5th Annual Young Scientist Symposium on Atmospheric Research

October 9, 2015

Hosted by the FORT Collins Atmospheric Scientists (FORTCAST) AMS local chapter and the American Association for Aerosol Research (AAAR) CSU chapter

Sponsored by

Colorado State University

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Reach for the sky

Schedule of Events

8:30 a.m. Registration and breakfast
ATS Main Building, Room 100

Poster Set-up
ATS West, Room 121 (seminar room)

8:50 a.m. Welcome by YSSAR 2015 planning committee: Aryeh Drager, Anna Hodshire, William Lassman, Jingyuan Li, and Dakota Smith

9:00 a.m. Session 1: Climate Modeling and Impacts
Chair: Amanda Sheffield, CSU

9:00 a.m. Jesse Nusbaumer, CU-Boulder: Using water isotopes to better understand climate model biases

9:15 a.m. Alex Naegele, CSU: Unexpected Oscillation in Convectively Aggregated State in CRM

9:30 a.m. Morgan Phillips, CSU: Extreme Precipitation in a Multi-Scale Modeling Framework

9:45 a.m. Peter Goble, CSU: Quantifying the Predictive Skill of Root Zone Soil Moisture over Future Atmospheric Conditions in Order to Improve the Drought Early Warning System in Colorado and the Upper Colorado River Basin

10:00 a.m. Coffee break

10:20 a.m. Session 2: Atmospheric Chemistry and Aerosols
Chair: Ezra Levin, CSU

10:20 a.m. John Ortega, NCAR: Detection of low-concentration amines using atmospheric pressure mass spectrometry (AmP-MS)

10:50 a.m. Kelsey Bilbsback, CSU: *Combustion Emissions from Biomass Cookstoves vs. Operational Firepower: Lab and Field Observations*

11:05 a.m. Steven Brey, CSU: *Smoke in the City: How Often and Where Does Smoke Impact Summertime Ozone in the United States*

11:20 a.m. **Announcements & Coffee Break**

11:30 a.m. **Poster Session**
ATS West, Room 121 (seminar room)

12:30 p.m. **Lunch**
ATS Main Building, Room 100-101

1:15 p.m. **Keynote Address**
Bill Murtagh, White House

1:45 p.m. **Session 3: Field Campaigns and In-Situ Measurements**
Chair: Christina McCluskey, CSU

- 1:45 p.m. Nick Guy, UW: *TBA (invited)*
- 2:00 p.m. Robert Jackson, UW: *Cloud microphysical properties of convective clouds sampled during the Convective Precipitation Experiment (COPE) experiment*
- 2:15 p.m. Joe Finlon, UIUC: *A Comparison of X-band Polarization Parameters with In-Situ Microphysical Measurements in the Comma Head of Two Winter Cyclones*
- 2:30 p.m. Ali Boris, CSU: *Changes in Southern California Coastal Fog Chemistry 1985 to 2015*

2:45 p.m. **Coffee break**

3:00 p.m. **Session 4: Mesoscale Meteorology and Extreme Weather**
Chair: Erik Nielsen, CSU

- 3:00 p.m. Kristen Rasmussen, NCAR: *Interactions between the convective lifecycle and terrain in subtropical South America (invited)*
- 3:15 p.m. Peter Marinescu, CSU: *Impacts of Vertically Varying Aerosol Layers on MCS Cold Pool and Precipitation Processes*
- 3:30 p.m. Dan Welsh, UW: *The quest to understand heavy lake-effect snowfall from long-lake-axis-parallel snow bands: multi-frequency reflectivity profiles of the 11 December 2013 band over and downwind of Lake Ontario*
- 3:45 p.m. Samuel Childs, CSU: *An Investigation of Spatial Redistribution of USA Tornado Activity and its Relationship to Climate Change*
- 4:00 p.m. Chris Slocum, CSU: *Diagnosing large-scale tropical cyclone moisture and exploring potential impacts on track and intensity*

4:15 p.m. **Concluding Remarks**
**Poster Presentations**

Xavier Bosch-Lluis, CSU: *High-frequency Airborne Microwave and Millimeter-wave Radiometer (HAMMR) measurements during the West Coast Flight Campaign: Initial Results*

Patrick Brophy, CSU: *Towards Understanding Bulk SRI-HR-TOF-CIMS Data*

Hong Chen, CU-Boulder: *Biases in satellite-derived temperature trends due to orbital drift, orbital differences and their corrections*

Brian Crow, CSU: *An Exploration of Quasi-Periodic Variability in the Southern Hemispheric Extratropical Circulation*

Renee Curry, CSU: *Evaluating the Simple Biosphere Model versus observations during drought in the U.S. Great Plains from 2010-2012*

Jeff France, CU-Boulder: *Interhemispheric coupling and 5-day wave effects on Polar Mesospheric Clouds during the Northern Hemisphere 2014 season*

Anna Hodshire, CSU: *Multiple new-particle-growth pathways at the DOE Southern Great Plains field site in Oklahoma*

Jack Kodros, CSU: *Global changes in aerosol concentration, radiative effects, and health impacts due to open combustion of domestic waste*

Jakob Lindaas, CSU: *Empirically Constrained Estimates of Alaskan Regional Net Ecosystem Exchange of CO₂ 2012-2014*

Josh Pettit, CU-Boulder: *Revisiting Odd Hydrogen and Odd Nitrogen production during the October/November 2003 Halloween Storms*

David Plummer, UW: *Detailed microphysical structure and statistical characteristics of warm-based convection over southwest England*

Rudra P. Pokhrel, UW: *Optical properties parameterization in fresh and photochemically aged biomass plumes*

Louis Rivoire, CSU: *Sensitivity study of CAPE calculation using high vertical resolution soundings*

Jason Sulskis, UW: *A Survey of the Measured Cloud Liquid Water Content and an Analysis of the Droplet Spectra Observed During the Summer 2013 Convective Precipitation Experiment-Microphysics and Entrainment Dependencies (COPE-MED) Field Campaign*

Wei Wu, UIUC: *Contrasting ice microphysical properties of wintertime frontal clouds and summertime convective clouds*

Yangyang Xu, NCAR: *The importance of aerosol scenarios in projections of future heat extremes*