

Eric R. Pardyjak
Curriculum Vitae

Office Address

University of Utah
Department of Mechanical Engineering
1495 E 100 S (1550 MEK)
Salt Lake City, UT 84112-9208
(801) 585-6414
E-Mail: pardyjak@eng.utah.edu
ORCID: 0000-0002-0180-0857

Home Address

2626 S. Beverly St.
Salt Lake City, UT



Biographical Data

Birth date: 9/19/72
Place of Birth: Rochester, NY
Citizenship: United States

Research Interests

Fundamental and applied fluid mechanic's research. Application of fundamental turbulence concepts to studies in environmental atmospheric flows in complex terrain (i.e., urban and mountainous). Interests include both experimental (field & laboratory based) and computational research. Optimization of sustainable urban designs for air quality, energy production, water use, and energy efficiency. Investigations of the influence of turbulence on microphysical processes such as snowflake and fog behavior.

Education

Doctor of Philosophy Mechanical Engineering - July, 2001
Arizona State University, Tempe, AZ
Specialization: Dynamics of the Atmospheric Boundary Layer
Master of Science - Mechanical Engineering - August, 1996
University of Wisconsin, Madison, WI
Specialization: Turbulence Modeling
Bachelor of Science - May, 1994
Michigan State University, East Lansing, MI
Major: Mechanical Engineering

Professional Experience

University of Utah – Full Professor
Department of Mechanical Engineering, 7/13-present
Department Chairs: Dr. Tim Ameel and Dr. Bruce Gale

University of Utah – Adjunct Full Professor
Department of Atmospheric Sciences, 7/13-present
Department Chair: Dr. Kevin Perry

Université Paul Sabatier, Laboratoire d'Aérodynamique, Observatoire Midi-Pyrénées, France
- Visiting scientist
Host: Marie Lothon and Pierre Durand, 8/16-7/17

University of Utah – Associate Professor
Department of Mechanical Engineering, 7/07-6/13

Department Chair: Dr. Tim Ameen

University of Utah, Department of Mechanical Engineering, Director of Graduate Studies/Associate Department Chair 8/10-7/11

University of Utah – Adjunct Associate Professor

Department of Atmospheric Sciences, 7/07- 6/13

Department Chair: Dr. Kevin Perry

Université Paul Sabatier, Laboratoire d'Aérodynamique, Observatoire Midi-Pyrénées, France - Invited Professor

Host: Marie Lothon, 6/11-7/11

École Polytechnique Fédérale de Lausanne, Switzerland – Visiting Professor

School of Architecture, Civil and Environmental Engineering (ENAC)

EFLUM - Laboratory of Environmental Fluid Mechanics and Hydrology, 9/09-7/10

ENAC Dean and Host: Dr. Marc Parlange

University of Utah – Assistant Professor

Department of Mechanical Engineering, 8/01-6/07

Department Chair: Dr. J.C. Klewicki & Dr. K.S. Udell

University of Utah – Adjunct Assistant Professor

Department of Meteorology, 6/06-6/07

Department Chair: Dr. James Steenburgh

Los Alamos National Laboratory - Graduate Research Assistant/post-doc

Energy and Environmental Analysis Group, 4/00-8/01

Supervisor: Dr. Michael J. Brown

Research included initial development of the fast response transport and dispersion models QUIC-URB and QUIC-Plume for use in urban areas as part of the Department of Energy's Chemical Biological Nonproliferation Program; participation in the VTMX (Vertical Transport and Mixing eXperiment) and URBAN dispersion field campaigns in Salt Lake City, UT as well as "The Wall" experiment at the Dugway Proving Grounds at the Salt Flats in Utah.

Arizona State University - Graduate Research Assistant

Department of Mechanical and Aerospace Engineering, 8/96-8/01

Supervisor: Professor H.J.S. Fernando

Research included conducting and supervising two, large, multi-disciplinary pollution related field experiments in Phoenix, AZ coined PAFEX-I and PAFEX-II (Phoenix Air Flow Experiment). The projects (funded by NSF and the Arizona Department of Environmental Quality) have been used to gain knowledge of the flow of pollutants in the Phoenix air shed and add insight to the dynamics of the atmospheric boundary layer.

Los Alamos National Laboratory - Visiting Research Scientist

Energy and Environmental Analysis Division, 7/99-8/99

Supervisor: Dr. Michael J. Brown

Development and implementation of a counter gradient turbulent heat transport model for the 3D atmospheric circulation code HOTMAC.

University of Wisconsin-Madison - Graduate Research Assistant

Department of Mechanical Engineering, 8/94-7/96

Supervisor: Professor Christopher J. Rutland

Computation fluid dynamics research. Developed and implemented new turbulence, Very Large Eddy Simulation (VLES) models for the complex flow and internal combustion code KIVA.

Michigan State University - Undergraduate Research Assistant

Department of Mechanical Engineering, 8/93-8/94

Supervisor: Professor John F. Foss

Experimental research in turbulent shear flow laboratory. Co-designed, manufactured and tested a portable multi-wire, hot-wire calibration unit. Conducted preliminary studies and design for an automotive fan testing facility. Provided technical support for undergraduate fluid mechanics laboratory.

E.I. DuPont de Nemours & CO., Inc. - Mechanical Engineering Co-op

Chambers Works Plant, 12/91-3/92 and 6/92-8/92

Niagara Falls Sodium Plant, 1/93-5/93

Supervisor: Mr. Vincent Pun

Provided R&D support for chemical manufacturing process. Worked closely with production; consulted with process engineers and supervised mechanics.

Internally Funded Research Proposals

- Role: PI, Project Title: Scintillometry Measurement System for Quantification of Atmospheric Fluxes. Research Instrumentation Fund, Funding Agency: University of Utah, Vice President for Research, Amount Awarded: \$85,000, Duration of Award: One-time award 2013.

Funded Research Proposals

- Role: co-PI, Miniaturized weather station with rapid switching between precipitation and meteorological measurement modes, DOE SBIR Phase II Grant No. DE-SC0022516, A. Reaburn, \$1,641,506, Duration of Award: 4/1/2023-4/1/2025.
- Role: co-PI, Project Title: Observational evaluation of the effects of atmospheric temperature and turbulence on hydrometeor fallspeed, National Science Foundation. T. Garrett (PI), Pardyjak portion: \$241,736, Duration of Award: 2022-2025.
- Role: co-PI, Project Title: Fatima: Fog and turbulence interactions in the marine atmosphere, Office of Naval Research. H.J.S. Fernando (PI), C. Dorman (CoI), E.R. Pardyjak (CoI), Shen (CoI), Q. Wang (CoI), lead Institution University of Notre Dame, Total Award: \$3,000,000 (with 5-year option \$5,000,000) U of U contribution: 3-years \$838,336 (with 5-year option \$1,395,296), Duration: May 2021-April 2026.
- Role: co-PI, Project Title: Cold Fog Amongst Complex Terrain (CFACT), National Science Foundation. Z. Pu (PI - Atmos Sci), E. Pardyjak (CoI), 3-year project, Total Award: \$1,171,902 plus NCAR instrumentation support. Mech Eng portion: ~\$340k, June 2021- May 2026.
- Role: Senior Personnel, Project Title: A systems approach for managing bacterial blight of carrot, USDA/NIFA/SCRI, Utah portion of Award: \$369,437, J. Dung (PD), J. Chang (CoPD), G. Greenway (PI), J. Jacobs (PI), Rob Stoll (PI), L. du Toit (CoI), Walt Mahaffee (CoI), T. Mahmud (CoI), J. Sdihu (CoI), Sept 2020 – Aug 2024.
- Role: Senior Personnel, Project Title: FRAME: fungicide resistance assessment mitigation and Extension network, USDA/NIFA/SCRI, M. Moyer (PI), W.F. Mahaffee (CoI), R. Stoll (CoI), T. Miles (CoI), R. Naegale (CoI), Total Award: \$5,000,000, Oct 2018 – Sept 2022.

- Role: PI, Project Title: DEID Snow-Storm Instabilities, Funding Agency: Colorado Department of Transportation, Amount Awarded: \$55,549, Duration of Award: 2/4/2019-12/31/2022.
- Role: co-PI, Project Title: Observational and theoretical investigations related to hydrometeor settling in turbulent air, Funding Agency: NSF, Amount Awarded: \$498,961 (plus \$92,598 supplement), Duration of Award: May 2019 – March 2022.
- Role: co-PI (PI: H.J.S. Fernando, Notre Dame), Project Title: Toward Improving Coastal Fog Prediction (C-FOG), Funding Agency: Office of Naval Research, Amount Awarded to Pardyjak: \$550,000. Duration of Award, May 2018 - Dec 2022.
- Role: PI, Project Title: A Research Project on the Establishment of the air quality prediction system applicable to each air quality forecasting region in Korea: Phase 2, Funding Agency: National Institute for Environmental Research, Republic of Korea, Amount Awarded: \$80,000, Duration of Award, March 2018-May 2019.
- Role: Sr. Personnel (PI:Tim Garrett), Project Title: High temporal and spatial resolution measurement of hydrometeor mass for automated assessment of precipitation rate and type, Funding Agency: Department of Energy, STTR phase II award, Amount Awarded to Pardyjak: \$40,000, Duration of Award, May 2018-May 2019.
- Role: PI, Project Title: A Research Project on the Establishment of the air quality prediction system applicable to each air quality forecasting region in Korea: Phase 1, Funding Agency: National Institute for Environmental Research, Republic of Korea, Amount Awarded: \$86,000, Duration of Award, March 2017-April 2018.
- Role: co-PI (PI: Steve Kreuger), Project Title: PREEVENTS Track 2: A fast-response wildland fire modeling framework for prediction and risk assessment, Funding Agency: NSF, Amount Awarded: \$2,024,452.00, Duration of Award: August 2017-August 2021.
- Role: PI, Project Title: Collaborative Research: Parameterization of the land-surface thermal and moisture heterogeneities, Funding Agency: NSF, Amount Awarded: \$614,921, Duration of Award, March 2017 – March 2021.
- Role: co-PI (Kam Leang, PI), Project Title: U.S. ARMY Phase II STTR: Autonomous Broad Spectrum Environmental Sentinels, Funding Agency: U.S. Army, Amount Awarded to Utah: \$330,000, Duration of Award: August 2016 – August 2018.
- Role: PI, Project Title: Localized Distributed Power Generation: Economically Robust, Demand-Optimized Placement of Urban Energy Production Systems, Funding Agency: NSF, Amount Awarded: \$309,909, Duration of Award: July 2015-Dec 2018.
- Role: PI, Project Title: Wind energy resource assessment for Washakie Renewable Energy at the Paradise Shrimp Farm, Belize. Funding Agency: Washakie Renewable Energy, Amount Awarded: \$28,207, Duration of Award: October, 2013-April, 2015.
- Role: PI, Project Title: The Impact of Green Infrastructure on Urban Microclimate and Air Quality, Funding Agency: NSF, Amount Awarded: \$1,000,000, Duration of Award: October, 2011-September, 2015.
- Role: Co-PI, Project Title: Mountain terrain atmospheric modeling and observations (MATERHORN) program Funding Agency, ONR-MURI, Amount Awarded, \$1,500,000 (University of Utah portion), Duration of Award: July, 2011-June 2014.
- Role: PI, Project Title: Development of a Windbreak Dust Predictive Model and Mitigation Planning Tool Funding, Agency: SERDP (Strategic Environmental Research and Development Program), Amount Awarded: \$356,468, Duration of Award: March, 2010-December, 2012.
- Role: PI, Project Title: Optimization of Urban Designs for Air Quality and Energy, Efficiency Funding Agency: NSF, Amount Awarded: \$341,467, Duration of Award: September, 2008-January, 2012.
- Role: PI, Project Title: Rotor blade vortex control using surface roughness, Funding Agency: Korean Institute of Geosciences and Mineral Resource, Amount Awarded: \$41,900, Duration of Award: June, 2010-December, 2010

- Role: PI, Project Title: Technical Support for External Modeling Capabilities for Pentagon Shield and Urban Shield Programs, Funding Agency: STAR Institute (formerly NCAR), Amount Awarded: \$53,593, Duration of Award: October, 2008-December, 2009.
- Role: PI, Project Title: An Investigation of the relationship between indoor and outdoor air quality during the winter in Nogales, Sonora, Mexico, Funding Agency: SCERP, Amount Awarded: \$69,952, Duration of Award: June, 2008-December, 2009.
- Role: Co-PI with Hollerbach, Minor, Willemsen and Metzger, Project Title: Generation of Complex Environmental Flow Patterns for Virtual Environments, Funding Agency: NSF, Amount Awarded: \$1,119,215, Duration of Award: October, 2004-September, 2008 (extended through 9/2009).
- Role: PI, Project Title: PIV AND PLIF MEASUREMENTS OF TURBULENT DISPERSION OF CONTAMINANT IN PIPING NETWORKS, Funding Agency: Department of Energy, Los Alamos National Laboratory, Amount Awarded: \$85,000, Duration of Award: February, 2006-June, 2008.
- Role: PI, Project Title: Validation of QUIC Dispersison System, Funding Agency: Department of Energy, Los Alamos National Laboratory, Amount Awarded: \$50,000, Duration of Award: February, 2006-June, 2008.
- Role: Co-PI (PI – Craig Forster), Project Title: Urban Systems Research Center – Synergy Interdisciplinary Award, Funding Agency: University of Utah Office of Research, Amount Awarded: \$100,000, Duration of Award: July, 2006-December, 2007.
- Role: PI, Project Title: High PM Episodes in US-Mexico Border Cities, Funding Agency: SCERP, Amount Awarded: \$65,299, Duration of Award: June, 2006-December, 2007.
- Role: PI, Project Title: Spanish Fork wind measurements for wind turbine applications, Funding Agency: Wasatch Wind, LLC, Amount Awarded: \$6,720, Duration of Award: December, 2005-July, 2006.
- Role: PI, Project Title: EXTENSION AND TESTING OF THE QUICK URBAN and INDUSTRIAL COMPLEX (QUIC) DISPERSION MODELING SYSTEM, Funding Agency: Department of Energy, Amount Awarded: \$82,965, Duration of Award: September, 2005-December, 2006.
- Role: PI, Project Title: Development of a Windbreak Dust Control Strategy Tool for Communities in Arid Climates such as the US-Mexico Border Region, Funding Agency: SCERP, Amount Awarded: \$67,000, Duration of Award: June, 2005-August, 2006.
- Role: PI, Project Title: Implementation of QUIC into Pentagon Shield, Funding Agency: Department of Energy, Amount Awarded: \$53,947, Duration of Award: Feb 28, 2004-Dec 31, 2005.
- Role: PI, Project Title: Wind-tunnel building array experiments using PIV to obtain Reynolds shear stress fields, Funding Agency: Department of Energy, Amount Awarded: \$52,051, Duration of Award: Dec 31, 2004-Sep 31, 2006.
- Role: PI, Project Title: The Wind Energy Research Project: Design and Construction of a Modular Test Bed Wind Turbine, Funding Agency: EPA – P3 Sustainability, Amount Awarded: \$10,000, Duration of Award: August, 2004-July, 2005.
- Role: PI, Project Title: Fugitive Dust transport, Funding Agency: SCERP, Amount Awarded: \$40,000, Duration of Award: June, 2004-August, 2005.
- Role: PI, Project Title: QWIC-URB Continuation + Addendum, Funding Agency: Department of Energy, Amount Awarded: \$94,965, Duration of Award: March 20, 2004-April, 2005.
- Role: PI (Co-PI Klewicki), Project Title: Joint Urban 2003 Field Experiment, Funding Agency: H.E. Cramer Company, Inc (subcontract for DTRA, DOD), Amount Awarded: \$118,333, Duration of Award: April 16, 2003-September, 2004.
- Role: PI, Project Title: QWIC-URB Continuation, Funding Agency: Department of Energy, Amount Awarded: \$60,000+\$10k extension, Duration of Award: December 20, 2002-December 20, 2003.
- Role: PI, Project Title: QWIC-URB Continuation, Funding Agency: Department of Energy, Amount Awarded: \$60,000, Duration of Award: October 31, 2001-September 30, 2002.
- Role: Co-PI with J.C. Klewicki, Project Title: Weber Canyon Wind Study, Funding Agency: US Air Force - Hill Air Force Base, Amount Awarded: \$67,330, Duration of Award: December 2001-June 30, 2002.

- Role: PI, Project Title: Aerosol Collection System Testing, Funding Agency: Phoenix Analysis Design & Technologies, Amount Awarded: \$1,500, Duration of Award: September 31, 2002-December 1, 2002.
- Project Title: Phoenix, AZ summer ozone field study, Funding agency: Arizona Department of Environmental Quality and vice president for research at Arizona State University, Funded for the period: August 1 - September 15, 1998, Amount funded: \$18k.
- Project Title: Phoenix, AZ pollution dispersion modeling study using CALINE4, Funding agency: Arizona Department of Transportation, Funded for the period: August, 1999 - May, 2000, Amount funded: \$13k.

