Department of Earth and Atmospheric Sciences, Cornell University, Ithaca, NY 14853
Faculty Fellow, Atkinson Center for a Sustainable Future (ACSF), and Adjunct Professor Technical University of Denmark

EDUCATION

Date	*Degree conferred*	*Institution*
1993-1995	**Post-Doctoral Fellow**	University of British Columbia, Vancouver, Canada
1989-1992	**Ph. D.**	University of East Anglia, Norwich, U.K.
1986-1989	**B.Sc. (Hons) 1st class**	University of East Anglia, Norwich, U.K.

PROFESSIONAL EXPERIENCE

Dates	*Position*
2021-2026	**Affiliate Professor**, Danish Technical University, Copenhagen, Denmark
2014 on	**Professor,** Cornell University, Ithaca, NY 14853
2011-14	**Associate Vice Provost** for Faculty and Academic Affairs, Indiana University
1995-14	**Professor,** Indiana University, Bloomington, IN 47405
	Rank of Provost Professor bestowed in 2010
	Indiana University Presidents Award bestowed in 2008
2009-11	**Visiting Distinguished Professor,** University of Aarhus, Denmark
1999 on	**Visiting Senior Scientist**, DTU Risø, DK 4000 Roskilde, Denmark
1992-94	**Adjunct Research Meteorologist**, Desert Research Institute, Reno, NV
1990-92	**Research Associate**, Desert Research Institute, University of Nevada, Reno, NV
1988	**Research Associate**, University of East Anglia, U.K.

Year	Description
2022	Energy Systems Integration Group (ESIG) Excellence Award. Citation: "for engineering and scientific contributions to the understanding of climate change impact on wind energy resources."
2021-	Fellow of the American Meteorological Society (AMS)
2018	Cornell-CALS Research and Extension Award for Outstanding Accomplishments in Research
2017-18	Review editor. Energy chapter. 4th U.S. National Climate Assessment
2015	US representative to IPCC special workshop on Regional Climate Projections and their Use in Impacts and Risk Analysis Studies, Brazil
2014-	Fellow of the American Association for the Advancement of Science (AAAS)
2014-	North American representative for WMO CORDEX-ESD. CORDEX = Coordinated Regional Downscaling Experiment. ESD = Empirical Statistical Downscaling.
2013	Co-author – best poster prize for "Wake merging at Lillgrund" by Barthelmie, Pryor, Hansen, Maguire at the European Wind Energy Association annual conference
2013-14	Invited participant World Climate Research Programme, WMO, CORDEX ESD workshops. Trieste, Italy, Oct 2013 and Buenos Aires, Argentina, July 2014.
2011-14	3rd National Climate Assessment and Development Committee (NCADAC), convened by U.S. Department of Commerce's National Oceanic & Atmospheric Administration
2011-14	Convening Lead Author: Midwest Region for the 3rd U.S. National Climate Assessment
2010-12	Invited participant in workshop meetings for National Climate Assessment: Climate extremes: Asheville NC Jan '12 Downscaling projections: Washington DC Dec '10
2010-12	Special services contract: Climate change – extremes and critical energy infrastructure, International Atomic Energy Authority
2009-10	Fellow: Academic Leadership Program, Committee on Institutional Cooperation
2009-12	Contributing author to IPCC report: Special Report on Renewable Energy Sources and Climate Change Mitigation (SRREN) (Chapter 'Wind Energy')

RESEARCH LEADERSHIP OF INTERNATIONAL ORGANIZATIONS

Date	P.I.	Title	Organization
2021-2024	Pryor, Hewitson and Solmon.	Co-Chairs of WCRP Core Project: Regional Information for Society	World Meteorological Organization
2021-2026	Bukovsky, Ullrich, Pryor, et al.	Assessing the use of regional models in a storyline framework for understanding climate hazards	World Meteorological Organization: Regional Modeling
2021-2025	Raul, Hasager, Pryor, et al.	Erosion of wind turbine blades (Pryor WP leader for "Climate Conditions")	International Energy Agency
8/2020-8/2024	Barthelmie & Pryor	Wind plant flow physics and power performance in complex environments	National Renewable Energy Laboratory (NREL)

Grants that are currently active are shown in bold (where project involves multiple institutions, only the amount to SCP institution is denoted).

Date	*P.I.*	*Title*	*Agency*	*Amount*
2023-2025	**Barthelmie & Pryor**	**Instrumentation, Modeling, and Analysis Support for the American Wake Experiment (AWAKEN)**	**DoE- Sandia National Laboratory**	**$371,380**
2023-2025	**Barthelmie and Pryor (joint with NREL)**	**Assessment of Cluster Wakes and Inter-array Impacts to Optimize U.S. Atlantic Offshore Wind Energy Area Development**	**Joint Industry-Government Project (JIP)**	**$140,000 (initial funding)**
2023-2025	**Pryor, Barthelmie and Hassani**	**Global Centers Track 2 Enhanced Wind Turbine Blade Durability**	**NSF**	**$249,944**
2022-2026	**Knepper, Pryor, Bukovsky, Lee**	**CSSI:Frameworks: Large Scale Atmospheric Research Using an Integrated WRF Modeling, Visualization, and Verification Container Framework (I-WRF)**	**NSF**	**$2,073,273**
2022-2025	**Ullrich, Gutowski, Jones, Leung, Bukovsky & Pryor**	**A framework for improving analysis and modeling of Earth System and Intersectoral dynamics at regional scales**	**Department of Energy**	**$724,233**
2021-2024	**Crippa, Castruccio, Pryor, Huffman**	**Quantifying physical and chemical forcing from landscape evolution on extreme precipitation**	**NASA**	**$185,000**

RESEARCH GRANTS: Sara C. Pryor

2021-2025	**Pryor**	**Leading Edge Erosion Research**	**Sandia National Laboratories**	**$180,000 ($45,000/yr with annual renewal).**
2021-2023	Fleming, Lawson, Churchfield, King, Shields, Barthelmie, Pryor & Knauer	Wind farm control and layout optimization for U.S. offshore wind farms	NYSERDA/ Department of Energy	$124,980
2020-2022	Barthelmie & Pryor	Reducing LCoE from offshore wind by multiscale wake modeling	NYSERDA/ Department of Energy	$299,997
2020-2022	Pryor	Climate projections of wind resources and operating conditions (WROC)	Pattern Energy Group	$214,487
2019-2022	Ullrich, Gutowski, Jones, Leung, Mearns & Pryor	A framework for improving analysis and modeling of Earth System and Intersectoral dynamics at regional scales	Department of Energy	$708,233
2016-2021	Gutowski, Leung, Mearns, Pryor, Hall, Srinivasan	A hierarchical evaluation framework for assessing climate simulations relevant to the energy-water-land nexus	Department of Energy	$1,095,788
2016-2020	Fernando, Barthelmie, Pryor & Klein	Perdigão: Multiscale Flow Interactions in Complex Terrain	National Science Foundation	$366,920
2016-2020	Pryor, da Silva, Henschel & Levy	Quantifying and attributing variability and trends in aerosol characteristics of relevance to climate forcing	NASA	$556,739
2015-2021	Lifka et al. (SCP science use lead)	Aristotle Cloud Federation	National Science Foundation	$5 million
2015-2018	Pryor, Barthelmie & Vernon	Improved detection and quantification of wind gusts	National Science Foundation	$187,480

2014-2017	Pryor & Sullivan (Graduate fellowship to Sullivan)	Diagnosing Spatiotemporal Coherence and Variability of Aerosol Particle Concentrations Using a Satellite Proxy	NASA Earth and Space Science Fellowship (NESSF) Program	$30,000 (year 1) $30,000 (year 2) $30,000 (year 3)
2013-2018	Schoof & Pryor	Collaborative Research: Physical Drivers of Equivalent Temperature Variability	National Science Foundation	$129,000
2011-2016	Barthelmie, Pryor, Alexander, Matthiesen, Calhoun, Hasager & Marzocca	An integrated approach to offshore wind energy assessment: Great Lakes 3D Wind Experiment	Department of Energy	$420,000
2011-2016	Pryor & Katul	Up-scaling from leaf to canopy the aerosol-sized particle collection mechanism within a non-uniform canopy medium	National Science Foundation	$560,000
2011-2015	Madsen et al. (Barthelmie & Pryor OTC participants) FP7-ENERGY-2011-1	Design Tools for Offshore Wind Farm Cluster (Offshore Cluster)	European Commission	$25,000 (as OTC partner)
2011-2014	Pratt et al. (Pryor named Senior Personnel/Consultant)	Understanding methane sources/sinks in Greenland	NASA	$2.4 million
2011-2012	Barthelmie & Pryor	Wake measurements of FDWT (Mixer-Ejector Wind Turbine)	Department of Energy	$49,374
2011-2016	Barthelmie & Pryor	Multiple wake interactions in large wind farms	National Science Foundation	$300,000
2010-2016	Pryor, Barthelmie & Schoof	Climate change impacts on regional wind climates	National Science Foundation	$194,000

2008-2011	Barthelmie & Pryor	Wake measurements with lidars	BP Alternative Energy	$26,000
2008-2010	Barthelmie & Pryor	Quantifying wind farm power losses due to wind turbine wakes	National Science Foundation	$90,000
2008-2011	Pryor & Hopke	Supplemental award to grant NSF ATM 0544745 for enhancement of field experiment	National Science Foundation	$95,000
2007-2010	Schoof & Pryor	Collaborative research: Development of 21st century precipitation scenarios using probabilistic downscaling techniques	National Science Foundation	$68,000
2007-2010	Snorrason et al.	Climate and Energy Systems: Risks, potential, adaptation.	Nordic Energy Research.	10 million NOK (3 years).
2006-2010	Pryor, Barthelmie & Takle	Collaborative research: Development and evaluation of downscaling techniques for near-surface wind climates	National Science Foundation	$144,720
2007-2010	Kulmala et al. SP lead from Risø National Laboratory	EUCAARI: European Integrated project on Aerosol Cloud Climate and Air Quality interactions	European Commission	20 million EURO
2006-2011	Pryor, Barthelmie, Mauldin & Westberg	Particle nucleation events in the Ohio River Valley	National Science Foundation	$499,720
2004-2005	Schwab (SP named as collaborator)	Ambient gaseous ammonia: Evaluation of continuous measurement	New York State Energy Research and	$10,000

		methods suitable for routine deployment	Development Authority	
2004-2005	Pryor	Modeling a PM climatology for the Fraser Valley.	Environment Canada	$85,000
2003-2007	Pryor, Barthelmie & Binkowski	Improved models of particle dry deposition.	National Science Foundation	$325,000
2002-2007	Kulmala. SP named participant	Center for Excellence in Particle Research: BACCI: Biosphere-Aerosol-Cloud-Climate Interactions.	Nordic Research Councils	DKK 20,000,000
2002-2003	Pryor	Modeling of PM in the Columbia Gorge.	US EPA via Oregon Department of Environmental Quality	$25,000
2002-2003	Frandsen, Højstrup, Larsen, Barthelmie & Pryor	Identification of optimal distances between large wind farms at sea - prestudy.	Danish Energy Ministry	DKK 1,586,000
2001-2003	Barthelmie, Sørensen, Pryor & Bilde	Motor vehicle nitrogen emissions and their impact on coastal waters	Denmarks National Research Council	DKK 380,000
2001-2004	McRobbie et al. One of 17 named senior investigators	Creation of the AVIDD data facility: A distributed facility for managing, analyzing and visualizing instrument-driven data	National Science Foundation	$2,000,000
2001-2002	Pryor	Ammonia measurements during Pacific'2001	Environment Canada	$55,000
2000-2001	Bottenheim, Makar, Boundries, Thomson, Belzer, McLaren, Pryor & Barthelmie	Canopy modeling of biogenic hydrocarbons	Environment Canada	$34,000

