NSERC CREATE **TOP-SET** Un programme *FONCER* du CRSNG

Séminaire

Le jeudi 24 octobre 2019, 14h45
Des rafraîchissements seront servis dès 14h15
Complexe de recherche avancée, pièce 233
Université d'Ottawa, 25, rue Templeton
Le séminaire se déroulera en anglais.

Seminar

Thursday, October 24, 2019, 2:45 p.m.
Refreshments to be served starting at 2:15 p.m.
Advanced Research Complex, room 233
University of Ottawa, 25 Templeton Street

Mapping semiconductor nanowire junction potentials

Karen L. Kavanagh, Simon Fraser University

Abstract: Free-standing semiconductor nanowires formed via epitaxial growth from a substrate often have a well-controlled bottom end connection. Electrical probing via a top contact, perhaps a catalyst, can be carried out directly using in-situ methods in electron microscopes. In this way, we have obtained current-density-voltage characteristics and electron-beam-induced current measurements, from many different types of semiconductor nanowires. The presence of space-charge regions at axial and radial, dopant-concentration gradients (p-n junctions) can also be mapped via measurement of electron-beam phase shifts using electron holography. This talk will describe results from off-axis electron holography from axial GaAs, InP and Si NW p-n junctions.

Bio: Karen L. Kavanagh is a Professor of Physics and an Associate Member of the Department of Chemistry and School of Engineering Science at Simon Fraser University. She also directs the 4D Labs Electron Imaging and Holography Facility, which enables hands-on training in electron microscopy techniques. She received her Ph.D. in Materials Science and Engineering in 1987 from Cornell University and then worked for a year at IBM T. J. Watson Research Labs, and Massachusetts Institute of Technology (postdoctoral fellowships), moving to the University of California, San Diego (Dept. of Electrical and Computer Engineering) in 1988, before returning to Canada in 2000 to her current position. She is a Fellow of the UK Institute of Physics and has published over a hundred refereed scientific papers. Her research is focused on atomic interfaces and nanostructures with recent interest in nanocontacts, epitaxial electrodeposited metal-semiconductor interfaces, channeling and diffraction using helium ion microscopy, defects in nanowire heterostructures, electron holography, and two-dimensional materials.

TOP-SET est un programme de formation FONCER du CRSNG en puissance optoélectronique ayant pour but de façonner une cohorte de personnel hautement qualifié détenant des connaissances approfondies en systèmes optoélectroniques pour joindre les rangs d'équipes de recherche et développement.

Pour de plus amples renseignements sur TOP-SET, veuillez consulter create-topset.eecs.uottawa.ca/fr.

NSERC CREATE Training in Optoelectronics for Power: from Science and Engineering to Technology (**TOP-SET**) is a training program that aims to form a cohort of highly qualified personnel with comprehensive understanding of optoelectronic systems, capable of joining advanced R&D teams.

For further details regarding TOP-SET, go to create-topset.eecs.uottawa.ca.

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