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Photoelectrochemistry: from Solar Cells to Electrochemiluminescence of Single Nanocluster Collisions

Electrochemistry has been used for precise deposition of precursor films of Cu_2ZnSnS_4 (CZTS) for solar cells via controlled electrical charge consumption. It allows one to fabricate the CZTS light-absorbing layers of desired composition on a conductive substrate, which convert light to electricity through their semiconducting properties. Electrochemiluminescence (ECL) is the process in which electrogenerated radicals form excited species that emit light without the need for an external light source (electrons to photons). ECL is a powerful analytical technique that is fast, highly sensitive and selective, requires low quantity and is cost effective. I am going to present the above two aspects of photoelectrochemistry: first I will show how electrochemistry can be used to fabricate a light absorption layer for thin film solar cells, and how to use photoelectrochemistry to assess light conversion performance; I will then demonstrate how ECL can be used to interrogate single collision events of monodispersed gold nanoclusters.

Monday, September 14, 2015 at 2:30 pm
Room 0153, Biological & Geological Sciences Building

ACCESSIBILITY
The University of Western Ontario

If you require information in an alternate format, or if any other arrangements can make this event more accessible to you,

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