

OFFICE OF EDUCATION Educational Partnership Program & Student Scholarship News

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Office of Education's New Acting Director of EPP and Student Opportunities: Audrey Trotman

Dr. Audrey Trotman's glass is always at least half full. New to NOAA's Office of Education—she joined the program on



June 7, 2010—she has a passion for learning. It is this fervor that has driven her career choices. It has also served her well as she has developed her role in our office. With an educa-

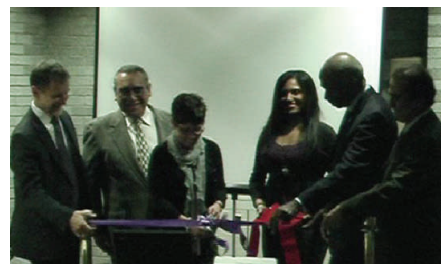
tional background in science — she has a PhD in Soil Microbiology—she considers herself a pragmatist. Her research has always focused on achieving practical goals. Twenty years ago, when Dr. Trotman joined the faculty at Tuskegee University, she began working on the science of sustainability, researching the biodegradation of crop waste. This effort required an interdisciplinary approach; students and faculty from Tuskegee worked with their counterparts at other colleges, including engineering majors from Auburn University, to fabricate the needed technology, whether chemical, electrical or mechanical in nature. "We were building from scratch, so we needed help in actually creating the system," said Dr. Trotman. While advising college students and overseeing research, she realized that the future of successful scientific research demanded that more students consider science as a career. She liked the cooperative work and discovered that involvement in science education wasn't a far cry from applied science research.

Trotman, continued on page 4

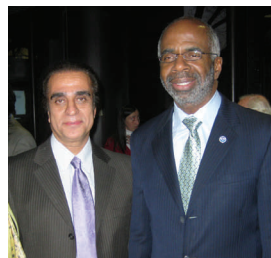
CUNY-CREST

Institute Established

On November 29, 2010, the City University of New York (CUNY) held an inaugural ceremony establishing the CUNY-CREST Institute. City College of New York (CCNY) President, Dr. Lisa



Staiano-Coico provided opening remarks, praising CCNY as a leader in recruiting and training the next generation of scientists and engineers of diverse backgrounds to work on NOAA related STEM disciplines. Dr. Larry Robinson, Assistant Secretary of Commerce for Conservation and Management, gave the keynote address, telling the audience, "The establishment of CREST as a CUNY-wide Institute of Excellence in Remote Sensing Science and Technology, that is designed to contribute to the development of world-class faculty, students and researchers in cutting edge research in science, engineering and technology



with special emphasis on satellites and remote sensing is a significant accomplishment."

Whereas CREST is based at CCNY, the CUNY-CREST Institute will expand remote

CUNY-CREST, continued on page 4

Top: CCNY President Dr. Lisa Staiano-Coico cuts the ribbon at the inauguration.
Bottom: Dr. Reza Khanbilvardi (left), CREST Center Director, with Dr. Larry Robinson, Assistant Secretary of Commerce.

For more information:
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A Scholar's Point of View

by Martin Blow

Less than one month into my first semester as a freshman at North Carolina A&T State University, I received an email from the NOAA Interdisciplinary Scientific Environmental Technology Cooperative Science Center (ISETCSC) asking to meet about a possible research opportunity. I was eager to begin research at the collegiate level and readily agreed. After a tour and an interview, two other freshmen and I were selected. During the summer internship following my freshman year, the praise I heard from a graduate student who had been a part of the Undergraduate Scholarship Program (USP) in the Educational Partnership Program (EPP) convinced me to apply.

This past summer, I interned with NOAA's Office of Marine and Aviation Operations (OMAO) under Commander John Adler of the NOAA Corps. I had many different projects instead of one big



one, unlike most other interns. First, I created a mission for underwater gliders in the Gulf of Mexico to monitor the clean-up of the oil spill. I researched the best deployment and pick-up points, designed the payload (sensors), and delineated the path for each of the three gliders. I was told that the mission that I designed could be a reality in the near future. Another project required reformatting the spreadsheet list of all the sensors on NOAA's ships, to make it easier to use. In my last assignment, I designed a test for the vertical and horizontal positioning of an autonomous underwater vehicle (AUV) while it is submerged in the ocean. This project was critical because Global Positioning Systems (GPS) do not work underwater. I did a small trade study to find the best inertial navigation system for the AUV, and gave my recommendation. I was awarded 1st place in the Mission Support category during the NOAA Office of Education Science and Education Symposium.

I am grateful that I was selected for the USP. It was by far the best internship that I have ever had. I made many lifelong friends, professional and academic contacts, and learned more than I could have imagined. This internship helped me to realize that I want to get a PhD specializing in autonomous technology. I highly recommend NOAA's Educational Partnership Program to any rising juniors who are majoring in one of NOAA's academic fields of study.

