



# OFFICE OF EDUCATION Educational Partnership Program

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## EPP Publishes Program Report

The Educational Partnership Program (EPP) is pleased to announce the availability of its first program report. Covering the years 2001-2007, this document demonstrates that EPP is producing results of national significance for student achievement and institutional capacity-building. The report documents the program's accomplishments, through statistics, description, photos and stories. Between 2001-2007, EPP supported well over a thousand students.



NOAA | OFFICE OF EDUCATION

## Educational Partnership Program Students Supported 2001-2007

	Undergraduate	Masters	Doctorate	Total
<b>Graduates</b>				
Total Students	384	145	42	571
Total Minority Students	266	84	30	380
<b>In the Pipeline</b>				
Total Students	263	107	105	475
Total Minority Students	218	71	77	366

The above chart shows what degrees these EPP-supported students received. The EPP is a vital part of NOAA's effort to promote environmental literacy and to develop a future workforce in science, technology, engineering and mathematics, particularly from underrepresented communities in disciplines critical to NOAA's mission. The report can be accessed on our website, [epp.noaa.gov](http://epp.noaa.gov). A limited number of hard copies are available from the office.

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## NOAA Education and Science Forum Scheduled for November 2009

The Fourth EPP Education and Science Forum is scheduled for November 12-14, 2009 on the campus of Howard University. The previous forum, held on the campus of Florida A&M University in 2006, attracted over 450 participants.

EPP sponsors this biennial event that draws representatives from government, the research community, academia and the private sector who are engaged in activities that support NOAA's mission. The Forum will include oral presentations and poster sessions, highlighting the success of the partnership between NOAA and academic institutions in providing educational and career opportunities for students.

*This newsletter also provides information about other NOAA scholarship programs administered by the Office of Education, which may be of interest to readers.*

## NOAA's Ocean Kiosk and the Ocean Hall at the Smithsonian's Museum of Natural History

The newly opened Sant Ocean Hall in the Smithsonian's Museum of Natural History is a place of marvelous airy space, with newly restored 54 foot-high ceilings returning its original Breaux Arts design, at the same time that it is filled with "whiz-bang" technological gadgets. Not to mention a life size model of a right whale named Phoenix, a 24-foot-long giant squid, and the world's only display of a coelacanth adult and pup. There are a number of touch screens; NOAA's "Science on a Sphere," a 6-foot-diameter, 3-D globe, spinning and displaying oceanic and atmospheric processes; and a newly developed high tech gel preserving that giant squid.



*Phoenix, a 45ft. long model of an actual North Atlantic right whale, hangs in the atrium of the Sant Ocean Hall (Photo courtesy of the Smithsonian)*

With 12 high-definition screens set high on the walls displaying underwater images, and exhibit cases full of eye-catching wonders, including one working Indo-Pacific coral reef with living marine wildlife, the museum is working hard to involve its audience in learning and caring about the ocean, as well as trying

to educate viewers to the myriad problems facing the ocean. The Sant Ocean Hall was created in partnership with NOAA to show the ocean as a global system that is essential to all life on Earth. The exhibition refers to ocean in the singular, to help its audience understand that the ocean is one huge, interconnected body of water that spans several basins.

The NOAA Ocean Today Kiosk, a vital part of that learning process, will take visitors outside the bounds of the museum through changing news and feature videos. By way of this experience, visitors can travel on board a fishing vessel, dive down to the deepest reaches of the sea, learn about the latest ocean science developments, see video of rare sea critters and underwater volcanoes or learn about marine debris or historical shipwreck discoveries. NOAA will provide and update ocean stories on a regular basis. The videos will be provided not only to the touch-screen kiosks in the Sant Ocean Hall but also to kiosks in a growing network of aquariums across the nation through Coastal America's Ecosystem Learning Centers. At the Ocean Hall, each kiosk area accommodates one specially designed sound area that envelops visitors, allowing for a group experience. The 4 main content themes are Ocean News, Ocean Life, Ocean Science and Technology and Recent Discoveries. NOAA offices submit proposals to an editorial board, who will determine selections for

the screens. To date, EPP has provided one submission, and plans to provide others before the next deadline of January 30, 2009. We encourage our awardees to contact us with your ideas for these submissions.

Some 20 to 30 million people in the



*The Ocean Today Kiosk at the Sant Ocean Hall (photo courtesy of the National Ocean Service website)*

United States, Mexico and Japan will have the opportunity to learn about the importance of ocean stewardship through this innovative NOAA product.

***To learn more about the Sant Ocean Hall in the Smithsonian Museum of Natural History, please go to this website:***

***[http://ocean.si.edu/ocean\\_hall/index.html](http://ocean.si.edu/ocean_hall/index.html)***

## EPP Undergraduate Scholarship Program

### NOAA Selects 2008 Undergraduate Scholars



Recognizing that hands-on research is integral to the study of NOAA's mission critical sciences, the EPP Undergraduate Scholarship Program (USP) provides outstanding opportunities for rising junior students at Minority Serving Institutions to study in disciplines relating to NOAA's mission. Through 10-week-long internships, one-on-one mentoring with world-class scientists and the design of individualized projects based on the scholar's academic field of study, students are challenged to expand beyond the broad foundation provided by their institution and focus on NOAA research or operational issues.

