learning during college, but helped lead to employment in the non-profit public health sector.

– 2011 GRO Fellow

[GRO is an] excellent program [that] supports deserving students.

– 2011 GRO Fellow

Thank you very much for the fellowship opportunity. God Bless!

– 2011 GRO Fellow

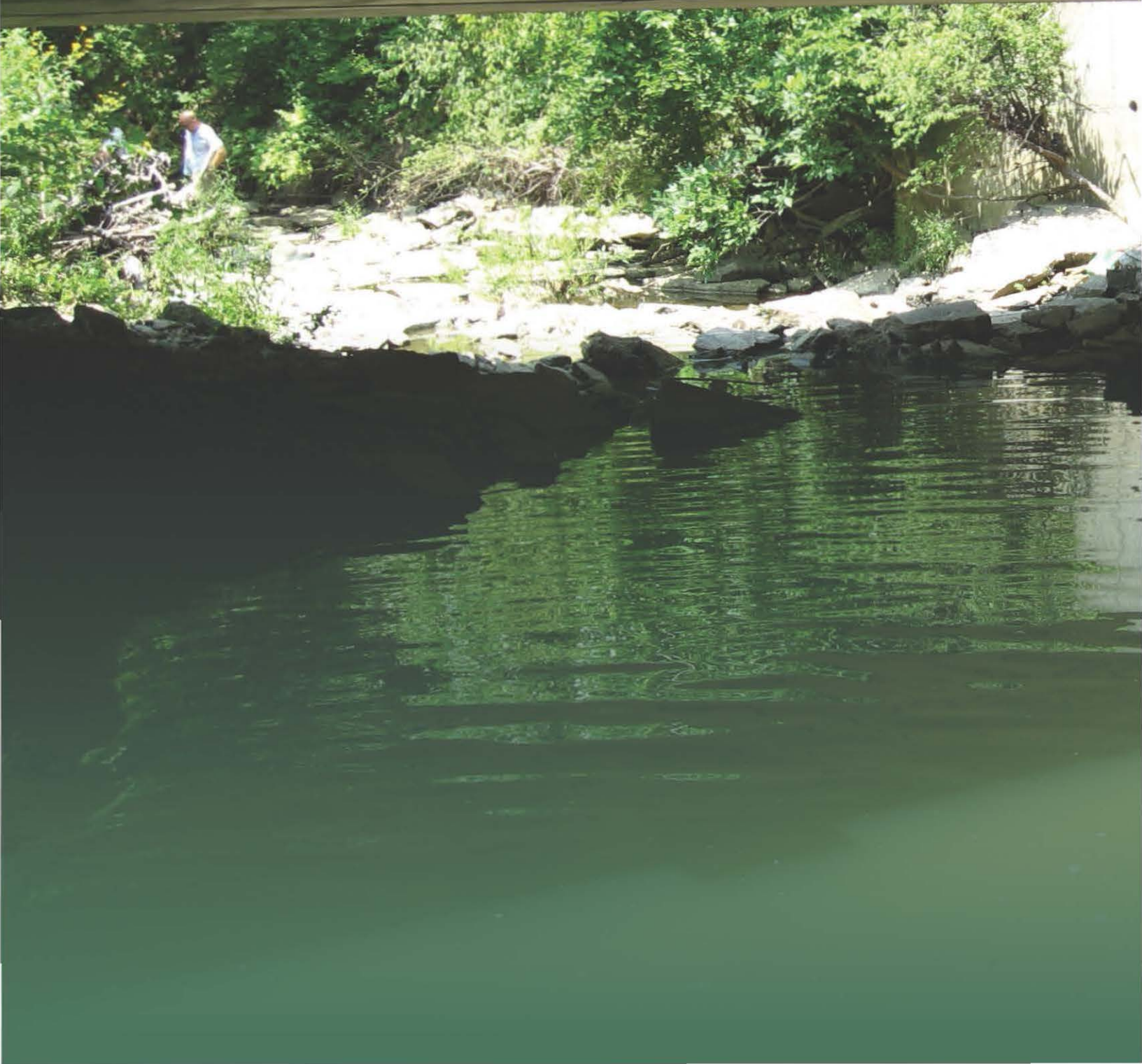
The GRO program is a great way to engage students in environmental research. The program was run very well and should be maintained programmatically as long as possible.

– 2012 GRO Fellow













# **NATURAL & LIFE SCIENCES**

2012 Fellow Tyanna Smith conducts stream sampling during her summer internship in Cincinnati, Ohio.





# ELENA BRAITHWAITE

*1993 Fellow*

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*Hampton University*

“During high school, I became very interested in the role scientists play in protecting the environment,” says Elena Braithwaite, a 1993 Fellow. She decided to attend Hampton University, Hampton, Va., and major in marine science and environmental studies. Elena credits her EPA internship with introducing her to the broader nature of the field. “I had very little knowledge about toxicology,” she says. “I had no idea toxicologists were instrumental in protecting the public and the environment.”

“I became fascinated with the field of toxicology and with a lot of encouragement from my parents I went on to obtain a Ph.D.,” she says. After earning her doctorate from the University of Kentucky, Lexington, Ky., she completed postdoctoral fellowships in Strasbourg, France, and at the National Institute of Environmental Health Sciences, Research Triangle Park, N.C. Elena has worked at NIEHS since 2006. She studies the mechanisms of action by which environmental contaminants initiate and promote the development of cancer.

As a member of the NIEHS Office of Science Education and Diversity Advisory Committee, Elena participates in activities and initiatives to coordinate, enhance and broaden the institute’s education outreach and diversity efforts. She also volunteers in support of community outreach efforts, such as programs teaching children about nutrition and healthy lifestyle choices.

*“My perspective on toxicology changed when I participated in the summer internship program at EPA.”*

~ ELENA BRAITHWAITE



# SHERITA BENNETT CHARLES

*2000 Fellow*

*Norfolk State University*

“Make the most of all your experiences while you are in school and try to learn something from everyone that you encounter,” Sherita Bennett Charles, a 2000 Fellow, advises GRO Fellows. “Even if you have a solid plan for what you want to do in life, be open to change. You never know what experience may come along.” Building on her bachelor’s degree in biology from Norfolk State University, Norfolk, Va., Sherita has pursued a career in nursing. As she has grown professionally, she has found a niche in women’s health issues, becoming a labor and delivery nurse. “I truly enjoy being able to be a part of such an unforgettable event in a person’s or family’s life,” Sherita says. She’s currently working on her master’s degree, with the goal of becoming a women’s health nurse practitioner.

Sherita’s interest in the environment began when she worked in her grandparents’ garden. She continues to have an interest in the relationship between food and health. Her EPA summer internship, during which she reviewed and analyzed data on the link between exposure to contaminated or polluted water and disease, has also stayed with her. “There’s definitely a link between health and what we put into our bodies,” she says.

Sherita and her husband Tahir Charles, a 1998 Fellow, met when both were members of the panel that reviews GRO Fellowship applications. About their service on the panel, Sherita says, “We love being able to give back. Someone gave us the opportunity, and it feels good to be able to give the same opportunity to worthy students.”

*“It’s encouraging that students today are working so diligently in the environmental field and will make tremendous contributions as they go forward.”*

~ SHERITA BENNETT CHARLES



# AUSTIN COOK-LINDSAY

*2009 Fellow*

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*Baylor University*

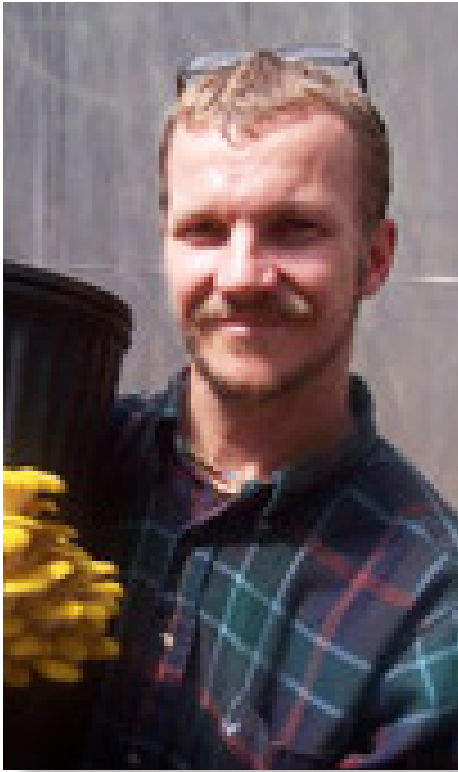
“The GRO Program shaped and informed my dedication to do research in the name of bettering human health and wellbeing,” says 2009 Fellow Austin Cook-Lindsay. In 2012, while teaching English in Kyrgyzstan under a Fulbright Scholarship, he became committed to pursuing his calling and decided to seek a master of public health degree. He earned that degree at Baylor University, Waco, Texas, where he’d graduated with a bachelor’s degree in environmental science in 2011.

The Fulbright Scholarship allowed Austin to work at Kyrgyzstan’s Bishkek Humanities University, and to make presentations in Uzbekistan, Kazakhstan and Tajikistan. In 2013, he completed a health education internship on the southeast coast of Brazil. Austin has applied his commitment to health education during his studies at Baylor, teaching an undergraduate course on health and human behavior. “Teaching is extremely fulfilling for me and allows me to positively affect the health of Baylor undergraduates on a daily basis,” he says.

Austin is currently working toward a master’s degree in maternal and child health at Cape Town University in South Africa through a Rotary Global Grant Ambassadorial Scholarship. “The research skills I acquired and the ability to analyze quantitative data I obtained through my GRO research and internship are useful more often than I could ever have expected,” he says. Austin’s undergraduate research has already resulted in two publications, and his first graduate-level paper on a public health topic has been accepted for publication. “I think the GRO Fellowship award was the first step on the path that has allowed me to succeed in all of my endeavors,” he says. “I guess I have veered a little from the strictly environmental side of things,” Austin says, “but in my mind, one of the main purposes of EPA and the GRO Program is to encourage research and action that betters the environment to lead to a more sustainable future for people.”

*“I try to embody dedication to the betterment of humanity in my work, studies and friendships. It all started with my GRO Fellowship.”*

~ AUSTIN COOK-LINDSAY



# STEPHEN TRADD COTTER

*2010 Fellow*

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*Clemson University*

When he learned that he'd been awarded the GRO Fellowship, Tradd Cotter says, "I was very honored to be able to participate. I was already a leader in the mushroom industry, but I was missing the skills and mindset of a scientist," he continues. "The Fellowship helped me go back to school where I could work in labs doing undergraduate research." Tradd brought a background in fungal ecology and tissue culture, which not all students have, and even assisted his instructors with their lectures on fungi. Tradd continues to enjoy teaching and presents educational lectures about fungi to children and adults. "What's most important is for people to understand how things work," he says. "It helps people broaden their world view as to how important fungi are in our local and global environment."

*The Fellowship is something that will always stay with me, and is something that I can build upon.*

~ STEPHEN TRADD COTTER

Tradd didn't know much about mushrooms until he toured a mushroom farm when he was about 19 years old. "I was amazed at how cool it was," he said. He asked a lot of questions and apparently impressed the owner, who offered him a job. That event changed his whole life, he says. He started his own business specializing in mushroom cultivation and research around 1994, and it has grown steadily.