Honors and Awards

Teaching

- Dean recognition for being placed among top instructors in the College of Engineering based on student evaluations for undergraduate Fluid Mechanics, Spring 2022
- Dean recognition for being placed among top instructors in the College of Engineering based on student evaluations for undergraduate Heat Transfer, Fall 2013
- Dean recognition for being placed among top instructors in the College of Engineering based on student evaluations for Environmental Fluid Dynamics, Spring 2013
- Dean recognition for being placed among top instructors in the College of Engineering based on student evaluations for Thermal System Design, Spring 2008
- Dean recognition for being placed among top instructors in the College of Engineering based on student evaluations for Intermediate Fluid Dynamics, Fall 2007
- Dean recognition for being placed among top 15% of instructors in the College of Engineering based on student evaluations for Environmental Fluid Dynamics, Spring 2007
- Dean recognition for being placed among top 15% of instructors in the College of Engineering based on student evaluations for Intermediate Fluid Dynamics, Fall 2006

Professional

- Fellow, American Society of Mechanical Engineers, 2017
- Fulbright Scholar Award, Commission Franco-Américaine, 2016-2017
- Researcher of the Award, Department of Mechanical Engineering, University of Utah, 2011 Utah, 2011
- Researcher of the year award, Department of Mechanical Engineering, University of Utah, 2021-2022
-
- Recipient of Technical Achievement Award and nominated for DuPont's Jackson Laboratory 'Oscar Award,' 7/92

Academic

- Dow-Corning Research Internship/Grant, 8/93-8/94
- Tau Beta Pi (Engineering honor society), 4/94
- Pi Tau Sigma (Mechanical Engineering honor society), 10/92
- Phi Kappa Phi honor society, 2/94
- Golden Key National Honor Society, 1/93

Invited Talks

- Pardyjak, E.R., “High-Resolution, Fast-Response Modeling of Environmental Transport Processes,” University of Utah, Mechanical Engineering Distinguished Seminar, January 2020.
- Pardyjak, E.R., “Investigating the Role of Surface Temperature Spatial Heterogeneity on Thermal Circulations and Turbulence,” University of Utah, Atmospheric Sciences Seminar, September 2019.
- Pardyjak, E.R., “Investigating the Spatial Heterogeneity of Thermal Circulations and Turbulence in Complex Terrain,” Washington State University, November 2018.
- Pardyjak, E.R., P. Durand, T. Hedde, N. Gunawardena, F. Dupuy, and P. Roubin, “KASCADE2017 – An experimental study of thermal circulations and turbulence in complex terrain,” European Geophysical Union, Vienna, Austria, 25 April 2017.
- Pardyjak, E.R., “Investigating spatial heterogeneity of thermal circulations and turbulence in complex terrain,” ACINN Seminar, University of Innsbruck, Austria, 17 May 2017.
- Pardyjak, E.R., “Transitional and stable boundary-layer processes in complex terrain during the MATERHORN field campaign,” Laboratoire d'Aérodynamique, L'Observatoire Midi-Pyrénées (OMP), l'Université Toulouse III - Paul Sabatier (UPS), Toulouse, France, 1 December 2016.
- Pardyjak, E.R., “Which atmospheric feedbacks across which scales are critical to include across urban system models (e.g., building design, engineering, planning, air quality, hydrology, etc.)?,” Workshop on the Integration of Urban Atmospheric Processes Across Scales, Reading, England, 16 November 2016.
- Pardyjak, E.R., “High-Resolution Modeling of Environmental Transport Processes for Sustainable Cities,” CERFACS (Centre Européen de Recherche et de Formation Avancée en Calcul Scientifique), Toulouse, France, 6 Oct 2016.
- Pardyjak, E.R., “Microscale Measurement and Modeling Challenges and Opportunities in Cities,” Meteorology and Climate – Modeling for Air Quality (MAC-MAQ), Air Quality Research Center, UC-Davis/California Air Resources Board, 16-18 September 2015, Sacramento, CA.
- Pardyjak, E.R., “Overview of the University of Utah Environmental Fluid Dynamics Lab,” ARL Atmospheric Science Center Workshop 2015, 9-10 Jun 2015, White Sands Missile Range.
- Pardyjak, E.R., “Uncertainty in Evening Transition and Turbulent Flux Characterization in Mountainous Terrain,” Workshop on, Microscale Modeling of Complex-Terrain Flows, 25-26 September 2014, University of Notre Dame.
- Pardyjak, E.R., “The MATERHORN Experiments - Toward Improved Numerical Weather Prediction Complex Terrain Environments,” Dugway Proving Ground, 11 September 2014.
- Pardyjak, E.R., “Studying Multi-scale/Multi-physics Processes in Complex Terrain Environments for Improved Numerical Weather Prediction,” Princeton University, 16 March 2014.
- Pardyjak, E.R. “Impact of Green Infrastructure (GI) on Urban Microclimate & Air Quality,” Department of Aerospace & Mechanical Engineering and Environmental Fluid Dynamics Group Seminar, University of Notre Dame, Indiana, 28 October 2011.
- Pardyjak, E.R., D. Nadeau, C. Higgins, M. B. Parlange, H.J.S. Fernando, “Modeling the Decay of the Convective Boundary Layer Over Heterogeneous Terrain,” BLLAST (Boundary Layer Late Afternoon and Sunset Turbulence) Workshop 17-18 June 2010: Turbulence decay of the afternoon transition, Lannemezan, France.
- Pardyjak, E.R., Flow and Dispersion in Complex Terrain, “Flow and Dispersion in Complex Terrain,” WSL Institute for Snow and Avalanche Research SLF in Davos, Switzerland 2 February 2010.

- Pardyjak, E.R., S. Simoni, M. Calaf, R. Mage, and M. Parlange, “Understanding the interaction of diurnal circulation patterns and local turbulent fluxes in an Alpine environment,” Nonlinear Processes in Geophysics session, European Geosciences Union, General Assembly 2010, Vienna, Austria, 02 – 07 May 2010. Solicited Presentation.
- Pardyjak, E.R. and H.J.S. Fernando, “The effect of surface type on the decay of turbulence in the surface layer during evening transition,” 9th EMS (European Meteorological Society) Annual Meeting, Toulouse, France, 28 September - 2 October 2009. Solicited Presentation.
- Portland State University’s Green Buildings and the Built Environment Seminar Series, “The role of Environmental Fluid Dynamics in sustainable urban design,” Portland, OR, May 22, 2009.
- Arizona State University’s Ecosystems Engineering Seminar, “The role of Environmental Fluid Dynamics in sustainable urban design,” Tempe, AZ, 4 February 2009.
- Border Environment Cooperation Commission Binational Workshop on Paving and Health, “Development of a Windbreak Dust Control Strategy Tool for Communities in Arid Climates such as the U.S.-Mexico Border Region,” Cibeles Convention Center, Ciudad Juarez, Chihuahua, 4 December 2007.
- Utah State University Department of Mechanical Engineering Graduate Seminar, “Environmental Fluid Dynamics,” Logan, Utah, 6 November 2006.
- University of Utah Department of Meteorology Seminar, Environmental Fluid Dynamics, Salt Lake City, Utah, 29 September 2006.

Academic Supervisory Roles

PhD Students Graduated (14)	Defense Date	Dissertation Project
Mathew Nelson	3/2006	Urban turbulence characterization
Akshay Gowardhan	6/2008	Urban large-eddy simulation
Sandip D. Kulkarni (co-Chair w/Minor)	8/2009	Wind flow control in a virtual environment
Balwinder Singh	1/2010	Urban Lagrangian dispersion modeling
Heather Holmes	10/2010	Atmospheric transport & chemistry
Prathap Ramamurthy	04/2011	Urban turbulence and trace gas studies
Bhagirath Addepalli	12/2012	Urban optimization modeling
Scott Speckart	04/2012	Fugitive dust measurement and modeling
Derek Jensen	10/2016	Transitory turbulence atmospheric surface layer
Chaoxun Hang	06/2017	Turbulent heat & moisture transport
Nipun Gunawardena	01/2018	Distributed sensor station & statistical algos.
Travis Morrison (co-Chair w/Calaf)	01/2021	Heat transfer in heterogeneous surface layer
Alexei Perelet	06/2021	Scintillometry and atmospheric fluxes
Behnam Bozorgmehr	03/2022	Fast response environ simulation
MS Thesis Students Graduated (17)	Defense Date	Thesis Project
Spencer Donovan	08/22	Influence of turbulence on snowflake motion
Ryan Candlish	05/21	Simulating airflow in a mineshaft
Hanieh Eshagh	06/17	Vegetation in urban simulations
Kevin Briggs	12/14	Scalar transport in QUIC-EnvSim
Chad Nielson	08/12	Hydrofoil PIV measurements
Sean Moran	04/12	Particle deposition on vegetative surfaces
Tom Booth	10/11	Fast response data assimilation
Chad Allen	08/10	Building-resolving urban energy model
Holly Oldroyd	08/09	PIV/PLIF measurements in pipes
Tony Favalaro	05/08	QUIC-URB Validation/Sensitivity
Mark Deaver	08/07	Wind display for virtual environment

Jai Kiran	12/06	Urban cold pools – UTES
Amatulnoor Uzma	12/06	Modeling flow through vegetation
Prathap Ramamurthy	07/05	Urban Trace gas Emissions Study
Balwinder Singh	12/04	Lagrangian Dispersion modeling
Nilesh Bagal	11/04	QUIC-URB sensitivity Study
Akshay Gowardhan	11/04	QUIC-URB model evaluation

MS Non-Thesis Students Chair

Exam Date

Tim Dwyer (ME)	01/08	Contaminant pipe flow dispersion
Cannon Neslen	03/06	Non-Thesis

Present Graduate students (6)

Level

Project

Matthieu Renault	PhD	Impact of terrain on wildfire spread
Ben Silberman	PhD	Snow stability assessment
Abdulrahman Yousuf (co-Chair w/Stoll)	PhD	Low-cost air-quality sensors
Zach Ruble	MS/PhD	Pressure fluctuations in complex terrain
Jack Eskeland	MS	Snow stability anticracks

Post-doctoral Researchers

Researcher

Project

Alexei Perelet (2021-Present)	Measuring hydrometeors using scintillometry
Dhiraj Kumar Singh (2018-Present)	SnowPixel sensor development/CFOG
Travis Morrison (2021-2022)	Turbulence in environmental flows
Vigneshwaran Kulandaivelu (2012-2014)	Fine-scale atmospheric turbulence measurements
Bhagirath Addepalli (2013)	Urban Form Optimization

Visiting International Scholars

Scholar

Home Institution

Project

Francesco Barbano (2019-20)	University of Bologna (Italy)	Urban modeling/Coastal Fog
Prof. J.J. Kim (2018-20)	Pukyong National Uni. (S. Korea)	CUDA-URB/QES development
Matthieu Renault (2018)	Université de Reims, France	Complex terrain modeling
Florian DuPuy (2017)	University of Toulouse	KASCADE2017 analysis
C. Roman-Cascon (2015)	Univ. Complutense de Madrid	Mountain fog formation
Prof. J.J. Kim (2012-14)	Pukyong National Uni. (S. Korea)	QUIC-URB development
Estel Blay (2012)	Univ. Politècnica de Catalunya	Evening trans. processes

Present Undergraduate Researchers

Student

Project

Adrian Franz-Garrison	PIV Measurement of winds around snowflakes
Dominic Alei-Gonzalez	Anticrack mode behavior in fractures

Former Undergraduate Student research projects (41)

Zach Ruble	Low-cost measurement stations
Alexis Deford*	Low-cost aspirated temperature measurements
Carsen Monaco	Integration of GPS units into low-cost measurement system
Ben Silberman	Low-cost measurement stations
Alex Bingham	Low-cost weather sensor development
Ryan Candlish	Development of a hotplate snow sensor
Scott Carlson	Development of a Python-based GUI for QES Wind
Anup Khadka*	Low-cost environmental measurements station development
Jeppesen Feliciano*	Geometry representation in MPM/ICE for urban simulations

Vignesh Sivaramakrishnan	Improving local energy-budget measurement stations (LEMS)
Elliott Barth	Repair of a remote sensing SODAR wind measurement device
Aaron Burton	Development of a Microcontroller-based Atmospheric Sounding System (M.A.S.S.)
Scott Schoen	Building heat transfer modeling
Nipun Gunawardena*	Development local energy balance measurement stations
Christian Holbert	Cold air pool study in the Salt Lake Valley using remote sensing
Bryon Edmunds*	Wind-tunnel deposition study
Price Lefler	TPAWT dispersion
Daniel Alexander	PIV measurements of flow around sports stadiums
Sydney Stoker	Flow visualization sports stadium (Grinnell College)
Timothy Barber	PIV/PLIF measurements
Hamid Sani	Virtual Wind Tunnel (TPAWT)
Sam Dickman*	PIV measurements of urban street canyons
Seamus Connor	QUIC-URB GUI development
Louis Monaco	Environmental Measurements
Jenny Gill	QUIC-URB GUI development
Holly Oldroyd	QUIC-URB GUI development
Dustin Wallis	Virtual Wind Tunnel (TPAWT)
Jason Hunter	Urban Wind Measurements
Tony Favalaro	QUIC-URB GUI development
Zachery Wilson	Flux Richardson Probe development
Nick Shingleton	QUIC-URB GUI development
Morgan Farley-Crust	TPAWT Virtual Wind Tunnel
Bret Verhoef	Urban Wind measurements
Aaron Barclay	PIV measurements of flow around buildings
Andy Parker	QWIC-URB GUI development
Tom Booth	QWIC-URB GUI development
Austin Van Otten	Drag measurements in urban environments
Jana Price	PIV measurements of flow around buildings
James Allison	Design of sonic anemometer mounting devices
Jeff Waterhouse	CFD of Hill Air Force Base Weber Canyon Study
Brad Hansen	PIV measurements of flow around buildings
Lester Sherrow	Stratified wind tunnel improvements

* indicates a UROP award

Highschool Student Researchers

Kyle Berkson – (2023) Olympus Highschool, Salt Lake City, UT
 Gabe Mogollon - (2019-2020) Phoenix, AZ
 Isaac Brumley – (2018-2019) AMES Hightschool, Salt Lake City, UT
 Elizabeth Prucka – (2015-2016) Park City, UT

Habilitation Committees

Dr. Marie Lothon	University of Toulouse, France	2016
Dr. Manuela Lehner	University of Innsbruck, Austria	2022

Doctoral/Masters Committee member (Mechanical Engineering students unless specified)

C.L. Neslon	PhD	Lucas Ulmer	PhD (2023)
R. Serbinski	MS (Atmos Sci)	G. Torkelson	PhD (2023)
J. Davis	MS	B. Stanislawski	PhD (2021)
H. Hedworth	PhD (Chem Eng 2023)	O. Atlasin	PhD (2021)

M. Moody	PhD (2021)	L. Richards	MS (Atmos Sci 2009)
K. Rees	MS (2020 Atmos Sci)	I.C. Jaramillo	PhD (Chem Eng 2009)
J. Bourne	PhD (2020)	C. Davidson	PhD (ESS 2009)
C. Anjewierden	MS (2019)	D. Torgerson	MS (2009)
R. Cieri	PhD (2019 Biology)	D. Judi	PhD (CivEng 2009)
E. Maric	PhD (2019)	I. Jeyachandran	PhD (CivEng 2008)
C. Gomez-Navarro	PhD (2018 Biology)	R. Jamison	MS (2008)
M. Kahn	PhD (2017)	I. Rodriguez	PhD (Physics 2008)
G. West	PhD (2017)	A. Amritkar	MS (2008)
T. Price	PhD (2017)	N. Webb	PhD (Physics 2007)
N. Miller	PhD (2017)	J. Kingston	PhD (2006)
Y. Feng	PhD (2016 CivEng)	Park	PhD (2006)
M. Jeglum	PhD (2016 Atmos Sci)	T. Omer	MS (2006)
B. Bailey	PhD (2015)	J. Allen	MS (2006)
M. Overby	MS (2014 CS UMD)	R. Joshi	MS (2006)
N. Lareau	PhD (2014 Atmos Sci)	D. Challa	MS (2006)
H. Zhang	PhD (2013 Atmos Sci)	P. R. Desam	PhD (2006)
D. Sweeney	PhD (2012)	T. Deem	MS (2005)
N. Andrews	MS (2012)	Sai Ram	MS (2005)
W. Horne	MS (2012)	J. Clark	MS (Met U of Ok, 2005)
D. Frei	MS (2012)	H. Miner	MS (2005)
P. Jankovich	PhD (2012)	S. Pol	MS (2005)
A. Gould	MS (2012)	D. Sandberg	MS (2005)
J. Mulandi	PhD (CivEng 2011)	Nate Arnim	MS (2005)
L. Flemming	PhD (2011)	Q. Zhang	PhD (2005)
A. Kalyanapu	PhD (CivEng 2011)	P. Priyadarshana	PhD (2004)
B. Bailey	MS (2011)	E. Wheeler	MS (2004)
C. Workman	MS (2011)	B. Waite	MS (2004)
W. Flower	MS (CivEng 2011)	N. Burgess	Masters (2004)
J. Lisonbee (Atmos Sci)	MS (2010)	T. Wei	Doctoral (2004)
N. Shingleton	MS (2010)	L. Sherrow	Masters (2003)

International External Thesis Reviewer

D. Bellamy, PhD, University of Montreal, in-progress
 J. Gueffier, PhD, Université Toulouse III - Paul Sabatier, 2023
 L. Duconge, PhD, Université Toulouse III - Paul Sabatier, 2019
 J. Arillaga, PhD, Universidad Complutense de Madrid, Spain, 2019
 F. DuPuy, PhD, France, Université Toulouse III - Paul Sabatier, 2018
 T. Sabatier, PhD, France, Université Toulouse III - Paul Sabatier, 2018
 G.-J. Duine, PhD, France, Université Toulouse III - Paul Sabatier, 2016
 H. Oldroyd, PhD, Switzerland, École polytechnique fédérale de Lausanne, 2015
 E. Blay-Carreras, PhD, Spain, Universitat Politècnica de Catalunya (UCP-Barcelona), 2014
 D. Nadeau, PhD, Switzerland, École polytechnique fédérale de Lausanne, 2011

Patents (Names in bold are supervised post-docs)

Garrett, T., **Singh, D. K.**, Rees, K., and E. Pardyjak, Differential Emissivity Based Evaporable Particle Measurement, U.S. Provisional Patent Application No. 62/941,665 filed November 27, 2019, TNW Ref. No.: 00846-U6780.PROV