The application process for 2009 scholars has just opened; applications will be accepted until February 2009. Applicants must be U.S. citizens attending a Minority Serving Institution. Also, a minimum of a 3.0 grade point average is required for acceptance into the program. For successful candidates, there is a 2-week orientation session at NOAA headquarters in Silver Spring, following which students are immediately immersed in research projects with NOAA mentors. Two paid 10-week summer internships provide USP recipients opportunities to work with notable NOAA scientists. Scholars complete a research project each summer, presenting their results to the NOAA community and at national conferences.

#### EPP Undergraduate Scholars Class of 2008

Sherrita Commey  
Environmental Science  
Florida A&M University

Ronderio Hunt  
Mechanical Engineering  
Alcorn State University

Jonathan Jeffries  
Chemical Engineering  
North Carolina A&T State University

Amari Jones  
Environmental Science  
Florida A&M University

Markeata Lee  
Chemistry  
Central State University

Rogerick Magee  
Biology  
Alcorn State University

Aziza Merchant  
Electrical Engineering  
Savannah State University

Kamau Mbalia  
Environmental Science  
Central State University

Courtney McGeachy  
Biology  
Hampton University

Lizeidy Nieves-Vera  
Civil Engineering  
University of Puerto Rico-Mayaguez

Candace Rogers  
Fisheries Biology  
University of Arkansas

Judith Sarkodee-Addo  
Environmental Science  
Florida A&M University

Bobby Scott  
Chemistry  
Texas Southern University

Samuel Ubanyionwu  
Chemistry  
Texas Southern University

Christopher Ware  
Physics  
North Carolina A&T State University

Breanna Williams  
Aviation Science  
University of Maryland Eastern Shore

#### Former Undergraduate Scholar at NASA



*Erica Alston, an alumnus of the EPP Undergraduate Program Class of 2001 is currently working as a Computer Engineer doing earth science research at NASA's Langley Research Center. Erica is a PhD candidate in Atmospheric Science at Georgia Tech. She earned her bachelor's and master's degrees from Clark Atlanta University.*

*(Photo courtesy of NASA-Sean Smith)*

## EPP Graduate Sciences Program

### Our Graduate Scientists



#### Andrew Mason

Mr. Mason is an Oceanographer with NOS in Silver Spring, MD. He received his Master's degree in Environmental Science from the University of Maryland at College Park.

#### Natasha Henry



Dr. Henry is an Environmental Scientist with the NOS National Center for Coastal Ocean Science (NCCOS) Center for Coastal Environmental

#### DaNa Carlis

Dr. Carlis works for the National Weather Service (NWS) National Center for Environmental Prediction Environmental Modeling Center in Camp Springs, MD. He received his PhD in Atmospheric Science from Howard University.

#### Trika Gerard



Dr. Gerard is an Ecologist with NMFS in Miami, FL. She received her PhD in Environmental Science from Florida A&M University.

Health and Biomolecular Research (CCEHBR). She received her PhD in Environmental Sciences from Florida A&M University.

#### Arwen Edsall



Ms. Edsall received her Master's degree in Marine Policy from the University of Washington and is an International Affairs

Specialist with the National Ocean Service (NOS) Office of International Affairs in Silver Spring, MD.

#### Ahira Sanchez-Lugo



Ms. Sanchez-Lugo, a Physical Scientist in the National Environmental Satellite, Data, and Information Service (NESDIS) in Asheville, NC, received her Master's degree in Meteorology from the University of Hawaii.

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#### Ashley Hayes

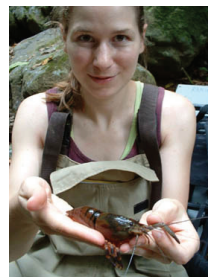
Ms. Hayes completed her Master's degree from Mississippi State University and is working as a Meteorologist at the Slidell, LA, NWS Weather Forecast Office.

#### Michael Erwin



Dr. Erwin received his PhD in Biological Sciences from the University of South Carolina and works with the National Marine Fisheries Service (NMFS), in Gloucester, MA.

#### Katherine Smith



Dr. Smith completed her PhD in Ecology from the University of Georgia at Athens. She is a Marine Habitat Resource Specialist in the NMFS Office of Habitat Conservation in Silver Spring, MD.

***Applications for NOAA's Graduate Sciences Program are now being accepted until February 2009. For more information please go to the EPP website:***

***<http://epp.noaa.gov>***

### Little Did I Know...

By Dr. Larry Alade

My name is Larry Alade and I recently completed my doctoral degree in Marine Estuarine and Environmental Sciences from the University of Maryland Eastern Shore (UMES). My dissertation, entitled "A Simulation-Based Approach for Evaluating the Performance of a Yellowtail Flounder (*Limanda ferruginea*) Movement-Mortality Model," focused on testing a model application for a yellowtail flounder mark-recapture study in the northeastern United States. I am currently employed at the Northeast Fisheries Science Center of NOAA's National Marine Fisheries Service in Woods Hole, Massachusetts primarily on tagging programs and with the Southern demersal assessment team on yellowtail flounder assessments.

