



Speaker: Dr. Jonathan Poterjoy

Friday, November 22nd

Time: 3:30pm

Location: 218 Pearson Hall

"Big Data, Very Big Computers, and the Endless Pursuit for an Honest Weather Prediction System."

Abstract:

Data assimilation is an exciting field of study with many domains. Given the principle objective of combining real-world measurements with *a priori* information for a dynamical system, numerous applications can be found in medicine, biology, engineering, economics, and of course geophysics. Data assimilation is also a significant component of any atmospheric prediction system, which encompasses a broad spectrum of activities ranging from chemical constituent modeling to synoptic-scale weather forecasting. This seminar will focus on recent research with particle filters, which are Monte Carlo data assimilation methods that have intrinsic advantages for nonlinear dynamical systems – but contain obstacles for high-dimensional systems with ill-characterized uncertainty. Overcoming such obstacles may shed new light on outstanding problems related to the prediction of extreme weather events such as severe convective storms and tropical cyclones.