## **Analysis and Applied Mathematics Seminar**

Boundary Layers in Kinetic-fluid Coupling

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**Abstract:** Many kinetic equations have the corresponding fluid limit. In the zero limit of the Knudsen number, one derives the Euler equation out of the Boltzmann equation and the heat equation out of the radiative transfer equation. While there are good numerical solvers for both kinetic and fluid equations, it is not quite well-understood when the two regimes co-exist. In this talk, we model the layer between the fluid and the kinetic using a half-space equation, study the well-posedness, design a numerical solver, and utilize it to couple the two sets of equations that govern separate domains.

Monday, October 15 at 4:00 PM in 636 SEO