FLEET
ARC CENTRE OF EXCELLENCE IN FUTURE LOW-ENERGY ELECTRONICS TECHNOLOGIES

FLEET RESEARCH SEMINAR

Molecular nanoarchitectures from on-surface reactions and assembly

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Abstract: One of the goals of nanoscience is achieving precise control over the structure and function of nanoscale architectures at surfaces. Combining the Lego-like modularity of molecules with the epitaxial and reactive influences of surfaces creates a range of opportunities to build exciting new nanoarchitectures.

Reacting molecules on a surface can allow for the fabrication of extended covalent nanostructures with enforced planarity. I will discuss our recent work in studying C-C coupling reactions of halogenated and carboxylated molecules at metal surfaces, where we have been focussing on understanding the effect of heteroatoms in the reaction process and the subsequent formation of oligomeric and polymeric structures, using a combination of scanning tunnelling microscopy, photoelectron spectroscopy and near-edge x-ray absorption fine structure to gain a well-rounded insight into the process.

About the Speaker: ***Dr Jennifer MacLeod*** is a Senior Research Fellow in Surface Science at QUT. She holds MSc and PhD degrees in Physics from Queen's University (Canada), where she worked on instrumentation development for scanning tunneling microscopy and studies of low-dimensional structures on semiconductor surfaces.

Jennifer has since held an NSERC Postdoctoral Fellowship at the Università degli Studi di Trieste (Italy) and a Research Associate position at INRS (Canada), where she worked on a range of topics in nanoscience.

Currently a DECRA fellow, her current research interests include self-assembly and reactions of molecules at surfaces, and the growth and modification of graphene and other 2D materials.

DATE: Thursday 22 March 2018
TIME: 2:00PM–3:00PM
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