University of Victoria
Centre for Advanced Materials & Related Technology

CAMTEC SEMINAR

TITLE: ***Dynamic Nanogap Biosensors Toward Rapid Detection of Single Molecules***

SPEAKER: **Dr. Sang-Hyun Oh**
University of Minnesota

DATE: Friday, November 10, 2017

TIME: 10:00 am

LOCATION: ECS 660

Abstract:

This presentation will show new approaches to design and fabricate nanogap plasmonic sensors that can rapidly trap biomolecules via dielectrophoresis and detect them with optical spectroscopies in the visible, near-infrared, or mid-infrared regime. We use an unconventional fabrication scheme – atomic layer lithography – to create gaps as narrow as 1 nm in metal films using atomic layer deposition, enabling high-throughput wafer-scale production. The resulting nanogap structure can be used concurrently as electrodes for dielectrophoretic sample concentration and highly enhancing substrates for surface-enhanced spectroscopies. We show a variety of resonant nanogap structures that can be used to detect nanoparticles, proteins, and DNA molecules at ultralow concentrations.

Please contact Peggy White for further information: (250) 721-7736, camtec@uvic.ca