

**JULIE KAY LUNDQUIST**

Associate Professor

*Department of Atmospheric and Oceanic Sciences*

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*Joint Appointee, National Renewable Energy Laboratory*

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*<http://atoc.colorado.edu/~jlundqui>*

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**EDUCATION AND TRAINING:**

**2001**                      **University of Colorado at Boulder**                      **Boulder, CO**  
Doctor of Philosophy in Astrophysical, Planetary, and Atmospheric Science, advisor William Blumen

Environmental Policy Certificate (6 graduate courses in Environmental Law, Political Science,  
Journalism, and Environmental Science)

**1997**                      **University of Colorado at Boulder**                      **Boulder, CO**  
Masters of Science in Astrophysical, Planetary, and Atmospheric Science, advisor William Blumen

**1995**                      **Trinity University**                      **San Antonio, TX**  
Bachelors of Arts with double major in English and Physics

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**RESEARCH AND PROFESSIONAL EXPERIENCE:**

**2016-present**              **University of Colorado at Boulder**                      **Boulder, CO**  
*Associate Professor, Dept. of Atmospheric and Oceanic Sciences*

**2010-2016**              **University of Colorado at Boulder**                      **Boulder, CO**  
*Assistant Professor, Dept. of Atmospheric and Oceanic Sciences*

**2010-present**              **National Renewable Energy Laboratory**                      **Golden, CO**  
*Research Scientist, Joint Appointment with CU-Boulder,*

**2004- 2010**              **Lawrence Livermore National Laboratory**                      **Livermore, CA**  
*Physicist, Physics & Life Sciences Directorate, Atmospheric, Earth, and Energy Department*

**2002-2004**              **Lawrence Livermore National Laboratory**                      **Livermore, CA**  
*Postdoctoral researcher, Energy & Environment Directorate*

**2001-2002**              **University of Colorado at Boulder**                      **Boulder, CO**  
*Research Associate, Program in Atmospheric and Oceanic Sciences*

**1995-2000**              **University of Colorado at Boulder**                      **Boulder, CO**  
*Graduate Student Research Assistant, Program in Atmospheric and Oceanic Sciences*

<b>1999</b>	<b>Field Research: CASES-99</b> <i>Research Scientist, CASES-99 Field Program</i>	<b>Wichita, KS</b>
<b>1997</b>	<b>Field Research: CASES-97</b> <i>Deputy Field Coordinator, CASES-97 Field Program</i>	<b>Wichita, KS</b>
<b>1994</b>	<b>National Center for Atmospheric Research</b> <i>Summer Undergraduate Visitor, High Altitude Observatory</i>	<b>Boulder, CO</b>
<b>1994-1995</b>	<b>Princeton Review</b> <i>Instructor</i>	<b>San Antonio, TX</b>
<b>1993-1994</b>	<b>Trinity University</b> <i>Peer Tutor, First-Year Seminar</i>	<b>San Antonio, TX</b>
<b>1994-1995</b>	<b>Trinity University, English Department</b> <i>Writing Center Tutor</i>	<b>San Antonio, TX</b>
<b>1992-1995</b>	<b>Trinity University, Physics Department</b> <i>Teaching Assistant</i>	<b>San Antonio, TX</b>

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#### HONORS AND AWARDS:

- 2018 **Graduate School Outstanding Mentor Award** from the University of Colorado Graduate School
  - 2017 **ATOC Service Award** for outstanding service as the ATOC Graduate Advisor
  - 2016 **NSF CAREER Award** for “BREEZE: Boundary-layer REsearch and Education Zone”
  - 2013 **Women of Wind Energy “Rising Star” Award** for “exceptional vision, ingenuity, passion and leadership” in defining “relationships in the atmospheric boundary layer that affect wind resource assessment and wind energy forecasting” <http://www.womenofwindenergy.org/women-in-wind-2013-awards.html>
  - 2009 **LLNL Physical & Life Sciences Award** for “outstanding contributions to the Laboratory’s national security missions”
  - 2009 **LLNL Physical & Life Sciences Award** for “exemplary performance of educational and community outreach”
  - 2004 **Best Poster** LLNL Energy & Environment Directorate, Program Leader’s Choice
  - 2004 **Best Poster** LLNL Energy & Environment Directorate, Attendee’s Choice
  - 2003 **LLNL Energy & Environment Award** for “dedication and exemplary contributions to the Oklahoma City urban field experiment”
  - 2000 **Outstanding Student Poster Award**, AMS 14th Symposium on Boundary Layers and Turbulence, Snowmass, CO
  - 1998 **Exceptional Service Award**, PAOS, Univ. Colorado at Boulder
  - 1997 **Dean’s Small Grant Award**, University of Colorado at Boulder
  - 1995-1997 **Graduate Student Fellowships**, University of Colorado at Boulder
  - 1991-1995 **National Merit Scholar**, Trinity University
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## FUNDED RESEARCH:

- 2020-2023 Open Philanthropy Project (co-I; Alan Robock and Brian Toon, PIs) “Environmental and Human Impacts of Nuclear War 2”) (\$467K<sup>1</sup> for Lundquist portion at CU)
- 2019-2024 NSF Mid-scale RI-1 (M1:IP): The New Wyoming King Air (co-I; Bart Geerts and Zhien Wang, PIs)
- 2019-2025 National Renewable Energy Laboratory: “Wind Resource and Wind Plant Modeling” (\$549K). Lundquist PI
- 2017-2020 Open Philanthropy Project (co-I; Alan Robock and Brian Toon, PIs) “Environmental and Human Impacts of Nuclear War”) (\$467K<sup>2</sup> for Lundquist portion at CU)
- 2017-2019 Joint Fire Science Program (co-I; Katja Friedrich PI) “Evaluating thunderstorm outflow boundaries in WRF-Fire” (\$335K total)
- 2016-2021 National Science Foundation “CAREER: BREEZE: Boundary-layer REsearch and Education ZonE” (\$541K)
- 2016-2020 National Science Foundation “Collaborative Research: Perdiga--The Stable Boundary Layer over Complex Terrain” (\$354K)
- 2016 Renewable and Sustainable Energy Institute Seed Grant “Do Wind Turbines Pose Roll Hazards to Light Aircraft?” (\$25K)
- 2015-2018 Department of Energy Wind Forecast Improvement Project (\$2.5M total to team led by Vaisala, \$350K to CU<sup>3</sup>)
- 2015 National Science Foundation: “Characterizing the Atmospheric Boundary Layer” (\$25K educational field deployment of NCAR instrumentation, [https://www.eol.ucar.edu/field\\_projects/cabl](https://www.eol.ucar.edu/field_projects/cabl))
- 2014-2016 National Science Foundation: “CNH-Ex: Good Neighbors: Legal, Economic and Natural Science Analyses of Wind Plant Impacts and Interactions (BCS-1413980)” CNH = Dynamics of Coupled Natural and Human Systems program (\$250K)
- 2014-2016 Los Alamos National Laboratory: “IGPP: Assessing Impacts of Wind Turbines & Wind Farms” (\$235K)
- 2014-2018 National Renewable Energy Laboratory: “Atmosphere-Wind Plant Interactions: Observations and Modeling” (\$950K). Lundquist PI, also includes multi-institution PI

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<sup>1</sup> J. K. Lundquist is the PI at CU, but the PI on the overall program is at another institution. The dollar amount is only the funding that comes to CU, under the management of Prof. Lundquist

<sup>2</sup> J. K. Lundquist is the PI at CU, but the PI on the overall program is at another institution. The dollar amount is only the funding that comes to CU, under the management of Prof. Lundquist

<sup>3</sup> J. K. Lundquist is the PI at CU, but the PI on the overall program is at another institution. The dollar amount is only the funding that comes to CU, under the management of Prof. Lundquist

- role for the eXperimental Planetary boundary layer Instrumentation Assessment (XPIA) field project in 2015
- 2013-2014 National Science Foundation STTR “Physics-Based Wind Variability Models” STTR = Small Business Technology Transfer Program (\$225K total, \$55K to CU<sup>1</sup>)
- 2013-2014 CIRES Innovative Research Program Seed Grant (co-PI): “Observations of Wind Turbine Wakes Using Unmanned Aircraft Systems” (\$25K)
- 2013-2015 National Center for Atmospheric Research: “Wind Turbine Power Curve Variability” (\$140K)
- 2013-2016 National Renewable Energy Laboratory: “Joint Appointment” (\$150K)
- 2012-2013 Colorado Research and Education in Wind: “Innovative exploration of relationship between nacelle winds and detailed upwind wind profiles” (\$50K)
- 2012-2013 Colorado Research and Education in Wind: “In situ measurements of wind shear and atmospheric turbulence in turbine rotor disk altitudes” (\$50K)
- 2011-2013 National Renewable Energy Laboratory: “Wind Farm Wake Data Collection and Mesoscale Atmospheric Simulations” (\$450K)
- 2010-2011 National Center for Atmospheric Research: “Evaluation of Boundary Layer Characteristics and Impacts on Wind Energy Applications” (\$25K)
- 2010-2012 Los Alamos National Laboratory: “WRF-HIGRAD Investigations of Turbines & Experiments (WHITE) (\$200K)
- 2010-2013 National Renewable Energy Laboratory: “Joint Appointment” (\$140K)
- 2009-2011 DOE Office of Energy Efficiency and Renewable Energy (EERE) “20% by 2030”: Integration of turbine inflow and wake observations from a 2-micron lidar into a wind energy forecasting model. (\$400K total, \$80K to CU<sup>1</sup>); partial subcontract to University of Colorado at Boulder through Lawrence Livermore National Laboratory
- 2009-2011 Siemens Energy, Inc., “WEF-WRF: Wind Energy Forecasting with the Weather Research and Forecasting model” (\$2.3M total, \$53K to CU<sup>1</sup>); partial subcontract to University of Colorado at Boulder through Lawrence Livermore National Laboratory
- 2008-2010 DOE Office of Energy Efficiency and Renewable Energy (EERE) Renewable Systems Interconnection Support: “Atmospheric Stability Effects on Tall Turbines” (\$550K total, \$132K to CU<sup>2</sup>); partial subcontract to University of Colorado at Boulder through Lawrence Livermore National Laboratory

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<sup>2</sup> J. K. Lundquist is the PI at CU, but the PI on the overall program is at another institution. The dollar amount is only the funding that comes to CU, under the management of Prof. Lundquist

- 2006-2011 NASA Decision Support through Earth-Sun Science Research Results: “Integrating NASA Earth Science Capabilities into the Interagency Modeling and Atmospheric Assessment Center for Improvements in Atmospheric Transport and Dispersion Modeling”, (\$330K<sup>1</sup> at LLNL, overall PI)
- 2006-2010 NASA Decision Support through Earth Science Results: “Improved Meteorological Input for Atmospheric Release Decision Support Systems”, (\$148K at LLNL<sup>2</sup>, LLNL PI)
- 2005-2008 LLNL Laboratory-Directed Research and Development: “Urban Atmospheric Turbulence”, (\$738K<sup>3</sup> at LLNL, overall PI)
- 2002-2003 National Science Foundation: “Microfronts 1995 and Cases 1999: Boundary Layer Influences on Fronts and Inertial Oscillations”; management transferred from original PI Blumen

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## COURSES DEVELOPED

- ATOC 4500/7500 Numerical Weather Prediction Modeling Lab: Fall 2019
- ATOC 4770/5770 Wind Energy Meteorology: Spring 2012, Spring 2013, Spring 2014, Spring 2015, Spring 2016, Spring 2017, Spring 2018, Spring 2019, Spring 2020 (taught as ATOC 4500/7500 Special Topics 2012-2014)
- ATOC 6020 Boundary-Layer Meteorology Seminar (1 credit): Each semester since Fall 2010 (except Fall 2018 – sabbatical)

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## COURSES TAUGHT

- ATOC 1050 Weather and the Atmosphere: Fall 2012, Fall 2013, Fall 2014, Fall 2017
- ATOC 4770/5770 Wind Energy Meteorology: Spring 2012, Spring 2013, Spring 2014, Spring 2015, Spring 2016, Spring 2017, Spring 2018 (taught as ATOC 4500/7500 Special Topics 2012-2014)
- ATOC 4500 Weather Analysis and Forecasting: Spring 2011
- ATOC 4500/7500 Numerical Weather Prediction Modeling Lab: Fall 2019
- ATOC 5050 Atmospheric Dynamics: Fall 2011, Fall 2015, Fall 2016
- ATOC 6020 Boundary-Layer Meteorology Seminar (1 credit): Each semester since Fall 2010 (except Fall 2018 – sabbatical)

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## STUDENTS ADVISED:

### Ph.D., Major Advisor:

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<sup>1</sup> J. K. Lundquist was the PI at LLNL before coming to CU, and no funds were sent to CU after Prof. Lundquist’s move to CU in 2010

<sup>2</sup> J. K. Lundquist was the PI at LLNL, but the PI on the overall program was at another institution. The dollar amount is only the funding that came to LLNL, under the management of Dr. Lundquist

<sup>3</sup> J. K. Lundquist was the PI at LLNL before coming to CU, and no funds were sent to CU after Prof. Lundquist’s move to CU in 2010

**Matthew Aitken** (University of Colorado Boulder, Physics, 2010-2014), now ORISE Fellow at US Environmental Protection Agency, North Carolina

**Brian Vanderwende** (University of Colorado Boulder, Dept. of Atmospheric and Oceanic Sciences, 2010-2015), now at National Center for Atmospheric Research

**Clara St. Martin** (University of Colorado Boulder, Dept. of Atmospheric and Oceanic Sciences, 2012- 2017), now at GE Renewables

**Rochelle Worsnop** (University of Colorado Boulder, Dept. of Atmospheric and Oceanic Sciences, 2012-2018), now postdoctoral researcher at NOAA/CIRES

**Joseph Cheuk-Yi Lee** (University of Colorado Boulder, Dept. of Atmospheric and Oceanic Sciences, 2013-2018), now postdoctoral researcher at NREL

**Laura Mazzaro** (University of Colorado Boulder, Dept. of Atmospheric and Oceanic Sciences, 2015-2019)

**Nicola Bodini** (University of Colorado Boulder, Dept. of Atmospheric and Oceanic Sciences, 2017- 2019)

**Jessica Tomaszewski** (University of Colorado Boulder, Dept. of Atmospheric and Oceanic Sciences, 2015-expected 2020)

**Stephanie Redfern** (University of Colorado Boulder, Dept. of Atmospheric and Oceanic Sciences, 2015-expected 2020)

**Oleksya (Alex) Rybchuk** (University of Colorado Boulder, Dept. of Mechanical Engineering, 2017-expected 2021)

**Rachel Robey** (University of Colorado Boulder, Dept. of Applied Mathematics, 2019-expected 2024)

**Miguel Sanchez Gomez** (University of Colorado Boulder, 2020-expected 2023)

#### **Ph.D., Co-Supervisor:**

**Katherine A. Lundquist** (University of California at Berkeley, 2008-2010) (LLNL supervisor)

**Anna Fitch** (University of Norway at Bergen, 2010-2012)

**Chris Heney** (University of Colorado Boulder, Dept. of Atmospheric and Oceanic Sciences, 2016-expected 2020)

**Nicholas Luchetti** (University of Colorado Boulder, Dept. of Atmospheric and Oceanic Sciences, 2018-expected 2022)

#### **Ph.D., Committee Member:**

**John Williams** (Colorado School of Mines, degree 2012),

**Caroline Draxl** (Danish Technical University, Ph.D. opponent 31 May 2012),

**Patrick Boylan** (University of Colorado at Boulder, Dept. of Atmospheric and Oceanic Sciences, degree 2013),

**Shelley Knuth** (University of Colorado at Boulder, Dept. of Atmospheric and Oceanic Sciences, degree 2014),

**Katherine McCaffrey** (University of Colorado at Boulder, Dept. of Atmospheric and Oceanic Sciences, degree 2014),

**Eric Simley** (University of Colorado at Boulder, Electrical, Computer, & Energy Engineering, degree 2015),

**Joseph Brodie** (University of Delaware, degree 2016),

**Megan Bela** (University of Colorado at Boulder, Dept. of Atmospheric and Oceanic Sciences, degree 2016),

**Valerie Kumer** (University of Bergen, Ph.D. opponent Sept 2016),

**Steven Buck** (University of Colorado at Boulder, Aerospace Engineering Sciences, degree 2017)

**Sean P. Burns** (University of Colorado at Boulder, Geography, degree 2018),

**Aleya Kaushik** (University of Colorado at Boulder, Dept. of Atmospheric and Oceanic Sciences, degree 2018)

**Fernando Carbajo Fuertes** (EPFL, degree 2018)

**M.S., Major Advisor:**

**Michael E. Rhodes** (University of Colorado at Boulder, Dept. of Aerospace Engineering, May 2012)

**Robert Marshall** (University of Colorado at Boulder, Dept. of Atmospheric and Oceanic Sciences, August 2012)

**Camden Plunkett** (University of Colorado Boulder, Dept. of Atmospheric and Oceanic Sciences, 2017-expected 2020)

**Visiting Students:**

**Emil Hedevang**, Feb-Apr 2012 (Aarhus University, Ph.D. 2013)

**Martin de Mare**, Feb-Jun 2012 (Danish Technical University, Ph.D. expected 2016)

**Gao Xiaoxia**, May-July 2014 (HongKong Polytechnic University, Ph.D. 2015)

**Ken Tay**, May-June 2013, May 2014-March 2015 (Nanyang Technological Univeristy, Ph.D., degree expected 2017)

**Lukas Vollmer**, October-December 2015 (University of Oldenberg, Germnay, Ph.D. expected 2017)

**Mihael Plut**, February – July 2016 (European Wind Energy Master’s Program, M.S. 2016)

**Nicola Bodini**, June-August 2015; July – September 2016 (University of Trento, Italy, M.S. degree 2016)

**Simon Siedersleben** August – November 2017 (Karlsruher Institut für Technologie, Ph.D. degree expected 2019)

**Robert Menke** January – June 2018 (Danish Institute of Technology, Ph.D., degree expected 2019)

**Philipp Gasch** April – June 2018 (Karlsruher Institut für Technologie, Ph.D. degree expected 2021)

**Undergraduate Research Opportunity (UROP) Students:**

**Hannah Livingston** (Summer 2019)

**James Bell** (Summer 2019)

**Patrick Murphy** (Summer 2017, continuing as undergraduate researcher through Dec 2018)

**Reid Anderson** (Summer 2016)

**Jonathan Greenhut** (Summer 2015)

**Conor Tyler** (Fall-Winter 2014-15)

**Rachel Robey** (Summer 2014, continued as undergraduate researcher through Fall 2014)

**Jiwan Rana** (Summer 2013, continued as undergraduate researcher through Summer 2014)

**Kelley Hestmark** (Summer 2012)

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**Undergraduate Honors Committee Member:**