Tradd is working toward a degree in microbiology at Clemson University, Clemson, S.C., but has taken a leave of absence to grow both his family and his business. In addition to a new baby, he's preparing to open a large research and production facility. This major expansion of his business will allow him to study both fungi and bacterial/fungal relationships and will also serve as a learning center for students. "It's both exciting and terrifying," he says.





# GREGORY CRAWFORD

*1995 Fellow*

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*Wiley College*

“The GRO Fellowship provided me an opportunity to explore different facets of research and scientific work,” says Gregory Crawford, a 1995 Fellow. While a Fellow at Wiley College, Marshall, Texas, he conducted his first environmental investigation, a study of pollutants and fish kills in a 26,800-acre lake in Louisiana and Texas. In addition to introducing him to research, Gregory says that the Fellowship provided him an invaluable experience through his summer internship. “It allowed me to network and expand my horizons and knowledge of potential environmental careers.” He encourages current and future GRO Fellows to “think beyond” the internship, saying, “Start to think about what you would like to do in the future and how the summer internship can be a step in that direction.”

Immediately after earning his bachelor’s degree, Gregory accepted a job in EPA’s Region 4 headquarters, Atlanta, Ga., where he worked on air quality issues. Since 2006, he has worked at the Centers for Disease Control in Atlanta. “Because of my interest in the relationship between environmental health and public health,” Gregory says, “I’ve been able to serve as the lead scientist / investigator for research programs and projects related to air pollution, asthma, and volcanic gases.” He has also earned both a master’s of science and a doctorate in public health.

Gregory is currently Deputy Director of the Office of Grants Services in CDC’s Procurement and Grants Office, which makes financial awards to partners throughout the world to promote health; prevent disease, injury and disability; and prepare for new health threats. “It’s another phase of my career,” he says. “What I find most satisfying about the career path I have chosen is that I’ve had the opportunity to do a plethora of different things.”

*“The GRO Fellowship helped to expand my knowledge and awareness of different possible career opportunities involving research and scientific activities.”*

~ GREGORY CRAWFORD



# CHARLIE GARNETT- BENSON

*1995 Fellow*

## *Hampton University*

Cancer researcher and Georgia State professor Charlese “Charlie” Garnett-Benson, a 1995 Fellow, didn’t know that she wanted to study science when she enrolled at Hampton University, Hampton, Va. She was surprised by her success in her freshman biology class, and with the encouragement of a professor, enrolled in a summer molecular biology course. That decision ultimately led her to earn a Ph.D. in immunology and molecular pathogenesis from Emory University, Atlanta, Ga. In the course of her academic career, Charlie has been the recipient of a Minority Access to Research Careers scholar award, a National Science Foundation minority fellowship, a Cancer Research Training Award fellowship, and a post-doctoral fellowship from the National Cancer Institute.

Currently Charlie heads a lab that conducts studies on the effects of radiation on gene expression in human cancer tissues. This work provides insights into the development of new approaches to treating cancer through the combination of radiation and immunotherapy. “I have one of the best jobs there is,” Charlie says. “I’m really blessed. Research related to public health is very rewarding. You work a little harder when you know you have an impact on someone’s health.”

Charlie thinks that her experience of finding her career in an unexpected place is common to many young people. “There are a lot of students out there who would be good in science but don’t know their career options,” she says. “Scientific jobs are viable, enjoyable, and different from other jobs.” She’s built her own company that works to encourage students to explore scientific careers. Charlie seeks to encourage diverse students to broaden their views of who can be a scientist and the variety of options they can pursue. “Talking to someone like me can show them that a ‘regular person’ can be a scientist,” she says. “More minds and more diversity lead to scientific innovation.”

*“No day is ever the same when you’re doing scientific research. It’s about finding something no one has found before. It’s about discovering something new.”*

~ CHARLIE GARNETT-BENSON



# CARMEN GEORGE

*2000 Fellow*

*New Mexico State University*

Carmen George, a 2000 Fellow, has been interested in environmental and health issues since she was an undergraduate at New Mexico State University, Las Cruces, N.M. Carmen has a master's degree in environmental health with a focus on epidemiology from Colorado State University, Fort Collins, Colo. She currently directs a New Mexico field office for a study being conducted by the University of Colorado-Denver's Center for Native Oral Health Research (CNOHR). The research focuses on providing disease prevention and intervention tools to Native Americans, including those of Carmen's tribe, the Navajo.

One of the health disparities among Native Americans is in the prevalence of dental caries, commonly known as tooth decay or cavities. "Early childhood dental caries is a big problem," Carmen says. "Native Americans have the highest number of cavities in the United States." Tooth decay in early childhood is related to an increased risk of decay in both "baby" and permanent teeth and to other factors such as number of hospitalizations and emergency room visits, school absences and quality of life.

The University of Colorado-Denver study is a new research approach, Carmen says, and will collect information that can ultimately be used in disease prevention efforts. "I enjoy what I am doing right now and want to continue working in the health field with Native American populations," she says.

"I'm very thankful for the GRO Fellowship," Carmen says. "It helped me focus on school itself, rather than on how to pay for it." She also recalls that her summer internship "opened up a whole new world." She traveled all the way to Edison, N.J., to work on a project that used ocean water sampling to ensure the safety of public beaches. For someone from New Mexico, being on a boat every day and working by an ocean was a new experience. "It was far from home but really fun," she says. "It also helped develop my skills."

*“My internship helped me build on my science background. It helped develop my skills and opened up a whole new world.”*

~ CARMEN GEORGE





# ALEXANDER GUZZETTA

*2010 Fellow*

*California State University - Fresno*

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.” Alex, a 2010 Fellow, graduated from California State University-Fresno, Fresno, Calif., in 2013 with a degree in biology. He’s since enrolled in an M.D. / Ph.D. program at the University of Chicago to continue investigating questions about how environmental pollution may affect human health.

Alex is thankful for the support the Fellowship provided. He was able to quit a part-time job and spend as much time as he wanted 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 undergraduate research included two projects: investigating alternatives to pesticides and increasing the potential of biofuels. “I grew up in California’s Central Valley,” he says. The area is home to California’s most productive agricultural areas. He notes, “Pesticides are a constant presence in the lives of people who live there.” Alex studied the possibility of growing plants that are inherently resistant to certain parasites as a way to limit the use of pesticides. Alex also conducted research on how different media, the substances used in the lab to grow cells, affect the metabolism of certain types of algae. “The ultimate goal of this project was to understand how media influence algal metabolism and oil production so we can design better media to increase oil output for the production of biodiesel,” he says.

*“Working on projects that have the potential for real world applications toward improving the environment is really interesting to me because I can see the problems in my everyday life that I am attempting to solve.”*

~ ALEXANDER GUZZETTA



# DJUANA HARVELL

*1992 Fellow*

*Clark Atlanta University*

After completing both her master's and her bachelor's degrees in chemistry through a five-year program at Clark Atlanta University, Atlanta, Ga., Djuana Harvell, a 1992 Fellow, went on to get her doctorate in pathology and microbiology at the University of Nebraska Medical Center, Omaha, Neb. There, she participated in a cancer research training program and began her career as a research scientist. "I like being at the bench and trying to solve problems related to disease," she says. "I'm looking at disease at the molecular level, trying to address questions of prevention, and I'm helping people in that manner."

Recalling her experience through the Fellowship Program, Djuana says, "All college students should do internships. The experience helps you figure out what you ultimately want to do." She recalls that her internship contributed to her professional development, because it not only allowed her to learn useful laboratory techniques, but to meet a variety of people and begin to explore environmental career options.

Djuana is currently a research associate at the University of Colorado-Denver, Aurora, Colo. She notes that her research, which includes cancer and more recently infectious diseases, has an environmental component. "Diet is considered an environmental factor," she says. "I'm still interested in the environment and how, as a whole, it has an impact on disease."

*The fellowship was  
a great opportunity  
and a wonderful  
experience.*

~ DJUANA HARVELL



# GIRVIN LIGGANS

*1994 Fellow*

*University of Maryland Eastern Shore*

“The most valuable thing you can do when you’re trying to figure out the career you want to pursue is internships,” says Girvin Liggans, a 1994 Fellow. “Internships are absolutely critical.” In addition to his internship at EPA’s Atlantic Ecology Division, Narragansett, R.I., where he studied the toxicity of marine sediments, Girvin interned with the Patuxent Wildlife Research Center, U.S. Army Corps of Engineers and the University of Maryland School of Medicine. “Internships provide hands-on experience,” he says. “They give you the chance to build a skill and see if it’s something you want to pursue.”

Based in part on his internship experiences, Girvin found that environmental health was a natural fit for him, allowing him to combine a love of environmental science with an interest in public health. As his career progressed, he found a niche in the area of food safety working at the county and state level before joining the U.S. Food and Drug Administration in 2011.

Girvin is currently a consumer safety officer at FDA’s Center for Food Safety and Applied Nutrition, where he works on a broad range of issues including foodborne illness prevention, retail food programs and food safety training. “The decisions we make and the role we play affect public health on a national level,” he said. “Our fingers are on the pulse of current trends and techniques to prevent foodborne illness. We’re on the front line of emerging issues and face different challenges every day.”

Girvin has a bachelor’s degree in environmental science from the University of Maryland Eastern Shore, Princess Anne, Md., and is currently enrolled in a doctoral program there in organizational leadership. He also holds a master’s degree in environmental health sciences from the University of Michigan, Ann Arbor, Mich.

*“The Fellowship made an impact on the choices I made going forward. It was a valuable experience at the time and I continue to benefit from it.”*

~ GIRVIN LIGGANS







# **ENVIRONMENTAL SCIENCES & INTERDISCIPLINARY PROGRAMS**

2009 Fellow Shannon Klotsko conducts water sampling during her internship in Gulf Breeze, Fla.



# EVAN BREDEWEG

*2006 Fellow*

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*Pacific University*

“Before my EPA GRO Fellowship, my views on the environment were based on classroom work, labs and recreational activities,” says Evan Bredeweg, a 2006 Fellow. “Through my summer internship, I was able to actually participate in the monitoring and protection of these environments.”

After finishing his bachelor’s degree in environmental science at Pacific University, Forest Grove, Ore., Evan studied conservation biology for a year in New Zealand as a Fulbright Scholar. “My time in New Zealand was an extension of my undergraduate research, which was very strongly focused on environmental issues and species conservation,” Evan says. “Through those experiences and since then, I’ve learned much more about the real world steps that are necessary for applied conservation efforts.”

After returning to the United States, Evan worked in Omaha, Neb., in an agricultural analytical laboratory testing soil, fertilizer and compost. “Along with that work experience,” he says, “I was very interested in pursuing how sectors like agriculture can work in partnership with conservation efforts.” He believes that most land owners are interested in responsibly maintaining their land, but have little involvement in conservation efforts, such as improving marginal habitat within agrarian landscapes.

The recipient of a National Science Foundation Pre-doctoral Fellowship, Evan is a doctoral student in the fisheries and wildlife program at Oregon State University, Corvallis, Ore. “I’m interested in the interactions of agriculture with conservation efforts and how they can act in concert for wildlife habitat and movement,” Evan says. “As a graduate student I have the chance to study my favorite subjects while working toward questions of real pertinence to conservation.”

