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## First Virgin Islands EPSCoR Annual Conference

The first annual conference of the Virgin Islands Experimental Program to Stimulate Competitive Research (VI-EPSCoR) is scheduled for Friday and Saturday, September 23 and 24, 2005.

The conference will acquaint the public with on-going activities of VI-EPSCoR and plans for the future. A major focus of the conference will be obtaining input from the public on the role that VI-EPSCoR can play in the economic development of the Virgin Islands.

The opening day of the conference is an opportunity for the public to interact with coral reef researchers in discussions on managing coral

reef resources, exploring life on coral reefs, and predicting local weather and seas. Day One activities begin at 8 a.m. on Sept. 23 at the Marriott Frenchman's Reef Hotel.

The conference venue moves on the second day to the UVI Sports and Fitness Center. Day Two showcases on-going research of local students and faculty, including work of high school students in the Summer Science Enrichment Academy, the UVI Fall Undergraduate Research Symposium, and VI-EPSCoR research displays and demonstrations. Day Two activities begin at noon on Sept. 24.

Conference organizers believe that the information shared on

these two days will be a source of inspiration for educators, students, businesses and government leaders, and will help VI-EPSCoR to more effectively respond to the economic development challenges facing the Virgin Islands.

### Program Coordinator Update Dr. Meri Whitaker

Much of our effort this summer has focused on implementing the budget for the second year of VI-EPSCoR activities. VI-EPSCoR has received a second year of funding from the National Science Foundation, as well as a second generous donation from Trust Asset Management.

Preparations for the annual conference have been ongoing throughout the summer. Ms. Judi Shimel was brought in as Conference Coordinator. Ms. Shimel and the VI-EPSCoR staff are working hard to make the annual conference truly an opportunity for outreach to the Virgin Islands community.

We are happy to announce that the VI-EPSCoR website is online at <http://epscor.uvi.edu>. Many thanks are due to Ansano for their efforts to design and produce a website that effectively disseminates information about the Virgin Islands EPSCoR program and its activities, and for so effectively capturing the spirit of VI-EPSCoR. Ansano is a locally based multimedia, website and educational project production company on St. Thomas.

### Staff Highlight: Dr. Vanere S. Goodwin

We would like to welcome Dr. Vanere S. Goodwin to UVI and VI-EPSCoR. Dr. Goodwin recently joined the UVI math faculty on St. Croix. In addition to his teaching duties, funding from VI-EPSCoR is enabling him to lead the implementation of a new master's degree program at UVI for secondary teachers of mathematics.

Goodwin received his A.A. degree from the University of the Virgin Islands, and went on to get his B.A. from Lincoln University, M.Sc. from the University of Rochester, and Ph.D. from the State University of New York in Buffalo. His first university teaching job was at UVI, before he went north to University of Wisconsin at Stevens Point, Hampton

University, the University of Arkansas at Pine Bluff, and Fayetteville State University. We are very happy to have attracted him back!

Under Dr. Goodwin's leadership, the new master's degree program for secondary teachers of mathematics is expected to begin in summer 2006. In addition, he hopes to establish enhancement activities for teachers who are not yet ready to begin a master's program.

Since his arrival at UVI, Dr. Goodwin has been meeting with various local stakeholders, and has been further developing program planning including a business plan for the graduate program.



## BCCR Update Dr. Richard Nemeth

### BCCR Researchers:

**Dr. Nasseer Idrisi** participated in early summer in a workshop on "Remote Sensing for Biological Oceanographers" at Cornell University.

On July 21 he submitted a proposal to the NSF-CAREER program on "Connectivity among Eastern Caribbean Coral Reefs".

On August 15, in collaboration with the University of Miami and the University of Georgia-Athens, he submitted a proposal to the NSF BIO-OCE program on "The Carbon Isotopic Composition of Organic Material in Coral Skeletons".

Both proposals include undergraduate research opportunities through NSF's REU program.

**Dr. Sandra Romano**, in collaboration with colleagues at Univ. of Kansas, Univ. of Ohio, and Duke Univ., has received funding from NSF for a five year \$2.85 million project on "Collaborative research: Assembling the tree of life - An integrative approach to investigating cnidarians phylogeny". The goal is to conduct a systematic revision based on comprehensive molecular data of the phylum of animals including jellyfish, anemones and corals. Romano will investigate the group that includes reef corals. In the lab she has developed protocols for collecting DNA sequences from *Porites* reef corals. Two new students in her lab, Tryphena Cuffy and Semoya Phillips, are now assisting her with continued collection of DNA sequences and with morphological analyses of coral skeletons.

