# The Second Annual NYS Mesonet Symposium

**September 13-14, 2022**

**ETEC, 1220 Washington Ave, Albany, NY 12226**

Zoom view: [https://albany.zoom.us/j/93491253644?pwd=NUNpUkJsNisrM3ZqcWtjUkNjUFV5dz09](https://albany.zoom.us/j/93491253644?pwd=NUNpUkJsNisrM3ZqcWtjUkNjUFV5dz09)

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## Day 1: September 13, 2022

### 7:30 AM Registration & Breakfast

<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Speaker</th>
<th>Affiliation</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:30 AM</td>
<td>Welcome &amp; Opening Remarks</td>
<td>June Wang &amp; Bhupal Shrestha</td>
<td>UAlbany, NYSM</td>
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<tr>
<td>8:35 AM</td>
<td>Remarks by Vice President for</td>
<td>Kesh Thenkurussi</td>
<td>UAlbany</td>
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<td></td>
<td>Research and Economic Development</td>
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<tr>
<td>8:40 AM</td>
<td>NYSM Motivation &amp; Updates</td>
<td>Christopher Thorncroft</td>
<td>UAlbany, ASRC,</td>
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<td></td>
<td></td>
<td>June Wang</td>
<td>NYSM</td>
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### Session 1: Artificial Intelligence Application  (Chair: Kara Sulia)

<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Speaker</th>
<th>Affiliation</th>
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<tbody>
<tr>
<td>9:00 AM</td>
<td>Classification of the Presence of Precipitation in New York State</td>
<td>Vanessa Przybylo</td>
<td>UAlbany, ASRC</td>
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<tr>
<td></td>
<td>Mesonet Imagery at Night using Convolutional Neural Networks</td>
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<td></td>
<td>Weather Precipitation Types</td>
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<td>Events</td>
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<tr>
<td>9:45 AM</td>
<td>Comparative Visibility Estimation from New York State Mesonet Camera</td>
<td>Melissa Wilson Reyes</td>
<td>University of</td>
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<tr>
<td></td>
<td>Images Using Deep Learning</td>
<td></td>
<td>Oklahoma</td>
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<tr>
<td>10:00 AM</td>
<td>Classifying Road Surface Conditions with Self-Trained Artificial</td>
<td>Vincent A. Ferrera</td>
<td>University of</td>
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<tr>
<td></td>
<td>Intelligence</td>
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<td>Delaware</td>
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<tr>
<td>10:15 AM</td>
<td>Discussion</td>
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<tr>
<td>10:25 AM</td>
<td>Coffee Break</td>
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### Session 2: Applications of Mesonet Data  (Chair: Jeff Freedman)

