

**Lilian Childress**, McGill University, Montréal, Canada

**Title:**

"An introduction to the nitrogen-vacancy center in diamond"

**Abstract:**

The nitrogen vacancy (NV) center offers the opportunity to study individual electronic and nuclear spins in diamond. Combining atomic-like optical transitions with long spin coherence times in a solid-state device, the NV center presents a promising platform for quantum information science and metrology. This lecture will explore how the electronic structure of the NV allows optical access to its spin degrees of freedom at both cryogenic and ambient temperatures, consider the mechanisms that govern the coherence properties of its spins, and provide an overview of current research and applications.