Peer Reviewed Journal Publications (Names in bold are supervised students or post docs)

1. **Deford, L.**, R. Stoll, and E.R. Pardyjak, Development of a low-cost, 3-D printed, aspirated air-temperature measurement radiation shield, submitted, *Journal of Oceanic and Atmospheric Technology*, August 2024.
2. Beal, R.L., Z. Pu, E. Pardyjak, S. Hoch, and I. Gultepe, Evaluation of near-surface and boundary-layer meteorological conditions that support cold-fog formation using CFACT field campaign observations, under revision, *Quarterly Journal of the Royal Meteorological Society*, January 2024.
3. Barbano, F. and E.R. Pardyjak, Potential-temperature variance budget in a saturated coastal-fog environment, submitted, *Quarterly Journal of the Royal Meteorological Society*, August 2023.
4. **Renault, M. A.**, B. N. Bailey, R. Stoll, and E.R. Pardyjak, A rapid method for computing 3-D high-resolution vegetative canopy winds in weakly complex terrain, *Frontiers in Earth Science*, 11, <https://doi.org/10.3389/feart.2023.1251056>, 2024.
5. Hintz, T., K.Y. Huang, S.W. Hoch, S.L. Bardoel, S. Gabervsek, I. Gultepe, J. Ruiz-Plancarte, E.R. Pardyjak, Q. Wang, H.J.S. Fernando, A Mechanism for Coastal Fog Genesis at Evening Transition, *Quarterly Journal of the Royal Meteorological Society*, accepted, February 2024.
6. **Singh, D.K.**, E.R. Pardyjak, and T. Garrett, A universal scaling law for snowflake velocity variability in atmospheric turbulence, *Phys. of Fluids*, 35, 123336, 2023.
7. Margairaz, F., B. Singh, J.A. Gibbs, **L. Atwood**, E.R. Pardyjak, and R. Stoll, QES-Plume v1.0: A Lagrangian dispersion model, *Geoscientific Model Development*, 16, 5729–5754, 2023.
8. Pu, Z., E.R. Pardyjak, S. Hoch, I. Gultepe, G. Hallar, **A. Perelet**, W. Brown, J. Anderson, R. Beal, M. Garcia, G. Caririllo-Cardenas, X. Li, and A. Vakhtin, Cold Fog Amongst Complex Terrain, *Bull. Amer. Meteor. Soc.*, <https://doi.org/10.1175/BAMS-D-22-0030.1>, 2023.
9. **Singh, D.K.**, E.R. Pardyjak, and T. Garrett, Time-resolved measurements of the densities of individual frozen hydrometeors and of fresh snowfall, under revision, *Atmospheric Measurement Techniques*, July 2023.
10. **Morrison, T.J.**, **T. Meisenheimer**, T. Garrett, **D.K. Singh**, **S. Donovan**, and E. Pardyjak, Relating storm-snow avalanche instabilities to data collected from the Differential Emissivity Imaging Disdrometer (DEID), *Cold Regions Science and Technology*, 210, 103839, 2023.
11. **Singh, D. K.**, S.W. Hoch, I. Gultepe, and E.R. Pardyjak, A case study of the life cycle of a stratus-lowering coastal-fog event in Newfoundland, CA, *Quarterly Journal of the Royal Meteorological Society*, DOI:10.1002/qj.4615, 2023.
12. Puccioni, M., Calaf, M., Pardyjak, E.R., Hoch, S., **Morrison, T.J.**, **Perelet, A.** and Iungo, G.V., Identification of the energy contributions associated with wall-attached eddies and very-large-scale motions in the near-neutral atmospheric surface layer through wind LiDAR measurements. *Journal of Fluid Mechanics*, 955, p.A39, 2023.
13. **Morrison, T.J.**, M. Calaf, and E.R. Pardyjak, A full three-dimensional surface energy balance over a desert playa, *Q. J. Royal Met. Soc.*, 149, 102-114, <https://doi.org/10.1002/qj.4397>, 2023.
14. Ulmer, L., F. Margairaz, B. Bailey, W. Mahaffee, E. Pardyjak, and R. Stoll, A fast-response, wind angle-sensitive model for predicting mean winds in row-organized canopies, *Agricultural and Forest Meteorology*, 329, 109273, 2023.
15. Calaf, M. N. Vercauteren, G.G. Katul, M. Giometto, **T.J. Morrison**, F. Margairaz, Vyacheslav Boyko, and E.R. Pardyjak, Boundary-Layer Processes Hindering Contemporary Numerical Weather Prediction Models, 186, 43-68, *Boundary-Layer Meteorol.*, 2022.
16. **Perelet, A.**, H. Ward, R. Stoll, W. F. Mahaffee, and E.R. Pardyjak, Quantifying turbulence heterogeneity in a vineyard using eddy-covariance and scintillometer measurements, *Boundary-Layer Meteorol.*, 184, 479–504, 2022.

17. **Gunawardena, N.**, E.R. Pardyjak, P. Durand, T. Hedde, and F. Dupuy, Data filling of micrometeorological variables in complex terrain for high-resolution nowcasting, *Atmosphere*, 13, 408, 2022.
18. Moody, M., Gibbs, J., Krueger, S., Mallia, D., Pardyjak, E., Kochanski, A., B.N. Bailey, and Stoll, R. QES-Fire: a dynamically coupled fast-response wildfire model. *International Journal of Wildland Fire*, <https://doi.org/10.1071/WF21057>, 2022.
19. Moody, Matthew J., B.N. Bailey, E. R. Pardyjak, W. F. Mahaffee, and R. Stoll. Adaptation and validation of a voxel-based energy transport model for conifer species, *Urban Climate*, 39, 100967, 2021.
20. Drake, S. C. Higgins, and E. Pardyjak, Distinguishing time scales of katabatic flow in complex terrain, *Atmosphere*, 12(12), 1651, 2021.
21. Margairaz, F., **H. Eshagh**, A.N. Hayati, E. R. Pardyjak, and R. Stoll, Development and evaluation of an isolated-tree flow model for neutral-stability conditions. *Urban Climate*, 42, 101083, 2021.
22. **Morrison, T.**, E. R. Pardyjak, M. Mauder, and M. Calaf, The heat flux imbalance: the role of advection and dispersive fluxes on heat transport over thermally heterogeneous terrain, *Boundary-Layer Meteorol.*, 183, 227-247, 2022.
23. Hang, C., H. Oldroyd, M. Giometto, E. Pardyjak, and M. Parlange, A local similarity function for katabatic flows derived from field observations over steep- and shallow-angled slopes, *Geophysical Research Letters*, 48(23), 2021GL095479, 2021.
24. **Singh, D. K., Donovan, S.**, Pardyjak, E. R., and Garrett, T. J.: A differential emissivity imaging technique for measuring hydrometeor mass and type, *Atmos. Meas. Tech.*, 14, 6973–6990, 2021.
25. Rees, K. N., **D. K. Singh**, E. R. Pardyjak, and T. J. Garrett, Mass and density of individual frozen hydrometeors, *Atmos. Chem. Phys.*, 21, 14235–14250, 2021.
26. Gultepe, I., A.J. Heymsfield, H.J.S. Fernando, E. Pardyjak, C. E. Dorman, Q. Wang, E. Creegan, S. W. Hoch, D. D. Flagg, R. Yamaguchi, R. Krishnamurthy, S. Gaberšek, W. Perrie, **A. Perelet, D.K. Singh**, R. Chang, B. Nagare, S. Wagh, and S. Wang, A review of coastal fog microphysics during C-FOG, 181, 227–265, *Boundary-Layer Meteorol.*, 2021.
27. **Gunawardena, N.**, K.K. Leang, and E. Pardyjak, Particle swarm optimization for source localization in realistic complex urban environments, *Atmospheric Environment*, 262, 118636, 2021.
28. Gultepe, I., Pardyjak, E., Hoch, S. W., Fernando, H. J. S., Dorman, C., Flagg, D. D., Krishnamurthy, R., Wang, Q., Gaberšek, S., Creegan, E., Scantland, N., Desjardins, S., Heidinger, A., Pavolonis, M., and Heymsfield, A. J., Coastal-Fog Microphysics Using In-Situ Observations and GOES-R Retrievals. *Boundary-Layer Meteorol.*, 181, 203-226, 2021.
29. Román-Cascón, C., M. Lothon, F. Lohou, O. Hartogensis, J. Vila-Guerau de Arellano, D. Pino, C. Yagüe, and E.R. Pardyjak, Surface representation impacts on turbulent heat fluxes in the Weather Research and Forecasting (WRF) model (v.4.1.3), *Geoscientific Model Development*, 14, 3939-3967, 2021.
30. Huang, K., C. E. Brunner; M. Fu, K. Kokmanian, **T. Morrison, A. Perelet**, M. Calaf, E. Pardyjak, and M. Hultmark, Investigation of the atmospheric surface layer using a novel high-resolution sensor array, *Experiments in Fluid*, 62, 76, 2021.
31. **Bozorgmehr, B.**, P. Willemsen, J. A. Gibbs, R. Stoll, J.-J. Kim, and E. R. Pardyjak, Utilizing dynamic parallelism in CUDA to accelerate a 3D Red-Black Successive Over Relaxation wind-field solver, *Environmental Modelling and Software*, 137, 104958, 2021.
32. Dupuy, F., G.-J. Duine, P. Durand, T. Hedde, E. Pardyjak, and P. Roubin, Valley-winds at the local scale: downscaling routine weather forecast using artificial neural networks, *Atmosphere*, 12(2), 128, 2021.

33. **Perelet, A.**, I. Gultepe, S.W. Hoch, and E.R. Pardyjak, Discriminating Fog and Rain at the Kilometre Scale Using the Extinction from Collocated Infrared and Microwave Scintillometers, 181, 295-315, 10.1007/s10546-021-00609-1, *Boundary-Layer Meteorol.*, 2021.
34. **Morrison, T.**, M. Calaf, C. Higgins, S.A. Drake, **A. Perelet**, and E. Pardyjak, The impact of surface temperature heterogeneity on near-surface heat transport, *Boundary-Layer Meteorol.*, 180, 257-272, 2021.
35. Gómez-Navarro, C., D.E. Pataki, E.R. Pardyjak, D.R. Bowling, Effects of vegetation on the spatial and temporal variation of microclimate in the urbanized Salt Lake Valley, *Agricultural and Forest Meteorology*, 296, 108211, 2021.
36. Pardyjak, E.R. and L.S. Leo, Preface: Special issue on the MATERHORN program and complex terrain flows, *Environmental Fluid Mechanics*, 20 (5), 1173-1175, 2020.
37. **Barbano, F.**, R. Stoll, S. DiSabatino, and E. Pardyjak, A numerical study of the impact of vegetation on mean and turbulence fields in a European-city neighbourhood, *Building and Environment*, 186, 107293, 2020.
38. Ma, Y., H. Liu, T. Banerjee, G. Katul, C. Yi, and E. Pardyjak, The effects of canopy morphology on flow over a two-dimensional isolated ridge, *J. Geophys. Res.: Atmospheres*, 124 (19), e2020JD033027, 2020.
39. Margairaz, F., E. Pardyjak, and M. Calaf, Surface thermal heterogeneities and the atmospheric boundary layer: The thermal heterogeneity parameter, *Boundary-Layer Meteorol.*, 177, 49–68, 2020.
40. Fernando, H.J.S., I. Gultepe, C. Dorman, E. Pardyjak, Q. Wang, S. Hoch, D. Richter, E. Creegan, S. Gaberseck, T. Bullock, C. Hocut, R. Chang, D. Alappattu, R. Dimitrova, D. Flagg, A. Grachev, R. Krishnamurthy, D.K. Singh, I. Lozovatsky, B. Nagare, A. Sharma; Sandeep Wagh, C. Wainwright, M. Wroblewski, R. Yamaguchi, S. Bardoel, R. Coppersmith, N. Chisholm; E. Gonzalez, N. **Gunawardena**, O. Hyde, **T. Morrison**, A. Olson, **A. Perelet**, W. Perrie, S. Wang, B. Wauer, D.K. Singh, C-FOG: Life of Coastal Fog, *Bull. Amer. Meteor. Soc.*, DOI 10.1175/BAMS-D-19-0070.1, 2020.
41. Wang, Y., J. Decker, E.R. Pardyjak, Large-eddy simulations of turbulent flows around buildings using the atmospheric boundary layer environment-Lattice Boltzmann model (ABLE-LBM), *J. Appl. Meteorol. Climat.*, 59(5), 885-899, 2020.
42. Margairaz, F., E. Pardyjak, and M. Calaf, Surface thermal heterogeneities and the atmospheric boundary layer: the relevance of dispersive fluxes, *Boundary-Layer Meteorol.*, 175, 369–395, 2020.
43. Bianchi, C., Overby, M., Willemsen, P., Smith, A. D., Stoll, R., and Pardyjak, E. R., Quantifying effects of the built environment on solar irradiance availability at building rooftops. *Journal of Building Performance Simulation*, **13** (2), 195-208, 2019.
44. Isabelle, P.-E., D.F. Nadeau, **A.O. Perelet**, E.R. Pardyjak, A.N. Rousseau, and F. Anctil, Application and evaluation of a two-wavelength scintillometry system to a complex shallow boreal-forested valley. *Boundary-Layer Meteorol.*, DOI:10.1007/s10546-019-00488-7, 2019.
45. Park, S.J., J.J. Kim, W. Choi, E.R. Kim, C.K. Song, and E.R. Pardyjak, Flow characteristics around step-up street canyons with various building aspect ratios, *Boundary-Layer Meteorol.*, 174, 411-431 2020.
46. Kelley, J., and E.R. Pardyjak, Using neural networks to estimate site-specific crop evapotranspiration with low-cost sensors, *Agronomy*, 9 (2), 108, 2019.
47. Román-Cascón, C., C. Yagüe, J.A. Arrillaga, M. Lothon, E. R. Pardyjak, F. Lohou, R. M. Inclan, M. Sastre, G. Maqueda, S. Derrien, Y. Meyerfeldb, **C. Hang**, P. Camparguez, I. Turki, Observational characterization of diurnal mountain winds and their impacts on CO₂ mixing ratios at three contrasting sites, *Atmospheric Research*, **221**, 111-126, 2019.

48. Nemati Hayati, A., R. Stoll, E.R. Pardyjak, and J.J. Kim, Comparative metrics for computational approaches in non-uniform street-canyon flows, *Building and Environment*, 158, 16-27, 2019.
49. Dupuy, F., G.-J. Duine, P. Durand, T. Hedde, E.R. Pardyjak, and P. Roubin, Valley-winds at the local scale: Local-scale valley wind retrieval using an artificial neural network applied to routine weather observations, *J. Appl. Meteorol. Climat.*, 58 (5), 1007-1022, 2019.
50. Bourne, J.R., E.R. Pardyjak, and K.K. Leang, Coordinated Bayesian-based bio-inspired plume source term estimation and source seeking for mobile robots, *IEEE Transactions on Robotics*, 35 (4), 10.1109/TRO.2019.2912520, 2019.
51. Pardyjak, E. Special feature on measurements of the urban environment. *Measurement Science and Technology*, 29, 2018.
52. Emeis, S., Kalthoff, N., Adler, B., Pardyjak, E., Paci, A., and Junkermann, W., High-resolution observations of transport and exchange processes in mountainous terrain, *Atmosphere*, 9, 457, 2018.
53. **Hang, C.**, D.F. Nadeau, and E.R. Pardyjak, A comparison of near-surface potential temperature variance budgets for unstable atmospheric flows with contrasting vegetation cover flat surfaces and a gentle slope, *Environ. Fluid Mech*, 20, 1251-1279, 2020.
54. Nadeau, D.F., H.J. Oldroyd, E.R. Pardyjak, N. Sommer, S. W. Hoch, and M.B. Parlange, Field observations of the morning transition over a steep slope in a narrow alpine valley, *Environ. Fluid Mech.*, 20, 1199-1220, 2020.
55. Bailey, B.N., R. Stoll, and E.R. Pardyjak, A theoretical framework for Lagrangian particle deposition in plant canopies, *Boundary-Layer Meteor.*, 167, 509-520, 2018.
56. Feng, Y., S. Burian, Ph.D., and E.R. Pardyjak, Observation and estimation of evapotranspiration from an irrigated green roof in a rain-scarce environment, *Water*, 10, 2626, 2018.
57. Girard, P., D. Nadeau, E.R. Pardyjak, M. Overby, P. Willemsen, R. Stoll, B.N. Bailey, and M.B. Parlange, Validation of the QUIC-URB wind solver and QESRadiant radiation-transfer model using a dense array of urban meteorological observations, *Urban Climate*, 24, 657-674, 2018.
58. Morrison, T. J., Calaf, M., Fernando, H. J., Price, T. A., & Pardyjak, E. R., A methodology for computing spatially and temporally varying surface sensible heat flux from thermal imagery. *Quarterly Journal of the Royal Meteorological Society*, 143(707), 2616-2624, 2017.
59. **Jensen, D.D.**, T.A. Price, E.R. Pardyjak, D.F. Nadeau, and J. Kingston, The morning and evening transitions over coastal, tropical terrain, *J. Appl. Meteorol. Climat.*, 56 (12), 3167-3185, 2017.
60. **Gunawardena, N.**, E.R. Pardyjak, R. Stoll, and **A. Khadka**, Development and evaluation of an open-source low-cost distributed sensor network for environmental monitoring applications, *Meas. Sci. & Technol.*, 29, 024008, 2017.
61. Barlow, J., M. Best, S. Bohnenstengel, P. Clark, S. Grimmond, H. Lean, A. Christen, S. Emeis, M. Haeffelin, I. Harman, A. Lemonsu, A. Martilli, E. Pardyjak, M. Rotach, S. Ballard, I. Boutle, A. Brown, X. Cai, M. Carpentieri, O. Coceal, B. Crawford, S. Di Sabatino, J. Dou, D. Drew, J. Edwards, J. Fallmann, K. Fortuniak, J. Gornall, T. Gronemeier, C. Halios, D. Hertwig, K. Hirano, A. Holtslag, Z. Luo, G. Mills, M. Nakayoshi, K. Pain, K. Schlünzen, S. Smith, L. Soulhac, G. Steeneveld, T. Sun, N. Theeuwes, D. Thomson, J. Voogt, H. Ward, Z. Xie, and J. Zhong, 2017: Developing a research strategy to better understand, observe and simulate urban atmospheric processes at kilometre to sub-kilometre scales. *Bull. Amer. Meteor. Soc.*, 98(10), ES261-ES264, 2017.
62. Pardyjak, E.R. and R. Stoll, Improving measurement technology for the design of sustainable cities, *Meas. Sci. & Technol.*, 28 (9), 092001, 2017.