1999-2002	Jickells et al. Named participant	Marine Effects of Atmospheric Deposition (MEAD)	European Commission	ECU 1,400,000
1999-2003	Pryor & Barthelmie	Acquisition and development of instrumentation to quantify atmospheric deposition pathways	National Science Foundation	$260,000
1999-2003	Pryor, Barthelmie & Carreiro	Measurement and modeling of carbon and nitrogen dynamics in a mid-latitude deciduous forest	Department of Energy	$404,000
1998-1999	Pryor & Barthelmie	Modelling NHx deposition to different surface types	Environment Canada	$40,000
1998-2003	Barthelmie & Pryor	Understanding the role of vehicle emissions in the formation of secondary organic aerosols	Ford Europe	$40,000
1998	Geernaert & Pryor	Aerosol measurements and interpretation of aerosol data	Danish Research Council	DKK 100,000
1997-2001	Barthelmie & Pryor	Parameterizing the chemistry of atmospheric aerosols	National Science Foundation	$258,000
1997-1998	Pryor & Barthelmie	REVEAL II: Characterizing aerosols in the Fraser Valley Part II	Fraser Valley Regional District of British Columbia	$37,500
1997-1998	Pryor & Barthelmie	Aerosol dynamics in the ISOPART model	Environment Canada	$82,500
1997	Pryor	Participation in EUROTRAC field campaign - Aerosols in the marine atmosphere	American-Scandinavian Foundation	$3,000

1996-1999	Grimmond, Schmid, Barthelmie & Pryor	Measurements of fluxes and concentrations of CO_2 in and over a deciduous forest in the Midwest.	Department of Energy	$935,000
1996-1997	Barthelmie & Pryor	Extension of the ACDEP model	Environment Canada	$50,000
1995-1996	Pryor & Barthelmie	Application of an aerosol model to the Lower Fraser Valley	Environment Canada	$40,000
1995-1996	Pryor & Barthelmie	Analysis of aerosol and visibility data from REVEAL II	Fraser-Cheam Regional District of British Columbia	$30,000
1994-1995	Pryor & Steyn	Application of analytical techniques for source apportionment and related visibility impacts of the REVEAL fine particulate, optical and scene data	B.C. Ministry of Environment, Lands and Parks	$40,000
1993-1994	Pryor & Steyn	Review of visibility related data collected during Pacific 93/REVEAL field measurement program	B.C. Ministry of Environment, Lands and Parks	$7,500
1993	Steyn & Pryor	PACIFIC 93: Lower Fraser Valley Intensive Field Study - Visibility component	B.C. Ministry of Environment, Lands and Parks	$40,000

AWARDS OF COMPUTING RESOURCES

Date	P.I.	Title	Organization	Allocation
2024-5	**Ullrich, Bukovsky, Pryor, Rahimi-Esfarjani, Rhoades and Zarzycki**	**A climate model ensemble for understanding future changes to extreme weather**	**DoE: NERSC**	**32,000 node hr, 100 TB** **Arc. 0.5 PB**
2023-4	**Pryor, Barthelmie, Coburn & Zhou**	**Inter-cloud Bursting for High-Fidelity Climate Simulations**	**NSF XSEDE cloud computing resource (Jetstream2**	**Jetstream2: 62 TB & 2.24 M CPU hr**
2022-4	**Pryor, Barthelmie, Porchetta & Shepherd**	**Modeling operating conditions in the US east coast wind energy lease areas**	**DoE: ALCC**	**142,000 node hours on Theta KNL Nodes at Argonne Leadership Computing Facility (ALCF) 40 TB Disk, 92 TB HPSS**
2022-3	**Ullrich, Bukovsky, Pryor, Rahimi-Esfarjani, Rhoades and Zarzycki**	**A climate model ensemble for understanding future changes to extreme weather**	**DoE: ALCC**	**900,000 node hours on Theta & 291,200 Perlmutter node hours 100 TB Disk, 540 TB HPSS**
2022-3	**Pryor, Barthelmie & Zhou**	**Inter-cloud Bursting for High-Fidelity Climate Simulations (supplement)**	**NSF XSEDE cloud computing resource (Jetstream2**	**Jetstream2: 20 TB**
2022-3	**Pryor, Barthelmie & Shepherd**	**Inter-cloud Bursting for High-Fidelity Climate Simulations (renewal)**	**NSF XSEDE cloud computing resource (Jetstream2 & Stampede2)**	**Stampede2: 4,000 node hr** **Jetstream2: 2,240,000 SUs** **42 TB**
2022	Ullrich, Leung & Pryor	ERCAP (m2637) (CPU time on Cori)	DoE: NERSC request for computing resources CPU time on Cori	32,000 node hr, 100 TB Arc. 0.5 PB
2021	Pryor, Barthelmie & Shepherd	Inter-cloud Bursting for High-Fidelity	NSF XSEDE cloud computing	400,000 SUs, 30 TB

		Climate Simulations (supplement)	resource (Jetstream)	
2021	Pryor, Barthelmie & Shepherd	Inter-cloud Bursting for High-Fidelity Climate Simulations	NSF XSEDE cloud computing resource (Jetstream)	1,366,560 SUs, 30 TB
2021	Ullrich, Leung & Pryor	ERCAP (m2637) (CPU time on Cori)	DoE: NERSC request for computing resources CPU time on Cori	19.45 M MPU hr, 77 TB Arc. 0.396 PB
2020	Pryor, Barthelmie & Shepherd	Inter-cloud Bursting for High-Fidelity Climate Simulations (supplement)	NSF XSEDE cloud computing resource (Jetstream)	255,552 SUs, 10 TB
2020	Pryor, Barthelmie & Shepherd	Inter-cloud Bursting for High-Fidelity Climate Simulations	NSF XSEDE cloud computing resource (Jetstream)	1,541,780 SUs, 220 TB
2020	Pryor, Barthelmie, Letson & Shepherd	Inter-cloud Bursting for High-Fidelity Climate Simulations	NSF XSEDE cloud computing resource (Jetstream)	384,384 SUs, 260 TB
2020	Ullrich, Leung & Pryor	ERCAP re. 14441 (CPU time on Cori)	DoE: NERSC request for computing resources CPU time on Cori	3 M MPU hr, 20 TB Arc. 0.515 PB
2020	Leung, Gutowski, Mearns & Pryor	ERCAP re. 15003 (CPU time on Cori) (supplement)	DoE: NERSC request for computing resources CPU time on Cori	2 M MPU hr, 25TB Arc. 1.5 PB
2020	Leung, Gutowski, Mearns & Pryor	ERCAP re. 15003 (CPU time on Cori)	DoE: NERSC request for computing resources CPU time on Cori	5 M MPU hr, 25TB Arc. 1.5 PB
2019	Pryor, Barthelmie, Letson & Shepherd	Inter-cloud Bursting for High-Fidelity Climate Simulations (supplement#2)	NSF XSEDE cloud computing resource (Jetstream)	230,000.0 SUs, 260 TB
2019	Pryor, Barthelmie,	Inter-cloud Bursting for High-Fidelity	NSF XSEDE cloud computing	550,000.0 SUs, 260 TB

	Letson & Shepherd	Climate Simulations (supplement#1)	resource (Jetstream)	
2019	Pryor, Barthelmie, Letson & Shepherd	Inter-cloud Bursting for High-Fidelity Climate Simulations	NSF XSEDE cloud computing resource (Jetstream)	750,000.0 SUs, 14,880.0 Node Hours, 260 TB
2019	Leung, Gutowski, Mearns & Pryor	ERCAP (CPU time on Cori & Edison)	DoE: NERSC request for computing resources CPU time on Cori & Edison	20 M MPU hr, 50 TB Arc. 1 PB
2018	Leung, Gutowski, Arritt, Mearns & Pryor	ERCAP req. 5801 (2nd supplement) (CPU time on Cori & Edison)	DoE: NERSC request for computing resources CPU time on Cori & Edison	7 M MPU hr, 232 TB
2018	Leung, Gutowski, Arritt, Mearns & Pryor	ERCAP req. 5801 (supplement) (CPU time on Cori & Edison)	DoE: NERSC request for computing resources CPU time on Cori & Edison	7 M MPU hr, 232 TB
2018	Pryor, Barthelmie & Shepherd	Inter-cloud Bursting for High-Fidelity Climate Simulations (supplement#2)	NSF XSEDE cloud computing resource (Jetstream)	116,000 SUs
2018	Pryor, Barthelmie & Shepherd	Inter-cloud Bursting for High-Fidelity Climate Simulations (supplement#1)	NSF XSEDE cloud computing resource (Jetstream)	100 TB
2018	Leung (Gutowski, Arritt, Mearns & Pryor)	ERCAP req. 5801 (CPU time on Cori & Edison)	DoE: NERSC request for computing resources CPU time on Cori & Edison	7 M MPU hr, 232 TB
2018	Pryor, Barthelmie & Shepherd	Inter-cloud Bursting for High-Fidelity Climate Simulations	NSF XSEDE cloud computing resource (Jetstream)	750,000.0 SUs, 14,880.0 Node Hours, 120 TB

2017	Leung (Gutowski, Arritt, Mearns & Pryor)	ERCAP req. 90845 (CPU time on Cori & Edison)	DoE: NERSC request for computing resources CPU time on Cori & Edison	7.3 M hr
2017	Brazier (Reed, Pryor, Cordesm Rich et al)	Inter-cloud bursting: Decreasing time-to-science with a multi-stack cloud federation	NSF XSEDE cloud computing resource (Jetstream)	2.372 M hr *Pryor allocation 0.75 M hr*

INTERNAL (CORNELL UNIVERSITY): GRANTS

Date	P.I.	Title	Organization	Amount
2022-2024	**Pryor, Anderson, Barthelmie, Haja, Monger**	**Accelerating Offshore Wind Energy**	**Atkinson Center**	**$157,267**
2018-2019	Pryor, Barthelmie, Miller & Zehnder	Wind Turbine Blade Erosion: Improving understanding and reducing uncertainties	Atkinson Center for a Sustainable Future: Rapid Response Fund	$39,000
2016-2019	Pryor, Barthelmie, Davies, Westrick, Lifka & Frazier	Reducing risks to wind energy expansion under climate change using observations and high resolution numerical models	Atkinson Center for a Sustainable Future: Academic Venture Fund (2016-AVF-SP2279)	$141,510
2016-2018	*Murthi & Pryor (Post Doc for Murthi) ** grant declined for personal reasons*	*Reducing risks to wind energy expansion under climate change using historical observations and high-resolution global climate models*	*Atkinson Center for a Sustainable Future*	*$150,000*
2015-2017	Barthelmie, Pryor & Marchetto	Black Oak Wind Farm Community Research Program	Engaged Cornell	$119,200
2015-2017	Pryor, Barthelmie & Brown	New metrologies for enabling expansion of wind energy in the northeast	Atkinson Center for a Sustainable Future: Academic Venture Fund (2015-AVF-SP2279)	$145,475

OTHER FINANCIAL SUPPORT: Sara C. Pryor

INTERNAL (INDIANA UNIVERSITY): RESEARCH GRANTS

Date	P.I.	Title	Amount
2011-2012	Filippelli & Pryor	Coupling atmospheric chemistry with human health: A novel approach to investigating the source of chronic childhood lead poisoning	$54,122
2010-2012	Pryor	Funding for a workshop on: Climate change impacts, vulnerability and adaptation in the Midwest (workshop & book)	$15,800
2007-2009	Pryor	Climate change research in the Midwestern USA (workshop & book)	$15,000
1997	Pryor	Field measurements of atmospheric particles in the marine atmosphere	$2,500
1996	Pryor	Continuing existing and forging new research collaboration with scientists in Scandinavia: Particle dynamics	$1,500
1996	Pryor	College of Arts and Sciences Summer Faculty Fellowship	$5,500

INTERNAL (INDIANA UNIVERSITY): OTHER FUNDING

Date	P.I.	Title	Amount
2010	Pryor & Glomm	Funding for a lecture series 'Climate Change: Scientific basis, adaptation options and mitigation strategies'	$14,000
2010	Barthelmie, Pryor, Rupp & Mastalerz	Funding for a lecture series 'The grand energy challenge'	$4,500
2010	Barthelmie, Pryor, Rupp & Mastalerz	Funding for a lecture series 'The grand energy challenge'	$7,000
2010	Pryor & Barthelmie	Patten lecture. Nominée: Professor Jean Palutikof	$15,000

EXTERNAL RESEARCH/TRAVEL GRANTS

Date	*Title/purpose*	*Agency*	*Amount*
May-Aug 2023	International visiting scholar housing in Copenhagen (Sponsor DTU-Wind Energy)	Denmark's National Bank Foundation: Program for Outstanding International Visitors	3 months of free accommodation. Approx. financial equivalent = $22,000.
2023-2025	Danish-American Innovation Network for Wind Energy (DAINWE). PIs: Mann J., Moriarty P., Oncley S., Johnson N., Barthelmie R., Pryor S.C. and Lundquist, J.	International Innovation Network Program, Denmark's Techncial Innovation Fund	DKK 1.1 million. SCP will receive travel support in 2 years ~ $15,000.
May-Aug 2021	International visiting scholar housing in Copenhagen (Sponsor DTU-Wind Energy)	Nordea Fund	3 months of free accommodation. Approx. financial equivalent = $19,000.

