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NATIONAL SCIENCE FOUNDATION \$10 MILLION FEDERAL GRANT WILL BOOST RACIAL AND ETHNIC DIVERSITY IN STEM HIGHER EDUCATION

CLEVELAND, OH. Sept 17, 2019 – A University of Pittsburgh multidisciplinary research team, which includes TIES and the STEM Learning Ecosystem Community of Practice (SLECoP), have been chosen to create a network of precollege programs with accreditation standards to boost college enrollment for underrepresented students majoring in science, technology, engineering and math.

The National Science Foundation awarded a \$10 million INCLUDES Alliance grant to the team that makes up Pitt's Broadening Equity in STEM (BE STEM) Center and SLECoP, a global movement of science, technology, engineering and math programs and partners in 84 communities across the globe.

"With the new NSF INCLUDES Alliance awards we continue to expand our national network of partners who are helping us build a more diverse, inclusive, innovative, and well-prepared STEM workforce," said Karen Marrongelle, head of NSF's Education and Human Resources Directorate.

"Ultimately, this work will decrease the distance between STEM precollege programs and college admissions offices and forge a new, more equitable pathway for racially and ethnically underrepresented students to access higher education in STEM," said Alison Slinsky Legg, principal investigator, co-director of Pitt's BE STEM Center and director of outreach programs in the University's Department of Biological Sciences in the Kenneth B. Dietrich School of Arts and Sciences.

The effort kicks off with STEM education programs that are part of SLECoP network in Pittsburgh New York, Chicago and the San Francisco Bay Area. Those programs will come together to create a vibrant, collaborative learning network designed to strengthen and leverage standards that are known to support strong student outcomes.

The ecosystems chosen for the pilot sites are: Chicago STEM Pathways Cooperative; Remake Learning – Pittsburgh Regional STEM Ecosystem; NYSCI Neighbors – Queens, NY; NYC STEM Education Network; and Bay Area STEM Ecosystem in California.

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The five-year award will make Pitt the home base for the STEM Pathways for Underrepresented Students to HigherEd (PUSH) Network through the collaboration of seven Pitt schools, centers and departments. The network is a national collaborative of precollege programs, STEM educators, college admissions professionals and other stakeholders committed to increasing racial and ethnic diversity in STEM. It will also support the creation of an accreditation model to communicate the validity of these precollege programs to college admissions officers.

“Precollege programs such as MESA in California, PRIME in Philadelphia, FAME in Delaware and INVESTING NOW at Pitt have played an important role in exposing students of color to college and STEM opportunities,” said Alaine Allen, co-principal investigator, co-director of the BE STEM Center and director of K-12 outreach and community engagement at Pitt’s Swanson School of Engineering. “Developing a system to connect these initiatives to admissions is our opportunity to honor the legacy of the pioneers who created these programs.”

Goal: More Diversity in STEM Majors and Jobs

The goal is to address gaps between underrepresented students that participate in STEM precollege programs, study STEM related majors in college and get related jobs after graduation. The National Academy of Sciences has found the fastest-growing population segments are the least represented in STEM fields. The number of racially and ethnically underrepresented students in science and engineering fields would have to triple to match their share in the population.

Jan Morrison, co-principal investigator and co-founder of the SLECoP, said she is thrilled to be working with Pitt and the other partners to create strong STEM college and career pathways for underrepresented students. “STEM is for all but has to be designed for each,” Morrison said.

Morrison said that the STEM Learning Ecosystems are the ideal vehicle for piloting and scaling a program aimed at improving meaningful STEM pathways for underserved students.

The team will work to create a set of best practices that, if met, will grant STEM precollege programs accreditation through the Middle States Commission on Higher Education. That accreditation will give college admissions officers a means to measure the program’s value when evaluating students for acceptance.

Once standards are finalized and the first round of programs receive accreditation, the next step is to expand the effort to six additional urban areas by the end of the grant cycle.

Co-principal investigator Jennifer Iriti, a research scientist at Pitt’s Learning Research and Development Center, said the accreditation will be strengthened through the national network of partners working to establish a common set of best practices.

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“We are pairing accreditation with a collaborative professional learning and improvement community,” she said. “This will bring providers together to innovate effective practices for recruiting and serving underrepresented students as well as build strategic pathways to STEM undergraduate programs.”

Co-principal investigator David Boone, an assistant professor of biomedical informatics at Pitt’s School of Medicine and director of the UPMC Hillman Cancer Center Academy, said it is important to help college admissions officers recognize the depth and quality of work done in precollege STEM programs.

“At Pitt, we are able to demonstrate that board scores such as the SATs are more predictive of a student’s race or ethnicity than their persistence in STEM, so we need to find a metric that better predicts success. We believe that successful participation in STEM precollege programming is one such metric,” he said.

The multidisciplinary BE STEM team also features representatives from the Center for Urban Education in the School of Education and the School of Computing and Information.

About TIES – Teaching Institute for Excellence in STEM

TIES is dedicated to making STEM accessible to everyone, especially underserved and underrepresented learners. We do this by connecting stakeholders — educators, funders, community organizations, businesses and government agencies — who, through collaborative partnerships, create meaningful and gainful STEM learning experiences. Our team of consultants provides strategic planning support and guides design, training and implementation across all of our services.

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