

Chez Pierre

Presents ...

Monday, November 3rd, 2025

12:00 pm - 1:00 pm

Duboc Room – 4-331



Chez Pierre Seminar

Victor Gurarie, University of Colorado Boulder

"Path integrals and QFTs of monitored quantum systems"

Abstract: Recent years have seen growing interest in quantum systems subject to measurements that actively influence their evolution. Beyond conventional unitary dynamics, such monitored quantum systems can be steered through measurement backaction, leading to novel dynamical phases of matter and measurement-induced phase transitions. In this talk, I will discuss how the inclusion of measurements modifies the path integral formulation of quantum mechanics, providing a unified and systematic framework to describe continuous observations. I will illustrate this approach in several contexts: from a single particle under continuous monitoring to interacting one-dimensional systems of bosons and fermions. These examples demonstrate how measurement enrich possible behavior of quantum systems.