



# Faculty of Engineering and Applied Science

## Chemical Engineering Seminar Series



### Microfluidics for Energy Applications

Dr. David Sinton/University of Toronto  
Thursday, February 25, 2016, 2:30pm  
Dupuis Hall, Room 215



#### **ABSTRACT**

Microfluidic methods developed primarily for medical applications have much to offer the energy sector. This talk will describe my group's recent work in two such areas: microfluidics for bioenergy; and microfluidics for fluids underground (CO<sub>2</sub>, oil and gas). Within the bioenergy theme, we are developing photobioreactor architectures that leverage micro-optics and microfluidics to quantify and increase the productivity of microalgae. Within the fluids underground theme we are developing a suite of methods to study (a) pore-scale transport and reactivity, and (b) relevant fluid properties. I will provide an overview of our work in carbon sequestration, enhanced oil recovery, and hydraulic fracturing.