May-Aug 2019	International visiting scholar housing in Copenhagen (Sponsor DTU-Wind Energy)	Nordea Fund	3 months of free accommodation. Approx. financial equivalent = $16,000.
2017-2018	Sabbatical leave housing in Nyhavn, Copenhagen (Sponsor DTU-Wind Energy)	Denmark's National Bank Foundation: Program for Outstanding International Visitors	12 months of free accommodation. Approx. financial equivalent = $60,000.
2015	Participant in IPCC workshop: Regional Climate Projections and their Use in Impacts and Risk Analysis Studies	US Global Change Research Program	Travel reimbursement
2013& 2014	Participant in CORDEX statistical downscaling workshop series	National Science Foundation	Travel reimbursement
2011-2014	Participant in COST Action ES1002 "WIRE" (Short-Term High Resolution Wind and Solar Energy Production Forecasts)	European Commission	Travel support
2010-2012	Special services contract. Topic: Climate change – extremes and critical energy infrastructure	International Atomic Energy Authority	6,000 Euro
2009	Invited presenter and panelist: AWEA workshop on wind resource estimation, Orlando, Florida	American Wind Energy Association	$500
2009-2010	Visiting Distinguished Professorship, University of Aarhus, Denmark	University of Aarhus, Denmark	300,000 DK
2009	Invited presenter: Femern Sund-Bælt: workshop on climate scenarios. Ringsted, Denmark	Femern Sund-Bælt A/S	4,500 Euro
2008	Invited presenter and panelist: AWEA workshop on wind characterization, Portland Oregon	American Wind Energy Association	$800
2008	Invited presenter 'Growing the Bioeconomy', Ames, Iowa	NOAA and Iowa State University	$600
2008	Invited participant in Workshop on Wind Resource Characterization: Research needs for wind energy, Denver, Colorado	Department of Energy	$500
2007	Travel stipendium to present at the Workshop on application of climate scenarios in local Arctic climate impact assessment	Arctic Monitoring and Assessment Programme, Norwegian Meteorological Office	$1,500

2006	Travel stipendium to present research to Arctic weather extremes workshop, Bergen, Norway	Norwegian Meteorological Office	$1,000
2005	Travel stipendium to present overview of particle fluxes at ACCENT BIAFLUX workshop, Denmark	EU-ACCENT project	$1,300
2004	Travel stipendium to attend ONR sponsored workshop: Towards a universal sea spray source function. University of Leeds.	Office of Naval Research	$250
2003	Personal service contract. Team-leader at "NCAR Biogeosciences workshop: Development of a science plan for integrated studies of coupled biosphere-atmosphere carbon and nitrogen cycles". NCAR Boulder, CO, November.	NCAR.	$1,000
2001-2002	Visiting senior research scholar	University of Bayreuth, Germany	$10,000
2001	Personal service contract. Attendance at "Columbia River Gorge Visibility impairment" planning meeting. Oregon, March	Oregon Department of Environmental Quality.	$1,000
1999	Personal service contract. Attendance at "Pacific 2001" planning meeting. Toronto. December	Environment Canada.	$1,500
1999	Funding for "Workshop on Nitrogen deposition to and cycling in forest ecosystems and linkages to carbon sequestration." October	Department of Energy	$3,000
1998	Support for attendance at the European Aerosol Conference, Prague, Czech Republic	Overseas conference fund. Indiana University	$650
1998	Personal service contract. Attendance at "Atmospheric ammonia" working group meeting. Environment Canada, Edmonton May.	Environment Canada	$1,500
1996	Personal service contract. Attendance at "Aerosol modelling in Canada. Meeting to derive modelling strategies and priorities." Environment Canada, Toronto. June	Environment Canada	$650

OTHER FINANCIAL SUPPORT: Sara C. Pryor

1994-1995	Author of the Environmental Levels chapter for the Environment Canada Particulate matter <10µm Review Document	Environment Canada	$4,000
1989-1992	Ph.D. Studentship	Natural Environment Research Council of Great Britain	

Notes:

- †Author was/is a Post Doc when research was conducted.
- #Author was/is a graduate student when research was conducted.
- *Author was/is an undergraduate student when research was conducted.

In press

#Hallgren C., #Aird J.A., Ivanell S., Körnich H., Vakkari V., Barthelmie R.J., Pryor S.C., and Sahlée E.: Machine learning methods to improve spatial predictions of coastal wind speed profiles and low-level jets using single-level ERA5 data. *Wind Energy Science* wes-2023-122.

Published (225)

Pryor S.C. and Barthelmie R.J. (2024): Power production, inter and intra-array wake losses from the U.S. east coast offshore wind energy lease areas *Energies* **17** 1063 10.3390/en17051063.

Pryor S.C. and Barthelmie R.J. (2024): Wind shadows impact planning of large offshore wind farms *Applied Energy* **359** 122755 doi: 10.1016/j.apenergy.2024.122755.

*Foody R., †Coburn J., #Aird J.A., Barthelmie R.J. and Pryor S.C. (2024): Quantitative comparison of power production and power quality onshore and offshore: a case study from the eastern United States, Wind Energy Science **9** 263–280, doi: 10.5194/wes-9-263-2024.

†Zhou X., †Letson F., †Coburn J.J., Barthelmie R.J. and Pryor S.C. (2023): Windstorms in the Northeastern USA in the Contemporary and Future Climate. *Climate Dynamics.* doi: 10.1007/s00382-023-07012-1

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Conference presentations planned for 2024:

Barthelmie R.J., Pryor S.C., Olsen B.T. and Fleming P. (2024): Offshore Wind Farm Annual Energy Production Sensitivity To Model Assumptions, *15th Conference on Weather, Climate, and the New Energy Economy*, *American Meteorological Society Conference,* January-February 2024, Baltimore.

Barthelmie R.J., Foody R., Coburn J.J., Aird J.A. and Pryor S.C. (2024): Assessing wind resource variability using the New York State Mesonet *28th Applied Climatology Conference, American Meteorological Society Conference,* January-February 2024, Baltimore

Coburn J.J., Letson F., Zho, X., Barthelmie R.J. and Pryor S.C. (2024): Northeastern Windstorms and Midlatitude Cyclones in the MPI Large Ensemble, *37th Conference on Climate Variability and Change, American Meteorological Society Conference,* January-February 2024, Baltimore.

Coburn J.J., Barthelmie R.J. and Pryor S.C. (2024): Assessing and Modeling the Compound Hazard of Freezing Rain and Wind Gusts, *28th Applied Climatology Conference, American Meteorological Society Conference,* January-February 2024, Baltimore.

Moraglia G., Zhou X., Pryor S.C., Crippa P. (2024): Quantifying the impacts of an urban area on clouds and precipitation patterns in downwind regions: A modeling perspective*, 38th Conference on Hydrology, American Meteorological Society Conference,* January-February 2024, Baltimore.

Knepper R., Pryor S.C., Zhou X., Lee J.A. and Haupt S.E. (2024): I-WRF: Containerized WRF, MET, and MET Plus for Portability, Scaling, and Outreach*, 10th Symposium on High Performance Computing for Weather, Water, and Climate*, *American Meteorological Society Conference,* January-February 2024, Baltimore.

Letson F., Coburn J.J., Zhou X., Barthelmie R.J. and Pryor S.C. (2024): Extreme Wind Speeds in US Offshore Windfarms*, 15th Conference on Weather, Climate, and the New Energy Economy*, *American Meteorological Society Conference,* January-February 2024, Baltimore.

Letson F., Coburn J.J., Zhou X., Barthelmie R.J. and Pryor S.C. (2024): Historical and Future Windstorms Affecting the Northeast US: Their Impacts and Origins*, 37th Conference on Climate Variability and Change, American Meteorological Society Conference,* January-February 2024, Baltimore.

Pryor S.C., Barthelmie R.J., Letson F., Dellwik E., Tanaka M. and Ushio T. (2024): Robust Hydrometeor Size Distribution Measurements – Are We Getting Closer? *24th Symposium on Meteorological Observation and Instrumentation*, American Meteorological Society Conference, January-February 2024, Baltimore.

Pryor S.C., Bojovic D., Seneviratne S., Zhang X., Block P., Larsen M.A.D., Caron, L-P. (2024): Regional Climate Information for Society *19th Symposium on Societal Applications: Policy, Research and Practice, American Meteorological Society Conference*, January-February 2024, Baltimore.

Thompson K., Zhou X., Barthelmie R.J. and Pryor S.C. (2024): A comparison of how Hurricane Sandy could have impacted offshore wind turbines based on WRF-only and COAWST model simulations *15th Conference on Weather, Climate, and the New Energy Economy*, *American Meteorological Society Conference,* January-February 2024, Baltimore.

Zhou X., Barthelmie R.J., Coburn J.J., Letson F. and Pryor S.C. (2024): Future Extreme Winter Windstorms in the Northeastern US: a Storyline Based Pseudo-Global Warming Approach*, 37th Conference on Climate Variability and Change, American Meteorological Society Conference,* January-February 2024, Baltimore.

Zhou X., Letson F., Crippa P., Bukovsky M. and Pryor S.C. (2024): Effect of Urbanization on the Hydroclimate and Deep Convection in the Southern Great Plains and Northeastern US*, 38th Conference on Hydrology, American Meteorological Society Conference,* January-February 2024, Baltimore.

Conference presentations during 2015/2023:

Pryor S.C. and Coburn J.J. (2023): Gone with the wind. "Exploring Unprecedented Extremes". 21-23 November, *Ouranos and NORCE,* Montreal, Canada *Invited presentation*.

Coburn J.J., Barthelmie R.J. and Pryor S.C. (2023): Characterizing Compound Hazards: The Case of Freezing Rain and Wind Gusts. *WCRP Open Science Conference: "Advancing climate science for a sustainable future"*, October 2023, Kigali, Rwanda

Zhou X., Barthelmie R.J., Coburn J.J., Letson F. and Pryor S.C. (2023): Contemporary and Future Extreme Windstorms in the Northeastern USA*, WCRP Open Science Conference: "Advancing climate science for a sustainable future"*, October 2023, Kigali, Rwanda

Zhou X., Letson F., Crippa P. and Pryor S.C.: Urban effects on precipitation and deep convection, *WCRP Open Science Conference: "Advancing climate science for a sustainable future"*, October 2023, Kigali, Rwanda.

Pryor S.C. (2023): Regional Information for Society. *Europe's climate adaptation conference, ECCA 2023*, 20-23 June 2023, Dublin, Ireland. *Invited presentation.*

Pryor S.C., Barthelmie R.J. and Coburn J.J. (2023): Projecting future energy production at operating wind farms. *Wind Energy Science Conference*, 23-26 May 2023, Glasgow, UK.

Pryor S.C. and Barthelmie R.J. (2023): Wake losses from multi-gigawatt offshore wind turbine arrays. *Wind Energy Science Conference*, 23-26 May 2023, Glasgow, UK.

Pryor S.C., Barthelmie R.J., Letson F., Louie M. and Mishnaevsky Jr L. (2023): From disdrometer measurements to projections of wind turbine blade leading edge erosion. *Wind Energy Science Conference*, 23-26 May 2023, Glasgow, UK.

Hallgren C., Aird J.A. Ivanell S., Körnich S.H., Vakkari V., Barthelmie R.J., Pryor S.C., Sahlée E. (2023): Machine learning methods to improve offshore Low-Level Jet predictions from ERA5. *Wind Energy Science Conference*, 23-26 May 2023, Glasgow, UK.

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Aird J.A., Barthelmie R.J. and Pryor S.C. (2023): Identification and quantification of wind turbine blade Leading Edge Erosion from field images. *Wind Energy Science Conference*, 23-26 May 2023, Glasgow, UK.

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Pryor S.C. Letson F., Louie M. and Barthelmie R.J. (2023): The impact of different measurement technologies on inferred blade lifetimes, *4th International Symposium on Leading Edge Erosion of Wind Turbine Blades*, 7-10 February, Danish Technical University, Roskilde, DK (invited).