63. **Price, T.A.**, R. Stoll, J. M. Veranth, and E.R. Pardyjak, A wind-tunnel study of the effect of turbulence on PM10 deposition onto vegetation, *Atmospheric Environment*, 159, 117-125, 2017.
64. Miller, N.E., R. Stoll, W. Mahaffee, and E.R. Pardyjak, Mean and turbulent flow statistics in a trellised agricultural canopy, *Boundary-Layer Meteorol.*, 165 (1), 113-143, 2017.
65. **Nemati Hayati, A.**, Rob Stoll, J.J. Kim, T. Harman, M.A. Nelson, M.J. Brown, and E. R. Pardyjak, Comprehensive evaluation of fast-response, Reynolds-Averaged Navier-Stokes, and Large-Eddy Simulation methods against high spatial resolution wind-tunnel data in step-down street canyons, *Boundary-Layer Meteorol.*, 164(2), 217-247, 2017.
66. Oerter, E., **A. Perelet**, E. Pardyjak, and G. Bowen, Membrane inlet laser spectroscopy to measure H and O stable isotope compositions of soil and sediment pore water with high sample throughput. *Rapid Commun. Mass Spectrom.*, 31, 75–84, 2017.
67. **Jensen, D.D.**, D.F. Nadeau, S.W. Hoch, and E. R. Pardyjak, The evolution and sensitivity of katabatic flow dynamics to external influences through the evening transition. *Q.J.R. Meteorol. Soc.*, 143, 423–438, 2016.
68. **Hang, C.**, D.F. Nadeau, I. Gultepe, S.W. Hoch, C. Román-Cascón, K. Pryor, H.J.S. Fernando, E. D. Creegan, L. S. Leo, Z. Silver, E. R. Pardyjak, A case study of the mechanisms modulating the evolution of valley fog, *Pure and Applied Geophysics*, 173, 3011–3030, 2016.
69. Pu, Z., C.N. Chachere, S.W. Hoch, E.R. Pardyjak, and I. Gultepe, Numerical Prediction of Cold Season Fog Events Over Complex Terrain: The Performance of the WRF Model During MATERHORN-Fog and Early Evaluation, *Pure and Applied Geophysics*, 173, 3165–3186, 2016.
70. Gultepe, I., H.J.S. Fernando, E.R. Pardyjak, S.W. Hoch, Z. Silver, E. Creegan, L. S. Leo, Z. Pu, S. De Wekker, and **C. Hang**, An Overview of the MATERHORN Fog Project: Observations and Predictability, *Pure and Applied Geophysics*, 173, 2983–3010, 2016.
71. Oldroyd, H.J., E.R. Pardyjak, C.W. Higgins, and M.B. Parlange, Buoyant turbulent kinetic energy production in steep-slope katabatic flow, *Boundary-Layer Meteorol.*, 161, 405–416, 2016.
72. Nilsson, E., F. Lohou, M. Lothon, E. Pardyjak, L. Mahrt and C. Darbieu, Turbulence Kinetic Energy budget during the afternoon transition – Part 1: Observed surface TKE budget and boundary layer description for 10 intensive observation period days, *Atmos. Chem. Phys.*, Atmos. Chem. Phys., 16, 8849–8872, 2016.
73. Nilsson, E., M. Lothon, F. Lohou, E. Pardyjak, O. Hartogensis, and C. Darbieu, Turbulence Kinetic Energy budget during the afternoon transition – Part 2: A simple TKE model, *Atmos. Chem. Phys.*, 16, 8873–8898, 2016.
74. Bailey, B.N., R. Stoll, E.R. Pardyjak, and N.E. Miller, A new three-dimensional energy balance model for complex plant canopy geometries: Model development and improved validation strategies, *Agricultural and Forest Meteorology*, 218–219, 146–160, 2016.
75. Overby, M., P. Willemsen, B. N. Bailey, S. Halverson, and E.R. Pardyjak, A rapid and scalable radiation transfer model for complex urban domains, *Urban Climate*, 15, 25–44, 2016.
76. Oldroyd, H.O., E.R. Pardyjak, H. Huwald, M.B. Parlange, Adapting tilt corrections and the governing flow equations for steep, fully three-dimensional, mountainous terrain, *Boundary-Layer Meteorol.*, 159, 539–565, 2016.
77. **Hang, C.**, D.F. Nadeau, D. D. Jensen, S.W. Hoch and E.R. Pardyjak, Playa soil moisture and evaporation dynamics during the MATERHORN field program, *Boundary-Layer Meteorol.*, 159, 521–538, 2016.

78. **Jensen, D.D.**, D.F. Nadeau, S.W. Hoch and E.R. Pardyjak, Observations of near-surface heat flux and temperature profiles through the early evening transition over contrasting surfaces, *Boundary-Layer Meteor.*, **159**, 567–587, 2016.
79. Grachev, A.A., L.S. Leo, S. Di Sabatino, H.J.S. Fernando, E.R. Pardyjak, and C.W. Fairall, Structure of turbulence in katabatic flows below and above the wind-speed maximum, *Boundary-Layer Meteor.*, **159**, 469–494, 2016.
80. **Holmes, H., Sriramasamudram, J.**, Pardyjak, E.R., Whiteman, C., Turbulent fluxes and pollutant mixing during wintertime air pollution episodes in complex terrain, *Environ. Sci. Technol.*, **49** (22), 13206–13214, 2015.
81. Román-Cascón, C., C. Yagüe, L. Mahrt, M. Sastre, G. J. Steeneveld, E. Pardyjak, A. van de Boer, and O. Hartogensis, Interactions among Drainage Flows, gravity waves and turbulence: a BLLAST case study, *Atmos. Chem. Phys.*, **15**, 9031–9047, 2015.
82. Kochanski, A. A., E.R. Pardyjak, R. Stoll, **A. Gowardhan**, M.J. Brown, and W.J. Steenburgh, One-way coupling of the WRF-QUIC urban dispersion modeling system, *J. Appl. Meteorol. Climat.*, **54**, 2119–2139, 2015.
83. Fernando, H.J.S., E. R. Pardyjak, S. Di Sabatino, F. K. Chow, S. F. J. De Wekker, S. W. Hoch, J. Hacker, J. C. Pace, T. Pratt, Z. Pu, W. J. Steenburgh, C. D. Whiteman, Y. Wang, D. Zajic, B. Balsley, R. Dimitrova, G. D. Emmitt, C. W. Higgins, J. C. R. Hunt, J. C. Kniewel, D. Lawrence, Y. Liu, D. F. Nadeau, E. Kit, B. W. Blomquist, P. Conry, R. S. Coppersmith, E. Creegan, M. Felton, A. Grachev, **N. Gunawardena, C. Hang, C. M. Hocut, G. Huynh, M. E. Jeglum, D. Jensen, V. Kulandaivelu, M. Lehner, L. S. Leo, D. Liberzon, J. D. Massey, K. McEnerney, S. Pal, T. Price, M. Sghiatti, Z. Silver, M. Thompson, H. Zhang, and T. Zsedrovits**, The MATERHORN: Unraveling the Intricacies of Mountain Weather. *Bull. Amer. Meteor. Soc.*, **96**, 1945–1967, 2015.
84. **Kulkarni, S.**, C. Fisher, P. Lefler, A. Desai, S. Chakravarthy, M. Minor, Mark, E.R. Pardyjak, J.M. Hollerbach, A full-body steerable wind display for a locomotion interface, *IEEE Transactions on Visualization and Computer Graphics*, doi:10.1109/TVCG.2015.2424862, 2015.
85. Blay-Carreras, E., E.R. Pardyjak, D. Pino, S.W. Hoch, J. Cuxart, D. Martínez, and J. Reuder, Lifted temperature minimum during the atmospheric evening transition, *Atmos. Chem. Phys.*, **15**, 6981–6991, 2015.
86. Miller, N.E., R. Stoll, W. Mahafee, T.M. Neill, and E.R. Pardyjak, An experimental study of momentum and heavy particle transport in a trellised agricultural canopy, *Agricultural and Forest Meteorology*, **211–212**, 100–114, 2015.
87. **Ramamurthy, P.** and E.R. Pardyjak, Turbulent transport of carbon dioxide over a highly vegetated suburban neighborhood, *Boundary-Layer Meteor.*, **157**, 461–479, 2015.
88. Lehner, M., C.D. Whiteman, S.W. Hoch, **D. Jensen**, E.R. Pardyjak, A case study of the nocturnal boundary-layer evolution on a slope at the foot of a desert mountain, *J. Appl. Meteorol. Climat.*, **54**, 732–751, 2015.
89. **Addepalli, B.** and E.R. Pardyjak, A study of flow fields in step-down street canyons, *Environmental Fluid Mechanics*, **15**, 439–481, 2015.
90. Lathon, M., F. Lohou, D. Pino, E.R. Pardyjak, J. Reuder, J. Vilà-Guerau de Arellano, F. Couvreux, P. Durand, O. Hartogensis, D. Legain, P. Augustin, I. Faloona, **D. Alexander**, W. M. Angevine, E. Bargain, J. Barrié, E. Bazile, Y. Bezombes, E. Blay-Carreras, A. van de Boer, J.L. Boichard, A. Bourdon, A. Butet, B. Campistron, O. de Coster, J. Cuxart, A. Dabas, C. Darbieu, K. Deboudt, H. Delbarre, S. Derrien, P. Flament, M. Fourmentin, A. Garai, F. Gibert, B. Gioli, A. Graf, J. Groebner, F. Guichard, M. Jonassen, A. van den Kroonenberg, D. H. Lenschow, E. Magliulo, S. Martin, D. Martinez, L. Mastrorillo, A. F. Moene, F. Molinos, E. Moulin, H. P. Pietersen, B. Pigué, E. Pique, C.

- Román-Cascón, C. Rufin-Soler, F. Saïd, M. Sastre-Marugán, Y. Seity, G. J. Steeneveld, P. Toscano, O. Traullé, D. Tzanos, C. Yagüe, S. Wacker, N. Wildmann, A. Zaldei, The BLLAST field experiment: Boundary-Layer Late Afternoon and Sunset Turbulence, *Atmos. Chem. Phys.*, **14**, 10931–10960, 2014.
91. Bailey, B.N., M. Overby, R. Stoll, P. Willemsen, E.R. Pardyjak, A scalable plant-resolving radiative transfer model based on optimized GPU ray tracing, *Agricultural and Forest Meteorology*, 198-199C, 192-208, 2014.
 92. Blay-Carreras, E., E.R. Pardyjak, D. Pino, **D. Alexander**, F. Lohou, and M. Lothon, Countergradient heat flux observations during the evening transition period, *Atmos. Chem. Phys.*, **14**, 9077-9085, 2014.
 93. Oldroyd, H., G. Katul, E. Pardyjak, and M. Parlange, Momentum balance of katabatic flow on steep slopes covered with short vegetation, *Geophysical Research Letters*, **41**(13), 4761–4768, 2014.
 94. **Speckart, S.O.** and E.R. Pardyjak, A method for rapidly computing windbreak flow field variables, *Journal of Wind Engineering and Industrial Aerodynamics*, **132**, 101–108, 2014.
 95. Bailey, B.N., R. Stoll, E.R. Pardyjak, and W.F., Mahaffee, Effect of vegetative canopy architecture on vertical transport of massless particles, *Atmospheric Environment*, **95**, 480-489, 2014.
 96. Kim, J.-J., E. Pardyjak, D.-Y. Kim, K.-S. Han, Effects of building-roof cooling on flow and air temperature in urban street canyons, DOI: 10.1007/s13143-014-0023-8, *Asia-Pacific Journal of Atmospheric Sciences*, 2014.
 97. **Holmes, H.A.** and E.R. Pardyjak, Investigation of time resolved atmospheric conditions and indoor/outdoor PM concentrations for gas and biomass cooking fuels in Nogales, Sonora, Mexico, *Journal of the Air & Waste Management Association*, **64**(7), 759-73, 2014.
 98. Brown, M., A. Gowardhan, M. Nelson, M. Williams, and E. Pardyjak, QUIC transport and dispersion modeling of two releases from the Joint Urban 2003 field experiment, *Int. J. Environment and Pollution*, **52**(3/4), 263-287, 2013.
 99. **Moran, S.M.**, E.R. Pardyjak, and J.M. Veranth, Understanding the role of grid turbulence in enhancing PM10 deposition: Scaling the Stokes number with R_λ , *Physics of Fluids*, **25**, 115103, 2013.
 100. Fernando, H. J. S. and E. R. Pardyjak, Field studies delve into the intricacies of mountain weather, *Eos Trans. AGU*, **94**(36), 313-35, 2013.
 101. **Addepalli B.**, E. R. Pardyjak, P. Willemsen, S. A. Halverson, D. E. Johnson, and R. Stoll, In search of an intelligent methodology for designing sustainable cities, *AWMA EM*, 28-32, November 2013.
 102. Zajic, D., H.J.S. Fernando, M.J. Brown, and Eric R. Pardyjak, On flows in simulated urban canopies, *Environmental Fluid Mechanics*, DOI 10.1007/s10652-013-9311-6, 2013.
 103. Higgins, C.W., E. Pardyjak, M. Froidevaux, V. Simeonov and M. Parlange, Measured and estimated water vapor advection in the atmospheric surface layer, *J. Hydrometeor*, **14**(6), 1966-1972, 2013.
 104. Dennison, P.E., A.K. Thorpe, E.R. Pardyjak, D.A. Roberts, Y. Qi, R.O. Green, E.S. Bradley, and C.C. Funk, High spatial resolution mapping of elevated atmospheric carbon dioxide using airborne imaging spectroscopy: Radiative transfer modeling and power plant plume detection, *Remote Sensing of Environment*, **139**, 116-129, 2013.
 105. Garai, A., J. Kleissl, E. Pardyjak, M. Lothon, and G.-J. Steeneveld, Surface temperature and surface layer turbulence in a convective boundary layer, *Boundary-Layer Meteor.*, **148**(1), 51-72, 2013.
 106. Froidevaux, M., C.W. Higgins, V. Simeonov, P. Ristori, E. Pardyjak, I. Serikov, R. Calhoun, H. van den bergh, M.B. Parlange, A Raman lidar to measure water vapor in the atmospheric boundary layer, *Advances in Water Resources*, DOI: 10.1016/j.advwatres.2012.04.008, **51**, 345-356, 2013.
 107. **Addepalli, B.** and E.R. Pardyjak, Investigation of the flow structure in step-up street canyons - Mean flow and turbulence statistics, *Boundary-Layer Meteor.*, **148**(1), 133-155, 2013.

108. Nadeau, D.F., Pardyjak, E.R., Higgins, and H., Parlange, M.B., Similarity scaling over a steep alpine slope, *Boundary-Layer Meteor.*, 147(3), 401-419, 2013.
109. Nadeau, D.F., Pardyjak, E.R., Higgins, C.W., Huwald, H., Parlange, M.B., Flow during the evening transition over steep Alpine slopes. *Q. J. R. Meteorol. Soc.*, 139(672), 607-624, 2013.
110. Stanfield, J.R., C.H. Selzman, E.R. Pardyjak, S. Bamberg, Flow Characteristics of Axial-Flow and Centrifugal-Flow Left Ventricular Assist Devices, *ASAIO Journal*, 58(6), 590-596, 2012.
111. **Kulkarni, S.D., M.W. Deaver**, E.R. Pardyjak, M.A. Minor, and J.M. Hollerbach, Design of a novel atmospheric flow simulator, *J. Fluids Eng.* 133 (12), 121402, 2011.
112. Kalyanapu, A.J., S. Shankar, E.R. Pardyjak, D.R. Judi, S.J. Burian, Assessment of GPU computational enhancement to a 2D flood model, *Environmental Modelling and Software*, 26, 1009-1016, 2011.
113. Nadeau, D.F., E. R. Pardyjak, C. W. Higgins, H. J. S. Fernando, and M. B. Parlange, A simple model for the afternoon and early-evening decay of turbulence over different land surfaces, *Boundary-Layer Meteor.*, 26 (2), 301-324, 2011.
114. **Addepalli, B.**, K. Sikorski, E.R. Pardyjak, and M.S. Zhdanov, Source characterization of atmospheric releases using stochastic search and regularized gradient optimization, *Inverse Problems in Science and Engineering*, 19 (8), 1097–1124, 2011.
115. **Kulkarni, S.D.**, S. Chakravarthy, M.A. Minor, E.R. Pardyjak, and J.M. Hollerbach, Control of a Duct Flow Network for Wind Display in a Virtual Environment, *Transactions on Mechatronics*, PP (99), 1-10, 2011.
116. **Holmes, H.A.**, E.R. Pardyjak, K.D. Perry, and M.L. Abbott, Gaseous dry deposition of atmospheric mercury: A comparison of two surface resistance models for deposition to semi-arid vegetation, *J. Geophys. Res.: Atmospheres*, 116, D14306, 2011.
117. **Kulkarni, S.D.**, M.A. Minor, **M.W. Deaver**, E.R. Pardyjak, and J.M. Hollerbach, Design, Sensing, and Control of a Scaled Wind Tunnel for Atmospheric Display, *Transactions on Mechatronics*, PP (99), 1-11, 2011.
118. **Gowardhan, A.A.**, E.R. Pardyjak, I. Senocakc, and M.J. Brown, A CFD-based wind solver for a fast response transport and dispersion model, *Environmental Fluid Mechanics*, **11 (5)**, 439-464, 2011.
119. **Nelson, M.A.**, E.R. Pardyjak, and P. Klein, Momentum and Turbulent Kinetic Energy Budgets within the Park Avenue Street Canyon During Joint Urban 2003, *Boundary-Layer Meteor.* 26, 143–162, 2011.
120. **Holmes, H.A.**, E.R. Pardyjak, **S.O. Speckart** and **D. Alexander**, Comparison of indoor/outdoor carbon content and time resolved PM concentrations for gas and biomass cooking fuels in Nogales, Sonora, Mexico, *Atmospheric Environment*, 45, 7600-7611, 2011.
121. **Singh, B.**, E.R. Pardyjak, A. Norgren and P. Willemsen, Accelerating urban fast response Lagrangian dispersion simulations using inexpensive graphics processor parallelism, *Environmental Modelling and Software*, **26**, 739-750, 2011.
122. Zajic, D., H.J.S. Fernando, R. Calhoun, M. Princevac, M.J. Brown and E.R. Pardyjak, Flow and Turbulence in an Urban Canyon, *J. Appl. Meteorol. & Climatology*, 50, 203-223, 2011.
123. **Ramamurthy, R.** and E.R. Pardyjak, Toward understanding the behavior of carbon dioxide and surface energy fluxes in the semi-arid Salt Lake Valley, Utah, USA, *Atmospheric Environment*, **45**, 73-84, 2011.
124. **Gowardhan, A.A.**, M.J. Brown, and E.R. Pardyjak, Evaluation of a fast response pressure solver for flow around an isolated cube, *Environmental Fluid Mechanics*, 10(3), 311-328, 2010.

