

# The Collaborative NSF Edge Program and Undergraduate Research Engagement in the Savannah River Estuary

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**Abstract.** The EDGE Program at Savannah State University is in its final year of operation with the nearby University of Georgia Skidaway Institute of Oceanography. The strengths of the EDGE Program have been: early engagement in shipboard research; infusion of research in the classroom setting; and the award of both low- and high-commitment research internships. The program engaged high school, undergraduate and graduate students in bimonthly monitoring of the Savannah River estuary aboard the R/V Savannah from 2009 to 2014. On average, 40% of the scientific party aboard each research cruise was comprised of first-time participants who were largely trained by their peers or near-peers in shipboard operations. 62% of the participants were minority students and 47% were undergraduates. Samples and data from the Savannah River transects were used in internships, thesis projects, and class projects. In the first 5 years of implementation, 157 internships were awarded to develop competency in field work, lab work, and presentation formats for scientific research. Of the 79 individuals who have served as EDGE interns, 56% earned subsequent EDGE internships, 25% completed subsequent internships beyond the EDGE Program, and 52% have graduated. Interns have given at least 88 conference presentations, with most of them presenting on-campus before proceeding to an off-campus venue. Repeated participation in the shipboard and internship experiences allowed undergraduates to progress from being participants to serving as station leaders aboard the ship, while progressing from helpers to independent researchers in the laboratory.