*“The GRO fellowship has definitely helped me pursue my goals. It provided a starting block for me to begin my academic career and helped open doors to further opportunities.”*

~ EVAN BREDEWEG



# MEGAN BUTLER

*2006 Fellow*

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*Knox College*

“Being a GRO Fellow helped me develop perspective about environmental sustainability and focus my career interests,” says Megan Butler, a 2006 Fellow who holds a bachelor’s degree in environmental studies from Knox College, Galesburg, Ill. After three-and-one-half years with the Peace Corps in El Salvador, Megan is now pursuing her interest in sustainability at the University of Minnesota, St. Paul, Minn., working toward a master’s degree in international development practice. “I’m confident that getting a master’s degree will help me better contribute to sustainable development initiatives in the United States and abroad,” she says.

Megan worked as an environmental education volunteer and regional volunteer coordinator for the Peace Corps. She was part of a team that worked with the Salvadoran Ministry of Education to publish a book called *Actividades Participativas Ambientales* (Participatory Environmental Activities), a tool for school teachers to help improve the quality of environmental education in Salvadoran classrooms. In addition to her time in the Peace Corps, Megan has worked for a university on a field research project and for environmental non-profits in the Chicago, Ill., area. “The opportunities I was able to take advantage of as a GRO Fellow helped shape my interests,” Megan says. “They also provided me with hands-on experience that helped me when I entered the workforce after graduation.”

*“The GRO program’s support opened doors for me to pursue educational and research opportunities that helped me reach my educational and professional goals.”*

~ MEGAN BUTLER



# MEGAN KILLIAN CRUNKLETON

*2004 Fellow*

*Towson University*

Megan Killian Crunkleton, a 2004 Fellow, has always been interested in and passionate about the environment and feels that it was a natural decision for her to select an environmental career. “My experience as a GRO Fellow solidified that decision,” she says. Megan earned her bachelor’s degree in environmental science and studies and her master’s degree in environmental science with a concentration in water resources management from Towson University, Towson, Md. “The financial benefits of being a GRO Fellow were crucial in allowing me to focus primarily on my studies,” Megan says.

For her internship, Megan worked at the Atlantic Ecology Division on the toxicity of sediments from local watersheds. “The projects I was involved in during my internship fascinated me and the people I worked with at the EPA lab were very friendly, helpful and enthusiastic.” She recalls that during her experiences with field work during her internship, “I thought to myself, ‘This is work?’”

Megan works at an engineering consulting firm as an environmental scientist in natural resource management. She enjoys the diversity of her work. “It makes life interesting and allows me to continually learn and grow in my profession,” she says. Megan’s strong interest in biology supports her work on watershed studies such as bioassessment analyses of fish and invertebrate communities in streams. “The little moments in nature bring you back to why you chose an environmental profession in the first place,” she says.

Megan’s commitment to the environment is evident in her volunteer work. She and her husband regularly participate in an annual cleanup event called Project Clean Stream. More than 7,000 volunteers pick up trash in streams and woodlands in this large event in the Chesapeake Bay region. Megan will also be serving as a science counselor for a local Cub Scout pack, guiding the boys through STEM-related activities and helping them work towards earning the Science Everywhere Nova Award.

*“Being a recipient of a GRO fellowship made me a more valuable graduate school candidate and asset in the workforce.”*

~ MEGAN KILLIAN CRUNKLETON





# JAY FEITSHANS

*2007 Fellow*

*Albright College*

Jay Feitshans, a 2007 Fellow, is about to complete his law degree from Rutgers University School of Law, Camden, N.J. Although he hasn't decided exactly what field of law he'd like to go into, he says, "I'd like to stay in something scientific. I never really left that house." Some areas of law that he's interested in are energy policy and environmental compliance. Jay earned bachelor's degrees in environmental science and economics from Albright College, Reading, Pa. "I chose law school because I've always had an interest in learning and developing useful skills," he says.

Jay has given back to the community through his pro bono work at the Rutgers bankruptcy clinic, where he assisted attorneys in interviews, conducted follow-up and assisted in court hearings. He received an award from the University for completing more than 50 hours of service at the clinic.

Jay credits the GRO Fellowship with expanding his experience beyond academics, which he says gave him the ability to pursue other opportunities. "The internship wasn't about just the science," Jay says. "A lot of what I learned was about working together and interpersonal skills." In addition to his GRO internship at Region 4 Headquarters, Atlanta, Ga., Jay went on to have an internship in Cincinnati, Ohio. Both focused on issues related to water quality.

*The GRO internship added practical skills to the GRO Fellowship. It put theory to practice.*

~ JAY FEITSHANS



# JESSICA HELGESEN

*2010 Fellow*

*University of Wisconsin - Milwaukee*

“Seeing how quickly suburban sprawl broke apart natural spaces and made farmlands disappear was very frustrating to me as I grew up,” says Jessica Helgesen, a 2010 Fellow. “I became interested in trying to find a way to protect those spaces, and planning seemed the best type of research for me.” Jessica earned two bachelor’s degrees from the University of Wisconsin, Milwaukee, Wis., one in environmental geography, which is the study of the environment and how people interact with it, and one in urban studies. Her ultimate goal is to work in the area of sustainable planning.

As a GRO Fellow, Jessica interned at the Region 10 Oregon Operations Office, Portland, Ore., where she worked on a project on wetlands in two emerging urban areas. “Seeing how wetlands were being incorporated into urban areas encouraged me to pursue urban issues,” she says. She had the opportunity to work in a variety of areas, including GIS, computers, and stakeholder interactions that all related to her environmental geography major. “It was inspiring to see how the federal government is working with cities and non-profits and communicating with them about their needs when developing an effective plan for wetlands,” Jessica says.

Jessica has always spent time in the outdoors enjoying the environment. Her appreciation for the environment led her to volunteer with the Wisconsin League of Conservation Voters in high school. That experience taught her about environmental laws and let her reach out to citizens through canvassing. “Grassroots organizing can make a difference when you’re educating people about their environment,” she says. Jessica is now embarking on a new adventure as a natural resource management volunteer in Mexico with the Peace Corps. It’s been a dream of hers since high school. She’ll work with the Mexican equivalent of the EPA on community projects on natural resource and land management. “I’ll be looking at natural resources,” Jessica says, “delving into them and working to understand laws and rules. I think going abroad will open my eyes to a new culture and really let me see the world.”

*The GRO Fellowship allowed me to be more focused as I was deciding what I wanted to do.*

~ JESSICA HELGESEN



# CURRY JONES

*1992 Fellow*

*Wiley College*

“It meant a lot to me to get the Fellowship and be able to do research in my own back yard,” says Curry Jones, a 1992 Fellow, who grew up in southeast Houston, Texas. “I was also one of the first students at my school to be awarded something like this Fellowship.” Curry’s undergraduate research at Wiley College in Marshall, Texas, was on the water quality of a lake in east Texas. Through that experience, he discovered that he had a strong interest in working on drinking water, which led him to a summer internship with the drinking water program in EPA Region 10, Seattle, Wash. Curry subsequently went to work there in the total maximum daily load (TMDL) program. He’s now the Section Chief of the State and Tribal Program Grants Section of the Region 6 TMDL program, Dallas, Texas. “The work I do has opened my eyes to what people can do at local and larger scales to ensure that everybody has access to good, clean, safe water,” he says.

Curry became interested in the environment because he grew up in a neighborhood affected by environmental health disparities. He recalls local residents’ concerns about the potential effects of nearby toxic waste sites and the occasional uncontrolled flooding from local bayous. Curry still maintains his connection to the neighborhood, which also faces economic disparities. “It’s a ‘food desert,’” he says. “The nearest major grocery store is a 25- to 30-mile drive.” Curry has also seen similar environmental and economic disparities through his work with Native American tribes. “These things make my passion for what I do that much greater,” he says.

While in Seattle, Curry earned a master’s degree in public health and a certificate in health education from the University of Washington. He continues to pursue those interests as a guest lecturer at the University of North Texas Health Science Center, Fort Worth, Texas, where he teaches graduate students about the public health perspective on glaucoma. Curry gives back to the community through his own company, where he works with and tutors elementary, middle and high school students. “I help them achieve their dream of successfully completing post-secondary education and attending college to make a better life for themselves and their communities,” he says. “I encourage students to pursue a career in the public sector,” he continues. “My push is to make sure that these young men and young women are productive citizens.”

*“The Fellowship gave me an opportunity, opened my eyes, and changed my career path.”*

~ CURRY JONES



# AUSTIN KANA

*2007 Fellow*

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*Hobart College*

After graduating from Hobart College, Geneva, N.Y., with a bachelor's degree in environmental studies and public policy, 2007 Fellow Austin Kana explored energy issues in Washington, D.C., through an internship with a lobbying firm and a job as an analyst for a contractor to the Department of Energy. His experiences helped him discover that he wanted to focus his passion for sustainability on conducting quantitative technical research.

To pursue his interest, Austin enrolled in a graduate program in naval architecture and marine engineering at the University of Michigan, Ann Arbor, Mich. He has completed a master's degree and recently entered the doctoral program. Austin was one of 40 students from all disciplines to receive the university's Dow Sustainability Fellowship in 2012. He says about graduate school, "I like having the freedom to pursue my own academic interests and create my own work schedule."

Austin's research relates to a marine renewable energy device patented by his advisor through the university. The device harnesses the energy in a water current and drives a generator to create electricity. "I've always loved being around the water," Austin says. "Combining that with my passion for sustainability by working on marine renewable energy technology seems like a perfect fit to me."

*The Fellowship program has helped open doors for me, especially in terms of finding funding for my graduate research.*

~ AUSTIN KANA





# SHANNON KLOTSKO

*2009 Fellow*

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*Coastal Carolina University*

After graduating from Coastal Carolina University, Conway, S.C., with a bachelor's degree in marine science, Shannon Klotsko, a 2009 Fellow, entered an earth sciences doctoral program at the Scripps Institution of Oceanography at the University of California, San Diego, Calif. "I believe that receiving the GRO Fellowship was a great boost on my resume when I was applying to graduate school," she says.

Shannon credits the Fellowship as contributing to her being awarded a National Science Foundation graduate research fellowship to support her remaining years of graduate school in geological oceanography. Shannon's graduate work focuses on the processes that shape the margins of continents. She has conducted research on a number of locations, including California, Rhode Island and the Arctic Ocean. She notes, "The summer internship at EPA solidified my interest to pursue scientific research by continuing my education and also opened my mind to all the great reasons to work for the government when I am finished with school."

*"I really enjoyed the Program and am thankful for the economic and scientific benefits I gained."*

~ SHANNON KLOTSKO



# NA'TAKI OSBORNE-JELKS

*1995 Fellow*

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*Spelman College*

In 2014, the Obama Administration recognized 1995 Fellow Na'Taki Osborne Jelks as one of 14 White House Champions of Change for her work in environmental education and outreach. Na'Taki manages education and advocacy programs for the National Wildlife Federation in Atlanta, Ga., and leads NWF's multi-cultural environmental education and leadership development program for youth from underserved communities.

