JULIE KAY LUNDQUIST
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H-index (Web of Science 2024/01/08): 47
H-index (Google Scholar, 2024/01/08): 57

EDUCATION AND TRAINING:

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

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

1997 **University of Colorado 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

RESEARCH AND PROFESSIONAL EXPERIENCE:

2023-present **University of Colorado Boulder** **Boulder, CO**
Professor, Dept. of Atmospheric and Oceanic Sciences

2016-2023 **University of Colorado Boulder** **Boulder, CO**
Associate Professor, Dept. of Atmospheric and Oceanic Sciences

2020-present **University of Colorado Boulder** **Boulder, CO**
Affiliate Faculty, Dept. of Applied Mathematics

2010-2016 **University of Colorado 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

2010-present **Renewable and Sustainable Energy Institute** **Boulder, CO**
Fellow

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 Boulder** **Boulder, CO**
Research Associate, Program in Atmospheric and Oceanic Sciences

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

1999 **Field Research: CASES-99** **Wichita, KS**
Research Scientist, CASES-99 Field Program

1997 **Field Research: CASES-97** **Wichita, KS**
Deputy Field Coordinator, CASES-97 Field Program

1994 **National Center for Atmospheric Research** **Boulder, CO**
Summer Undergraduate Visitor, High Altitude Observatory

HONORS AND AWARDS:

2022 **NCAR Outstanding Publication Award** for "Coupled mesoscale-LES modeling of a diurnal cycle during the CWEX-13 field campaign: From weather to boundary-layer eddies", Muñoz-Esparza et al. (2017) in the *Journal of Advances in Modeling Earth Systems*

2022 **Fellow of the American Meteorological Society** ("Those eligible for election to Fellow shall have made outstanding contributions to the atmospheric or related oceanic or hydrologic sciences or their applications during a substantial period of years. New Fellows are elected each year by the Council at its fall meeting from a slate submitted by the Fellows Committee of not more than two-tenths of 1 percent of all AMS Members.")

2022 **ATOC Service Award** for outstanding service as the Director of the ATOC REU program

2021 **ATOC Service Award** for outstanding service as the head of ATOC's Justice, Equity, Diversity, and Inclusivity Committee

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 Boulder

1997 **Dean's Small Grant Award,** University of Colorado Boulder

1995-1997 **Graduate Student Fellowships,** University of Colorado Boulder

1991-1995 **National Merit Scholar,** Trinity University

FUNDED RESEARCH:

2023-2026 DOE Floating Offshore Wind Accelerator: "Addressing Challenges in Energy: Floating Wind in a Changing Climate (ACE-FWICC) Center") ($490K for Lundquist portion, Lundquist PI at CU, Larry Berg overall PI at PNNL)

2023-2024 CU Boulder seed grant: "Development and field testing with Argonne National Laboratory (ANL) of an Uncrewed Aerial System (UAS) simulator for mesoscale-microscale atmospheric modeling") ($75K + $25K cost-share from ANL, Lundquist PI)

2022-2025 NSF REU Site: "Atmospheric, Oceanic, and Cryospheric Sciences at the University of Colorado Boulder") ($525K, Lundquist PI) (NSF award # 2150262)

2022 RASEI seed grant: "Better Together: Coupling offshore wind resource with onshore solar resource for the West Coast US") ($25K, Lundquist PI)

2022-2024 NOWRDC Phase 1 grant: "Phase 1: Ensuring Long Term Availability and Bankability of Offshore Wind Through Hurricane Risk Assessment and Mitigation"(co-I; Jerome Hajjar, Northeastern University, PI) $99,908[1] for Lundquist portion at CU)

2021-2026	DOE Wind Forecast Improvement Project 3 (co-I; Anthony Kirincich, WHOI, PI) "Improving High Resolution Offshore Wind Resource Assessments and Forecasts using Observations in the MA/RI Lease Areas") ($777K[1] for Lundquist portion at CU)
2020-2021	NOWRDC Project (co-I; Mike Optis, PI) "A Validated National Offshore Wind Resource Dataset with Uncertainty Quantification") ($200K[1] for Lundquist portion at CU)
2020-2023	Open Philanthropy Project (co-I; Alan Robock and Brian Toon, PIs) "Environmental and Human Impacts of Nuclear War 2") ($305K[1] 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) ($14K[1] for Lundquist portion at CU)
2019-2025	National Renewable Energy Laboratory: "Wind Resource and Wind Plant Modeling" ($700K (frequently supplemented)). Lundquist PI
2017-2020	Open Philanthropy Project (co-I; Alan Robock and Brian Toon, PIs) "Environmental and Human Impacts of Nuclear War") ($467K[1] 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). Lundquist PI.
2016-2020	National Science Foundation "Collaborative Research: Perdigao--The Stable Boundary Layer over Complex Terrain" ($354K). Lundquist PI.
2016	Renewable and Sustainable Energy Institute Seed Grant "Do Wind Turbines Pose Roll Hazards to Light Aircraft?" ($25K). Lundquist PI
2015-2018	Department of Energy Wind Forecast Improvement Project ($2.5M total to team led by Vaisala, $350K to CU[1])
2015	National Science Foundation: "Characterizing the Atmospheric Boundary Layer" ($25K educational field deployment of NCAR instrumentation, 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). Lundquist PI.
2014-2016	Los Alamos National Laboratory: "IGPP: Assessing Impacts of Wind Turbines & Wind Farms" ($235K). Lundquist PI

[1] 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

2014-2018 National Renewable Energy Laboratory: “Atmosphere-Wind Plant Interactions: Observations and Modeling” ($950K). Lundquist PI, also includes multi-institution PI 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[1])

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[1]); partial subcontract to University of Colorado 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[1]); partial subcontract to University of Colorado 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,

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	$132K to CU[1]); partial subcontract to University of Colorado Boulder through Lawrence Livermore National Laboratory
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[2] 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[3], LLNL PI)
2005-2008	LLNL Laboratory-Directed Research and Development: "Urban Atmospheric Turbulence", ($738K[2] 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