Although it may sound a bit cliché, my experiences up to this point have been a combination of blind faith, hard work and a little bit of luck. I do not consider myself your traditional fisheries biologist. I certainly did not have marine experience growing up, and was completely naïve about marine ecosystems. If someone told me years ago that I was going to be a fishery biologist, I would have found it impossible to imagine.

As a student with an interest in quantitative science, little did I know that my trail to becoming a fishery biologist had already began in the summer of 2003, through a



joint stock assessment program between the Northeast Fisheries Science Center and Jackson State University in Mississippi. I was introduced for the very first time to the application of models to the dynamics of fish populations. It was a challenge, but I was curious and developed a keen interest in this kind of work. As part of the program requirements, students were assigned to different NOAA labs across the nation for practical experience. I was sent to the Woods Hole lab to work with Dr. Steve Cadrin, who is also my current NOAA supervisor and mentor.

That summer I was fortunate to go



*Larry Alade tagging yellowtail flounder during a research cruise (left) and recording the data onboard (right) Photos courtesy of L. Alade*

out on my first scientific cruise, to engage in the yellowtail flounder cooperative mark-recapture study. While my responsibility was to sample fish out at sea, I remember having an uncontrollable urge to

share my breakfast with the critters of the sea! It was such an awful first experience, but certainly strengthened my appreciation of those who do this for a living. Between emptying my belly and attempting to establish my "sea legs", I could hear such comments as, "He is not going to come back again after today," among the supportive chatter. Sick or not, I love a challenge! There was a sense of initiation, to be part of a group that thrives through tough conditions. I had to make it!

However, hindsight is 20/20 and leads me to think that the crew was actually using reverse psychology. Regardless, I was up for it. I returned the next day with an empty stomach, yielding to peer pressure and hoping for a better day. We were off to a great start, executing all our duties without a hitch. There was a great sense of accomplishment--until the captain of the vessel challenged me to dine with him on raw scallops.



*Continued on page 6*

*Dr. Larry Alade, continued*

My initial reaction was apprehension, but the only other option offered was to swim a lap around the boat. Considering that I exhibit tremendous negative buoyancy in such types of environment, my choice was pretty clear. I declined all challenges--NOT! Needless to say, I've never eaten scallops again. In spite of all these ancillary experiences, I finally got my sea legs, participated in several more tagging cruises, and had a very successful summer with my co-workers, completing our tagging operations for the year.

To complement my sea experience, Dr. Cadrin, who is a great visionary and a peerless mentor, engaged me to work on a mark-recapture model, which eventually developed into my dissertation project at UMES. The art of using models as a microscope of sorts to help understand the dynamics of a marine resource in such an elusive environment is both invigorating and fascinating. It's also complicated and challenging because it requires balancing knowledge of biological variability against mathematical and statistical inferences.

Although my initial intention in the summer of 2003 was to test the waters, the experience became the springboard towards my new interests and goals. The reality of how to get involved and engaged in the field of fisheries science became possible partly through support from NOAA EPP's Graduate Sci-

ences Program (GSP), which fostered the connection between my academic endeavors and my future career path. Thus far, I have been fortunate to participate in a wealth of activities that will benefit my long term career goals. These include my recently completed dissertation work, my involvement in cooperative research programs such as the monkfish migration study, and more recently, my participation in the 19<sup>th</sup> Northeast Groundfish Assessment Review Meeting (GARM) in August, 2008. I am honored to be part of the GARM process this early in my career, as I have had the opportunity to work with some of the most talented and amazing scientists on assessments. Such an experience is unbeatable, and I can't think of a better way to begin one's career. I believe it is a blessing, and I look forward to what the future may bring.



**NOTE: The NOAA GSP is designed to provide opportunities for students in NOAA related fields to pursue research and educational training in atmospheric, environmental, and oceanic sciences and remote sensing technology at Minority Serving Institutions, when possible. The GSP's primary objective is to increase the number of graduate students who undertake course work and graduate with post-graduate degrees in the targeted areas integral to NOAA's mission.**

**NOAA provides program participants with tuition, a housing allowance, travel expenses and a salary for an annual 16-week work period at a NOAA facility. Students are also mentored by NOAA scientists while conducting research. After completing their academic requirements, participants commit to employment at NOAA based on the length of their training. To date, the EPP has placed 42 graduate students majoring in NOAA-related sciences throughout the agency.**

**For additional information on the EPP Graduate Sciences Program, please visit the EPP website at:**

**<http://epp.noaa.gov>**

## Environmental Entrepreneurship Program

### Oxnard College's Environmental Demonstration Project; White Abalone Restoration



*Oxnard students snorkeling*

EPP's Environmental Entrepreneurship Program (EEP) was established with the goal of providing students with training in the application of NOAA sciences to foster economic development opportunities. EEP projects help prepare students with appropriate knowledge and skills to utilize environmental tools and technological resources. Projects fall into one of two categories: *Environmental Demonstration* projects are geared toward engaging students and faculty at Minority Serving Institutions in collaborative, field based learning experiences, while *High School Pipeline* projects entrain a "pipeline" of high school students to facilitate their understanding of NOAA-related sciences and social sciences. Oxnard College's (Oxnard, CA) project is one of the former; it's a three-part program of academic studies, hands-on experience in white abalone hatchery operations and research in the laboratory and at sea, providing exposure to a range of marine science career-related experiences.