Na'Taki also works for her own community in Northwest Atlanta, Ga., where, she says, "There was a need for an organization to work in communities of color that were faced with environmental challenges." She co-founded and chairs the West Atlanta Watershed Alliance, which uses research and education, community engagement and leveraging community knowledge to work for environmental justice. Na'Taki has recently extended her commitment to engaging communities of color, founding a company that advises on community capacity building, energy justice and other issues.

Na'Taki credits the Fellowship, particularly the internship, with "getting me started on the path I've followed since that time." The internship was her first in an environmental field. She says, "It opened my eyes to the vast opportunities for getting involved in positive work that helps to protect and restore the environment and to protect public health at the same time. It was so helpful for me to have that experience."

An alumna of Spelman College, Atlanta, Ga., Na'Taki studied civil and environmental engineering at Georgia Tech in Atlanta through a dual-degree program and earned a master's degree in public health/environmental and occupational health from Emory University in Atlanta. She is working toward her doctorate in public health at Georgia State University, Atlanta, Ga., and is also a part-time instructor at Spelman.

*The fellowship Program was one of the most influential experiences I've had in the development of my career.*

~ NA'TAKI OSBORNE-JELKS



# ANNIE PUTMAN

*2008 Fellow*

*Michigan Technological University*

Annie Putman is a passionate scientist. “The Fellowship opened my eyes to the sorts of programs and research that are necessary to ensure that we’re maintaining our natural resources for future generations,” she says. Annie shares her interest through outreach activities to give back to the community, such as mentoring students and helping organize a segment of the university’s “science day” program while a master’s student.

A graduate of Michigan Technological University, Houghton, Mich., Annie earned a master’s degree in earth science at Dartmouth College, Hanover, N.H. She is now a doctoral student at the University of Utah, Salt Lake City, Utah, and a Fellow of the university’s Global Change and Sustainability Center. Annie’s graduate research investigates climate today and in the future through studies of the hydrologic cycle, which is the movement of water on, above and below the Earth’s surface. “My master’s research investigated this topic in Barrow, Alaska,” she says. “During my Ph.D. studies, I hope to include greater expanses of the Arctic as well as shift focus to regions prone to drought.”

Annie is a great example of how scientists can stay in touch with the things they love, which for her include winter and its snow and frost. “My personal interest in outdoor activities like Nordic skiing really makes studying the Arctic a good fit for me,” she says. “Snow is intimately tied to the jet stream, which is tied to sea ice extent in the Arctic. I appreciate the link between my non-academic passions and my area of study.”

*“Being a GRO Fellow reinforced my scientific interest in the environment.”*

~ ANNIE PUTMAN



# LAURA SENEFELD

*2009 Fellow*

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*Winona State University*

“A lot of my work ethic and organization with my research projects came from my internship at the New England Regional Lab in Massachusetts,” says Laura Senefeld, 2010 Fellow. Laura worked on water monitoring in the Charles River and other New England rivers and streams. She says that the opportunity to do field work during her internship contributed to her decision to pursue a graduate degree in geological sciences at the University of Missouri, Columbia, Mo., after completing her bachelor’s degree in environmental chemistry at Winona State University, Winona, Minn. Laura is now a technician with a chemical company.

“I think the GRO Fellowship helped me get into graduate school,” Laura says. “I’m always asked about my experiences at the EPA during interviews.”

*“My GRO internship taught me how to be a better scientist.”*

~ LAURA SENEFELD





# MEGAN SKRIP

*2005 Fellow*

*The College of New Rochelle*

“Being an alumna of the GRO Fellowship Program has been a great boost for me,” says Megan Skrip, a 2005 Fellow. “I feel that I gained valuable experience in the field and lab during my internship, but I also acquired a better sense of the kinds of careers to consider as I make my way through grad school.” Megan says that her GRO internship was a dream come true, letting her conduct hands-on research in New York and New Jersey streams. “My internship left me with a deeper sense of the interconnectedness among natural and human systems on broad geographic scales,” she says. “It’s really as if my eyes had been opened to the way that watersheds work.” She’s also grateful to the EPA employees she met as a Fellow for helping her to better understand environmental regulations and the opportunities that exist in environmental science.

Megan earned her bachelor’s degree from The College of New Rochelle, New Rochelle, N.Y., with a double major in biology and environmental studies. She went on to earn a master’s degree in ecology from the State University of New York College of Environmental Science and Forestry, Syracuse, N.Y. Megan is currently a doctoral candidate at the University of Rhode Island, Kingston, R.I., in the biological and environmental sciences program. She studies the relationship of nutrition to migration and reproduction in small birds, and also how scientists can maximize the impact of research-based outreach. “What I love about my current position is the sheer diversity of work I get to do and the topics I get to study,” Megan says. “I perform a variety of assays in the lab, I draw blood samples from migrating birds in the field, I rear captive birds in the university aviaries, and I write quite a bit as well.”

*“My experience as a GRO Fellow strongly confirmed my desire to pursue environmental science and gave me the opportunity to explore my interests.”*

~ MEGAN SKRIP



# CORINA SOLIS

*2010 Fellow*

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*St. Edward's University*

“I love that I’m meeting so many passionate young professionals who have been highly successful in the environmental field,” says Corina Solis, a 2010 Fellow, about her graduate school experience. Corina is working on a master’s degree in environmental management at the Yale University School of Forestry and Environmental Studies, New Haven, Conn. She credits the Fellowship with helping her get to where she is today. “Being a Fellow solidified my decision to continue to pursue a career in energy efficiency as well as one in local government,” she says.

Corina spent her GRO summer internship in Boston, Mass., working on the Community Energy Challenge, a voluntary EPA program aimed at municipalities and designed to increase energy efficiency and decrease greenhouse gas emissions. She worked directly with town officials to help them track energy use and made follow-up presentations including recommendations for ways to improve energy efficiency. Corina later applied the skills she learned during her internship as the Energy Task Force leader for her graduate school’s Environmental Stewardship Committee. “Because of my Fellowship experience, I have a much better understanding now of what the role of the federal government is with respect to the environment,” Corina says. “This has taught me both where improvement is necessary and how to work within the current framework to get important things done.”

*“The GRO Program was the first to believe in me. It opened doors for me through the EPA name and through the summer internship experience I had.”*

~ CORINA SOLIS



# CANDISS WILLIAMS

*1998 Fellow*

*Tuskegee University*

“As a result of my college summer experiences with EPA and others, I knew that I wanted to conduct environmental research that had an impact on policy,” says Candiss Williams, a 1998 Fellow. Candiss is currently a research soil scientist for the U.S. Department of Agriculture Natural Resource Conservation Service, working at the Kellogg National Soil Survey Laboratory in Lincoln, Neb. “USDA NRCS is the primary federal agency that works with private land owners to assist them in protecting their natural resources,” she says.

Candiss’ responsibilities include evaluating and quantifying the impact of land management on soil and water quality and developing and evaluating predictive tools to evaluate land management’s impact on soil properties. “I enjoy being able to tell a whole story,” she says. “My job allows me the opportunity to formulate ideas, develop protocols, and collect, analyze and synthesize data that are then used to evaluate conservation policy and programs.”

Candiss says that the fellowship gave her both the opportunity to learn about EPA and its function within the government and gain hands-on experience through her internship, which encouraged her to focus on the environmental sciences. “It also lessened the financial burden that a college education had on myself and my family,” she notes. Candiss holds a bachelor’s degree in environmental science / natural resource management and a master’s degree in soil biogeochemistry from Tuskegee University, Tuskegee, Ala., and a doctorate in soil and water chemistry from Purdue University, West Lafayette, Ind.

*I was very excited to receive the Fellowship because it allowed me to pursue environmental science as a major.*

~ CANDISS WILLIAMS





OR 651 XM

RESEARCH





# ENGINEERING

2010 Fellow Rachel King  
during her internship in  
Newport, Ore.





# VALERIE HORSTMAN BOSSCHER

*2007 Fellow*

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*Calvin College*

Valerie Bosscher, a 2007 Fellow, is applying her degrees in engineering to solving problems related to remediation and industrial wastewater. She holds a bachelor's degree in engineering with a civil and environmental concentration from Calvin College, Grand Rapids, Mich., and a master's degree in environmental engineering from Northwestern University, Evanston, Ill. Valerie credits the GRO Fellowship Program for supporting her undergraduate studies and research, which allowed her to become familiar with the research process and ultimately to attend and succeed in graduate school.

Through her current position as an assistant project manager for a Chicago, Ill., consulting firm, Valerie says, "I've been involved in many innovative technology applications and treatability testing projects." She's worked in areas including wastewater load control, groundwater remediation and soil remediation. "I enjoy finding innovative and cost effective solutions to assist clients in improving environmental quality," Valerie says. "In this way, clients are able to do more with their limited environmental and remediation budgets."

*The understanding of high-quality research approaches provided during my GRO Fellowship has been invaluable to my current work.*

~ VALERIE HORSTMAN BOSSCHER





# TAHIR CHARLES

*1998 Fellow*

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*Texas Southern University*

Tahir Charles received an EPA Fellowship in 1998 when he was an undergraduate at Texas Southern University in Houston, Texas, studying environmental engineering technology. He continued on as a graduate student, earning an MBA. He discovered that he had an aptitude for doing research and reviewing grants, and finally decided to apply for a grant himself.

This led to Tahir starting a business providing financial management for children and disabled adults with autism and developmental delays. “Don’t be scared to start your own business,” he advises GRO Fellows. “Learn how to own what you do.”

Tahir and his wife Sherita Bennett Charles, a 2000 Fellow, have continued to work with the GRO Fellowship Program as members of a panel that reviews Fellowship applications. Both he and Sherita are impressed with the quality of the applicants and welcome the opportunity to give back to the Program.

*“As a Fellow, I  
learned how to think  
outside the box.”*

~ TAHIR CHARLES



# MEAGAN MAUTER

*2004 Fellow*

*Rice University*

“My experiences conducting research at the intersection of environmental engineering and public policy helped to shape my career,” says Meagan Mauter, a 2004 Fellow. Her career is founded in the observation that science and policy don’t exist in isolation but at an interface that requires collaboration among multiple disciplines. In her own research, she says, having technical knowledge of engineering fundamentals and putting that knowledge into economic, regulatory and sociopolitical contexts are equally important. “My experience since I was awarded the GRO Fellowship has been that the biggest environmental challenges require getting people to the negotiating table, finding common ground and compromising on a solution,” she says.

*“The GRO Fellowship pushed me to explore research as an integral component of my undergraduate education.”*

~ MEAGAN MAUTER

Currently an assistant professor of chemical engineering and engineering/public policy at Carnegie Mellon University, Pittsburgh, Pa., Meagan has bachelor’s degrees in civil and environmental engineering and history from Rice University, Houston, Texas, and a doctorate in chemical and environmental engineering from Yale University, New Haven, Conn. She was also a post-doctoral fellow in energy technology innovation and policy at the Harvard Kennedy School of Government, Cambridge, Mass. Meagan’s research group at Carnegie Mellon, the water and energy efficiency for the environment lab, seeks to identify and address the technical and structural barriers to the implementation of water- and energy-efficient technologies. Complementary policy research investigates the geospatial, economic, regulatory and sociopolitical aspects of this issue.