COURSES DEVELOPED

- ATOC 4500/7500 Boundary-Layer Meteorology: Fall 2020, Fall 2022
- ATOC 5500: Graduate Student Professional Development: Fall 2021, Fall 2022
- ATOC 4500/7500 Numerical Weather Prediction Modeling Lab: Fall 2019, Fall 2021, Fall 2023
- ATOC 4770/5770 Wind Energy Meteorology: Spring semesters 2012-2023 (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)

COURSES TAUGHT

- ATOC 1050 Weather and the Atmosphere: Fall 2012, Fall 2013, Fall 2014, Fall 2017
- ATOC 4770/5770 Wind Energy Meteorology: Spring semesters 2012-2023 (taught as ATOC 4500/7500 Special Topics 2012-2014)
- ATOC 4500 Weather Analysis and Forecasting: Spring 2011
- ATOC 4500/7500 (in Fall 2019), ATOC 4875/5875 (in Fall 2021) Numerical Weather Prediction Modeling Lab: Fall 2019, Fall 2021, Fall 2023
- ATOC 4500/7500 Boundary-Layer Meteorology: Fall 2020
- ATOC 5050 Atmospheric Dynamics: Fall 2011, Fall 2015, Fall 2016

[1] 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

[2] 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

[3] 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

- ATOC 5500: Graduate Student Professional Development: Fall 2021, 2022
- ATOC 6020 Boundary-Layer Meteorology Seminar (1 credit): Each semester since Fall 2010 (except Fall 2018 – sabbatical)

STUDENTS ADVISED:

Ph.D., Major Advisor:

Matthew Aitken (University of Colorado Boulder, Physics, 2010-2014), now Fellow/Data Scientist at Croatan Institute, North Carolina. Thesis: "Wind Turbine Wake Characterization with Remote Sensing and Computational Fluid Dynamics"

Brian Vanderwende (University of Colorado Boulder, Dept. of Atmospheric and Oceanic Sciences, 2010-2015), now at National Center for Atmospheric Research. Thesis: "Exploring the Influence of Boundary Layer Stability on Wind Farms and their Interplay with the Surrounding Environment"

Clara St. Martin (University of Colorado Boulder, Dept. of Atmospheric and Oceanic Sciences, 2012-2017), now Senior Offshore Wind Resource Analyst at RWE. Thesis: "Interaction Between the Atmospheric Boundary Layer and Wind Energy: from Continental-Scale to Turbine-Scale"

Rochelle Worsnop (University of Colorado Boulder, Dept. of Atmospheric and Oceanic Sciences, 2012-2018), now Research Scientist at NOAA/CIRES. Thesis: "Extreme Winds: Impacts of Hurricanes and Ramp Events on Wind Energy"

Joseph Cheuk-Yi Lee (University of Colorado Boulder, Dept. of Atmospheric and Oceanic Sciences, 2013-2018), now Earth Scientist at Pacific Northwest National Lab. Thesis: "Exploring the role of the atmosphere on wind energy production: from turbine wakes to inter-annual variability of wind speed"

Laura Mazzaro (University of Colorado Boulder, Dept. of Atmospheric and Oceanic Sciences, 2015-2019), now Applied Scientist at Planet Labs, Santa Fe, NM. Thesis: "Mesoscale-to-LES Coupling of Atmospheric Boundary Layer Flows"

Nicola Bodini (University of Colorado Boulder, Dept. of Atmospheric and Oceanic Sciences, 2017- 2019), now research scientist at NREL. Thesis: "Turbulence Dissipation Rate: In-situ and lidar measurements in flat, offshore, and complex terrain leading to machine learning parameterizations"

Jessica Tomaszewski (University of Colorado Boulder, Dept. of Atmospheric and Oceanic Sciences, 2015-2020), now Wind Energy Research Scientist at REsurety, Inc. Thesis: "Simulating Impacts of Wind Energy on the Atmospheric Boundary Layer"

Stephanie Redfern (University of Colorado Boulder, Dept. of Atmospheric and Oceanic Sciences, 2015- 2020), now postdoctoral researcher at NREL. Thesis: "Atmospheric Modeling for Modern Wind Energy and Fire Applications"

Oleksa (Alex) Rybchuk (University of Colorado Boulder, Dept. of Mechanical Engineering, 2017-2021), now researcher at NREL. Thesis: "Modeling the Impact of Energy Infrastructure on the Atmospheric Boundary Layer"

Miguel Sanchez Gomez (University of Colorado Boulder, Dept. of Atmospheric and Oceanic Sciences, 2020-2023), now postdoctoral researcher at NREL. Thesis: "Large-eddy

simulations of the atmospheric boundary layer for wind energy applications: blockage and extreme events"

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

Dave Rosencrans (University of Colorado Boulder, Dept. of Atmospheric and Oceanic Sciences, 2020-expected 2024)

Andrew Kumler (University of Colorado Boulder, Dept. of Atmospheric and Oceanic Sciences, 2020-expected 2024)

Nathan Agarwal (University of Colorado Boulder, Dept. of Atmospheric and Oceanic Sciences, 2021-expected 2026)

Ph.D., Co-Supervisor:

Katherine A. Lundquist (University of California at Berkeley, 2008-2010) (LLNL supervisor, no relation)

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

Nicholas Luchetti (University of Colorado Boulder, Dept. of Atmospheric and Oceanic Sciences, 2018-2020)

Muna Hafsah (University of Delaware, Dept. of Geography and Spatial Sciences, expected 2025)

Ph.D., Committee Member:

John Williams (Colorado School of Mines, Ph.D 2012),

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

Patrick Boylan (University of Colorado Boulder, Dept. of Atmospheric and Oceanic Sciences, Ph.D. 2013),

Shelley Knuth (University of Colorado Boulder, Dept. of Atmospheric and Oceanic Sciences, Ph.D. 2014),

Katherine McCaffrey (University of Colorado Boulder, Dept. of Atmospheric and Oceanic Sciences, Ph.D. 2014),

Eric Simley (University of Colorado Boulder, Electrical, Computer, & Energy Engineering, Ph.D. 2015),

Joseph Brodie (University of Delaware, Ph.D. 2016),

Megan Bela (University of Colorado Boulder, Dept. of Atmospheric and Oceanic Sciences, Ph.D. 2016),

