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INCREASING HIGH SCHOOL STUDENTS' INTEREST IN STEM BY USING SUMMER RESEARCH PROJECTS IN SCIENCE

WILSON-ARDLEY, TIFFANY ET AL
FLORIDA A&M UNIVERSITY
TALLAHASSEE , FLORIDA

Dr. Tiffany Wilson-Ardley
College of Pharmacy and Pharmaceutical Sciences
Florida A&M University
Tallahassee, Florida

Dr. Jason Black
Information Systems and Operations Management
School of Business and Industry
Florida A&M University
Tallahassee, Florida

Dr. Clayton Clark, II
Department of Civil and Environment Engineering
FAMU/FSU College of Engineering
Florida A&M University
Tallahassee, Florida

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Synopsis:

The Florida Agricultural and Mechanical University's Program of Excellence in Science Technology Engineering and Math was designed to assist with the recruitment, retention and graduation of under represented students in STEM majors. Area high school 9th - 12th graders participated in a three week Summer Academy and believe that participation in research projects has increased their interest in pursuing a STEM degree upon entering college.

The Florida A&M University Program of Excellence in STEM (PE-STEM) is a program for students entering the 9th grade through graduating seniors from high school. The program focuses on engaging students in STEM disciplines with the goal of increasing their awareness and selection of STEM as a college major and ultimately a career. The program includes an academic year component and a summer academy. During the summer academy students were engaged in research based on their preference in a STEM area. Students in the science area were partnered with researchers in areas such as biology, chemistry, pharmacology and toxicology. Students also presented their research projects at the university during their summer academy's research symposium.

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Abstract

The Program of Excellence in STEM (PE-STEM) is in its 4th year of operation at Florida Agricultural and Mechanical University (FAMU). The program was designed to increase the number of students attending and graduating from FAMU in a STEM discipline. The program focuses on recruitment, retention and graduation. The program includes a three week Summer Academy for rising 9th-12 graders from area high schools as well as monthly academic workshops. This program incorporates intensive mentoring both in academics and research in an effort to engage students in STEM disciplines. Mentors include undergraduate and graduate students, Post-docs and faculty.

During the 2017 Summer Academy, students who showed interest in Science were paired with research faculty at FAMU. These students engaged in research projects including design and development of drugs with medicinal potential, cancer cell viability studies, screening natural products for biological activities, gel electrophoresis among other cutting edge projects. Students were exposed to modern research techniques and instrumentation. At the completion of the program, students had to present their research projects to the FAMU as well as local communities at a University-wide Research Poster Symposium. Participants were evaluated and believed that their participation in this Summer Academy has either influenced, solidified or increased their potential decision to major in a STEM area and pursue a STEM career.