



THE UNIVERSITY OF CHICAGO

COMPUTATIONAL AND APPLIED MATHEMATICS STUDENT SEMINAR

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Dimension Reduction and Data-Driven Forecasting of Timeseries

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Jones 226, 5747 South Ellis Avenue

ABSTRACT

Many complex systems, from climate to molecular dynamics, remains difficult to simulate directly and interpret qualitatively, despite centuries of study and a good understanding of microphysics. This calls for robust methods of probabilistic forecasting and dimensionality reduction based on the wealth of real-time data available. I will discuss the ideas behind some classic and modern techniques of dimension reduction and their capabilities for handling nonlinear datasets.