

MATERIALS SCIENCE AND ENGINEERING (MS&E) SEMINAR SERIES
Friday September 13, 2019 at 3:00pm in room ESB 207

Functional nucleic acids for electrochemical and photoelectrochemical biosensing

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Abstract: Biosensors are devices that are used for analyzing biologically-relevant targets to manage diseases or health. These devices are created by combining biological recognition with signal transduction. Tremendous research efforts are focused on improving the performance metrics of biosensors – limit-of-detection, sensitivity, specificity, and response time – to enable them to be used in real-life settings. In this talk, I will discuss our innovations in engineering functional nucleic acids that achieve biorecognition and signal transduction. These biological probes are integrated with electrochemical and photoelectrochemical signal transduction to create ultrasensitive biosensors that can directly analyze clinically-obtained urine samples.

Bio: Leyla Soleymani obtained her PhD degree in Electrical Engineering from University of Toronto in 2010, and she is currently Associate Professor at the Department of Engineering Physics and the School of Biomedical Engineering at McMaster University. She won the Ontario Early Researcher Award in 2016, and is currently the Canada Research Chair in Miniaturized Biomedical Devices. Soleymani is working towards making new materials and methods for creating point-of-care and continuous monitoring biosensors.

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