

National Aeronautical and Space Administration (NASA)

Samples of current and previous projects evaluated by PEER

FIU NASA MIRO Center for Research and Education in 2D Optoelectronics (CRE2DO) (\$3,000,000, 2019–2022):

FIU CRE2DO was funded by NASA’s Minority University Research and Education Project (MUREP) Institutional Research Opportunity (MIRO). MUREP provides opportunities for research and education to inspire and prepare increasing numbers of students for STEM careers and as an integral part of this mission, MIRO was established to strengthen and develop the research capacity and infrastructure of Minority Serving Institutions in areas of strategic importance and value to NASA’s mission and national priorities. CRE2DO aims to emerge as a self-sustained center of excellence for innovative research and education, focused on attaining national competitiveness in advanced optoelectronic technologies that support NASA mission, driven by FIU’s pledge for educating and training a highly diverse and inclusive population of future scientists and engineers.

- Principal Investigator: Daniela R. Radu, Florida International University (FIU)

STEM Satellites: A Mobile Mathematics and Science Initiative for Orlando Metropolitan Area Children's Hospital (2016–2017):

This NASA Competitive Programs for Science Museums, Planetariums, and NASA Visitor Centers Plus Other Opportunities (CP4SMPVC+) funded project involves the Orlando Science Center (OSC) in partnership with BASE Camp Children's Cancer Foundation and the University of Central Florida (UCF). The mission is to engage chronically ill children (cancer, sickle-cell, HIV/AIDS, etc.) and other Orlando area youth ages 10–18 who face the greatest educational disparities in NASA-themed Aeronautics, Space Exploration, and Space Science exhibits through a STEM engagement and educator professional development project entitled *STEM Satellites: A Mobile Mathematics and Science Initiative for Orlando Metropolitan Area Children's Hospitals*. OSC will partner with educational researchers, evaluators, and planetary scientists from UCF to create three mobile exhibits for each of the three children's hospitals in the Orlando metropolitan area. Two additional sets of the three mobile carts will be used at OSC and UCF. The three mobile exhibits will be based on the planned NASA missions that the UCF planetary scientists are leading including a Mars-themed exhibit focusing on space exploration, an asteroid-themed exhibit, and an exhibit on microgravity. Each cart will include multiple STEM activities that incorporate NASA data and artifacts from prior NASA missions, UCF planetary science collections, and Kennedy Space Center. OSC will provide professional development and training to BASE Camp volunteers who will supervise the use of the mobile exhibits in the hospitals. These exhibits will provide authentic experiences that mirror current and planned NASA missions at a level that the children can understand. These hands-on and engaging exhibits will not only help motivate children to pursue STEM careers but will also help educate the general public about the exciting and important work that NASA carries out. Providing this level of engaging and authentic STEM activities through the mobile exhibits to this historically underrepresented population is unprecedented.

- Principal Investigator: JoAnn Newman, Orlando Science Center



Kennedy Space Center/Florida Space Grant Consortium (KSC/FSGC) NASA Pre-Service Teacher Institute (PSTI) (2008–2009):

NASA PSTI was a two-week residential major minority institute, funded by NASA, for junior or senior college students who were preparing to teach in an elementary or middle school. The purpose of NASA PSTI was to increase pre-service teachers' skills and enthusiasm for teaching mathematics and science, while incorporating technology in their curriculum. This was achieved through a focus on problem-based learning using an aerospace theme. Evaluation measures included focus groups, questionnaires, and a longitudinal study of participants to determine whether any long-lasting effects occurred.

- Principal Investigator: Jaydeep Mukherjee, Florida Space Grant Consortium