Meagan was recently awarded a teaching fellowship through Carnegie Mellon’s Wimmer Faculty Fellows program. “I’m very proud of this award,” she says. “It’s funding the development of a new course on water technology innovation and policy that will be a platform for sharing interdisciplinary concepts in innovation with undergraduate students.” She is also involved in environmental outreach, most recently serving on the Academy of Sciences of South Africa’s panel to characterize South Africa’s state of readiness for unconventional oil and natural gas development and to identify and investigate any unique risks that drilling might present for the country.



# JULIE RENNER

*2005 Fellow*

*University of North Dakota*

“The EPA Fellowship was an incredible opportunity for me,” says Julie Renner, a 2005 Fellow. “Not only did it relieve much of the financial burden of my education, but it allowed me to travel, meet lifetime mentors and conduct impactful research.” The experience still influences her today, sustaining her interest in working on environmental projects. She’s also stayed in contact with her EPA mentors from her summer internship. “They’ve shaped the way I think about mentorship and I aspire to influence young people in the way they’ve influenced me,” Julie says.

Julie graduated summa cum laude from the University of North Dakota, Grand Forks, N.D., with a bachelor’s degree in chemical engineering. Her research experience as an undergraduate inspired her to pursue a doctorate in chemical engineering. She completed her thesis work as a National Science Foundation Graduate Research Fellow at the Purdue University School of Chemical Engineering, West Lafayette, Ind.

“After graduate school, I wanted to get an industrial postdoctoral experience and apply the skills I learned in graduate school to a new field,” Julie says. “My positive experience with the EPA Fellowship influenced my decision to enter into this kind of work.” She is currently an NSF / American Society for Engineering Education-sponsored Small Business Postdoctoral Research Fellow at a company in Wallingford, Conn., that specializes in water electrolysis. This process promotes the use of hydrogen as an environmentally friendly alternative fuel. “There’s increased interest in using hydrogen as a renewable energy storage medium because of its versatility and the ease of generation,” Julie says.

*“My positive Fellowship experience influenced my decision to obtain a Ph.D. and my decision to work in my current postdoctoral position.”*

~ JULIE RENNER





# CYNTHIA BEHEL WILLIAMS

*2000 Fellow*

*Alabama A&M University*

“My experience as a MAI/GRO Fellow has affected my choices both academically and professionally,” says 2000 Fellow Cynthia Behel Williams. “One of the biggest effects has been my desire to succeed.” That drive and motivation are evident in her career successes and her commitment to educational achievement.

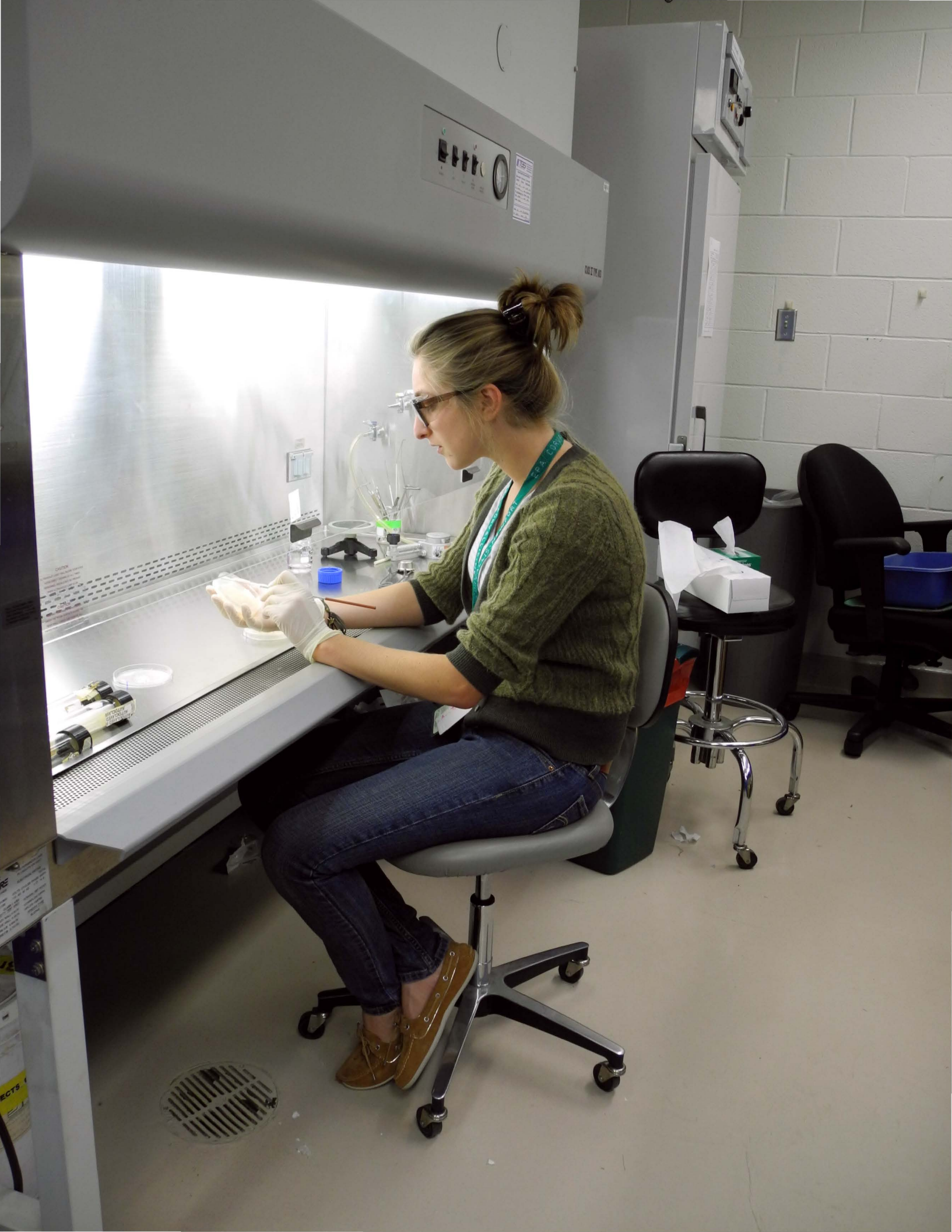
After gaining experience drafting environmental documents and coordinating compliance with environmental health and safety regulations, Cynthia worked as an environmental regulatory specialist for the Space Shuttle Program. “This was a really interesting and important job,” she says. “I identified risk issues that were environmental, health and safety driven and mitigated the risks with the assistance of the affected Space Shuttle element.” NASA recognized her team’s work with a group achievement award. Currently managing a lab as an engineer at the Department of Defense Missile Defense Agency, Cynthia uses her environmental training when she reviews environmental test plans and environmental characteristics of materials.

Cynthia has used her environmental training to give back in several ways, including serving on an EPA panel that reviews Fellowship applications. She has also volunteered her services to a non-profit organization to assist with applying for grants. Cynthia also volunteered to assist with development of maintenance and fire plans for Cultural Resource areas of the Bankhead National Forest in Alabama; the plan was adopted for use in other National Forests in Alabama.

Cynthia has recently taken on another challenge: pursuing her doctorate in systems engineering at George Washington University, Washington, D.C. “I saw a need to gain the academic knowledge of systems engineering to bring together the experiential knowledge I’ve gained through my positions on the Space Shuttle Program and at MDA,” Cynthia explains. She’ll add her doctorate to a bachelor’s degree in environmental science from Alabama A&M University, Huntsville, Ala., and both a master’s degree in environmental management and a master’s of business administration from the University of Maryland University College, Adelphi, Md.

*“I feel I need to push myself a little harder to assure that I excel at whatever task I am assigned. This is the best way for me to repay the opportunity given to me by the Fellowship.”*

~ CYNTHIA BEHEL WILLIAMS











# **SOCIAL SCIENCES**

2012 Fellow George Osei in the lab during his internship in Las Vegas, Nev.



# BRENT CHAVOUS

*1999 Fellow*

*Hampton University*

“The GRO Fellowship had a long-lasting effect on my profession and on making me want to give back and help others pursue their scientific interests and curiosity,” says Brent Chavous, a 1999 Fellow. Brent is currently an assistant principal at a middle school in Lancaster, S.C. He’s also been a high school science teacher, teaching biology and physical science classes. In addition to preparing students for entering the work world, Brent uses teaching to introduce them to practical applications of science and to give them an appreciation of natural processes. He’s also sponsored an environmental club and is interested in promoting school-wide recycling. “If people are better educated and informed about the environment, we can improve quality of life and have a more beautiful place to live,” Brent says.

Brent’s commitment to giving back as an educational leader has also led him to serve as a peer reviewer for the GRO Program. “I enjoy seeing the variety of students and learning about their backgrounds and the kind of research they want to do,” he says. Brent believes that it’s important to connect people to the environment and get them interested in it and that the GRO Program can help achieve that. “People need to see themselves in the scope of what EPA does,” he says. “There are so many aspects, like water quality, air quality, policy, social issues and education.”

Brent credits his GRO internship with providing him an opportunity to meet scientists with advanced degrees, which he says affected his way of thinking and his interest in pursuing his education. He’s gone on to earn a master’s degree in educational leadership from the University of South Carolina, Columbia, S.C., and is currently taking a break from pursuing his lifelong goal of earning a doctorate.

*Earning the Fellowship was a celebration. That success was important for my further advancement. I’ve gotten to do what I wanted to do in life.*

~ BRENT CHAVOUS





# AKOSUA DOSU

*2007 Fellow*

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*Spelman College*

“Receiving the GRO Fellowship exposed me to a number of incredible experiences,” says Akosua Dosu, a 2007 Fellow. “I gained invaluable experience in the community and with the government.” Her academic study and professional experiences to date have focused on local and international environmental, energy and community development. She now applies her bachelor’s degree in political science from Spelman College, Atlanta, Ga., and master’s degree in global environmental policy from American University, Washington, D.C., both of which have an international relations focus, in her job at the U.S. Department of Energy.

Akosua began working at DOE in 2012 as a DOE Scholar in the Office of Policy and International Affairs, European and Asian Pacific Affairs. Her work supports the development of briefing memos and policy recommendations, and the implementation of bilateral cooperative partnerships, activities and events. The goal of these efforts is to strengthen the United States’ energy relationship with more than 50 countries.

“Most of my work deals with fostering or furthering energy cooperation to aid in developing Asian nations’ access to reliable and sustainable energy,” Akosua says. “The work that I do directly influences U.S. energy diplomacy.” DOE collaborates with interagency partners such as the U.S. Agency for International Development and the Department of State to ensure that not only national priorities but also community needs are considered in outreach to developing countries.

*“I wouldn’t have had the validation and exposure to environmental professions that I had through my GRO Fellowship.”*

~ AKOSUA DOSU





# MILAN GRIFFIN

*2003 Fellow*

*Spelman College*

“The Fellowship was an amazing opportunity,” says Milan Griffin, a 2003 Fellow. “It exposed me to the realm of environmental protection and helped me to take greater command of my financial and professional life after college. I am still benefiting from all of these things today.”