White abalone are a Federally-designated endangered species; the sole white abalone hatchery is located in Oxnard, California at the Channel Islands Marine Resource Institute. Oxnard College students are involved in sampling and studying as well as design and installation of abalone tank systems. The Marine Studies Program at the college serves hundreds of students annually. Most are members of traditionally underrepresented populations, often from economically disadvantaged communities. In the past, few students were able to complete the program, due to financial and time constraints. Some of the EEP funds provide for paid internships, giving students the financial wherewithal to forego other jobs and focus on classes, lab work and field studies.



*Oxnard Students and professor on-board research vessel*

EEP grant funds are also being used to offer students opportunities to participate in ocean research cruises. Ship time is notoriously

expensive, and undergrads rarely have a chance to participate. The proximity of the Channel Islands National Marine Sanctuary and



*Oxnard students prepare to snorkel*

Channel Islands National Park allows for one-day cruises; students observe and participate in ocean research, familiarizing them with conditions in the marine environment. Professor Lori Buckley, the principal investigator responsible for the project says, "The students...are working together with the professionals to help the white abalone recovery effort." The use of remote sensing technology allows these undergrads to "accompany" scientific divers to the seafloor via underwater video and audio systems, with feeds to the vessel that let the students interact with the divers in real time. Says Marine Studies student David Duarte, "I wasn't sure what I wanted to do, and I wasn't really into the whole marine biology thing and now it's pretty much almost changed my entire life because it made me want to be like them; I want to be a scientist like them; because it was real fun what we were doing out there."

## Cooperative Science Center Profile

### NOAA Interdisciplinary Scientific Environmental Technology Cooperative Science Center (ISETCSC)



The newest of NOAA's Cooperative Science Centers, the Interdisciplinary Scientific Environmental Technology Cooperative Science Center (ISETCSC) was established on September 1, 2006. North Carolina Agricultural and Technical State University (NCA&T) is the lead institution in this 7 member consortium. The 6 other schools are California State University-Fresno (CSU-Fresno), City College of the City University of New York (CUNY), Fisk University (FU), North Carolina State University (NC State), University of Alaska Southeast (UAS), and the University of Minnesota (UM).

The Center's mission is to train students in NOAA scientific areas and to develop technologies and techniques that will improve understanding and prediction of climate and environmental change. Global climate studies require a multiplatform (satellite, ground, airborne, shipborne, etc), multi-sensor supply of streams of multimodal data with vast geographical coverage. These include data on aerosols, wind, ocean waves, seawater quality, temperature, ice coverage and depth at the North Pole, and hurricane intensity and trajectories. Chartered during the

second competitive EPP grant cycle, ISETCSC is allied with the Office of Oceanic and Atmospheric Research (OAR) Earth System Research Laboratory (ESRL), whose strategic plan calls for observing and understanding the earth system and for developing products that will advance NOAA's environmental information and services on



*The ISETCSC team in Boulder*

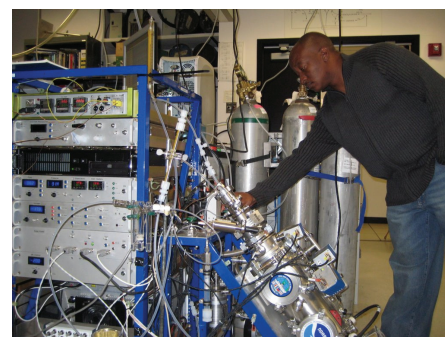
the global-to-local scale.

ISETCSC efforts to date have been directed toward developing infrastructure; hiring faculty, establishing scholarships at all partner universities, developing new curriculum, and establishing new degree programs. The Center continues working to: identify best practices for online courses and seminars, develop summer camps for K-12, develop a student recruitment plan, provide opportunities for faculty and students to spend time at NOAA labs and for NOAA scientists to spend time at partner universities and to identify additional sources of funding for specific areas of research.

Two new Bachelor of Science degrees were approved at two Center partners. CSU-Fresno now offers a BS in Environmental Science, while

NCA&T now offers a BS in Atmospheric Science and Meteorology. ISETCSC also appointed Dr Yu-Lang Lin as Distinguished Scientist at ISETCSC. An atmospheric dynamist and modeler, Dr Lin is a leader in mesoscale modeling and dynamics nationally and internationally and has published more than 90 research papers in leading journals, as well as the advanced graduate textbook, Mesoscale Dynamics.

The student recruitment strategy calls for aggressively publicizing the opportunities available at all partner schools. Scholarships have been offered to a number of incoming freshmen. A colloquium series began in January 2007, including live broadcasts to and from partner institutions and NOAA labs. Some appearances in local media have also occurred. Students will participate in multiple facets of ISETCSC research and efforts are underway to ensure outreach to other disciplines, e.g., to students and departments in journalism and mass communications.



