38th INTERNATIONAL CONFERENCE ON HIGH ENERGY PHYSICS
AUGUST 3 - 10, 2016
CHICAGO

Contribution ID: **702** Type: **Oral Presentation**

Pre-College Science and Engineering for Inner-City Middle School Students

Saturday, 6 August 2016 12:08 (11 minutes)

It is well known that the number of jobs in science and engineering is expected to grow in the next few years. However, the nation's current student body is not prepared nor sufficiently interested to pursue careers in the science, technology, engineering and mathematics (STEM) fields. More alarming is the fact that the demographics of students that are attracted to STEM fields demonstrate a significant race gap, with Hispanic and African-American students consistently falling behind to their Caucasian and Asian counterparts in STEM engagement. In order to contribute to a diverse STEM pipeline, the College of Engineering and the College of Education at the University of Illinois at Urbana-Champaign have developed an extensive outreach program that targets underrepresented minority students, which involves middle school math and science teachers, middle school students and their parents, and a diverse group of STEM undergraduate students who serve as mentors. The program is an out-of-school program that includes a hands-on curriculum that focuses on "Using Mathematics to Explain the Physical World", where students use mathematical modeling and real-life situations to delve deep into different scientific and mathematical concepts. With the pilot program launching in fall 2015 with four half-day Saturday sessions held at the University of Illinois at Chicago campus and 50 inner-city, 6th and 7th grade students from the Chicago Public Schools (99% African American and Hispanic/Latino), the spring 2016 program will be expanded to include six Saturday sessions and 75 students. The program seeks to sustain the engagement by launching an additional grade every academic year, with the goal of building a solid and diverse 6th –12th STEM pipeline. Pre-test and post-test assessments will be used to measure student learning and to determine the change in students'dispositions towards mathematics and science over time. Participating students will be tracked throughout the program to determine whether or not they were successfully entrenched into the STEM pipeline.

Primary authors: PITTS, Kevin (University of Illinois); ROSADO LAUSELL, Sahid (University of Illinois at Urbana-Champaign)

Presenter: PITTS, Kevin (University of Illinois)

Session Classification: Diversity and Inclusion

Track Classification: Diversity and Inclusion