**Kiley R. Smith** (University of Colorado Boulder, Ecology and Evolutionary Biology Department, Spring 2017)

**Cory Goode** (University of Colorado Boulder, Economics, Spring 2015)

#### **STUDENT AWARDS FOR STUDENTS SUPERVISED BY LUNDQUIST**

- Director's Fellowship Postdoctoral Researcher, National Renewable Energy Laboratory (Jessica Tomaszewski, declined)
- Best Student Oral Presentation, AMS 11<sup>th</sup> Conference on Weather, Climate, and the New Energy Economy (2020) (Jessica Tomaszewski)
- Best Student Presentation, 35<sup>th</sup> International Conference on Alpine Meteorology (2019) (Nicola Bodini)
- Second Best Student Oral Presentation, AMS 9<sup>th</sup> Conference on Mountain Meteorology (2018) (Nicola Bodini)
- Best Student Oral Presentation, AMS 23<sup>rd</sup> Symposium on Boundary Layers and Turbulence (2018) (Jessica Tomaszewski)
- Commended Student Poster Presentation, AMS 23<sup>rd</sup> Symposium on Boundary Layers and Turbulence (2018) (Jessica Tomaszewski)
- AMS Named Scholarship (Glickman Family Scholarship) 2018 (Patrick Murphy)
- Best Student Oral Presentation, AMS 9<sup>th</sup> Conference on Weather, Climate, and the New Energy Economy (2018) (Jessica Tomaszewski)
- NSF Graduate Research Fellowship Award (2017) (Jessica Tomaszewski)
- Peter B. Wagner Memorial Award for Women in Atmospheric Science (2017) (Jessica Tomaszewski)
- Best Student Oral Presentation, AMS 8<sup>th</sup> Conference on Weather, Climate, and the New Energy Economy (2017) (Jessica Tomaszewski)
- 3<sup>rd</sup> place best Student Oral Presentation, AMS 8<sup>th</sup> Conference on Weather, Climate, and the New Energy Economy (2017) (Joseph C.-Y. Lee)
- Best Student Oral Presentation, AMS 22<sup>nd</sup> Symposium on Boundary Layers and Turbulence (2016) (Laura Mazzaro)
- NSF Graduate Research Honorable Mention (2016) (Jessica Tomaszewski)
- NOAA Pathways Internship (2016) (Rochelle Worsnop)
- Commended Student Presentation, AMS 21<sup>th</sup> Symposium on Boundary Layers and Turbulence (2014) (Brian Vanderwende)
- Outstanding Student Oral Presentation, AMS 4<sup>th</sup> Conference on Weather, Climate, and the New Energy Economy (2013) (Matthew Aitken)
- Best Student Presentation, AMS 3<sup>rd</sup> Conference on Weather, Climate, and the New Energy Economy (2012) (Brian Vanderwende)
- Commendable Student Presentation (tie), AMS 3<sup>rd</sup> Conference on Weather, Climate, and the New Energy Economy (2012) (Matthew Aitken)
- Best Student Poster, AMS 3<sup>rd</sup> Conference on Weather, Climate, and the New Energy Economy (2012) (Michael Rhodes)
- Best Student Poster, AMS 2<sup>nd</sup> Conference on Weather, Climate, and the New Energy Economy (2011) (Matthew Aitken)

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#### **NATIONAL/INTERNATIONAL SERVICE ACTIVITIES:**



Associate Editor, *Wind Energy Science*, 2015-present

Associate Editor, *Meteorological Applications*, 2019-present

Associate Editor, *Journal of Advances in Modeling Earth Systems*, 2017-2018

Chair of AMS Boundary Layers and Turbulence Committee 2013-2014, co-Chair of AMS Boundary Layers and Turbulence Committee 2015-2019

Scientific Committee, 2019, North American Wind Energy Academy Meeting

Member of the AMS Subcommittee on Renewable Energy, 2010-2014, co-chair AMS Subcommittee on Renewable Energy 2012

Organizer of AMS 4<sup>th</sup> Conference on Weather, Climate, and the New Energy Economy, January 2013

Organizer of PhD Summer School in Remote Sensing for Wind Energy (co-organized with J. Mann, Riso/Danish Technical University), Boulder, CO, 11-15 June 2012  
(<http://rasei.colorado.edu/windsummerschool2012>)

Member of the American Meteorological Society (AMS) Board on the Urban Environment, 2008-Jan 2011

Organizer of AMS Eighth Urban Symposium January 2009, AMS Ninth Urban Symposium July 2010

Co-convener of session “Wind Power Meteorology: The Decade Ahead” at Fall 2008, Fall 2009, Fall 2010 American Geophysical Union Meetings

Organizer of DOE Energy Efficiency and Renewable Energy/Office of Science workshop on “Wind Resource Characterization”, January 2008

Member of the DOE Atmospheric Radiation Measurement (ARM) Climate Research Facility Science Board, 2004-2006

Reviewer for international peer-reviewed journals: *Nature Energy*, *Nature Communications*, *Journal of the Atmospheric Sciences*, *Boundary-Layer Meteorology*, *Journal of Applied Meteorology and Climatology*, *Journal of Geophysical Research – Atmospheres*, *Quarterly Journal of the Royal Meteorological Society*, *Geophysical and Astrophysical Fluid Dynamics*, *Environmental Modeling and Assessment*, *Wind Energy*, *Climate Dynamics*, *Journal of Climate*, *Bulletin of the American Meteorological Society*, *Monthly Weather Review*, *Environmental Science & Technology*, *Environmental Research Letters*, *Energies*, *Meteorologische Zeitschrift*, *Renewable Energy*, *Journal of Solar Energy Engineering: Including Wind Energy and Building Energy Conservation*, *Atmosphere*

Reviewer for national and international funding agencies:

DOE Office of Science,  
DOE Office of Energy Efficiency and Renewable Energy  
National Science Foundation,  
Netherlands Organisation for Scientific Research (NWO)  
Hong Kong Environment and Conservation Fund  
Research Foundation of Flanders (fwo)

Member of the American Meteorological Society, American Geophysical Union, International Association for Urban Climate

Scientific Committee of 13<sup>th</sup> International Conference on Wind Engineering (2010)

Panelist on Women of Wind Energy's Webinar: "Effective Networking: Making the Right Connections" (May 2012)

International Advisory Board member for 2nd International Conference on Future Technologies in Wind Energy (WindTech2015)

### **CU SERVICE ACTIVITIES:**

RASEI Director Search Committee (2019-2020)

CU Mechanical Engineering ARPAC Internal Reviewer (2017-2018)

CU Arts and Sciences Council (2016-present), A&SC Curriculum Committee (2017-present)

Reviewer of science education modules for:  
Climate Literacy and Energy Awareness Network (CLEAN) (ongoing)

ATOC Graduate Advisor (2012-present)

ATOC Comprehensive Exam (grader 2010-present, question composer 2013, 2016, 2017)

ATOC Executive Committee (2013-present)

RASEI/ATOC Big Energy Seminar Series coordinator (2012-2016)

### **PUBLIC SCIENCE OUTREACH**

St. Vrain School District: multiple in-class presentations, Erie High School (2015)

Boulder Valley School District: multiple in-class presentations on weather to Bear Creek Elementary students (2014-2015, 2013-2014 school years)

Lifelong Learning Academy: guest speaker (October 2012)

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### **WRITING FOR THE PUBLIC:**

Lundquist, J.K., A. Clifton. 2012. How Turbulence can impact power performance. *North American Windpower*, Sept. 2012, Cover Story.

### **PEER-REVIEWED PUBLICATIONS:**

★ Denotes first authors who were students supervised or co-supervised by J. K. Lundquist

© Denotes first authors who were postdoctoral researchers supervised by J. K. Lundquist

94. Siedersleben, S. K., Platis, A., **Lundquist, J. K.**, Djath, B., Lampert, A., Bärffuss, K., Cañadillas, B., Schulz-Stellenfleth, J., Bange, J., Neumann, T., and Emeis, S.: Turbulent kinetic energy over large offshore wind farms observed and simulated by the mesoscale model WRF (3.8.1), *Geosci. Model Dev.*, 13, 249–268, <https://doi.org/10.5194/gmd-13-249-2020>, 2020.
93. de Boer, Gijs, C. Diehl, J. Jacob, A. Houston, S. Smith, P. Chilson, D. G. Schmale III, J. Intrieri, J. Pinto, J. Elston, David Brus<sup>11</sup>, Osku Kemppinen<sup>12</sup>, Alex Clark<sup>13#</sup>, Dale Lawrence<sup>14</sup>, Sean Bailey<sup>6</sup>, Amy Frazier<sup>4\*</sup>, Victoria Natalie<sup>4</sup>, Elizabeth Pillar-Little<sup>7</sup>, Petra Klein<sup>7</sup>, Sean Waugh<sup>2</sup>, **J. K. Lundquist**, L. Barbieri, S. Kral, A. Jensen, C. Dixon, Steven Borenstein, Daniel Hesselius, Kathleen Human, Phillip Hall, Brian Argrow, Troy Thornberry, Ru-Shan Gao, Randy Wright, and J. T. Kelly, 2020, Development of community, capabilities and understanding through unmanned aircraft-based atmospheric research: The LAPSE-RATE campaign. Accepted for publication in the *Bulletin of the American Meteorological Society*. <https://doi.org/10.1175/BAMS-D-19-0050.1>
92. Bianco, L. I.V. Djalalova, J. M. Wilczak, J. B. Olson, J. S. Kenyon, A. Choukulkar, L. K. Berg, H. J. S. Fernando, E. P. Gritmit, R. Krishnamurthy, **J. K. Lundquist**, P. Muradyan, M. Pekour, Y. Pichugina, M. T. Stoelinga, D. D. Turner, 2019, Impact of model improvements on 80-m wind speeds during the second Wind Forecast Improvement Project (WFIP2), *Geosci. Model Dev.*, 12, 4803–4821, <https://doi.org/10.5194/gmd-12-4803-2019>
91. Sanchez Gomez★, M. and **Lundquist, J. K.**: The effect of wind direction shear on turbine performance in a wind farm in central Iowa, *Wind Energ. Sci.*, 5, 125–139, <https://doi.org/10.5194/wes-5-125-2020>, 2020.
90. Wildmann, N., N. Bodini, **J. K. Lundquist**, L. Bariteau, J. Wagner, 2019. Estimation of turbulence parameters from scanning lidars and in-situ instrumentation in the Perdigão 2017 campaign. *Atmospheric Measurement Techniques* 12, 6401–6423, <https://doi.org/10.5194/amt-12-6401-2019>
89. Kapoor, A., Ouakka, S., Arwade, S. R., **Lundquist, J. K.**, Lackner, M. A., Myers, A. T., Worsnop, R. P., and Bryan, G. H.: Hurricane eyewall winds and structural response of wind turbines, *Wind Energ. Sci.*, 5, 89–104, <https://doi.org/10.5194/wes-5-89-2020>, 2020.
88. Veers, P., K. Dykes, E. Lantz, S. Barth, C. Bottasso, O. Carlson, A. J. Clifton, H. Holttinen, D. Laird, V. Lehtomäki, **J. K. Lundquist**, J. Manwell, M. Marquis, C. Meneveau, P. Moriarty, X. Munduate, M. Muskulus, J. Naughton, L. Pao, J., Paquette, J. Peinke, A. Robertson, J. Sanz-Rodrigo, A. M. Sempreviva, C. Smith, A. Tuohy, R. Wisser, 2019. Grand Challenges in the Science of Wind Energy and the Need for Integrated Research. *Science*. DOI: 10.1126/science.aau2027
87. Olson, J.B., J.S. Kenyon, I. Djalalova, L. Bianco, D.D. Turner, Y. Pichugina, A. Choukulkar, M.D. Toy, J.M. Brown, W.M. Angevine, E. Akish, J. Bao, P. Jimenez, B. Kosovic, K.A. Lundquist, C. Draxl, **J.K. Lundquist**, J. McCaa, K. McCaffrey, K. Lantz, C. Long, J. Wilczak, R. Banta, M. Marquis, S. Redfern, L.K. Berg, W. Shaw, and J. Cline, 2019: Improving Wind Energy Forecasting through Numerical Weather Prediction Model Development. *Bull. Amer. Meteor. Soc.*, 100, 2201–2220, <https://doi.org/10.1175/BAMS-D-18-0040.1>.

86. Mazzaro★, L., E. Koo, D. Muñoz-Esparza, **J. K. Lundquist**, R. R. Linn: Random force perturbations: a new extension of the cell perturbation method for turbulence generation in multi-scale atmospheric boundary layer simulations, *Journal for Advances in Modeling Earth Systems*, **11**, 2311-2329, 2019. <https://agupubs.onlinelibrary.wiley.com/doi/full/10.1029/2019MS001608>
85. Fleming, P., King, J., Dykes, K., Simley, E., Roadman, J., Scholbrock, A., Murphy, P., **Lundquist, J. K.**, Moriarty, P., Fleming, K., van Dam, J., Bay, C., Mudafort, R., Lopez, H., Skopek, J., Scott, M., Ryan, B., Guernsey, C., and Brake, D.: Initial Results From a Field Campaign of Wake Steering Applied at a Commercial Wind Farm: Part 1, *Wind Energy Science*, **4**, 273–285, <https://doi.org/10.5194/wes-4-273-2019>
84. Bodini★, N., **J. K. Lundquist**, A. Kirincich, 2019. Offshore wind turbines will encounter very low atmospheric turbulence. *Geophysical Research Letters* **46**, 5582-5591 <https://agupubs.onlinelibrary.wiley.com/doi/abs/10.1029/2019GL082636>
83. Wilczak, J.M., M. Stoelinga, L.K. Berg, J. Sharp, C. Draxl, K. McCaffrey, R.M. Banta, L. Bianco, I. Djalalova, **J.K. Lundquist**, P. Muradyan, A. Choukulkar, L. Leo, T. Bonin, Y. Pichugina, R. Eckman, C.N. Long, K. Lantz, R.P. Worsnop, J. Bickford, N. Bodini, D. Chand, A. Clifton, J. Cline, D.R. Cook, H.J. Fernando, K. Friedrich, R. Krishnamurthy, M. Marquis, J. McCaa, J.B. Olson, S. Otarola-Bustos, G. Scott, W.J. Shaw, S. Wharton, and A.B. White, 2019: The Second Wind Forecast Improvement Project (WFIP2): Observational Field Campaign. *Bull. Amer. Meteor. Soc.*, **100**, 1701–1723, <https://doi.org/10.1175/BAMS-D-18-0035.1>
82. Shaw, W.J., L.K. Berg, J. Cline, C. Draxl, I. Djalalova, E.P. Gritmit, **J.K. Lundquist**, M. Marquis, J. McCaa, J.B. Olson, C. Sivaraman, J. Sharp, and J.M. Wilczak, 2019: The Second Wind Forecast Improvement Project (WFIP2): General Overview. *Bull. Amer. Meteor. Soc.*, **100**, 1687–1699, <https://doi.org/10.1175/BAMS-D-18-0036.1>
81. Bodini★, N., **J. K. Lundquist**, R. Krishnamurthy, A. Choukulkar, M. Pekour, and L. Berg. 2019. Spatial and temporal variability of turbulence dissipation rate in complex terrain. *Atmospheric Chemistry and Physics*, **19**, 4367-4382, <https://doi.org/10.5194/acp-19-4367-2019>.
80. Menke, R., N. Vasiljević, J. Mann, and **J. K. Lundquist**, 2019, Characterization of flow recirculation zones in complex terrain using multi-lidar measurements. *Atmospheric Chemistry & Physics* **19**, 2713-2723, <https://www.atmos-chem-phys.net/19/2713/2019/>
79. Redfern★, S., J. B. Olson, **J. K. Lundquist**, C. T. M. Clack, 2019, Incorporation of the Rotor-Equivalent Wind Speed into the Weather Research and Forecasting model's Wind Farm Parameterization. *Monthly Weather Review* **147**, 1029-1046, <https://journals.ametsoc.org/doi/full/10.1175/MWR-D-18-0194.1>
78. Fernando, H. J. S., J. Mann, J. M. L. M. Palma, **J. K. Lundquist**, et al. (48 co-authors) 2019. The Perdigão: Peering into Microscale Details of Mountain Winds. *Bulletin of the American Meteorological Society*, **100**, 799–819, <https://doi.org/10.1175/BAMS-D-17-0227.1>
77. Siedersleben, S. K., **J. K. Lundquist**, A. Platis, A. Lampert, K. Bärffuss, B. Cañadillas, B. Djath, J. Schulz-Stellenfleth, T. Neumann, J. Bange, S. Emeis, 2018, Micrometeorological Impacts of Offshore Wind Farms as seen in Observations and Simulations, *Environmental Research Letters* **13**, 124012. <http://iopscience.iop.org/article/10.1088/1748-9326/aaca0b/meta>

76. Lee★, J. C.-Y., M. J. Fields, **J. K. Lundquist**, et al., 2018, Assessing Variability of Wind Speed: Comparison and Validation of 27 Methodologies. *Wind Energy Science*, **3**, 845-868, <https://doi.org/10.5194/wes-3-845-2018>.
75. **Lundquist, J. K.**, K.K. DuVivier, D. Kaffine, J. M. Tomaszewski. Costs and consequences of wind turbine wake effects arising from uncoordinated wind energy development. *Nature Energy* **4**, 26-34 (2019). <https://doi.org/10.1038/s41560-018-0281-2>
74. Tomaszewski★, **J. J. K. Lundquist**, M. J. Churchfield, and P. Moriarty. 2018. Do wind turbines pose roll hazards to light aircraft? *Wind Energy Science*, **3**, 833-843, <https://doi.org/10.5194/wes-3-833-2018>.
73. Siedersleben, S. K., A. Platis, **J. K. Lundquist**, A. Lampert, K. Bärffuss, B. Canadillas, B. Djath, J. Schulz-Stellenfleth, T. Neumann, J. Bange, and S. Emeis. 2018. Evaluation of a Wind Farm Parametrization for Mesoscale Atmospheric Flow Models with Aircraft Measurements. *Meteorologische Zeitschrift*, **27**, 401-415, [https://www.schweizerbart.de/papers/metz/detail/27/89817/Evaluation\\_of\\_a\\_Wind\\_Farm\\_Parametrization\\_for\\_Mesoscale\\_Atmospheric\\_Flow\\_Models\\_with\\_Aircraft\\_Measurements](https://www.schweizerbart.de/papers/metz/detail/27/89817/Evaluation_of_a_Wind_Farm_Parametrization_for_Mesoscale_Atmospheric_Flow_Models_with_Aircraft_Measurements)
72. Bodini★, N., **Lundquist, J. K.**, and Newsom, R. K.: Estimation of turbulence dissipation rate and its variability from sonic anemometer and wind Doppler lidar during the XPIA field campaign, *Atmos. Meas. Tech.*, **11**, 4291-4308, <https://doi.org/10.5194/amt-11-4291-2018>, 2018.
71. Worsnop★, R., M. Scheuerer, T. Hamill, and **J. K. Lundquist**, 2018. Generating wind power scenarios for probabilistic ramp event prediction using multivariate statistical post-processing. *Wind Energy Science*, **3**, 371-393. <https://doi.org/10.5194/wes-3-371-2018>
70. Muñoz-Esparza, D., R.D. Sharman, and **J.K. Lundquist**, 2018: Turbulence Dissipation Rate in the Atmospheric Boundary Layer: Observations and WRF Mesoscale Modeling during the XPIA Field Campaign. *Mon. Wea. Rev.*, **146**, 351–371, <https://doi.org/10.1175/MWR-D-17-0186.1>.
69. Karnauskas, K. B., **J. K. Lundquist**, L. Zhang, 2018. Southward shift of the global wind energy resource under high carbon dioxide emissions. *Nature Geoscience*. **11**, 38–43 <https://www.nature.com/articles/s41561-017-0029-9>
68. Marjanovic, N., J. D. Mirocha, B. Kosović, **J. K. Lundquist**, F. K. Chow. 2017. Implementation of a generalized actuator line model for wind turbine parameterization in the Weather Research and Forecasting model. *Journal of Renewable and Sustainable Energy*. **9**, 063308 <https://doi.org/10.1063/1.4989443>
67. Williams, P. D., and 14 co-authors including **J. K. Lundquist**, 2017. A census of atmospheric variability from seconds to decades. *Geophysical Research Letters*, **44**, 11,201–11,211. <https://doi.org/10.1002/2017GL075483>.
66. Lee★, J. C.-Y., and **J. K. Lundquist**, 2017. Evaluation of the WRF Wind Farm Parameterization with meteorological and turbine power data. *Geosci. Model Dev.*, **10**, 4229-4244, <https://doi.org/10.5194/gmd-10-4229-2017>, 2017.