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

Steven Buck (University of Colorado Boulder, Aerospace Engineering Sciences, Ph.D. 2017)

Sean P. Burns (University of Colorado Boulder, Geography, Ph.D. 2018),

Aleya Kaushik (University of Colorado Boulder, Dept. of Atmospheric and Oceanic Sciences, Ph.D. 2018)

Fernando Carbajo Fuertes (École Polytechnique fédérale de Lausanne, Ph.D. 2018)

Nick Luchetti (University of Colorado Boulder, Dept. of Atmospheric and Oceanic Sciences, Ph.D. 2020)

Abhiram Doddi (University of Colorado Boulder, Aerospace Engineering Department, Ph.D. 2021)

Katherine Doubleday (University of Colorado Boulder, Dept. of Electrical, Computer, and Energy Engineering, Ph.D. 2021)

Jérôme Dujardin (École Polytechnique Fédérale de Lausanne, Ph.D. 2021)

Astrid Nybø (University of Bergen, Ph.D. 2022)

Marin Haid (University of Innsbruck, Ph.D. 2022)

Guo Lin (University of Colorado Boulder, Dept. of Atmospheric and Oceanic Sciences, Ph.D. 2023)

Gina Jozef (University of Colorado Boulder, Dept. of Atmospheric and Oceanic Sciences, Ph.D. 2023)

Mckenzie Dice (University of Colorado Boulder, Dept. of Atmospheric and Oceanic Sciences, Ph.D. 2023)

Christoffer Hallgren (Ph.D. Opponent, Uppsala University, Ph.D. 2023)

Holly Roth (University of Colorado Boulder, Dept. of Geography, expected 2024)

Adam Wise (University of California Berkeley, Ph.D. anticipated 2024)

Samuele Mosso (University of Innsbruck, Ph.D. anticipated 2024)

Laurens Stoop (external reviewer, University of Utrecht, anticipated 2024)

M.S., Major Advisor:

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

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

Andrew Metz (University of Colorado Boulder, Dept. of Atmospheric and Oceanic Sciences, 2022)

Camden Plunkett (University of Colorado Boulder, Dept. of Atmospheric and Oceanic Sciences, 2017-expected 2023)

Serena Lipari-DiLeonardo (University of Colorado Boulder, Dept. of Applied Mathematics, 2022-2023)

Joey Taylor (University of Colorado Boulder, Dept. of Atmospheric and Oceanic Sciences, 2021-2023)

Visiting Postdoctoral Researchers:

William Corrêa Radünz (University of São Paulo, Jan-Mar 2024, "Multiscale simulations of atmosphere-wind plant interactions during stable conditions and low-level jet events in the AWAKEN experiment")

Visiting Students:

Daniel Pollack, May-Aug 2011 (through SOARS program)

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., 2017)

Lukas Vollmer, October-December 2015 (University of Oldenberg, Germnay, Ph.D. expected 2021)

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

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

Simon Siedersleben August – Nov. 2017 (Karlsruher Institut für Technologie, Ph.D. 2019)

Robert Menke Jan. – June 2018 (Technical University of Denmark, Ph.D. 2020)

Philipp Gasch Apr. – Jun. 2018 (Karlsruher Institut für Technologie, Ph.D. 2021)

Johanna Borowski Nov. 2022-Feb. 2023 (Fraunhofer IWES, Uni Oldenberg, Ph.D. 2025)

Undergraduate Students:

Kelley Hestmark (UROP Summer 2012)

Jiwan Rana (UROP Summer 2013, continued as undergraduate researcher → Summer 2014)

Rachel Robey (UROP Summer 2014, continued as undergraduate researcher → Fall 2014)

Conor Tyler (UROP Fall-Winter 2014-15)

Jonathan Greenhut (UROP Summer 2015)

Reid Anderson (UROP Summer 2016)

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

James Bell (UROP Summer 2019)

Hannah Livingston (UROP Summer 2019, continuing as undergrad researcher through Spring 2021)

Vincent Pronk (UROP Summer 2020, continuing as undergrad researcher through Dec 2020)

Jake Silverstein (Summer 2021, continuing as researcher through fall 2021)

Sean Butters (Summer 2021, continuing as undergrad researcher through spring 2022)

Anne Nguyen (Summer 2021)

Blanca Hernandez Ramirez (NSF REU student, summer 2021)

Adrian Garza (NSF REU student, summer 2022)

Sarah Womantree (NSF REU student, summer 2021)

Jay Kong (Fall 2022-Spring 2023)

Daphne Quint (Fall 2022-Jan 2024)

Eva Ramm (Fall 2022-present)

Max Silver (Fall 2022-Jan 2024)

Kristian Posada (NSF REU student, summer 2023)

Undergraduate Honors Committee Member:

Jarrett Roberts (University of Colorado Boulder, Ecology and Evolutionary Biology Department, Spring 2012)

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

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

Madison Shogrin (University of Colorado Boulder, Environmental Studies Department, Spring 2020)

Sean Butters (University of Colorado Boulder, Environmental Studies Department, Spring 2022)

Jay Kong (University of Colorado Boulder, Department of Atmospheric and Oceanic Sciences, Fall 2022-Spring 2023) – *magna cum laude* Honors

Max Silver (University of Colorado Boulder, Applied Math Department, Fall 2022-Fall 2023) – *summa cum laude* Honors

Daphne Quint (University of Colorado Boulder, Department of Atmospheric and Oceanic Sciences, Spring 2023-Fall 2023) – *summa cum laude* Honors

Eva Ramm (University of Colorado Boulder, Department of Atmospheric and Oceanic Sciences, Spring 2023-Spring 2024, expected)

