18th Conference on Mesoscale Processes
29 July – 1 August 2019, Savannah, GA
Program Co-Chairs: Gretchen Mullendore, Erin Munsell, Chris Nowotarski

We welcomed over 130 participants and over 140 submitted abstracts at the 2019 18th American Meteorological Society Conference on Mesoscale Processes this summer, held in Savannah, Georgia. This year we are once again pleased to have prominent participation by students, as evidenced by the large number of student oral and poster presentations. In addition to the large response from U.S. institutions, we are fortunate to have many international attendees from Europe, Asia, Australia, and South America. This reflects the continued interest and importance of mesoscale meteorology within the broader field of atmospheric science.

Notably absent and missed by all this year, was our friend and colleague Dr. Fuqing Zhang. Fuqing passed far too soon, and less than two weeks before the conference. He was mourned by many with a moment of silence and a summary of his immense scientific contributions during his assigned presentation time, and his life was celebrated during a special evening session with poignant memories shared by former mentors, colleagues, and students. In honor of Fuqing's irreplaceable contributions to the field of Mesoscale Meteorology and many of our lives, we dedicate this conference to him.

Besides the traditional topics found at Mesoscale Conferences including tropical and extratropical cyclones, mesoscale convective systems, microphysical and orographic effects on precipitation, along with data assimilation and mesoscale predictability, this year we also added a special focus on presentations related to coastal impacts and aspects of mesoscale processes, given this year's coastal location. In addition, we were pleased to emphasize results from several recent field campaigns, including a full session providing an overview of the Remote sensing of Electrification, Lightning, and Mesoscale/microscale Processes with Adaptive Ground Observations (RELAMPAGO)- Clouds, Aerosols, and Complex Terrain Interactions (CACTI) field campaign.

We were also excited about the inclusion of several invited presentations kicking-off various session topics. Dr. John Peters from the Naval Postgraduate School led off a session on convective dynamics with a discussion on the structure of convective updrafts and several hypotheses underlying the unique intensity of supercell updrafts. As one of the lead project PIs, Dr. Steven Nesbitt from the University of Illinois provided an overview of the RELAMPAGO-CACTI field experiment at the beginning of a session dedicated to talks from other project PIs on their unique observations. Given the sensitivity of Savannah to coastal impacts of mesoscale processes, Dr. Cindy Bruyere from the National Center for Atmospheric Research introduced a session on coastal mesometeorology with a presentation on the coastal impacts of landfalling tropical cyclones. Finally, Dr. Kristen Corbosiero from the State University of New York in Albany, led a session on tropical cyclones by discussing the diurnal cycle of convection and lightning within them.

We and the rest of the attendees were highly impressed by the overall quality of the student presentations at this year's conference. The awards for best student oral presentation went to Thomas Gowan from the University of Utah (1st place: "Banded and Cellular Lake-Effect Systems Interacting with Terrain in Idealized Simulations"), Faith Groff from Colorado State University (tie 2nd place: "Convectively Generated, Deep-Tropospheric Gravity Waves in Varying Thermodynamic and Vertical Wind Profiles"), and Dylan Reif from the University of Oklahoma (tie 2nd place: "An Analysis of the Vertical Velocity at the Leading Edge of a Density Current During PECAN") . The best student posters were presented by Peter Marinescu from Colorado State University (1st place: "The Impacts of Aerosol Particles on Deep Convective Clouds – a Multimodel Assessment"), Itinderjot Singh from the University of Illinois (tie 2nd place: "High-Resolution Idealized Simulations of Orographic Convection Initiation over the Sierras de Cordoba Mountains"), and McKenna Stanford from the University of Utah (tie 2nd place: "Development of a Stochastic Subgrid-scale Mixing Scheme in Kilometer-scale Deep Convection Simulations"). Finally, the committee selected the presentation by Yunji Zhang from Penn State University ("Simultaneous Assimilation of Radar and All-Sky Satellite Radiance Observations for Convection-Allowing Ensemble Analysis and Prediction of Severe Thunderstorms") as the best presentation by a Very Early Career Scientist.

Very early career and student presentation award winners. From left to right: Yunji Zhang (Penn State), Faith Groff (Colorado State), Peter Marinescu (Colorado State).