

In this issue

- VI-EPSCoR Annual Conference Summary
- Staff Highlights
- Seminar Series
- Program Coordinator Update
- BCCR Update

Highlights

- First Annual Conference
- NSF EPSCoR National Meeting
- Visit by Sherry Farwell, director of NSF EPSCoR
- Second donation from Lana Vento Charitable Trust
- VI-EPSCoR goes to the Agricultural Fair on Nov. 19-20

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VI-EPSCoR Conference Summary

The annual conference of the Virgin Islands Experimental Program to Stimulate Competitive Research (VI-EPSCoR) was held on Sept. 23-24 on St. Thomas. On the first day, panelists including Bio-complexity of Caribbean Coral Reefs (BCCR) researchers and members of the BCCR Advisory Board and local resource management agencies discussed Resource Management, Ecology of Caribbean Coral Reefs, and Modeling Oceans and Climate. Keynote speaker Dr. Peter Sale from Univ. of Windsor discussed research and management issues related to connectivity of Caribbean marine resources.

The second day focused on

exciting young people about science. An inspirational talk by Dr. Cecil Jennings of the Univ. of Georgia kicked off the day. Research posters highlighted the work of undergraduate and secondary school researchers. VI-EPSCoR researchers used posters and hands-on research exhibits to explain their work. Exhibits described marine-related careers in the USVI. For more details, visit: <http://epscor.uvi.edu>.

Meetings of the **VI-EPSCoR Governing Committee** and the **BCCR Advisory Board** were also held the week of the conference, as well as a joint session to discuss plans for new graduate programs in environmental studies and in teaching mathematics.

Program Coordinator Update Dr. Meri Whitaker

Fall term has been an extremely busy time for VI-EPSCoR, especially in the run-up to the annual conference. Many thanks are due to VI-EPSCoR staff and researchers and conference coordinator Ms. Judi Shimel for putting in very long hours to make the conference such a success!

The Lana Vento Charitable Trust has given a second generous donation to VI-EPSCoR. The Vento donation will support VI-EPSCoR's coral reef research activities.

The **NSF EPSCoR National Meeting** was held in Puerto Rico on Sept. 25-28. VI-EPSCoR participants included VI-EPSCoR senior staff, UVI Pres. Laverne Ragster, Frank

Schulterbrandt, Esq., Ms. Lisa Melchior representing Sen. Lorraine Berry, UVI Prof. Roy Watlington and UVI student researcher Mr. Gaetan Gentius. Participants from different jurisdictions shared experiences and discussed future directions, with a focus on ways to facilitate innovation and commercialization of technologies.

Dr. Sherry Farwell, the director of NSF EPSCoR, visited VI-EPSCoR after the national meeting. Dr. Farwell met with key people involved with VI-EPSCoR and toured research facilities that have been renovated with NSF funds. He noted that the visit has given him a clear picture of VI-EPSCoR and its activities.

Staff Highlights

We welcome **Ms. Karimah Pemberton**, **Ms. Jahmelia Lewis**, and **Dr. Tyler Smith** to VI-EPSCoR. **Ms. Pemberton** is a UVI sophomore majoring in Psychology. She completed her primary and secondary education in St. Kitts. **Ms. Lewis** is a UVI freshman intending to major in Nursing. She graduated from Eudora Kean H.S. They joined VI-EPSCoR in September as part of the student worker program. **Dr. Smith** has joined the Center for Marine and Environmental Studies to lead the territorial coral reef monitoring program and build a collaborative research program on coral reef studies. Smith received his Ph.D. from the Univ. of Miami. He is currently developing two collaborative grant proposals and investigating this year's severe coral bleaching event.

Seminar Series

The 2005-06 VI-EPSCoR Seminar Series is focusing on the development of new research ideas and funding proposals to contribute to the research thrust on the Bio-complexity of Caribbean Coral Reefs. The fall seminars are focused on discussion of future directions for the research thrust and identification of opportunities for collaborative research to target key research areas.

Faculty interested in applying for the next round of VI-EPSCoR incubator grants in Mar. 2005 are encouraged to participate in the seminar series. For more information, visit: <http://epscor.uvi.edu>.

BCCR Update Dr. Richard Nemeth

The BCCR Advisory Board was in full attendance at the VI-EPSCoR Annual Conference and Advisory Board meeting. They also received a tour of the renovations at the Virgin Islands Environmental Research Station (VIERS) on St. John and the MacLean Marine Science Center on St. Thomas, and heard progress reports from VI-EPSCoR funded researchers. Following their visit, the Advisory Board provided an excellent summary of BCCR progress including recommendations on maximizing impact.

