

Seminars 2015-16



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Friday, October 30, 2015

2:30 PM

Laufer Center Lecture Hall 101

Host—Jason Wagoner & Ken Dill

Refreshments following seminar

Laufer Hub 110

Optimal Thermodynamic Control and the Dynamic Riemannian Geometry of Ising magnets

A major impediment to a quantitative understanding of molecular-scale machines is that they operate out of thermodynamic equilibrium. However, if the system is not too far from equilibrium, then optimal (minimum dissipation) thermodynamic control is governed by a fiction metric that generates a Riemannian geometry on thermodynamic state space. I'll discuss the Riemannian geometry of the Ising model, a quintessential model of statistical mechanics that described the thermodynamics of ferromagnetic and fluid systems.

