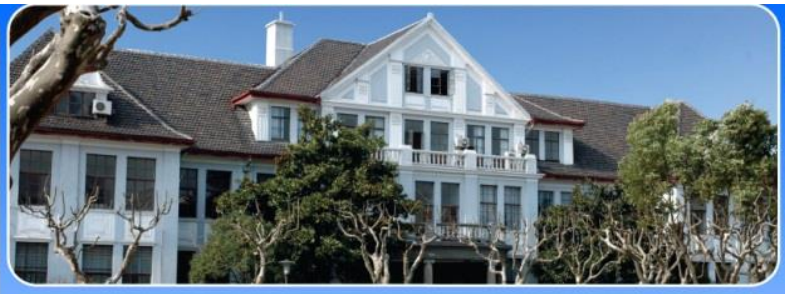


复旦大学数学科学学院
数学综合报告会

报告题目：Combining Stochastic Model with Machine Learning for Effective Uncertainty Quantification, Data Assimilation and System Identification

报告人：张寅玲 (University of Wisconsin Madison)

时间：2025-05-30 星期五 10:30-11:30

地点：光华东主楼1801

报告摘要：

This talk presents two effective mathematical frameworks integrating explainable nonlinear stochastic models with machine learning algorithms to achieve these goals.

The first framework is a causality-based sparse learning algorithm that leverages information theory and DA to discover the underlying nonlinear dynamics with an appropriate UQ using only partial observations. The second framework aims to develop systematic stochastic nonlinear neural differential equations that characterize underlying physics and implement efficient DA and UQ.

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