STUDENT AWARDS FOR STUDENTS SUPERVISED BY LUNDQUIST

- WRISE Rudd Mayer Fellowship (2023) (Serena Lipari-DiLeonardo)
- Outstanding Student Presentation, AMS 22nd Conference on Boundary Layers & Turbulence (2023) (Rachel Robey)
- Best Student Oral Presentation, AMS 14th Conference on Weather, Climate, and the New Energy Economy (2023) (Miguel Sanchez Gomez)
- Second Place Best Student Oral Presentation, AMS 14th Conference on Weather, Climate, and the New Energy Economy (2023) (Nathan Agarwal)
- Honorable Mention Student Oral Presentation, AMS 14th Conference on Weather, Climate, and the New Energy Economy (2023) (David Rosencrans)
- Director's Fellowship Postdoctoral Researcher, National Renewable Energy Laboratory (Jessica Tomaszewski, 2020, declined)
- Best Student Oral Presentation, AMS 11th Conference on Weather, Climate, and the New Energy Economy (2020) (Jessica Tomaszewski)
- Best Student Presentation, 35th International Conference on Alpine Meteorology (2019) (Nicola Bodini)
- Second Best Student Oral Presentation, AMS 9th Conference on Mountain Meteorology (2018) (Nicola Bodini)
- Best Student Oral Presentation, AMS 23rd Symposium on Boundary Layers and Turbulence (2018) (Jessica Tomaszewski)

- Commended Student Poster Presentation, AMS 23rd Symposium on Boundary Layers and Turbulence (2018) (Jessica Tomaszewski)
- AMS Named Scholarship (Glickman Family Scholarship) 2018 (Patrick Murphy)
- Best Student Oral Presentation, AMS 9th 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 8th Conference on Weather, Climate, and the New Energy Economy (2017) (Jessica Tomaszewski)
- 3rd place best Student Oral Presentation, AMS 8th Conference on Weather, Climate, and the New Energy Economy (2017) (Joseph C.-Y. Lee)
- Best Student Oral Presentation, AMS 22nd Symposium on Boundary Layers and Turbulence (2016) (Laura Mazzaro)
- NSF Graduate Research Honorable Mention (2016) (Jessica Tomaszewski)
- NOAA Pathways Intership (2016) (Rochelle Worsnop)
- Commended Student Presentation, AMS 21th Symposium on Boundary Layers and Turbulence (2014) (Brian Vanderwende)
- Outstanding Student Oral Presentation, AMS 4th Conference on Weather, Climate, and the New Energy Economy (2013) (Matthew Aitken)
- Best Student Presentation, AMS 3rd Conference on Weather, Climate, and the New Energy Economy (2012) (Brian Vanderwende)
- Commendable Student Presentation (tie), AMS 3rd Conference on Weather, Climate, and the New Energy Economy (2012) (Matthew Aitken)
- Best Student Poster, AMS 3rd Conference on Weather, Climate, and the New Energy Economy (2012) (Michael Rhodes)
- Best Student Poster, AMS 2nd Conference on Weather, Climate, and the New Energy Economy (2011) (Matthew Aitken)

NATIONAL/INTERNATIONAL SERVICE ACTIVITIES:

NCAR Mesoscale and Microscale Meteorology (MMM) Advisory Panel, 2023 - present

NSF Facilities for Atmospheric Research and Education (FARE) Future Steering Committee, 2023 - present

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

Member, AMS Energy Committee, 2022-present

European Wind Energy Academy, University of Colorado Boulder representative, 2021-present

Scientific Committee, North American Wind Energy Academy Meeting, 2019, 2021, 2022, 2023

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

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

Organizer of AMS 4th 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, Applied Energy

Reviewer for national and international funding agencies and academic departments:

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)
DTU Wind Energy
University of Innsbruck

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

Scientific Committee of 13th International Conference on Wind Engineering (2010)

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

CU SERVICE ACTIVITIES:

Director/PI, ATOC Research Experience for Undergraduates (REU) (planning 2020-2024, execution 2021, 2022, 2023)

Chair, ATOC Justice, Equity, Diversity, and Inclusivity Committee Chair (2020-present)

CU Excellence in Leadership Program (ELP) (2020-2021)

CU Research Computing Director Search Committee (2021)

RASEI Justice, Equity, Diversity, and Inclusivity Committee (2020-2023)

ATOC Graduate Advisor (2012-2020)

ATOC Executive Committee (2013-present)

CU Arts and Sciences Council (2016-2022), A&SC Curriculum Committee (2017-2022)

RASEI Director Search Committee (2019-2020)

CU Mechanical Engineering ARPAC Internal Reviewer (2017-2018)

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

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

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)

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 graduate students supervised or co-supervised by J. K. Lundquist
■ Denotes first authors who were undergraduate students supervised or co-supervised by J. K. Lundquist
☆ Denotes first authors who were visiting students supervised by J. K. Lundquist
¶ Denotes first authors who were postdoctoral researchers supervised by J. K. Lundquist

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PUBLICATIONS IN REVIEW:

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

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PUBLICATIONS IN PREPARATION:

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

138. Silver■, M., S. Lipari-DiLeonardo, and **J. K. Lundquist**, 2024: Changes in wildfire risk on Colorado's Front Range, In preparation for *Weather and Forecasting.*

139. **Lundquist, J. K.**, J. Badger, M. Dörenkämper, C. Draxl, J. Fischereit, D. Heinemann, R. King, X. Larsén, G. Steinfeld, and G. Xia, 2024, Grand Challenges: Mesoscale Wind Plant Wakes, in preparation for *Wind Energy Science.*

140. Agarwal★, N., and **J.K. Lundquist**, 2024, Which stability metrics give insight for Wind Energy Applications in Complex Terrain: Insights from Perdigão, in preparation for *Atmos. Meas. Tech.*

141. Lipari-DiLeonardo★, S. and **J. K. Lundquist**, 2024, Downslope Windstorms are decreasing on Colorado's Front Range, in preparation for *Geophysical Research Letters.*

142. Ramm■, E., S. Lipari-DiLeonardo, C. Vagasky, and **J. K. Lundquist**, 2024: Effects of wind turbines on lightning occurrences in Oklahoma and Colorado, In preparation for *Journal of Renewable and Sustainable Energy*

143. Sanchez Gomez★, **J. K. Lundquist**, G. Deskos, S. R. Arwade, A. T. Myers, J. F. Hajjar, 2024, Contrasting representations of hurricane winds in mesoscale and large-eddy simulations, in preparation for *Geoscientific Model Development.*