65. Bodini★, N., **J. K. Lundquist**, and D. Zardi. 2017. Three-dimensional Structure of Wind Turbine Wakes as Measured by Scanning Lidar. *Atmos. Meas. Tech.*, 10, 2881-2896, <https://doi.org/10.5194/amt-10-2881-2017>, 2017.
64. Mazzaro★, L. J., D. Muñoz-Esparza, **J. K. Lundquist**, R. R. Linn, 2017. Nested Mesoscale-to-LES Modeling of the Atmospheric Boundary Layer in the Presence of Under-Resolved Convective Structures. *Journal of Advances in Modeling Earth Systems*, 9, 1795-1810. doi: 10.1002/2017MS000912.
63. Worsnop★, R., **J. K. Lundquist**, G. H. Bryan, R. Damiani, W. Musial. 2017. Gusts and Shear Within Hurricane Eyewalls Can Exceed Offshore Wind-Turbine Design Standards. *Geophysical Research Letters*, 44, doi:10.1002/2017GL073537.
62. Worsnop★, R., G. Bryan, **J. K. Lundquist**, and J. A. Zhang. 2017. Spectral and coherence characteristics of an LES-modeled hurricane boundary layer for wind energy applications. *Boundary-Layer Meteorology*. <http://dx.doi.org/10.1007/s10546-017-0266-x>
61. Lee★, J. C.-Y. and **J. K. Lundquist**. 2017. Observing and Simulating Wind Turbine Wakes During the Evening Transition. *Boundary-Layer Meteorology*. <https://doi.org/10.1007/s10546-017-0257-y>
60. Bianco, L., Friedrich, K., Wilczak, J. M., Hazen, D., Wolfe, D., Delgado, R., Oncley, S. P., and **Lundquist, J. K.**: Assessing the accuracy of microwave radiometers and radio acoustic sounding systems for wind energy applications, *Atmos. Meas. Tech.*, 10, 1707-1721, doi:10.5194/amt-10-1707-2017, 2017.
59. St. Martin★, C., **J. K. Lundquist**, G. S. Poulos, A. Clifton, and S. Schreck. 2017. Atmospheric turbulence affects wind turbine nacelle transfer functions, *Wind Energ. Sci.*, 2, 295-306, <https://doi.org/10.5194/wes-2-295-2017>, 2017.
58. Muñoz-Esparza, D., **Lundquist, J. K.**, Sauer, J. A., Kosović, B. and Linn, R. R. (2017), Coupled mesoscale-LES modeling of a diurnal cycle during the CWEX-13 field campaign: From weather to boundary-layer eddies. *J. Adv. Model. Earth Syst.*, 9, 1572–1594, doi:10.1002/2017MS000960.
57. Newsom, R. K., Brewer, W. A., Wilczak, J. M., Wolfe, D. E., Oncley, S. P., and **Lundquist, J. K.**: Validating precision estimates in horizontal wind measurements from a Doppler lidar, *Atmos. Meas. Tech.*, 10, 1229-1240, doi:10.5194/amt-10-1229-2017, 2017.
56. Debnath, M., Iungo, G. V., Brewer, W. A., Choukulkar, A., Delgado, R., Gunter, S., **Lundquist, J. K.**, Schroeder, J. L., Wilczak, J. M., and Wolfe, D.: Assessment of virtual towers performed with scanning wind lidars and Ka-band radars during the XPIA experiment, *Atmos. Meas. Tech.*, 10, 1215-1227, doi:10.5194/amt-10-1215-2017, 2017.
55. Debnath, M., Iungo, G. V., Ashton, R., Brewer, W. A., Choukulkar, A., Delgado, R., **Lundquist, J. K.**, Shaw, W. J., Wilczak, J. M., and Wolfe, D.: Vertical profiles of the 3-D wind velocity retrieved from multiple wind lidars performing triple range-height-indicator scans, *Atmos. Meas. Tech.*, 10, 431-444, doi:10.5194/amt-10-431-2017, 2017.

54. McCaffrey, K., Quelet, P. T., Choukulkar, A., Wilczak, J. M., Wolfe, D. E., Oncley, S. P., Brewer, W. A., Debnath, M., Ashton, R., Iungo, G. V., and **Lundquist, J. K.** 2017. Identification of tower-wake distortions using sonic anemometer and lidar measurements. *Atmos. Meas. Tech.*, 10, 393-407, doi:10.5194/amt-10-393-2017.
53. Choukulkar, A., Brewer, W. A., Sandberg, S. P., Weickmann, A., Bonin, T. A., Hardesty, R. M., **Lundquist, J. K.**, Delgado, R., Iungo, G. V., Ashton, R., Debnath, M., Bianco, L., Wilczak, J. M., Oncley, S., and Wolfe, D.: Evaluation of single and multiple Doppler lidar techniques to measure complex flow during the XPIA field campaign, *Atmos. Meas. Tech.*, 10, 247-264, doi:10.5194/amt-10-247-2017, 2017.
52. St. Martin★, C. **J. K. Lundquist**, G. S. Poulos, A. Clifton, and S. Schreck. 2016. Wind turbine power production and annual energy production depend on atmospheric stability and turbulence. *Wind Energy Science*, 1, 221-236, <https://www.wind-energ-sci.net/1/221/2016/>.
51. Bodini★, N., **J. K. Lundquist**, D. Zardi, and M. Handschy. 2016. Year-to-year correlation, record length, and overconfidence in wind resource assessment. *Wind Energy Science*. 1, 115-128, <https://www.wind-energ-sci.net/1/115/2016/>
50. Bryan, G. H., R. Worsnop★, **J. K. Lundquist**, and J. A. Zhang. 2017. A simple method for simulating tropical-cyclone boundary layers. *Boundary-Layer Meteorology*, 162(3), 475-502. <https://link.springer.com/article/10.1007/s10546-016-0207-0>
49. Vanderwende★, B., B. Kosovic, **J. K. Lundquist**, and J. Mirocha. 2016. Simulating effects of a wind turbine array using LES and RANS. *J. Adv. Model. Earth Syst.*, 8, 1376–1390, <https://agupubs.onlinelibrary.wiley.com/doi/full/10.1002/2016MS000652>
48. **Lundquist, J. K.**, and ~ 30 co-authors. Assessing state-of-the-art capabilities for probing the atmospheric boundary layer: the XPIA field campaign. *Bulletin of the American Meteorological Society*, **98**, 289-314. DOI: <http://dx.doi.org/10.1175/BAMS-D-15-00151.1>
47. Emanuel, K., F. Hoss, D. Keith, Z. Kuang, **J. K. Lundquist**, and L. Miller. 2016. Workshop on Climate Effects of Wind Turbines. *Bulletin of the American Meteorological Society*, 97, ES57-58.
46. Vanderwende★, B. and **J. K. Lundquist**. 2016. Could crop height impact the wind resource at agriculturally-productive wind farm sites? *Boundary-Layer Meteorology*, **158**, 409-428. <https://link.springer.com/article/10.1007/s10546-015-0102-0>
45. Mirocha, J. D., D. A. Rajewski, N. Marjanovic, **J. K. Lundquist**, B. Kosović, C. Draxl, and M. Churchfield. 2015. Investigating wind turbine impacts on near-wake flow using profiling lidar data and large-eddy simulations with an actuator disk model. *J. Renewable Sustainable Energy*. 7, 043143 (2015); <http://dx.doi.org/10.1063/1.4928873>
44. St. Martin★, C., M. A. Handschy, **J. K. Lundquist**. 2015. Reducing wind power variability by quantifying geographic diversity length scales. *Environmental Research Letters* **10** 044004 <http://iopscience.iop.org/article/10.1088/1748-9326/10/4/044004>



43. Vanderwende★, B., **J. K. Lundquist**, M. E. Rhodes, G. S. Takle, and S. I. Purdy. 2015. Observing and simulating the summertime low-level jet in central Iowa. *Monthly Weather Review*, **143**, 2319-2336. doi: <http://dx.doi.org/10.1175/MWR-D-14-00325.1>
42. Banta, R. M., Y. L. Pichugina, W. A. Brewer, **Julie K. Lundquist**, Neil D. Kelley, Scott P. Sandberg, Raul J. Alvarez II, R. Michael Hardesty, and Ann M. Weickmann. 2015. 3D Volumetric Analysis of Wind Turbine Wake Properties in the Atmosphere Using High-Resolution Doppler Lidar. *J. Atmos. Oceanic Technol.*, **32**, 904–914. doi: <http://dx.doi.org/10.1175/JTECH-D-14-00078.1>
41. **Lundquist, J. K.**, M. Churchfield, S. Lee, and A. Clifton. 2015. Quantifying error of lidar and sodar Doppler beam swinging measurements of wind turbine wakes using computational fluid dynamics. *Atmos. Meas. Tech.*, **8**, 907-920, 2015  
[www.atmos-meas-tech.net/8/907/2015/](http://www.atmos-meas-tech.net/8/907/2015/), doi:10.5194/amt-8-907-2015
40. **Lundquist, J. K.** and L. Bariteau. 2015. Dissipation of turbulence in the wake of a wind turbine. *Boundary-Layer Meteorology*, **154**, 229-241. doi:10.1007/s10546-014-9978-3
39. Aitken★, M. L., B. Kosovic, J. D. Mirocha, and **J. K. Lundquist**. 2014. Large eddy simulation of wind turbine wake dynamics in the stable boundary layer using the Weather Research and Forecasting Model. *J. Renewable and Sustainable Energy* **6**, 033137 (2014); <http://dx.doi.org/10.1063/1.4885111>
38. Aitken★, M. L. and **J. K. Lundquist**. 2014. Utility-Scale Wind Turbine Wake Characterization Using Nacelle-Based Long-Range Scanning Lidar. *J. Atmos. Oceanic Technol.*, **31**, 1529–1539. doi: <http://dx.doi.org/10.1175/JTECH-D-13-00218.1>
37. Rajewski, D., E. S. Takle, **J. K. Lundquist**, J. H. Prueger, R. Pfeiffer, J. L. Hatfield, K. K. Spoth, and R. K. Doorenbos. 2014. Changes in fluxes of heat, H<sub>2</sub>O, and CO<sub>2</sub> caused by a large wind farm. *Agricultural & Forest Meteorology* **194**, 175-187.  
[doi:10.1016/j.agrformet.2014.03.023](http://dx.doi.org/10.1016/j.agrformet.2014.03.023)
36. Aitken★, M. L., R. M. Banta, Y. L. Pichugina, and **Julie K. Lundquist**. 2014. Quantifying Wind Turbine Wake Characteristics from Scanning Remote Sensor Data. *J. Atmos. Oceanic Technol.*, **31**, 765–787. doi: <http://dx.doi.org/10.1175/JTECH-D-13-00104.1>
35. Mirocha, J., B. Kosovic, M. Aitken, and **J. K. Lundquist**. 2014. Implementation of a generalized actuator disk wind turbine model into WRF for large-eddy simulation applications. *J. Renewable Sustainable Energy* **6**, 013104 (2014); <http://dx.doi.org/10.1063/1.4861061>
34. Archer, C. L., B. A. Colle, L. Delle Monache, M. J. Dvorak, **J. K. Lundquist**, B. H. Bailey, P. Beaucage, M. J. Churchfield, A. C. Fitch, B. Kosovic, S. Lee, P. J. Moriarty, H. Simao, R. J. A. M. Stevens, D. Veron, and J. Zack. 2014. Meteorology for Coastal/Offshore Wind Energy in the United States: Recommendations and Research Needs for the Next 10 Years. *Bull. Amer. Meteor. Soc.*, **95**, 515–519. doi: <http://dx.doi.org/10.1175/BAMS-D-13-00108.1>
33. Rhodes★, M. E., and **J. K. Lundquist**. 2013. The Effect of Wind Turbine Wakes on Summertime Midwest Atmospheric Wind Profiles. *Boundary-Layer Meteorology* **149**, 85-103. doi:10.1007/s10546-013-9834-x



32. Hu, Xiao-Ming, Petra M. Klein, Ming Xue, **Julie K. Lundquist**, Fuqing Zhang, and Youcun Qi. 2013. Impact of Low-Level Jets on the Nocturnal Urban Heat Island Intensity in Oklahoma City. *J. Appl. Meteor. Climatol.*, **52**, 1779–1802. doi: <http://dx.doi.org/10.1175/JAMC-D-12-0256.1>
31. Clifton, A., L. Kilcher, **J. K. Lundquist**, and P. Fleming. 2013. Using machine-learning to predict wind turbine power output. *Environmental Research Letters*. 8 024009 doi:[10.1088/1748-9326/8/2/024009](http://dx.doi.org/10.1088/1748-9326/8/2/024009)
30. Fitch★, A. C., J. B. Olson, and **J. K. Lundquist**. 2013. Parameterization of Wind Farms in Climate Models. *J. Climate*, **26**, 6439–6458. doi: <http://dx.doi.org/10.1175/JCLI-D-12-00376.1>
29. Smalikho, I. N., V. A. Banakh, Y. L. Pichugina, W. A. Brewer, R. M. Banta, **J. K. Lundquist**, and N. D. Kelley. 2013. Lidar Investigation of Atmosphere Effect on a Wind Turbine Wake. *J. Atmos. Oceanic Technol.*, **30**, 2554–2570. doi: <http://dx.doi.org/10.1175/JTECH-D-12-00108.1>
28. Fitch, A. C., **J. K. Lundquist**, and J. B. Olson. 2013. Mesoscale Influences of Wind Farms throughout a Diurnal Cycle. *Mon. Wea. Rev.*, **141**, 2173–2198. doi: <http://dx.doi.org/10.1175/MWR-D-12-00185.1>.
27. Clifton, A., S. Schreck, D. Jager, N. Kelley, and **J. K. Lundquist**. 2013. Meteorological tower observations at the National Renewable Energy Laboratory. *Journal of Solar Energy Engineering*. **135**(3), 031017 doi: 10.1115/1.4024068, <http://solarenergyengineering.asmedigitalcollection.asme.org/article.aspx?articleid=1693339&resultClick=3>
26. Rajewski, D. A., E. S. Takle, **J. K. Lundquist**, S. Oncley, J. H. Prueger, T. W. Horst, M. E. Rhodes, R. Pfeiffer, J. L. Hatfield, K. K. Spoth, and R. K. Doorenbos. 2013. Crop Wind Energy Experiment (CWEX): Observations of Surface-Layer, Boundary Layer, and Mesoscale Interactions with a Wind Farm. *Bull. Amer. Meteor. Soc.*, **94**, 655–672. doi: <http://dx.doi.org/10.1175/BAMS-D-11-00240.1>
25. Vanderwende★, B. and **J. K. Lundquist**. 2012. The modification of wind turbine performance by statistically distinct atmospheric regimes. *Environmental Research Letters* 7 (2012) 034035 doi:[10.1088/1748-9326/7/3/034035](http://dx.doi.org/10.1088/1748-9326/7/3/034035)
24. Lundquist©, K. A., F. K. Chow, and **J. K. Lundquist**. 2012. An Immersed Boundary Method Enabling Large-Eddy Simulations of Flow over Complex Terrain in the WRF Model. *Mon. Wea. Rev.*, **140**, 3936–3955. doi: <http://dx.doi.org/10.1175/MWR-D-11-00311.1>
23. Clifton©, A. and **J. K. Lundquist**. 2012. Data Clustering Reveals Climate Impacts on Local Wind Phenomena. *J. Appl. Meteor. Climatol.*, **51**, 1547–1557. doi: <http://dx.doi.org/10.1175/JAMC-D-11-0227.1>
22. Fitch★, A. C., J. B. Olson, **J. K. Lundquist**, J. Dudhia, A. K. Gupta, J. Michalakes, and I. Barstad. 2012. Local and Mesoscale Impacts of Wind Farms as Parameterized in a Mesoscale NWP Model. *Mon. Wea. Rev.*, **140**, 3017–3038. doi: <http://dx.doi.org/10.1175/MWR-D-11-00352.1>

21. Aitken★, M., L., M. E. Rhodes, and **J. K. Lundquist**. 2012. Performance of a wind-profiling lidar in the region of wind turbine rotor disks. *Journal of Atmospheric and Oceanic Technology* **29**, 347-355. <http://dx.doi.org/10.1175/JTECH-D-11-00033.1>
20. Friedrich, K. **J. K. Lundquist**, E. Kalina, M. Aitken, and R. Marshall. 2012. Stability and Turbulence in the Atmospheric Boundary Layer: An Intercomparison of Remote Sensing and Tower Observations. *Geophys. Res. Lett.*, Vol. 39, No. 3, L03801, doi:10.1029/2011GL050413
19. Wharton©, S. and **J. K. Lundquist**. 2012b. Atmospheric Stability Affects Wind Turbine Power Collection. *Environ. Res. Lett.* **7** 014005 [doi:10.1088/1748-9326/7/1/014005](http://dx.doi.org/10.1088/1748-9326/7/1/014005)
18. Wharton©, S. and **J. K. Lundquist**. 2012a. Assessing atmospheric stability and its impacts on rotor-disk wind characteristics at an onshore wind farm. *Wind Energy*, **15**, 525–546, DOI: 10.1002/we.483
17. Maxwell, R. M., **J. K. Lundquist**, J. D. Mirocha, S. G. Smith, C. S. Woodward, and A. F. B. Tompson. 2011. Development of a Coupled Groundwater–Atmosphere Model. *Mon. Wea. Rev.*, **139**, 96–116. doi: <http://dx.doi.org/10.1175/2010MWR3392.1>
16. Mirocha, J.D., **J. K. Lundquist**, and B. Kosović. 2010. Implementation of a Nonlinear Subfilter Turbulence Stress Model for Large-Eddy Simulation in the Advanced Research WRF Model. *Mon. Wea. Rev.*, **138**, 4212–4228. doi: <http://dx.doi.org/10.1175/2010MWR3286.1>
15. Lundquist★, K. A., F. K. Chow, and **J. K. Lundquist**. 2010. An Immersed Boundary Method for the Weather Research and Forecasting Model. *Mon. Wea. Rev.*, **138**, 796–817. doi: <http://dx.doi.org/10.1175/2009MWR2990.1>
14. Shaw, W. J., **J. K. Lundquist**, and S. J. Schreck. 2009. Research Needs For Wind Resource Characterization. *Bull. Amer. Meteor. Soc.*, **90**, 535–538. doi: <http://dx.doi.org/10.1175/2008BAMS2729.1>
13. White, J. M., J. F. Bowers, S. R. Hanna, and **J. K. Lundquist**. 2009. Importance of Using Observations of Mixing Depths in order to Avoid Large Prediction Errors by a Transport and Dispersion Model. *J. Atmos. Oceanic Technol.*, **26**, 22–32. doi: <http://dx.doi.org/10.1175/2008JTECHA1134.1>
12. Delle Monache, L., **J. K. Lundquist**, B. Kosović, G. Johannesson, K. M. Dyer, R. D. Aines, F. K. Chow, R. D. Belles, W. G. Hanley, S. C. Larsen, G. A. Loosmore, J. J. Nitao, G. A. Sugiyama, and P. J. Vogt. 2008. Bayesian Inference and Markov Chain Monte Carlo Sampling to Reconstruct a Contaminant Source on a Continental Scale. *J. Appl. Meteor. Climatol.*, **47**, 2600–2613. doi: <http://dx.doi.org/10.1175/2008JAMC1766.1>
11. Teixeira, J., B. Stevens, C. S. Bretherton, R. Cederwall, S. A. Klein, **J. K. Lundquist**, J. D. Doyle, J. C. Golaz, A. A. M. Holtslag, D. A. Randall, A. P. Siebesma, and P. M. M. Soares. 2008. Parameterization of the Atmospheric Boundary Layer: A View from Just Above the Inversion. *Bull. Amer. Meteor. Soc.*, **89**, 453–458. doi: <http://dx.doi.org/10.1175/BAMS-89-4-453>

10. **Lundquist, J. K.** and J. D. Mirocha. 2008. Interaction of Nocturnal Low-Level Jets with Urban Geometries as Seen in Joint Urban 2003 Data. *J. Appl. Meteor. Climatol.*, **47**, 44–58. doi: <http://dx.doi.org/10.1175/2007JAMC1581.1>
9. **Lundquist, Julie K.** and Stevens T. Chan. 2007. Consequences of Urban Stability Conditions for Computational Fluid Dynamics Simulations of Urban Dispersion. *J. Appl. Meteor. Climatol.*, **46**, 1080–1097. doi: <http://dx.doi.org/10.1175/JAM2514.1>
8. Simpson, M., S. Raman, **J. K. Lundquist**, M. Leach. 2007. A study of the variation of urban mixed layer heights. *Atmospheric Environment* **41**, 6923-6930. doi:10.1016/j.atmosenv.2006.08.029
7. Beare, R. J., M. K. MacVean, A. A. M. Holtslag, J. Cuxart, I. Esau, J. C. Golaz, M. A. Jimenez, M. Khairoutdinov, B. Kosovic, D. Lewellen, T. S. Lund, **J. K. Lundquist**, A. McCabe, A. F. Moene, Y. Noh, S. Raasch, and P. Sullivan. 2006. An intercomparison of large-eddy simulations of the stable boundary layer. *Boundary-Layer Meteorology* **118** (2), 247-272. doi:10.1007/s10546-004-2820-6
6. Piper, M. and **J. K. Lundquist**. 2004. Surface Layer Turbulence Measurements during a Frontal Passage. *J. Atmos. Sci.*, **61**, 1768–1780. doi: [http://dx.doi.org/10.1175/1520-0469\(2004\)061<1768:SLTMDA>2.0.CO;2](http://dx.doi.org/10.1175/1520-0469(2004)061<1768:SLTMDA>2.0.CO;2)
5. **Lundquist, J. K.** 2003. Intermittent and elliptical inertial oscillations in the atmospheric boundary layer. *Journal of the Atmospheric Sciences* **60** (21), 2661-2673.
4. Poulos, G. S., W. Blumen, D. C. Fritts, **J. K. Lundquist**, J. Sun, S. P. Burns, C. Nappo, R. Banta, R. Newsom, J. Cuxart, E. Terradellas, B. Balsley, and M. Jensen. 2002. CASES-99: A comprehensive investigation of the stable nocturnal boundary layer. *Bulletin of the American Meteorological Society* **83** (4), 555-581.
3. Banta, R. M., R. K. Newsom, **J. K. Lundquist**, Y. L. Pichugina, R. L. Coulter, and L. Mahrt. 2002. Nocturnal low-level jet characteristics over Kansas during CASES-99. *Boundary-Layer Meteorology* **105** (2), 221-252.
2. Blumen, W., and **J. K. Lundquist**. 2001. Spin-up and spin-down in rotating fluid exhibiting inertial oscillations and frontogenesis. *Dynamics of Atmospheres and Oceans* **33** (3), 219-237.
1. LeMone, M. A., R. L. Grossman, R. L. Coulter, M. L. Wesley, G. E. Klazura, G. S. Poulos, W. Blumen, **J. K. Lundquist**, R. H. Cuenca, S. F. Kelly, E. A. Brandes, S. P. Oncley, R. T. McMillen, and B. B. Hicks. 2000. Land-atmosphere interaction research, early results, and opportunities in the Walnut River Watershed in southeast Kansas: CASES and ABLE. *Bulletin of the American Meteorological Society* **81** (4), 757-779.