**Prof. Roy Watlington** has begun to develop protocols for processing and analyzing ocean current data downloaded from Acoustic Doppler Current Profilers (ADCP) deployed near Grammanik Banks, an important fish spawning aggregation area. The data from the newly acquired instruments are providing a first glance at magnitudes and prevailing directions of currents in the water column down to depths of approximately 50 meters.

In August, assisted by other members of the BCCR team, Watlington conducted a one-day hydrographic cruise during which 10 CTD stations were deployed in the same vicinity. This is the first of several planned expeditions intended to assist in characterizing isopycnal structure of the area, with dispersal of larvae and fish eggs as the first application.

In the wake of the tsunami tragedy of Dec. 26, 2004, Watlington has made a number of presentations on tsunami hazards in the Virgin Islands region.

**Dr. Stuart Ketcham** submitted a collaborative grant proposal on July 15 with Dr. John W. McManus, Director of the National Center for Caribbean Coral Reef Research (NCORE) at RSMAS/Miami and Capt. Philip G. Renaud, USN (ret), Executive Director of the KS Living Oceans Foundation, on "A Coastal/Coral Reef Decision Support Tool with Climate Change Scenario - Testing" to NOAA Sector Applications Research Program (SARP). The proposal requests funding of \$756,000 over three years to adapt a coral reef management decision support tool for use on St. Croix; to conduct field research to study the connectivity of populations of *Diadema antillarum* (a key

species affecting the health of Caribbean coral reef ecosystems) in the Virgin Islands and the wider Caribbean; and to test predictions of a coral reef agent-based modeling program developed by McManus and colleagues.

On August 11-12, Ketcham, McManus, and Renaud met with potential collaborators from The Ocean Conservancy and the National Park Service to explain the proposed project. They received strong indications of support for their plans and interest in the model as a management tool.

**Dr. Jennifer Carroll** is working with UVI undergraduates Jeffrey Purcel, Yakini Brandy, and Digna Washington to complete collections of 270 marine invertebrates and algae. Samples of marine organisms have been collected by scuba and returned to the UVI St. Thomas campus for workup. At UVI each extract was tested for cytotoxicity by a simple bench-top bioassay. Samples were submitted to the University of Mississippi, National Center for Natural Products Research (NCNPR) for extensive bioassay screening in anti-cancer, anti-microbial and anti-malarial assays. Data from the primary assays indicate that 108 samples from about 71 species were considered active. Secondary assays are currently being run on the active extracts.

### Renovations:

EPSCoR-funded renovations to the MacLean Marine Science Center on St. Thomas are near completion, creating improved research labs and additional office space for new research faculty.

On St. John, EPSCoR-funded renovations of UVI's research facility are scheduled for

completion by November, including a new roof, renovated semi-wet labs, analytical labs, office, library computer room, and workstations for scuba and field research operations.

### Equipment:

The new EPSCoR-funded research vessel "Garuppa" is slated for delivery in early October. Several EPSCoR-funded ADCP's were deployed in the spring at important grouper and snapper spawning aggregation sites. The data will be used to predict the direction of transport of eggs and larvae from spawning aggregation sites using a model that calculates current patterns.

A new EPSCoR-funded computer server has been set up for modeling ocean circulation patterns using the HYbrid Coordinate Ocean Model (HYCOM). Dr. Idrisi and collaborators from the University of Miami will use the model to test hypotheses about connectivity among Caribbean coral reefs. The UVI HYCOM system will place BCCR at the cutting edge of ocean modeling research, with potential for collaborations stateside and internationally.

Upgrade of UVI's hydrographic equipment continues with its industry-standard Portasal salinometer being refurbished and recalibrated using funds from a UVI Water Resources Research Institute grant. These funds also made possible the ordering of a hybrid chlorophyll fluorometer / turbidity sensor that will add hydrographic capability to UVI's SeaBird Model 25 CTD.

Prof. Watlington and Specialist Kevin Brown are developing a pilot project to measure wave heights and surface conditions in coastal Virgin Islands waters, using an Acoustic Wave and Current profiler.