Guoliang Xing, assistant professor of computer science and engineering, has received an NSF CAREER award for the project “Design and Analysis of Performance-Critical Wireless Sensor Networks: A Fusion-Centric Approach.”

This project develops a principled approach to performance assurance of critical sensing applications such as infrastructure (power grid and bridges) monitoring and natural hazard (volcanoes and earthquakes) detection. In contrast to existing heuristics-based solutions, this approach adopts data fusion, an advanced information processing scheme, to enable resource-limited sensors to efficiently collaborate in delivering predictable network performance. The research aims of this project, which is funded by a five-year $425,000 grant, include novel performance modeling framework, network architecture, mobility support, and medium access control for fusion-centric sensor networks. This project will have impact on numerous mission-critical applications with stringent sensing and communication performance requirements.

Xing earned his DSc ('06) and MS ('03) in computer science from Washington University in St. Louis. He received a BS in electrical engineering and an MS in computer science from Xi'an Jiaotong University in 1998 and 2001, respectively. Prior to joining MSU, he was an assistant professor of computer science at the City University of Hong Kong.

View Xing’s NSF award abstract at http://www.nsf.gov/awardsearch/showAward.do?AwardNumber=0954039

During the past year, six faculty in the college have received NSF CAREER awards.