Department of Engineering Science

Announces 4th Lecture of the Engineering Science Lecture Series
Academic Year 2018-2019

This is a series designed to benefit the Sonoma State students and faculty in the School of Science and Technology, high tech and biotech industries and related businesses and community in the North Bay Region.

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The Lecture Series covers a broad range of topics with focus on recent developments and trends and provides a platform for the exchange of ideas among the audience.

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Attendance is open to the students, faculty and staff of SSU and other academic institutions, engineers and scientists from industries, members of the business community and members of the community, in general. A parking permit is required to park on campus, and is available for $5.00 at machines in the parking lots. Talks are otherwise free.

Days & Dates: 1st & 3rd Thursday of each month
Venue: Cerent Engineering Science Complex, Salazar Hall Room #2009A
Reception: 4:00 to 4:30 p.m.
Lecture: 4:30 to 5:15 p.m.
Q&A: 5:15 to 5:30 p.m.

Acknowledgement

The ES Lecture Series is supported by the local industry including Keysight Technologies.

“Smart Environmental Monitoring Using Low-Cost Sensors and LPWAN”

by

Dr. Nansong Wu, ES Department, Sonoma State University, Rohnert Park, CA

Thursday, October 17, 2019

Abstract - Rapid convergence of traditional research areas of embedded systems, wireless sensor networks, control systems, automation, and sensors has enabled the evolution of Internet of Things (IoT). The concept of IoT is based on a self-configuring and adaptive system consisting of networks of sensors that interconnect in such a way as to make them intelligent and programmable. An important application of IoT is in environmental monitoring through distributed sensors and controllers that stream data for cloud storage and web access. Lakes from nationwide often lack water quality monitoring stations that can record data for public or private users. This research is to leverage the low-cost sensors for the design and development of a mobile water quality monitoring system (WQMS). We survey the available wireless technologies, select and deploy the LoRa (Long Range) network and evaluate its performance. We also present the detailed design and implementation of the mobile WQMS based on an unmanned surface vehicle (USV).

Dr. Nansong Wu Nansong Wu received his M.S. in Electrical Engineering, Engineering Management, and Ph.D. in Electrical Engineering from Florida International University, Miami, FL. He has several years of academic experience. His areas of interest are wireless sensor networks, low-power wide-area networks, and FPGA design.

Upcoming Lectures

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<td>Mr. Roger Nichol, 5G Program Manager Keysight Technologies, Santa Rosa, CA</td>
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