Radiation and Climate (GRS)
Gordon Research Seminar

Future Challenges in Using Models and Observations for Understanding Climate Processes

July 15 - 16, 2017

Chairs
Christopher R. Terai and Edward Gryspeerdt

Bates College
2 Andrews Road
Lewiston, ME, US

Conference Description

The Gordon Research Seminar on Radiation and Climate is a unique forum for graduate students, post-docs, and other scientists with comparable levels of experience and education to present and exchange new data and cutting edge ideas.

This meeting will focus on outstanding questions in solar and terrestrial radiation and climate change and how to make progress in constraining the relevant processes using models and observations. Discussions will encourage conversations between modelers and observationalists to identify connections between modeling and observational studies to tackle the grand challenges facing our understanding of the climate system. Abstracts are encouraged on a number of topics, including, but not limited to challenges in understanding cloud, aerosol, precipitation, and ice processes along with large scale responses and the importance of these processes to a changing climate. A selection of exceptional abstracts with will be featured in a session at the associated Gordon Research Conference.

Related Meeting

This GRS will be held in conjunction with the "Radiation and Climate" Gordon Research Conference (GRC). Those interested in attending both meetings must submit an application for the GRC in addition to an application for the GRS. Refer to the associated GRC program page for more information.

Conference Program

Saturday	
2:00 pm - 5:00 pm	Arrival and Check-in
3:30 pm - 3:45 pm	Introductory Comments by GRC Site Staff / Welcome from the GRS Chair
3:45 pm - 4:30 pm	**Keynote Session: Connecting Observations to Climate Modeling Challenges** Discussion Leader: **Edward Gryspeerdt** (Imperial College London, United Kingdom)
3:45 pm - 4:15 pm	**Stephen Klein** (Lawrence Livermore National Laboratory, USA) "The Role of Conceptual Models in Connecting Cloud Observations to Global Circulation Modeling Challenges: From Small Cumulus to Global Climate Change"
4:15 pm - 4:30 pm	Discussion
4:30 pm - 6:00 pm	**Poster Session**
6:00 pm - 7:00 pm	Dinner
7:30 pm - 9:30 pm	**Clouds** Discussion Leader: **David Turner** (NOAA Earth System Research Laboratory, USA)
7:30 pm - 7:50 pm	**Kuan-Ting O** (University of Washington, USA) "Ultra-Clean Layers and Low Albedo Clouds in the Marine Boundary Layer"
7:50 pm - 8:00 pm	Discussion
8:00 pm - 8:20 pm	**Hendrik Andersen** (Karlsruhe Institute of Technology, Germany) "Aerosol or Meteorology? Determinants of Global Cloud Radiative Effects"
8:20 pm - 8:30 pm	Discussion
8:30 pm - 8:50 pm	**Max Heikenfeld** (University of Oxford, United Kingdom) "Aerosol-Cloud Interaction Pathways in Deep Convection"

8:50 pm - 9:00 pm	Discussion
9:00 pm - 9:20 pm	**Wan Ting Katty Huang** (ETH Zurich, Switzerland) "Global Relevance of Marine Organic Aerosols as Ice Nucleating Particles"
9:20 pm - 9:30 pm	Discussion
Sunday	
7:30 am - 8:30 am	Breakfast
9:00 am - 11:00 am	**Climate** Discussion Leader: **Andrew Gettelman** (National Center for Atmospheric Research, USA)
9:00 am - 9:20 am	**Nadir Jeevanjee** (Geophysical Fluid Dynamics Laboratory, NOAA, USA) "Mean Precipitation Changes from Invariant Radiative Cooling"
9:20 am - 9:30 am	Discussion
9:30 am - 9:50 am	**Geeta Persad** (Carnegie Institution for Science, USA) "The Influence of Aerosol Emissions' Geographic Location on the Magnitude and Spatial Distribution of Climate Effects"
9:50 am - 10:00 am	Discussion
10:00 am - 10:20 am	**Elin McIlhattan** (University of Wisconsin-Madison, USA) "Global Observations of Cloud Impact on Surface Radiation Balance"
10:20 am - 10:30 am	Discussion
10:30 am - 10:50 am	**Kristina Pistone** (NASA Ames Research Center, USA) "Radiative Impacts of Further Arctic Sea Ice Melt: Using Past Observations to Inform Future Climate Impacts"
10:50 am - 11:00 am	Discussion
11:00 am - 12:30 pm	**Poster Session** *Coffee will be served in the poster area from 11:00 am - 11:30 am*

12:30 pm - 1:30 pm	Lunch
1:30 pm - 2:30 pm	**Radiation** Discussion Leader: **Bastiaan van Diedenhoven** (Columbia University, USA)
1:30 pm - 1:50 pm	**Carolin Klinger** (Meteorological Institute Munich, Germany) "3D Thermal Radiative Heating Rates – Parameterization and Their Effects on Cloud Development"
1:50 pm - 2:00 pm	Discussion
2:00 pm - 2:20 pm	**Tyler Thorsen** (Langley Research Center, NASA, USA) "The Impact of Lidar Detection Sensitivity on Assessing Aerosol Direct Radiative Effects"
2:20 pm - 2:30 pm	Discussion
2:30 pm - 3:00 pm	**Evaluation Period** *Fill in GRS Evaluation Forms*
3:00 pm	Seminar Concludes

Contributors

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