PUBLICATIONS IN REVIEW:

★ Denotes first authors who are students supervised by J. K. Lundquist

95. Gasch, P. A. Wieser, **J. K. Lundquist**, N. Kalthoff, 2020. An LES-based airborne Doppler lidar simulator for investigation of wind profiling in inhomogeneous flow conditions. In review at *Atmospheric Measurement Techniques*.
96. Englberger, A., A. Dörnback, and **J. K. Lundquist**, 2020, Does the rotational direction of a wind turbine impact the wake in a stably stratified atmospheric boundary layer? In review at *Wind Energy Science*.
97. Luchetti, N. T., K. Friedrich, C. E. Rodell, and **J. K. Lundquist**, 2020, Characterizing Thunderstorm Gust Fronts Near Complex Terrain. In review at *Monthly Weather Review*.
98. Tomaszewski★, J. M., and **J. K. Lundquist**, 2020, Simulated wind farm wake sensitivity to configuration choices in the Weather Research and Forecasting model version 3.8.1. In review at *Geoscientific Model Development*.
99. Murphy★, P., **Lundquist, J. K.**, Fleming, P., 2020, How wind speed shear and directional veer affect the power production of a megawatt-scale operational wind turbine. In review at *Wind Energy Science*.
100. Fleming, P., J. King, E. Simley, J. Roadman, A. Scholbrock, P. Murphy, **J. K. Lundquist**, P. Moriarty, K. Fleming, J. van Dam, C. Bay, R. Mudafort, J. Skopek, M. Schott, B. Ryan, C. Guernsey, and D. Brake, 2020, Continued Results from a Field Campaign of Wake Steering Applied at a Commercial Wind Farm: Part 2. In review at *Wind Energy Science*.
101. Englberger, A., A. Dörnback, and **J. K. Lundquist**, 2020, Should wind turbines rotate in the opposite direction? In review at *Wind Energy Science*.
102. Bodini★, N., **J. K. Lundquist**, and M. Optis, 2020, Can machine learning improve the model representation of TKE dissipation rate in the boundary layer for complex terrain? In review at *Geoscientific Model Development*.

#### PUBLICATIONS IN PREPARATION:

★ Denotes first authors who are students supervised by J. K. Lundquist

103. Bariteau, L., **J. K. Lundquist**, et al., 2020. Turbulence measurements from the TLS during Perdigao: Overview, Results, and Future Capabilities, in preparation for submission to *Atmospheric Measurement Techniques*.
104. Draxl, C., **J. K. Lundquist**, and co-authors, 2020, Mountain waves affect wind turbine power production, in preparation for submission to *Wind Energy Science*.
105. Menke, R., **J. K. Lundquist**, and co-authors, 2020, Stability metrics in complex terrain, in preparation for submission to *Atmospheric Chemistry and Physics*.
106. Redfern★, S., **J. K. Lundquist**, and co-authors, 2020, Boundary-layer meteorology affects smoke penetration into the stratosphere, in preparation for submission to *Journal Geophysical Research - Atmospheres*.

107. Tomaszewski★, J. and **J. K. Lundquist**, 2020, Wind farm affects thunderstorm outflow, in preparation for submission to *Wind Energy Science*.

108. Rybchuk★, O. , **J. K. Lundquist**, C. Alden, and G. Reiker, 2020, Validation of near-surface dispersion simulation of WRF-LES with Project Prairie Grass data. In preparation for *Journal of Applied Meteorology and Climatology*.

109. Rybchuk★, O. , **J. K. Lundquist**, and M. Optis, 2020, New Wind Toolkit. In preparation for *Applied Energy*.

110. Redfern★, S., **J. K. Lundquist**, and co-authors, 2020, Importance of mid-level moisture to development of pyrocumulus clouds. In preparation for *Monthly Weather Review*.

### PEER-REVIEWED CONFERENCE PRESENTATIONS

1. Barthelmie, R. J., M. J. Churchfield, P. J. Moriarty, **J. K. Lundquist**, G. S. Oxley, S. Hahn and S. C. Pryor. 2015. The role of atmospheric stability/turbulence on wakes at the Egmond aan Zee offshore wind farm. *J. Phys.: Conf. Ser.* **625** 012002 [doi:10.1088/1742-6596/625/1/012002](https://doi.org/10.1088/1742-6596/625/1/012002)

2. Takle E.S., Rajewski D.A., **Lundquist J.K.**, W. A. Gallus, Jr., and A. Sharma. 2014. Measurements in support of wind farm simulations and power forecasts: The Crop/Wind-energy Experiments (CWEX). *J. Phys.: Conf. Ser.* **524** 012174. doi: 10.1088/1742-6596/524/1/012174

3. Vollmer, L., Lee J. C.-Y. Steinfeld G., **Lundquist J. K.** 2017. A wind turbine wake in changing atmospheric conditions: LES and lidar measurements. *J. Phys.: Conf. Ser.* **854** 012050. doi: <http://iopscience.iop.org/article/10.1088/1742-6596/854/1/012050/pdf>

4. Lee, J. C.-Y., M. J. Fields, **J. K. Lundquist**, 2018. Determining variabilities of non-Gaussian wind-speed distributions using different metrics and time scales. *J. Phys.: Conf. Ser.*

5. Bodini., , **J. K. Lundquist**, 2019. NAWEA (link pending)

6. Englberger, **JK Lundquist** 2019. NAWEA (link pending)

### TECHNICAL REPORTS (INTERNAL LABORATORY PEER-REVIEWED):

★ Denotes authors who were students supervised by J. K. Lundquist

© Denotes authors who were postdoctoral researchers supervised by J. K. Lundquist

1. Nitao★, E.L., **J. K. Lundquist**, and G. A. Loosmore. 2003. A Parameterization of Intermittent Turbulence in the Stable Boundary Layer. LLNL Technical report UCRL-LR-155053. <http://www.llnl.gov/tid/lof/documents/pdf/243506.pdf> (student first author)

2. **Lundquist, J. K.**, B. Kosovic, and R. Belles. 2005. Synthetic Event Reconstruction Experiments for Defining Sensor Network Characteristics. LLNL Technical report, UCRL-TR-217762 <http://www.llnl.gov/tid/lof/documents/pdf/328798.pdf>

3. Blonski, S., J. Berglund, J. P. Spruce, D. Holland, R. McKellip, M. Jasinski, J. Borak, and **J. K. Lundquist**. 2006. Evaluation of a Potential for Enhancing the Decision Support System of the Interagency Modeling and Atmospheric Assessment Center with NASA Earth Science Research Results. LLNL Technical report UCRL-TR-227657
4. Kosovic, B., Belles, R., Chow, F.K., Delle Monache, L., Dyer, K., Glascoe, L., Hanley, W., Johannesson, G., Larsen, S., Loosmore, G., **Lundquist, J.K.**, Nitao, J., Neuman, S., Mirin, A., Serban, R., Sugiyama, G., Aines, R. 2007. Dynamic Data-Driven Event Reconstruction for Atmospheric Releases. LLNL Technical report UCRL-TR-229417.
5. Schreck, S., **J. K. Lundquist**, W. Shaw. 2008. DOE Workshop Report: Research Needs for Wind Resource Characterization. NREL Technical Report NREL/TP-500-43521.
6. **Lundquist, J. K.**, 2008. Director's Climate Initiative Wind Energy SMS Task – 2008 Report. LLNL Technical Report LLNL-TR-407754.
7. Mirocha, J. D., **J. K. Lundquist**, F. K. Chow, B. Kosovic. 2008. Description of new LES subfilter turbulence models implemented into WRF ARW V3.0.1 LLNL Technical Report LLNL-TR-408080.
8. Singer, M., **J. K. Lundquist**, and J. Cleve. 2009. Modeling Wind Turbine Wakes. LLNL Technical Report LLNL-TR-416192.
9. Wharton©, S., **J. K. Lundquist**. 2010. Atmospheric Stability Impacts on Power Curves of Tall Wind Turbines – An Analysis of a West Coast North American Wind Farm. LLNL Technical Report LLNL-TR-424435, available at <https://e-reports-ext.llnl.gov/pdf/387609.pdf> (first author post-doc)
10. Wharton©, S., **J. K. Lundquist**, N. Marjanovic, J. L. Williams, M. Rhodes, T. K. Chow, R. Maxwell. 2011. Review of Wind Energy Forecasting Methods for Modeling Ramping Events. LLNL Technical Report LLNL-TR-476934, available at <https://e-reports-ext.llnl.gov/pdf/480829.pdf>.
11. Clifton©, A. J., S. Schreck, G. Scott, N. Kelly, and J. Lundquist. 2012. Turbine Inflow Characterization at the National Wind Technology Center. NREL Conference Paper NREL/CP-5000-53525, available at <http://www.nrel.gov/docs/fy12osti/53525.pdf>.
12. **Lundquist, J. K.**, A. Purkayastha, C. St. Martin, and R. Newsom. 2014. Estimating the Wind Resource in Uttarakhand: Comparison of Dynamic Downscaling with Doppler Lidar Wind Measurements. National Renewable Energy Laboratory. NREL/TP-5000-61103. March 2014. Available at <http://www.nrel.gov/docs/fy14osti/61103.pdf>.
13. Clifton, A., M. Boquet, E. B. Des Roziers, A. Westerhellweg, M. Hofsäß, T. Klaas, K. Vogstad, P. Clive, M. Harris, S. Wylie, E. Osler, B. Banta, A. Choukulkar, **J. Lundquist**, M. Aitken, 2015. Remote Sensing of Complex Flows by Doppler Wind Lidar: Issues and Preliminary Recommendations. NREL/TP-5000-64634. International Energy Agency Task WE15.3G30
14. **Lundquist, J. K.**, J. C.-Y. Lee, C. Draxl, P. Moriarty, 2016. Can Wind Farms in Inner Mongolia Affect the Air Quality in Beijing? NREL/OT-5000-65925. February 2016.

15. **Lundquist, J. K.**, A. Clifton, S. Dana, A. Huskey, P. Moriarty, J. van Dam, T. Herges, 2019. Wind Energy Instrumentation Atlas. NREL/TP-5000-68966. May 2019.

<https://www.nrel.gov/docs/fy19osti/68986.pdf>

16. Draxl, C., L. K. Berg, L. Bianco, T. A. Bonin, A. Choukulkar, A. Clifton, J. W. Cline, I. V. Djalalova, V. Ghate, E. P. Gritmit, K. Holub, J. S. Kenyon, K. Lantz, C. Long, **J. K. Lundquist**, J. McCaa, K. McCaffrey, J. F. Newman, J. B. Olson, Y. Pichugina, J. Sharp, W. J. Shaw, N. H. Smith, and M. D. Toy. 2019. The Verification and Validation Strategy Within the Second Wind Forecast Improvement Project (WFIP 2). Golden, CO: National Renewable Energy Laboratory. NREL/TP-5000-72553. <https://www.nrel.gov/docs/fy20osti/72553.pdf>.

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## INVITED PRESENTATIONS

**2019** University of Massachusetts Amherst Wind Energy Fellows seminar, “Challenges and Opportunities in Offshore Wind Energy: Hurricanes and Wind Plant Wakes,” Amherst, Massachusetts

**2018** University of Trento (Italy) seminar, “Simulations and Observations of Wind Turbine Wakes” Trento, Italy

**2018** Karlsruhe Institute of Technology (Garmisch campus) “Simulations and Observations of Wind Turbine Wakes” Garmisch-Partenkirchen, Germany

**2018** Karlsruhe Institute of Technology seminar, “Simulations and Observations of Wind Turbine Wakes”, Karlsruhe, Germany

**2018** Deutsches Zentrum für Luft- und Raumfahrt Institut für Physik der Atmosphäre seminar, “Climate Change Impacts on Wind Energy”, Oberpfaffenhoven, Germany

**2018** Deutsches Zentrum für Luft- und Raumfahrt Institut für Physik der Atmosphäre seminar, “Downwind Impacts of Wind Energy”, Oberpfaffenhoven, Germany

**2018** Ludwig Maximilians Universität München Meteorological Colloquium, “Downwind Impacts of Wind Energy”, Munich, Germany

**2018** Danish Technical University, colloquium, “Costs and consequences of wind turbine wake effects arising from uncoordinated wind energy development,” Roskilde, Denmark

**2018** Iowa State University, colloquium, “Gusts and shear within hurricane eyewalls can exceed offshore wind turbine design standards,” Ames, Iowa (webinar)

**2018** American Meteorological Society Mountain Meteorology Conference, invited presentation, “Challenges in simulating boundary layers & turbulence in complex terrain: insights from recent field experiments,” Santa Fe, New Mexico

**2018** Utility Variable Integration Group, Forecasting workshop, invited presentation, “Climate change impacts on wind energy,” St. Paul, Minnesota



- 2018** International Offshore Wind Partnering Forum, two invited presentations, “Gusts and shear within hurricane eyewalls can exceed offshore wind turbine design standards” and “Wakes of offshore wind farms from observations and simulations,” Princeton, New Jersey
- 2017** WindTech 2017 Conference invited keynote presentation, “Unprecedented Observations of Complex Terrain Influences on Wind Resources and Wind Turbine Wakes: An Overview of the Perdigo Field Campaign”, Boulder, Colorado
- 2017** National Weather Center, University of Oklahoma, colloquium, “Measurements and Simulations of Wind Farm Wakes”, Norman, Oklahoma
- 2017** WindFARMS 2017: Invited presentation at special session at Wind Energy Science Conference, “Measurements and Simulations of Wind Farm Wakes”, Roskilde, Denmark
- 2016** NORCOWE 2016: Norwegian Center for Offshore Wind Energy, “Downwind Impacts of Wind Energy: Measurements and Simulations of Wakes”, Bergen, Norway
- 2016** WINDFARMS 2016: International colloquium on wind-power plants at the University of Texas at Dallas, “Downwind Impacts of Wind Energy: Measurements of Wakes”, Richardson, Texas
- 2016** University California at Berkeley, February 2016, “Downwind Impacts of Wind Energy: Measurements of Wakes”, Berkeley, California
- 2015** Texas Tech University, November 2015, “Downwind Impacts of Wind Energy: Measurements of Wakes”, Lubbock, Texas
- 2015** Princeton University, October 2015, “Downwind Impacts of Wind Energy: Measurements of Wakes”, Princeton, New Jersey
- 2015** NREL Seminar, June 2015, “Downwind Impacts of Wind Energy: Measurements of Wakes”, Boulder, Colorado
- 2015** NORCOWE Offshore Wind Energy Work Package Meeting, May 2015, “Downwind Impacts of Wind Energy: Measurements of Wakes”, Stavanger, Norway
- 2015** University of Iowa, April 2015, “Downwind Impacts of Wind Energy: Measurements and Simulations of Wakes”, Iowa City, Iowa
- 2015** Los Alamos National Laboratory, April 2015, “Assessing Impacts of Wind Turbines and Wind Farms”, Los Alamos, NM
- 2014** Women of Wind Energy Colorado meeting, April 2014, “Downwind Impacts of Wind Energy: Measurements and Simulations of Wakes”, Boulder, Colorado
- 2013** University of Colorado at Boulder, August 2013, “Influences of wind farms on regional and global climates”, Boulder Fluids seminar series
- 2013** University of Rijeka: “Atmospheric Impacts of Wind Energy: Observations and Simulations”, Rijeka, Croatia, July 2013



- 2013** Iowa State University: “Atmospheric Impacts of Wind Energy: Observations and Simulations”, Invited seminar for NSF Research Experiences for Undergraduates Seminar Series, July 2013
- 2013** International Energy Agency Wind Annex 32: LIDAR: “Computational method for quantifying lidar error in complex flows”, National Renewable Energy Laboratory, May 2013
- 2013** International Energy Agency Wind Annex 32: LIDAR: “Profiles through the turbine rotor disk and power curve variability”, National Renewable Energy Laboratory, May 2013
- 2013** University of Delaware, Newark, Delaware: “Measurements and Modeling of Wind Turbine Wakes”, February 2013
- 2012** Portland State University, Portland, Oregon: “Impacts of Wind Energy: Observations and Simulations of Wind Turbine Wakes”, November 2012
- 2012** Offshore Renewable Energy Conference 2012, Marina Bay Sands, Singapore: “Optimization of Marine Wind Farm Layout Based On Wind Turbine Wake Variability with Atmospheric Stability,” October 2012
- 2012** Nanyang Technological University, Singapore: “Addressing energy and air quality challenges with boundary-layer meteorology: modeling and observational studies,” October 2012
- 2012** The Academy for Lifelong Learning: “Harvesting the Wind: Surprising Impacts at Ground Level in Boulder,” October 2012
- 2012** Risø/Danish Technical University: “Atmospheric Impacts of Wind Energy: Observations and Simulations,” May 2012
- 2012** World Renewable Energy Forum: “Recent advances and challenging opportunities in wind forecasting”, May 2012
- 2012** University of Colorado at Boulder Dept. of Atmospheric and Oceanic Sciences: “Atmospheric Impacts of Wind Energy: Observations and Simulations”, April 2012
- 2012** Texas Tech University: “Atmospheric Stability Affects Wind Turbine Power Collection,” March 2012
- 2012** University of Colorado at Boulder Energy Club (student group): “Harvesting the Wind: Wind Energy and Atmospheric Dynamics”, February 2012
- 2011** American Wind Energy Association Wind Resource and Project Energy Assessment Workshop: “Observations of Wind Turbine Wakes”, December 2011
- 2011** Harvard, School of Engineering and Applied Sciences: “Harvesting the Wind: Wind Energy and Atmospheric Dynamics”, October 2011
- 2011** Siemens Energy, Inc.: “Turbine Wake and Inflow Characterization Study”, September 2011
- 2011** Alliance for Sustainable Energy Science and Technology Committee, September 2011

