

ROCHELLE WORSNOP

Research Scientist, Cooperative Institute for Research in Environmental Sciences
University of Colorado and NOAA/ESRL, Physical Sciences Division
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Research focus

Statistical postprocessing of numerical weather predictions, forecast verification, extended-range fire weather forecasting, mesoscale and LES modeling of wind farms and hurricanes, boundary layer meteorology, wind profiler deployments, research-to-operations

Education

PhD, Atmospheric and Oceanic Sciences, University of Colorado, Boulder, CO, May 2018
Dissertation: Extreme winds: Impacts of hurricanes and ramp events on wind energy
Adviser: Dr. Julie Lundquist

MS, Atmospheric and Oceanic Sciences, University of Colorado, Boulder, CO, May 2016
Adviser: Dr. Julie Lundquist

BS (with Honors thesis), Meteorology, Florida State University, Tallahassee, FL, May 2012
Thesis: Multidecadal variations of durations of extreme temperatures in the Southeastern United States
Adviser: Dr. Mark Bourassa
Minors: Mathematics, Geography

Professional Appointments

Jul 2018–present: Research Scientist I, Cooperative Institute for Research in Environmental Sciences, University of Colorado, Boulder, CO

Jan 2018–May 2018: PostDoctoral Associate, University of Colorado, Boulder, CO

Jun 2013–Dec 2017: Graduate Research Assistant, University of Colorado, Boulder, CO

Jul 2016–Sep 2017: Pathways Research Intern, National Oceanic and Atmospheric Administration, Boulder, CO

Aug 2012–May 2013: Graduate Teaching Assistant, University of Colorado, Boulder, CO

Aug 2009–Aug 2012: Undergraduate Research Assistant, Center for Ocean-Atmospheric Prediction Studies and the Florida Climate Center, Tallahassee, FL

Jun 2011–Aug 2011: Student Research Intern, DeTect Inc., Longmont, CO

Field Experience

Nov 2015-Nov 2017: Wind Forecast Improvement Project II (WFIP2), University of Colorado, Boulder, CO team, deployments in OR and WA

Spring 2015: eXperimental Planetary boundary layer Instrumentation Assessment (XPIA), University of Colorado, Boulder, CO team, deployments in Erie, CO

Summer 2013: Crop Wind Energy EXperiment 2013 (CWEX2013), University of Colorado, Boulder, CO team, deployments in Ames, IA

Grants and Funding

Yellowstone supercomputer allocation of 755,000 CPU hours equivalent to \$26,778, 2015

Awards and Recognition

2016 American Geophysical Union fall meeting student travel grant

2016 United Government of Graduate Students travel grant

2014 Best Poster (Earth System and Space Science Poster Conference, University of Colorado)

2012 Best Poster (Earth System and Space Science Poster Conference, University of Colorado)

2012 National Science Foundation Graduate Research Fellowship

2011 Mark J. Schroeder Endowed Scholarship in Meteorology through the AMS

2010 National Society of Collegiate Scholars Book Scholarship

2009 Academic Competitiveness Florida State University Scholarship

2008 Wal-Mart Family Foundation Scholarship

2008 Florida Bright Futures Academic Scholarship

2008 Pensacola, Florida's Talent Search Program Scholarship

Peer-Reviewed Publications

Wilczak, J.,...36 other coauthors...and **R. P. Worsnop**. The second Wind Forecast Improvement Project (WFIP2): Observational Field Campaign. *Bull. Amer. Meteor. Soc.* Accepted.

Kapoor, A., S. Ouakka, S. R. Arwade, J. K. Lundquist, M. A. Lackner, A. T. Myers, **R. P. Worsnop**, and G. H. Bryan. Hurricane eyewall winds and structural response of wind turbines. *Wind Energ. Sci.*, submitted.

Worsnop, R. P., M. Scheuerer, T. M. Hamill, and J. K. Lundquist, 2018: Generating wind power scenarios for probabilistic ramp event prediction using multivariate statistical post-processing. *Wind Energ. Sci.*, **3**, 371–393.

Worsnop, R. P., J. K. Lundquist, G. H. Bryan, W. Musial, and R. Damiani, 2017. Gusts and shear within hurricane eyewalls can exceed offshore wind turbine design standards. *Geophys. Res. Lett.*, **44**, 6413–6420.

Worsnop, R. P., G. H. Bryan, J. K. Lundquist, and J. A. Zhang, 2017: Using large-eddy simulations to define spectral and coherence characteristics of the hurricane boundary layer for wind-energy applications. *Bound.-Layer Meteor.*, **165**, 55–86.

Bryan, G. H., **R. P. Worsnop**, J. K. Lundquist, and J. A. Zhang, 2016: A simple method for simulating wind profiles in the boundary layer of tropical cyclones. *Bound.-Layer Meteor.*, **162**, 457–502.

Lundquist, J. K.,...34 other coauthors...and **R. P. Worsnop**, 2017. Assessing state-of-the-art capabilities for probing the atmospheric boundary layer: the XPIA field campaign. *Bull. Amer. Meteor. Soc.*

Invited Talks

Impacts of hurricanes, ramp events, and complex terrain on wind energy. National Wind Technology Center, Boulder, CO, January 2018.

Using large eddy simulations to examine the hurricane boundary layer for wind turbine applications. National Wind Technology Center, Boulder, CO, January 2016.

Spectral and coherence characteristics of a modeled hurricane boundary layer for wind turbine applications. Physical Sciences Division, NOAA Earth System Research Laboratory, Boulder, CO, October 2015.

Power spectrum and spatial coherence of turbulent structures inside an idealized major hurricane. Hurricane Research Division, Miami, FL, September 2015.

Professional Activities

PhD Committee Member, Nick Luchetti, University of Colorado, Boulder, CO, 2019-present

Science Judge, CordenPharma Regional Science Fair (Jan 2017, Jan 2019)

Guest Lecturer, ATOC Graduate Professional Development and Networking Seminar, University of Colorado, Boulder, CO, Nov 2018

Panelist, ATOC Professional Development Seminar for Undergraduates, University of Colorado, Boulder, CO, Aug 2018

Science Mentor, Lens on Climate Change (2013–2014)

Mentored students in their production of a video on climate change impacts in Colorado

Treasurer, North Florida Chapter of the American Meteorological Society (2011–2012)

Volunteer, Garnet and Gold Goes Green (2010–2011)

Collected recyclables and educated people about recycling at Florida State University sponsored events

Co-chairperson, Without Words (2010–2011)

Designed a museum-style exhibit to raise awareness and funds for clean water in developing countries

Last updated: April 26, 2019