

# Graduate Seminar

**First Speaker:**

**Sharmila Dhevi**  
**Memorial University**

**Thursday, February 27**

**1:00 p.m., HH-3017**

## **Extended phase-space thermodynamics of charged black holes**

**Abstract:**

There have been many important results in black hole thermodynamics since the demonstration of phase transitions in the phase-space of Schwarzschild-AdS black holes by Hawking and Page. In this talk, I will be describing the thermodynamic behavior of a broad range of charged and rotating black holes in the context of an extended thermodynamic phase space.

**Second Speaker:**

**Mona Sayehban**  
**Memorial University**

## **Open quantum systems**

**Abstract:**

A closed quantum system is a pair  $(\mathcal{H}, H)$  where  $\mathcal{H}$  is a Hilbert space and  $H$  is a Hamiltonian operator. Such pairs are used to describe quantum phenomena in physics. An open quantum system is a system in contact with another one. In this talk, I will give an introduction to closed and open quantum systems and to the concept of entanglement. I will also describe a recent result of Merkli and Bergman about disentanglement as a consequence of complexity.