# Xiaojian Zhu

**Biography:** Xiaojian Zhu received the Ph.D. degree in Computer Science from Southeast University, Nanjing, China, in 2014. Currently, he is an Assistant Professor with the School of Computer Science and Engineering, Changshu Institute of Technology, Changshu, China. His interests include wireless sensor networks and wireless ad hoc networks.

**Session Title:** Lifetime Maximization of Connected Differentiated Target Coverage in Energy Harvesting Directional Sensor Networks

**Abstract:** Target surveillance applications of directional sensor networks are constantly emerging. The environmental energy harvesting technologies are promising solutions for alleviating the energy shortage in sensor networks. This work addresses the maximum lifetime target coverage problem in energy harvesting directional sensor networks. In this problem, the coverage quality requirements of all targets should be continuously satisfied and the network connectivity should be guaranteed. It is very challenging due to the limited sensing angle and the recharging ability of the sensors, and the different coverage quality requirements of the targets. We prove its NP-hardness and formulate it as a mixed integer nonlinear programming model. Two heuristics are proposed to solve it. Extensive simulations have been conducted to evaluate the performance of the proposed algorithms.