

WHALIN, JSU
DHS Coastal Resilience Center Year 6 Education Project Work Plan
[July 1, 2020 – June 30, 2021]

- 1. Project Title:** PhD in Engineering (Coastal Engineering and Computational Engineering) at an HBCU.
- 2. Principle Investigator:** Robert W. Whalin, Ph.D., P.E., D.CE; Professor of Civil Engineering and Education Director, Coastal Resilience Center of Excellence, Jackson State University (JSU).
- 3. Other Participants/Partners:** US Army Engineer Research and Development Center (ERDC), Vicksburg, MS and Texas A&M University at Galveston (TAMUG), Galveston, TX.
- 4. Short Project Description:** This project focuses on strengthening and preserving institutionalization of the PhD in Engineering (Coastal Engineering and Computational Engineering concentrations) approved near the end of year 3 of this CRC education project. A steady output of MS Engineering degree graduates with a Coastal Engineering concentration focused on coastal natural disasters has been established to help increase workforce diversity in the greater Homeland Security enterprise. Years 4 and 5 produced five PhD students including two PhD Candidates. This additional year will enable establishment of a modest but steady pipeline of PhD graduates averaging one per year.
- 5. Abstract:** Optional Year 6 of this project will focus on consolidation of PhD student recruitment and sustainment of the graduation of PhDs in the Engineering degree program with a Coastal Engineering or a Computational Engineering concentration. Prior years of this project were successful in gaining Jackson State University approval for the PhD Engineering degree (Coastal Engineering concentration) and awarding the first PhD Engineering degree to a student who completed all requirements for the Coastal Engineering concentration. The PhD Engineering degree (Coastal Engineering concentration and Computational Engineering concentration) is formally institutionalized at Jackson State University and appears in the new Graduate Catalog of MS Engineering and PhD Engineering degree programs. The Coastal Engineering concentration was approved near the end of Year 3 in April 2018. Current enrollment of MS and PhD Coastal Engineering concentration students are a mix of fulltime and part-time intermittent students (employed fulltime in the greater Jackson metropolitan area). The objective of this project during year 6 is to solidify the pipeline of Coastal Engineering and Computational Engineering concentration MS and PhD graduates to produce a steady supply for the greater Homeland Security Enterprise (HSE). The predominantly minority graduates' academic coursework and research thrusts are focused on coastal natural disasters. Our plan is to continue to leverage resources from our partnership with Texas A&M University, Galveston (prime) through the NSF funded Partnership for International Research and Education (PIRE) which provides funds for graduate research including a two week intensely focused research trip to The Netherlands. We also plan to continue our close partnership with the Engineer Research and Development Center (JSU Education Partnership Agreement) that is a rich source for coastal engineering Adjunct Professors, high performance computing resources and graduate students.