

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



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)*
- 10:35 a.m. Jonathan Guerrette, CU-Boulder: *Improving Black Carbon Emission Inventories during ARCTAS-CARB using Online Chemical 4D-Var in WRFDA-Chem*
- 10:50 a.m. Kelsey Billsback, 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** by 2015 YSSAR Planning Committee
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*