DEPARTMENT OF MATHEMATICAL SCIENCES

Numerical Methods Seminar

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Title: A Mean-Field Bounded-Confidence Model of Opinion Dynamics: From Modeling to Inference

Abstract: Bounded-confidence models (BCMs) describe opinion dynamics in which interacting agents hold continuous-valued opinions and only compromise when their opinions differ by a small enough margin. In this work, I begin with an agent-based BCM defined on hypergraphs and derive its mean-field limit as the number of agents approaches infinity. The resulting mean-field opinion density satisfies a kinetic equation of Kac type. Additionally, I develop a method to infer the pairwise interaction kernel between agents when only partial data is available.

Monday, November 23

12:00 pm – 1:00 pm

SH 202

WPI