- 2011** Colorado Research and Education in Wind (CREW) Annual Meeting: “Turbine Wake and Inflow Characterization Study”, August 2011
- 2011** National Renewable Energy Laboratory: “Early Results from the Turbine Wake and Inflow Characterization Study”, July 2011
- 2011** Iowa State University: “Harvesting the Wind”, Invited seminar for NSF REU seminar series, July 2011
- 2011** Los Alamos National Laboratory “Frontiers in Geosciences” Invited Seminar Series: “Harvesting the Wind”, June 2011
- 2011** University of Wisconsin at Madison’s Nelson Institute for Environmental Studies Weston Roundtable Series: “Harvesting the Wind: Making Wind Energy Work with Meteorological Insight”, <http://www.sage.wisc.edu/weston/index.html>, May 2011
- 2011** Los Alamos National Laboratory “Aerodynamic Modeling Overview: An Atmospheric Science Perspective” <http://institute.lanl.gov/ei/annual-workshops/>, March 2011
- 2011** Vestas: “Meteorological Impacts on Wind Turbine Productivity”, January 2011
- 2010** Geological Society of America’s Workshop on “Teaching About Energy in Geoscience Courses: Current Research and Pedagogy”: “Harnessing the wind: Recent Developments in Wind Energy,” 30 October 2010
- 2010** University of Colorado at Boulder Dept. of Atmospheric and Oceanic Sciences: “Harnessing the Wind,” 22 October 2010
- 2010** High-Performance Computing at NREL ’10 Workshop, Golden, Colorado: “Expanding Wind Energy with Atmospheric Simulations,” 7 October 2010
- 2010** American Wind Energy Association’s Wind Resource and Project Energy Assessment Workshop, Oklahoma City, Oklahoma: “Nesting large-eddy simulations within mesoscale simulations in WRF for wind energy applications,” 14 September 2010
- 2010** American Meteorological Society’s Boundary Layers and Turbulence Committee’s Short Course on Wind Energy, Keystone, Colorado: “Observational Needs for Wind Resource Assessment and Forecasting,” 1 August 2010
- 2010** 5<sup>th</sup> International Symposium on Computational Wind Engineering, Chapel Hill, North Carolina: “Nesting large-eddy simulations within mesoscale simulations in WRF for wind energy applications,” May 2010
- 2010** National Center for Atmospheric Research, Wind Energy Research and Development Workshop: “Impact of boundary layer stability and turbulence on power generation,” May 2010
- 2010** University of Colorado at Boulder, Center for Research and Education in Wind: “Harnessing the Power of the Wind,” 26 April 2010
- 2010** Iberdrola Renewables, Inc., Portland, Oregon: “High-Resolution Atmospheric Modeling for Wind Energy Applications,” 22 April 2010

- 2010** Trinity University, Physics Department: “Harnessing the Power of the Wind,” 22 March 2010
- 2010** University of Colorado at Boulder, Renewable and Sustainable Energy Institute: “Harnessing the Power of the Wind,” 12 March 2010:  
[http://rasei.colorado.edu/index.php?id=320&pid=320&page=Past\\_Events\\_Presentations\\_and\\_Videotapes&parent=135](http://rasei.colorado.edu/index.php?id=320&pid=320&page=Past_Events_Presentations_and_Videotapes&parent=135)
- 2010** Harvey Mudd College, 2010 HMC Mathematics Conference on the Mathematics of Environmental Sustainability and Green Technology: “Harnessing the Power of the Wind”:  
<http://www.math.hmc.edu/conferences/2010/#speakers>, 30 Jan 2010
- 2009** International Energy Agency Topical Experts Meeting 59, Remote Wind Speed Sensing Techniques Using SODAR and LIDAR: “SODAR Insights on Wind Turbine Power Curves”, National Renewable Energy Laboratory, October 2009
- 2009** University of Minnesota, St. Anthony Falls Laboratory seminar: “Enabling the expansion of wind energy with atmospheric science,” September 2009
- 2009** University of Colorado at Boulder, Department of Atmospheric and Oceanic Sciences seminar: “Enabling the expansion of wind energy with atmospheric science,” March 2009
- 2009** Science on Saturday, Livermore, California: “It’s a Breeze: Using the Wind to Power Our Future”. Science outreach talk to 1000 middle-school and high-school students, February 2009
- 2008** Siemens Wind Power A/S, Brande, Denmark: “Wind Energy Forecasting with the WRF model,” November 2008
- 2008** University of California, Berkeley, East Bay Economic Development Alliance: presentation to visiting Vestas executives
- 2008** University of California, San Diego, Mechanical and Aerospace Engineering Fluids and Combustion Seminar: “Applications of mesoscale numerical weather prediction models to regions with urban and complex terrain,” 8 Feb 2008
- 2007** California Air Resources Board Chair’s Air Pollution Seminar Series: “What Have Urban Experiments Taught Us About Atmospheric Flow and Transport? (Urban Flow and Transport Model Development and Evaluation with Field Experiments),” 15 Aug 2007
- 2005** Atmospheric Sciences Research Center, SUNY-Albany, February 2005
- 2003** University of California at Davis Atmospheric Sciences Seminar Series, October 2003
- 2003** Stanford Environmental Fluid Mechanics Laboratory, March 2003
- 2003** Naval Research Laboratory – Monterey, March 2003
- 2002** Army Research Laboratory, March 2002
- 2002** Pacific Northwest National Laboratory Atmospheric Science Division, January 2002

## MEDIA COVERAGE

- 2018 Science Friday, <https://www.sciencefriday.com/person/julie-lundquist/>
- 2017 PBS Newshour, <http://www.pbs.org/newshour/rundown/offshore-wind-turbines-cant-handle-toughest-hurricanes/>
- 2017 ECO RI News, <https://www.ecori.org/renewable-energy/2017/6/19/f67z kf5j6gibfqsjztjcb8qcw0e5z3>
- 2017 EOS, <https://eos.org/research-spotlights/offshore-wind-turbines-cant-yet-withstand-category-5-hurricanes>
- 2015 The Guardian (UK), <http://www.theguardian.com/environment/2015/may/25/weatherwatch-wind-turbines-research>
- 2015 How on Earth (KGNU public radio science show), <http://howonearthradio.org/archives/tag/julie-lundquist>
- 2015 KUNC (public radio), <http://www.kunc.org/post/cu-research-could-improve-wind-power-better-forecasting/>
- 2015 Boulder Daily Camera, [http://www.dailycamera.com/top-stories/ci\\_27340135/cu-boulder-partners-study-boost-forecasting-wind-energy](http://www.dailycamera.com/top-stories/ci_27340135/cu-boulder-partners-study-boost-forecasting-wind-energy)
- 2015 Inside Science, <http://www.insidescience.org/content/planting-soybeans-instead-corn-below-wind-turbines-could-boost-power-generation/2426>
- 2011 KQED, <http://blogs.kqed.org/climatewatch/2011/12/09/build-a-better-wind-farm-and-watts-will-beat-a-path-to-your-door/>
- 2011 National Geographic, <http://news.nationalgeographic.com/news/energy/2011/12/111219-wind-turbines-help-crops-on-farms/>
- 2011 American Geophysical Union Press Conference, 12/8/2011, available at [http://www.youtube.com/watch?v=8zr\\_I5mB2yM](http://www.youtube.com/watch?v=8zr_I5mB2yM)
- 2011 Wired, 8/2011, “10 Award-Winning Scientific Simulation Videos”, available at <http://www.wired.com/wiredscience/2011/08/science-simulation-videos/?pid=1748>
- 2011 Colorado Public Radio, 5/18/2011, “Wind Turbine Study” by Jonathan Brown, available at <http://atoc.colorado.edu/~jlundqui/110518WindTurbineStudy.mp3>
- 2011 KDVR, 5/10/2011, “Colorado researchers trying to build a better wind farm”, available at <http://www.kdvr.com/news/kdvr-colo-researchers-trying-to-improve-wind-energy-efficiency-20110510.0,2952136.story>

**2010** Climate Central, 12/21/2010 “Climate in Context: Midwestern Wind Turbines Keep Fresh Breeze Over Nearby Crops” <http://www.climatecentral.org/blog/midwestern-wind-turbines-keep-fresh-breeze-over-nearby-crops/>

**2010** US News and World Report, 12/20/2010 “Wind Turbines on Farmland May Benefit Crops” <http://www.usnews.com/science/articles/2010/12/20/wind-turbines-on-farmland-may-benefit-crops>

**2010** Daily Camera, 12/16/2010 “CU-Boulder, DOE: Wind turbines may benefit crops” [http://www.dailycamera.com/hike-of-the-week/ci\\_16874965](http://www.dailycamera.com/hike-of-the-week/ci_16874965)

**2010** North American Windpower, November 2010 Cover Article “Underperformance Issues Deserve Fresh Examination”

**2009** San Francisco Chronicle, page A1, 1 February 2009 “Many of nation's green leaders from Bay Area”, <http://www.sfgate.com/cgi-bin/article.cgi?f=/c/a/2009/02/01/MNPB15EL62.DTL&hw=lundquist&sn=002&sc=948>

**2009** Innovation, April/May 2009 “For wind energy you need wind”, <http://www.innovation-america.org/index.php?articleID=531>

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## CONFERENCE PRESENTATIONS AND PREPRINTS (presenter underlined):

★ Denotes authors who were students supervised by J. K. Lundquist

◎ Denotes authors who were postdoctoral researchers supervised by J. K. Lundquist

200. 2019 AGU: invited poster + invited Jessica + Stephanie

199. 2019 NAWEA: two talks + Jessica + Miguel

198. ICAM: three talks + Nicola

197. UVIG Lundquist talk: <https://www.esig.energy/resources/2018-forecasting-workshop/>

196. Mountain Met 2018: Bodini talk, Menke talk, Lundquist invited talk,

9.3A Variability of Turbulence Dissipation Rate in Complex Terrain: the Perdigão 2017 Field Campaign Nicola Bodini, Univ. of Colorado, Boulder, CO; and R. Menke, L. Bariteau, and J. K. Lundquist

9.2A Characterisation of Recirculation Zones in Complex Terrain Using Multi-Lidar Measurements Robert Menke, Technical Univ. of Denmark, Roskilde, Denmark; and N. Vasiljević, J. Mann, and J. K. Lundquist

9.1 Challenges in Simulating Boundary Layers and Turbulence in Complex Terrain: Insights from Recent Field Experiments Julie K. Lundquist, Univ. of Colorado, Boulder, CO, <https://ams.confex.com/ams/18Mountain/meetingapp.cgi/Paper/346214>

195. BLT 2018: Plunkett poster, Murphy poster, Redfern poster, Tomaszewski poster, Olson talk, Siedersleben talk, Tomaszewski talk, Muñoz-Esparza talk, Bodini talk, Mazzaro talk, Redfern talk,

195. IWP invited talk

194. Worsnop★, R., M. Scheuerer, T. M. Hamill, **J. K. Lundquist**, Generating Wind Power Scenarios for Probabilistic Ramp Event Prediction Using Multivariate Statistical Post-Processing, American Meteorological Society Annual Meeting, Austin, TX, 7-12 January 2018. <https://ams.confex.com/ams/98Annual/webprogram/Paper335505.html>

193. Lee★, Joseph C.-Y., M. J. Field, **J. K. Lundquist**, Evaluating the Methodology of Assessing Interannual Variability of Wind Speed, American Meteorological Society Annual Meeting, Austin, TX, 7-12 January 2018. <https://ams.confex.com/ams/98Annual/webprogram/Paper325399.html>

192. Tomaszewski★, J.M., **J. K. Lundquist**, D. T. Kaffine, K. K. DuVivier, and C. Wilden, Quantifying Wake Impacts on Downwind Wind Farms Using the WRF Wind Farm Parameterization, American Meteorological Society Annual Meeting, Austin, TX, 7-12 January 2018. <https://ams.confex.com/ams/98Annual/webprogram/Paper335773.html>

191. Worsnop★, R., **J. K. Lundquist**, B. Kosovic, P. A. Jimenez, Y. Pichugina, A. Choukulkar, T. A. Bonin, and B. J. McCarty, Assessment of the WRF Wind farm Parameterization for Easterly Wake Events during the Second Wind Forecast Improvement Project, American Meteorological Society Annual Meeting, Austin, TX, 7-12 January 2018. <https://ams.confex.com/ams/98Annual/webprogram/Paper335441.html>

190. AGU Fall meeting

189. WindTech student presentations: Rochelle 2, Laura 2, Simon 1, Nicola 1, Joseph 2

188. St. Martin★, C., **J. K. Lundquist**, Simulating Wind Turbine Wakes from Multiple Interacting Wind Farms in the Western US Using the WRF Wind Farm Parameterization, American Meteorological Society Annual Meeting, Seattle, WA, 23-26 January 2017. <https://ams.confex.com/ams/97Annual/webprogram/Paper308644.html>

187. Mazzaro★, L.J., D. Muñoz-Esparza, J. K. Lundquist, and R. R. Linn, The Influence of Mesoscale, Under-Resolved Convective Structures on Nested Large Eddy Simulations, American Meteorological Society Annual Meeting, Seattle, WA, 23-26 January 2017. <https://ams.confex.com/ams/97Annual/webprogram/Paper314829.html>

186. Lee★, J. C.-Y., **J. K. Lundquist**, Improvements in Wind Power Forecasts through use of the WRF Wind Farm Parameterization evaluated with Meteorological and Turbine Power Data, American Meteorological Society Annual Meeting, Seattle, WA, 23-26 January 2017. <https://ams.confex.com/ams/97Annual/webprogram/Paper302356.html>

185. Koo, E., L. J. Mazzaro, R. R. Linn, **J. K. Lundquist**, Drag-based Cell-perturbation Method to Accelerate Turbulence Development in the Context of Meso-scale Model to Micro-scale Model Coupling, American Meteorological Society Annual Meeting, Seattle, WA, 23-26 January 2017. <https://ams.confex.com/ams/97Annual/webprogram/Paper314010.html>

184. Karnauskas, K. B., **J. K. Lundquist**, and L. Zhang. Impacts of Climate Change on Global Wind Resources in a CMIP5 Ensemble. American Meteorological Society Annual Meeting, Seattle, WA, 23-26 January 2017.  
<https://ams.confex.com/ams/97Annual/webprogram/Paper314574.html>
183. Tomaszewski★, J. T., **J. K. Lundquist**, M. J. Churchfield, and P. Moriarty, Do Wind Turbines Pose Roll Hazards to Light Aircraft? American Meteorological Society Annual Meeting, Seattle, WA, 23-26 January 2017.  
<https://ams.confex.com/ams/97Annual/webprogram/Paper315132.html>
182. Bodini★, N., **J. K. Lundquist**, D. Zardi, and M. Handschy, Year-to-year Correlation, Record Length, and Overconfidence in Wind Resource Assessment. American Meteorological Society Annual Meeting, Seattle, WA, 23-26 January 2017.  
<https://ams.confex.com/ams/97Annual/webprogram/Paper315402.html>
181. **Lundquist, J. K.**, Y. Pichugina, J. M. Tomaszewski, and R. Worsnop, Improving Boundary-layer Wind Energy Forecasts by Representing Wind Farms in Mesoscale Models: Validation and Improvements using WFIP2 Observations. American Meteorological Society Annual Meeting, Seattle, WA, 23-26 January 2017.  
<https://ams.confex.com/ams/97Annual/webprogram/Paper313631.html>
180. Worsnop★, R., **J. K. Lundquist**, G. H. Bryan, R. Damiani, and W. Musial. Analysis of Hurricane Gusts and Shear to Improve Offshore Wind Turbine Design, American Meteorological Society Annual Meeting, Seattle, WA, 23-26 January 2017.  
<https://ams.confex.com/ams/97Annual/webprogram/Paper309597.html>
179. Bodini★, N., **J. K. Lundquist**, D. Zardi, M. Handschy. The Effect of Wind Veer on the Three-dimensional Structure of Wind Turbine Wakes as Measured by Scanning Lidar, American Meteorological Society Annual Meeting, Seattle, WA, 23-26 January 2017.  
<https://ams.confex.com/ams/97Annual/webprogram/Paper313633.html>
178. Choukulkar, A., W. A. Brewer, Y. Pichugina, and **J. K. Lundquist**, Wind Field Retrievals on Single Doppler Vertical Plane Scans Using Optimal Interpolation, American Meteorological Society Annual Meeting, Seattle, WA, 23-26 January 2017.  
<https://ams.confex.com/ams/97Annual/webprogram/Paper314785.html>
177. Newsom, R., W. A. Brewer, D. E. Wolfe, S. P. Oncley, J. M. Wilczak, **J. K. Lundquist**, and W. J. Shaw, Uncertainty Estimation in Horizontal Wind Measurements from Doppler Lidar, American Meteorological Society Annual Meeting, Seattle, WA, 23-26 January 2017.  
<https://ams.confex.com/ams/97Annual/webprogram/Paper314812.html>
176. Pichugina, Y., A. Choukulkar, R. M. Banta, A. Brewer, **J. K. Lundquist**, J. B. Olson, T. A. Bonin, M. Marquis, N. Bodini, S. Sand, and S. Redfern, Case Study of Wind Turbine Wake Using Scanning Doppler Lidar Measurements in Complex Terrain, American Meteorological Society Annual Meeting, Seattle, WA, 23-26 January 2017.  
<https://ams.confex.com/ams/97Annual/webprogram/Paper314919.html>
175. McCaa, J., J. W. Cline, W. J. Shaw, M. Marquis, L. K. Berg, V. R. Kotamarthi, A. Clifton, S. Wharton, J. B. Olson, J. M. Wilczak, B. Kosovic, **J. K. Lundquist**, H. J. S. Fernando, and B.



Ancell, Overview of the Wind Forecasting Improvement Project in Complex Terrain (WFIP2), American Meteorological Society Annual Meeting, Seattle, WA, 23-26 January 2017.

<https://ams.confex.com/ams/97Annual/webprogram/Paper314555.html>

174. Yang, Q., L. K. Berg, J. B. Olson, J. S. Kenyon, M. Huang, L. Bianco, M. J. Brewer, A. Clifton, K. L. Clawson, I. V. Djalalova, R. M. Eckman, K. Friedrich, H. J. S. Fernando, **J. K. Lundquist**, L. Leo, V. R. Morris, M. Pekour, and J. Wilczak. The Sensitivity of the Predicted Hub-Height Winds to Land Surface and Boundary Layer Representation. American Meteorological Society Annual Meeting, Seattle, WA, 23-26 January 2017.

<https://ams.confex.com/ams/97Annual/webprogram/Paper312626.html>

173. Wilczak, J. I. V. Djalalova, L. Bianco, J. B. Olson, J. Kenyon, R. Banta, L. K. Berg, J. Bickford, T. A. Bonin, A. Brewer, M. Brewer, S. Bustos-Ortola, A. Choukulkar, C. T. Clack, K. L. Clawson, A. Clifton, J. W. Cline, D. Cook, R. Coulter, R. Eckman, H. J. S. Fernando, K. Friedrich, E. P. Gritmit, L. S. Leo, **J. K. Lundquist**, T. J. Martin, M. Marquis, J. McCaa, K. McCaffrey, P. Muradyan, M. Pekour, Y. Pichugina, W. J. Shaw, M. T. Stoelinga, and S. Wharton, Seasonal Dependence of RAP and HRRR NWP Forecast Errors During the Second Wind Forecast Improvement Project (WFIP2) Field Campaign. American Meteorological Society Annual Meeting, Seattle, WA, 23-26 January 2017.

<https://ams.confex.com/ams/97Annual/webprogram/Paper312034.html>

172. Lee★, J. C.-Y., and **J. K. Lundquist**. 46. Evaluation of the WRF Wind Farm Parameterization Using Meteorological and Turbine Power Data. American Meteorological Society's 22<sup>nd</sup> Symposium on Boundary Layers and Turbulence, Salt Lake City, UT, 20-24 June 2016. <https://ams.confex.com/ams/32AgF22BLT3BG/webprogram/Paper295484.html>

171. Worsnop★, R., J. K. Lundquist and G. H. Bryan. 9B.1 Using Large-Eddy Simulations to Estimate Spatial Coherence and Power Spectral Density of a Major Hurricane for Wind Turbine Design Applications. American Meteorological Society's 22<sup>nd</sup> Symposium on Boundary Layers and Turbulence, Salt Lake City, UT, 20-24 June 2016.