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Debnath M., Scholbrock A.K., Zalkind D., Moriarty P., Simley E., Hamilton D., Ivanov A., Barthelmie R., Bodini N., Brewer A., Herges T., Hirth B., Iungo G.V., Jager D., Kaul C., Klein P., Krishnamurthy R., Letizia S., Lundquist J.K., Newsom R., Pryor S.C., Ritsche M.T., Roadman J., Schroeder J., Shaw W.J., Van Dam J., Wharton S. (2022): Design of American

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Coburn J.J., Barthelmie R.J. and Pryor S.C. (2022): Identifying compound freezing rain-high wind gust events: linking the geophysical hazard to societal impacts *NA-CORDEX Storylines Workshop (online),* 25-27 April 2022.

Letson F., Shepherd T.J. Barthelmie R.J. and Pryor, S.C. (2022): How do Windstorms Derived from Transient WRF-MPI Simulations Compare with Historical Storms? *NA-CORDEX Storylines Workshop (online),* 25-27 April 2022.

Zhou X., Barthelmie R.J., Bukovsky M., Letson F. and Pryor S.C. (2022): Representation of Winter Windstorm Storylines in WRF model. *NA-CORDEX Storylines Workshop (online),* 25-27 April 2022.

Pryor S.C. and Barthelmie R.J. (2022): Extreme wind and waves. Invited presentation to *Air-sea interactions and implications for offshore wind energy*: U.S. Department of Energy online workshop. 10-12 February 2022.

Barthelmie R.J. and Pryor S.C. (2022): Air-sea interactions and wind turbine wakes. Invited presentation to *Air-sea interactions and implications for offshore wind energy*: U.S. Department of Energy online workshop. 10-12 February 2022.

Pryor S.C. (2022): Grid Vulnerability to Weather and Climate Extremes--past, present, and future. Invited presentation to the Presidential forum. *American Meteorological Society 102nd Annual conference* Houston, TX January 2022.

Pryor S.C., Barthelmie R.J. and Shepherd T.J. (2022): Power and Wakes in the U.S. East Coast Offshore Lease Areas. *American Meteorological Society 102nd Annual conference* Houston, TX January 2022.

Pryor S.C., Barthelmie R.J. and Shepherd T.J. (2021): Wind power production from the U.S. east coast offshore lease areas. *American Geophysical Union Annual conference*, New Orleans, LA December 2021.

Pryor S.C. (2021): Could/will climate change impact wind energy resources? *American Geophysical Union Annual conference*, New Orleans, LA December 2021 (invited).

Ullrich P. et al. (2021): Storylines as a tool for advancing co-production of science and informing climate adaptation pathways: A perspective from the U.S. DOE HyperFACETS Project. *American Geophysical Union Annual conference*, New Orleans, LA December 2021.

Pryor S.C. and Barthelmie R.J. (2021): Differential Credibility of Climate Modes in CMIP6. *American Geophysical Union Annual conference*, New Orleans, LA December 2021.

Pryor, S.C. and Barthelmie, R.J. (2021): Reducing LCoE from offshore wind by multiscale wake modelling *NOWRDC Annual Symposium (online)* November 2021.

Pryor S.C. and Barthelmie R.J. (2021): Extreme wind and wave conditions derived using the high-resolution ERA5 reanalysis. *Wind Energy Science Conference (WESC)* Hannover, Germany May 2021.

Shepherd T.J., Barthelmie R.J. and Pryor S.C. (2021): Sensitivity of wind turbine wake effects and array-array interactions to wind farm parameterization and model resolution. *Wind Energy Science Conference (WESC)* Hannover, Germany May 2021.

Pryor S.C., Barthelmie R.J. and Shepherd T.J. (2021): 20% of US electricity from onshore wind: Impacts on wakes, system efficiency and regional climate. *Wind Energy Science Conference (WESC)* Hannover, Germany May 2021.

Barthelmie R.J., Shepherd T.J. and Pryor S.C. (2021): Offshore wakes in the U.E. east coast lease areas. *Wind Energy Science Conference (WESC)* Hannover, Germany May 2021.

Hasger C., Prieto R., Pryor S.C., Veraart M., Maniaci D., Bech J.I., Rahimi M., Lopez F. and Holst B. (2021): IEA Wind TCP New Task 46: Erosion of Wind Turbine Blades. *Wind Energy Science Conference (WESC)* Hannover, Germany May 2021.

Coburn J.J. and Pryor S.C. (2021): Prediction of large magnitude wind gusts using machine learning. *NSF Convergence Workshop*, AGU Online, May 2021.

Barthelmie R.J., Letson F. and Pryor S.C. (2021): Hail as a major damage vector for wind turbine blades. *3rd European Hail Workshop*, Karlsruhe, Germany March 2021.

Pryor S.C., Shepherd T.J., Letson F. and Barthelmie R.J. (2021): Modeling convective storms and hail over the southern Great Plains with WRF. *3rd European Hail Workshop*, Karlsruhe, Germany, March 2021.

Pryor S.C., Letson F.W., Shepherd T.J. and Barthelmie R.J. (2021): Are *a priori* estimates of leading edge erosion potential possible? *2nd International Symposium on Leading Edge Erosion of Wind Turbine Blades*, Danish Technical University, Roskilde, Denmark, February 2021. (Invited)

Barthelmie R.J., Letson F.W., Shepherd T.J. and Pryor S.C. (2021): Variability in drivers of leading edge erosion across the US southern Great Plains. *2nd International Symposium on Leading Edge Erosion of Wind Turbine Blades*, Danish Technical University, Roskilde, Denmark, February 2021. (Invited)

Pryor S.C., Shepherd T., Volker P., Hahmann A., and Barthelmie R.J. (2020): Diagnosing systematic differences in predicted wind turbine array-array interactions. *The Science of Making Torque from Wind*. University of Delft, Delft, The Netherlands, Sept 2020.

Aird J., Barthelmie R.J., Shepherd T.J. and Pryor S.C. (2020): WRF-simulated springtime low-level jets over Iowa: Implications for wind energy. *The Science of Making Torque from Wind.* University of Delft, Delft, The Netherlands, Sept 2020.

Barthelmie R.J., Shepherd T.J. and Pryor S.C. (2020): Increasing turbine dimensions: Impact on shear and power. *The Science of Making Torque from Wind.* University of Delft, Delft, The Netherlands, Sept 2020.

Letson F., Barthelmie R.J. and Pryor S.C. (2020): Sub-regional variability in wind turbine blade leading-edge erosion potential. *The Science of Making Torque from Wind.* University of Delft, Delft, The Netherlands, Sept 2020.

Pryor, S.C. (2020): Use of dual-polarization RADAR and WRF to characterize blade leading edge erosion potential. *International Symposium on Leading Edge Erosion of Wind Turbine Blades*, Danish Technical University, Roskilde, Denmark, February 2020. (Invited)

Barthelmie R.J. 2020: Experimental investigations of blade leading edge erosion potential. *International Symposium on Leading Edge Erosion of Wind Turbine Blades*, Danish Technical University, Roskilde, Denmark, February 2020. (Invited)

Pryor S.C., Letson F., Shepherd T. and Barthelmie R.J. (2020): Use of dual-polarization RADAR and WRF to characterize blade leading edge erosion potential. *IEA Wind Task 11 Topical Expert Meeting # 98 On Erosion Of Wind Turbine Blades*, Danish Technical University, Roskilde, Denmark, February 2020.

Barthelmie R.J. et al. (2020): Experimental investigations of blade leading edge erosion potential. *IEA Wind Task 11 Topical Expert Meeting # 98 On Erosion Of Wind Turbine Blades*, Danish Technical University, Roskilde, Denmark, February 2020.

Pryor S.C., Shepherd T.J., Bukovsky M. and Barthelmie R.J. (2019): Assessing the stability of wind resource and operating conditions. *North American Wind Energy Academy WindTech Conference*, Amherst, USA, October 2019 (*oral presentation*).

Barthelmie R.J., Letson F., Ahsan S.N., Barbaria D.K., Barrera C.S., Creaer A., Dudley LCC, Garell M., La Spisa E.J., Li S., Mishr A., Paranjape A.R., Rambaran S., Singh A., Hu W. and Pryor S.C (2019): Wind turbine blade leading-edge erosion. *North American Wind Energy Academy WindTech Conference*, Amherst, USA, October 2019 (*oral presentation*).

Letson F., Shepherd T.J., Barthelmie R.J. and Pryor S.C. (2019): Modelling hail and convective storms with WRF for wind energy applications. *North American Wind Energy Academy WindTech Conference*, Amherst, USA, October 2019 (*oral presentation*).

Letson F., Barthelmie R.J. and Pryor S.C. (2019): Wind turbine blade leading edge erosion from hail: A case study in Texas. *North American Wind Energy Academy WindTech Conference*, Amherst, USA, October 2019 (*poster presentation*).

Hu W., Wang X., Wang Y., Lui Z., Tan R., Letson F., Pryor S.C. and Barthelmie R.J. (2019): A computational model of wind turbine blade erosion induced by raindrops impact. *North American Wind Energy Academy WindTech Conference*, Amherst, USA, October 2019 (*oral presentation*).

Li S., Barthelmie R.J., Bewley G.P. and Pryor S.C. (2019): Effects of hydrometeor droplet characteristics on wind turbine blade leading edge erosion: a numerical study. *North American Wind Energy Academy WindTech Conference*, Amherst, USA, October 2019 (*oral presentation*).

Shepherd T.J., Barthelmie R.J. and Pryor S.C. (2019): Assessment of wind turbine impact on future climate in GCM-driven WRF simulations. *North American Wind Energy Academy WindTech Conference*, Amherst, USA, October 2019 (*oral presentation*).

Shepherd T.J., Barthelmie R.J. and Pryor S.C. (2019): Quantifying array-array effects using WRF model simulations: A sensitivity analysis. *North American Wind Energy Academy WindTech Conference*, Amherst, USA, October 2019 (*poster presentation*).

Pryor S.C., Shepherd T., Volker P., Hahmann A., and Barthelmie R.J. (2019): 'Wind theft' from onshore arrays: Sensitivity to wind farm parameterization and resolution. *Wind Energy Science Conference 2019*, Cork, Ireland, June 2019 (*oral presentation).*

Letson F., Barthelmie R.J. and Pryor S.C (2019): Wind turbine blade erosion climate atlas for the contiguous United States. *Wind Energy Science Conference 2019*, Cork, Ireland, June 2019 (*oral presentation).*

Barthelmie R.J. and Pryor S.C (2019): Wake characteristics at Perdigão; wake metrics and directional variability. *Wind Energy Science Conference 2019*, Cork, Ireland, June 2019 *(oral presentation).*

Barthelmie R.J., Letson F., Ahsan S.N., Barbaria D.K., Barrera C.S., Creaer A., Dudley LCC, Garell M., La Spisa E.J., Li S., Mishr A., Paranjape A.R., Rambaran S., Singh A., and Pryor S.C (2019): Blade leading edge erosion experiments and image processing. *Wind Energy Science Conference 2019*, Cork, Ireland, June 2019 (*oral presentation).*

Pryor S.C., Shepherd T., Barthelmie R.J., Hahmann A., and Volker P. (2019): Wind farm wakes simulated using WRF. *Wakes Conference 2019*, Visby, Sweden, May 2019 (*oral presentation).*

Barthelmie R.J. and Pryor S.C. (2019): Impact of local meteorology on wake characteristics at Perdigão. *Wakes Conference 2019*, Visby, Sweden, May 2019 (*oral presentation).*

Pryor S.C., Shepherd T.J., Bukovsky M., and Barthelmie R.J. (2019): Wind energy scenarios for climate change mitigation. *The Scenarios Forum 2019*, Denver CO, March 2019 *(oral presentation).*

Shepherd T.J., Brazier A., Wineholt B., Barthelmie R.J. and Pryor S.C. (2019): Quantifying weather and climate simulation reproducibility in the cloud. *99th American Meteorological*

Society Annual Meeting (Fifth Symposium on High Performance Computing for Weather, Water, and Climate), Phoenix, AZ, 6-10 January 2019 *(oral presentation)*.

Shepherd T.J., Volker P., Barthelmie R.J., Hahmann A., and Pryor S.C. (2019): Sensitivity of wind turbine array downstream effects to the parameterization used in WRF *99th American Meteorological Society Annual Meeting* (10th Conference on Weather, Climate, and the New Energy Economy), Phoenix, AZ, 6-10 January 2019 *(oral presentation)*.

Pryor S.C. and Barthelmie R.J. (2018): Measurements of wakes from a wind turbine in complex terrain. *European Geosciences Union General Assembly 2018*, Vienna, Austria 8–13 April 2018 *(PICO presentation)*.

