**Aerosol, Clouds, Precipitation and Climate Workshop Agenda**

23-24 April, 2020
Virtual Meeting
13-17 UTC and 21-01 UTC

**Thursday, 23 April (Focus on Deep Clouds)**

13:00 UTC – Danny Rosenfeld (HUJ) – Introductory Remarks

13:15 UTC – Mike Jensen (BNL) – Virtual Meeting Guidelines

**Thursday, 23 April (Focus on Deep Clouds) [13 – 17 UTC]**
(30 minutes each, 20 minutes presentation, 10 minutes discussion)
**Host:** Jiwen Fan**, Moderator:** Mike Jensen

13:30 UTC - Sue van den Heever (CSU) "A Multimodel Assessment of Aerosol Impacts on Deep Convective Cloud Systems Deep Convective Cloud Systems"

14:00 – Philip Stier (Oxford) "ACPC Deep Convection Intercomparison Study"

14:30 – Peter Marinescu (CSU) "The Impacts of Varying Concentrations of Cloud Condensation Nuclei On Deep Convective Cloud Updrafts – ACPC Multimodel Assessment"

15:00 – Daniel Rosenfeld (HUJ) "Satellite Observations of CCN and Ultrafine Aerosols Invigorating Deep Tropical Convective Clouds"

15:30 **Break (15 minutes)**

15:45 - Jiaxi Hu (OU-CIMMS) "Comparing the Impacts of Aerosols and Updrafts on the Vertical Microphysical Profiles in Clouds"

16:15 – Yuwei Zhang (PNNL) "Impacts of Cloud Microphysics Parameterizations in WRF-Chem on Simulated Aerosol-Cloud-Interactions"

16:45 Discussion

**Thursday, 23 April (Focus on Deep Clouds) [21-01 UTC]**
(30 minutes each, 20 minutes presentation, 10 minutes discussion)
**Host:** Peter Marinesco**, Moderator:** Jiaxi Hu

21:00 UTC - Jiwen Fan (PNNL) "Contrasting Urbanization Effects on Different Convective Storms"

21:30 - Yunsoo Choi (UH) "WRF-AI: An AI Deep Learning Model to Forecast More Accurate Weather"

22:00 - Eric Bruning (TTU) "Deep Convective Cloud Systems: Multiscale Draft Intermittency as Seen in Lightning Flash Rate, Size, and Energy Trends in Houston LMA Data"

22:30 - Sandip Pal (TTU) "Impact of Boundary Layer Kinematics and Aerosol Physicochemical Properties on Convection Initiation Downwind of an Urban Hotspot"

23:00 - Chongai Kuang (BNL) "ARM Mobile Facility in the Southeast United States – Land-Aerosol-Convection-Precipitation Interactions."

23:15 **Break (15 minutes)**

23:30 - Michael Jensen (BNL) "Update on TRACER Field Campaign Planning"

23:45 - Michael Jensen (BNL), Jiwen Fan (PNNL), Scott Collis (ANL) "ACPC Deep Convection Roadmap"

00:15 Discussion

**Friday, 24 April (Focus on Low Clouds)**

**Friday, 24 April (Focus on Low Clouds) [13-17 UTC]**
(15 minutes each, 12 minutes presentation, 3 minutes discussion)
Session Chair: Andrew Gettelman

13:00 UTC - Matthew Christensen (Oxford) "Warm Cloud Responses to Volcanic and Anthropogenic Aerosols"

13:15 – Daniel Rosenfeld (HUJ) "Quantifying the effects of ship and volcanic emissions on marine low clouds"

13:30 – Velle Toll (U. Tartu) "Satellite Observations of Ship-Track-like Polluted Cloud Tracks and Large-Scale Gradients in Cloud Properties induced by Anthropogenic Aerosols"

13:45 – Mahnoosh Haghighatnasab (Leipzig) "Cloud-System Resolving Simulations of the Holuhraun Volcano"

14:00 **Break (15 minutes)**

Session Chair: Matt Christensen

14:15 - Andrew Gettelman (NCAR) "Radiative Forcing from Shipping Emissions: Implications for 2020 emissions controls."

14:30 - Edward Gryspeerdt (Imperial) "Matching Ship Emissions to Cloud Perturbations"

14:45 – Masaru Yoshioka (Leeds) "Effects of Shipping Emissions and Regulation Change on Aerosols, Clouds and the Climate in UKESM global simulations"

15:00 – Daniel Grosvenor (Leeds) "Does the Recent Too-Strong Shortwave Flux Trend in UKESM1 in the North Atlantic Indicate an Aerosol Forcing that is Too Strong?

15:15 - Duncan Watson-Parris (Oxford) "A Large-Scale Analysis of Pockets of Open Cells Enabled by Deep Learning"

**15:30 – 15:45 Break**

**15:45 – 16:15 COVID-19 as a Natural Laboratory**
Session Chair: Andrew Gettelman & Matt Christensen

James Weber (U. Cambridge) "The Effect on Climate and Atmospheric Composition from Non-CO2 Anthropogenic Emission Reductions Associated with the COVID-19 Pandemic"

Johannes Flemming (ECMWF) "CAMS and COVID"

Ben Silver (Leeds) "Recent Chinese Emissions and COVID"

**16:15 Natural Laboratories Discussion**
Andrew Gettelmann and Mattew Christensen

**17:00: Adjourn**

**Friday, 24 April (Focus on Low Clouds) [21-01 UTC]**
(15 minutes each, 12 minutes presentation, 3 minutes discussion)
Chair: Rob Wood

21:00 UTC – Rachel Sansom (Leeds) "Statistical Methods to Quantify and Visualize the Complex Behaviour of Clouds in the Climate System"

21:15 – Jan Kazil (U. Colorado) "Realistic Lagrangian Larger Eddy Simulations and CLARIFY Observations"

21:30 - Michael Diamond (UW) "Modeling the Stratocumulus-to-Cumulus Transition in the Presence of Smoke: A Case Study from the 2017 ORACLES and CLARIFY Campaigns"

21:45 - Kai Zhang (PNNL) "Aerosol Effects on Mid-Latitude Stratiform Clouds - a Global Investigation using Short Ensemble Hindcasts"

22:00 – Xiangyu Li (PNNL) "Droplet Growth in Atmospheric Turbulence: A DNS Study"

22:15 **Break (15 minutes)**

Chair: Jan Kazil

22:30 - Kentaroh Suzuki (U. Tokyo) "Linking Microphysical Processes to Radiative Forcing of Warm Clouds"

22:45 - Minghuai Wang (Nanjing)- "Aerosol-Cloud Interactions Based on Synergetic Satellite Long-Term Trend Analysis"

23:00 - Zhoukun Liu (Nanjing) "Quantifying Cloud and Precipitation Response to Aerosols in Marine Stratocumulus by Satellite Observation and WRF-Chem"

23:15 **Recap COVID & Discussion for Asia**
Matt Christensen and Andrew Gettelman

23:30 **Final Discussion: Asia**

00:00 **Adjourn**