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$600,000 NSF grant to continue Research Experiences for Teachers

Teachers will be students again at Michigan State University thanks to a three-year, $600,000 National Science Foundation (NSF) grant that will extend MSU’s Research Experiences for Teachers (RET).

RET is part of MSU’s outreach in Science, Technology, Engineering and Mathematics (STEM) and is led by Wen Li (PI), associate professor of electrical and computer engineering, Drew Kim (project manager and co-PI), assistant to the dean for recruitment, scholarship, and K-12 outreach in the MSU College of Engineering, and Xiaobo Tan (senior personnel), MSU Foundation Professor of electrical and computer engineering.

Li said the new RET program is Smart Sensors and Sensing Systems. It builds on the success of the last RET experience which was led by Tan and Kim -- Robotics Engineering for Better Life and Sustainable Future.

“We will continue to develop a strong partnership between MSU and schools in the greater Lansing, Detroit, and Grand Rapids areas,” Li said. “Our goal is to train another cadre of leaders of middle and high school teachers in the STEM areas. We’ll recruit teachers from mid- and southeast Michigan who serve socioeconomically challenged populations and students from groups traditionally underrepresented in science and engineering.”

The three-year project will train 11 teachers a year by involving them in cutting-edge research and other professional development activities at MSU.

“Based on their research experiences, the teachers will develop innovative curriculum materials, which will be brought back to their classroom and shared online through TeachEngineering.org,” she explained.

Kim said that the project is a collaboration with the College of Education and the Center for Engineering Education Research (CEER) in the College of Engineering. Margo Glew, from the College of Education, will serve as a curriculum development specialist. Claudia E. Vergara, from CEER, will be the program evaluator.

Eleven MSU faculty members from four departments in the College of Engineering will serve as faculty mentors to provide research opportunities and mentoring to RET teachers. The MSU faculty members are:

- **Biosystems and Agricultural Engineering**: Evangelyn Alocilja
- **Computer Science and Engineering**: Xiaoming Liu
- **Electrical and Computer Engineering**: Wen Li, Andrew Mason, Nelson Sepulveda, Xiaobo Tan, Lalita Udpa, and Chuan Wang
- **Mechanical Engineering**: Jongeun Choi, Peter Lillehoj, and Junghoon Yeom
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NSF proposal on RET
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