Pryor S.C., Barthelmie R.J. and Shepherd T. (2018): Do current and near-term future wind turbine deployments have a substantial impact on regional climate? *European Geosciences Union General Assembly 2018*, Vienna, Austria 8–13 April 2018 *(Invited presentation, oral presentation)*.

Letson, F.W., Barthelmie R.J., Hu W., and Pryor S.C. (2018): Wind gusts in complex terrain: Analyses of data from Perdigao. *European Geosciences Union General Assembly 2018*, Vienna, Austria 8–13 April 2018 *(PICO presentation)*.

Pryor S.C., Barthelmie R.J., Hahmann A., Shepherd T., and Volker P. (2018): Contemporary wind turbine deployments have a minor impact on regional climate. *Science of Making Torque from Wind*, Milan Italy, May 2018 *(oral presentation).*

Barthelmie R.J., Pryor S.C., Wildmann N. and Menke R. (2018): Wind turbine wake characterization in complex terrain via integrated Doppler lidar datasets from the Perdigao experiment. *Science of Making Torque from Wind*, Milan Italy, May 2018 *(poster presentation).*

Pryor S.C., Barthelmie R.J., Biondi T. and Shepherd T. (2018): Improved characterization of the magnitude and causes of spatio-temporal variability in wind resources. *98th American Meteorological Society Annual Meeting (31st Conference on Climate Variability and Change),* Austin TX, January 2018 *(poster).*

Shepherd T., Barthelmie R.J. and Pryor S.C. (2018): Assessing the fidelity of the North American wind climate and impacts of wind farms using high resolution modeling. *98th American Meteorological Society Annual Meeting (21st Conference on Planned and Inadvertent Weather Modification),* Austin TX, January 2018 *(oral presentation).*

Sullivan R.C., Crippa P., Matsui H., Leung R., Zhao C., Thota A., and Pryor S.C. (2018): Modeling the impact of new particle formation on regional cloud radiative forcing. *98th American Meteorological Society Annual Meeting (10th Symposium on Aerosol-Cloud-Climate Interactions),* Austin TX, January 2018 *(oral presentation).*

Bernstein D., Sullivan R.C., Thota A., Crippa P. and Pryor S.C. (2017): Diagnosing causes of extreme aerosol optical depth events. AGU Annual conference, New Orleans, LA, December 2017 (*poster*).

Doubrawa P., Montornès A., Barthelmie R.J., Pryor S.C. (2017): Analysis of different gray zone treatments in WRF-LES real case simulations. WindTech2017: International Conference on Future Technologies in Wind Energy. Boulder, CO, October 2017.

Pryor S.C., Sullivan R.C., Bernstein D.N., Thota A., and Crippa P. (2017): Detection and attribution of trends in aerosol populations and extreme aerosol events over North America. 3rd PEEX Science Conference, Moscow, Russia, September 2017. 6 page printed paper to be published in Report Series in Aerosol Science, University of Helsinki (http://www.atm.helsinki.fi/FAAR/index.php?page=series).

Pryor S.C., Barthelmie R.J. and Shepherd T. (2017): High-fidelity simulations of the downstream impacts of high density wind turbine deployments. *4th Workshop on Systems Engineering for Wind Energy,* Roskilde, Denmark, September 2017.

Pryor S.C., Barthelmie R.J., Brown L.D., Hu W. and Letson F.W. (2017): How can use of seismometers advance the wind energy industry? *Wind Energy Science conference*, Copenhagen, Denmark, June 2017.

Barthelmie R.J. and Pryor S.C. (2017): Characterizing wakes in complex terrain with lidar. *Wind Energy Science conference*, Copenhagen, Denmark, June 2017.

Barthelmie R.J. and Pryor S.C. (2017): Measurement of flow and wakes at wind farms in complex terrain. *Wind Energy Science conference*, Copenhagen, Denmark, June 2017.

Hu W., Pryor S.C., Letson F. and Barthelmie R.J. (2017): Using Seismic Analyses in the Wind Energy Industry. *ASME Power & Energy Conference*, Charlotte NC, June 2017.

Letson F., Hu W., Barthelmie R.J., Tytell J. and Pryor S.C. (2017): Wind Gust Quantification Using Seismic Measurements. *ASME Power & Energy Conference*, Charlotte NC, June 2017.

Pryor S.C., Hu W., Letson F. and Barthelmie R.J. (2017): A new approach to wind turbine condition monitoring. *AWEA WindPower conference*, Anaheim CA, May 2017 (4pp abstract).

Letson F., Pryor S.C., Hu W., and Barthelmie R.J. (2017): Wind gust quantification across the United States using seismic and sonic anemometers. *AWEA WindPower conference*, Anaheim CA, May 2017 (4pp abstract).

Sullivan R.C., Levy R., Da Silva A., Pryor S.C. (2017): Developing and diagnosing climate change indictors of regional aerosol optical properties. *EGU General Assembly 2017*, Vienna, Austria, April 2017.

Schoof J.T., Ford T.W., Pryor S.C. (2017): High resolution projections of 21st century eastern United States heat waves. *AAG annual conference*, Boston MA, April 2017.

Schoof J.T., Ford T.W., Pryor S.C. (2016): Recent changes in United States heat wave characteristics derived from multiple reanalyses. *AGU annual conference*, San Francisco, CA (poster).

Barthelmie R.J., Doubrawa P., Wang H., Pryor S.C. (2016): Defining wake characteristics from scanning and vertical full-scale lidar measurements. *Science of Making Torque from Wind*. Munich, Germany October (8pp paper published in proceedings).

Hu W., Pryor S.C., Letson F., and Barthelmie R.J. (2016): Investigation of Gust-Seismic Relationships and Applications to Gust Detection. *ASME 2016 Power and Energy conference*, Charlotte NC, June 2016.

Pryor S.C., Crippa P., and Sullivan R.C. (2016): Assessing value-added by high-resolution regional simulations of climate-relevant aerosol particle properties. *International Conference on Regional Climate (ICRC) – COordinated Regional climate Downscaling Experiment (CORDEX) 2016*. Stockholm, Sweden, May 17 – 20 (poster).

Pryor S.C. and Barthelmie R.J. (2016): Can/will climate change impact the wind energy industry? *International Conference on Regional Climate (ICRC) – COordinated Regional climate Downscaling Experiment (CORDEX) 2016*. Stockholm, Sweden, May 17 – 20 (oral).

Pryor S.C., Hu W., Letson F., and Barthelmie R.J. (2016): Improved detection and quantification of wind gusts: Thinking outside the anemometer. *2016 Wind Energy Research Workshop*, Lowell, MA, March 15-17.

Barthelmie R.J., Wang H., Doubrawa P. and Pryor S.C. (2016): Flow complexity at an escarpment. *2016 Wind Energy Research Workshop*, Lowell, MA, March 15-17.

Mearns L.O., Dominguez F., Gutowski Jr W.J., Hammerling D., Leung L.R., Pryor S.C. and Sain S.R. (2015): Establishing the Scientific Value of Multiple GCM-RCM Simulation Programs: The Example of NARCCAP. Oral presentation at the *AGU Fall Meeting*, San Francisco, Ca, December.

Barthelmie R.J., Wang H., Doubrawa P. and Pryor S.C. (2015): An overview of the PEIWEE experiment 2015, *WindTech 2015*, Western University, Ontario, October (Invited keynote).

Wang H., Barthelmie R.J., Doubrawa, P. and Pryor S.C. (2015): Uncertainty in Doppler Lidar Radial Velocity Variance Measurements, Oral presentation at *WindTech 2015,* Western University, Ontario, October.

Barthelmie R.J., Wang H., Doubrawa P. and Pryor S.C. (2015): Wind Turbine Wakes from Scanning Lidar, Oral presentation at *WindTech 2015*, Western University, Ontario, October.

Doubrawa P., Wang H., Pryor S.C. and Barthelmie R.J. (2015): WRF Simulations of a Pseudo Offshore Wind Farm: Validation Against Field Measurements and Evaluation of Wind Turbine Drag Parameterization, Oral presentation at *WindTech 2015*, Western University, Ontario, October.

Pryor S.C., Wang H., Doubrawa P. and Barthelmie R.J. (2015): Measurements and Modeling of Wind Turbine Relevant Flow Parameters at an Escarpment During PEIWEE. Oral presentation at *WindTech 2015*, Western University, Ontario, October.

Pryor S.C. and Barthelmie R.J. (2015): Can/will climate change impact the wind energy industry? *IPCC expert meeting on regional climate information*, Brazil, October.

Crippa P., Sullivan R. C., Thota A., Li Z., and Pryor S. C. (2015): Evaluating the spatiotemporal variability of WRF-Chem aerosol particle properties and extreme concentrations over eastern North America. Oral presentation at the *2015 European Aerosol Conference*, Milan, Italy, Sept.

Pryor S. C., Crippa P., and Sullivan R. C. (2015): How skillfully can we simulate drivers of aerosol direct climate forcing? Oral presentation at the *Twelfth Informal Conference on Atmospheric and Molecular Science*, Aarhus University, Denmark, June.

Barthelmie R.J., Churchfield M.J., Moriarty P.J., Lundquist J.K., Oxley G.S, Hahn S. and Pryor, S.C. (2015): The role of atmospheric stability/turbulence on wakes at the Egmond aan Zee Offshore wind farm. Oral presentation at the *Wake Conference,* Visby, Sweden, June.

Wang, H., Barthelmie, R.J., Pryor, S.C. and Brown, G. (2015): Uncertainty in lidar arc scan measurement. Oral presentation at the *IEA Wind Topical Expert Meeting, #82 on Uncertainty Quantification of Wind Farm Flow Models,* June, Visby, Sweden.

Sullivan R. C., Crippa P., Thota A., Levy R. C., and Pryor S. C. (2015): Quantifying the scales of coherence and causes of spatiotemporal variability of aerosol particle properties and extreme concentrations over eastern North America. Oral presentation at the *2015 Joint Assembly (AGU, CGU, GAC, and MAC)*, Montreal, Quebec, Canada, May.

Pryor S.C., Barthelmie R. J., and Sullivan R. C. (2015): Mechanisms responsible for the size-dependence of, and bi-directionality of, ultrafine particle fluxes over forest. Oral presentation at the *2015 Joint Assembly (AGU, CGU, GAC, and MAC)*, Montreal, Quebec, Canada, May.

Doubrawa P., Barthelmie R.J., Wang H., Pryor S.C. and Badger M. (2015): Quantifying the Impact of Assuming Neutral Atmospheric Stratification in the Integration of Remote Sensing and In Situ Data Into a Wind Atlas for Lake Erie, Oral presentation at the *2015 Joint Assembly (AGU, CGU, GAC, and MAC)*, Montreal, Quebec, Canada, May.

Invited (non-conference) presentations during 2015-2022

Pryor S.C., Barthelmie R.J. and Coburn J.J. (2022): Climate Change Impacts on Wind Power generation: *Danish Technical University: Wind Energy Dept*. 20 June 2022.

Pryor S.C., Barthelmie R.J. and Coburn J.J. (2022): Climate Change and the Wind Energy Industry ESIG Meteorology and Markets Workshop *American Clean Power Online Symposium.* 6-9 June 2022, Denver, CO.

Pryor S.C., Barthelmie R.J. and Coburn J.J. (2021): Climate Change: Addressing Climate Extremes & Climate Change: What Can We Do? *American Clean Power Online Symposium.* 29 September 2021.

Pryor S.C., Coburn J.J. and Barthelmie R.J. (2021): Electric Reliability, Droughts & Storms, *Navigating the Clean Energy Transition in a Changing Climate, Aspen Global Change Institute.* 14 September 2021.

Pryor S.C. and Barthelmie R.J. (2021): Reducing LCoE from offshore wind by multiscale wake modelling, *Technical University of Denmark: Wind Energy Dept.* 14 June 2021.

Pryor S.C. (2020): Climate science and its relevance to renewable energy. *Energy Systems Integration Group: 2020 Energy Meteorology and Market design for Grid Services Workshop.* June 2020 (online).

Pryor S.C. (2018): Understanding sources of flow variability across scales. *Technical University of Denmark: Wind Energy Dept.* 26 June 2018.

Pryor S.C. (2017): High resolution WRF simulations for resource assessment and quantification of downstream impacts of high density wind turbine deployments. *Technical University of Denmark: Wind Energy Dept.* 15 August 2017.