<https://ams.confex.com/ams/32AgF22BLT3BG/webprogram/Paper294761.html>

170. Lee★, J. C.-Y. and J. K. Lundquist, 9B.3, Observing and Simulating Wind Turbine Wakes During the Evening Transition. American Meteorological Society's 22<sup>nd</sup> Symposium on Boundary Layers and Turbulence, Salt Lake City, UT, 20-24 June 2016.

<https://ams.confex.com/ams/32AgF22BLT3BG/webprogram/Paper295432.html>

169. Vanderwende, B., B. Kosovic, J. K. Lundquist, and J. D. Mirocha, 2B.1, Simulating effects of a wind turbine array using LES and RANS. American Meteorological Society's 22<sup>nd</sup> Symposium on Boundary Layers and Turbulence, Salt Lake City, UT, 20-24 June 2016.

<https://ams.confex.com/ams/32AgF22BLT3BG/webprogram/Paper295493.html>

168. Worsnop★, R., J. K. Lundquist, G. H. Bryan, R. Damiani, and W. Musial, Using Large-eddy Simulations to Examine the Variability of Wind Speed and Direction in the Hurricane Boundary Layer, American Meteorological Society's 22<sup>nd</sup> Symposium on Boundary Layers and Turbulence, Salt Lake City, UT, 20-24 June 2016.

<https://ams.confex.com/ams/32AgF22BLT3BG/webprogram/Paper295650.html>

167. Mazzaro★, L. J., D. Muñoz-Esparza, J. K. Lundquist, and R. R. Linn, 3B.3, Limitations of Mesoscale-to-LES Grid Nesting in a Convective Atmospheric Boundary Layer, American



Meteorological Society's 22<sup>nd</sup> Symposium on Boundary Layers and Turbulence, Salt Lake City, UT, 20-24 June 2016.

<https://ams.confex.com/ams/32AgF22BLT3BG/webprogram/Paper294889.html>

166. Bianco, L. and K. McCaffrey, K. Friedrich, D. Cimini, J. K. Lundquist, and J. M. Wilczak, 16A.4, Assessing Atmospheric Profiles from Microwave Radiometers and Radio Acoustic Sounding Systems, American Meteorological Society's 22<sup>nd</sup> Symposium on Boundary Layers and Turbulence, Salt Lake City, UT, 20-24 June 2016.

<https://ams.confex.com/ams/32AgF22BLT3BG/webprogram/Paper295366.html>

165. Quelet★, P. T., K. McCaffrey, A. Choukulkar, A. Brewer, J. M. Wilczak, S. P. Oncley, D. E. Wolfe, and J. K. Lundquist, 16A.6, Identification of Tower Wake Distortions in Sonic Anemometer Measurements during XPIA. American Meteorological Society's 22<sup>nd</sup> Symposium on Boundary Layers and Turbulence, Salt Lake City, UT, 20-24 June 2016.

<https://ams.confex.com/ams/32AgF22BLT3BG/webprogram/Paper295688.html>

164. Choukulkar, A. A. Brewer, S. P. Sandberg, A. M. Weickmann, T. A. Bonin, J. K. Lundquist, R. Delgado, G. V. Iungo, R. Ashton, M. Debnath, L. Bianco, J. M. Wilczak, B. Kosovic, S. P. Oncley, and D. Wolfe. 16A.5, Evaluation of Single and Multiple Doppler Lidar Techniques to Measure Complex Flow during the XPIA Field Campaign, American Meteorological Society's 22<sup>nd</sup> Symposium on Boundary Layers and Turbulence, Salt Lake City, UT, 20-24 June 2016.

<https://ams.confex.com/ams/32AgF22BLT3BG/webprogram/Paper295535.html>

163. Muñoz-Esparza, D., J. K. Lundquist, J. A. Sauer, B. Kosovic, J. D. Mirocha, S. Purdy, and D. A. Rajewski, 3B.6, Multiscale modeling of a diurnal cycle during the CWEX-13 field campaign. American Meteorological Society's 22<sup>nd</sup> Symposium on Boundary Layers and Turbulence, Salt Lake City, UT, 20-24 June 2016.

<https://ams.confex.com/ams/32AgF22BLT3BG/webprogram/Paper296040.html>

162. Wilczak, J. M., R. Banta, L. A. Benjamin, S. Benjamin, L. K. Berg, L. Bianco, J. Bickford, A. Brewer, A. Choukulkar, K. L. Clawson, A. Clifton, J. W. Cline, D. Cook, I. V. Djalalova, H. J. S. Fernando, K. Friedrich, E. P. Gritmit, J. Kenyon, B. Kosovic, C. W. King, K. Lantz, C. N. Long, J. K. Lundquist, M. Marquis, J. McCaa, K. McCaffrey, S. midya, V. R. Morris, J. B. Olson, Y. Pichugina, J. Sharp, M. T. Stoelinga, W. J. Shaw, K. Wade, and S. Wharton, 8.3A The Second Wind Forecast Improvement Project (WFIP2): Observations and Model Evaluation. American Meteorological Society's 22<sup>nd</sup> Symposium on Boundary Layers and Turbulence, Salt Lake City, UT, 20-24 June 2016.

<https://ams.confex.com/ams/32AgF22BLT3BG/webprogram/Paper296227.html>

161. Lundquist, J. K., J. Wilczak, R. Ashton, L. Bianco, A. Brewer, A. Choukulkar, A. Clifton, M. Debnath, R. Delgado, K. Friedrich, W. S. Gunter, A. Hamidi, G. V. Iungo, A. Kaushik, B. Kosovic, P. Langan, A. Lass, E. Lavin, J. C. Y. Lee, K. McCaffrey, R. K. Newsom, D. C. Noone, S. P. Oncley, P. T. Quelet, S. P. Sandberg, J. L. Schroeder, W. Shaw, L. C. Sparling, C. St. Martin, A. St. Pé, E. J. Strobach, K. Tay, B. Vanderwende, A. M. Weickmann, D. Wolfe, and R. Worsnop, 16A.2, Assessing State-of-the-Art Capabilities for Probing the Atmospheric Boundary Layer: the XPIA Field Campaign. American Meteorological Society's 22<sup>nd</sup> Symposium on Boundary Layers and Turbulence, Salt Lake City, UT, 20-24 June 2016.

160. Wilczak, J. M., ... **J. K. Lundquist** ... (31 co-authors), GC43F-04: WFIP2 – The Second Wind Forecast Improvement Project: Observing Systems And Case Studies. American Geophysical Union Fall Meeting 2015, San Francisco, CA, 14-18 December 2015

159. Pichugina, Y., ... **J. K. Lundquist** ... (9 co-authors), GC53E-1251: Representativeness of Lidar Wind Measurements over Moderately Complex Terrain. American Geophysical Union Fall Meeting 2015, San Francisco, CA, 14-18 December 2015
158. Banta, R. M., ...**J. K. Lundquist** ... (13 co-authors), GC53E-1254: Measurements of the Spatial Variability of Mean Wind Profiles Using Multiple Doppler Lidars over Distances less than 1 km. American Geophysical Union Fall Meeting 2015, San Francisco, CA, 14-18 December 2015
157. **Lundquist, J. K.**, A52B-04: Heterogeneous Boundary Layers through the Diurnal Cycle: Evaluation of the WRF Wind Farm Parameterization using Scanning Lidar Observations and Wind Turbine Power Measurements during a Range of Stability Conditions. American Geophysical Union Fall Meeting 2015, San Francisco, CA, 14-18 December 2015
156. Bryan, G. H., R. Worsnop★, **J. K. Lundquist**, J. Zhang, A51P-0306: A Simple Method for Simulating Tropical-Cyclone Boundary Layers. American Geophysical Union Fall Meeting 2015, San Francisco, CA, 14-18 December 2015.
155. Bodini★, N., **J. K. Lundquist**, M. Handschy, and D. Zardi, GC43F-02: How Long is Long Enough? The Effect of Interannual Correlation on Wind Resource Assessment, American Geophysical Union Fall Meeting 2015, San Francisco, CA, 14-18 December 2015.
154. St. Martin★, C., **J. K. Lundquist**, A. Clifton and S. J. Schreck “Wind turbine nacelle transfer functions (NTFs) calculated from upwind lidar and tower measurements,” International Conference on Future Technologies in Wind Energy, London, Ontario, Canada, 19-21 October 2015.
153. **Lundquist, J. K.**, W. J. Shaw, and co-authors, Overview of the DOE A2E Experimental Planetary Boundary Layer Instrumentation Assessment (XPiA), International Conference on Future Technologies in Wind Energy, London, Ontario, Canada, 19-21 October 2015.
152. Worsnop★, R., **J. K. Lundquist**, and G. H. Bryan, Power spectrum and spatial coherence of turbulent structures inside an idealized major hurricane, International Conference on Future Technologies in Wind Energy, London, Ontario, Canada, 19-21 October 2015.
151. Brewer, A., S. Sandberg, A. Weickmann, A. Choukulkar, **J. Lundquist**, G. V. Iungo, R. Newsom, R. Delgado. Initial Results from the eXperimental Measurement Campaign (XMC) for Planetary Boundary Layer (PBL) Instrument Assessment (XPiA) Experiment. 27th International Laser Radar Conference, New York, New York, 5-10 July 2015.
150. Worsnop★, R., G. H. Bryan, and **J. K. Lundquist**. 2015. Using idealized large-eddy simulations to estimate spatial coherence and power spectral density of a major hurricane for wind turbine design applications. 3<sup>rd</sup> International Conference on Energy & Meteorology, Boulder, CO, 23-26 June 2015.
149. Lee★, J. C.-Y. and **J. K. Lundquist**. 2015. Wind turbine wake variations with Atmospheric Stability as Measured in CWEX-11. 3<sup>rd</sup> International Conference on Energy & Meteorology, Boulder, CO, 23-26 June 2015.

148. Handschy, M., C. St. Martin, and **J. K. Lundquist**. 2015. Reducing wind power variability by quantifying geographic diversity length scales. 3<sup>rd</sup> International Conference on Energy & Meteorology, Boulder, CO, 23-26 June 2015.

147. Choukulkar, A., A. Brewer, R. Banta, M. Hardesty, Y. Pichugina, C. Senff, S. Sandberg, A. Weickmann, G. Antoszerski, B. Carroll, R. Delgado, **J. K. Lundquist**, M. Rhodes, B. Kosovic, A. Muschinski, D. Wolfe. 2015. Lidar Uncertainty Measurement Experiment (LUMEX) – An Overview. 3<sup>rd</sup> International Conference on Energy & Meteorology, Boulder, CO, 23-26 June 2015.

146. Vanderwende★, B. and **J. K. Lundquist**. 2015. Could crop roughness impact the wind resource at agriculturally productive wind farm sites? 3<sup>rd</sup> International Conference on Energy & Meteorology, Boulder, CO, 23-26 June 2015.

145. Handschy, M. A., **J. K. Lundquist**, and C. St. Martin. 2015. Assessment of wind & solar resource interannual variability: the effect of record length. 3<sup>rd</sup> International Conference on Energy & Meteorology, Boulder, CO, 23-26 June 2015.

144. Choukulkar, A., W. A. Brewer, R. M. Banta, R. M. Hardesty, Y. L. Pichugina, C. J. Senff, S. P. Sandberg, A. M. Weickmann, G. Antoszewski, B. J. Carroll, R. Delgado, **J. K. Lundquist**, M. E. Rhodes, B. Kosovic, A. Muschinski, K. S. Barr, and D. Wolfe, 2015. Lidar Uncertainty Measurement Experiment (LUMEX) – An Overview. Seventh Symposium on Lidar Atmospheric Applications. AMS Annual Meeting, Phoenix, AZ, 4-8 January 2015.

143. Carroll, B. J., A. Choukulkar, R. Delgado, R. M. Hardesty, S. P. Sandberg, G. Antoszewski, W. A. Brewer, **J. K. Lundquist**, and A. Muschinski, 2015. Dual Doppler Lidar Wind Profiling in the Lidar Uncertainty Measurement Experiment (LUMEX). Seventh Symposium on Lidar Atmospheric Applications. AMS Annual Meeting, Phoenix, AZ, 4-8 January 2015.

142. Tay★, K., **J. K. Lundquist**, M. Skote, and T. Y. Koh. 2015. Characterization of MESoscale Variability in WRF – a Coastal Low-level Jet Case Study. Sixth Conference on Weather, Climate, and the New Energy Economy, AMS Annual Meeting, Phoenix, AZ, 4-8 January 2015.

141. Rajewski, D. A., E. S. Takle, **J. K. Lundquist**, S. L. Irwin, and R. K. Doorenbos. 2015. Spatial Characteristics of Power Variability from a Large Wind Farm in Iowa during the 2013 Crop/Wind Energy Experiment (CWEX-13). Sixth Conference on Weather, Climate, and the New Energy Economy, AMS Annual Meeting, Phoenix, AZ, 4-8 January 2015.

140. Vanderwende★, B., and **J. K. Lundquist**. 2015. Investigating low-level jet wind profiles using two different lidar scanning strategies. Seventh Symposium on Lidar Atmospheric Applications. AMS Annual Meeting, Phoenix, AZ, 4-8 January 2015.

139. Vanderwende★, B., and **J. K. Lundquist**. 2014. Could Crop Roughness Impact the Wind Resource at Agriculturally-Productive Wind Farm Sites? GC41H-06. AGU Fall Meeting, San Francisco, CA, 15-19 December 2014.

138. Tay★, K., **J. K. Lundquist**, M. Skote, and T. Y. Koh. 2014. Characterization of MESoscale Variability in WRF – a Coastal Low-level Jet Case Study. A43A-3240. AGU Fall Meeting, San Francisco, CA, 15-19 December 2014.

137. **Lundquist, J. K.**, G. Xiaoxia, M. Aitken, P. Quelet, J. Rana, M. Rhodes, C. St. Martin, K. Tay, R. Worsnop, S. Irvin, D. Rajewski, E. Takle. 2014. Wind Turbine Wake Variability in a Large Wind Farm (Invited). A11G-3076. AGU Fall Meeting, San Francisco, CA, 15-19 December 2014.
136. **Lundquist, J. K.**, M. Churchfield, S. Lee, A. Clifton. 2014. Quantifying error of remote sensing observations using computational fluid dynamics. A11G-3078. AGU Fall Meeting, San Francisco, CA, 15-19 December 2014.
135. **St. Martin★, C., J. K. Lundquist**, and M. Handschy. 2014. Quantifying the geographic diversity needed to reduce wind power variability. GC43A-0688. AGU Fall Meeting, San Francisco, CA, 15-19 December 2014.
134. **Churchfield, M., J. K. Lundquist**, S. Lee, and A. Clifton. 2014. Large-eddy simulations of Wind Turbine Wakes subject to Different Atmospheric Stabilities. A11G-3085. AGU Fall Meeting, San Francisco, CA, 15-19 December 2014.
133. **Lundquist, J. K.**, E. S. Takle, M. Boquet, B. Kosovic, M. E. Rhodes, D. A. Rajewski, R. K. Doorenbos, S. L. Irvin, M. Aitken, K. Friedrich, P. T. Quelet, J. Rana, C. St. Martin, B. J. Vanderwende, and R. Worsnop, 2014. Lidar observations of the variation of wind turbine wakes with inflow conditions in an onshore wind farm. American Meteorological Society 21<sup>st</sup> Symposium on Boundary Layers and Turbulence. Leeds, United Kingdom, 9-13 June 2014.
132. **Draxl, C.**, M. J. Churchfield, **J. K. Lundquist**, J. Michalakes, J. D. Mirocha, P. J. Moriarty, A. Purkayastha, M. A. Sprague, and B. J. Vanderwende. 2014. Coupling a Mesoscale NWP model with Large-Eddy-Simulation CFD for realistic wind-plant aerodynamics simulations. American Meteorological Society 21<sup>st</sup> Symposium on Boundary Layers and Turbulence. Leeds, United Kingdom, 9-13 June 2014.
131. **Mirocha, J. D.**, B. Kosovic, M. L. Aitken, **J. K. Lundquist**, and N. Marjanovic. 2014. Implementation of a Generalized Actuator Disk Wind Turbine Model into the Weather Research and Forecasting Model for Large-Eddy Simulation. American Meteorological Society 21<sup>st</sup> Symposium on Boundary Layers and Turbulence. Leeds, United Kingdom, 9-13 June 2014.
130. **Lundquist, J. K.** and L. Bariteau. 2014. Dissipation of turbulence in the wake of a wind turbine. American Meteorological Society 21<sup>st</sup> Symposium on Boundary Layers and Turbulence. Leeds, United Kingdom, 9-13 June 2014.
129. **Lundquist, J. K.** and M. L. Aitken. 2014. Utility-scale wind turbine wake characterization using nacelle-based long-range scanning lidar. American Meteorological Society 21<sup>st</sup> Symposium on Boundary Layers and Turbulence. Leeds, United Kingdom, 9-13 June 2014.
128. **Vanderwende★, B.**, and **J. K. Lundquist**. 2014. Could Crop Roughness Impact the Wind Resource at Agriculturally-Productive Wind Farm Sites? American Meteorological Society 21<sup>st</sup> Symposium on Boundary Layers and Turbulence. Leeds, United Kingdom, 9-13 June 2014.
127. **Vanderwende★, B.**, and **J. K. Lundquist**. 2014. Investigating low-level jet wind profiles using two different lidar scanning strategies. American Meteorological Society 21<sup>st</sup> Symposium on Boundary Layers and Turbulence. Leeds, United Kingdom, 9-13 June 2014.

126. **Lundquist, J. K., M. Boquet**, E. S. Takle, B. Kosovic, M. E. Rhodes, D. A. Rajewski, R. K. Doorenbos, S. L. Irvin, M. Aitken, K. Friedrich, P. T. Quelet, J. Rana, C. St. Martin, B. J. Vanderwende, and R. Worsnop 2014. Lidar observations of interacting wind turbine wakes in an onshore wind farm. European Wind Energy Association Annual Conference, Barcelona, Spain, 10-13 March 2014.
125. **Lundquist, J. K.** and L. Bariteau. 2013. Dissipation of turbulence in the wake of a wind turbine. A11L-03. American Geophysical Union Fall Meeting, San Francisco, CA, 9-13 December 2013.
124. **Vanderwende★, B.** and **J. K. Lundquist**. 2013. Could Crop Height Impact the Wind Resource at Agriculturally Productive Wind Farm Sites? A13G-0305. American Geophysical Union Fall Meeting, San Francisco, CA, 9-13 December 2013.
123. **Lundquist, J. K.** and M. Handschy. 2013. An atmospheric turbulence model for spatiotemporal variability of geographically-diverse, aggregated wind-generated electricity to accelerate wide-scale wind energy deployment (Invited). NG14A-05. American Geophysical Union Fall Meeting, San Francisco, CA, 9-13 December 2013.
122. **Lundquist, J. K.**, A. C. Fitch, J. P. Olson. 2013. Influences of wind farms on regional and global climates? North American Wind Energy Academy 2013 Symposium, Boulder, CO, 6-8 August 2013.
121. **Vanderwende★, B.** and **J. K. Lundquist**, 2013, The Modification of Wind Turbine Performance by Statistically Distinct Atmospheric Regimes. American Wind Energy Association WINDPOWER EXPO, Chicago, Illinois, 5-8 May 2013.
120. **Aitken★, M. L.**, and **J. K. Lundquist**, 2013, Quantifying Wind Turbine Wake Characteristics from Scanning Remote Sensor Data, American Wind Energy Association WINDPOWER EXPO, Chicago, Illinois, 5-8 May 2013.
119. **Lundquist, J. K.**, L. Bariteau, **M. Boquet**, M. E. Rhodes, C. St. Martin, 2013, Assessing mean and turbulent characteristics of wind turbine wakes with in situ and remotely-sensed data, American Wind Energy Association WINDPOWER EXPO, Chicago, Illinois, 5-8 May 2013.
118. **King, R.**, P. Hamlington, **J. K. Lundquist**, 2013, Computational and Experimental Dissipation Rates, First Symposium on OpenFOAM in Wind Energy, Oldenburg, Germany, 20-21 March 2013. <http://www.forwind.de/sowe/Site/Home.html>
117. **Lundquist, J. K.**, L. Bariteau, **M. Boquet**, M. E. Rhodes, C. St. Martin. 2013. In situ and remotely-sensed mean and turbulent characteristics of wind turbine wakes. European Wind Energy Association Annual Meeting. Vienna, Austria, 4-7 February 2013, [http://proceedings.ewea.org/annual2013/proceedings/Posters/PO\\_049\\_EWEA2013presentation.pdf](http://proceedings.ewea.org/annual2013/proceedings/Posters/PO_049_EWEA2013presentation.pdf)
116. **Clifton, A.**, P. Fleming, L. Kilcher, and **J. K. Lundquist**, Effects of changing atmospheric conditions on wind turbine performance, American Meteorological Society Annual Meeting, Austin, TX, January 2013.

