

CHEMICAL ENGINEERING

FACULTY CANDIDATE SEMINAR



QIUMING YU

Monday, March 5, 2018

Research Professor of Chemical Engineering
University of Washington

Plasmonic Nanostructures for SERS Biosensing and Photovoltaic and Photodetector Devices

ABSTRACT: Our research focuses on plasmonic nanostructures and semiconductor nanomaterials for the applications in chemical and biological sensors and optoelectronics devices. We utilize an integrated computational and experimental approach to design plasmonic nanostructures with novel properties, to understand material growth and processing mechanisms, and ultimately to make devices with superior performance. In this talk, I will give a brief overview on our recent research in the areas of plasmonic biosensing, semiconductor nanomaterials, and photovoltaic and photodetector devices. I will specifically discuss the work on the development of plasmonic nanostructures for biosensing based on surface-enhanced Raman spectroscopy (SERS) as well as plasmonic electrodes and device architectures for photovoltaic devices and UV photodetectors.

BIO: Qiuming Yu received her BS and MS degrees from the Department of Chemistry at Nanjing University in China. She earned her Ph.D. degree from the Department of Chemical Engineering at Cornell University in 1995. She was a postdoctoral fellow at the Microdevices Laboratory at the NASA Jet Propulsion Laboratory / California Institute of Technology. After spent three years as research assistant professor in the Department of Chemical Engineering at Kansas State University, she moved to the University of Washington (UW) in 2000, where she served as research associate in the Departments of Physics and Chemical Engineering, and lab manager of the Nanotech User Facility at the UW Center for Nanotechnology. Currently, she is a research professor at UW Chemical Engineering. Her research interest focuses on plasmonic nanostructures and semiconductor nanomaterials for chemical and biological sensors and optoelectronic devices.

LECTURE 4:00 – 5:00
PHYSICS ASTRONOMY BLDG. (PAA) A114

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