

# Joint Quantum Seminar

**Wednesday, April 3, 4:00 pm**  
**Jefferson 250**

**Prof. Masahito Ueda**

*University of Tokyo*

**“Nonequilibrium thermodynamics and many-body dynamics  
in open quantum systems”**

Quantum gas microscopy has revolutionized our view on quantum many-body systems where atoms trapped in an optical lattice can be observed in real time at the single-particle level. At such extreme precision, the measurement backaction due to Heisenberg’s uncertainty relation can no longer be ignored. One should naturally be led to the question of how nonequilibrium thermodynamics and many-body physics should be modified in open quantum systems. I will address these issues and closely related problems such as a non-Hermitian Kondo problem, many-body localization and quantum magnetism at negative temperatures.

**Student Presentation will begin at 4:00**  
**Guest Presentation will begin at 4:30 PM**  
**Refreshments will be provided**

