MATHEMATICAL SCIENCE Colloquium

Thursday, February 27, 2014

Speaker: Guanghui (George) Lan
(University of Florida)
TIME: 4:00—5:00pm
LOCATION: Sage 5101

"Stochastic and Nonlinear Optimization for Large-Scale Data Analysis"

Abstract: Optimization has found widespread applications in data analysis during the past few years. Prominent examples include a variety of stochastic optimization models for machine learning, and deterministic optimization models for image reconstruction and matrix completion etc. Although being very encompassing, such optimization models from data analysis are often challenging to solve, mainly due to their high problem dimensionality, inherent data uncertainty, pervasive structure ambiguity, along with the frequent need to solve them in real time. In this talk, I will survey some recent advances to tackle the aforementioned big-data challenges in optimization. In particular, I will highlight: i) novel stochastic optimization methods that can handle data uncertainty in an optimal manner, based on our work on stochastic approximation; and ii) new deterministic optimization methods that converge faster and require little structural information, based on our work on level methods. I

REFRESHMENTS
3:30—4:00PM
Amos Eaton 4th Floor Lounge

Rensselaer

Host: Don Drew