



Climate Opening Workshop

August 21-25, 2017

SCHEDULE

Monday, August 21, 2017

[Hamner Conference Center](#)

8:30	Registration
8:40-9:00	Introductions and Welcome
9:00-10:00	Overview lecture 1: Vipin Kumar (University of Minnesota): <i>"Big Data in Climate: Opportunities and Challenges for Machine Learning"</i>
10:00-10:30	Break
10:30-11:30	Overview Lecture 2: Kristie Ebi (University of Washington): <i>"Climate and Health"</i>
11:30-12:30	Overview Lecture 3: Leonard Smith (London School of Economics): <i>"Science, Simulation and Insight: Developing Confidence when Extrapolating Complicated Complex Systems"</i>
12:30-1:30	Lunch
1:30-2:30	Overview Lecture 4: Michael Wehner (Lawrence Berkeley National Lab): <i>"Computational and Mathematical Challenges in Climate Modeling"</i>
2:30-3:30	Break
3:30-4:30	Overview Lecture 5: Kenneth Kunkel (NCSU): Climate Datasets <i>"Understanding the Physical Causes of Observed Trends in Extreme Precipitation: How Can Statistics Help?"</i>
4:30-5:00	General Discussion
5:00	Adjourn, Shuttle to Hotel

Tuesday, August 22, 2017

[Hamner Conference Center](#)

8:45	Registration
8:45-9:00	Introductions and Announcements <i>Research Session 1: Remote Sensing</i>
9:00-9:45	Noel Cressie (University of Wollongong) <i>"A Bird's-Eye View of Statistics for Remote Sensing Data"</i>
9:45-10:30	Dan Crichton (NASA/JPL) <i>"Software Architecture Considerations in the Analysis of Highly Distributed Data and Computational Analysis"</i>
10:30-11:00	Break
11:00-11:45	Matthias Katzfuss (Texas A&M University) <i>"A General Framework for Vecchia Approximations of Gaussian Processes"</i>
11:45-12:05	Discussant Amy Braverman (Jet Propulsion Laboratory)
12:05-12:15	General Discussion
12:15-1:30	Lunch <i>Research Session 2: Ice Dynamics</i>
1:30-2:15	Deborah Sulsky (University of New Mexico) <i>"Modeling Arctic Sea Ice"</i>
2:15-3:00	Murali Haran (Pennsylvania State University) <i>"Some Statistical Challenges in Studying the West Antarctic Ice Sheet"</i>
3:00-3:30	Break
3:30-4:15	Alberto Carrassi (Nansen Environmental and Remote Sensing Center) <i>"Issues in Ensemble Prediction and Data Assimilation Using a Lagrangian Model of Sea-Ice"</i>
4:15-4:35	Discussant: Christopher Jones (University of North Carolina, Chapel Hill)
4:35-4:45	General Discussion
5:00-7:00	Poster Session and Reception
7:00	Shuttle to Hotel

Wednesday, August 23, 2017

[Hamner Conference Center](#)

8:45	Registration
8:45-9:00	Introductions and Announcements
	Research Session 3: Climate Informatics
9:00-9:45	Prabhat (Lawrence Berkeley National Lab) <i>"Deep Learning for Extreme Weather Detection"</i>
9:45-10:30	Imme Ebert-Uphoff (Colorado State University) <i>"Methods for Causality Analysis in Climate Science"</i>
10:30-11:00	Break
11:00-11:45	Dorit Hammerling (National Center for Atmospheric Research) <i>"Compression and Conditional Emulation of Climate Model Output"</i>
11:45-12:05	Discussant Doug Nychka (National Center for Atmospheric Research)
12:05-12:15	General Discussion
12:15-1:00	Lunch
1:00-2:00	Panel Discussion 1: Climate Extremes Panelists: Daniel Cooley (Colorado State University); Michael Wehner (Lawrence Berkeley National Lab); Michael Stein (University of Chicago); Adam Monahan (University of Victoria) Research Session 4: Climate and Health
2:00-2:45	Jason West (University of North Carolina Chapel Hill) <i>"The Effects of Climate Change on Human Health through Changes in Air Quality"</i>
2:45-3:15	Break
3:15-4:00	Howard Chang (Emory) <i>"Projecting Health Impacts of Climate Change: Embracing an Uncertain Future"</i>
4:00-4:45	Montse Fuentes (Virginia Commonwealth University) <i>"A Multivariate Dynamic Spatial Factor Model for Speciated Pollutants and Adverse Birth Outcomes"</i>
4:45-5:05	Discussant: Veronica Berrocal (University of Michigan)
5:05-5:15	General Discussion
5:15	Shuttle to Hotel

Thursday, August 24, 2017

[Hamner Conference Center](#)

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| 8:45 | Registration |
| 8:45-9:00 | Introductions and Announcements |
| 9:00-1:00 | Research Session 5: Stochastic Parametrizations |
| 9:00-9:45 | Andrew Gettelman (National Center for Atmospheric Research)
<i>“A Cloud of Numbers: Representing Physical Processes in the Earth System with Mathematics”</i> |
| 9:45-10:30 | Charles Jackson (University of Texas)
<i>“Ice Sheet Contribution to Sea Level Rise”</i> |
| 10:30-11:00 | Break |
| 11:00-11:45 | Michal Branicki , University of Edinburgh
<i>“An Information-Theoretic Framework for Improving Multi-Model Predictions & Data Assimilation Techniques”</i> |
| 11:45-12:30 | Chris Bretherton (University of Washington)
<i>“Developing Stochastic Parameterizations of Subgrid Variability of Clouds and Turbulence using High-Resolution Simulations”</i> |
| 12:30-12:50 | Discussant: Adam Monahan (University of Victoria) |
| 12:50-1:00 | General Discussion |
| 1:00-2:00 | Lunch |
| 2:00-3:00 | Panel Discussion 2: Climate and Risk

Panelists: Brian Blanton (Renaissance Computing Institute); Wei Lei (University of North Carolina at Chapel Hill); Slava Lyubchich (University of Maryland); Hans Kaper (Georgetown University) |
| 3:00-5:30 | Working Group Formation Session |
| 5:30 | Shuttle to Hotel |

Friday, August 25, 2017

[Hamner Conference Center](#)

8:45-9:00 Introductions and Announcements

9:00-12:00 Initial Meetings of Working Groups

12:00-1:00 Adjourn / Lunch / Shuttle to RDU Airport

1:00-4:30

Dogwood Room

Pre-Registration Required:

*Short Course on Computational Methods (Doug Nychka and Dorit Hammerling,
National Center for Atmospheric Research)*

4:30

Buses to Airport and/or Hotel