



The Research and Education Building at the Coastal Studies Institute in Manteo

The Institute's Marine Services Building

CSI: MANTEO

CCEE Faculty Investigate Coastal Processes and Challenges

Several CCEE faculty are leading research with the University of North Carolina system's Coastal Studies Institute (UNC-CSI). UNC-CSI's mission is to undertake research, offer educational opportunities, provide community outreach programs, and enhance communication among those interested in the unique history, culture and environment of the maritime counties of North Carolina. UNC-CSI research focuses on estuarine ecology and human health, coastal engineering and renewable ocean energy, public policy and coastal sustainability, and maritime heritage.

Dr. **Billy Edge** is the UNC-CSI Coastal Processes and Engineering Program Head and research project lead for the Renewable Ocean Energy program. This program focuses on using waves, currents and tidal movement to generate energy and includes engineering contributions from NC State, North Carolina A&T and UNC-Charlotte.

Dr. **Margery Overton** is one of the leaders of the wave energy assessment research. Dr. **Jie Yu** is contributing to an assessment of potential power generation from North Carolina's major inlets during both ebb and flood tidal exchange. A team led by Dr. **Mo Gabr**, in collaboration with Dr. **Joe DeCarolis**, is investigating the use of compressed air to store energy in deep ocean waters to reduce costs and variability of renewable energy generation. Gabr is also working with Edge on a study of the energy in the Gulf Stream and the technology that would be required to convert the kinetic energy into electric power that can be tied into the national grid.

UNC-CSI recently opened a new facility located in Manteo on Roanoke Island. With laboratories, the nearby ocean, bays, and piers, there are excellent and growing opportunities for faculty research and student education. The new campus includes a 50,000 square foot state-of-the-art

research and educational facility equipped with wet labs, as well as teaching labs and classrooms equipped with distance education technology. An 18,000-square-foot marine services building has a three-bay garage, fabrication shop, dive locker and boat slips. Environmentally sustainable construction practices for the new facilities have focused on minimizing the impact on the nearby waters and marsh areas.

UNC-CSI was formed in 2003. Its university partners include NC State, UNC-Chapel Hill, UNC-Wilmington, East Carolina University and Elizabeth City State University. •

For more information on the UNC Coastal Studies Institute, visit csi.northcarolina.edu.