

## Office of Academic Communications & Assessment

### Stevens CIESE Executive Director Beth McGrath Accepts Presidential Award

**President Barack Obama** named Stevens Institute of Technology's **Center for Innovation in Engineering and Science Education (CIESE)**, led by Executive Director **Beth McGrath**, a recipient of the prestigious **Presidential Awards for Excellence in Science, Mathematics, and Engineering Mentoring (PAESMEM)**. CIESE was one of 4 organizations and

11 individuals to receive awards, which were presented January 27, 2011 at a White House ceremony. McGrath, who was named Director of the program in 2004 and became Executive Director in 2010, accepted the award on behalf of the Center.



"These individuals and organizations have gone above and beyond the call of duty to ensure that the United States remains on the cutting edge of science and engineering for years to come," President Obama said in a White House press release. "Their devotion to the educational enrichment and personal growth of their students is remarkable, and these awards represent just a small token of our enormous gratitude."

Under McGrath's leadership, CIESE has become a national leader in K-12 engineering education and STEM education research. Since 2004, CIESE has garnered \$26 million in grant funding, including five **National Science Foundation (NSF)** grants.

The nation's need for programs like CIESE is clear. Studies have shown that 85 percent of economic growth per capita is due to technological innovation. However, only 4 percent of students pursue a technical field. "That's a big burden for a small percentage of the population," McGrath says. "In order to create a workforce with the STEM skills necessary to drive the economy in technical fields, we have to do more at earlier stages so that 4 percent can be a larger percentage of the population."

In a country in which so much prosperity has been created by investments in research and development, STEM fields are lagging behind other nations. The National Assessment of Educational Progress (NAEP) has found that 43 percent of U.S. eighth graders failed to show basic science proficiency. That number was 35 percent in New Jersey. McGrath and CIESE, bolstered by the Presidential Award, stand prepared to make a true difference in the future of American education.

CIESE collaborates with K-12 and university educators, researchers, policymakers, and educational organizations to develop curriculum materials, conduct professional development programs, and research new methodologies to strengthen science, technology, engineering, and mathematics (STEM) education. Since its founding in 1988, CIESE has impacted more than 30,000 educators, and annually reaches approximately 100,000 students in 35 countries through its online classroom projects that use real time data and global telecollaboration. As Executive Director of CIESE, McGrath is leveraging the Center's expertise to strengthen STEM education both in the K-12 as well as higher education levels. Through its integrated approach in which students engage in scientific inquiry, problem-based learning, and engineering design challenges, CIESE provides resources and instruction for educators to create the innovators of tomorrow.

News of the Presidential award garnered a slew of praise from government officials and educators, as well as the American Society of Engineering Education.

**Sen. Robert Menendez**, who lives in Hoboken, [congratulated Stevens](#) for receiving the award: "Because of our traditional strength in science, mathematics, and engineering, New Jersey has long been the Innovation State," Menendez said. "Our students, guided by wonderful teachers and professors, will help carry on that legacy. The innovation they create will propel the state and nation's economy for decades to come. I congratulate Stevens Institute for its excellence in nurturing the students who will discover the breakthroughs of tomorrow."

**Rep. Alberto Sires** also [recently congratulated](#) CIESE for its performance: "CIESE is a worthy recipient of this award and excellent example of how mentors can cultivate a diverse array of students to take interest in science, technology, engineering, and math (STEM) education," Sires said. "For more than two decades, CIESE has facilitated over 30,000 educators and hundreds of thousands of students with professional development programs and innovative curricula to enhance STEM education."

The importance of K-12 engineering education is gaining prominence on the national level. Mrs. McGrath was recently appointed to the Standing Committee of the National Assessment of Education Progress *NAEP 2014 Technology Education Literacy Assessment*, the first ever national assessment of engineering literacy to be administered at 8th grade. Advances like these, she says, bode well for the future. "It's a sign of the time that engineering is coming into its own. It still has a way to go in the K-12 world, but engineering is gaining respect as a discipline worthy of study even at the elementary level."

With CIESE continuing to reach out to educators and students, the engineers, scientists, and mathematicians of tomorrow stand to provide America with an even brighter future.

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