115. **Lundquist, J. K.**, L. Bariteau, M. Boquet, M. E. Rhodes, and A. Clifton, In situ and remotely-sensed mean and turbulence characteristics of wind turbine wakes, American Meteorological Society Annual Meeting, Austin, TX, January 2013.
114. Freedman, Jeffrey M., E. Klicka, **J. K. Lundquist**, M. Marquis, and K. E. Moore, Towards an Enlightened Wind Power Industry: Utilizing Popular Media, American Meteorological Society Annual Meeting, Austin, TX, January 2013.
113. Aitken★, M. L., **J. K. Lundquist**, K. V. Hestmark, R. M. Banta, Y. L. Pichugina, and W. A. Brewer, Wind turbine wake characterization using long-range Doppler lidar, American Meteorological Society Annual Meeting, Austin, TX, January 2013.
112. Takle, E. S., D. A. Rajewski, J. H. Prueger, S. Oncley, **J. K. Lundquist**, T. W. Horst, M. E. Rhodes, R. L. Pfeiffer, J. L. Hatfield, K. K. Spoth, and R. Doorenbos, CWEX-10/11: Overview of Meteorological Measurements in a Wind Farm, American Meteorological Society Annual Meeting, Austin, TX, January 2013.
111. Rajewski, D. A., E. S. Takle, **J. K. Lundquist**, M. E. Rhodes, J. H. Prueger, S. P. Oncley, T. W. Horst, R. L. Pfeiffer, J. Hatfield, K. K. Spoth, and R. K. Doorenbos, Wind Turbine Wake Investigation from Surface Measurements during the 2010 and 2011 Crop Wind-Energy EXperiments (CWEX-10/11), American Meteorological Society Annual Meeting, Austin, TX, January 2013.
110. **Lundquist, Julie K.**, Ludovic Bariteau, Matthieu Boquet, Andrew Clifton, and Michael E. Rhodes, 2012 A31F-0111. In situ and remotely-sensed mean and turbulence characteristics of wind turbine wakes, American Geophysical Union Fall Meeting, San Francisco, CA, December 2012.
109. Aitken★, Matthew, **Julie K. Lundquist**, Kelley Hestmark, Robert M. Banta, Yelena Pichugina, and Alan Brewer, 2012, A31F-0110. Wind turbine wake characterization using long-range Doppler lidar, American Geophysical Union Fall Meeting, San Francisco, CA, December 2012.
108. Pichugina, Yelena, Robert M. Banta, Alan Brewer, and **Julie K. Lundquist**, 2012. A31F-0109. Wind turbine wake properties from Doppler lidar measurements. American Geophysical Union Fall Meeting, San Francisco, CA, December 2012.
107. Fitch★, Anna C., Joseph B. Olson, **Julie K. Lundquist**, 2012, A24E-02. Representation of Wind Farms in Climate Models, American Geophysical Union Fall Meeting, San Francisco, CA, December 2012.
106. Takle, Eugene S., Daniel A. Rajewski, John H. Prueger. Steven Oncley, **Julie K. Lundquist**, Thomas W. Horst, Michael E. Rhodes, Richard Pfeiffer, Jerry Hatfield, Kristopher K. Spoth, and Russell Doorenbos, 2012, A24E-08 CWEX-10/11: Overview of Results From the First Two Crop/Wind-Energy Experiments, American Geophysical Union Fall Meeting, San Francisco, CA, December 2012.
105. Fitch★, Anna C., **Julie K. Lundquist**, and Joseph B. Olson, 2012, A31F-0097: Mesoscale Influences of Wind Farms Throughout a Diurnal Cycle (*Invited*), American Geophysical Union Fall Meeting, San Francisco, CA, December 2012.

104. Clifton, A., P. Fleming, L. Kilcher, and **J. K. Lundquist**, 2012, Effect of Changing Atmospheric Conditions on Wind Turbine Performance, American Geophysical Union Fall Meeting, San Francisco, CA, December 2012. <http://www.nrel.gov/docs/fy13osti/57084.pdf>
103. Clifton, A., S. Schreck, G. Scott, and **J. K. Lundquist**, 2012, Turbine Inflow Characterization at the National Wind Technology Center, 20<sup>th</sup> Symposium on Boundary Layers and Turbulence, American Meteorological Society, Boston, MA, 9-13 July, 2012.
102. **Lundquist, J. K.**, R. M. Banta, Y. Pichugina, W. A. Brewer, R. J. Alvarez, S. Sandberg, J. Brown, N. D. Kelley, M. Aitken, A. Clifton, and J. D. Mirocha, 2012, Dependence of wind turbine wake behavior on atmospheric stability, as measured by long-range Doppler lidar, 20<sup>th</sup> Symposium on Boundary Layers and Turbulence, American Meteorological Society, Boston, MA, 9-13 July, 2012.
101. Vanderwende★, B. J., **J. K. Lundquist**, E. S. Takle, and S. P. Oncley, 2012, Evaluating mesoscale WRF configurations for nested mesoscale-LES wind turbine wake simulations: boundary layer performance over cropland, 20<sup>th</sup> Symposium on Boundary Layers and Turbulence, American Meteorological Society, Boston, MA, 9-13 July, 2012.
100. Fitch★, A., **J. K. Lundquist**, J. B. Olson, 2012, Mesoscale influences of wind farms throughout a diurnal cycle, 20<sup>th</sup> Symposium on Boundary Layers and Turbulence, American Meteorological Society, Boston, MA, 9-13 July, 2012.
99. Friedrich, K., **J. K. Lundquist**, M. Aitken, E. A. Kalina, and R. F. Marshall, 2012, Stability and turbulence in the atmospheric boundary layer: A comparison of remote sensing and tower observations, 20<sup>th</sup> Symposium on Boundary Layers and Turbulence, American Meteorological Society, Boston, MA, 9-13 July, 2012.
98. Rhodes★, M. E., and **J.K. Lundquist**, 2012, The Effect of Wind Turbine Wakes on Summertime U.S. Great Plains Atmospheric Wind Profiles as Observed with Ground Based Doppler LIDAR, 20<sup>th</sup> Symposium on Boundary Layers and Turbulence, American Meteorological Society, Boston, MA, 9-13 July, 2012.
97. Vanderwende★, B. J., and **J. K. Lundquist**, 2012, The Modification of Wind Turbine Performance by Statistically-Distinct Atmospheric Regimes, 20<sup>th</sup> Symposium on Boundary Layers and Turbulence, American Meteorological Society, Boston, MA, 9-13 July, 2012.
96. Pichugina Y. L., R. M. Banta, W. A. Brewer, **J.K. Lundquist**, R. M. Hardesty, Raul Alvarez, and S. P. Sandberg, 2012, High-resolution Doppler lidar measurements of inland and offshore wind flow for wind energy applications, 16th International Symposium for the Advancement of Boundary-Layer Remote Sensing, Boulder, CO, 5-8 June 2012.
95. Vanderwende★, B., **J. K. Lundquist**, 2012, The Effects of Atmospheric Stability and Wind Shear on Wind Farm Power Production, Third Conference on Weather, Climate, and the New Energy Economy, American Meteorological Society Annual Meeting, New Orleans, LA, 22-26 January, 2012.
94. Rhodes★, M. E., **J. K. Lundquist** and M. L. Aitken, 2012, Effect of Wind Turbine Wakes on Summer-Time Wind Profiles in the US Great Plains, Third Conference on Weather, Climate,

and the New Energy Economy, American Meteorological Society Annual Meeting, New Orleans, LA, 22-26 January, 2012.

93. Pollak★, D. A., **J. K. Lundquist**, M. Aitken, and A. Clifton, 2012, Characterizing Wind Turbine Inflow and Wakes Through Comparison of SODAR and Met Tower Observations-- A Part of TWICS: The Turbine Wake Inflow Characterization Study, Third Conference on Weather, Climate, and the New Energy Economy, American Meteorological Society Annual Meeting, New Orleans, LA, 22-26 January, 2012.

92. Kosovic, B., J. D. Mirocha, M. Singer, J. Cleve, L. G. Glascoe, and **J. K. Lundquist**, 2012, Large-Eddy Simulation of a Wind Turbine Array Using the Weather Research and Forecasting Model, Third Conference on Weather, Climate, and the New Energy Economy, American Meteorological Society Annual Meeting, New Orleans, LA, 22-26 January, 2012.

91. Fitch★, A., J. B. Olson, **J. K. Lundquist**, J. Dudhia, A. K. Gupta, J. Michalakes, and I. Barstad, 2012, Parameterization of Wind Farms in a Mesoscale NWP Model, Third Conference on Weather, Climate, and the New Energy Economy, American Meteorological Society Annual Meeting, New Orleans, LA, 22-26 January, 2012.

90. Rajewski, D., E. S. Takle, T. W. Horst, S. P. Oncley, **J. K. Lundquist**, M. E. Rhodes, and K. K. spoth, 2012, Crop-Wind-Energy EXperiment 2011 (CWEX11), 16th Symposium on Meteorological Observation and Instrumentation, American Meteorological Society Annual Meeting, New Orleans, LA, 22-26 January, 2012.

89. Clifton, A., **J. K. Lundquist**, N. D. Kelley, G. Scott, S. Schreck, D. A. Pollak, M. L. Aitken, and D. Jager, 2012, Characterizing Inflow Conditions Across the Rotor Disk of A Utility Scale Wind Turbine, 16th Symposium on Meteorological Observation and Instrumentation, American Meteorological Society Annual Meeting, New Orleans, LA, 22-26 January, 2012.

88. **Lundquist, J. K.**, Y. Pichugina, R. M. Banta, N. D. Kelley, M. Aitken, R. J. Alvarez, W. A. Brewer, J. M. Brown, A. Clifton, J. D. Mirocha, and S. P. Sandberg, 2012, Four-Dimensional Characterization of Inflow to and Wakes From a Multi-MW Turbine: The Turbine Wake and Inflow Characterization Study (TWICS2011), 16th Symposium on Meteorological Observation and Instrumentation, American Meteorological Society Annual Meeting, New Orleans, LA, 22-26 January, 2012.

87. Pichugina, Y., R. M. Banta, W. A. Brewer, **J. K. Lundquist**, N. D. Kelley, R. M. Hardesty, A. Clifton, R. J. Alvarez, M. L. Aitken, J. D. Mirocha, S. P. Sandberg, and A. Weickmann, 2012, Doppler Lidar Study of Wind Flow Characteristics in the Wake of Operating Wind Turbine, Third Conference on Weather, Climate, and the New Energy Economy, American Meteorological Society Annual Meeting, New Orleans, LA, 22-26 January, 2012.

86. Aitken★, M.L., **J. K. Lundquist**, D. A. Pollak, J. D. Mirocha, R. M. Banta, Y. L. Pichugina, W. A. Brewer, R. J. Alvarez, S. P. Sandberg, J. M. Brown, N. D. Kelley, and A. Clifton , 2012, Characterization of Inflow Conditions and Wake Structures for a Wind Turbine in Complex Terrain Using Long-Range Doppler Lidar, Third Conference on Weather, Climate, and the New Energy Economy, American Meteorological Society Annual Meeting, New Orleans, LA, 22-26 January, 2012.



85. Clifton, A., S. Schreck, G. Scott, N. Kelley, and **J. K. Lundquist**, 2012, Turbine Inflow Characterization at the National Wind Technology Center, 50th AIAA Aerospace Sciences Meeting, Nashville, TN, January 2012.
84. Rhodes★, M.E., **J. K. Lundquist**, M. Aitken, 2011, Effect of wind turbine wakes on summer-time wind profiles in the US Great Plains, American Geophysical Union Fall Meeting, San Francisco, CA, 5-9 December 2011.
83. Fitch★, A., J. B. Olson, **J.K. Lundquist**, J. Dudhia, A. Gupta, J. Michalakes, I. Barstad, 2011, Parameterization of Wind Farms in a Mesoscale NWP Model, American Geophysical Union Fall Meeting, San Francisco, CA, 5-9 December 2011.
82. Vanderwende★, B. and **J. K. Lundquist**, 2011, The Effects of Atmospheric Stability of Wind Farm Power Production, American Geophysical Union Fall Meeting, San Francisco, CA, 5-9 December 2011.
81. **Lundquist, J.K.**, R. M. Banta, Y. Pichugina, A. Brewer, R. J. Alvarez, S. P. Sandberg, N. D. Kelley, M. Aitken, A. Clifton, J. D. Mirocha, 2011, Four-dimensional characterization of inflow to and wakes from a multi-MW turbine: overview of the Turbine Wake and Inflow Characterization Study (TWICS2011), American Geophysical Union Fall Meeting, San Francisco, CA, 5-9 December 2011.
80. Sprague, M.A., P. Moriarty, M. Churchfield, K. Gruchalla, S. Lee, **J. K. Lundquist**, J. Michalakes, and A. Purkayastha, 2011, Computational Modeling of Wind Plant Aerodynamics, presented at SciDAC 2011, Denver, CO, July 10-14 2011.
79. Pichugina, Y.L., R. M. Banta, W.A. Brewer, **J. K. Lundquist**, N. D. Kelley, R. M. Hardesty, R. J. Alvarez, S. P. Sandberg, and A. M. Weickmann, 2011, Wind turbine wake study by the NOAA High-Resolution Doppler Lidar, 16th Coherent Laser Radar Conference, Long Beach, CA, June 20-24 2011.
78. Marshall★, R. F., **J.K Lundquist**, and J. Michalakes, 2011, An evaluation of WRF mesoscale simulations for offshore wind energy applications, presented at the 12<sup>th</sup> WRF User's Workshop, Boulder, CO, 20-24 June, 2011.
77. Moriarty, P., M. Churchfield, S. Lee, **J. Lundquist**, J. Michalakes, A. Purkayastha, and M. Sprague, 2011, Coupling of WRF with CFD for Micro-siting Studies of Wind Plants, presented at the 12<sup>th</sup> WRF User's Workshop, Boulder, CO, 20-24 June, 2011.
76. Lemone, M. A., M. Tewari, J. Dudhia, F. Chen, and **J. Lundquist**, 2011, Objective determination of PBL depth for evaluation of PBL schemes, presented at the 12<sup>th</sup> WRF User's Workshop, Boulder, CO, 20-24 June, 2011.
75. **Lundquist, J. K.**, 2011, Urban turbulent kinetic energy budgets as influenced by nocturnal low-level jets, presented at The Allwine-Doran Retrospective (91<sup>st</sup> Annual Meeting), Seattle, WA, 24-27 January, 2011.
74. Rhodes★, M. E. and **J. K. Lundquist**, 2011, Effect of wind turbine wakes on cropland surface fluxes in the US great plains during a nocturnal low level jet, presented at American Meteorological Society Second Conference on Weather, Climate, and the New Energy Economy (91<sup>st</sup> Annual Meeting), Seattle, WA, 24-27 January, 2011.

73. WhartonⓄ, S., and **J. K. Lundquist**, 2011, Synergistic effects of turbine wakes and atmospheric stability on power production at an onshore wind farm, presented at American Meteorological Society Second Conference on Weather, Climate, and the New Energy Economy (91<sup>st</sup> Annual Meeting), Seattle, WA, 24-27 January, 2011.
72. Vanderwende★, B., and **J. K. Lundquist**, 2011, The effects of varying meteorological conditions on power production at a central North American wind farm, presented at American Meteorological Society Second Conference on Weather, Climate, and the New Energy Economy (91<sup>st</sup> Annual Meeting), Seattle, WA, 24-27 January, 2011.
71. Aitken★, M., M.E. Rhodes, and **J. K. Lundquist**, 2011, Performance of a wind-profiling LIDAR in the region of wind turbine rotor disks, presented at American Meteorological Society Second Conference on Weather, Climate, and the New Energy Economy (91<sup>st</sup> Annual Meeting), Seattle, WA, 24-27 January, 2011.
70. Rhodes★, M. E., M. Aitken, and **J. K. Lundquist**; E. S. Takle; J. H. Prueger, 2010, Effect of wind turbine wakes on cropland surface fluxes in the US Great Plains during a Nocturnal Low Level Jet, Abstract A41F-0151 presented at 2010 Fall Meeting, AGU, San Francisco, Calif., 13-17 Dec 2010.
69. Aitken★, M.; M. E. Rhodes, and **J. K. Lundquist**, 2010, Performance of a wind-profiling LIDAR in the region of wind turbine rotor disks, Abstract A41F-0154 presented at 2010 Fall Meeting, AGU, San Francisco, Calif., 13-17 Dec 2010.
68. Vanderwende★, B. J. and **J. K. Lundquist**, 2010, The effects of varying meteorological conditions on power production at a central North American wind farm, Abstract A41F-0157 presented at 2010 Fall Meeting, AGU, San Francisco, Calif., 13-17 Dec 2010.
67. Marjanovic, N.; F. K. Chow, S. Wharton, and **J. K. Lundquist**, 2010, Wind field variability in high-resolution simulations for wind energy forecasts and resource assessment, Abstract A41F-0165 presented at 2010 Fall Meeting, AGU, San Francisco, Calif., 13-17 Dec 2010.
66. Linn, R., E. Koo, N. D. Kelley, B. Jonkman, **J. K. Lundquist**, and J. Canfield, 2010, Using Dynamically Coupled Turbine/Wind Simulations to Investigate the Influence of Atmospheric Turbulence in Turbine Wake Recovery. A44D-03 presented at 2010 Fall Meeting, AGU, San Francisco, Calif., 13-17 Dec 2010.
65. Takle, E. S., J. H. Prueger, D. A. Rajewski, **J. K. Lundquist**, M. Aitken, M. E. Rhodes, A. J. Deppe, F. E. Goodman, K. C. Carter, L. Mattison, S. L. Rabideau, A. J. Rosenberg, C. L. Whitfield, and J. Hatfield, 2010, Wind and flux measurements in a windfarm co-located with agricultural production (*Invited*), Abstract A44D-05 presented at 2010 Fall Meeting, AGU, San Francisco, Calif., 13-17 Dec 2010.
64. Michalakes, J., S. Hammond, **J. K. Lundquist**, P. Moriarty, and M. Robinson, 2010, Local and Regional Impacts of Large Scale Wind Energy Deployment, Abstract GC23A-0902 presented at 2010 Fall Meeting, AGU, San Francisco, Calif., 13-17 Dec 2010.
63. Maxwell, R. M., I. M. Ferguson, **J. K. Lundquist**, F. K. Chow, and S. J. Kollet, 2010: Recent advances in modeling the coupled hydrologic cycle: Connecting atmospheric processes, land

energy fluxes and hydrology (*Invited*), Abstract H44B-01 presented at 2010 Fall Meeting, AGU, San Francisco, Calif., 13-17 Dec 2010.

62. Lundquist, K.A., F. K. Chow, **J. K. Lundquist**, 2010: Building-resolving simulations in mesoscale models using the immersed boundary method. American Meteorological Society's 19<sup>th</sup> Symposium on Boundary Layers and Turbulence, Keystone, CO, 2-6 August 2010.

