

Graduate Programs

In commitment to education, the CAAE is dedicated to training young scientists to develop solutions about water quality issues and promote stewardship for North Carolina's future.

Our M.S.- and Ph.D-level graduate students are engaged in freshwater, estuarine and coastal marine research with renowned scientists at NCSU and other institutions.

Course Teaching and Workshops

Center personnel teach three courses for graduate students and advanced undergraduates:

- *The Biology, Diversity, and Ecology of Algae*
- *Aquatic Plant Ecology*
- *Environmental Issues in Aquatic Ecology*

These courses are also taken by high school teachers and other professionals to increase their science training.

The CAAE also conducts workshops to train students, academic scientists, and state and federal agency personnel in harmful algal detection and culturing, and light microscopy.



Internships

The Center offers opportunities to high school, college undergraduate, and foreign exchange students to pursue research projects, and to assist in field and laboratory research that is compatible with their interests.



The CAAE's internship program is recognized at state, national and international levels. It has attracted outstanding undergraduate students from around the world including Caldwell Scholars, Park Foundation Fellows, Howard Hughes Fellows and participants in the IAESTE (International Association for the Exchange of Students for Technical Experience).

**Center for Applied Aquatic Ecology
Research, Training, & Education Outreach**



Contact the CAAE



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About the CAAE

The Center for Applied Aquatic Ecology specializes in aquatic research, teaching, and education outreach. Its mission is to provide information needed by policymakers to optimize management and protection of aquatic resources from fish and human health perspectives.

The Center's scientists, staff, and students focus on fresh, estuarine & marine waters. We:

(i) Assess impacts from pollution and invasive species on water quality and fish health;

(ii) Maintain a State-certified water quality analytical laboratory to provide high-quality data for our research, and also functions as a service laboratory for other UNC system scientists and their students at cost.

(iii) Help safeguard the drinking water that is depended upon by more than half a million people, via automated 24/7 data collection;

(iv) Provide training and support opportunities for undergraduate students, graduate students, and post-doctoral fellows; and

(v) Serve as a focal point for community environmental educational outreach to advance public understanding about water quality issues in North Carolina and the nation.



Facilities

The CAAE is a 9,000-square-foot complex comprised of laboratories, classrooms, a conference room, offices, and administrative facilities. Laboratories include:



Current Research Projects

- Long-term, high-frequency dataset: Real-Time Remote Monitoring and research on Falls Lake (14 years ongoing), a major potable source-water, to provide an early warning system that helps safeguard the drinking water supply depended upon by more than half a million people in the Triangle.
- Long-term, high-frequency dataset: Real-Time Remote Monitoring and research on the Neuse Estuary to track progress in water quality protection. Harmful algae (freshwater, estuarine, marine) – ecology, toxicity, and impacts on fish health.
- Pollution impact assessment (nutrient enrichment, fecal bacteria, other harmful microbes).

Environmental Outreach Education

Our Real-Time Remote Monitoring web-based system makes it possible for us to bring information on water quality and other environmental issues to citizens of all ages across our state.



The CAAE's general environmental outreach program includes hands-on experiments and water sampling, teacher-approved curricula, distance education via the Internet, and volunteer and internship opportunities. Most recently we have begun a Burroughs Wellcome Fund grant, "Falls Lake Partners in Water Quality Forensics," for 8th / rising 9th graders.