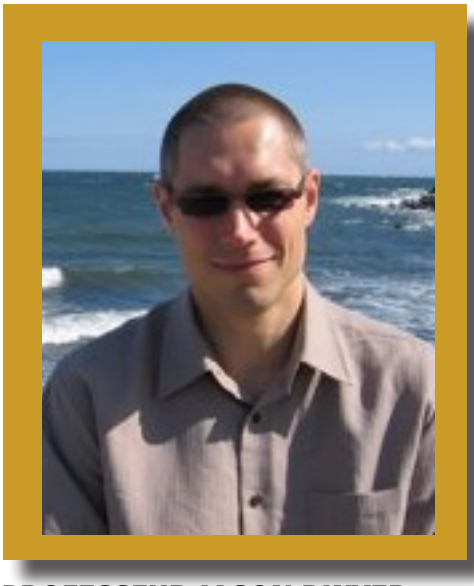
CONFÉRENCES DE CHIMIE
HIVER 2017



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« Thin-Film Nanofluidic Devices for Single-Molecule Science: Electronic, Optical, and Force Sensor Platforms. »

RÉSUMÉ: Thin film nanofluidic devices, such as nanopores, offer a diverse range of platform architectures and capabilities for sample characterization and single-molecule sensing. Nanochannels formed between, or within, thin films offer two domains for device optimization and method development: the dimensions and properties of the films, themselves, and the scale and nature of the confined volumes. Transmission electron microscopy can be carried out on liquid samples, for example, through the use of properly constructed windowed sample chambers. Most nanopore devices offer electronic readout of the presence of an analyte in solution; the signal is an analyte-perturbed ionic current through the nanopore, and the signal thus allows significant insight into interfacial and sample physicochemical properties, beyond the usual considerations of analyte presence and concentration. (Nano) confinement also offers sample perturbation and manipulation capabilities where the structure and interfacial properties of the channel become key design considerations requiring, because of the small length scales, advances in fabrication. Nanopore force spectroscopy uses the nanopore as physical barrier, tuned to the dimensions of a complex, to explore intermolecular interaction energetics through the timescale for complex rupture under force. Fabrication efforts have led to additional analytical capabilities, such as surface-enhanced Raman spectroscopy being performed essentially on demand on a host of different support materials, including those with structures that offer additional analytical capabilities. Fabrication strategies, nanochannel characterization methods, and bioanalytical and biophysical measurements will be presented in concert to demonstrate the unique capabilities—for discovery and application—offered by thin-film nanofluidic devices.

- Vendredi 7 avril 2017
- 10:00
- Salle **Z-300**
  Pavillon Claire McNicoll

BIENVENUE À TOUS !

Faculté des arts et des sciences
Département de chimie

Merci à nos commanditaires

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