Milan credits the Fellowship Program for helping her broaden her experience with and exposure to environmental science and policy, including the subject of her summer internship, environmental justice in communities of color. “The Fellowship experience also indirectly strengthened my desire and passion for education,” she says. “It helped me to see that many people are affected by but can have difficulty processing environmental issues because they are un- or under-educated in general.”

Milan graduated in 2005 from Spelman College, Atlanta, Ga., with a bachelor's degree in political science with a concentration in environmental policy. She then attended Tufts University, Medford, Mass., earning a master's degree in middle school social studies education, going on to teach middle school in the Washington, D.C., school system. She's now the director of training and outreach for a non-profit housing counseling organization. “I love being a manager and having a direct impact on people's lives,” she says. In addition, Milan contributes to a Spelman alumnae association conference for teens in the Washington, D.C., area, which seeks to develop character, self-esteem and leadership among young women.

*“The Fellowship exposed me to pressing environmental issues and developed my passion for environmental protection.”*

~ MILAN GRIFFIN



# ELAN MITCHELL

*2007 Fellow*

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*Spelman College*

As a doctoral student at Howard University, Washington, D.C., 2007 Fellow Elan Mitchell is currently studying renewable energy approaches for Ethiopia and Kenya. Her focus is U.S. renewable energy policy and investment in Africa, including assistance in setting up energy options. Elan's work is related to President Obama's Power Africa initiative, which seeks to double the access to power in sub-Saharan Africa where more than two-thirds of the population doesn't have electricity. "My research combines my dual interests in environmental and humanitarian issues," she says. "That's always been my passion."

Elan credits the GRO Fellowship with providing the resources for her to conduct research on energy issues in Argentina while attending Spelman College, Atlanta, Ga. She earned a bachelor's degree in international studies, with an environmental science minor. In addition, she says, "My internship on green buildings was eye-opening, particularly in that it gave me the opportunity to interface with government and industry." In her current job in the Bureau of Industry and Security of the Department of Commerce, which is responsible for export control and treaty compliance, Elan continues to interact with industry. She works to ensure that companies are compliant with Federal regulations. "I've always wanted to work with the government," she says. "I'm happy to be doing so now."

*The GRO Fellowship is a wonderful experience that lets you have the opportunity to do the research that you love and to meet people through the internship. It's a phenomenal opportunity.*

~ ELAN MITCHELL



# SACOBY WILSON

*1995 Fellow*

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*Alabama A&M University*

“The EPA Fellowship had a major impact on my early development as a scholar, a leader, a servant to the community, and a mentor,” says Sacoby Wilson, a 1995 Fellow. The financial support provided by his undergraduate Fellowship and two EPA STAR Graduate Fellowships was an important contributor to his achieving his goal of becoming an environmental scientist.

Sacoby’s research has a strong focus on environmental justice. He is committed to doing research to achieve change rather than doing research for the sake of research, he says. In addition Sacoby is devoted to being a mentor for students. He believes that EPA Fellowship Programs make an essential contribution to getting students from underrepresented groups into the sciences where they have an opportunity to excel, have an impact and be part of the fabric of change. Fellowships help students build their resumes and show their potential as researchers. “The core mission of the Fellowship Program is my current mission: to get students from underrepresented groups into graduate school and to see them graduate,” he says.

Currently an assistant professor at the Maryland Institute for Applied Environmental Health, University of Maryland, College Park, Md., Sacoby holds a master’s degree in environmental health and a doctorate in environmental sciences and engineering from the University of North Carolina, Chapel Hill, N.C. He earned his bachelor’s degree at Alabama A&M University, Huntsville, Ala. He was also the recipient of a two-year Robert Wood Johnson post-doctoral fellowship. “I’ve had an impact in my career, but I still have a long way to go,” he says. “There are more important things to be done.”

*“The Fellowship gave me a means to excel in a way that let me meet my goals. I always had a vision and the Fellowship helped me achieve part of it.*

~ SACOBY WILSON













# **PHYSICAL SCIENCES & EARTH SCIENCES**

**2007 Fellow Cynthia Williams works  
in EPA's Region 9 Lab, Richmond,  
Calif.**





# ERIN DELMAN

*2010 Fellow*

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*Union College*

“It’s important to remember that science has real-world implications,” says Erin Delman, a 2010 Fellow. “My GRO Fellowship experience reaffirmed my desire to act as an environmental advocate in the policy sector.” A recipient of a National Science Foundation Graduate Research Fellowship, Erin is pursuing her doctorate through the Department of Earth System Science at the University of California-Irvine, Irvine, Calif. She works in the Climate and Hydrologic Modeling Research Group in the University of California Center for Hydrologic Monitoring, where her research focuses on the nexus between energy and water. Erin says that she went directly to graduate school after getting bachelor’s degrees in both Latin American studies and geology at Union College, Schenectady, N.Y., because she has always aspired to earn a Ph.D. “I love research,” she says. “It’s fun and important.”

Erin credits her summer internship at Region 2 headquarters in New York City as providing a launching point for her current research on energy and climate. “I was able to see first-hand some of the issues plaguing U.S. water quality, and it reaffirmed my convictions,” Erin says. “The internship taught me the intricacies involved in implementing sound environmental policy. All projects and issues have multiple sides; nothing is black and white. As scientists working toward the greater good, it’s crucial to keep a pragmatic and open-minded attitude.”

*“The GRO program gave me confidence that I was on the right track.”*

~ ERIN DELMAN



# CIARRA GREENE

*2010 Fellow*

*Northern Arizona University*

The Nez Perce leader Toohoolhoolzote once said, “The earth is part of my body . . . I belong to the land out of which I came.” Ciarra Greene, a 2010 Fellow and member of the Nez Perce tribe, remembers her father reciting that quote while they were hunting, fishing and gathering on the Nez Perce Reservation in northern Idaho. “It inspired me to observe and investigate my environment and initiated my desire to bridge my culture with Western science,” Ciarra says.

The GRO Fellowship allowed Ciarra to conduct research on environmental uranium contamination while attending Northern Arizona University, Flagstaff, Ariz. Uranium mining on the Navajo Nation in Arizona affected the environment of the people there. When the uranium was transported to the Hanford Nuclear Waste Site in Richland, Wash., it further contaminated the resources of other Tribes including the Nez Perce. “The relationship of uranium and Native peoples captivated my interest and solidified my dedication to the project,” Ciarra says. “Through my research, I was able to educate both Native and non-Native people about the challenges Tribal Nations are facing today because of decisions made decades ago.”

After graduating, Ciarra worked at the Arizona Science Center in Phoenix, Ariz., educating youth about science, technology, engineering and mathematics (STEM). She is attending the University of Idaho, Moscow, Idaho, to pursue her master’s degree in natural resources.

*“Through my fellowship I made lifelong relationships, acquired skills that I can use in a variety of settings, and discovered new fields of study that will help me achieve my own personal goals.*

~ CIARRA GREENE



# WILLIAM C. HARDY

*2005 Fellow*

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*Jackson State University*

William Hardy, a 2005 Fellow, says, “The GRO Fellowship Program helped me to achieve my educational goals by providing me with both the financial resources I needed to finish my undergraduate degree and also the professional experience that motivated me to pursue graduate education.” William, who holds bachelor’s and master’s degrees in chemistry from Jackson State University, Jackson, Miss., has recently earned his doctorate in analytical chemistry at the University of Florida, Gainesville, Fla. He’s currently a post-doctoral research associate in the Global and Homeland Security division of Savannah River National Laboratory, Aiken, S.C. “I’ve always been passionate about science,” he says, “and by pursuing an advanced degree I’ve had the opportunity to fully explore, discover and contribute to the scientific community.”

*“My experience as a GRO Fellow affected my choice of study and my current career area in tremendous ways.”*

~ WILLIAM C. HARDY

The GRO Fellowship contributed to William’s success by allowing him to participate in state-of-the-art research as an undergraduate at Jackson State, gaining fundamental training and skills. He also credits his GRO internship with EPA’s Green Chemistry program for providing a firsthand perspective on the necessity of critical thinking and the role of higher education for successful scientists. “It was during this internship that I was inspired to pursue graduate education,” William says.

The internship enhanced William’s appreciation of EPA and the professionals with whom he worked. Also, he says, “The GRO internship greatly influenced my perspective on the environment.” He learned about both Green Chemistry and the idea of Reduce, Reuse, Recycle, which he has applied in his professional and personal life. He says, “I’ve become more aware of how simple changes to my everyday life can dramatically reduce my ecological and environmental footprint.”





# JUSTIN PAUL

*2010 Fellow*

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*Juniata College*

Being awarded a GRO Fellowship helped Justin Paul, a 2010 Fellow, realize that he was interested in conducting environmental research as a career. “As an undergraduate, the Fellowship gave me the confidence and motivation to pursue geologic research related to groundwater quality,” he says. “Doing research helped me put my entire education into context.”

Justin is currently enrolled in a geology graduate program at the University of Memphis, Memphis, Tenn., where he’s studying the possible mechanism behind unexpectedly high chloride concentrations in groundwater from southeastern Arkansas. He’s also the recipient of a graduate student research grant from the Geological Society of America. “The GRO Fellowship opened the door to a career in environmental research,” Justin says.

Justin credits his summer internship in Region 8 for teaching him about geology and how to conduct research. He also notes that the EPA scientists he worked with taught him about professionalism, which he says is something he wouldn’t have learned in the classroom. “Because of the Fellowship Program and the guidance of my internship mentor, I’m prepared for a career in environmental research, seeking to solve environmental problems facing America today,” Justin says. “This will ensure I provide the greatest return on the EPA’s investment in me, for which I’m so very thankful.”

*The EPA GRO Fellowship program has had a profound effect on my life.*

~ JUSTIN PAUL



# NIKITA PEPERNI

*2009 Fellow*

*Southern Connecticut State University*

“During my GRO internship, I experienced a feeling of personal satisfaction with my work,” says Nikita Peperni, a 2009 Fellow. “After leaving work every day, I knew my efforts had gone toward improving the quality of our environment.” Nikita interned at the Region 2 Laboratory in Edison, N.J., with the helicopter monitoring program. He identified debris and spills in harbors and the ocean and communicated with other agencies regarding the locations. Ultimately, the program helps to protect the public who use local beaches and waters.

Nikita graduated from Southern Connecticut State University, New Haven, Conn., with a bachelor’s degree in liberal studies and a triple minor in chemistry, environmental studies and interdisciplinary studies. He was hired by an environmental firm, where he worked on remediation of sites contaminated with hazardous chemicals. In 2013, he began working as a chemical technician for a pharmaceutical company. “Ever since my first class, I’ve loved learning anything and everything I can about chemistry,” Nikita says. “I chose to minor in chemistry because I wanted a challenging subject, something I would have to work hard to understand.”