125. **Holmes, H.A.**, E.R. Pardyjak, B.J. Tyler, and R.E. Peterson, Investigation of the time evolved spatial distribution of urban PM_{2.5} concentrations and aerosol composition during episodic high PM events in Yuma, AZ, *Atmospheric Environment*, 43, 4348-4358, 2009.
126. Biltoft, C.B. and Pardyjak, E.R. A note on calculating coherence statistical significance, *Journal of Atmospheric and Oceanic Technology*, 26(2), 403-410, 2009.
127. Pardyjak, E.R., H.J.S. Fernando, J.C.R. Hunt, A.A. Grachev and J. Anderson, A case study of the development of nocturnal slope flows in a wide open valley and associated air quality implications, *Meteorologische Zeitschrift*, 18(1), 1-17, 2009.
128. Pataki, D.E., Emmi, P.C., Forster, C.B., Mills, J.I., Pardyjak, E.R., Peterson, T.R., Thompson, J.D. and Dudley-Murphy, E. An integrated approach to improving fossil fuel emissions scenarios with urban ecosystem studies, *Ecological Complexity*, 6(1), 1-14, 2009.
129. **Singh, B., Hansen, B.**, Brown, M.J. and Pardyjak, E.R., Evaluation of the QUIC-URB fast response urban wind model for a cubical building array and wide building street canyon, *Environmental Fluid Mechanics*, 8(4), 281-312, 2008.
130. Pardyjak, E.R., **Speckart, S., Yin, F.** and Veranth, J.M., Near source deposition of vehicle generated fugitive dust on vegetation and buildings: Model development and theory, *Atmospheric Environment*, 42, 6442-6452, 2008.
131. Martin, J.C., Davidson, C.J. and Pardyjak, E.R., Understanding sprint Cycling performance: The integration of muscular power, resistance and modeling. *IJSPP* 2(1), 5-21, 2007.
132. **Ramamurthy, P.**, Pardyjak, E.R. and Klewicki, J.C., Observations of the Effects of Atmospheric Stability on Turbulence Statistics Deep within an Urban Street Canyon, *J. Appl. Meteorol. & Climatology*, 46, 2074-2085, 2007.
133. **Nelson, M.A.**, E.R. Pardyjak, J.C. Klewicki, S.U. Pol, and M.J. Brown, Statistical Properties of the Wind Field within the Oklahoma City Park Avenue Street Canyon: Part I, *J. Appl. Meteorol. & Climatology*, 46, 2038-2054, 2007.
134. **Nelson, M.A.**, E.R. Pardyjak, M.J. Brown, and J.C. Klewicki, Spectral properties of the wind field within the Oklahoma City Park Avenue Street canyon: Part II: Spectra, Cospectra, and Quadrant Analyses, *J. Appl. Meteorol. & Climatology*, 46, 2055-2073, 2007.
135. Pataki, D.E., B.J. Tyler, R.E. Peterson, A.P. Nair, W.J. Steenburgh, and E.R. Pardyjak, 2005: Can carbon dioxide be used as a tracer of urban atmospheric transport? *J. Geophys. Res.*, 110, D15102, 2005.
136. Brazel, A.J., H. J. S. Fernando, J. C. R. Hunt, B. C. Hedquist, N. Selover and E. R. Pardyjak, Evening transition observations in Phoenix, Arizona, U.S.A., *J. Appl. Meteorol.*, 44, 99-112, 2005.
137. Veranth, J.M., E.R. Pardyjak, and Seshadri, G., Vehicle-generated Dust Transport: Analytic Models and Field Study, *Atmospheric Environment*, 37, 2295-2303, 2003.
138. Pardyjak, E.R., P. Monti, and H.J.S. Fernando. Flux Richardson number measurements in stable atmospheric shear flows, *J. Fluid Mech.*, 459, 307-316, 2002.
139. Monti, P., H.J.S. Fernando, W.C. Chan, Princevac, M., Kowalewski, T.A. and E.R. Pardyjak. Observations of flow and turbulence in the nocturnal boundary layer over a slope, *J. Atmos. Sci.*, 59 (17), 2513-2534, 2002.
140. Fernando, H.J.S, S.M. Lee, J. Anderson, M. Princevac, E.R. Pardyjak, and S. Grossman-Clarke. Urban fluid mechanics: air circulation and contaminant dispersion in cities, *Environmental Fluid Dynamics*, 1:107-164, 2001.
141. Mahrt, L., D. Vickers, J. Sun, N.O. Jensen, H. Jorgensen, E.R. Pardyjak, and H.J.S. Fernando, Determination of the surface drag coefficient, *Boundary-Layer Meteorol.*, 99 (2), 249-276, 2001.

Books

1. Morris, S., E.R. Pardyjak, and J.F. Foss, 2023: Intermediate Fluid Dynamics, Cambridge University Press, in-preparation.

Book Chapters

2. Pardyjak, E.R. and A. Cuerva, 2007: Sonic Anemometry/Thermometry, *Springer Handbook of Experimental Fluid Mechanics*. (Eds.) C. Tropea and J.F. Foss, Springer.
3. Pardyjak, E.R. and J.L. Thompson, 2012: Multidisciplinary Aspects of Environmental Fluid Dynamics Research, *Handbook of Environmental Fluid Mechanics*, (Ed.) H.J.S. Fernando, Taylor and Francis, ISBN: 978-1-4398-1669-1.
4. Pardyjak, E.R., C. Higgins, and M. Parlange, 2012: Flux Measurements in the Atmosphere, *Handbook of Environmental Fluid Mechanics*, (Ed.) H.J.S. Fernando, Taylor and Francis, ISBN: 978-1-4398-1669-1.

Peer Reviewed Reports

1. Pincetl, S., G. Franco, N. Grimm, T. Hogue, S. Hughes, E. Pardyjak, A. Kinoshita, and P. Jantz, 2013: Chapter 13: Urban Areas, In *Assessment of Climate Change in the Southwest United States: A Report for the National Climate Assessment*, edited by G. Garfin, A. Jardine, R. Merideth, M. Black, and S. LeRoy, 267-296. A report by the Southwest Climate Alliance. Washington, DC, Island Press.

Peer Reviewed Conference Proceedings

1. Moran, S.M., E.R. Pardyjak, S.O. Speckart, B.L. Edmunds, and J.M. Veranth, Developing strategies for fugitive dust mitigation and transport flux using native vegetative windbreaks for dust control, 2011 Air & Waste Management Associations Conference & Exposition, June 21-24, Orlando, FL, Paper #16, 2011.
2. Kulkarni, S., Minor, M., Pardyjak, E. and Hollerbach, J., Combined wind speed and angle control in a virtual environment using a static observer. 2008 IEEE/RSJ International Conference on Intelligent Robots and Systems, Nice, France, September, 22-26, 2008.
3. Willemsen, P., Norgren, A., **Singh, B.**, and Pardyjak, E.R. Integrating Particle Dispersion Models into Real-time Virtual Environments. In Proceedings of the 14th Eurographics Symposium on Virtual Environments, pp. 57-63, Eindhoven, Netherlands, May 2008.
4. Kulkarni, S., Minor, M., **Deaver, M.**, Pardyjak, E. and Hollerbach, J., Steady Headwind Display with Conditional Angular Rate-Switching Control. 2008 IEEE International Conference on Robotics and Automation, Pasadena, California, on May 19-23, 2008.

5. Kulkarni, S.D., Minor, M.A., **Deaver, M.W.**, and Pardyjak, E.R., Output feedback control of wind display in a virtual environment, Proc. IEEE Intl. Conf. Robotics and Automation, Rome, Italy, April 10-14, 2007.
6. **Addepalli, B.** and Pardyjak, E.R., Study of flow fields in asymmetric step-down street canyons, he International Workshop on Physical Modelling of Flow and Dispersion Phenomena (PHYSMOD 2007), University of Orléans, France, August 29th - 31st, 2007.
7. Kirkman, R. Metzger, **M., Deaver, M.** and Pardyjak, E., Sensitivity analysis of a three dimensional wind tunnel design, Proceedings of FEDSM06, 2006 ASME Joint U.S. - European Fluids Engineering Summer Meeting, Miami, FL, USA, July 17–20, 2006, FEDSM2006-98322.
8. **Speckart, S.O.**, E.R. Pardyjak, V. Etyemezian, F. Yin, J.M. Veranth, Computational modeling of near-source deposition of fugitive dust on vegetative surfaces, Air & Waste Management, paper # 546, 2005.
9. Labban, R., Veranth, J., E.R. Pardyjak, **F. Yin**, V. Etyemezian, Dust emission from unpaved roads, Air & Waste Management, paper # 70089, 2003.

Conference Proceedings

1. Lothon, M. et al., The Boundary Layer Late Afternoon and Sunset Turbulence 2011 field experiment. 20th Symposium on Boundary Layers and Turbulence, 9-13 July 2012, Westin Copley Place, Boston, MA. Paper 14B.1.
2. Roemer, R.B., D.L. Mascaro, E.R. Pardyjak, S.J.M. Bamberg, A SPIRAL Learning Curriculum for Second Year Students in Mechanical Engineering, 118th Annual Conf. of the American Society for Eng. Education, Vancouver, BC, Canada, June 26-29, 2011, # AC 2011-2282.
3. Pino, D., M. Lothon, F. Lohou, W. Angevine, J. Bange, B. Beare, F. Couvreaux, H. Delbarre, F. Gibert, B. Gioli, H. H. Jonker, D. H. Lenschow, L. Mahrt, and E. Pardyjak, 2010: Studying the Boundary Layer Late Afternoon and Sunset Turbulence (BLLAST), Amer. Meteor. Soc., 19th Symposium on Boundary Layers and Turbulence, Keystone, CO, 2-6 August 2010, paper P1.1.
4. Froidevaux, M., C. Higgins, V. Simeonov, I. Serikov, H. van den Bergh, R. Calhoun, P. Ristori, E. Pardyjak, and M. Parlange: Turbulent atmospheric boundary layer evaporation (TABLE) experiment: preliminary results, 25th International laser radar conference, 5-9 July 2010: St.Petersburg, Russia.
5. **Addepalli, B.**, C. Sikorski, E.R. Pardyjak, and M. Zhdanov, 2009: Source Characterization of Atmospheric Releases using Quasi-Random Sampling and Regularized Gradient Optimization, Dagstuhl Seminar on Algorithms and Complexity for Continuous Problems, Dagstuhl, Germany, 20-25 September 2009.
6. Burian, S., E. Pardyjak, I. Jeyachandran, N. Augustus, **P. Ramamurthy**, C. Forster, and B. Skousen: Climate and urban form effects on the water and energy budgets in a residential area of Salt Lake City, Utah, Amer. Meteor. Soc., Eighth Symposium on the Urban Environment, Phoenix, AZ, 10-16 January 2009, paper 2.1.
7. Nelson, M.A., M.D. Williams, D. Zajic, E.R. Pardyjak, and M.J. Brown, 2009: Evaluation of an Urban Vegetative Canopy Scheme and Impact on Plume Dispersion, Amer. Meteor. Soc., Eighth Symposium on the Urban Environment, Phoenix, AZ, 10-16 January 2009, paper JP6.4.
8. **Gowardhan, A.**, M.J. Brown, E.R. Pardyjak, M.D. Williams, and M.A. Nelson, 2009: Evaluation of the QUIC wind and dispersion models using the Joint Urban 2003 Field Experiment, Amer. Meteor. Soc., Eighth Symposium on the Urban Environment, Phoenix, AZ, 10-16 January 2009, paper J19.4.

9. **Singh, B.**, E. R. Pardyjak, A. Norgren, and P. Willemsen, 2009: Integrating a complete Lagrangian dispersion model into an urban GPU-based simulation system, Amer. Meteor. Soc., Eighth Symposium on the Urban Environment, Phoenix, AZ, 10-16 January 2009, paper J19.5.
10. Pardyjak, E.R., **B. Singh**, A. Norgren, and P. Willemsen, 2007: Using video gaming technology to achieve low-cost speed up of emergency response urban dispersion simulations, Amer. Meteor. Soc., Seventh Symposium on the Urban Environment, San Diego, CA, 10-13 September 2007, paper 14.2.
11. Brown, M.J., **A. Gowardhan** and E. Pardyjak, 2007: Evaluation of a fast-response pressure solver for a variety of building shapes and layouts, Amer. Meteor. Soc., Seventh Symposium on the Urban Environment, San Diego, CA, 10-13 September 2007, paper 12.6.
12. **Gowardhan, A.**, E. Pardyjak, I. Senocak, and M. J. Brown, 2007: Investigation of Reynolds stresses in a 3D idealized urban area using large eddy simulation, Amer. Meteor. Soc., Seventh Symposium on the Urban Environment, San Diego, CA, 10-13 September 2007, paper 12.2.
13. **Addepalli, B.**, M. J. Brown, E. Pardyjak and I. Senocak, 2007: Evaluation of the QUIC-URB Wind Model using Wind-Tunnel Data for Step-Up Street Canyons, Amer. Meteor. Soc., Seventh Symposium on the Urban Environment, San Diego, CA, 10-13 September 2007, paper 12.1.
14. **Favaloro, T.**, E. R. Pardyjak and M. Brown, 2007: Toward understanding the sensitivity of a fast response dispersion modeling system to real input data, Amer. Meteor. Soc., Seventh Symposium on the Urban Environment, San Diego, CA, 10-13 September 2007, paper 10.3.
15. **Holmes, H.A., S. O. Speckart** and E. R. Pardyjak, 2007: Comparison of the time evolved spatial distribution of urban PM_{2.5} concentrations during burning and wind-blown high PM events in Yuma, AZ, Amer. Meteor. Soc., Seventh Symposium on the Urban Environment, San Diego, CA, 10-13 September 2007, paper 8.5.
16. **Ramamurthy, P.** and E. R. Pardyjak, 2007: A comparison of CO₂ fluxes at two sites within the urbanized Salt Lake Valley, Amer. Meteor. Soc., Seventh Symposium on the Urban Environment, San Diego, CA, 10-13 September 2007, paper P2.1.
17. Burian, S., E. Pardyjak, C. Forster, S. Bush, I. Jeyachandran, **P. Ramamurthy**, M. Jensen, and N. Augustus, 2007: Interdisciplinary study of coupled water-biophysical-climate systems in a semi-arid urban environment, Amer. Meteor. Soc., Seventh Symposium on the Urban Environment, San Diego, CA, 10-13 September 2007, paper 3.5.
18. Biltoft, C.A. and E. R. Pardyjak, 2007: Urban Application of an Alternative Flux Estimation Method, Amer. Meteor. Soc., Seventh Symposium on the Urban Environment, San Diego, CA, 10-13 September 2007, paper P1.2.
19. Willemsen, P., A. Norgren, **B. Singh** and E.R. Pardyjak, 2007: Development of a new methodology for improving urban fast response Lagrangian dispersion simulation via parallelism on the graphics processing unit. Proceedings of the 11th International Conference on Harmonisation within Atmospheric Dispersion Modelling for Regulatory Purposes, Queen's College, University of Cambridge, United Kingdom, July 2-5, 2007.
20. **Singh, B.**, E. Pardyjak, M. J. Brown, and M. D. Williams, 2006: Testing of a Far-wake Parameterization for a Fast Response Urban Wind Model. Sixth Symposium on the Urban Environment, 86th AMS Annual Meeting, J8.4a, Atlanta, GA 29 Jan – 2 Feb 2006.
21. **Gowardhan, A.**, M. J. Brown, D. S. Decroix, E. Pardyjak, and **M. A. Nelson**, 2006: Evaluation of the QUIC Pressure Solver using wind-tunnel data from single and multi-building experiments, Sixth Symposium on the Urban Environment, 86th AMS Annual Meeting, J8.2, Atlanta, GA 29 Jan – 2 Feb 2006.

