

Engagement Opportunities in NASA STEM 2022 (EONS-2022)
NASA Research Announcement (NRA)
MUREP PBI/HBCU Data Science Equity, Access and Priority in Research and Education
(MUREP DEAP)
Number: NNH22ZAO001N-MUREPDEAP

Title: NASA MUREP DEAP Institute of Environmental Intelligence for Advanced Space-based Earth Sciences

Institution: Bethune-Cookman University Inc.

City/State: Daytona Beach, Florida

PI: Hyun Jung Cho

FY: 2023

Summary: The project goal is to establish a DEAP institute and partnership in order to increase the number and research capacity of STEM students at HBCUs and prepare a future workforce for data-intensive space-based earth sciences. The DEAP Institute's research will focus on ML-based development of a virtual constellation of satellites to capture changing water levels from an event (storm flooding) to multi-decadal (sea level rise) time scales to leverage research backgrounds of the consortium's members and partners. Distinguishing features include (1) a DEAP consortium of three institutions including 2 HBCUs; (2) a research academy program to provide students/faculty teams with data-intensive projects; (3) paid summer student internships at NASA Centers; (4) leverage through an extended partnership with NOAA-Center for Coastal and Marine Ecosystems; (5) a peer-mentor program among partnering institutions' students; (6) a collaboration with the NASA mentor and SMD case study, ML-based detection of flood extent and impacts; and (7) a consultant from the NSF AI Institute.