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<tr>
<th>Time</th>
<th>Title</th>
<th>Speaker</th>
<th>Affiliation</th>
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</thead>
<tbody>
<tr>
<td>10:45 AM</td>
<td>Engaging Student Learning and Involvement Using Mesonet Data and</td>
<td>Crystal Perno</td>
<td>Acadia Middle</td>
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<tr>
<td></td>
<td>Dashboard</td>
<td></td>
<td>School (Shenendehowa)</td>
</tr>
<tr>
<td>11:00 AM</td>
<td>“A Picture is Worth A Thousand Words” – The Surprising Utility of NYSM</td>
<td>Kelly Cebulko</td>
<td>STM Weather</td>
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<td></td>
<td>Cameras in Forensic Meteorology</td>
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<tr>
<td>11:15 AM</td>
<td>CSI: NYSM – How Mesonet Data Can Help Crack the Case</td>
<td>Renee Mckenna</td>
<td>Forensic Weather</td>
</tr>
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<td></td>
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<td>Consultants</td>
</tr>
<tr>
<td>11:30 AM</td>
<td>Exploring the Relationship Between Electrical Outages and Wind Speed</td>
<td>Emily Paltz</td>
<td>UAlbany, COE</td>
</tr>
<tr>
<td>Time</td>
<td>Topic</td>
<td>Presenter</td>
<td>Affiliation</td>
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<tr>
<td>11:45 AM</td>
<td>NYSDOT Snow and Ice Program</td>
<td>Kristina (Tina) Crowley</td>
<td>NYSDOT</td>
</tr>
<tr>
<td>12:00 PM</td>
<td>Planning Level Study for Voltage Flicker on an AC Power System with 1-second and 3-second Solar Irradiance Data from NYS Mesonet</td>
<td>An T Le</td>
<td>CHA Consulting, Inc.</td>
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<tr>
<td>12:15 PM</td>
<td>Discussion</td>
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<tr>
<td>12:25 PM</td>
<td>Lunch</td>
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<tr>
<td>1:15 PM</td>
<td>ETEC Tour</td>
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<td></td>
<td><strong>Session 3: Urban Weather and Climate (Chair: Nick Bassill)</strong></td>
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<tr>
<td>2:00 PM</td>
<td>New York City Micronet: Data Impacts and Characteristics of the Urban Heat Island</td>
<td>Ashley Williamson</td>
<td>IBM</td>
</tr>
<tr>
<td>2:15 PM</td>
<td>Utilizing an Improved Analysis from the NYC Micronet to Monitor, Forecast and Communicate Extreme Temperatures Across New York City</td>
<td>Dave Radell</td>
<td>NOAA/NWS New York</td>
</tr>
<tr>
<td>2:30 PM</td>
<td>On the Combined Case of an Extreme Heat and an Air Quality Episode in the Coastal-urban City of New York</td>
<td>Jorge E. Gonzalez-Cruz</td>
<td>UAlbany, ASRC</td>
</tr>
<tr>
<td>2:45 PM</td>
<td>Will Assimilating New York State Mesonet Observations Benefit the Numerical Model Simulation of Sea Breeze and Regional Ozone Transport over the New York Metropolitan Area?</td>
<td>Huiying Luo</td>
<td>UAlbany, ASRC</td>
</tr>
<tr>
<td>3:00 PM</td>
<td>Discussion</td>
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<tr>
<td>3:10 PM</td>
<td>Coffee Break</td>
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<td><strong>Session 4: Winter Weather (Chair: Scott Miller)</strong></td>
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<tr>
<td>3:30 PM</td>
<td>Characterizing Winter Precipitation Types During the Winter Precipitation Type Multiscale Experiment (WINTRE-MIX)</td>
<td>Justin R. Minder</td>
<td>UAlbany, DAES</td>
</tr>
<tr>
<td>3:45 PM</td>
<td>NYS Mesonet Winter Weather Products</td>
<td>June Wang</td>
<td>UAlbany, NYSM</td>
</tr>
<tr>
<td>4:00 PM</td>
<td>Infusion of Experimental Winter Weather Products from the New York State Mesonet During the 2021–2022 Winter Season in eastern New York</td>
<td>Michael Evans</td>
<td>NOAA/NWS</td>
</tr>
<tr>
<td>4:15 PM</td>
<td>Determination of Precipitation Types from a Ground-Based Microwave Radiometer</td>
<td>Bhupal Shrestha</td>
<td>UAlbany, NYSM</td>
</tr>
<tr>
<td>4:30 PM</td>
<td>Discussion and Brief Poster Presenter Introduction</td>
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<tr>
<td>5:00 PM</td>
<td>Poster Session and Ice Breaker</td>
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<tr>
<td>7:00 PM</td>
<td>Adjourn</td>
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Day 2: September 14, 2022

**Session 5: Modeling & Applications (Chair: Kristen Corbosiero)**

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<tr>
<th>Time</th>
<th>Title</th>
<th>Speaker</th>
<th>Institution</th>
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</thead>
<tbody>
<tr>
<td>8:30 AM</td>
<td>Using NYSTM Profiler Data for Hyperlocal Weather Forecast Evaluation</td>
<td>Jan Ising</td>
<td>TempoQuest</td>
</tr>
<tr>
<td>8:45 AM</td>
<td>Applications of the New York State Mesonet with High-Resolution Numerical Weather Predictions</td>
<td>Lloyd Treinish</td>
<td>IBM</td>
</tr>
<tr>
<td>9:00 AM</td>
<td>Assimilation of New York State Mesonet Surface and Profiler Data for 21 June 2021 Convective Event</td>
<td>Hsiao-Chun Lin</td>
<td>UAlbany, ASRC</td>
</tr>
<tr>
<td>9:15 AM</td>
<td>Evaluating HRRR Model Forecasts of Impactful Severe Weather Events in Upstate New York</td>
<td>Rachel Eldridge</td>
<td>UAlbany, DAES</td>
</tr>
<tr>
<td>9:30 AM</td>
<td>Observation plus Model (OpM) Composite Profiles: Harnessing Unique Weather Trending Information</td>
<td>Keith Brewster</td>
<td>University of Oklahoma – CAPS</td>
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<tr>
<td>9:45 AM</td>
<td>Discussion</td>
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**Session 6: Basic Research (Chair: Michael Evans)**