*Anthony Cochran collecting data for formic acid calibrations using a Quadropole Mass Spectrometer*

*ISETCSC continued on Page 9*



An exceptional opportunity was afforded to ISETCSC students this past summer. A number of undergraduate and graduate students spent several weeks at ESRL in Boulder, CO. They enjoyed collaboration and easy access to many scientists who very willingly assisted the students in maximizing their experience. ESRL's interdisciplinary nature provided an unusual chance for students to push the boundaries of their research. Students also appreciated experiencing an environment very different than their home campus.

ISETCSC is conducting research on sensor science and sensor technology for oceanic, atmospheric and environmental applications; performing analyses of global observing systems that include numerical and physical research and analyses of hurricanes; and developing information technology tools for data fusion, data mining and geospatial modeling and analysis. Atmospheric chemistry projects include; monitoring atmospheric trace gas constituents, aerosol-cloud interactions, chemistry of carbonaceous soot and characterization of abundance of certain trace compounds in the atmosphere.

Statistical analysis of storms and hurricanes is also a focus of this Center's efforts. Review of past tropical storm counts (back to the 1970s) is ongoing, to distinguish among alternative hypotheses regarding dominant storm-controlling factors. Researchers are seeking possible correlations between

changes in the Earth's magnetic field and changes in hurricane activity in the Atlantic region. As the 2005 hurricane season was the most active since record keeping began in 1851, virtually all the seasonal predictions fell far short of the actual level. ISETCSC is studying the relative role of tropical easterly wave disturbance activity and the climate of West Africa in modulating the unprecedented 2005 season. A data fusion group has begun studies on hurricane data to predict storm intensification. Data mining is also ongoing to quantify the persistence of weather (i.e. patterns of long-range consistency) and see how persistence has changed with time. Work has begun on development of a geospatial information systems lab.

***ISETCSC's accomplishments to date include:***

***Training 104 students in NOAA-related science curriculum, 74% of whom are African American or Hispanic/Latino***

***Graduating 36 students in NOAA sciences: 24 Bachelor's, 11 Master's, and 1 PhD, with 17 others working on their PhDs***

***18 collaborative research projects with NOAA and ISET partners in support of NOAA operations, with more in the planning stages***



***These are photos of students who attended the ISETCSC Weather and Atmosphere Camp***

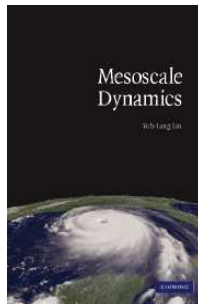
### America COMPETES and the NOAA Education Strategic Plan

With the passage of the America COMPETES Act in 2007, NOAA was given a broad mandate to educate the public about ocean, coastal, Great Lakes and atmospheric science and stewardship. America COMPETES directs NOAA to build upon existing educational programs and activities to achieve these education goals. A science education plan is to be developed, then reevaluated and updated every five years. Essentially, the act codifies into law NOAA's educational efforts, providing a stronger basis for all of our educational programs.

As mandated by this Act, NOAA is currently developing an "Education Strategic Plan," outlining the agency's approach and commitment. Developed with input from throughout NOAA, the document has undergone layered review in the agency, as well as a public review process. Comments were received from the resource management community, non-governmental organizations, teachers and other concerned parties, and all were incorporated or addressed, as appropriate. The goals, outcomes and strategies of this plan provide a framework to focus and coordinate the education efforts of the agency. Execution of this plan will require the development of an implementation plan that consider the needs, opportunities and resources of the agency for supporting the longer term strategic goals. The implementation plan will set forth the programmatic actions that NOAA and its education community will take, including metrics for formal and informal education.

### ISETCSC Announces Appointment of Distinguished Scientist

ISETCSC has proudly announced the appointment of Dr. Yuh-Lang Lin to the position of Distinguished Scientist. Dr. Lin, an atmospheric dynamicist and modeler is a leader nationally and internationally in mesoscale modeling and dynamics. Since mesoscale weather systems are responsible for numerous natural disasters, an understanding of their underlying dynamics is essential to forecasting their occurrence. For the past 30 years, Dr. Lin has been deeply involved in theoretical studies of atmospheric phenomena including such topics as heavy rainfall and weather systems, tropical cyclogenesis, gravity waves, forest fire dynamics and atmospheric turbulence. He has published more than 90 research papers in leading peer-reviewed journals. He is also the author of the advanced graduate textbook, *Mesoscale Dynamics*, which has been described as the, "...ideal book on the subject for researchers in meteorology and atmospheric science." Dr. Lin has given many invitational seminars, has been sought after for review of journal paper proposals and grant proposals and currently serves as an editor of the Journal of the Korean Meteorological Society as well as a foreign advisor to the Central Weather Bureau of Taiwan.