Pryor S.C. (2016): Reducing risks to wind energy expansion under climate change using historical observations and high-resolution models. Presentation to *2016 Wind Energy Research Workshop at the University of Massachusetts*, 15 March 2016.

Pryor S.C. and Barthelmie R.J. (2016): Will climate change impact the viability of the wind energy industry? Seminar at *University of East Anglia*, 12 January 2016.

Pryor S.C. and Barthelmie R.J. (2015): Challenges and opportunities for the wind energy industry in a non-stationary climate. Seminar at *Lawrence Berkeley National Laboratory*, 13 February 2015.

Example other recent conference/workshop participation.

World Climate Research Program: WCRP Workshop on Future of Climate Models. March 21-24, 2022.

CONSULTING/MEMBERSHIPS: Sara C. Pryor

CONSULTING

Year	*Task*
2007	**Consultant** to Jacques Whitford AXYS Ltd. and B.C. Ministry of Environment, Lands and Parks A Visibility Goal: Exploring Options.
1999	**Consultant** to Alchemy Consultants and B.C. Ministry of Environment, Lands and Parks Ambient particles and implications for motor vehicle emission control measures. **Author of *Application of the ISOPART model to assess vehicle emissions control measures* Appendix in: *Assessment of motor vehicle emission control measures***.
1998-99	**Consultant** to Environment Canada. Assessing public perception of visual air quality
1996-7	**Consultant** to Environment Canada CEPA/FPAC WG AQOG. Sulphur in fuels multi-agency taskforce **Author of *Environmental Levels* chapter Particulate matter <10µm Review**
1995	**Consultant** to B.H. Levelton and Associates. Setting airshed limits for atmospheric contaminants.
1994	**Consultant** to B.H. Levelton and Associates. A critique/review of a publication entitled Clean Air Benefits and Costs in the GVRD.
1993	**Consultant** to SENES Consultants Ltd. An assessment of fine particulates and their potential impacts on visibility in the Fraser Valley

MEMBERSHIP OF PROFESSIONAL ORGANIZATIONS: Sara C. Pryor

Royal Meteorological Society	American Association for Advancement of Science
American Meteorological Society	American Geophysical Union

ADDITIONAL CORNELL AFFILIATIONS

- Fellow Atkinson Center for a Sustainable Future (ACSF)
- Member Institute for Computational Science and Engineering (ICSE)
- Member of Atmospheric Science PhD field
- Member of Geological Science PhD field
- Member of Computational Science and Engineering PhD Minor (CS&E)

CORNELL UNIVERSITY: FORMAL COURSES

Semester	*Course*	*Students*
Spring 2024	EAS2500 Meteorological Observations and Instruments	18
Fall 2023	EAS3340/5340 Microclimatology	21
Spring 2023	EAS2500 Meteorological Observations and Instruments	11
Fall 2022	EAS4350/5350 Statistical Methods in Meteorology & Climatology	21
Spring 2022	EAS2500 Meteorological Observations and Instruments	19
Fall 2021	EAS3340/5340 Microclimatology	21
Spring 2021	EAS2500 Meteorological Observations and Instruments	10
Fall 2020	EAS4350/5350 Statistical Methods in Meteorology & Climatology	11
Spring 2020	EAS2500 Meteorological Observations and Instruments	11
Fall 2019	EAS3340 Microclimatology	9
Spring 2019	EAS2500 Meteorological Observations and Instruments	11
Fall 2018	EAS4350/5350 Statistical Methods in Meteorology & Climatology	8
Spring 2017	EAS2500 Meteorological Observations and Instruments	6
Fall 2016	EAS4350/5350 Statistical Methods in Meteorology & Climatology	8
Spring 2016	EAS2500 Meteorological Observations and Instruments	25
Fall 2015	EAS4350/5350 Statistical Methods in Meteorology & Climatology	5

INDIANA UNIVERSITY: FORMAL COURSES

Semester	*Course*	*Students*
Spring 2013	G304/G532 Physical Meteorology & Climatology	23
Fall 2012	G304/G532 Physical Meteorology & Climatology	24
Fall 2011	G304/G532 Physical Meteorology & Climatology	34
Spring 2011	G434/G534 Air Pollution Meteorology	12
Fall 2010	G440/G602 Seminar: Climate Change: Scientific Basis, Adaptation and Mitigation Strategies	14
Fall 2010	G304/G532 Physical Meteorology & Climatology	27
Spring 2010	G501 Research Methods II	7
Fall 2009	G433/G533 Synoptic Meteorology & Climatology	13
Fall 2009	G304/G532 Physical Meteorology & Climatology	30
Fall 2008	G339 Weather Analysis and Forecasting	18
Spring 2008	G501 Research Methods II	10
Fall 2007	G434/G534 Air Pollution Meteorology	12
Fall 2007	G304/G532 Physical Meteorology & Climatology	33
Spring 2007	G450 Undergraduate Readings & Research - 2 student projects	2
Spring 2007	G339 Weather Analysis and Forecasting*	22
Fall 2006	G602: Graduate Seminar in Atmospheric Science Climate Change	9
Fall 2006	G304 Physical Meteorology & Climatology	36
Spring 2006	G433/G533 Synoptic Meteorology & Climatology	16

Spring 2006	G450 Undergraduate Readings & Research - 3 student projects	3
Fall 2005	G434 Air Pollution Meteorology	19
Fall 2005	G304 Physical Meteorology & Climatology	33
Spring 2005	G107 Physical Systems of the Environment	165
Spring 2005	G450 Undergraduate Readings & Research	1
Fall 2004	G433/G533 Synoptic Meteorology & Climatology	12
Fall 2004	G304 Physical Meteorology & Climatology	23
Fall 2004	G450 Undergraduate Readings & Research	1
Fall 2003	G475/G575 Climate Change	10
Fall 2003	G304 Physical Meteorology & Climatology	22
Fall 2003	G450 Undergraduate Readings & Research	1
Spring 2003	G433 Synoptic Meteorology & Climatology	3
Spring 2003	G304 Physical Meteorology & Climatology	37
Fall 2002	G434/G534 Air Pollution Meteorology	8
Fall 2002	G304 Physical Meteorology & Climatology	16
Fall 2001	G450 Undergraduate Readings & Research	2
Spring 2001	G433/G533 Synoptic Meteorology & Climatology	12
Spring 2001	G304 Physical Meteorology & Climatology	49
Fall 2000	G602: Graduate Seminar in Atmospheric Science Climate Change	9
Fall 2000	G107: Physical Systems for the Environment	180
Fall 2000	G450 Undergraduate Readings & Research	1
Spring 2000	G433 Synoptic Meteorology & Climatology	15
Spring 2000	G107: Physical Systems for the Environment	186
Fall 1999	G434/G534 Air Pollution Meteorology	14
Spring 1999	G475/G575 Climate Change	15
Spring 1999	G107: Physical Systems for the Environment	130
Spring 1999	G450 Undergraduate Readings & Research	1
Fall 1998	G305: Environmental Change: Nature, Causes and Consequences	38
Fall 1998	G107: Physical Systems for the Environment	172
Spring 1998	G433 Synoptic Meteorology & Climatology	13
Spring 1998	G107: Physical Systems for the Environment	137
Fall 1997	G434/G534 Air Pollution Meteorology*	14
Fall 1997	G107: Physical Systems for the Environment	150
Summer 1997	G450 Undergraduate Readings & Research	1
Spring 1997	G475/G575 Climate Change*	11
Spring 1997	G107: Physical Systems for the Environment	120
Fall 1996	G305: Environmental Change: Nature, Causes and Consequences*	58
Fall 1996	G107: Physical Systems for the Environment	113
Fall 1996	G450 Undergraduate Readings & Research	1
Spring 1996	G433 Synoptic Meteorology & Climatology*	17
Spring 1996	G107: Physical Systems for the Environment	101
Fall 1995	G107: Physical Systems for the Environment	74

*indicates course developed by SP.

OTHER MAJOR EDUCATIONAL PRODUCTS

Barthelmie R.J. and Pryor S.C. "How do wind turbines work" A Ted-ED wind energy animation (5 mins): View at https://www.youtube.com/watch?v=xy9nj94xvKA OR https://www.ted.com/talks/rebecca_j_barthelmie_and_sara_c_pryor_how_do_wind_turbines_work. Published in 2021. Current viewing statistics: >800,000.

GRADUATE READINGS/RESEARCH COURSES: Total number = 40.

SUPERVISION OF INTERNSHIPS: Total number = 20

TEACHING-RELATED INVITED PRESENTATIONS: Total number = 24.

TEACHING PUBLICATIONS:

1 edition of laboratory manual for G340 Physical Meteorology, Climate, and Paleoclimate
9 editions of laboratory manual for G107 Physical Systems of the Environment

UNIVERSITY OF BRITISH COLUMBIA

Semester	Course
Fall 1994	G408 Environmental Change
Spring 1993	G402 Air Pollution Meteorology
Spring 1993	G350 Field Course for Physical Geographers

SIMON FRASER UNIVERSITY

Semester	Course
Fall 1993	G201 Introduction to Climatology

UNIVERSITY OF EAST ANGLIA. *TEACHING ASSISTANT. 1991-92*

Semester	Course
Multiple	ENV101 Introductory Meteorology and Climatology

SUPERVISION: Sara C. Pryor

P.D.F. Supervisor

Beginning	*Ending*	*Individual*
Jan 2023		Kelsey Thompson
Feb 2022		Xin Zhou
Sept 2020		Jacob Coburn
Sept 2020	Sept 2021	Jisesh Sethunadh
Aug 2019	Aug 2020	Yafang Guo
Jul 2018	Jun 2019	Qinjian Jin
Jan 2017	Sep 2022	Tristan Shepherd (promoted to Research Associate Jan 2022)
Nov 2016	Nov 2017	Diana Bernstein
Feb 2016		Fred Letson (promoted to Research Associate May 2021)
Feb 2016	Aug 2018	Weifei Hu
Jan 2012	May 2014	Karen Hornsby
Oct 2004	Mar 2005	Justin Schoof
Jul 2000	Jun 2001	Anne Hartley

Ph.D. Supervisor

Beginning	*Graduation*	*Individual*	*Dissertation title*
Jul 2014	Aug 2017	Ryan Sullivan	Variability and drivers of aerosol particle characteristics and new particle formation from in situ and remote sensing measurements and numerical simulations
Aug 2009	May 2013	Paola Crippa	Understanding the sources, scales and fate of ultrafine particles
Sep 2005		Fredi Birsan	*On leave*
Jan 2004	Oct 2008	Jennifer Hutton	In canopy isoprene oxidation
Jan 2000	Sep 2004	Justin Schoof	Generating regional climate change scenarios using general circulation models and empirical downscaling
Jan 1997	Dec 1999	Brooks Pearson	An estimation of potential production of agri-based ethanol and its contribution to transportation emissions.