22. Pol, S.U., **N. L. Bagal**, **B. Singh**, M. J. Brown, and E. Pardyjak, 2006. Implementation of a new rooftop recirculation parameterization into the QUIC fast response urban wind model, Sixth Symposium on the Urban Environment, 86th AMS Annual Meeting, JP1.2, Atlanta, GA 29 Jan – 2 Feb 2006.
23. **Gowardhan, A.A.**, M.J. Brown, M D. Williams, and E. Pardyjak, 2006. Evaluation of the QUIC Urban Dispersion Model using the Salt Lake City URBAN 2000 Tracer Experiment Data – IOP 10, Sixth Symposium on the Urban Environment, 86th AMS Annual Meeting, J6.3, Atlanta, GA 29 Jan – 2 Feb 2006.
24. **Nelson, M.A.**, M. J. Brown and E. Pardyjak, 2006. The momentum and turbulent kinetic energy budgets within the Oklahoma City Park Avenue street canyon, Sixth Symposium on the Urban Environment, 86th AMS Annual Meeting, 4.4, Atlanta, GA 29 Jan – 2 Feb 2006.
25. **Booth, T. M.** and E. R. Pardyjak, 2006. Validation of a data assimilation technique for an urban wind model , 86th AMS Annual Meeting, J4.9, Atlanta, GA 29 Jan – 2 Feb 2006.
26. **Addepalli, B.** and E. Pardyjak, 2006. 2D PIV Measurements of Street Canyon Flow for Buildings with Varying Angles and Separation Distances, Sixth Symposium on the Urban Environment, 86th AMS Annual Meeting, 4.5, Atlanta, GA 29 Jan – 2 Feb 2006.
27. **Gowardhan, A.**, E.R. Pardyjak and M.J. Brown, 2005: Testing of a non-iterative CFD modeling approach for an urban street canyon, The Atmospheric Sciences and Air Quality Conference, San Francisco, CA 27–29 April 2005.
28. **Gowardhan, A.**, M. J. Brown, D. S. Decroix, and E.R. Pardyjak, 2005: Evaluation of the QUIC Pressure Solver: Comparison to wind-tunnel measurement on cubical buildings, The Atmospheric Sciences and Air Quality Conference, San Francisco, CA 27–29 April 2005.
29. **Nelson, M.A.**, M.J. Brown, E.R. Pardyjak and J.C. Klewicki, 2004: Area averaged profiles over the Mock Urban Setting Test Array, Fifth AMS [1]Symposium on the Urban Environment, Vancouver, BC, August 23-26 2004.
30. **Bagal, N.L.**, **B. Singh**, E.R. Pardyjak and M.J. Brown, 2004: Implementation of rooftop recirculation parameterization in the QUIC fast response urban wind model, Fifth AMS Symposium on the Urban Environment, Vancouver, BC, August 23-26 2004.
31. **Nelson, M.A.**, M.J. Brown, E.R. Pardyjak and J.C. Klewicki, 2004: Turbulence within above real and artificial urban canyons, Fifth Symposium on the Urban Environment, Vancouver, BC, August 23-26 2004.
32. **Ramamuthy, P.**, S. Pol, E.R. Pardyjak and J.C. Klewicki, 2004: Spatial and temporal variability of turbulent fluxes in the Joint Urban 2003 street canyon, Fifth Symposium on the Urban Environment, Vancouver, BC, August 23-26 2004.
33. Pol, S., **P. Ramamuthy**, E.R. Pardyjak and J.C. Klewicki, 2004: Structure of turbulence in an urban street canyon, Fifth Symposium on the Urban Environment, AMS, paper J3.3, Vancouver, BC, August 23-26 2004.
34. **Nelson, M.A.**, M.J. Brown, J.C. Klewicki and E.R. Pardyjak, 2004: Variation of flow within the MUST building array, Fifth Symposium on the Urban Environment, Vancouver, BC, August 23-26 2004.
35. Brown, M.M., A. Ivey, T.N. McPherson, D. Boswell and E.R. Pardyjak, 2004: A study of the Oklahoma City urban heat island using ground measurements and remote sensing, Fifth Symposium on the Urban Environment, Vancouver, BC, August 23-26 2004.

36. Fernando, H.J.S., Princevac, M., E.R. Pardyjak, and A. Dato 2004: The decay of turbulence during evening transition period, 11th Conference on Mountain Meteorology, Mount Washington Valley, NH, 21-25 June 2004.
37. Brown, M., Boswell, D., Streit, G., Nelson, M., McPherson, T., Hilton, T., Pardyjak, E., Pol, S., Ramamuthy, P., **Hansen, B.**, Kastner-Klein, P., Clark, J., Moore, A., Walker, D., Felton, N., Strickland, D., Princevic, M., Zajic, D., Brook, D., Wayson, R., MacDonald, J. Fleming, G., Storwold, D. 2004: Joint URBAN2003 Street Canyon Experiment, 84th Annual AMS Meeting, Seattle, WA, January 11-15 2004.
38. **Singh, B.**, Williams, M., Pardyjak, E. Brown M., 2004: Testing of an Urban Lagrangian Dispersion model using Gaussian and non-Gaussian Solutions, 84th Annual AMS Meeting, Seattle, WA, January 11-15 2004.
39. Pardyjak, E., Brown, M., **Bagal, N.**, 2004: Improved Velocity Deficit Parameterizations for a Fast Response Urban Wind Model, 84th Annual AMS Meeting, Seattle, WA, January 11-15 2004.
40. **Bagal, N.**, Pardyjak, E.R., Brown, M.J., 2004: Improved Upwind Cavity Parameterization for a Fast Response Urban Wind Model, 84th Annual AMS Meeting, Seattle, WA, January 11-15 2004, P1.13.
41. Princevac, M., P. Monti, H.J.S. Fernando, T.A. Kowalewski and E.R. Pardyjak, 2002: Turbulence and mixing in the nocturnal boundary layer over a slope - VTMX field program results, 10th Conference on Mountain Meteorology, Park City, UT, 13-21 June 2002.
42. Pardyjak, E. and M. Brown, 2002: Fast response modeling of a two building urban street canyon, 4th AMS Symp. Urban Env., Norfolk, VA.
43. Pardyjak, E., M. Brown, **M. Nelson**, D. Zajic, M. Princevic, C. Biltoff, J. Klewicki, 2002: Building effects on thermal stratification during the MUST trials, 4th AMS Symp. Urban Env., Norfolk, VA, **11.14**.
44. Brown, M.J., LANL, Los Alamos, NM; and E. R. Pardyjak, D. Zajic, M. Princevac, and C. Biltoff, 2002: The MUST field experiment: Mean and turbulent wind fields at the upstream edge of a building array, 4th AMS Symp. Urban Env., Norfolk, VA.
45. Williams, M.D., M. J. Brown and E. R. Pardyjak, 2002: Development and testing of a dispersion model for flow around buildings, 4th AMS Symp. Urban Env., Norfolk, VA.
46. **Nelson, M.A.**, E. R. Pardyjak, M. M. Metzger, J. C. Klewicki, and C. Biltoff, 2002: Momentum and scalar variance measurements in the roughness sublayer of the MUST array, 4th AMS Symp. Urban Env., Norfolk, VA, **11.15**.
47. Pardyjak, E.R. and M.J. Brown. Evaluation of a Fast-Response Urban Wind Model: Comparison to Single Building Wind-Tunnel Data. *Proceedings of the 3rd International Symposium on Environmental Hydraulics*. D. Boyer and R. Rankin (Eds.), Tempe, AZ. 2001.
48. Brown, M.J. and Pardyjak. Temperature Measurements Collected from an Instrumented Van in Salt Lake City, Utah as part of URBAN 2000. *Proceedings of the 3rd International Symposium on Environmental Hydraulics*. D. Boyer and R. Rankin (Eds.), Tempe, AZ. 2001.
49. Fernando, H.J.S, M. Princevac, J.C.R. Hunt, E.R. Pardyjak. Thermal Circulation in Complex Terrain: A Case of *Urban Fluid Mechanics*, in *Fifth International Symposium on Stratified Flows, Vol. II*, G.A. Lawrence, R. Pieters, and N. Yonemitsu (Eds.), 649-654. 2000.
50. Wang, G., H.J.S Fernando, Pardyjak, E.R. and N.S. Berman. Simulations of Plume Dispersion in the Paso del Norte Area, Proceedings of the Air & Waste Management Association's 93rd Annual Conference & Exhibition, 2000.

51. Fernando, H.J.S., Pardyjak, E.R., Wang, G., Anderson, J., Ellis, A. and Berman, N.S. Morning-Transition of Complex Terrain Flows, *11th Conference on the Applications of Air Pollution Meteorology* (#10.1), 80th Annual Meeting of AMS, Long Beach, CA, January 9-14 2000.
52. Berman, N.S., Fernando, H.J.S., Pardyjak, E., Yu, F., Mahalov, A. and A.A. Grachev. A Study of the Turbulent Mixing in the Atmospheric Boundary Layer of Phoenix, Arizona, Proceedings, 1999ASME/JSME Fluids Engineering Division Summer Meeting, July 18-23, San Francisco, CA, 1999.
53. Grachev, A.A, H.J.S. Fernando, J.C.R. Hunt, E.P. Pardyjak, I. Oroud, N. Berman, F. Yu, G. Wang, The Structure of the Atmospheric Boundary Layer Over the Complex Terrain of Phoenix Valley, 79th AMS Annual Meeting, *13th Conference on Boundary Layers and Turbulence*, 10-15 January 1999, Dallas, Texas.
54. C. Rutland, E. Pardyjak, and E. Pomraning, Development of a Characteristic Strain Rate LES Model, Session 69-CFD-24 Transition and Turbulence Chaired by: D. Rizzetta, Wright Laboratory, Wright-Patterson AFB, OH AIAA-97-2071.

Other Conference Presentations/Poster Sessions

- **Pardyjak, E.R.**, A. O. Perelet*, S. W. Hoch, I. Gultepe, A. Trottier-Paquet, Z. Pu, J. Ruiz-Plancarte, Q. Wang, and H. J. Fernando, Vertical Variation of Extinction Coefficients and Visibility in Fog Using Low-Cost Optical Particle Counters, *103rd Annual AMS Meeting*, 8-12 January 2023, Denver, CO, Poster 559, 2023.
- **Pardyjak, E.R.**, J. Fernando, E. D. Creegan, C. E. Dorman, S. Gabersek, I. Gultepe, S. W. Hoch, L. Lenain, and Q. Wang, Overview of the Fog and Turbulence in Marine Atmosphere (Fatima) 2022 Field Campaign, *103rd Annual AMS Meeting*, 8-12 January 2023, Denver, CO, Presentation 14A.1, 2023.
- Wang, Q., J. Ruiz-Plancarta, R. Yamaguchi, D. G. Ortiz-Suslow, I. Gultepe, **E. R. Pardyjak**, E. D. Creegan, and H. J. Fernando, Characteristics of Fog Microphysics and Its Impact on Optical Attenuation from Multiple Fog Events, *103rd Annual AMS Meeting*, 8-12 January 2023, Denver, CO, Presentation 14A.2, 2023.
- Ortiz-Suslow, D.G., J. Ruiz-Plancarte, R. Yamaguchi, E. P. Newman, J. Kalogiros, H. J. Fernando, E. D. Creegan, **E. R. Pardyjak**, L. Colosi, L. Crilley, S. Deaton, C. E. Dorman, S. Gabersek, G. Giacosa, I. Gultepe, J. O. Hyde, L. Robinson, L. Salehpoor, and Q. Wang, A Case Study of Boundary Layer Evolution Downwind of a Small Island during the FATIMA 2022 Campaign, *103rd Annual AMS Meeting*, 8-12 January 2023, Denver, CO, Poster 557.
- Hoch, S.W., **E. R. Pardyjak**, I. Gultepe, A. O. Perelet*, Z. Pu, A. Vakhtin, M. A. Garcia, and A. G. Hallar, Evaluation of Ephemeral Fog Formation Mechanisms during CFACT, *103rd Annual AMS Meeting*, 8-12 January 2023, Denver, CO, Presentation 6B.3.
- Ruiz-Plancarte, J., D. G. Ortiz-Suslow, R. Yamaguchi, E. P. Newman, J. Kalogiros, K. Huang, T. Hintz, A. Trottier-Paquet, S. L. Bardeel, R. Sit, A. O. Perelet, S. W. Hoch, **E. R. Pardyjak**, E. D. Creegan, I. Gultepe, H. J. Fernando, and Q. Wang, Atmospheric Profiling of Boundary Layer in Fog during the Fatima 2022 Field Campaign, *103rd Annual AMS Meeting*, 8-12 January 2023, Denver, CO, Poster 558, 2023.
- Gultepe, I., H. J. Fernando, **E. R. Pardyjak**, Q. Wang, S. W. Hoch, A. O. Perelet*, J. Ruiz-Plancarte, and C. E. Dorman, Profiling of Shallow Fog using a UAV over the Sable Island during FATIMA, *103rd Annual AMS Meeting*, 8-12 January 2023, Denver, CO, Presentation 12.4.

- Gultepe, I., H. J. Fernando, C. E. Dorman, S. Gaberseck, E. R. Pardyjak, E. D. Creegan, S. W. Hoch, Q. Wang, M. W. Gallagher, I. Crawford, J. Komar, M. Agelin-Chaab, and E. Villeneuve, Poster 223 Synoptic Scale to Microphysical Scale of Marine Fog Characteristics during Fatima Field Campaign
- Perelet, A.O.*, D. K. Singh*, T. Garrett, I. Gultepe, S. W. Hoch, and **E. R. Pardyjak**, Discriminating Between Liquid Water and Ice Crystal Precipitation Using Ground-Based Extinction at Microwave and Infrared Wavelengths, *103rd Annual AMS Meeting*, 8-12 January 2023, Denver, CO, Presentation 16A.5.
- Perelet, A.O.*, J. Ruiz-Plancarte, I. Gultepe, S. W. Hoch, Q. Wang, and **E. R. Pardyjak**, Using Two Perpendicular Infrared Scintillometers to Evaluate the Evolution of Marine Fog Across Sable Island During the Fatima Campaign, Presentation 14A.4, *103rd Annual AMS Meeting*, 8-12 January 2022, Denver, CO.
- Singh D.K.*, S. W. Hoch, A. O. Perelet*, I. Gultepe, and **E. R. Pardyjak**, Low-Cost Hot-Wire Liquid Water Content Probe Design and Validation in Coastal Fog Field Experiments, Presentation 16A.3, *103rd Annual AMS Meeting*, 8-12 January 2023, Denver, CO.
- Hoch, S. W., E. D. Creegan E. R. Pardyjak, A. Perelet, A. Trottier-Paquet, I. Gultepe, Q. Wang, and H. J. Fernando, 2023: Balloon-Borne Radiative Flux Divergence Observations during the life Cycles of Marine and Shallow Cold Fog. *103rd Annual AMS Meeting*, 8-12 January 2023, Denver, CO.
- Gultepe, I., H. J.S. Fernando, E. Pardyjak, C. Dorman, Q. Wang, S. W. Hoch, S. Gaberseck, E. Creegan, L. Lenain, M. W. Gallagher, I. Crawford, 2022: Marine fog microphysics and associated weather systems during Fatima Campaign, AGU 2022 Fall Meeting 12-16 Dec. 2022.
- Singh, D.K.*, S. Donovan, T. Garrett, and **E. R. Pardyjak**, Poster 762, Quantification of Snowflake Settling Velocity in Surface-Layer Turbulence
- Bozorgmehr, B., P. Willemsen, J. A. Gibbs, R. Stoll, Z. Patterson, J. J. Kim, H. Liu, and **E. R. Pardyjak**, Presentation 16A.3, Cut-Cell Method: Higher-Order Geometry Representation in QES-Winds to Calculate More Accurate Wind Fields in Urban Areas and over Complex Terrain
- Huckins, M.K., W. Mahaffee, K. Baldino, R. Stoll, J. Dung, and **E. R. Pardyjak**, Poster 986 The Fate and Transport of Airborne XHC in Carrot Seed Crops
- Giacomo Valerio Iungo, Richardson, TX; and M. Puccioni, M. Calaf, **E. R. Pardyjak**, S. W. Hoch, T. Morrison, and A. O. Perelet*, Presentation J6B.1, Wind Lidar Measurements of the Near-Neutral Atmospheric Surface Layer: Analytical Model for the Streamwise-Velocity Linear Coherence Spectrum Inspired from Townsend's Attached Eddy Hypothesis
- Carrillo-Cardenas, G., M. A. Garcia, A. G. Hallar, S. W. Hoch, **E. R. Pardyjak**, and Z. Pu, Poster 556 Elucidating New Particle Formation in Complex Terrain during the Winter 2022 CFACT Campaign
- Hoch, S.W., E. D. Creegan, **E. R. Pardyjak**, A. O. Perelet*, A. Trottier-Paquet, I. Gultepe, Q. Wang, and H. J. Fernando, Presentation 9A.6 Balloon-Borne Radiative Flux Divergence Observations during the life Cycles of Marine and Shallow Cold Fog
- Pu, Z., **E. R. Pardyjak**, I. Gultepe, S. W. Hoch, A. G. Hallar, J. Anderson, W. O. J. Brown, and S. P. Oncley, An Overview of Cold Fog Amongst Complex Terrain (CFACT) Project, *103rd Annual AMS Meeting*, 8-12 January 2022, Denver, CO, Presentation 6B.1, 2023.
- Oldroyd, H.J., **E. R. Pardyjak** and M. B. Parlange, Turbulence Observation of the Daytime, Anabatic Winds over a Steep Alpine Slope, *103rd Annual AMS Meeting*, 8-12 January 2022, Denver, CO, Poster 465, 2023.

