**STEMversity**

STEMversity, a 501(c)3 was formed to address the shortage of students who pursue higher education and careers in the Science, Technology, Engineer, and Mathematics (STEM) fields. The mission of STEMversity is to provide training and educational programs that encourage exploration, develop experiences, and provide necessary instruction for students and educators preparing for college and today’s workforce opportunities.

STEMversity is dedicated to providing access to training early in student learning; to encourage excitement in areas of study that have historically lacked diversity. The program is aimed to achieve inclusivity in the STEM fields.

**FAST PROGRAM**

In partnership with Baldwin County Schools, Georgia Technical College, Georgia College Early College, National Institute of Standards and Technology and the Air Force Technical Applications Center, the Drug Enforcement Administration, and the Office of Forensic Science, the FAST program will target under-served and under-represented middle and high school students and teachers. The goal of the project is to use forensic, pharmaceutical, environmental, and space science to stimulate interest and prepare students for STEM fields. The program will expose them to analytical instrumentation. Students get an opportunity to learn the theory and use of the instrumentation. Students gain valuable knowledge and utilize analytical techniques they can use in forensic analysis and science fair projects. Students gain experience using analytical instrumentation used in drug forensic chemistry laboratories normally reserved for college students and professionals.

**HANDS-ON LABORATORY TRAINING**

Students have the capacity to conduct laboratory exercises that will expose them to analytical instrumentation. Students get an opportunity to learn the theory and use of the instrumentation. Seminars Topics include:

- **Separation techniques for drug samples**
- **Qualitative/Quantitative analysis - the definition and how each is used in drug analysis**
- **How does a GC/MS work to identify samples**
- **Infrared Spectroscopy and how it is used in forensics**
- **DNA, Toxicology, Fingerprinting**

Students learn drug field testing procedures.

**SCIENCE TEACHERS WORKSHOPS (STW)**

FAST offers professional development to science teachers consisting of lecture and theory with hands on demonstrations.

- **Drug Forensic Chemistry - include presumptive testing, separation techniques, drug classes and identification.**
- **Qualitative/Quantitative analysis - the definition and how each is used in drug analysis**
- **Chromatography – Separation techniques**
- **Infrared Spectroscopy – Identification techniques**

Educators use this knowledge to deliver a more robust science curriculum to their students. The STWs are designed for teachers who do not have a science education degree.

**URGENT NEED**

The urgent need of STEMversity is to improve and develop poorly supported science laboratories in the public and charter schools. STEMversity is an advance technical laboratory that will address this need by offering hands on training utilizing analytical instrumentation.

**NIST SUPPORT**

The National Institute of Standards and Technology has supported the Summer Science Academy for the last two years. Starting in the fall of 2016, STEMversity was awarded a three year grant that will support the FAST Program.

**FOR MORE INFORMATION**

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