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<tr>
<th>Time</th>
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</thead>
<tbody>
<tr>
<td>10:00 AM</td>
<td>Remote Sensing of the Pre-Squall Environment using NYSTM Profilers</td>
<td>Robert Fovell</td>
<td>UAlbany, DAES</td>
</tr>
<tr>
<td>10:30 AM</td>
<td>Discussion</td>
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<tr>
<td><strong>10:45 AM</strong></td>
<td><strong>Coffee Break</strong></td>
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**Session 7: Calibration, Validation, and Instrumentation (Chair: Justin Minder)**

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<tbody>
<tr>
<td>11:15 AM</td>
<td>Potential use of different scanning scenarios for NYSTM lidars</td>
<td>Jeff Freedman</td>
<td>UAlbany, ASRC</td>
</tr>
<tr>
<td>11:30 AM</td>
<td>NYSTM Ground Truth for Boundary Layer Radio Occultation Satellite Soundings</td>
<td>R. Kursinski</td>
<td>PlanetIQ</td>
</tr>
<tr>
<td>11:45 AM</td>
<td>NYSTM Ground Truth for Nadir-Viewing Small Satellite Microwave Radiometry</td>
<td>Michael Hurowitz</td>
<td>1Orbital Micro Systems</td>
</tr>
<tr>
<td>12:00 PM</td>
<td>Atmospheric In-Situ and Remote Sensing Observations and Applications</td>
<td>Donald Berchoff</td>
<td>TruWeather Solutions</td>
</tr>
<tr>
<td>12:15 PM</td>
<td>Automated Non-Cryogenic Microwave Profiler Calibration</td>
<td>Matthew Mahaffey</td>
<td>Radiometrics</td>
</tr>
<tr>
<td>12:30 PM</td>
<td>Discussion, Closing Remarks, and Adjourn</td>
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<tr>
<td><strong>12:45 PM</strong></td>
<td><strong>Lunch</strong></td>
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<tr>
<td><strong>2:00 PM</strong></td>
<td><strong>Side Meetings, Voorheesville site tour, etc.</strong></td>
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</table>
# Poster Presentations – Day 1

<table>
<thead>
<tr>
<th>Title</th>
<th>Authors</th>
<th>Institution</th>
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<tbody>
<tr>
<td>Boundary layer structure and dynamics over New York City during extreme heat events</td>
<td>Gabriel Rios (and Prathap Ramamurthy)</td>
<td>CCNY</td>
</tr>
<tr>
<td>Modeling the transitions between winter surface precipitation types: a WINTRE-MIX case study</td>
<td>Bin Han (and Justin Minder)</td>
<td>UAlbany, DAES</td>
</tr>
<tr>
<td>Precipitation Type in the High-Resolution Ensemble Forecast System during the February 17(^{th}) and 23(^{rd}), 2022 Winter Storms</td>
<td>John England (and Justin Minder)</td>
<td>UAlbany, DAES</td>
</tr>
<tr>
<td>Update on Compact, High-Performance Ceilometers for Network Deployment</td>
<td>David Sonnenfroh</td>
<td>Physical Sciences Inc.</td>
</tr>
<tr>
<td>Investigating the Effects of Stochastic Parameter Perturbations (SPP) in the High-Resolution Rapid Refresh Ensemble (HRRRE) during the February 23(^{rd}), 2022, Winter Storm</td>
<td>Michael Barletta (Justin Minder)</td>
<td>UAlbany, DAES</td>
</tr>
<tr>
<td>Observations and impacts of long-range transported wildfire smoke on air quality across New York State during July 2021</td>
<td>Bhupal Shrestha (June Wang and Jerald Brotzge)</td>
<td>UAlbany, NYSM</td>
</tr>
<tr>
<td>Improving Snow in the National Water Model using Noah-MP Point Simulations and Advanced Mesonet Observations from the Mountains of New York State</td>
<td>Justin R. Minder (T. Letcher, P. Naple, B. Wallace, and S. Liotta)</td>
<td>UAlbany, DAES</td>
</tr>
<tr>
<td>NYS Mesonet from voltage to maps</td>
<td>Nathan Bain</td>
<td>UAlbany, NYSM</td>
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