The Educational Partnership Program (EPP) Undergraduate Scholarship Program (USP) provides opportunities for undergraduate students to study disciplines relating to the NOAA's mission. Students attending Minority Serving Institutions (MSIs; Hispanic Serving Institutions, Historically Black Colleges and Universities, Tribal Colleges and Universities, Alaskan-Native Serving Institutions, and Native Hawaiian Serving Institutions) are eligible to apply. Scholarship recipients receive a scholarship of

\$8000 per year and two paid summer internships at approved NOAA offices and sites.

Martin and Malcolm Blow are recipients of the Class of 2010 EPP USP. These twin brothers, originally from Greene County, NC, are pursuing double majors in electrical and computer engineering at North Carolina A&T University. Martin and Malcolm received First and Third Place, respectively, at the NOAA Office of Education, Science and Education Symposium this past summer for their oral presentations describing their summer internship project.

The goal of the Undergraduate Scholars Program is to increase the number of students who undertake course work and graduate with degrees in targeted academic fields integral to NOAA's mission. Applications for the Undergraduate Scholarship Program are currently being accepted. For more information, please visit: www.epp.noaa.gov/ssp_undergrad_page.html. Applications are due January 31, 2011.

A Scholar's Point of View

by Malcolm Blow

I have been involved with NOAA since the beginning of my freshman year. The NOAA Interdisciplinary Scientific Environmental Technology Cooperative Science Center (ISETCSC) program, located on North Carolina A&T University's campus, selects a few students every year to do research while they are in school. Working under the NOAA ISETCSC program was my first practical research experience. This past summer I was accepted into the NOAA Educational Partnership Program (EPP) Undergraduate Scholarship Program. I initially heard about the program from a 2007-2008 EPP scholarship recipient (who I met at a different internship).

During my internship with the EPP program, I developed and led my own trade study looking at unmanned aircraft and sensors that would be able to locate and monitor oil spills. At the end of my internship, I actually recommended two combinations of aircraft and sensors for NOAA to use in the future when monitoring oil spills. I consider my internship with NOAA-EPP the opportunity of a lifetime because I plan to specialize in either autonomous technology or remote sensing during my doctoral studies in electrical engineering, and I made many contacts (both academic and professional) in these fields.

I plan on pursuing a PhD in electrical engineering immediately after receiving my bachelor's degree.



Upper left: Martin Blow working with a Boy Scout and a high school student to design an AUV at the Bay & Estuarine Sensor Technology in the Chesapeake Bay Convention.

Above: Malcolm Blow presenting his summer research project at the NOAA Office of Education Science and Education Symposium.

Undergraduate Opportunities

The Educational Partnership Program's Undergraduate Scholarship Program (USP) offers scholarship opportunities for current sophomore students attending Minority Serving Institutions (MSIs) who are majoring in disciplines relating to NOAA's mission i.e., atmospheric science, biology, cartography, chemistry, computer science, engineering, environmental science, geodesy, geography, marine science, mathematics, meteorology, photogrammetry, physical science, physics and remote sensing technology. Competitive two year appointments include \$8000/year in scholarship funds and 2 paid summer internships providing hands-on research experiences at NOAA offices and facilities. Applicants must be sophomores at the time of application and have at least a 3.0 grade point average. Application is available at http://www.epp.noaa.gov/epp_uspa/ and due **January 31, 2011**.

NOAA's Ernest F. Hollings (Hollings) Undergraduate Scholarship Program is designed to increase undergraduate training in oceanic and atmospheric science, research, technology, and education and foster multidisciplinary training opportunities; recruit and prepare students for public service careers with NOAA and other natural resource and science agencies at the federal, state and local levels of government; and recruit and prepare students for careers as teachers and educators in oceanic and atmospheric science in the United States. The Hollings Scholarship Program provides successful undergraduate applicants with awards that include an \$8000 scholarship for full-time study during the 9-month academic year; a 10-week, full-time paid summer internship at a NOAA facility and if reappointed, \$8000 for full-time study during a second 9-month academic year. Applicants must be sophomores at the time of application and have at least a 3.0 grade point average. Application is available at http://www.oesd.noaa.gov/Hollings_info.html and due **February 4, 2011**.

Graduate Opportunities

The Educational Partnership Program's Graduate Sciences Program (GSP) is aimed primarily at increasing opportunities for students in NOAA-related fields to pursue research and educational training in atmospheric, environmental, remote sensing and oceanic sciences, at Minority Serving Institutions (MSI) when possible. The GSP offers between two (master's candidates) to four years (doctoral students) of NOAA-related research and training opportunities. The GSP offers full-time Federal employment during and upon completion of the educational training. Applications are available at http://www.epp.noaa.gov/spp_grad_sciences_page.html and due **January 31, 2011**.

