Mathematics, Statistics, and Computer Science **@ UIC**

Analysis and Applied Mathematics Seminar

Singular perturbations in fluid mechanics: Analysis and computations

Gung-Min Gie (University of Louisville)

Abstract: Singular perturbations occur when a small coefficient affects the highest order derivatives in a system of partial differential equations. From the physical point of view, singular perturbations generate thin layers near the boundary of a domain, called boundary layers, where many important physical phenomena occur. In this talk, we discuss some recent results on the viscous boundary layer analysis and their applications in implementing effective numerical schemes including the Physics Informed Neural Networks (PINNs).

Monday, April 3 at 4:00 PM in 1227 SEO