M.S. Supervisor

Beginning	*Graduation*	*Individual*	*Thesis title*
Aug 2015	May 2017	Verena Joerger	Mobile measurements of ultrafine particles near an urban, elevated, high-traffic roadway
Aug 2012	May 2014	Tim Wright	Quantifying the influence of irrigated agriculture on atmospheric heat content and boundary layer dynamics

Aug 2012	May 2014	Ryan Sullivan	Regional to micro-scale spatiotemporal variability of atmospheric aerosol particles from satellite, fixed and mobile measurements
Aug 2010	May 2014	Mark Belding	A methodology for estimating surface solar radiation receipt.
Aug 2007	Apr 2010	Andrea Spaulding	Meteorological influences on particle nucleation over a deciduous forest in the Midwest
Aug 2005	Apr 2008	Jessica Howe	Analysis of extreme precipitation across the Midwest during the twentieth century** ***Winner of the Stephen Visher award for an outstanding paper in Climatology, Indiana University*
Jan 2004	Oct 2005	Fredi Birsan	Particle dry deposition to a forest canopy: A flux based analytical model
Aug 2000	Dec 2002	Nathan Polderman	Linking synoptic climate to historical lake level variability in the Lake Michigan-Huron basin.
Aug 1997	Dec 1999	Justin Schoof	Synoptic circulation classification and downscaling for the Midwestern United States* **Awarded the Esther L. Kinsley thesis award, Indiana University for best Master's thesis.*
Aug 1997	May 2000	Sean Potter	Characterizing air quality in Indianapolis, Indiana

MEng. Supervisor

Beginning	***Graduation***	***Individual***	***Thesis title***
Jan 2022	Dec 2022	Melissa Louie	Wind Turbine Blade Leading Edge Erosion: Quantifying materials fatigue

Ph.D. Committee member

Beginning	***Graduation***	***Individual***	***Dissertation title***
Aug 2019	August 2023	Jeannie Aird	Methods for quantification of non-ideal wind turbine rotor plane conditions
Aug 2013	May 2017	Paula Doubrawa Moreira	Integration of measurements and models for wind characterization
Aug 2012	May 2016	John Wang	Quantifying and reducing uncertainty in large volume remote sensing measurements of the atmospheric boundary layer flows
Aug 2008	Nov 2013	Steve Griffith	Hydroxyl and hydroperoxy radical chemistry in forested and urban areas: Measurements, modeling, and implications for atmospheric chemistry
Jan 2006	Feb 2008	Nori Sato	Impacts of climatic change and variability on winter-road maintenance on North America
Aug 2005	Dec 2009	Helber Dusan	Crustal composition of neutron stars
Jan 2003	Jan 2008	Deepali Vimal	Oxidation of biogenic hydrocarbons

Jan 2002	Jun 2004	John Johnson	Geological variability of lake levels in the Great Lakes
Aug 1998	May 2002	Bao Chuong	Kinetics and mechanisms of OH initiated oxidation of hydrocarbons
Aug 1996	Sep 1999	Don Cortes	Fluxes of toxic chemicals to the Great Lakes

M.S. Committee member

Beginning	***Graduation***	***Individual***	***Thesis title***
Aug 2018	Aug 2019	Shoulin Li	Effects of hydrometeor droplet characteristics on wind turbine blade leading edge erosion: a numerical study
May 2014	Aug 2016	Aleshka Carrion-Matta	Source-oriented micro-environmental modeling of cerium oxide nanoparticles in an urban environment
Aug 2010	May 2012	Hui Wang	Assessing the applicability of wind turbine design standards
Aug 2008	Aug 2010	Catherine Brabant	Modeling and observations of wind turbine wakes
Aug 2007	Aug 2009	Jared Deroschers	Analyzing snowfall change and teleconnection relations with a standardized snowfall index
Aug 2005	Jul 2008	Valerie Anderson	Comparability of storage heat flux models: Results from suburban North America
Aug 2003	Aug 2005	Leslie Ensor	Precipitation variability in the Midwest
Aug 1999	Oct. 2001	Heidi Zutter	Convective boundary layer development over a mid-latitude deciduous forest
Jan 1997	Apr 1998	Karen Spartz	Income inequality trends in Indiana
Aug 1994	Dec 1995	Karsten Shein	Wind speed variability in the Midwestern United States 1961-1990

BSES Supervisor

Beginning	***Graduation***	***Individual***	***Thesis title***
2013	2014	Robert Conrick	Mechanistic analyses of wind extremes and wind gusts
2010	2013	Hannah Furbeck	Particle fluxes
2003	2005	Karin Kvale	Precipitation chemistry in the MidWest
2001	2002	Ken Rubel	Spatial and temporal effects of commuting on personal exposure to ozone

Other supervision

Beginning	***End***	***Individual***	***Purpose***
Jan 2022	August 2023	Rebecca Foody	UG student: Research thesis: Offshore flow conditions and wind turbines
May 2021	Aug 2022	Julian Arnheim	UG student: Research thesis: Machine learning for wind gust prediction

May 2020	Aug 2020	Sherrie Tan	UG student. REU student on Aristotle Cloud Federation NSF grant. Short-term forecasting of wind gusts
August 2018	Dec 2018	Lance Nino	UG research.
May 2019	August 2019	Vernon Rippeon	UG student. REU student on Aristotle Cloud Federation NSF grant. Extreme wind speeds
May 2018	August 2018	Peter Cook	UG student. REU student on Aristotle Cloud Federation NSF grant. Coherence of near-surface wind speeds.
May 2017	August 2017	Thomas Bondi	UG student. REU student on Aristotle Cloud Federation NSF grant. Evaluation of the fidelity of simulated near-surface wind speeds.
Fall 2016	Spring 2017	Lance Nino	Independent UG research. Relationships between remotely sensed AOD and near-surface PM2.5 (Lance was subsequently awarded a NASA REU experience, summer 2017).
Apr 2013	Dec 2013	Kristina Hansen	Ph.D. Student from Roskilde University and Aarhus University funded by the Danish Research Excellence fund to study ammonia exchange under my supervision
Aug 2010	Dec 2011	Lian Chen	Ph.D. Student from Nanjing University of Science and Technology funded by the Chinese NSF to study near-surface wind climates at Indiana University under my supervision

Other graduate students for whom I have provided financial support

Name	Degree sought	Period
Todd Lindley	Ph.D.	Summer 2007
Taka Kobayashi	Ph.D.	Summer 2007, Fall 2007, Spring 2008

Graduate field memberships at Cornell University

Atmospheric Sciences
Geological Sciences
Computational Science and Engineering Ph.D. minor field

Also member of Cornell Institute for Computer Science and Engineering and Faculty Fellow of the Atkinson Center for a Sustainable Future

SCIENTIFIC COMMUNITY

Proposal panel member

Year	*Agency & topical area*
2022	Panelist: Atmospheric System Research (ASR), U.S. Department of Energy Office of Science: Office of Biological & Environmental Research (BER)
2021	2021 US-Ukraine Alternative Energy Competition U.S. Department of State, the National Science Foundation (NSF), and by the Ministry of Education and Science of Ukraine (MESU) (5 proposals).
2021	Reviewer: Department of Energy Office of Science Graduate Student Research (SCGSR) 2020 Solicitation
2021	Reviewer: Department of Energy: ASCR Leadership Computing Challenge (ALCC)
2020	Panelist: Earth System Model Development and Analysis, U.S. Department of Energy Office of Science: Office of Biological & Environmental Research (BER)
2018	Reviewer AAAS Marion Milligan Mason Award for Women in the Chemical Sciences (6 proposals)
2016	U.S. Army Corps of Engineers' Engineer Research and Development Center (ERDC)
2015	Panelist NOAA Regional Integrated Science Assessment (4 proposals)
2015	Reviewer AAAS Marion Milligan Mason Award for Women in the Chemical Sciences (6 proposals)
2015	National Science Foundation: Graduate Research Fellowship Program (GRFP). Subject: Geosciences (36 proposals)
2011	National Science Foundation: Dynamics of Coupled Natural and Human Systems (CNH) (14 proposals)
2009	Department of Defense: Strategic Environmental Research and Development Program (SERDP) (9 proposals)
2008	Panelist: National Science Foundation (NSF) and the American Society for Engineering Education (ASEE), 2008 NSF Graduate Research Fellowship Program (GRFP). Subject: Geosciences. (duties: reviewed 43 proposals, attended 3-day panel meeting)
2007	Department of Defense: Strategic Environmental Research and Development Program (SERDP) (6 proposals)
2006-2008	National Science Foundation: Geography and Regional Science Advisory Panel. (duties: review 30-40 proposals per year and attend twice yearly 3 day panel meetings)
2004	European Union 6th Framework. Global Monitoring for Environment and Security *Integrated Projects*
2003	Department of Defense: Strategic Environmental Research and Development Program (SERDP) (5 proposals)
2002	National Science Foundation: Carbon cycling RFP
2001	Department of Defense: Strategic Environmental Research and Development Program (SERDP)
2000	Department of Defense: Strategic Environmental Research and Development Program (SERDP)

1999	NASA: Modeling and Data Analysis (MDAR) (NRA-99-OES-04)
1997-98	Environment Canada: Science review panel member Modeling Atmospheric Aerosols

Proposal/programmatic review

Total # reviews	***Agency/topical area***
35	National Science Foundation (Multiple Divisions)
2	NOAA Climate Program Office (CPO) Climate Change Data and Detection (CCDD)
2	Department of Energy: Regional and Global Climate Modeling Program Climate and Environmental Sciences Division
6	Department of Energy, National Institute for Climatic Change Research
2	National Oceanic and Atmospheric Administration: Office of Oceanic and Atmospheric Research. SBRI research in Climate Applications for Enhanced Decision-Making
1	European Commission: Arctic Research programme (2018)
1	The Netherlands Organisation for Scientific Research NWO (the Netherlands' research council). Research proposals for Climate Changes Spatial Planning
1	U.S. Army Corps of Engineers
1	The Petroleum Research Fund
5	American Women in Science Foundation
1	NASA: Modeling and Data Analysis
1	Cooperative Grants Program (CGP) of the U.S. Civilian Research and Development Foundation (CRDF)
1	Scripps Institute of Oceanography (UCSD)
3	Natural Sciences and Engineering Research Council of Canada
1	Canadian Foundation for Climate and Atmospheric Sciences
1	Netherlands organization for Scientific Research
2	L'Agence Nationale de la Recherche, France (2017 & 2018)
1	Swedish Natural Science Research Foundation
N/A	Scientific advisory panel Measuring DMS and DMS oxidation products Environment Canada
N/A	Atmospheric Environment Program, Environment Canada undertaken by Environment Canada and the Treasury Board Secretariat

Editorial boards

- Editor:
  - Editor of AGU Earth and Space Science 2021-2024. *Handled approximately 80 manuscripts in 2023.*
  - Editor of AGU Journal of Geophysical Research – Atmospheres 2010-2014
- Editorial board:
  - Editorial board of Energies 2022-2024
  - Editorial board of Wind Energy Science 2020-2022
  - Editorial board of Wind Energy 2019-2022
  - Editorial board of Nature Partner Journal Climate and Atmospheric Science 2016 on

- Associate Editor. Journal of Geophysical Research - Atmospheres. 2009, 2015
- Editorial board. Advances in Meteorology. Hindawi Publishing Corporation. 2008-2014
- Editorial board. The Open Atmospheric Science Journal. Bentham. 2007-2014
- Editorial board. WWW-base scientific journal: WWW.TheScientificWorld.com. 2001-2014

Manuscript review. Total number > 270

Total # reviews	***Journals (for most cases I only list journals for which reviews # ≥ 4)***
7	*Atmospheric Chemistry and Physics*
47	*Atmospheric Environment*
6	*Atmosphere Ocean*
1	*Bulletin of the American Meteorological Society*
10	*Climate Dynamics*
6	*Climate Research*
4	*Earth and Space Sciences*
4	*Environmental Science and Technology*
4	*Environmental Research Letters*
4	*Geophysical Research Letters*
15	*International Journal of Climatology*
9	*Journal of Applied Meteorology and Climatology*
17	*Journal of Air and Waste Management Association*
1	*Journal of Atmospheric Sciences*
3	*Journal of Climate*
51	*Journal of Geophysical Research*
2	*Journal of Hydrometeorology*
1	*Monthly Weather Review*
1	*Nature*
2	*Nature Communications*
4	*NPJ Climate and Atmospheric Sciences*
1	*Journal of Renewable and Sustainable Energy*
4	*Quarterly Journal of the Royal Meteorological Society*
5	*Science of the Total Environment*
10	*Wind Energy*
1	*Wind Energy Science*

Book review

#	***Title***	***For whom***	***Year***
	Revision to Atmospheric Pollution: Jacobson, Cambridge University Press	Cambridge University Press	2011
	Weather and Climate (5th Ed): Aguado & Burt, Prentice Hall	Prentice Hall	2010
	Book proposal: ***Climate and Global Change***	Springer	2006
	Physical Geography: Strahler & Strahler. Wiley	Wiley	2006
	Essential Geosystems: Christopherson. Prentice Hall	Prentice Hall	2005

	Meteorology: Understanding the atmosphere: Ackerman and Knox. Brooks/Cole	Brooks/Cole, Thomson Learning	2005
	Climate: Past, present and future: Wyatt and Yang. Cambridge University Press	Cambridge University Press	2003
	The Theory and Practice of Physical Geography*:* Butler, Malanson and Walsh Prentice Hall	Prentice Hall	2002
78	Books/DVDs/CDs/WWW sites	Choice: Current Reviews for Academic Libraries	1997- to date

Report review

Title	***For whom***	***Year***
More Extreme Weather and Our Energy Infrastructure by National Wildlife Federation	National Wildlife Federation	2011
Review of report from Scripps Institute for Oceanography **'Formulation of a Statistical Downscaling Model for California Site Winds, with Application to 21st Century Climate Scenarios'** By David K. Mansbach and Dan Cayan.	Research for the California Energy Commission's Public Interest Energy Research program	2011