144. Bloomfield, H. C., **J. K. Lundquist**, N. Agarwal, K. Gruber, I. A. Mostue, M. Zeyringer, M. T. Craig, P. L. M. Gonzalez, M. Deakin, 2024, Extreme weather events for energy systems: Exploring their impacts, predictability and future research directions, in preparation for *Renewable and Sustainable Energy Reviews.*

145. Letitzia, S., N. Bodini, R. Robey, M. Sanchez Gomez, **J. K. Lundquist**, 2024, Tilted lidar scanning, in preparation for *Journal of Renewable and Sustainable Energy.*

146. Arthur, R. S., G. Rios, S. Wharton, T. W. Juliano, A. Rybchuk, **J. K. Lundquist**, J.-C. Golaz, T. A. Edmunds, 2024, Evaluating mesoscale model predictions of diurnal speedup events in the Altamont Pass Wind Resource Area of California, in preparation for *Wind Energy Science.*

147. Wise, A. S., R. S. Arthur, J. D. Mirocha, **J. K. Lundquist**, F. K. Chow, Wind farm performance under a range of stable boundary layer conditions, 2024, in preparation for *Journal of Renewable and Sustainable Energy.*

148. Kumler, A., **J. K. Lundquist,** and 20 other co-authors, 2024, Renewable energy in a climate changed, solar radiation modified world, in preparation for *Renewable and Sustainable Energy Reviews.*

BOOK CHAPTER

Lundquist J.K. (2021) Wind Shear and Wind Veer Effects on Wind Turbines. In: Stoevesandt B., Schepers G., Fuglsang P., Yuping S. (eds) *Handbook of Wind Energy Aerodynamics*. Springer, Cham. https://doi.org/10.1007/978-3-030-05455-7_44-1

PEER-REVIEWED CONFERENCE PRESENTATIONS

10. Debnath, M., A. Scholbrock, D. Zalkind, P. Moriarty, E. Simley, C. Ivanov, N. Hamilton, R. Barthelmie, N. Bodini, A. Brewer, T. Herges, B. Hirth, V. Iungo, D. Jager, C. Kaul, P. Klein, R. Krishnamurthy, S. Letizia, **J. K. Lundquist,** R. Newsom, M. T. Ritsche, J. Schroeder, J. Van Dam, and S. Wharton, 2022: Design of American Wake Experiment field campaign. *Journal of Physics: Conference Series,* **2265,** 022058, https://iopscience.iop.org/article/10.1088/1742-6596/2265/2/022058.

9. Debnath, M., P. Bugger, E. Simley, P. Doubrawa, N. Hamilton, A. Scholbrock, D. Jager, M. Murphy, J. Roadman, **J. K. Lundquist**, P. Fleming, F. Porté-Agel, and P. Moriarty, 2020: Longitudinal coherence and short-term wind speed prediction based on a nacelle-mounted Doppler lidar. *Journal of Physics: Conference Series*, **1618**, 032051, https://doi.org/10.1088/1742-6596/1618/3/032051.

8. Wildmann, N., T. Gerz, and **J. K. Lundquist**, 2020: Long-range Doppler lidar measurements of wind turbine wakes and their interaction with turbulent atmospheric boundary-layer flow at Perdigao 2017. *Journal of Physics: Conference Series*, **1618**, 032034, https://doi.org/10.1088/1742-6596/1618/3/032034.

7. Sanchez Gomez★, M., and **J. K. Lundquist**, 2020: The Effects of Wind Veer During the Morning and Evening Transitions. *Journal of Physics: Conference Series***, 1452**, 012075, https://doi.org/10.1088/1742-6596/1452/1/012075.

6. Englberger, A., and **J. K. Lundquist**, 2020: How does inflow veer affect the veer of a wind-turbine wake? *Journal of Physics: Conference Series*, **1452**, 012068, https://doi.org/10.1088/1742-6596/1452/1/012068.

5. Bodini★, N., **J. K. Lundquist,** and A. Kirincich, 2020: Offshore Wind Turbines Will Encounter Very Low Atmospheric Turbulence. *Journal of Physics: Conference Series*, 1452, 012023, https://doi.org/10.1088/1742-6596/1452/1/012023.

4. Lee★, J. C.-Y., M. J. Fields, **J. K. Lundquist**, and M. Lunacek, 2018: Determining variabilities of non-Gaussian wind-speed distributions using different metrics and timescales. *J. Phys.: Conf. Ser.*, **1037**, 072038, https://doi.org/10.1088/1742-6596/1037/7/072038.

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

2. Takle, E. S., D. A. Rajewski, **J. K. Lundquist**, W. A. G. 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, https://doi.org/10.1088/1742-6596/524/1/012174.

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, https://doi.org/10.1088/1742-6596/625/1/012002.

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

19. Rosencrans, D. ★**,** B. Benton, G. Buster, A. Glaws, R. King, **J. K. Lundquist**, J. Gu, G. Maclaurin. 2023. Wind Resource Data for Southeast Asia using a Hybrid Numerical Weather Prediction with Machine Learning Super Resolution Approach. Golden, CO: National Renewable Energy Laboratory. https://www.nrel.gov/docs/fy23osti/85481.pdf

18. Bodini, Nicola, Alex Rybchuk, Mike Optis, Walter Musial, **Julie K. Lundquist**, Stephanie Redfern, Caroline Draxl, Raghavendra Krishnamurthy, and Brian Gaudet. 2022. Update on NREL's 2020 Offshore Wind Resource Assessment for the California Pacific Outer Continental Shelf. Golden, CO: National Renewable Energy Laboratory. NREL/TP-5000-83756. https://www.nrel.gov/docs/fy23osti/83756.pdf .

17. Moriarty, P., N. Hamilton, M. Debnath, T. Herges, B. Isom, **J. K. Lundquist**, D. Maniaci, B. Naughton, R. Pauly, J. Roadman, W. Shaw, J. van Dam, and S. Wharton, 2020: American WAKE experimeNt (AWAKEN). Golden, CO: National Renewable Energy Laboratory. NREL/TP-5000-75789. https://www.nrel.gov/docs/fy20osti/75789.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. Grimit, 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 .