BCCR Researchers:

Nasseer Idrisi submitted a manuscript for publication in the journal *Bulletin of Marine Science* entitled **Rates of Nitrogen Excretion and Oxygen Consumption in the California Sea Hare, *Aplysia californica***, with co-authors John Barimo, Alice Hudder, Tom Capo, and Pat Walsh from Univ. of Miami. Idrisi is currently developing a coupled interface between the general circulation ocean model HYCOM and Eulerian-type biological model of nutrient-phytoplankton-zooplankton-detritus (NPZD) with UVI student Lissette LaPlace.

Sandra Romano continues her VI-EPSCoR funded research, supervising the lab work of Tryphena Cuffy who is working on molecular analysis of *Porites* species and Semoya Phillips who is working on morphological analysis of *Porites* species.

Roy Watlington and UVI student Gaetan Gentius attended the NSF EPSCoR National Meeting where Gentius presented a poster based on their VI-EPSCoR funded research. Watlington

received notification of two grant awards. A Water Resources Research Institute grant of \$29,000 for **Improving Water Quality Research through Training and Equipment Upgrade** will provide for repair of a high precision salinometer and purchase of other water testing instruments which will be used to train UVI students. A second sub-award (\$182,000 for three years) through the University of Puerto Rico Mayagüez will utilize funding from NOAA Coastal Services Center to form a Caribbean Regional Association to assemble an integrated ocean observing system for the US-Caribbean Exclusive Economic Zone.

Stuart Ketcham has been working on a grant proposal to be submitted in Spring 2006 to the NSF Program in Biological Oceanography related to the Population Connectivity in Marine Systems Specific Theme of Emphasis.

Jennifer Carroll continues her VI-EPSCoR funded work on separation and characterization of biologically active marine invertebrate extracts. Dr. Carroll mentors UVI students Jeffrey Purcell, Yakini Brandy and Digna Washington. Purcell recently presented his summer work in Marine Natural Products in a poster at the American Biomedical Research Conference for Minority Students where he won an award for Best Chemistry Poster Presentation.

Donna Nemeth has been collaborating with Dr. Paul Sikkil of Murray State University and UVI student Amber McCammon on a VI-EPSCoR funded study examining the effects of coral reef condition on the parasite

infestation rates of two commercially important species of surgeonfishes, *Acanthurus bahianus* and *A. coeruleus*. Their preliminary studies have determined that the surgeonfishes have different parasite loads in different habitats. For example, fish collected from two degraded near-shore habitats have a significantly higher number of parasites that fish collected at an off-shore site with potentially higher water flow and more stable water temperatures. Potential causes of this habitat difference are being explored. Differences in parasite load between the two species have also been found and are being explored.

Dave Smith recently presented a Mathematics seminar at UVI entitled **Mathematics in Weather Forecasting** based on his VI-EPSCoR funded research. Student researcher Andre Francis is putting the final touches on a detailed coastline map file for use with the ARPS and MM5 weather modeling programs' graphic package.

Marc Boumedine has been working with UVI student SoundJata Carty on a VI-EPSCoR funded project applying data mining techniques to early detection of coral reef bleaching. Carty has been awarded a TAPIA scholarship to present a poster on **Towards Understanding Coral Bleaching Sequence Patterns using SPADE** at the Richard Tapia Celebration of Diversity in Computing Conference on Oct. 19-22 in New Mexico.

Rick Nemeth, PI of BCCR, was recently awarded a grant (\$145,000) from the University of Puerto Rico Sea Grant

Program for a two-year study on the migratory behavior of three commercially important grouper species, red hind (*Epinephelus guttatus*), Nassau (*E. striatus*) and yellowfin (*Mycteroperca venenosa*) grouper, during their spawning season. The objective is to track movements of the species to determine appropriate placement of boundaries for marine protected areas to spawning aggregations.

Renovations:

Renovations of three research labs, a teaching lab, three offices and a video conference room in the MacLean Marine Science Center are nearly completed. Funds from VI-EPSCoR were leveraged with funds from UVI capital projects (\$400,000) and Title III (\$135,000) grants to CMES. To date the renovations have created new lab and classroom areas with improved ceiling lighting and floors, installed new lab bench-tops and cabinets in teaching and research labs, created new offices and a video-conference room, and replaced the A/C system and windows.

Renovations at VIERS have progressed with the installation of storm doors for the workstation and painting of the building. Work at the VIERS camp include renovation of the administration office for library and computer stations. VI-EPSCoR funds have been leveraged with an NSF-FSML grant (\$185,000) to CMES.

Equipment:

The new VI-EPSCoR funded research/dive vessel, a 30 ft. Island Hopper with inboard diesel engine, hydraulic trap hauler and electronics, has arrived and is in operation. Title III funds were used to purchase new microscopes and fume extractors for lab work.