18TH ANNUAL ARM SCIENCE TEAM MEETING
Norfolk, Virginia

Office of Science
U.S. DEPARTMENT OF ENERGY

We invite you to welcome the following visitors to the ARM Science Team Meeting who are giving plenary talks on Thursday morning. Please include them in your conversations, social gatherings, and white-time activities, and help to orient them to the meeting.

- **Pier Siebesma, 8:30 am-9:15 am: "The Global Energy and Water Experiment (GEWEX) Cloud System Study (GCSS) Method for Improving Representation of Cloud Related Processes in Atmospheric Models: Moving from Case Studies to Long-term Evaluation."**

Dr. A. Pier Siebesma is currently a senior scientist and chairs the regional climate modeling section at the Royal Netherlands Meteorological Institute (KNMI). He joined KNMI in 1990 working on modeling and parameterization of dry and moist convection and cloud related processes. He is also a professor at the Technical University Delft teaching one day a week on the topic of "Clouds, Climate and Air-quality."

Dr. Siebesma received his Ph.D. from the University of Groningen in 1989 on "Multifractals, Multiplicative Processes and Turbulence." His Post-Doc work was at the Forschungszentrum Julich GmbH, Germany, on "the dynamics on non-linear coupled maps." In 1998-1999, he worked as a consultant at the European Centre for Medium-Range Weather Forecasts (ECMWF; Reading, UK) on the design of a unified parameterization of turbulent transport in the dry and cloudy boundary layer. In 2001, he was a visiting scientist at the Naval Research Laboratory (NRL), Monterey, USA, and, in 2005, at the Bureau of Meteorology Research Centre (BMRC) in Melbourne, Australia.

Dr. Siebesma's interests focus on the understanding, modeling, and parameterization of cloud related processes, including cloud physics, cloud dynamics, cloud structures, and moist convection. He is chair of the GEWEX Cloud Systems Studies (GCSS) and a member of the GEWEX Modeling Prediction Panel (GMPP).

- **Robin Hogan, 9:15 am-10:00 am: "Evaluating Clouds in Models Using Radar and Lidar: Lessons from Cloudnet."**

Dr. Robin Hogan is an associate professor in Atmospheric Physics in the Department of Meteorology, University of Reading, UK. Dr. Hogan has authored 50 papers, including a paper on cloud overlap that has attracted more than 50 citations. His findings in a series of papers on mixed-phase clouds were highlighted in the UK Natural Environment Research Council's 2001-2002 Annual Report as "a key scientific advance" and led to his being awarded the prestigious L F Richardson prize of the Royal Meteorological Society. He has taken a leading role in the pan-European Cloudnet project, personally designing and implementing a system to evaluate European weather forecasting models with radar data. His work in evaluating the potential for the proposed EarthCARE satellite, combining radar, lidar, and radiometers on the same platform, was instrumental in its being selected by the European Space Agency for deployment. Recent work has included the first 3D stochastic model of cirrus, a variational cloud retrieval scheme combining radar, lidar, and infrared radiometers that has been applied to both ground-based and spaceborne data, and a new method to represent cloud inhomogeneity in GCM radiation codes.

- **Jennifer Kay, 10:30 am-11:15 am: "The Contribution of Cloud and Radiation Anomalies to the 2007 Arctic Sea Ice Extent Minimum."**

Dr. Jennifer Kay is currently a NASA-funded postdoctoral research fellow in the Climate and Global Dynamics division of the National Center for Atmospheric Research. Her research interests include clouds, aerosols, snow and ice, climate modeling, and climate change impacts and adaptation.

Dr. Kay was born and raised in Ithaca, New York. In 1999, she received her bachelor of arts magna cum laude from Brown University. In 2002, she finished her master of science in Geological Sciences at the University of Washington (UW). Her master of science research evaluated snowpack properties and water temperature retrievals from satellite and aircraft remote-sensing data. In 2006, she completed her doctorate in Earth and Space Sciences at UW. Her doctoral work investigated physical controls on cirrus cloud processes using a combination of modeling and analysis of ground-based remote-sensing data. At UW, she also worked with the Climate Impacts Group to understand the projected impacts of climate change on Pacific Northwest natural resources.

- **Karl Taylor, 11:15 am-Noon: "Clouds in the Intergovernmental Panel on Climate Change (IPCC)."**

Dr. Karl E. Taylor is a research scientist in the Program for Climate Model Diagnosis and Intercomparison (PCMDI) at Lawrence Livermore National Laboratory. Since obtaining his Ph.D. in Geology and Geophysics from Yale University in 1978, he has contributed to our understanding of a wide variety of problems in atmospheric physics, mostly related to global climate change. His recent publications include theoretical papers on the climatic effects of greenhouse gases and sulfate aerosols, climate change detection and attribution, and evaluation and intercomparisons of global climate models. Dr. Taylor is a leader of the team that coordinated an international effort to collect and serve CMIP3 model output in support of the Intergovernmental Panel on Climate Change (IPCC) assessment activities. He has been actively involved both nationally and internationally and in a variety of roles has served the National Research Council (member of the Climate Research Committee), the World Climate Research Programme (annually invited to various working groups), and the IPCC (lead author of Chapter 8 of Working Group One's Fourth Assessment Report). He has co-chaired the National Center for Atmospheric Research (NCAR) Community Climate System Model (CCSM) Climate Change and Assessment Working Group and was co-coordinator of the international Paleoclimate Modeling Intercomparison Project.