



Climate Program Transition Workshop
May 14-16, 2018
SCHEDULE

Monday, May 14th

SAMSI

Remote Sensing

8:30-8:40

"Introduction to Remote Sensing Working Group"
Amy Braverman, JPL/Caltech

8:40-9:05

"Optimization Methods in Remote Sensing"
Jessica Matthews, NCSU/NOAA

9:05-9:30

"Incorporating Spatial Dependence in Remote Sensing Inverse Problems"
Jonathan Hobbs, JPL

9:30-9:55

"Statistical Emulation with Dimension Reduction for Complex Physical Forward Models"
Emily Kang, University of Cincinnati

9:55-10:20

"A Notional Framework for a Theory of Data Systems"
Maggie Johnson, SAMSI

10:20-10:45

"Statistical Approaches for Un-Mixing Problem and Application to Satellite Remote Sensing Data"
Zhengyuan Zhu, Iowa State

10:45-11:05

Break

Data Assimilation

11:05-11:35

"Sea Ice, Unstable Subspace, Model Error: three topics in data assimilation"
Amit Apte, ICTS

11:35-11:55

"Projected Data Assimilation"
Erik Van Vleck, University of Kansas

11:55-12:15

"Understanding Sea Ice Data for Data Assimilation"
Christian Sampson, SAMSI

12:15-1:15

Lunch

Detection and Attribution

1:15-1:40

"Overview and New Modeling Directions"
Dorit Hammerling, NCAR

- 1:40-2:00 *"Tunable Testbed for Detection and Attribution Methods"*
Nathan Lenssen, Columbia University
- 2:00-2:25 *"Inference on the Future Climate States from Multiple Ensembles using Bayesian Hierarchical Models"*
Huang Huang, SAMSI
- Ice Dynamics
- 2:25-3:00 *"Overview of Ice Dynamics Working Group"*
Murali Haran, Penn State
- 3:00-3:20 *"Overview of Sea-Ice Modeling and Statistical Challenges"*
Deborah Sulsky, New Mexico
- 3:20-3:40 *"Ice Model Calibration using Zero-Inflated Continuous Spatial Data"*
Won Chang, University of Cincinnati
- 3:40-4:00 *"Metrics for Evaluating Sea Ice Models"*
Yawen Guan, SAMSI
- 4:00-4:20 Break
- Food Systems
- 4:20-4:50 *"Overview of Food Systems Working Group"*
Hans Kaper, Georgetown University
- 4:50-5:10 *"Resilience of Food Networks"*
Kaitlyn Hill, University of Minnesota
- 5:10-5:30 *"Agent-based Modeling for Food Systems"*
Adway Mitra, ICTS
- 5:45 Return to Hotel

Tuesday May 15th
SAMSI

Environmental Health

- 8:30-9:00 *"Accomplishments of the Environmental Health Working Group"*
Brian Reich, NCSU
- 9:00-9:20 *"Projecting the Impact of Temperature Changes on Human Mortality"*
Veronica Berrocal, Michigan

- 9:20-9:40 *"The Relationship between Extreme Events and Human Health in a Changing Climate"*.
Jesse Bell, NOAA
- 9:40-10:00 *"On the Probability Distributions of the Intensity and Duration of Heatwaves"*
Sohini Raha, NCSU
- 10:00-10:20 *"Multiple Health Risk Factors"*
Kimberly Kaufeld, LANL
- 10:20-10:40 *"Bayesian Spatial Propensity Score Analysis: unmeasured and spatial confounding"*
Bo Li, UIUC
- 10:40-11:00 Break
- Parameter Estimation
- 11:00-11:30 *"Activities and Progress in the "Parameter Optimisation in Climate Modeling" Working Group"*
Ben Timmermans, LBNL
- 11:30-12:00 *"A Fast Particle-Based Approach for Computer Model Calibration"*
Ben Lee, Penn State
- 12:00-1:00 Lunch
- Stochastic Parameterization and Machine Learning
- 1:00-1:30 *"Stochastic Parameterization of Subgrid-Scale Air-Sea Fluxes"*
Adam Monahan, University of Victoria
- 1:30-1:50 *"Bayesian Approach to Climate Reconstructions using Stochastic Energy Balance Models"*
Fei Lu, Johns Hopkins
- 1:50-2:20 *"A Generative Adversarial Network Stochastic Parameterization of the Lorenz '96 Model"*
David John Gagne, NCAR
- Risk and Coastal Hazards
- 2:20-2:35 *"Introduction and Overview of the SAMSI CLIM Risk and Coastal Hazards Working Group"*
Brian Blanton, UNC/RENCI
- 2:35-3:00 *"The Nexus of Climate Data, Insurance, and Adaptive Capacity Located at The Collider (<https://thecollider.org/>) in Asheville, NC, November 8-9, 2018"*
Rob Erhardt, Wake Forest

- 3:00-3:25 *“Modeling Weather-induced House Insurance Risks”*
Asim Dey, University of Texas, Dallas
- 3:25-3:50 *“Estimating Extreme Storm Surge Levels: A Statistical Perspective”*
Whitney Huang, SAMSI
- 3:50-4:10 Break
- Statistics in Oceanography
- 4:10-4:40 *“Statistical Analysis of Oceanographic Data from Argo Profiling Floats: Progress and Challenges”*.
Mikael Kuusela, SAMSI
- 4:40-5:00 *“Estimating Oxygen in the Southern Ocean using Argo Temperature and Salinity”*
Donata Giglio, Scripps Institution of Oceanography
- 5:00-5:20 Discussant: **Michael Stein**, University of Chicago
- 5:30 Buses return to hotel

Wednesday May 16th
SAMSI

Extremes

- 8:30-9:00 *“Advances in Understanding of Climate Extremes”*
Ken Kunkel, NCSU/NOAA
- 9:00-9:20 *“Investigating Precipitation Extremes in the US Gulf Coast through the use of a Multivariate Spatial Hierarchical Model”*
Brook Russell, Clemson
- 9:20-9:40 *“Networks and Extremes: Review and Further Studies”*
Ansu Chatterjee, Minnesota
- 9:40-10:00 *“Semiparametric Models for Extremes”*
Surya Tokdar, Duke
- 10:00-10:20 Break
- 10:20-11:30 Plan for Final Report / Group Discussion
- 11:30-12:30 Special Lecture: *“Climate Extremes and Max-stable Processes”*
Raphael Huser, KAUST
- 12:30 Adjourn / Box Lunch
- 1:00 Buses to RDU Airport