External review for habilitation

Year	***Title of thesis***	***University***
2011	Extreme European wind storms: diagnostics, downscaling and climate change	University of Cologne, Germany

External review for tenure/promotion

# cases	***Year***
2	2023
1	2021
2	2018
1	2017
1	2016
2	2015
1	2013
1	2012
2	2011
1	2010
1	2007
1	2003

Ph.D. Dissertation review (external reviewer)

Department & University	***Date***
National Institute of Technology, Kurukshetra, India	September 2019
Indian Institute of Technology, Dhanbad, India	June 2019

University of British Columbia, Vancouver, Canada	July 2013
University of Cape Town, Cape Town, South Africa	September 2008
University of Canterbury, Christchurch, New Zealand	February 2006
Queensland University of Technology, Brisbane, Australia	November 2003
University of Auckland, Auckland, New Zealand	October 2003
University of Canterbury, Christchurch, New Zealand	March 2003
Griffith University, Brisbane Australia	August 1997

Science advisory panels/ Administration of Professional Organizations

Year	***Position***
2024-27	***Member*** advisory committee EU Horizons project: DTWO (Federated Digital Twin for Wind-Offshore)
2022-25	***Member*** advisory committee EU Horizons project: AIRE: Advanced study of the atmospheric flow Integrating REal climate conditions to enhance wind farm and wind turbine power production and increase components durability.
2022-25	***Member*** organizing committee World Climate Research Programme (WCRP) lighthouse activity: **Global Precipitation Experiment (GPEX)**
2021-25	***Co-Chair*** of the World Climate Research Programme (WCRP) Regional Information for Society (RifS)
2021-24	***WP Lead*** 'Climate conditions' under International Energy Agency (IEA): Wind Task 46: Erosion of Wind Turbine Blades
2021-26	***Co-PI*** of Coordinated Regional Downscaling Experiment (CORDEX) flagship project; Assessing the Use of Regional Models in a Storyline Framework for Understanding Climate Hazards
2021	***Invited panelist.*** NSF-ERVA Visioning Event: The Role of Engineering in Addressing Climate Change. 6-8 December.
2017-19	***External advisory board.*** NYSERDA project: Effect of Climate Change on Renewable Energy Distribution in New York State
2013	***Member of Committee of Visitors*** to review the Division of Atmospheric Sciences in the NSF Division of Atmospheric and Geospace Sciences (ad hoc review and site visit)
2013	***Presenter*** for a Union of Concerned Scientists Video conference and podcast on climate science
2012	***Member*** committee responsible for American Meteorological Society policy statement on energy production and Earth observations, science, and services
2011	***Climate Expert*** on the AGU Climate Q&A service
2011-2013	***Member*** Board on Enterprise Economic Development (BEED), Commission on the Weather and Climate Enterprise (CWCE), American Meteorological Society (AMS)
2007-2011	***Chair*** Midwest Assessment Group for Investigations of Climate **(MAGIC).** Consortium of 10 Midwest institutions: Indiana University, Michigan State University, Ohio State University, Ball State University, Iowa State University, Illinois State Water Survey (University of Illinois), St Louis University, University of Minnesota, University of Wisconsin
2005-2006	***Chair*** Membership committee, American Association for Aerosol Research

2004-2005	***Member*** Membership committee, American Association for Aerosol Research
2002-2003	***Chair (elected)*** Atmospheric Aerosols working group, American Association for Aerosol Research
2001-2002	***Vice-Chair (elected)*** Atmospheric Aerosols working group, American Association for Aerosol Research
2000-2005	***Member*** American Meteorological Society Committee on Planned and Inadvertent Weather Modification
2000-2002	***Member*** Organizing committee of Pacific'2001 field experiment
1999 →	***Member*** Fine Particulate Panel NARSTO Modeling and Chemistry Team
1999 →	***Member*** of Marine Aerosol working group, European Aerosol Congress
1996-1997	***Expert advisor*** for Visibility issues to the Atmospheric Science Panel and Impacts Panel, on the Sulphur in Gasoline Multi-agency Task-force. Canada
1995 →	***Member*** of Visibility committee of the Air and Waste Management Association
1994-1995	***Scientific advisor*** to REVEAL II. Project run by the Fraser-Cheam Regional District
1994	***Scientific advisor*** to the B.C. Visibility Task Force

Conference organizer/ session chair

Year	*Activity*
2022-23	***Session organizer*** Leading Edge Erosion – Atmospheric Drivers, Wind Energy Science Conference, Glasgow, May 2023.
2022	***Session organizer:*** GC41H & GC42S Pathways to provision of more robust regional information for society. AGU Falling meeting, December 2022.
2021-22	***Organizing committee*** NA-CORDEX: Storylines from Regional Simulations. Montreal, Canada, April 2022.
2021-22	***Organizing committee*** The Science of Making Torque from Wind. Delft, The Netherlands, May 2022.
2021	***Session Organizer*** Wind Energy Science conference, Hannover, Germany. May 2021.
2020	***Session Chair.*** International Energy Agency: Wind Task 11: Base Technology Exchange. Technical Expert Meeting # 98 on Wind Turbine Blade Leading Edge Erosion. Denmark, February 2020.
2019-20	***Organizing committee*** The Science of Making Torque from Wind. Delft, May 2020.
2019	***Session Organizer*** Wind Energy Science conference. Cork, June 2018.
2018	***Session organizer*** European Geophysical Union conference. Vienna, April 2018.
2009	***Conference organizing committee and session chair*** Offshore Wind Energy in Mediterranean and Other European Seas (OWEMES), Brindisi, May 2009.
2008	***Session co-convener and chair:*** **"A28: Biogenic and Anthropogenic Influences on Particle Nucleation and Growth I".** Oral & poster sessions. AGU Fall meeting, San Francisco
2005	***Session Chair "Particle formation'*** AAAR Annual Meeting, Austin.
2004	***Session co-convener: "The bio-atmospheric N cycle".*** AGU Fall meeting, San Francisco.

2004	***Co-convener and organizer:*** Workshop on particle fluxes (part of the BACCI project). Risoe National Laboratory.
2004	***Workshop rapporteur:*** ONR sponsored workshop: Towards a universal sea spray source function. University of Leeds. *Report published.*
2003	***Organizing committee of the annual meeting of the*** American Association for Aerosol Research. *(reviewed 220 abstracts and arranged over 20 sessions)*
2003	***Session Chair "Atmospheric Modeling II'*** AAAR Annual Meeting, Los Angeles. ***Session Chair "Atmospheric Modeling I'*** AAAR Annual Meeting, Los Angeles.
2003	***Session co-convener:*** **Atmospheric and oceanic processes in air-sea exchange: first results from SOLAS studies** AGU/EGS Joint Assembly, Nice, France ***Session co-convener:*** **Wind Power Meteorology** AGU/EGS Joint Assembly, Nice, France
2002	***Session Chair "Marine Aerosols'*** AAAR Annual Meeting, North Carolina. ***Session Chair "Atmospheric Modeling II'*** AAAR Annual Meeting, North Carolina. ***Session Chair "Atmospheric Modeling I'*** AAAR Annual Meeting, North Carolina.
2001	***Session organizer and chair 'Air quality'*** AAG annual meeting, New York
2000	***Session Chair "Marine Aerosols'*** AAAR Annual Meeting, St Louis, MO.
2000	***Moderator.*** Institute for Applied Mathematics Workshop on Atmospheric Modeling: Atmospheric Chemistry Modeling Session. Minneapolis.
1999	***Chair of Panel on modeling perspectives****.* Pacific 2001 planning meeting, Toronto.
1999	***Organizer of*** **Workshop on Nitrogen deposition to and cycling in forest ecosystems and linkages to carbon sequestration.** Indiana University, Bloomington on October 21-22, 1999.
1998	***Session chair*** AAG Climate Specialty Group, AAG annual meeting, Boston
1996	***Organizing committee*** for **Global Climate Change, Scientific Uncertainties and Environmental Implications workshop.** Indiana University
1996	***Session chair*** Midwest Association for Cloud and Aerosol Physics (MACAP) Meeting. St. Louis, MO.
1995	***Session chair*** Canadian Meteorological and Oceanographic Society (CMOS) Annual Meeting. Kelowna, B.C.
1994	***Rapporteur*** for "Pacific '93 - what did we learn?" workshop Vancouver, B.C.

CORNELL UNIVERSITY: EXAMPLE SERVICE 2014 ->

Year	*Activity*
2023-	Advisory committee: Dr. Barcheck
2023-	Committee member: CALS nomination committee
2021-2	Committee member: Faculty search
2021	Committee member: Cornell Global Hubs
2021	Committee member: CALS Research, Extension, and Staff Award
2021	Committee member: Faculty Promotion
2021-	Advisory committee: Dr. Lehner
2020	Atkinson Center: Reviewer for Post Doctoral Fellows proposals
2019 ->	Faculty Senate
2019	Committee member: CALS Research, Extension, and Staff Award
2019-20	Committee for faculty position in coastal processes
2019	College Ad hoc committee Promotion.

2018-2022	Advisor for class of Atmospheric Science majors (incoming Fall 2018).
2018	Departmental Ad hoc committee member: Tenure and promotion
2016-2017	Departmental Ad hoc committee member: Promotion
2016	Faculty 3rd year review committee
2014	Departmental Ad hoc committee member: Tenure and promotion
2014-2017	Member of Science of Earth Systems curricular committee

INDIANA UNIVERSITY: EXAMPLE SERVICE DURING 1995-2014

Year	***Activity***
2013-2014	Advisory Committee of the Indiana University Diversity Initiative
2013-2014	Advisory Committee of the Center of Excellence for Women in Technology
Multiple	Chair – faculty search committee
2012	Review committee of candidates for position of Associate Vice Provost for Research
2011-2014	Associate Vice-Provost for Faculty and Academic Affairs
Multiple	Junior Faculty Mentor: Tony Grubesic & Constance Brown
2011	Judge for the IU Women in Science Program
2010-2011	Search committee for the Dean of the College of Arts and Sciences
2010	Lecturer of the causes and consequences of drought – public forum after presentation of the Grapes of Wrath, Cardinal Stage company
2009-2012	Graduate Faculty Council member, Indiana University *(elected)*
2008-2014	Executive committee member of the Indiana University Center for Research in Environmental Science (renamed to Integrated Program in the Environment)
2008-2014	Executive committee member of the Indiana University Research Preserve
2008-2011	Advisory committee to the Dean: Research in the Physical and Life Sciences, College of Arts and Sciences
2007-2011	Director of Graduate Studies
2007 -2010	Chair of the Advisory Committee of ACT, the Anthropological Center for Training and Research on Global Environmental Change at Indiana University
2006-2007	University Faculty Council *(elected)*
2006	Reviewer for course comparability across all Indiana high education establishments
2005-2014	Chair – Atmospheric Science Program
2005-2008	IUB Campus Promotion Advisory Committee (PAC)
2005-2007	Bloomington Faculty Council *(elected)*
2005-2007	Bloomington Faculty Council: Co-chair Student Affairs committee *(elected)*
2005-2009	Planning committee for the Multi-disciplinary Science Building II
2005	Review committee for the Bachelor of Science in Environmental Science (B.S.E.S) joint degree between the College of Arts and Science and School of Public and Environmental Affairs
2002- 2013	Reviewer for Indiana Junior Academy of Science
2002 - 2006	Chair – Department Colloquium committee
2001	Co-chair committee on Environmental and Atmospheric Science committee for planned IU Science Building
2000-01	Committee on Centralized Facilities Subcommittee for IUB Science Building
2000, 2004	Member Science Certification Committee

1999	Contributed to proposal to establish a permanent Griffy watershed preserve for use by faculty and students (www.indiana.edu/~pepp/griffy/Griffy_proposal.html)
1998	Evaluator of a new ALERT funding opportunities service for Sponsored Research Services, Indiana University
1997, 2001 2006, 2010	Member: Departmental Salary committee
1997-2000	Chair – Environmental Program
1996-97	Member Energy Seminar. Sponsored by Institute for Advanced Study
1996-2000	Chair – Department equipment and computing planning committee
1996 →	Member Graduate Faculty, Indiana University
1996	Evaluator of a new InfoEd funding opportunities service for Sponsored Research Services, Indiana University. May-Jun
1996	Reviewed manuscript samples for proposed book "Forces of Nature" by Michelle Gilder, for Indiana University Press. Feb