

Project Title: Technology Exchange Program (STEP) for Engineering/Robotics in Middle School Students

Principal Investigators:

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Project Summary:

This project objective introduces middle school students to intermodal transportation concepts embedded in engineering/robotics application and activities. Students will be directly emerged into the safety, economic impact and career opportunities that directly support the industry. Activities and concepts will promote advanced educational goals as well as seeking improvements in existing structure. The scope of activities will include role playing, games, team building, creativity, economic empowerment, networking and skills training that promote confidence and leadership. Each student will have the opportunity to connect with professionals in the transportation career fields as well as educators and trainers who support the different components in intermodal transportation. The 5 day workshop will describe the type of occupation and the responsibilities related to those choices as well as the compensation. The educational achievement level will be connected to specific career choices and the activities and responsibilities that support that level of compensation. This workshop intellectual merit will focus on transferring knowledge and skills about transportation sectors, engineering and robotics and other technology components commonly used by engineers through games, videos, role-playing and other engaging exercises that are age appropriate. This workshop will encourage students interested in pursuing degrees in these fields by engaging their interest to pursue engineering disciplines. In addition to facing more demanding academics, middle school youth are dealing with the challenge of meeting social and emotional benchmarks as they transition from elementary school to middle school and then high school. Peer pressure, academic demands, exposure to new social environments, and physical changes are added distractions to an already new and sometimes overwhelming time in their lives. It is during middle school that many youth, especially girls, turn away from math and science. Once their young minds stop progressing in these subjects, it is difficult to catch up with peers later on. It is therefore critical that these youth are adequately exposed to quality Science Technology Engineering Mathematics (STEM) programming before they reach high school.