*“I wouldn’t have been able to afford my education without the help of the GRO program. My degree has opened up numerous doors for my career and future education.”*

~ NIKITA PEPERNI

# ERIC VANDERBOOM

*2006 Fellow*

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*University of Tulsa*

*“The GRO Fellowship was huge for me. When I got it, I couldn’t have been happier.”*

~ ERIC VANDERBOOM

Eric Vanderboom is someone who likes to be in the middle of the action. He did just that during his tenure as an on-scene coordinator in EPA’s Office of Emergency Management, calling that job “the best job in the Agency, by far.” EPA’s emergency response program responds to chemical, oil, biological and radiological releases and large-scale national emergencies. Eric participated in responses to incidents including the Deepwater Horizon and Enbridge oil spills, and natural disasters like Hurricanes Sandy and Irene. “Working in emergency response, you know you’re going there to do a good thing,” he says. “You’re going there to help. All of the incidents the office responds to are bad, and I wish none of them had happened, but there’s a lot of job satisfaction in seeing that they’re taken care of.”

Eric was 28 years old when he started school at the University of Tulsa, Tulsa, Okla. “The GRO Fellowship was huge for me,” he says. “When I got it, I couldn’t have been happier.” The Fellowship provided valuable financial assistance as he worked toward his B.S. in geosciences, and it was the internship that led him to have an interest in jobs at EPA. He applied for the OSC position and was hired in 2010.

Eric loved the challenge of being called upon to make decisions that ultimately helped the public and the environment, both in day-to-day actions like the clean-up of contaminated sites and in responses to emergency situations. “It was exciting to do the actual work in the field,” Eric says. “Besides, I’m a kid at heart. I love big heavy equipment. It’s like being a kid in a sandbox.”





# CYNTHIA C. WILLIAMS

*2007 Fellow*

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*Howard University*

Cynthia C. Williams, a 2007 Fellow, has worked in EPA's Region 9 laboratory in Richmond, Calif., since 2009 while also pursuing a doctoral degree in chemistry at the University of California-Davis. She works part-time in the lab, learning protocols and instrumentation to gain work experience toward her goal of working at EPA after she completes her doctorate in the summer of 2014. Cynthia cites her Fellowship and summer internship as instrumental to her choice to seek a position at EPA. "Everyone was welcoming, and they saw that I got involved in more than just the office portion of the project," she says.

Since high school, Cynthia has been devoted to scientific research. "I want to work on answering biological questions," she says. "I like working in research areas that have a true impact." When she applied to college, she was torn between studying chemistry or biology, and was fortunate to find a graduate program in which she could merge both interests.

"With research, you're not doing the same thing every day," Cynthia says. "Doing research and trying to find answers is another way to help people other than the medical field." In graduate school, Cynthia works in a lab that studies biological molecules called N-glycans, which have the potential to serve as biomarkers to aid in the early detection of diseases including cancer. "It's still a new field," she says. "The analysis is difficult but we've made great progress in developing rapid throughput methods for sample preparation and instrumental analysis. We're making great progress and are finding promising results."

*“My internship helped me to understand what the EPA is doing. Without the Fellowship, that wouldn't have happened.”*

~ CYNTHIA C. WILLIAMS

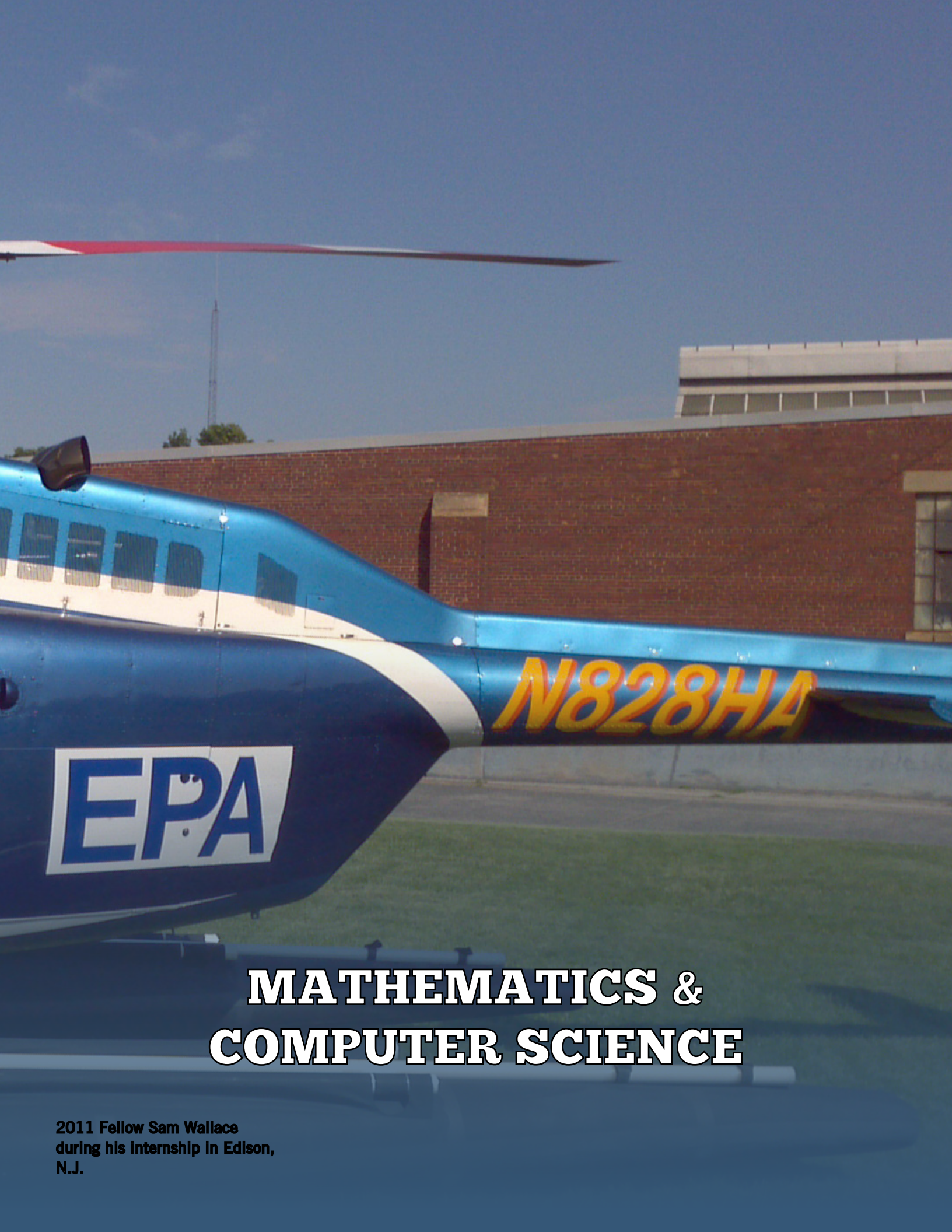












# **MATHEMATICS & COMPUTER SCIENCE**

**2011 Fellow Sam Wallace  
during his internship in Edison,  
N.J.**

# LATRICA BIRGAN

*1995 Fellow*

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*Alabama A&M University*

*“I’m very grateful for the Fellowship. I learned a lot of things I wouldn’t have been exposed to otherwise.”*

~ LATRICA BIRGAN

“I like it when I’m explaining a concept and can see when the students have gone from confusion to understanding,” says Latrica Birgan, a 1995 Fellow. Latrica is a mathematics instructor at Calhoun Community College, Decatur, Ala., where she has worked for 14 years. “I totally enjoy what I do,” she says. Latrica also teaches math courses for a number of online universities, and has earned a doctor of education degree as an online student herself.

Laticra has a bachelor’s degree in mathematics from Alabama A&M University, Normal, Ala., and a master’s in mathematics from the University of Alabama, Birmingham, Ala. “I’m very grateful for the Fellowship,” Latrica says. Not only was the financial support important, but she also had the opportunity to take classes on topics like ecology and ecotoxicology. “I learned a lot of things I wouldn’t have been exposed to otherwise,” she notes.

Teaching at a community college allows Latrica to interact with a wide variety of students, not just those who are fresh out of high school. Some of her students have worked for a while before choosing to go back to school, and others are older, having returned to school to broaden their employment opportunities. Latrica says of her older students, some of whom are grandmothers, “They are probably the most dedicated students you will ever have.” Many students choose to take a lot of math courses at Calhoun, she says, because they are looking ahead to entering an engineering program at a university, or because they are studying subjects like robotics or nursing.







# Alumni Profiles



Jennifer Arceo  
2010 Fellow  
California Lutheran University

Jennifer Arceo, a 2010 Fellow, is pursuing her doctorate in chemistry from the University of Notre Dame, South Bend, Ind. “The GRO program gave me the financial support necessary to continue my studies and focus on my studies,” she says. Jennifer is a graduate of California Lutheran University, Thousand Oaks, Calif., with a double major in environmental science and chemistry and is a recipient of a National Science Foundation graduate fellowship.

Amanda Ballard  
2012 Fellow  
Loyola Marymount University

Amanda Ballard, a 2012 Fellow, completed her undergraduate education at Loyola Marymount University, Los Angeles, Calif., where she earned a bachelor’s degree in biology. She will pursue a doctorate in biology with a focus on ecology, evolution and behavior at the Georgia Institute of Technology, Atlanta, Ga.

David Baltrusaitis  
2012 Fellow  
Loyola University

David Baltrusaitis, a 2012 Fellow, earned his bachelor’s degree in bioinformatics and molecular biology from Loyola University, Chicago, Ill. He is currently working toward his M.D.

Jackie Blake-Hedges  
2011 Fellow  
College of William and Mary

Jackie Blake-Hedges, a 2011 Fellow, is conducting environmentally-focused research in a doctoral program in chemistry at the University of California, Berkeley, Calif. She received a bachelor’s degree in chemistry from the College of William and Mary, Williamsburg, Va.

Ethan Degner  
2010 Fellow  
Gustavus Adolphus College

Since graduating summa cum laude from Gustavus Adolphus College, St. Peter, Minn., Ethan Degner, a 2011 Fellow, has completed an internship with the Smithsonian Tropical Research Institute in Panama and worked as a lab technician in the entomology department of the University of Minnesota, Minneapolis, Minn. He is currently in a doctoral program at Cornell University, Ithaca, N.Y., where he is a recipient of the university’s Presidential Life Sciences Fellowship and SAGE Fellowship.

## Alumni Profiles

Kevin Dickey  
2012 Fellow  
Rochester Institute of Technology

Kevin Dickey, a 2012 Fellow, was awarded the GRO Fellowship while pursuing a bachelor's degree in imaging science at the Rochester Institute of Technology, Rochester, N.Y. "Imaging science is not environmentally focused," he says, "but it has some definite environmental applications in the field of remote sensing." Kevin is considering pursuing a graduate degree in the future. He currently works at a federally-funded research and development center in the Washington, D.C., area.

Clarice Esch  
2011 Fellow  
Western Kentucky University

Clarice Esch, a 2011 Fellow, is currently pursuing dual doctorates in forestry and ecology at Michigan State University, East Lansing, Mich. She holds a bachelor's degree in agriculture from Western Kentucky University, Bowling Green, Ky.

Brendan-Michael Galloway  
2011 Fellow  
State University of New York

Brendan-Michael Galloway, a 2011 Fellow, graduated with a bachelor's degree in environmental policy, planning and law from the State University of New York, College of Environmental Science and Forestry, Syracuse, N.Y. He will be working on his master's degree in environmental policy with a focus on water policy at the Australian National University, Canberra, Australia.