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

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. https://www.nrel.gov/docs/fy16osti/65925.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

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.

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.

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.

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)

8. Singer, M., **J. K. Lundquist**, and J. Cleve, 2009: Modeling Wind Turbine Wakes. LLNL Technical Report LLNL-TR-416192.

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.

6. **Lundquist, J. K**., 2008: Director's Climate Initiative Wind Energy SMS Task – 2008 Report. LLNL Technical Report LLNL-TR-407754.

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.

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.

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

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

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)

INVITED PRESENTATIONS

2023 Uppsala University (Sweden), Department of Earth Sciences "From turbulence to wind-turbine wakes: boundary-layer challenges in the atmospheric science of wind energy", 9 Nov 2023

2023 North American Wind Energy Academy/WindTech 2023 Conference Plenary Session: The Long View: Grand Challenges in Wind Energy – The Atmosphere. 1 Nov 2023

2023 European-American Collaboration in Wind Energy Seminar Series: "Assessing Risk to Offshore Wind Turbines using Large Eddy Simulations". 13 Sept 2023, https://ral.ucar.edu/events/2023/assessing-risk-offshore-wind-turbines-using-large-eddy-simulations

2023 Universidade Federal de Santa Catarina, Florianópolis, Brazil "Offshore Wind Farm Wakes," (given remotely), 30 August 2023

2023 NCAR Advanced Studies Program symposium on the Planetary Boundary Layer "Boundary Layer Meteorology for Wind Energy," 19 July 2023,

2022 Johns Hopkins University "Enabling renewable energy growth by addressing challenges in the atmospheric science of wind energy," 30 September 2022

2021 Keynote presentation at North American Wind Energy Academy: Recent Research Advances in Atmospheric and Ocean Sciences (on-line) "The US Offshore Wind Resource and its Modification by Wakes," 27 October 2021

2021 Keynote presentation at Wind Energy Science Conference (Hannover, Germany, held on-line) "Turbulence to turbine wakes: challenges in the atmospheric science of wind energy," 25 May 2021

2021 University of Minnesota St. Anthony Falls Laboratory "Turbulence to turbine wakes: challenges in the atmospheric science of wind energy," 16 February 2021

2021 University of Utah Department of Atmospheric science "Turbulence to turbine wakes: challenges in the atmospheric science of wind energy," 3 February 2021

2020 American Physical Society 73rd Annual Meeting of the APS Division of Fluid Dynamics, Invited Speaker to Mini-Symposium: Wind Energy Fluid Mechanics "The Fluid Physics Challenges of Atmospheric Flow Relevant to Wind Turbines," 22 November 2020

2020 University of Colorado Boulder Department of Applied Mathematics "Turbulence to turbine wakes: challenges in the atmospheric science of wind energy," 25 September 2020

2020 National Renewable Energy Laboratory Wind Energy Science Leadership Series: "Atmospheric Science for Wind Energy" Webinar, 31 August 2020

2020 American Wind Energy Association webinar, "Grand Challenges in the Science of Wind Energy," 13 May 2020

2020 National Center for Atmospheric Research/Earth Observing Lab seminar, "Turbulence in Complex Terrain: Insights from the Perdigäo Field Campaign," Boulder, Colorado, https://www.youtube.com/watch?v=pnrLKQCGvPY&list=PLniYCv2y34EHp9aN3SEnb3q7ok3yfyUU2

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

2018 Deutsches Zentrum fur 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 Perdigão 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 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 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 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 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 5th 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 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 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

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 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

2000 Trinity University Physics Department colloquium

MEDIA COVERAGE

2018 NPR 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/f67zkf5j6gibfqsjztjcb8qcw0e5z3

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

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

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

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

RECENT GUEST LECTURES

2024 Sustainable Energy at College of the Holy Cross, 21 February 2024, by zoom invitation from Keith Seitter

RECENT (2023+) CONFERENCE PRESENTATIONS (presenter underlined)

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

Moriarty, P. et al. Overview of recent observations and simulations from the American Wake Experiment (AWAKEN) field campaign (oral), Torque 2024, 29-31 May 2024, Florence, Italy

Sanchez Gomez, M. et al. Can mesoscale models capture the evolution of cluster wakes offshore? (poster), Torque 2024, 29-31 May 2024, Florence, Italy

Lundquist, JK et al. Wake Effects in Lower Carbon Future Scenarios (oral), Torque 2024, 29-31 May 2024, Florence, Italy

Vöhringer, Lílen et al. Comparison of horizontal wind speed and direction measurements from dual-Doppler Radar and profiling Lidars (poster), Torque 2024, 29-31 May 2024, Florence, Italy

Bodini N. et al. Leveraging observations from the American Wake Experiment (AWAKEN) to create international benchmarks on wind plant wakes (poster), Torque 2024, 29-31 May 2024, Florence, Italy

Hastings-Black, A. et al. Behavior and mechanisms of Doppler wind lidar error in complex terrain: stable flow case study at Perdigão (oral), Torque 2024, 29-31 May 2024, Florence, Italy

Agarwal★, N., **J. K. Lundquist,** A. Rybchuk, Assessing the Sensitivity of the Fitch Wind Farm Parameterization to a Three-Dimensional Planetary Boundary Layer Scheme Based on a North Sea Case Study, 15th Conference on Weather, Climate, and the New Energy Economy, American Meteorological Society Annual Meeting, 29 January-1 February 2024, Baltimore, Maryland.

Bodini, N., **J. K. Lundquist**, et al. The American Wake Experiment (AWAKEN): leveraging observations to create international benchmarks, 15th Conference on Weather, Climate, and the New Energy Economy, American Meteorological Society Annual Meeting, 29 January-1 February 2024, Baltimore, Maryland.

Hafsha★, M., **J. K. Lundquist**, D. Veron, Sensitivity Study of Different Planetary Boundary Layer Schemes of WRF for a Case of Low-Level Jet in the NY Bight, 15th Conference on Weather, Climate, and the New Energy Economy, American Meteorological Society Annual Meeting, 29 January-1 February 2024, Baltimore, Maryland.