- Margairaz, F., J. A. Gibbs, P. Willemsen, **E. R. Pardyjak**, and R. Stoll, QES-Plume: A Fast Lagrangian Dispersion Model for Complex Environment, *103rd Annual AMS Meeting*, 8-12 January 2022, Denver, CO, Presentation 1A.3, 2023.
- Garrett, T.J., D. K. Singh*, **E. R. Pardyjak**, K. Rees, R. Szczerbinski, T. J. Morrison, and A. Reaburn, New Hotplate Technologies for Precision Measurement of Winds and Hydrometeor Mass, Density, and Type, *103rd Annual AMS Meeting*, 8-12 January 2023, Denver, CO, Poster 124, 2023.
- Singh, D.K.*, S. Donovan, T. Garrett, and **E. R. Pardyjak**, Quantification of Snowflake Settling Velocity in Surface-Layer Turbulence, *103rd Annual AMS Meeting*, 8-12 January 2023, Denver, CO, Poster 762, 2023.
- Hoch, S. W., E. R. Pardyjak, A. Perelet, S. P. Oncley, and E. D. Creegan, 2022: Balloon-borne Observation of Radiative Heating and Cooling in an Alpine Valley Basin during Clear Sky and Fog Conditions. 20th Conference on Mountain Meteorology, Park City, Utah, 27 June - 1 July, 2022.
- Pardyjak, E. R., S. W. Hoch, A. G. Hallar, Z. Pu, I. Gultepe, A. Perelet, M. A. G. Garcia, A. Miller, B. Baterdene, R. Beal, G. Carrillo-Cardenas, G. Liu, H. Scott, J. Stoddard, M. Ostlie, M. Worthen, P. Kneller, P. M. Gombert V, S. Wolvin, Z. Claerhout, T. Morrison, Z. Ruble, B. Silberman, and A. Yousuf, 2022: Overview of the CFACT field campaign. 20th Conference on Mountain Meteorology, Park City, Utah, 27 June - 1 July, 2022.
- Beal, R., J. Stoddard, Z. Pu, I. Gultepe, D. Church, D. Van Cleave, S. W. Hoch, E. R. Pardyjak, M. DeMaria, and J. Anderson, 2022: Prediction of Fog over Complex Terrain: Lessons Learned from the CFACT Field Program. 20th Conference on Mountain Meteorology, Park City, Utah, 27 June - 1 July, 2022.
- Carrillo-Cardenas, G., S. W. Hoch, A. G. Hallar, E. R. Pardyjak, and Z. Pu, 2022: Elucidating New Particle Formation in Complex Terrain During the Winter 2022 CFACT Campaign. 20th Conference on Mountain Meteorology, Park City, Utah, 27 June - 1 July, 2022.
- Gultepe, I., H. J.S. Fernando, E. Pardyjak, C. Dorman, Q. Wang, S. W. Hoch, S. Gaberseck, E. Creegan, L. Lenain, M. W. Gallagher, I. Crawford, 2022: Marine fog microphysics and associated weather systems during Fatima Campaign, AGU 2022 Fall Meeting 12-16 Dec. 2022.
- Singh, D.K.*, S. Donovan, **E. Pardyjak** and T.J. Garrett, Accelerations of Snowflakes in Atmospheric Turbulence, *AGU Fall Meeting*, 13-17 Dec 2021, New Orleans, LA, A35K-1804, 2021.
- Gultepe, I., H.J.S. Fernando, Q. Wang, **E. Pardyjak**, A.A. Grachev, A.O. Perelet, S.D. Wagh, C. Dorman, R. Chang, A summary of microphysical research performed during C-FOG and challenges for Fatima, *AGU Fall Meeting*, 13-17 Dec 2021, New Orleans, LA, A45B-1839, 2021.
- H.J. Oldroyd, H. Holmes, **E. Pardyjak**, Turbulence Characteristics during Diablo Wind Events (Invited), *AGU Fall Meeting*, 13-17 Dec 2021, New Orleans, LA, A44A-03, 2021.
- Rees, K., D.K. Singh*, **E. Pardyjak**, and T.J. Garrett, Continuous Measurements of Individual Frozen Hydrometeor Mass and Density, *AGU Fall Meeting*, 13-17 Dec 2021, New Orleans, LA, A35K-1808, 2021.
- Margairaz, F., L. Ulmer, P. Willemsen, Walter Mahaffee, **E. Pardyjak**, and J.R. Stoll II, Footprint analysis of particulate sensors in structured canopies, *AGU Fall Meeting*, 13-17 Dec 2021, New Orleans, LA, A43A-04, 2021.
- Ulmer, L., F. Margairaz, N.E. Miller, B. Bailey, W. Mahaffee, **E. Pardyjak**, and R. Stoll II, A low-order wind-resolving model for predicting transport processes in row-organized agricultural canopies, *AGU Fall Meeting*, 13-17 Dec 2021, New Orleans, LA, A43A-03, 2021.

- M. Huckins, K. Baldino, J. Dung, W. Mahaffee, T.J. Morrison*, **E. Pardyjak**, and R. Stoll II, New Approach for Capturing and Characterizing Large Aerosolized Particles in Agricultural Settings, *AGU Fall Meeting*, 13-17 Dec 2021, New Orleans, LA, A45C-1866, 2021.
- Fernando, H.J.S., C. Dorman, I. Gultepe, **E. Pardyjak**, L. Shen, and Q. Wang, Fatima: A mega-project at the nexus of (marine) fog and turbulence, *AGU Fall Meeting*, 13-17 Dec 2021, New Orleans, LA, A55F-1440, 2021.
- Renault, M., **E. Pardyjak**, and R. Stoll, Fast-Response, High-Resolution Flow Solver for Vegetation Canopies, *34th Conference on Agricultural and Forest Meteorology*, American Meteorological Society, 21-23 June 2021, virtual, presentation 6.4, 2021.
- Lucas Ulmer, N. Miller, B. N. Bailey, W. Mahaffee, **E. Pardyjak**, and R. Stoll, A Semi-Empirical Wind-Resolving Model for Predicting Transport Processes in Row-Organized Agricultural Canopies, *34th Conference on Agricultural and Forest Meteorology*, American Meteorological Society, June 21-23, virtual, Presentation 10.2, 2021.
- Deford, L., R. Stoll, and **E. Pardyjak**, Development of a Low-Cost Aspirated Temperature Measurement Radiation Shield, *34th Conference on Agricultural and Forest Meteorology*, American Meteorological Society, June 21-23, virtual, poster 24, 2021.
- Margairaz, F., B. Bozorgmehr, M. Renault, G. Q. Torkelson, L. Ulmer, P. Willemsen, **E. Pardyjak**, and R. Stoll, 'An Evaluation of First-order Closure Models for Canopy Turbulence in Fast-Response Diagnostic Wind Models', *34th Conference on Agricultural and Forest Meteorology*, June 21-23, virtual, presentation 6.6, 2021.
- Moody, M., R. Stoll, **E. Pardyjak**, S. K. Krueger, J. A. Gibbs, P. Willemsen, A. K. Kochanski, J. Mandel, A Dynamically Coupled Fast-Response Microscale Fire and Wind Model, *13th Fire and Forest Meteorology Virtual Symposium*, May 11-13, virtual, presentation 12.4, 2021.
- Morrison, T., **E. Pardyjak**, M. Calaf, A. Perelet, A., M. Mauder, C. Higgins, S. Drake, M. Calaf, The influence of surface thermal heterogeneities on the integral form of the temperature tendency equation over a desert playa, Spatial heterogeneity in land-atmosphere interactions and boundary-layer development: A CHEESEHEAD virtual mini-session, 17 June 2020.
- Rees, K. et al., A new particle and hot plate technique for measurement of precipitation rate, snow density and visibility; Session AS1.36 – Precipitation: Measurement, Climatology, Remote Sensing, and Modelling, 22nd EGU General Assembly, held online 4-8 May, 2020, EGU2020-6148.
- Calaf, M., T. Morrison, F. Margairaz, A. Perelet, C.W. Higgins, S. A. Drake, and E. R. Pardyjak, Surface thermal heterogeneities, dispersive fluxes and the conundrum of unaccounted statistical spatial inhomogeneities, 22nd EGU General Assembly, held online 4-8 May, 2020, EGU2020-13388,| Session AS2.1 – Atmospheric Boundary Layer: From Basic Turbulence Studies to Integrated Applications.
- Morrison, T., M. Calaf, E. Pardyjak, M. Hultmark, C. Higgins, G. Iungo, S. Drake, S. Hoch, D. Zajic, A. Perelet, A. Bingham, C. Brunner, T. DeBell, N. Gunawardena, Y.-C. Huang, G. Mogollon, B. Najafi, Y. Pandya, M. Puccioni, and D. K. Singh, An atmospheric surface layer study: The Idealized horizontal Planar Array experiment for Quantifying Surface Heterogeneity (IPAQS) Session AS2.1 – Atmospheric Boundary Layer: From Basic Turbulence Studies to Integrated Applications. EGU2020-12081, 2019.
- Soo-Jin Park et al., CFD Simulations of Flows in Step-up Street Canyons Session AS2.1 – Atmospheric Boundary Layer: From Basic Turbulence Studies to Integrated Applications, EGU2020-12121, 2019.
- Calaf, M., T. Morrison, F. Margairaz, A. Perelet, C.W. Higgins, S.A. Drake, and E. Pardyjak, Surface thermal heterogeneities, dispersive fluxes and the conundrum of unaccounted statistical spatial

inhomogeneities, Session AS2.1 – Atmospheric Boundary Layer: From Basic Turbulence Studies to Integrated Applications, EGU2020-13388, 2019.

- **Renault, M. A.,** Pardyjak, E., Stoll, R., **Bozorgmehr, B.,** Willemsen, P. and J. Gibbs, ‘High-resolution modeling of heterogeneous land-surface features and their impacts on pollution dispersion, wildfire spread and renewable-energy availability’, 10th Annual Northwest Climate Conference, Portland, OR, Abstract 73, 2019. Other, Presented, 10/2019.
- Drake, S.A., E. Pardyjak, C.W. Higgins, M. Calaf, S. Wharton, T. Morrison, A.O. Perelet, G. Iungo, M. Puccioni, M. Hultmark, Y.-C. Huang, C. Brunner, F. Margairaz, J. Kelley, and H.J. Oldroyd, A Comparative Assessment of TKE Terms for Two Near-canonical Sites, presented at the 2019 Fall Meeting, AGU, San Francisco, CA, 9-13 Dec., Abstract A23D-08.
- Fernando, H.J.S., I. Gultepe, C. Dorman, E. Pardyjak, D. H. Richter, Q. Wang, S.W. Hoch, S. Gaberseck, T. Bullock, The C-FOG Project: Toward Improving Coastal Fog Prediction, presented at the 2019 Fall Meeting, AGU, San Francisco, CA, 9-13 Dec., Abstract A33R-2975.
- Gaberseck, S., D. D. Flagg, J. D. Doyle, H.J.S. Fernando, I. Gultepe, C. Dorman, E. Pardyjak, D.H. Richter, Q. Wang, S. W. Hoch, T. Bullock, and R. Chang, presented at the 2019 Fall Meeting, AGU, San Francisco, CA, 9-13 Dec., Abstract A33R-2984.
- Gultepe, I., H.J.S. Fernando, B. Zhou, E. Pardyjak, S.W. Hoch, A. Heymsfield, S. Gaberseck, D.D. Flagg, and C. Dorman, Visibility Observations and Predictions during the C-FOG Project, presented at the 2019 Fall Meeting, AGU, San Francisco, CA, 9-13 Dec., Abstract A33R-2977.
- Hang, C., H.J. Oldroyd, E. Pardyjak, and M. B. Parlange, Local similarity functions for katabatic flows derived from field observations over steep- and shallow-angled slopes, presented at the 2019 Fall Meeting, AGU, San Francisco, CA, 9-13 Dec., Abstract A21R-2685.
- Hoch, S.W., F. Margairaz, and E. Pardyjak, Near-surface radiative and turbulent heat exchange processes observed during coastal fog events, presented at the 2019 Fall Meeting, AGU, San Francisco, CA, 9-13 Dec., Abstract A33R-2989.
- Moody, M., R. Stoll, J. Gibbs, and E. Pardyjak, QES-Fire: A Microscale Fast Response Wildfire Model, presented at the 2019 Fall Meeting, AGU, San Francisco, CA, 9-13 Dec., Abstract A23J-2950.
- Morrison, T., M. Calaf, E. Pardyjak, and A.O. Perelet, An Experimental Quantification of the Impact of Surface Thermal Heterogeneities on Atmospheric Boundary Layer Flows, presented at the 2019 Fall Meeting, AGU, San Francisco, CA, 9-13 Dec., Abstract U14C-15.
- Morrison, T., M. Calaf, S. A. Drake, C.W. Higgins, E. Pardyjak, and A.O. Perelet, The Role of Horizontal Advection and Vertical Flux Divergence on the Temperature Tendency Equation, presented at the 2019 Fall Meeting, AGU, San Francisco, CA, 9-13 Dec., Abstract A31D-05.
- Oldroyd, H.J., E. Pardyjak, and M.B. Parlange, Observations of the Daytime, Anabatic Winds over a Steep Alpine Slope, presented at the 2019 Fall Meeting, AGU, San Francisco, CA, 9-13 Dec., Abstract A21R-2686.
- Pardyjak, E., M. Calaf, M. Hultmark, C.W. Higgins, G. Iungo, S. A. Drake, S. W. Hoch, D. Zajic, A. **O. Perelet, T. Morrison, A. Bingham,** C. Brunner, T. Craig DeBell, **N. Gunawardena,** Y.-C. Huang, S. Letizia, **G. Mogollon,** B. Najafi, Y. Pandya, M. Puccioni, C. Schwartz, D. K. Singh, and L. Zhan, The Idealized Planar-Array Study for Quantifying Surface heterogeneity (IPAQS) in the atmospheric surface layer, presented at the 2019 Fall Meeting, AGU, San Francisco, CA, 9-13 Dec., Abstract A21R-2685
- **Perelet, A.O.,** M. Calaf, and E. Pardyjak, Scintillometry and the Surface Energy Balance: Spatial and Temporal Scales for Energy Closure During IPAQS, presented at the 2019 Fall Meeting, AGU, San Francisco, CA, 9-13 Dec., Abstract A13N-3149.

- Singh, D.K., S.W. Hoch, I. Gultepe, and E. Pardyjak, A case study of the formation, evolution and dissipation of a coastal fog event, presented at the 2019 Fall Meeting, AGU, San Francisco, CA, 9-13 Dec., Abstract A33R-2983.
- Calaf, M., **T. Morrison**, F. Margairaz, **A. Perelet**, C.W. Higgins, S.A. Drake, and E. Pardyjak, Surface thermal heterogeneities, dispersive fluxes and the conundrum of unaccounted statistical spatial inhomogeneities, EMS Annual Meeting, 9-13 September 2019, Lyngby, Copenhagen, Vol. 16, EMS2019-216.
- Gultepe, I., H.J.S. Fernando, E. Pardyjak, Q. Wang, C. Hocut, E. Creegan, S. W. Hoch, D.D. Flagg, N. Scanland, S. Desjardins, M. Pilon, M. Pavolonis, A.J. Heymsfield, S. Gaberšek, S. Wagh, and D. P. Alappattu, C-FOG Project for Marine Fog, IFDA 8th International Conference on Fog, Fog Collection, and Dew; July 14-19, 2019, Taipei, Taiwan.
- Gultepe, I., H.J.S. Fernando, E. Pardyjak, Q. Wang, C. Hocut, E. Creegan, S. Hoch, D. Flagg, N. Scanland, S. Desjardins, R. Yamaguchi, S. Wang, M. Pilon, T. Bullock, M. Pavolonis, P. William, A. Heymsfield, R. Krishnamurthy, C. Wainwright, and S. Gabersek, C-FOG Field Campaign for Coastal Fog: Emphases on Microphysics versus Dynamics, EGU2019-3795, EGU General Assembly, 7-12 April 2019, Austria, AS1.2
- Román-Cascón, C., Carlos Yagüe, Jon Ander Arrillaga, Marie Lothon, Eric R. Pardyjak, Fabienne Lohou, Rosa Maria Inclán, Mariano Sastre, Gregorio Maqueda, Solène Derrien, Yves Meyerfeld, Chaoxun Hang, Pablo Campargue-Rodríguez, and Imen Turki, Investigating mountain breezes characteristics and their effects on CO₂ concentration at three different sites, EGU2019-13925, EGU General Assembly, 7-12 April 2019, Austria, AS2.2.
- Oldroyd, H.J., Pardyjak, E. R., Higgins, C. W., and Parlange, M.B., Land-atmosphere coupling mechanisms over steep terrain: turbulent transport and modeling challenges, Abstract #318630, GSA Annual Meeting in Indianapolis, Indiana, USA – 2018.
- Margairaz, F., M. Calaf and E. Pardyjak, Stepping Towards New Parameterizations for Non-Canonical Atmospheric Surface-Layer Conditions, a Dispersive-Flux Approach, 23rd AMS Symposium on Boundary Layers and Turbulence, 11-15 June 2018 Oklahoma City, OK, 4B.2.
- Calaf, M., F. Margairaz and E. Pardyjak, Dispersive Fluxes and Flow Structure of Thermally Forced Atmospheric Boundary Layer Flows, 23rd AMS Symposium on Boundary Layers and Turbulence, 11-15 June 2018 Oklahoma City, OK, 8.
- Stoll, R., S. T. Salesky, M. Giometto, A. Christen, W. Mahaffee, and E. R. Pardyjak, The Impact of Urban Form on Particle Dispersion in a Residential Neighborhood, 23rd AMS Symposium on Boundary Layers and Turbulence, 11-15 June 2018 Oklahoma City, OK, 8A.2.
- Bailey, B., R. Stoll and E. Pardyjak, Recent Advances in Lagrangian Modeling of Dispersion in Plant Canopies, 33rd AMS Conference on Agricultural and Forest Meteorology, 14–17 May 2018, Boise, ID, 7.5.
- Pardyjak, E.R., T. Price, S. O. Speckart, J. Veranth, L. Ulmer, and R. Stoll, A Modeling and Field Study of the Impacts of a Windbreak on Dust Transport and Deposition, 33rd AMS Conference on Agricultural and Forest Meteorology, 14–17 May 2018, Boise, ID, 10.4.
- Isabelle, P.-E., **A. O. Perelet**, D. Nadeau, E. Pardyjak, A. C. Parent, A. N. Rousseau, and F. Anctil, Two-Wavelength Scintillation Measurements to Assess Sensible and Latent Heat Fluxes over a Boreal Forested Valley, 33rd AMS Conference on Agricultural and Forest Meteorology, 14–17 May 2018, Boise, ID, 9.2.
- Ulmer, L., W. Mahaffee, E. Pardyjak, and R. Stoll, Modeling Plume Dispersion in Sparse Organized Agricultural Canopies Using the QUIC Modeling System: Model Development and Validation, 33rd AMS Conference on Agricultural and Forest Meteorology, 14–17 May 2018, Boise, ID, 10.5.