Sergio Gonzalez  
2012 Fellow  
Loyola Marymount University

With an interest in renewable energy, Sergio Gonzalez, a 2012 Fellow, is beginning a master's degree program in technology and policy at the Massachusetts Institute of Technology, Cambridge, Mass. "Afterward I'll decide if I want to do a Ph.D. or start my career, probably in environmentally-focused consulting or research," he says. Sergio graduated with a bachelor's degree in civil and environmental engineering from Loyola Marymount University, Los Angeles, Calif.

George Grant  
2012 Fellow  
Castleton State College

George Grant, 2012 Fellow, works for the U.S. Forest Service. He plans to pursue a doctorate in the future in an environmentally-focused field, possibly biogeochemistry. George graduated from Castleton State College, Castleton, Vt., with bachelor's degrees in biology and chemistry.

## Alumni Profiles

Sarah Hardy  
2012 Fellow  
Lafayette College

Sarah Hardy, a 2012 Fellow, received a bachelor's degree in civil engineering with a minor in environmental science from Lafayette College, Easton, Pa. She will be working at an engineering firm in New York, N.Y., on wastewater, drinking water and stormwater infrastructure design. Sarah plans to pursue a graduate degree in the future.

Sarah Huang  
2012 Fellow  
Ursinus College

Sarah Huang, a 2012 Fellow, received her bachelor's degree from Ursinus College, Collegeville, Pa., in environmental studies and anthropology and sociology. She is currently attending Purdue University, West Lafayette, Ind., pursuing a master's degree in cultural anthropology with a focus on subsistence cultures in the circumpolar north.

Joseph Ifokwe  
2007 Fellow  
University of North Texas

After earning his bachelor's degree in biology with a minor in chemistry from the University of North Texas, Denton, Texas, Joseph Ifokwe, a 2007 Fellow, graduated from the University of Texas Medical School in Houston in 2013. Joseph will stay in Houston for his internship in internal medicine at the Baylor College of Medicine and his radiology residency at the UT Medical School.

Jessica Johnson  
2011 Fellow  
Salisbury University

Jessica Johnson, a 2011 Fellow, is currently a volunteer in the Peace Corps, where she teaches chemistry. Jessica holds a bachelor's degree in environmental issues from Salisbury University, Salisbury, Md.

Sonya Johnson  
2000 Fellow  
Clark Atlanta University

Sonya Johnson, a 2000 Fellow, graduated from Clark Atlanta University, Atlanta, Ga., with a degree in chemistry. She attended the University of Memphis, Memphis, Tenn., earning a master's degree in curriculum and instruction, and recently obtained her doctorate in curriculum and instruction from Capella University. Sonya currently works as an instructional curriculum coach for science in her local school district.

Kamil Khanipov  
2012 Fellow  
University of Houston

Kamil Khanipov, a 2012 Fellow, graduated from the University of Houston, Houston, Texas, with a bachelor's degree in biochemistry and biophysical sciences. He is currently enrolled in a doctoral program in computer science at the University of Texas Medical Branch, Galveston, Texas.



## Alumni Profiles

Sara Lafia  
2012 Fellow  
California State Polytechnic University

Sara Lafia, a 2012 Fellow, earned two bachelor's degrees from California State Polytechnic University, Pomona, Calif., one in geography (geographic information systems) and one in urban and regional planning. She will enter an M.A./Ph.D. program in geography at the University of California, Santa Barbara in 2014, focusing on environmental modeling. "When I complete my degree," Sara says, "my goal is to work in academia or for a government agency with an environmental and geospatial emphasis."

Rachel Lamb  
2010 Fellow  
University of Maryland

Rachel Lamb, a 2010 Fellow, is in a dual-degree program at the University of Maryland, College Park, Md., pursuing two master's degrees, one in environmental policy and one in sustainable development and conservation biology. She also works for the Society of Conservation Biology as a research assistant. Rachel earned bachelor's degrees in environmental studies and international relations from Wheaton College, Wheaton, Ill.

Cara Mayo  
2011 Fellow  
Juniata College

Cara Mayo, a 2011 Fellow, is currently working for a program that aims to reward food businesses who are recovering their surplus food for people in need. "Our hope is to make food recovery the norm in the U.S. instead of the exception," she says. Cara holds a bachelor's degree in environmental science from Juniata College, Huntingdon, Pa.

Brian McConnell  
2011 Fellow  
University of New Hampshire

Brian McConnell will begin a doctoral program in chemical engineering, which he expects will have an environmental focus, at the University of Delaware, Newark, Del., in 2014. He holds a bachelor's degree in chemical engineering from the University of New Hampshire, Durham, N.H.

Alexander Moore  
2005 Fellow  
Howard University

Alexander Moore, a 2005 Fellow, graduated with a degree in chemistry from Howard University, Washington, D.C. Alex went on to obtain an M.D. from the Morehouse School of Medicine, Atlanta, Ga., with a residency in emergency medicine through Emory University in Atlanta, his hometown.

## Alumni Profiles

Ikechukwu Obih  
2001 Fellow  
Xavier University

Ike Obih, a 2001 Fellow, is a neurologist in the New Orleans, La., area. He earned his bachelor's degree at Xavier University in New Orleans and attended medical school and completed his residency through the Louisiana State University Health Sciences Center (LSUHSC) in New Orleans. Ike was the recipient of several awards while at LSUHSC, including a neurophysiology fellowship, an excellence in teaching award and recognition as the neurological critical care resident of the year in 2012. In addition to giving back through his teaching, Ike is an award-winning fundraiser for a 2013 walk for a charity benefiting muscular dystrophy.

Ogechi Onyewu  
2001 Fellow  
Bowie State University

A doctorate in either bioinformatics or biomedical engineering is in 2001 Fellow Ogechi Onyewu's future plans. She has a bachelor's degree in applied and computational mathematics from Bowie State University, Bowie, Md., and is currently completing a master's degree in that field along with a master's certificate in computer science. Ogechi works as a project manager and data analyst supporting environmental management for the Department of Energy, where she helps manage a software application that handles environmental remediation data.

George Osei  
2011 Fellow  
Alcorn State University

The study of radiation characterizes 2011 Fellow George Osei's academic career. He earned a bachelor's degree in radiation technology (health physics) from Alcorn State University, Lorman, Miss., and is currently pursuing a master's degree in applied science (radiological science/health physics) there. In addition to his GRO internship at EPA's Radiation and Indoor Environments National Laboratory, Las Vegas, Nev., George has had two internships at the Los Alamos National Lab in New Mexico.

Carlos Juan Cruz Quiñones  
2011 Fellow  
University of Puerto Rico

Carlos Juan Cruz Quiñones, a 2011 Fellow, is currently a biologist and forest legacy program coordinator for the Puerto Rico Department of Natural and Environmental Resources. He is also preparing to begin graduate school, pursuing a doctorate in a topic related to natural and urban watershed sciences and management. Carlos holds a bachelor's degree in environmental sciences from the University of Puerto Rico, Rio Piedras, P.R.

Nicholas M. Ravotti  
2012 Fellow  
Green Mountain College

Nicholas Ravotti, a 2012 Fellow, is currently working toward Juris Doctor and master's of public policy (concentration in environmental policy) degrees. He holds bachelor's degrees in environmental studies, natural resources management and environmental management from Green Mountain College, Poultney, Vt.

## Alumni Profiles

Andrew Reighart  
2011 Fellow  
St. Mary's University of Maryland

Andrew Reighart, a 2011 Fellow, is working toward his master's of public policy degree with an environmental focus at the University of Maryland School of Public Policy, College Park, Md. Andrew holds a bachelor's degree in international public policy studies and political science from St. Mary's University of Maryland, St. Mary's City, Md.

Robert Reynolds  
2010 Fellow  
Loyola Marymount University

Robert Reynolds, 2010 Fellow, received his bachelor's degree in economics from Loyola Marymount University, Los Angeles, Calif. He is now a master of public policy candidate at the Harvard Kennedy School of Government, where he is a fellow of the Center for Public Leadership. Robert's studies concentrate on the intersection of behavioral science, decision-making and environmental public policy.

Jared D. Smith  
2011 Fellow  
Clarkson University

Since earning his bachelor's degree at Clarkson University, Potsdam, N.Y., Jared Smith, a 2011 Fellow, has enrolled in an M.S./Ph.D. program in environmental and water resource systems engineering at Cornell University, Ithaca, N.Y. He is conducting research involving spatial assessment of geothermal resource potential in New York and Pennsylvania. Jared is also a co-founder of the Clarkson University chapter of Tau Chi Alpha Environmental Engineering Honor Society, one of only three active chapters in the nation

Cori Speights  
2012 Fellow  
Texas A&M University-Corpus Christi

Cori Speights is enrolled in a master's program at East Carolina University, Greenville, N.C. Cori holds bachelor's degrees in biology and mathematics from Texas A&M University-Corpus Christi, Corpus Christi, Texas.

Porché Spence  
1999 Fellow  
North Carolina Central University

Porché Spence, a 1999 Fellow, holds a doctorate in soil science from North Carolina State University, Raleigh, N.C. She has a bachelor's degree in environmental science and a master's degree in earth science from North Carolina Central University, Durham, N.C. She currently is an adjunct instructor for NCCU and a mentor for a non-profit program that encourages minorities to pursue higher degrees in earth systems science.



## Alumni Profiles

Jessica Taylor  
2010 Fellow  
James Madison University

Jessica Taylor, a 2010 Fellow, earned her bachelor's degree in integrated science and technology from James Madison University, Harrisonburg, Va., "I was already interested in pursuing a career in sustainability," she says. "The Fellowship provided funding for my education." Jessica now does energy modeling for LEED certification for a company specializing in sustainable buildings.

Ericka Thomas  
2003 Fellow  
Norfolk State University

Ericka Thomas, a 2003 Fellow, earned her bachelor's degree in chemistry from Norfolk State University, Norfolk, Va. She went on to attend Emory University, Atlanta, Ga., where she earned a master's of public health degree in environmental and occupational health. After working as an environmental health and safety manager at a beverage and brewing company for six years, she is currently a senior environmental consultant working on an air pollution control project for an oil and gas company.

Sam Wallace  
2011 Fellow  
Oklahoma State University

Sam Wallace, a 2011 Fellow, is pursuing his master's degree in environmental geology at Rutgers University, Newark, N.J., where he is a research assistant at the university's Near Surface Geophysics Laboratory. Sam holds a bachelor's degree in environmental science from Oklahoma State University, Stillwater, Okla.

Catherine Grace Winters  
2012 Fellow  
Hartwick College

Catherine Winters, a 2012 Fellow, received her bachelor's degree in environmental chemistry from Hartwick College, Oneonta, N.Y. Currently employed as a research assistant at the University of Delaware, Newark, Del., Catherine will begin a master's program in water science and policy in 2014.

Catherine Wise  
2011 Fellow  
University of Southern Maine

Catherine Wise, a 2011 Fellow, will soon begin a doctoral program in toxicology at North Carolina State University, Raleigh, N.C. Catherine graduated from the University of Southern Maine, Portland, Maine, with a bachelor's degree in biology.









**GREATER  
RESEARCH  
OPPORTUNITIES  
UNDERGRADUATE  
FELLOWSHIPS**

*30<sup>th</sup> Anniversary Celebration*