



Project Requirements Form USDOT
CREATE UTC Contract Number 69A3552348330
Center Lead: Texas State University; University of Miami

Research Project Name: University of Miami's National Summer Transportation Institute (UM)	
Improving the Durability and Extending the Life of Transportation Infrastructure	
Principal Investigator: Ali Ghahremaninezhad, a.ghahremani@miami.edu, 0000-0001-9269-801X, 305-284-3465, University of Miami	
Project Partners: N/A	
Research Project Funding: Federal: \$34,984 Match: \$17,492 (UM)	
Project Start Date: 06/01/2024	Project End Date: 05/31/2025
Project Description: Already inhabited by more than 50% of the population and contributing to more than 55% of the nation's gross domestic product (GDP), coastal regions are continuing to grow and attract people. At the same time, coastal regions are facing increasing threats from erosion and flooding caused by chronic events including sea level rise and heavy rainfall, as well as discrete extreme events such as hurricanes. These events put people and properties, as well as the region's economies, in harm's way. It is through deliberate and strategic investments in STEM education, outreach and workforce initiatives that the USDOT has the workforce to meet challenges, while advancing and maintaining our technological superiority. The University of Miami is requesting to host the NSTI program to encourage the younger underrepresented generations into the STEM disciplines and coastal transportation infrastructure. Activities will include lectures, laboratory hands-on activities, and fun competitions related to coastal transportation infrastructure. participants will engage in science rich activities, and develop critical thinking, teamwork, and career development skills.	
US DOT Priorities: Multiple communication channels will be utilized to recruit eager, eligible, and talented students, with a goal of accepting at least 70% from underrepresented groups. Recruitment efforts will be tailored to maximize publicity to underrepresented groups enrolled in institutions where STEM research opportunities are unavailable or very limited. Miami is a melting pot of people from various countries, economic backgrounds, and home situations with goals as diverse as the community they represent. Prior University STEM outreach programs targeted minority and women participants with documented success.	
Outputs: (Results of work performed. Describe new technology, research, or process this project is expected to or has produced. Also describe any new partnerships (outside the UTC) that have been established): Participants will demonstrate increased interest in pursuing STEM career pathways. Participants will gain heightened awareness regarding transportation related STEM career opportunities.	
Outcomes/Impacts: The activities aimed at personal and professional growth will prepare students for effective interactions in engineering and science, and encourage them to pursue a research-based or practicing professional career in coastal transportation infrastructure. Thus, recruitment of participants from minority communities represents a significant broader impact in terms of both minority inclusion and local relevancy due to their coastal vulnerability. A	



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positive culture of science and engineering fostered in Miami can instill a sense of pride in underrepresented communities towards careers among those who traditionally do not pursue a STEM career.

Final Research Report: URL to final Report will be provided upon completion.