THE UNIVERSITY OF CHICAGO | THE COMMITTEE ON COMPUTATIONAL AND APPLIED MATHEMATICS

Join us for a mini-course sponsored by CAM, DSI, and NSF and taught by:

ANDREW STUART

Computing And Mathematical Sciences
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Ensemble Kalman Methods: A Mean Field Perspective

Monday, April 25, at 4:30PM-6:00PM in Eckhart 206
and
Tuesday, April 26, at 4:30PM-6:00PM in Eckhart 202

The ensemble Kalman methodology is an innovative and flexible set of tools which can be used for both state estimation in dynamical systems and parameter estimation for generic inverse problems. It has primarily been developed by practitioners in the geophysical sciences, with notable impact on the fields of oceanography, oil reservoir simulation and weather forecasting. Despite its wide adoption in the geosciences, the methodology is hard to analyze and firm theoretical foundations are only now starting to emerge. The purpose of this talk is to provide a unifying mean field perspective on the subject area. This perspective helps to clarify inter-relations within the existing literature, and provides a framework within which open problems may be addressed.