

Poly Awarded \$3 Million National Science Foundation Grant

Program Supports STEM Fellowships and Training Critical to Nation's Economic Growth

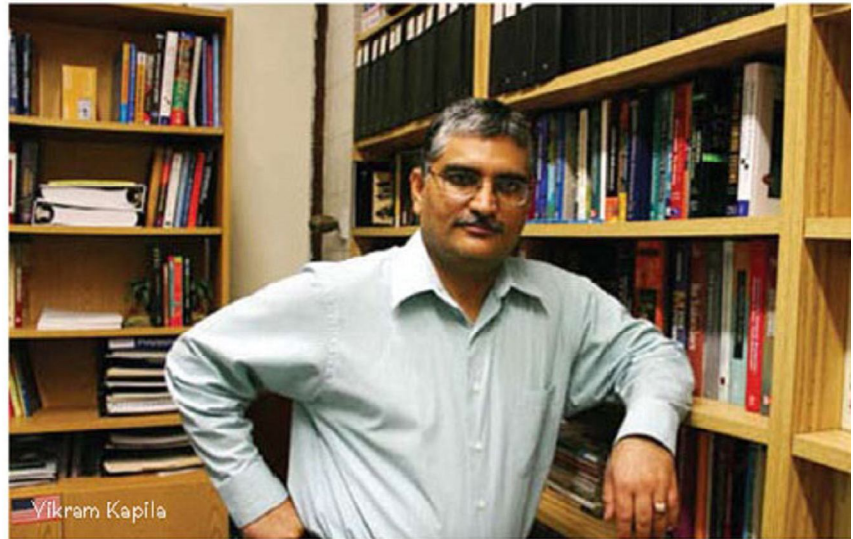
The National Science Foundation (NSF) awarded Poly a \$3 million grant to support graduate fellowships and training in science, technology, engineering and mathematics (STEM) education and innovation at six New York City middle schools. In an increasingly competitive global economy, strength in STEM education is critical for the nation's industrial growth and for technological invention and innovation.

"NSF knows how key a strong STEM education is and will be for the sustained competitiveness of the U.S. in the global market," said Sonia Ortega, program director at NSF. "We believe working with Polytechnic University on this grant is the perfect fit with its ties to local schools and our shared dedication to innovation."

Working with six New York City middle schools and their faculties, Poly professors and graduate fellows will:

- Broaden graduate engineering education and provide fellows with teaching, communication, management, and team building skills;
- Engage middle school students in science, technology, engineering, and mathematics studies through mechatronics-enabled science labs and robotics competitions;
- Develop human resources by enabling fellows to develop a deeper understanding of STEM concepts and the process of knowledge building; and
- Provide technology literacy and professional development to teachers.

"Strength in STEM education is critical, not just in New York but across the nation," said Vikram Kapila, associate professor of mechanical engineering and the principal investigator (PI) for the grant. "This grant will allow Polytechnic University Fellows to connect their research with societal needs, become stronger scientists and engineers, and in the process, help improve STEM



education at the middle school level."

"Polytechnic University has a long history of commitment to STEM education and innovation at all academic levels," noted Noel Kriftcher, executive director of Poly's David Packard Center for Technology and Educational Alliances and a co-PI for the grant, "because it provides an avenue by which students can pursue higher education and professional careers." Magued Iskander, associate professor of civil engineering and a co-PI, added, "We look forward to leading the effort to improve student achievement in local schools by enhancing their STEM curricula and expanding their teachers' knowledge."

Through hands-on scientific experiments, mechatronics-enabled science labs, and robotics-based lesson plans, Polytechnic Fellows will ultimately integrate their mechatronics and robotics-focused education and research into middle school curriculum.

Dariusz Czarkowski, associate professor, electrical and computer engineering; Rastislav Levicky, Donald F. Othmer Assistant Professor of Chemical and Biological Engineering; and Maurizio Porfiri, assistant professor, mechanical, aerospace and manufacturing engineering, are the senior investigators on the project.

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—Vikram Kapila