61. Marjanovic, Nikola, F. K. Chow, and **J. K. Lundquist**, 2010: Nested simulations for wind energy applications. American Meteorological Society's 19<sup>th</sup> Symposium on Boundary Layers and Turbulence, Keystone, CO, 2-6 August 2010.

60. Wharton, S., and **J. K. Lundquist**, 2010: Assessing atmospheric stability and its impact on rotor-disk wind characteristics at an onshore wind farm. American Meteorological Society's 19<sup>th</sup> Symposium on Boundary Layers and Turbulence, Keystone, CO, 2-6 August 2010.

59. Klein, P. M., **J. K. Lundquist**, and J. B. Basara, 2010: Mixing Processes in the Nocturnal Atmospheric Boundary Layer and Their Impacts on Urban Ozone Concentrations and Heat Island Intensity. American Meteorological Society's 9<sup>th</sup> Symposium on the Urban Environment, Keystone, CO, 2-6 August 2010.

58. **Lundquist, J. K.**, 2010: Urban turbulent kinetic energy dissipation rates as influenced by nocturnal low-level jets. American Meteorological Society's 9<sup>th</sup> Symposium on the Urban Environment, Keystone, CO, 2-6 August 2010.

57. **Lundquist, J. K.**, R. M. Maxwell, J. D. Mirocha, S. G. Smith, C. S. Woodward, and A. F. B. Tompson, 2010: A coupled groundwater-atmospheric model for wind energy forecasting. American Meteorological Society's 19<sup>th</sup> Symposium on Boundary Layers and Turbulence, Keystone, CO, 2-6 August 2010.

56. Lundquist, K. A., F. K. Chow, **J. K. Lundquist**, and B. Kosovic, 2010: Accurate wind characterization in complex terrain using the immersed boundary method. *5<sup>th</sup> International Symposium on Computational Wind Engineering Symposium*, Chapel Hill, North Carolina, May 23-27, 2010. (refereed)

55. Delle Monache, L., B. Kosovic, M. Simpson, L. Glascoe, **J. K. Lundquist**, J. Obrecht, and J. Cleve, 2010: Ensemble-based data assimilation for wind energy predictions at fine scales. *5<sup>th</sup> International Symposium on Computational Wind Engineering Symposium*, Chapel Hill, North Carolina, May 23-27, 2010. (refereed)

54. Singer, M. A., J. D. Mirocha, **J. K. Lundquist**, and J. Cleve, 2010: Implementation and assessment of turbine wake models in the Weather Research and Forecasting model for both mesoscale and large-eddy simulation. *5<sup>th</sup> International Symposium on Computational Wind Engineering Symposium*, Chapel Hill, North Carolina, May 23-27, 2010. (refereed)

53. Chin, H.-N. S., L. Glascoe, **J. K. Lundquist**, and S. Wharton, 2010: Impact of WRF Physics and Grid Resolution on Low-Level Wind Prediction: Toward the Assessment of Climate Change Impact on Future Wind Power. *5<sup>th</sup> International Symposium on Computational Wind Engineering Symposium*, Chapel Hill, North Carolina, May 23-27, 2010. (refereed)

52. Marjanovic, N., F. K. Chow, and **J. K. Lundquist**, 2010: Nested mesoscale to large-eddy simulations for wind energy applications. *5<sup>th</sup> International Symposium on Computational Wind Engineering Symposium*, Chapel Hill, North Carolina, May 23-27, 2010. (refereed)
51. **Lundquist, J. K.**, J. Mirocha, B. Kosovic, 2010: Nesting large-eddy simulations within mesoscale simulations in WRF for wind energy applications. *5<sup>th</sup> International Symposium on Computational Wind Engineering Symposium*, Chapel Hill, North Carolina, May 23-27, 2010. (refereed)
50. **Lundquist, J. K.**, L. Glascoe, J. Obrecht, 2010: Operational wind forecasting based on a modified Weather Research and Forecasting Model. *5<sup>th</sup> International Symposium on Computational Wind Engineering Symposium*, Chapel Hill, North Carolina, May 23-27, 2010. (refereed)
49. Maxwell, R.M., Carol Woodward, Shadi Moqbel, **Julie Lundquist**, Jeffrey Mirocha, and Andrew F. B. Tompson, "Integrated hydrological modeling of the greater San Joaquin river basin of California using coupled groundwater-land-surface atmospheric models," presentation abstract submitted to Computational Methods in Water Resources, Barcelona, Spain, June 2010.
48. Moqbel, Shadi Y., Reed M. Maxwell, Andrew Tompson, Jeffery Wagoner, Kayyum Mansoor, Steven Smith, Carol Woodward, Jeffrey Mirocha, and **Julie Lundquist**, "Climate Change Effects On the Greater San Joaquin River Basin, California," a presentation to 2010 NGWA Ground Water Summit, Denver, CO, April 2010.
47. Moqbel, Shadi, Reed M. Maxwell, Andrew Tompson, Jeffery Wagoner, Kayyum Mansoor, Steven Smith, Carol Woodward, **Julie Lundquist**, and Jeffrey Mirocha, "Integrated Hydrological Modeling of the Greater San Joaquin River Basin, California," presentation at American Geophysical Union Fall Meeting, San Francisco, CA, Dec. 2009.
46. Marjanovic, N., F. K. Chow, **J. K. Lundquist**, 2009: Nested mesoscale to large-eddy simulations for wind energy applications, *Eos Trans. AGU*, **90(52)**, Fall Meet. Suppl., Abstract A31F-0201 *Poster*.
45. Williams, J. L., R. M. Maxwell, **J. K. Lundquist**, S. Wharton, 2009: On the use of a coupled variably-saturated groundwater flow-land surface model to initialize a fully coupled subsurface - land surface - atmospheric model for wind energy forecasting, *Eos Trans. AGU*, **90(52)**, Fall Meet. Suppl., Abstract A31F-0183 *Poster*.
44. Mirocha, J., G. Kirkil, B. Kosovic, **J. K. Lundquist**, 2009: Nested high-resolution large-eddy simulations in WRF to support wind power, *Eos Trans. AGU*, **90(52)**, Fall Meet. Suppl., Abstract A33H-07.
43. Woodward, C., R. M. Maxwell, **J. K. Lundquist**, J. Mirocha, S. Smith, A. F. Tompson, 2009: Wind Energy Resource Assessment Using Coupled Groundwater-Land-Surface Atmospheric Models, *Eos Trans. AGU*, **90(52)**, Fall Meet. Suppl., Abstract A31F-0189 *Poster*.
42. Wharton, S., **J. K. Lundquist**, J. Crescenti, J. Sharp, and M. Zulauf, 2009: Dependence of Wind Turbine Curves on Atmospheric Stability Regimes - An Analysis of a West Coast North American Tall Wind Farm, *Eos Trans. AGU*, **90(52)**, Fall Meet. Suppl., Abstract A33H-05.

41. **Lundquist, J. K.** and S. Wharton, 2009: SODAR Insights on Wind Turbine Power Curves, presented at 2009 International Energy Agency Topical Expert Meeting 59, Remote Wind Speed Sensing Techniques Using SODAR and LIDAR, Boulder, CO, October 2009
40. Lundquist, K. A., F. K. Chow, **J. K. Lundquist**, 2009: Building-resolving simulations in the Weather Research and Forecasting model incorporating surface physics and dispersion. 10th WRF User's Workshop, National Center for Atmospheric Research, Boulder, CO.
39. **Lundquist, J. K.**, J. D. Mirocha, and B. Kosovic, 2009: Nesting large-eddy simulations within mesoscale simulations in WRF for wind energy applications. 10th WRF User's Workshop, National Center for Atmospheric Research, Boulder, CO.
38. Mirocha, J.D., G. Kirkil, B. Kosovic, and **J. K. Lundquist**, 2009: High-resolution large-eddy simulations in WRF. 10th WRF User's Workshop, National Center for Atmospheric Research, Boulder, CO.
37. **Lundquist, J.K.**, J.D. Mirocha, F. K. Chow, B. Kosovic, K. A. Lundquist, 2009: Nesting Large-Eddy Simulations Within Mesoscale Simulations for Wind Energy Applications, American Meteorological Society 8<sup>th</sup> Symposium on the Urban Environment, January 2009, Phoenix, Arizona. [http://ams.confex.com/ams/89annual/techprogram/paper\\_143870.htm](http://ams.confex.com/ams/89annual/techprogram/paper_143870.htm)
36. **Lundquist, J.K.**, J.D. Mirocha, F. K. Chow, B. Kosovic, K. A. Lundquist, 2008: Nesting Large-Eddy Simulations Within Mesoscale Simulations for Wind Energy Applications, Eos Trans. AGU, 89(53), Fall Meet. Suppl., Abstract A11H-06
35. **Lundquist, J.K.**, J.D. Mirocha, F. K. Chow, B. Kosovic, K. A. Lundquist, 2008. Simulating Atmospheric Flow for Wind Energy Applications with WRF-LES. 18th Symposium on Boundary Layers and Turbulence, American Meteorological Society, Stockholm, Sweden, June 2008
34. Mirocha, J. D., F. K. Chow, **J. K. Lundquist**, B. Kosovic, and K.A. Lundquist, 2008. Improving WRF's Large-Eddy Simulation Capability with new Subfilter Stress Models. 18th Symposium on Boundary Layers and Turbulence, American Meteorological Society, Stockholm, Sweden, June 2008.
33. Lundquist, K.A., Chow, F.K., **Lundquist, J.K.**, and J.D. Mirocha. 2008. Imposing land-surface fluxes at an immersed boundary for improved simulations of atmospheric flow over complex terrain. Paper 10A.7. 18th Symposium on Boundary Layers and Turbulence, American Meteorological Society, 15 pages. <http://ams.confex.com/ams/pdfpapers/140059.pdf>
32. Maxwell, R.M., **J. K. Lundquist**, J. D. Mirocha, C. Woodward, F. K. Chow, S. J. Kollet, 2008. Simulations for Wind Energy Resource Assessment with Coupled Hydrologic-Land-Surface Atmospheric Models. 2008 WRF User's Workshop, Boulder, CO, June 2008.
31. Mirocha, J. D., F. K. Chow, **J. K. Lundquist**, B. Kosovic, and K.A. Lundquist, 2008. Improving WRF's Large-Eddy Simulation Capability with new Subfilter Stress Models. 2008 WRF User's Workshop, Boulder, CO, June 2008. <http://www.mmm.ucar.edu/wrf/users/workshops/WS2008/presentations/10-1.pdf>
30. **Lundquist, J.K.**, J.D. Mirocha, F. K. Chow, B. Kosovic, K. A. Lundquist, 2008. Simulating Atmospheric Flow for Wind Energy Applications with WRF-LES. 2008 WRF User's Workshop,

Boulder, CO, June 2008.

<http://www.mmm.ucar.edu/wrf/users/workshops/WS2008/presentations/9-4.pdf>

29. Mirocha, J.D., F. K. Chow, **J. K. Lundquist**, and K. A. Lundquist, 2007. Improved subfilter turbulence modeling for large eddy simulation using WRF. American Meteorological Society's 7<sup>th</sup> Symposium on the Urban Environment, San Diego, CA, September 2007.

<http://ams.confex.com/ams/pdfpapers/127107.pdf>

28. Lundquist, K. A., F. K. Chow, **J. K. Lundquist**, and J. D. Mirocha, 2007. Improving atmospheric dispersion simulations with an immersed boundary method to represent urban terrain. American Meteorological Society's 7<sup>th</sup> Symposium on the Urban Environment, San Diego, CA, September 2007. <http://ams.confex.com/ams/pdfpapers/126629.pdf>

27. **Lundquist, J. K.**, F. K. Chow, J. D. Mirocha, and K. A. Lundquist, 2007. An improved WRF for urban-scale and complex-terrain applications. American Meteorological Society's 7<sup>th</sup> Symposium on the Urban Environment, San Diego, CA, September 2007.

<http://ams.confex.com/ams/pdfpapers/127144.pdf>

26. Mirocha, J. D., **J. K. Lundquist**, F. K. Chow, K. A. Lundquist, 2007. Demonstration of an Improved Subfilter Stress Closure for WRF. WRF User's Workshop, Boulder, CO, June 2007.

25. **Lundquist, J. K.**, J.D. Mirocha, F. K. Chow, K. A. Lundquist. 2007. Improving WRF's Urban Dispersion Capabilities. Planetary Boundary Layer Working Group at the WRF User's Workshop, Boulder, CO, June 2007.

24. Jasinski, M.F., R.D. McKellip, **J.K Lundquist**, S. Blonski, J. Borak, D.E. Holland, and J. Spruce. 2006. Satellite-Based Aerodynamic Roughness for Improved Atmospheric Transport and Dispersion Modeling. 10th Annual George Mason University Conference on Transport and Dispersion Modeling, Fairfax, VA, August 2006.

23. **Lundquist, J. K.** and J. D. Mirocha. 2006. Interaction of nocturnal low-level jets with urban geometries as seen in Joint URBAN 2003. American Meteorological Society's 86<sup>th</sup> Annual Meeting, Atlanta, GA, February 2006.

[http://ams.confex.com/ams/Annual2006/techprogram/paper\\_99635.htm](http://ams.confex.com/ams/Annual2006/techprogram/paper_99635.htm)

22. Chan, S.T., and **J.K. Lundquist**. 2006. A study of stability conditions in an urban area. American Meteorological Society's 86<sup>th</sup> Annual Meeting, Atlanta, GA, February 2006.

[http://ams.confex.com/ams/Annual2006/techprogram/paper\\_101034.htm](http://ams.confex.com/ams/Annual2006/techprogram/paper_101034.htm)

21. Johannesson, G., Chow, F.K., Glascoe, L.G, Glaser, R.E, Hanley, W.G, Kosovic, B., Krnjajic, M., Larsen, S.C., **Lundquist, J.K.**, Mirin, A.A., Nitao, J.J, and Sugiyama, G.A. 2005. Sequential Monte-Carlo based framework for dynamic data-driven event reconstruction for atmospheric release. 2005 Proceedings of the American Statistical Association, ASA Section on Bayesian Statistical Science [CD-ROM], Minneapolis, MN: American Statistical Association: 73-80.

20. Kosovic, B., G. Sugiyama, S. Chan, F. Chow, K. Dyer, R. Glaser, W. Hanley, G. Johannesson, S. Larsen, G. Loosmore, **J. Lundquist**, A. Mirin, J. Nitao, R. Serban, C.Tong. 2005. Stochastic Source Inversion Methodology and Optimal Sensor Network Design. 9th Annual George Mason University Conference on Atmospheric Transport and Dispersion Modeling, July 18-20, 2005, UCRL-PRES-213633.

19. **Lundquist, J.K.**, and S.T. Chan. 2005. Analysis of Joint Urban 2003 wind and turbulence profiles and comparison with FEM3MP simulations. 9<sup>th</sup> Annual George Mason University Conference on Transport and Dispersion Modeling, Fairfax, VA, July 2005.
18. **Chan, S.T.**, and **J.K. Lundquist**. 2005. A verification of FEM3MP predictions against field data from two releases of the Joint Urban 2003 experiment. 9<sup>th</sup> Annual George Mason University Conference on Transport and Dispersion Modeling, Fairfax, VA, July 2005.
17. **Lundquist, J.K.**, M.J. Leach, and F. Gouveia. 2004. Turbulence Kinetic Energy in the Oklahoma City Urban Environment. American Meteorological Society's 5<sup>th</sup> Symposium on the Urban Environment, Vancouver, Canada, 23-29 August, 2004.
16. **Lundquist, J.K.**, M. Piper, and B. Kosovic. 2004. TKE Budgets and Dissipation Length in Disturbed Boundary Layers. American Meteorological Society's 16<sup>th</sup> Symposium on Boundary Layers and Turbulence, Portland, Maine, 9-13 August, 2004.
15. **Kosovic, B.** and **J. K. Lundquist**. 2004. Influences on the height of the stable boundary layer as seen in LES. American Meteorological Society's 16<sup>th</sup> Symposium on Boundary Layers and Turbulence, Portland, Maine, 9-13 August, 2004. UCRL-CONF-204845, <http://www.llnl.gov/tid/lof/documents/pdf/308725.pdf>
14. Piper, M. and **J. K. Lundquist**. 2004. Surface-Layer Turbulence during a Frontal Passage. American Meteorological Society's 16<sup>th</sup> Symposium on Boundary Layers and Turbulence, Portland, Maine, 9-13 August, 2004.
13. **Lundquist, J.K.**, J. H. Shinn, and F. Gouveia. 2004. Observations of Turbulent Kinetic Energy Dissipation Rate in the Urban Environment. Symposium on Planning, Nowcasting, and Forecasting in the Urban Zone, American Meteorological Society 84<sup>th</sup> Annual Meeting, Seattle, WA, January 2004.
12. Poulos, G.S., **J. K. Lundquist**, W. Blumen and S. Neuville. 2002. Shallow Slope Density Currents during CASES-99: Observations and Modeling. American Meteorological Society's 15<sup>th</sup> Symposium on Boundary Layers and Turbulence, Wageningen, The Netherlands, July 2002.
11. **Lundquist, J. K.** 2002. Frontal Generation of Waves in the Stable Boundary Layer. American Meteorological Society's 15<sup>th</sup> Symposium on Boundary Layers and Turbulence, Wageningen, The Netherlands, July 2002.
10. **Lundquist, J. K.**, and **W. Blumen**. 2002. Ozone plume dispersion modeled by an advective-diffusion model. XXVII General Assembly of the European Geophysical Society, Nice, France, 21-26 April, 2002 <http://www.cosis.net/abstracts/EGS02/02581/EGS02-A-02581.pdf> (withdrawn due to illness).
9. **Blumen, W.** and **J. K. Lundquist**. 2002. Frontal Generation of Waves: A Geostrophic Adjustment Interpretation of the Observations. XXVII General Assembly of the European Geophysical Society, Nice, France, 21-26 April, 2002 <http://www.cosis.net/abstracts/EGS02/02580/EGS02-A-02580.pdf> (withdrawn due to illness)

8. **Lundquist, J.K.**, W. Blumen, and R.M. Banta. 2001. Inertial oscillations and urban plume dispersion: SOS-95 data and an analytic advective-diffusion model. International Symposium on Environmental Hydraulics, Tempe, AZ, December 2001.
7. Newsom, R. K., **R. M. Banta**, and **J. K. Lundquist**. 2000. Low-level jet characteristics as Determined by High-Resolution Doppler Lidar During CASES-99. AGU Fall Meeting, San Francisco, CA, December 2000. *Eos Trans. AGU*, 81 (48), Fall Meet. Suppl., Abstract A21C-09, 2000.
6. **Lundquist, J. K.** 2000. The evening transition of the Atmospheric Boundary Layer, CASES-97 and CASES-99 (poster). AGU Fall Meeting, San Francisco, CA, December 2000. *Eos Trans. AGU*, 81 (48), Fall Meet. Suppl., Abstract A21C-08, 2000.
5. **Lundquist, J. K.** and W. Blumen. 2000. The evening transition of the ABL: the role of inertial oscillations in the generation of nocturnal low-level jets in CASES-99 data (poster). AMS 14th Symposium on Boundary Layers and Turbulence, Snowmass, CO, September 2000.
4. **Lundquist, J. K.** and W. Blumen. 1999. The Influence of Surface Processes on the Development of the Low-Level Jet over the Great Plains of the United States. AGU Fall Meeting, San Francisco, CA, December 1999.
3. **Lundquist, J. K.** and W. Blumen. 1999. Inertial Oscillations and a Parameterization of the Evolving Stable Boundary Layer. AMS 13th Symposium on Boundary Layers and Turbulence, Dallas, TX, January 1999.
2. **Lundquist, J.K.** and W. Blumen. 1998. Investigation of the sources of inertial oscillations with wind profiler data. Fourth International Symposium on Tropospheric Profiling: Needs and Technologies, Snowmass, CO, September 1998.
1. **Lundquist, J.K.** and W. Blumen. 1998. Observations of inertial oscillations in the vicinity of Fronts. AMS 16<sup>th</sup> Conference on Weather Analysis and Forecasting, Phoenix, AZ, 11-16 January 1998.