NOAA's Dr. Nancy Foster Scholarship Program recognizes outstanding scholarship and encourages independent graduate level research -- particularly by female and minority students -- in oceanography, marine biology and maritime archaeology, including all science, engineering, and resource management of ocean and coastal areas. The Nancy Foster Scholarship offers between two (master's candidates) to four years (doctoral students) of support and at least one opportunity to conduct a research collaboration at a NOAA facility. Scholarship recipients received up to \$30,000 in stipend and \$12,000 in tuition assistance annually. The application will be available on January 1, 2011 at Grants.gov and is due **March 17, 2011**. For more information, please visit <http://fosterscholars.noaa.gov/>.

Office of Education Student Scholars Recognized

Dr. LaToya Myles (2001 Graduate Scientist) was just named one of the Washington Post's [2010 the ROOT 100](#). She is described as a rising star in "environmental science and atmospheric chemistry." Dr. Myles is a Physical Scientist in NOAA's Air Resources Laboratory.



Local Climate Adaptation Planning Initiatives." Weather, Climate, and Society. (July 2010, Vol. 2(3)). Kyle also incorporated much of this information into his successfully-defended Honors Thesis and graduated from Brown University with Honors this past May.



Anaheim, CA, for her poster entitled: *Interaction of WaveEnergy Devices and the Environment: Biofouling Concerns and Mooring Systems.*

Micheal Hicks (2010 Graduate Scientist) successfully defended his dissertation proposal entitled: *Characterization of Turbulence, the Entrainment Zone, and Atmospheric Boundary Layer Heights in an Urban Convective Environment* on September 8, 2010, at Howard University.



Kyle Poyar (2008 Hollings Scholar) is the lead author on a journal article: "Early Responses to Climate Change: An Analysis of Seven U.S. State and

Maha Haji (2009 Hollings Scholar) was awarded first place in the engineering poster division at the 2010 SACNAS Conference in



NOAA Education's New Website

To better connect educators and students who are interested in NOAA's education and science resources, NOAA has just completed a major update of the agency's primary education resource portal:

<http://www.education.noaa.gov>.

This website serves as a portal to lesson plans, educational multi-media, data sources, career profiles, and other education content from across the agency. The content is centered on five thematic areas that highlight NOAA science and stewardship: Oceans and Coasts, Climate, Weather and Atmosphere, Marine Life, and Freshwater. Under each theme are topical resource collections that support common teaching topics and align with state and national science education standards.

"Educators look to NOAA as a trusted source for science based content they can use in their classrooms," said Louisa Koch, director of the NOAA Office of Education. "This website has been completely redesigned and makes it easier for them to find the materials they need and want."

The site provides information on professional development, academic scholarships, career exploration, and education grants. The resources on <http://www.education.noaa.gov> are easy to access and are easy to include into existing educational activities.

NOAA's mission is to understand and predict changes in the Earth's environment, from the depths of the ocean to the surface of the sun, and to conserve and manage our coastal and marine resources. Visit us at <http://www.noaa.gov> or on Facebook at <http://www.facebook.com/usnoaagov>

CUNY-CREST (cont'd from page 1)

sensing education, science and technology opportunities to all CUNY colleges. It will also increase partnerships with other universities; industry; Federal; state and city agencies. The NOAA-CREST Center will be an integral part of CUNY-CREST Institute.

Trotman (cont'd from page 1):

"Regardless of what you were trying to do it requires seeking and learning. You have a hypothesis, you test it, you get results and you learn something new. It's a continual process. I don't see leaving the [laboratory] bench and being in an administrative role as being a great divide. It's just different pieces of the same problem."

Finding that she thrived on the collaborative process, Dr. Trotman soon stepped into a "shared faculty" role, where the United States Department of Agriculture (USDA) paid for part of her time at Tuskegee. That meant that she was called upon to come to Washington, DC on occasion, to participate in reviews of their education programs, part of a USDA process of improvement. In 2004, when USDA had an opening, she moved to Washington, DC, full-time, trading a 120 mile driving commute for a car-free life in the city.

At USDA, Dr. Trotman worked to promote the significance of education to the agency, particularly the importance of efforts to increase interest among students in studies that might lead to USDA-relevant careers. "I might have missed the students coming by my office, but I was working with students in a different setting, trying to help provide them with opportunities. I was still pushing for students and for human capacity development."

