

Math/Stat Colloquium

SWARTHMORE COLLEGE DEPARTMENT OF MATHEMATICS AND STATISTICS
COLLOQUIUM SERIES 2023-2024



The Role of Theory and Computational Physics in Predictive High Energy Density Physics Simulation

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After achieving a series of successful ignition events at the National Ignition Facility (NIF), the field of controlled thermonuclear fusion has transitioned from a distant dream to a viable research platform for exploring burning plasmas in the lab. Yet, despite the celebrated achievements, significant challenges remain in accurately forecasting these complex experiments. In this talk, we review the basics of inertial confinement fusion (ICF) experiments and shed light on some of the many numerical and theoretical challenges that plague the field.

Background in high energy density physics, differential equations, and linear algebra would be helpful, but is not required.

TUESDAY, FEBRUARY 13

Refreshments: 4:15PM

Lecture: 4:30PM-5:30PM

Science Center 199