



The Math/Stats Colloquium
Department of Mathematics and Statistics
San José State University



Dongwook Lee

UC Santa Cruz

*Modeling Plasma Flows Using
Numerical Magnetohydrodynamics (MHD)*

SEPTEMBER 11, 2019, MH320

Abstract: Simulating multi-physics plasma flows is a demanding task that requires careful scientific considerations from various domains of modern sciences and engineering. At the core is a modular scientific platform that houses robust numerical partial differential equation (PDE) solvers of MHD with shock-capturing capabilities for compressible plasma flows. In this talk, various numerical models of solving MHD equations will be first discussed as a mathematical framework. Later, an astrophysical community code called FLASH will be given as one of the exemplary coding platforms.

Background: No particular background is required.

About the speaker: Dongwook Lee is an associate professor of the Applied Mathematics Department at UC Santa Cruz. His research interests emphasize developing numerical schemes of high-order Godunov shock capturing methods for computational magnetohydrodynamics (MHD) and gas dynamics using explicit and implicit time integration algorithms on large-scale computing architectures.

SNACKS IN MH331B AT 2:30 PM

TALK STARTS AT 3:00 PM

For more information, see our full schedule at:

<http://www.timhsu.net/colloq/>