Kumler★, A.C., **J. K. Lundquist**, G. Deskos, W. Musial, Identification of Climatological Representative Days in the Mid-Atlantic for High-Fidelity Offshore Wind Energy Modeling, 15th Conference on Weather, Climate, and the New Energy Economy, American Meteorological Society Annual Meeting, 29 January-1 February 2024, Baltimore, Maryland.

Lundquist J. K. , D. Rosencrans, O. Roberts, A. Lopez, and T. Mai, Estimating Wake Effects Between Wind Plants for Capacity Expansion Modeling, 15th Conference on Weather, Climate, and the New Energy Economy, American Meteorological Society Annual Meeting, 29 January-1 February 2024, Baltimore, Maryland.

Lundquist JK et al. The Atmospheric, Oceanic, and Cryospheric REU at the University of Colorado Boulder (poster), American Meteorological Society Annual Meeting, 29 January-1 February 2024, Baltimore, Maryland.

Quint■, D. and **J. K. Lundquist**, Offshore Wind Farms Modify Low-Level Jets, 15th Conference on Weather, Climate, and the New Energy Economy, American Meteorological Society Annual Meeting, 29 January-1 February 2024, Baltimore, Maryland.

Ramm■, E., **J. K. Lundquist**, H. Lowenheath, M. J. Murphy, R. Seid, C. Vagasky, Do Wind Turbines Affect Occurrences of Lightning in Oklahoma? 15th Conference on Weather, Climate, and the New Energy Economy, American Meteorological Society Annual Meeting, 29 January-1 February 2024, Baltimore, Maryland.

Robey★, R. and **J. K. Lundquist**, Influences of Lidar Scanning Parameters on Wind Turbine Wake Retrievals in Complex Terrain, 15th Conference on Weather, Climate, and the New Energy Economy, American Meteorological Society Annual Meeting, 29 January-1 February 2024, Baltimore, Maryland.

Sanchez Gomez, M., **J. K. Lundquist,** G. Deskos, Differences in wind field characteristics between mesoscale and large-eddy simulations of idealized tropical cyclones, 15th Conference on Weather, Climate, and the New Energy Economy, American Meteorological Society Annual Meeting, 29 January-1 February 2024, Baltimore, Maryland.

Silver■, M. and **J. K. Lundquist**, Changing Fire Weather in Colorado: A Contrast Between Observational Data and Reanalysis Data, 15th Conference on Weather, Climate, and the New Energy Economy, American Meteorological Society Annual Meeting, 29 January-1 February 2024, Baltimore, Maryland.

Lundquist, J. K., M. Sanchez Gomez, G. Deskos, A53C-07 Differences in Boundary-layer Winds in Tropical Cyclones Simulated by Mesoscale and Large-Eddy Simulations (talk), AGU American Geophysical Union Fall Meeting, 11-15 December, San Francisco, California

Wise, A., **J. K. Lundquist**, F. K. Chow, A43O-2953 Small-scale Turbulence in Complex Terrain and its Effect on Wind Turbine Wake Recovery (poster), American Geophysical Union Fall Meeting, 11-15 December, San Francisco, California

Arthur RS, G Rios, S Wharton, T W Juliano, A Rybchuk, **J K Lundquist**, J-C Golaz, T A, GC21O-1117 Characterizing speedup flows in the Altamont Pass Wind Resource Area of California: observations and model evaluation (poster), American Geophysical Union Fall Meeting, 11-15 December, San Francisco, California

Agarwal★, Nathan and **J. K. Lundquist**, Which stability metrics give insight for wind energy applications in complex terrain? Analysis of Perdigão towers (oral), North American Wind Energy Academy/WindTech Conference, 30 Oct-1 Nov 2023, Broomfield, Colorado

Kumler★, A., **J K Lundquist,** N. Bodini, 20-year Modeled Spatiotemporal Low-Level Jet Climatology Along the U.S. Mid-Atlantic Coast (oral), North American Wind Energy Academy/WindTech Conference, 30 Oct-1 Nov 2023, Broomfield, Colorado

Quint■ D, **J K Lundquist**, Offshore Wind Farms Modify Low-Level Jets (poster), North American Wind Energy Academy/WindTech Conference, 30 Oct-1 Nov 2023, Broomfield, Colorado

Robey★ Rachel, and J. K. Lundquist, Assessment of scanning lidar techniques for measuring wakes in complex terrain (poster), North American Wind Energy Academy/WindTech Conference, 30 Oct-1 Nov 2023, Broomfield, Colorado

Rosencrans★, D., Modeling Between-Plant Wake Impacts in the Southern Great Plains (oral), North American Wind Energy Academy/WindTech Conference, 30 Oct-1 Nov 2023, Broomfield, Colorado

Rosencrans★, D., Spatiotemporal Variability of Icing Conditions Across the Mid-Atlantic Bight (oral), North American Wind Energy Academy/WindTech Conference, 30 Oct-1 Nov 2023, Broomfield, Colorado

Sanchez Gomez, Miguel, **J. K. Lundquist**, G. Deskos, S. R. Arwade, A. T. Myers, J. F. Hajjar, Wind fields in low- and mid-intensity tropical cyclones are not fully represented in turbine design standards (oral), North American Wind Energy Academy/WindTech Conference, 30 Oct-1 Nov 2023, Broomfield, Colorado

Rosencrans★, D., **J. K. Lundquist**, Annual Variability of Wake Impacts on Mid-Atlantic Offshore Wind Plant Deployments, Wind Energy Science Conference, 23-26 May 2023, Glasgow, United Kingdom.

Sanchez Gomez★, M., **J. K. Lundquist**, Can lidars assess wind plant blockage in the simple terrain of the AWAKEN domain? A WRF-LES study, Wind Energy Science Conference, 23-26 May 2023, Glasgow, United Kingdom.

Borowski★, J., **J. K**. **Lundquist**, Predicting future wind speeds based on climate projections and advanced MCP-methods, Wind Energy Science Conference, 23-26 May 2023, Glasgow, United Kingdom.

Bodini, N. , **J. K**. **Lundquist**, A Validated National Offshore Wind Resource Dataset with Uncertainty Quantification, Wind Energy Science Conference, 23-26 May 2023, Glasgow, United Kingdom.