When she realized she wanted new challenges, Dr. Trotman began seeking fresh opportunities in science education; NOAA stood out among Federal science agencies. She was particularly impressed by the agency's education strategic plan. Originally hired by the Office of Education as Program Manager for the Cooperative Science Centers (CSCs), she's found herself filling in as Acting Director of the Educational Partnership Program and Student Scholarships (EPP's Director, Jacqueline Rousseau, currently serves as Senior Advisor to Commerce Assistant Secretary Dr. Larry Robinson), to which she brings her avidity for cooperative efforts as a means of encouraging excellence. In the 6 months since she arrived here, she's been quite busy increasing her familiarity with the

CSCs, student scholarship programs and the environmental entrepreneurship program. The underlying philosophy that guides her every day is a belief that, "Everyone wants to do a good job and if we pull together as a team, we provide the greatest benefit possible to NOAA and to the public."

Cooperative Science Center Recognitions



**Interdisciplinary Scientific
Environmental Technology
Cooperative Science Center
(ISETCSC)**

Dr. Solomon Bililign—ISETCSC Director and professor of physics at North Carolina A&T, was named a 2010 Alumni Fellow by his doctoral alma mater, the College of Liberal Arts & Sciences of the University of Iowa. Dr. Bililign is also being honored as one of 100 notable black individuals in the science, technology, engineering and mathematics fields at the World Festival on Black Arts and Culture to be held in Dakar, Senegal from December 10-31, 2010. This honor comes from the Robert R. Taylor Network based at the Center for Educational Computing Initiatives at MIT.

**Cooperative Remote
Sensing Science and
Technology Center (CREST):**

NOAA CREST's formal undergrad education Program: "Earth System Science and Environmental Engineering" was just reviewed for Accreditation by ABET (Accreditation Board for Engineering and Technology). The program received no Deficiencies, one Weakness, and two Concerns. They expect to be accredited for the first time. This is remarkable for a program that has been running for only 4 years, with 24 graduates to date. The program was viewed as being most interesting and "Innovative" by the ABET reviewer and NOAA CREST was recognized for being instrumental in the program's success.

Upcoming Events of Interest

JANUARY 2011

LMRCSC Research Cruise: January 10-21, 2011

FAMU Elementary/Middle School Environmental Awareness Poster Competition Solicitation to Schools: January 11, 2011

FAMU ESI High School Summer Camp Applications Available: January 25-March 15

2011 National Conference on Science, Policy and the Environment (NCSE): January 19-21, 2011, Washington, DC

NOAA ECSC Annual Meeting: Tentatively January or February, 2011, Place TBA

American Meteorological Society (AMS): January 22-27, 2011, Seattle, WA

NCAS Colour of Weather Event at AMS: January 22, 2011, Seattle, WA

2011 NCAS High School Weather Camp Applications Available: January 29, 2011, <http://ncas.howard.edu>

NCAS Undergraduate Summer Intern Applications Available : January 29, 2011, <http://ncas.howard.edu>

FEBRUARY 2011

National Ocean Science Spoonbill Bowl: February 5, 2011, St. Petersburg, FL

ISETCSC Day: February 11, 2011, Greensboro, NC

American Society of Limnology and Oceanography (ASLO) Aquatic Sciences Meeting: February 13-18, 2011, San Juan, Puerto Rico

CREST Annual Science Symposium, City College of New York, NY

NOAA ECSC Annual Meeting: February 20-23, 2011, Orlando or Tampa, FL

American Fisheries Society (AFS) Tidewater Chapter Meeting: Feb/March, 2011

MARCH 2011

FAMU Elementary/Middle School Environmental Awareness Poster Competition: March-May 2011

AFS UMES Student Subunit Symposium

NOAA EPP Cooperative Science Center Meeting: March 23-25, 2011, Silver Spring, MD

APRIL 2011

National Organization for the Professional Advancement of Black Chemists and Chemical Engineers (NOBCChE): April 19-22, 2011, Houston, Texas

NOAA-CREST Annual Day - CCNY and All CREST campus (Simulcast)

CREST Summer Internship Applications available

MAY 2011

NOAA Student Scholars Orientation Training Program: May 31 - June 3, 2011, Silver Spring, MD

LMRCSC Science Meeting: Tentatively May, 2011, IMET

CREST Advisory Board Meeting and CREST Annual Symposium, Hampton, VA,

JUNE 2011

FAMU ESI High School Summer Camp: June 5-June 25, 2011, Tallahassee, FL

JULY 2011

AUGUST 2011

NOAA Scholars Final Presentation Week: August 1- 4, 2011, Silver Spring, MD

NESDIS/CoRP Symposium: Tentatively at the Cooperative Institute for Climates and Satellites, NC

SEPTEMBER 2011

AFS Annual Meeting: September 4-8, 2011, Seattle, WA

