Creating On-Ramps for Middle and High School Students Towards Rewarding Careers in Engineering

Purpose
The “Creating On-Ramps” engineering outreach project is designed to increase the interest of underrepresented youth in engineering by (a) providing teachers pre-engineering professional development, and (b) disseminating pre-engineering design challenge materials to K-12 educators and volunteers in Ohio and throughout the US. The project aims to help classroom teachers become effective STEM career ambassadors who introduce middle and high school students to the engineering design process, a core skillset of the engineering profession.

Impact
K-12 Students: Approximately 150 students from KIPP Academy after-school program will be exposed to the engineering design process over a 6-week period.

Classroom Teachers and Engineering Students: Seven teachers and 18 engineering students will participate in summer research and the subsequent creation and delivery of pre-engineering design challenges.

Informal Engineering Education: Eighteen classroom-tested pre-engineering design challenges will be developed and hosted on a website for access by K-12 educators and volunteers.

Ohio State Colleges/Units Involved
College of Engineering
Department of Teaching and Learning, College of Education and Human Ecology
Department of Educational Studies, College of Education and Human Ecology
Kirwan Institute for the Study of Race and Ethnicity
Ohio Resource Center, College of Education and Human Ecology

Community Partners Involved
KIPP Columbus Middle School
The Boys & Girls Club of Columbus
The Metro School
Reynoldsburg City Schools
Worthington City Schools

How you can get involved:
• Funding to support teacher professional development
• Referrals of K-12 educators and community organizations interested in learning more about this project
• Industry and community partners to extend STEM learning opportunities
• Web development resources to share pre-engineering design challenges with K-12 educators and volunteers

To get involved, contact:
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