Kumler★, A., **J. K. Lundquist**, C. Draxl C., A. Kirincich, Reducing Uncertainty in Offshore Wind Energy Yield Estimates via a Metocean Reference Site, 14th Conference on Weather, Climate, and the New Energy Economy, American Meteorological Society Annual Meeting, 9-12 January 2023, Denver, Colorado.

Rosencrans★, D. J., **J. K. Lundquist**, G. Xia, The Impacts of Large Wind Plant Wakes on Sea Breeze Dynamics, 14th Conference on Weather, Climate, and the New Energy Economy, American Meteorological Society Annual Meeting, 9-12 January 2023, Denver, Colorado.

Rosencrans★, D. J., **J. K. Lundquist**, M. Optis, N. Bodini, Quantifying Uncertainty of Wake Impacts in U.S. Offshore Wind Energy Areas, 14th Conference on Weather, Climate, and the New Energy Economy, American Meteorological Society Annual Meeting, 9-12 January 2023, Denver, Colorado.

Kirincich, A., C. A. Clayson, J. T. Farrar, H. Seo, S. Zippel, H. Jiang, B. Kosovic, **J. K. Lundquist**, C. Chan, E. Hines, R. Krishnamurthy, C. Draxl, J. D. Mirocha, R. Kotamarthi, D. D. Turner, J. Wilczak, and R. M. Banta, The Third Wind Forecast Improvement Project (WFIP-3): Project Motivation and Initial Analyses, 14th Conference on Weather, Climate, and the New Energy Economy, American Meteorological Society Annual Meeting, 9-12 January 2023, Denver, Colorado.

Taylor★, J., **J. K. Lundquist**, B. Kosovic, J. Aikins, M. Eghdami, T. Juliano, K. A. Kosiba, and J. Wurman, Pyroconvective Cloud Formation during the East Troublesome Wildfire: WRF-Fire

Simulations and Doppler Radar Profiles, 24th Symposium on Boundary Layers and Turbulence, American Meteorological Society Annual Meeting, 9-12 January 2023, Denver, Colorado.

Sanchez Gomez★, M., **J. K. Lundquist**, J. Mirocha, and R. S. Arthur, Tiling Approaches in LES for Understanding Stability Impacts on Boundary-Layer Flow Around Wind Plants, 24th Symposium on Boundary Layers and Turbulence, American Meteorological Society Annual Meeting, 9-12 January 2023, Denver, Colorado.

Moriarty, P., N. Bodini, N. Hamilton, T. G. Herges, G. V. Iungo, H. Ivanov, C. Kaul, R. Krishnamurthy, S. Letizia, **J. K. Lundquist**, A. Scholbrock, R. Scott, and S. Wharton, Overview of the American Wake Experiment (AWAKEN), 24th Symposium on Boundary Layers and Turbulence, American Meteorological Society Annual Meeting, 9-12 January 2023, Denver, Colorado.

Sanchez Gomez★, M., **J. K. Lundquist**, J. Mirocha, R. S. Arthur, D. Munoz-Esparza, and R. Robey, Difficulties in Measuring Wind Plant Blockage in Simple Terrain using Nacelle-Mounted Lidars: A Simulation Study, 24th Symposium on Boundary Layers and Turbulence, American Meteorological Society Annual Meeting, 9-12 January 2023, Denver, Colorado.

Englberger, A., **J. K. Lundquist** and A. Dörnbrack, The Impact of the Rotational Direction of a Wind Turbine on its Wake and its Downwind Neighbour, 24th Symposium on Boundary Layers and Turbulence, American Meteorological Society Annual Meeting, 9-12 January 2023, Denver, Colorado.

Bodini, N., S. Redfern, A. Rybchuk, D. J. Rosencrans, S. L. Tai, M. Optis, **J. K. Lundquist**, L. K. Berg, C. Draxl, S. Castagneri, V. J. Pronk, and M. Rossol, A Validated National Offshore Wind Resource Dataset with Uncertainty Quantification, 14th Conference on Weather, Climate, and the New Energy Economy, American Meteorological Society Annual Meeting, 9-12 January 2023, Denver, Colorado.

Rybchuk★, A., C. B. Alden, **J. K. Lundquist**, and G. B. Rieker, Can We Use WRF-LES to Assess Near-Field Dispersion of Trace Gases? 24th Symposium on Boundary Layers and Turbulence, American Meteorological Society Annual Meeting, 9-12 January 2023, Denver, Colorado.

Robey★, R. and **J. K. Lundquist**, Virtual LiDAR in WRF-LES, 24th Symposium on Boundary Layers and Turbulence, American Meteorological Society Annual Meeting, 9-12 January 2023, Denver, Colorado.

Lundquist, J. K., N. Bodini, P. Moriarty, Wind Farm Wakes Affect Long-Term Climate Observations at the ARM Central Facility, 24th Symposium on Boundary Layers and Turbulence, American Meteorological Society Annual Meeting, 9-12 January 2023, Denver, Colorado.

Lundquist, J. K., and M. Sanchez Gomez, Large-eddy Simulations of Hurricanes for Offshore Wind Energy Risk Assessment, 14th Conference on Weather, Climate, and the New Energy Economy, American Meteorological Society Annual Meeting, 9-12 January 2023, Denver, Colorado.

Rybchuk★, A., T. Juliano, **J. K. Lundquist**, D. J. Rosencrans, N. Bodini, and M. Optis, How PBL Schemes Influence Representation of Wind Farm Wakes: Comparison between MYNN and the 3DPBL in Offshore Regions, 24th Symposium on Boundary Layers and Turbulence, American Meteorological Society Annual Meeting, 9-12 January 2023, Denver, Colorado.

Agarwal★, N. J., and **J. K. Lundquist,** Which Stability Metrics Give Insight for Wind Energy Applications in Complex Terrain? Analysis of Perdigão Towers, 24th Symposium on Boundary Layers and Turbulence, American Meteorological Society Annual Meeting, 9-12 January 2023, Denver, Colorado.

Over 250 earlier conference presentations not listed here. Please contact Prof. Lundquist for a list.