### Virginia Outstanding Scientist 2008; CREST Scientist

Dr. James M. Russell III, a co-investigator at Hampton University, (one of the colleges that comprises the EPP supported Cooperative Remote Sensing Science and Technology Center, CREST) has been named Virginia Outstanding Scientist for 2008 by Governor Timothy M. Kaine and the Science Museum of Virginia. Dr. Russell is Co-Director of Hampton's Center for



Atmospheric Sciences. A pioneer in satellite atmospheric remote sensing, studies of the ozone layer and in research on the structure, chemistry and physics of the higher atmosphere, Dr. Russell's most recent research involves studying mysterious "noctilucent" or night-shining clouds that form in Earth's polar regions during the summer. Previously, he served as head of the Chemistry and Dynamics Branch and later the Theoretical Studies Branch at NASA Langley Research Center, before joining Hampton University in 1996. This is the second consecutive year a CREST-Hampton University professor was named Virginia's Outstanding Scientist. Last Year, Dr. M. Patrick McCormick was honored with the same award.

### Cooperative Remote Sensing Science & Technology Center (CREST) Announces New Distinguished Scientist



Dr. Charles Vörösmarty has joined The City College of the City University of New York (CUNY) as the NOAA-CREST Distinguished Scientist. As Director of the CUNY Global Environmental Sensing and Water Sciences Initiative, and as a full professor in the Civil Engineering Department, Dr. Vörösmarty's research interests focus on the development of computer models, remote sensing application and geospatial data sets used in synthesis studies of the interactions among the water cycle, climate, biogeochemistry, and anthropogenic activities. His studies are built around local, regional, and continental-to-global-scale modeling of water balance, discharge, constituent fluxes in river systems, and the analysis of the impacts of large-scale water engineering on the terrestrial water cycle.

Dr. Vörösmarty previously served as a professor at the Institute for the Study of Earth, Oceans and Space at the University of New Hampshire, and the Director of the Water Systems Analysis Group. He is a founding member of the Global Water System Project, representing the inputs of more than 200 international scientists under the International Council for Science Global Environmental Change Programs. In this capacity he is spearheading

efforts to develop global-scale indicators of water stress, to develop and apply databases of reservoir construction worldwide, and to analyze coastal zone risks associated with water diversion. He recently won one of two national awards through the National Science Foundation to execute studies on hydrologic synthesis. Professor Vörösmarty also serves on several national and international panels, including the US Arctic Research Commission, the NSF-ARCSS Committee (AC), and the Arctic HYDRA International Polar Year (IPY) Planning Team. In the US, he served on an National Research Council panel to review NASA's polar geophysical data sets, the decadal study on earth observations, and is co-Chair of the NSF-Arctic CHAMP hydrology initiative. For the United Nations he served as consultant to the 24-agency UN World Water Assessment Programme and represented the International Council of Scientific Unions at recent UN Commission on Sustainable Development meetings.

### CREST Appoints a Distinguished Adjunct Professor



Dr. Ghassem R. Asrar, who recently took up his duties as Director of the World Climate Research Program of the United Nations' World Meteorological Organization has been appointed as "Adjunct Full Professor" in the

Grove School of Engineering at The City University of New York (CUNY) and a Distinguished Adjunct Professor at CREST. Dr. Asrar had an outstanding career at NASA, first as Associate Administrator of the Office of Earth Science from 1998 to 2004 and then, until January 2005, as Deputy Associate Administrator for the NASA Science Directorate, where he was responsible for a broad range of earth observation satellites. He then served as Deputy Administrator for Natural Resources and Agricultural Systems with the U.S. Department of Agriculture's Agricultural Research Service from 2006 - 2008. Over the years, he has distinguished himself in the field of satellite remote sensing, climate research, and environmental development at the national and international levels. Dr. Asrar has received many scientific achievement, educational, and senior executive awards. As a CREST-Distinguished Adjunct Professor, he will help CREST and CUNY in developing broader applications for earth climate system information and knowledge. This will include the development of mitigation strategies and adaptation approaches for managing the risk associated with climate variability and change. Dr. Asrar has also been recognized for his keen interest in the training and education of young environmental research scientists as future leaders in the field.

## CSC Evaluations Scheduled for 2009

The Educational Partnership Program has scheduled program evaluations for the five Cooperative Science Centers beginning in February 2009. Each evaluation, conducted in the third year of the five-year grant awards, consists of a formal review of the CSC's education, scientific and administrative components. The schedule for Center evaluations is:

February 3-5:  
NCAS (Howard University)

February 25-27:  
LMRCSC (University of Maryland Eastern Shore)

March 11-13:  
CREST (City College of the City University of New York)

March 30-April 1:  
ECSC (Florida A&M University)

April 14-16:  
ISETCSC (North Carolina A&T State University)

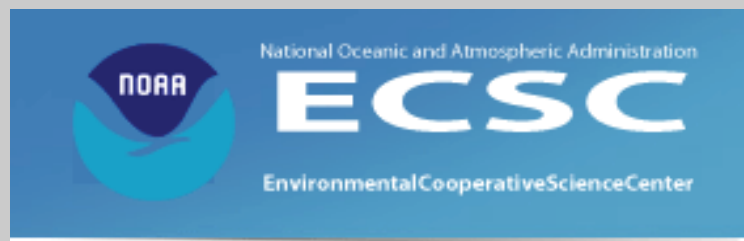
The evaluation team will consist of five members, both from within and external to NOAA, who are experts in education, science and administration. At each evaluation, the NOAA Line Office technical monitors, chairs of the CSC advisory boards and EPP representatives will be present as observers.

## The EPP Cooperative Science Centers



National Oceanic and Atmospheric Administration  
Cooperative Remote Sensing Science and Technology Center

NOAA|CREST



## NOAA Scholarship Programs

### 2008 Dr. Nancy Foster Scholars Selected

NOAA selected nine graduate students from across the nation as recipients of the 2008 Dr. Nancy Foster Scholarships for outstanding graduate-level scholars in the fields of marine biology, coastal resource management, or maritime archeology.

This scholarship program was established in memory of Dr. Foster's 23-year tenure at NOAA. A leader in marine resource conservation, she was inspirational in her role as one of the top senior executives in the marine field. Congress created the scholarship in 2000 as a means of honoring her life's work and contribution to the nation.

Each scholarship recipient will receive an annual stipend of \$20,000, up to \$12,000 annually for tuition, and up to \$20,000 to support a 4-6 week research collaboration at a NOAA facility. Doctoral and Master's level students are eligible to continue the scholarship program for four years and two years, respectively.

For this 8th year of the scholarship program, NOAA received over 108 applications. A panel of NOAA scientists and external partners ranked the applications; finalists were selected based on their ranking scores in the areas of financial need, academic excellence, recommendations, and research and career goals.



The nine scholarship recipients are:

**Kelly Jones**  
University of Washington

**Kelly Kearney**  
Princeton University

**Emily Klein**  
University of New Hampshire

**Erin Ann LaBrecque**  
Duke University

**Kathleen Morrow**  
Auburn University

**Erinn Muller**  
Florida Institute of Technology

**Rachel Neuenhoff**  
Texas A&M University

**Danielle (Shulman) Staaf**  
Stanford University

**Kimberly Tenggardjaja**  
University of California, Santa Cruz

*For additional information on these scholars and on how to apply for the Dr. Nancy Foster Scholarship Program, please visit*

*<http://fosterscholars.noaa.gov>*

## Hollings Scholar Joins NOAA Corps



ENS Kosenko

Intended to recognize and reward some of our nation's brightest students--who may become the next generation of oceanographers, marine biologists, or climate scientists--the Ernest F. Hollings Undergraduate Scholarship program provides hands-on training and experience to encourage undergraduates to pursue study in NOAA mission critical fields. Award packages include financial assistance during junior and senior years, plus a paid summer internship, during which the students work side-by-side with NOAA scientists and managers, providing them an opportunity to experience day-to-day life at NOAA.

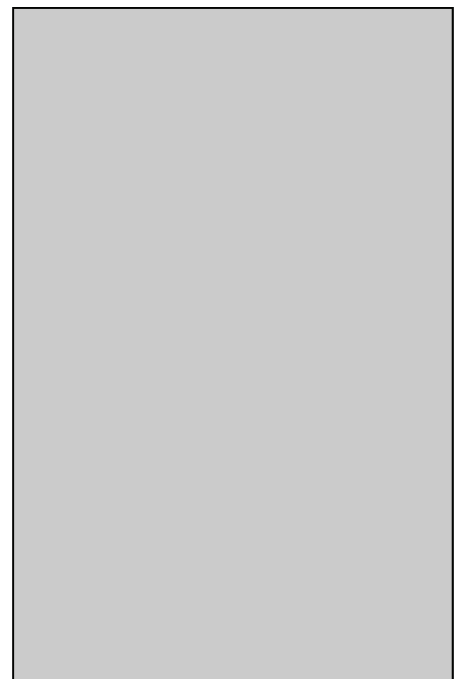
Marina Kosenko started her Hollings Scholarship internship as an astrophysics major, but finished college as a physics major. Her experience as a Hollings scholar convinced her that she wanted to concentrate more on oceanography. For her summer internship, Marina planned to work on ocean acoustics at NOAA's Atlantic Oceanographic Meteorological Laboratory (AOML). However, due to shifting priorities, she instead helped her mentor rebuild a boat—a fun experience, and one that taught her a great deal about the structures of boats. Marina's work at AOML brought her into contact with LT Casanova, a member of the NOAA

Corps, providing her an opportunity to learn a lot about what the Corps might offer her. By the end of her summer internship, she had already decided to join; it seemed to be a great way for her to fulfill her desire for a job on the water. "I was impressed by the variety of billets you could sign up for, both on land and on the water...it seemed like the best choice."

A member of Basic Officer Training Class (BOTC) 113, Marina says that she feels lucky to be working with such a good group of people. Currently in training with the other members of her class at the U.S. Merchant Marine Academy in Kings Point, NY, she's excited about the opportunity to conn (direct the movements of) a huge ship like the Kings Pointer, a 68 meter long Stalwart class training vessel. With only 13 people in BOTC 113, the officer candidates get plenty of conning experience, as well as time on smaller boats. And experience is what it takes for success, as Marina's first chance out in one of the Academy's small boats demonstrated. She and ENS (Ensign) Clovis and ENS Robbie (members of her class) were on the same boat, with ENS Robbie at the helm, when they noticed water coming into the boat through one of the compartments. Upon opening and finding it full of water, they started bailing madly, using cups and a cut-off plastic bottle.

The two also worked at plugging the hole with rags that slowed the

flood of water, while ENS Robbie continued to try and raise the other boats on the radio, having lost visual contact. No luck, but the team plowed on, hoping to catch up with the rest of BOTC 113. Soaked and still bailing when they finally reached the other boats, they assumed it had all been part of some kind of unusual "initiation." That is, until instructor Matt German looked at them quizzically and asked why they hadn't simply adjusted the trim (an adjustment that would have raised the compartment above the water level). Oops!



*Continued on page 15*

*Hollings Scholar, continued from*

Training continues through December 2008. Not many jobs give you the opportunity for preparation in firefighting, water survival craft and damage control! Marina has put all three NOAA ships stationed in Hawaii on her wish list for assignment, but anticipates she'll likely be stationed in Alaska. However, she's excited by all opportunities and experiences that can help her stay away from a desk job! Eventually, she expects she will end up in Hawaii. ENS Marina Kosenko says, "Joining the NOAA Corps has been a major life decision,"—one she would have been far less likely to choose, without her Hollings Scholarship opportunity.



*BOTC 113 Ensigns in New York Harbor: ENS Clovis, ENS Kosenko, ENS Pate, and ENS Sanders*



*NOAA T/V Kings Pointer*

*For additional information on the NOAA Ernest F. Hollings Scholarship Program, please visit [http://www.oesd.noaa.gov/Hollings\\_info.html](http://www.oesd.noaa.gov/Hollings_info.html)*

*For additional information on the NOAA Corps, please see [www.noaacorps.noaa.gov/recruiting/index.html](http://www.noaacorps.noaa.gov/recruiting/index.html)*

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## Student Scholarship Opportunities: Application Availability and Deadlines

### Undergraduate Opportunities

**The Educational Partnership Program Undergraduate Scholarships Program**

Open: October 2008  
Closes: February 2, 2009

**The Ernest F. Hollings Undergraduate Scholarship Program**

Open: November 2008  
Closes: January 30, 2009

### Graduate Opportunities

**The Educational Partnership Program Graduate Sciences Program**

Open: October 2008  
Closes: January 30, 2009

**The Nancy Foster Scholarship Program**

Open: December 2008  
Closes: March 31, 2009

**The John A. Knauss Marine Policy Fellowship**

Open: June 2008  
Closes: February 2009

**The National Marine Fisheries Service-Sea Grant Joint Graduate Fellowship Program in Population Dynamics and Marine Resources Economics Grants**

Open: June 2008  
Closes: January 2009

**Congressional Hispanic Caucus Public Policy Fellowship Program**

Open: Now  
Closes: February 2009

## Events and Conferences

12/15/08 – 12/19/08  
American Geophysical Union (AGU)  
San Francisco, CA  
[www.agu.org](http://www.agu.org)

01/11/09 – 01/15/09  
American Meteorological Society  
(AMS)  
Phoenix, AZ  
[www.ametsoc.org](http://www.ametsoc.org)

02/12/09 – 02/16/09  
American Association for the  
Advancement of Sciences (AAAS)  
Chicago, IL  
[www.aaas.org](http://www.aaas.org)

03/19/09 – 03/22/09  
National Science Teachers  
Association Annual Meeting  
(NSTA)  
New Orleans, LA  
[www.nsta.org](http://www.nsta.org)

07/25/09 – 07/28/09  
National Council of La Raza  
Annual Conference  
Chicago, IL  
[www.nclr.org](http://www.nclr.org)

08/30/09 – 09/03/09  
American Fisheries Society  
Annual Meeting (AFS)  
Nashville, TN  
[www.fisheries.org](http://www.fisheries.org)

September 2009  
Minority Access National  
Conference  
[www.minorityaccess.org](http://www.minorityaccess.org)

10/08/09 – 10/11/09  
Society for the Advancement of  
Chicanos  
And Native Americans in Science  
(SACNAS)  
Dallas, TX  
[www.sacnas.org](http://www.sacnas.org)

10/31/09 – 11/02/09  
Hispanic Association of Colleges  
and Universities (HACU) 23<sup>rd</sup>  
Annual Conference  
Orlando, FL  
[www.hacu.org](http://www.hacu.org)

October 2009  
Mexican American Engineers and  
Scientists Symposium and Career  
Fair (MAES)  
Site TBD  
[www.maes-natl.org](http://www.maes-natl.org)

October 2009  
Thurgood Marshall Leadership  
Institute  
New York, NY  
[www.thurgoodmarshallfund.org/leadership/leadership.htm](http://www.thurgoodmarshallfund.org/leadership/leadership.htm)

11/12/09 – 11/14/09  
NOAA Education and Science  
Forum  
Howard University  
Washington, DC  
[www.gs.howard.edu/atmosci/default.htm](http://www.gs.howard.edu/atmosci/default.htm)



## **NOAA's Educational Partnership Program**

**1315 East West  
Highway**

**SSMC3 OED/EPP**

**Silver Spring, MD**

**20910**

**<http://epp.noaa.gov>**

**301-713-9437**