- Moody, M., R. Stoll, B. Bailey, E. R. Pardyjak, and W. Mahaffee, Adaptation and Validation of a Voxel Based Energy Transport Model for Conifer Species, 33rd AMS Conference on Agricultural and Forest Meteorology, 14–17 May 2018, Boise, ID, 9.6.
- **Morrison, T.J.**, S.A. Drake, T.C. DeBell, **N.Gunawardena**, **A.O. Perelet**, M. Calaf, C.W. Higgins, and E. Pardyjak, Idealized Planar Array experiment for Quantifying Surface heterogeneity (IPAQS) provides insight into the role of dispersive fluxes role on the Surface Energy Balance (SEB) closure, presented at the 2018 Fall Meeting, AGU, Washington D.C., 10-14 Dec. Abstract A31K-3054.
- Pardyjak, E., M. Calaf, M. Hultmark, C.W. Higgins, G. Iungo, D. Zajic, **A.O. Perelet**, **T.J. Morrison**, **N. Gunawardena**, C. Brunner, Y.-C. Huang, S.A. Drake, T.C. DeBell, C. Schwartz, B. Najafi, M. Puccioni, S. Hoch, S. Letizia, and K. Kokmanian, An overview of the Idealized Planar Array experiment for Quantifying Surface heterogeneity (IPAQS) in the atmospheric surface layer experiment, presented at the 2018 Fall Meeting, AGU, Washington D.C., 10-14 Dec. Abstract A52D-02.
- **Perelet, A.O.**, C.W. Higgins, W. Mahaffee, R. Stoll, and E. Pardyjak, Using scintillometry to understand MOST validity over a trellised canopy, presented at the 2018 Fall Meeting, AGU, Washington D.C., 10-14 Dec. Abstract A31K-3053.
- **Renault, M. A.**, Pardyjak, E., Stoll, R., **Bozorgmehr, B.**, Willemsen, P., Gibbs, J. and Z. Patterson, Fast-response, high-resolution wind modeling over complex terrain, American Geophysical Society Fall Meeting, Washington, DC, Abstract A53B-06, 2018. Presented, 12/2018.
- Pardyjak, E.R., A. Nemati Hayati, C. Bianchi, P. Willemsem, A. D. Smith, & R. Stoll, Coupling of a building and vegetation resolving urban microclimate model with a building energy simulation program, 8th International Symposium on Environmental Hydraulics, 4-7 June 2018, University of Notre Dame, Indiana, USA.
- A. Nemati Hayati, R. Stoll, E.R. Pardyjak, and T. Harman, Spatiotemporal characteristics of momentum and scalar transport in city districts derived from large-eddy simulations, 8th International Symposium on Environmental Hydraulics, 4-7 June 2018, University of Notre Dame, Indiana, USA.
- Nemati Hayati, A., R. Stoll, and P. Willemsen, Computational study of energy and moisture in a vegetated, complex urban area using a fast-response simulation software, 10th International Conference on Urban Climate/14th AMS Symposium on the Urban Environment, 6-10 August 2018, New York, 4D.8.
- Bianchi, C., A. Smith, P. Willemsen, R. Stoll, E. Pardyjak, and A. Nemati Hayati, High-resolution microclimate modeling for improved building energy simulations, 10th International Conference on Urban Climate/14th AMS Symposium on the Urban Environment, 6-10 August 2018, New York, 82.
- Román-Cascón, C., C. Yagüe, J.A. Arrillaga, M. Lothon, F. Lohou, E. Pardyjak, M. Sastre, G. Maqueda, and R.M. Inclán, Analyzing features and impacts of mountain breezes at three different mountainous sites, EMS Annual Meeting: European Conference for Applied Meteorology and Climatology 2018, 3–7 September 2018, Budapest, Hungary Vol. 15, EMS2018-349.
- Oldroyd, H.J., E. Pardyjak, C. Higgins, M.B. Parlange, ‘Surface-Layer’ momentum fluxes in nocturnal slope flows over steep terrain, presented at the 2017 Fall Meeting, AGU, New Orleans, 11-15 Dec. dA11J-2006.
- Park, S., J.J. Kim, W. Choi, and E. Pardyjak, Analysis of In-Canyon Flow Characteristics in step-up street canyons, presented at the 2017 Fall Meeting, AGU, New Orleans, 11-15 Dec. Abstract A51A-2010.
- Calaf, M., F. Margairaz, and E. Pardyjak, Stepping towards new parameterizations for non-canonical atmospheric surface-layer conditions, presented at the 2017 Fall Meeting, AGU, New Orleans, 11-15 Dec. Abstract A52C-01.

- **Morrison, T.J.**, M. Calaf, H.J.S. Fernando, T.A. Price, and E. Pardyjak, Development of a new methodology for computing surface sensible heat fluxes using thermal imagery, presented at the 2017 Fall Meeting, AGU, New Orleans, 11-15 Dec. Abstract A33B-2351.
- **Hang, C.**, D. Nadeau, E. Pardyjak, and M. Parlange, A comparison of near-surface potential temperature variance budgets for unstable atmospheric flows over vegetated and non-vegetated flat surfaces and a gentle slope, presented at the 2017 Fall Meeting, AGU, New Orleans, 11-15 Dec. Abstract A12-09.
- **Perelet A.**, H.C. Ward, and E. Pardyjak, Investigating scintillometer source areas, presented at the 2017 Annual Fall Meeting, AGU, New Orleans, 11-15 Dec. Abstract A54A-01.
- Pardyjak, E., F. Dupuy, P. Durand, N. Gunawardena, T. Hedde, and P. Roubin, Understanding thermal circulations and near-surface turbulence processes in a small mountain valley, (Invited) presented at the 2017 Fall Meeting, AGU, New Orleans, 11-15 Dec. Abstract A53I-08.
- Pardyjak, E.R., M. Renault, P. Durand, T. Hedde, N. Gunawardena, F. Dupuy, and P. Roubin, High-resolution dispersion modeling in urbanized complex terrain, Meteorology and Climate – Modeling for Air Quality (MAC-MAQ), Air Quality Research Center, UC-Davis/California Air Resources Board, 13-15 September 2017, Sacramento, CA.
- Pardyjak, E.R., F. Dupuy, P. Durand, N. Gunawardena, T. Hedde, and P. Rubin, KASCADE2017 – An experimental study of thermal circulations and turbulence in complex terrain, EGU, 23-28 April 2017, Vienna.
- Di Sabatino, S., Leo L.S., Pardyjak, E.R., and Fernando, H.J.S., Boundary-layer processes: key findings from MATERHORN-X field Campaigns, Geophysical Research Abstracts Vol. 19, EGU2017-15550, 2017, EGU General Assembly, 17-22 April 2017.
- Gultepe, I., Heymsfield, M., Fernando, H.J.S., Hoch, S., Pardyjak, E.J., Boudala, F., and Ware, S., UAV Applications for Thermodynamic Profiling: Emphasis on Ice Fog Visibility, Geophysical Research Abstracts Vol. 19, EGU2017-10439, 2017, EGU General Assembly, 17-22 April 2017.
- **Ramamurthy, P.**, E. Pardyjak, Turbulent Transport of Scalars Over a Complex Urban Terrain, 22nd Symposium on Boundary Layers and Turbulence, American Meteorol. Soc., 20-24 June 2016, Salt Lake City, J11.4.
- Girard, P., D. Nadeau, E. R. Pardyjak, M. Overby, P. Willemsen, D. C. Alexander, R. Stoll, B. N. Bailey, and M. B. Parlange, Validation of a Fast-Response Urban Microclimate Model Using a Dense Network of Weather Observations, 22nd Symposium on Boundary Layers and Turbulence, American Meteorol. Soc., 20-24 June 2016, Salt Lake City, 14A.6
- Nathan E. Miller, R. Stoll, W. Mahaffee, T. M. Neill, and E. R. Pardyjak, Field-scale Particle Transport in a Trellised Agricultural Canopy During Periods of Row-aligned Winds, 22nd Symposium on Boundary Layers and Turbulence, American Meteorol. Soc., 20-24 June 2016, Salt Lake City, Poster 105.
- Nathan E. Miller, University of Utah, Salt Lake City, UT; and R. Stoll, W. Mahaffee, T. M. Neill, and E. R. Pardyjak, Methodologies for Particle Dispersion Experiments in Plant Canopies, 22nd Symposium on Boundary Layers and Turbulence, American Meteorol. Soc., 20-24 June 2016, Salt Lake City, Poster 114.
- Nathan E. Miller, University of Utah, Salt Lake City, UT; and R. Stoll, W. Mahaffee, T. M. Neill, and E. R. Pardyjak, Particle Transport and Plume Shape Characteristics in a Trellised Agricultural Canopy During Non-row-parallel Winds, 22nd Symposium on Boundary Layers and Turbulence, American Meteorol. Soc., 20-24 June 2016, Salt Lake City, 11A.2.
- Travis Gowen, University of Utah, Salt Lake City, UT; and T. Price, E. Pardyjak, and R. Stoll, A Wind Tunnel Study of Windbreak Flow Dynamics Using Particle Imaging Velocimetry, 22nd

Symposium on Boundary Layers and Turbulence, American Meteorol. Soc., 20-24 June 2016, Salt Lake City, Poster 106.

- Matt Moody, B. N. Bailey, R. Stoll, E. R. Pardyjak, and W. Mahaffee, Radiation Heat Transfer and Microclimate in and Around Isolated Conifers, 22nd Symposium on Boundary Layers and Turbulence, American Meteorol. Soc., 20-24 June 2016, Salt Lake City, Poster 107.
- Arash Nemati Hayati, R. Stoll, T. Harman, J. Feliciano, and E. R. Pardyjak, Large-Eddy Simulation of the Oklahoma City Joint Urban 2003 Experiment Using Uintah:MPMICE, 22nd Symposium on Boundary Layers and Turbulence, American Meteorol. Soc., 20-24 June 2016, Salt Lake City, 14A.1.
- Alexei O. Perelet and E. R. Pardyjak, Interactions Between Heterogeneous Terrain and Atmospheric Fluxes, 22nd Symposium on Boundary Layers and Turbulence, American Meteorol. Soc., 20-24 June 2016, Salt Lake City, Poster 31.
- Travis J. Morrison, M. Calaf, and E. Pardyjak, Impacts of Land Surface Heterogeneity on Atmospheric Flows during the MATERHORN Playa Field Campaign, 22nd Symposium on Boundary Layers and Turbulence, American Meteorol. Soc., 20-24 June 2016, Salt Lake City, Poster 32.
- Richard C. Didier, N. Gunawardena, E. Prucka, R. Stoll, A. D. Smith, and E. Pardyjak, Linking Microclimate and Energy Use with a Low Cost Wall Mounted Measurement System, 22nd Symposium on Boundary Layers and Turbulence, American Meteorol. Soc., 20-24 June 2016, Salt Lake City, Poster 87.
- Carlo Bianchi, M. Overby, P. Willemsen, A. Smith, R. Stoll, and E. R. Pardyjak, Effects of Structures in the Urban Environment on Solar Irradiance Availability, 22nd Symposium on Boundary Layers and Turbulence, American Meteorol. Soc., 20-24 June 2016, Salt Lake City, Poster 86.
- Arash Nemati Hayati, R. Stoll, J. J. Kim, T. Harman, M. A. Nelson, M. J. Brown, and E. R. Pardyjak, Inter-Model Flow Topology Comparison of Simple CFD, RANS and LES Simulations for Complex Street Canyons, 22nd Symposium on Boundary Layers and Turbulence, American Meteorol. Soc., 20-24 June 2016, Salt Lake City, Poster 77.
- Eshagh, H., A. Nemati Hayati, E. R. Pardyjak, and R. Stoll, 2016: Evaluation of a simple CFD model in a complex vegetated urban area during the 2015 Engineering-quad experiment at the University of Utah, 22nd Symposium on Boundary Layers and Turbulence, American Meteorol. Soc., 20-24 June 2016, Salt Lake City, Poster 78.
- Nilsson, E., M. Lothon, F. Lohou, C. Darbieu, E. R. Pardyjak, O. K. Hartogensis, and L. Mahrt, 2016: Turbulence kinetic energy decay in the afternoon transition, 22nd Symp. Boundary Layers and Turbulence, American Meteorol. Soc., 20-24 June 2016, Salt Lake City, 3A.2.
- Hang, C., D. Nadeau, I. Gultepe, S. Hoch, H. J. S. Fernando, E. Creegan, L. Leo, Z. Silver, and E. Pardyjak, 2016: Case Study of the Formation, Evolution and Dissipation of Ice Radiation Fog in a Mountain Valley, 22nd Symp. Boundary Layers and Turbulence, American Meteorol. Soc., 20-24 June 2016, Salt Lake City, J4.6.
- Oldroyd, H.J., E. R. Pardyjak, C. Higgins, and M. B. Parlange, 2016: Counter-Gradient, Co-Gradient and 'Surface-Layer' Momentum Fluxes in Nocturnal Slope Flows over Steep Alpine Terrain, 22nd Symp. Boundary Layers and Turbulence, American Meteorol. Soc., 20-24 June 2016, Salt Lake City, 37.
- Oldroyd, H.J., E. R. Pardyjak, C. Higgins, and M. B. Parlange, 2016: Nocturnal buoyant TKE production in steep-slope katabatic flows: Observations, theory and multi-scale transport dynamics, 22nd Symp. Boundary Layers and Turbulence, American Meteorol. Soc., 20-24 June 2016, Salt Lake City, 9A.7.

- Hang, C., D. Nadeau, D. Jensen, S. W. Hoch, and E. R. Pardyjak, 2016: Evaporation from a Desert Playa Following Rainfall, 22nd Symp. Boundary Layers and Turbulence, American Meteorol. Soc., 20-24 June 2016, Salt Lake City, 4B.3.
- Jensen, D.D., D. Nadeau and E. R. Pardyjak, 2016: The Sensitivity of Katabatic Flow Dynamics to External Influences Through the Evening Transition, 22nd Symp. Boundary Layers and Turbulence, American Meteorol. Soc., 20-24 June 2016, Salt Lake City, 9A.6.
- Derek D. Jensen, E. R. Pardyjak, and S. W. Hoch, Observations of Near-surface Heat Flux and Temperature Profiles through the Early Evening Transition Over Contrasting Surfaces, 22nd Symp. Boundary Layers and Turbulence, American Meteorol. Soc., 20-24 June 2016, Salt Lake City, 3A.4A.
- Hoch, S.W. and E. R. Pardyjak, 2016: Observations of Radiative Flux Divergence under Clear Sky and Fog Conditions, 22nd Symp. Boundary Layers and Turbulence, American Meteorol. Soc., 20-24 June 2016, Salt Lake City, 29.
- Gunawardena, N. and E. R. Pardyjak, 2016: The Use of Artificial Neural Networks Within Boundary Layer Meteorology, 22nd Symp. Boundary Layers and Turbulence, American Meteorol. Soc., 20-24 June 2016, Salt Lake City, 95.
- Gultepe, I., E. R. Pardyjak, S. W. Hoch, Z. Silver, W. Burrows, H.J.S. Fernando, E. Creegan, L. S. Leo, A. J. Heymsfield, M. Pavolonis, R. Ware, T. Kuhn, R. Rabin, B. Zhou, and Z. Pu, Ice Fog as high impact weather: Measurement and Prediction issues, The 7th International Conference on Fog, Fog Collection and Dew, Wrocław, Poland on 24-29 July, 2016.
- Gultepe, I., L. S. Leo, E. R. Pardyjak, S. Hoch, E. Creegan, Z. Silver, S. D. Wekker, and H. J. S. Fernando, Ice Fog Microphysical Properties at High Elevations: MATERHORN Observations and Parameterizations, 96th American Meteorological Society Annual Meeting, 10-14 January 2016, New Orleans, 11.2.
- Creegan, E. D., C. M. Hocut, Y. Wang, Z. Silver, S. Hoch, L. S. Leo, S. Di Sabatino, H. J. S. Fernando, and E. Pardyjak, Synoptic Flow Interactions with an Isolated Mountain in Complex Terrain, 96th American Meteorological Society Annual Meeting, 10-14 January 2016, New Orleans, 9.3.
- Di Sabatino, S., L. S. Leo, H. J. S. Fernando, E. R. Pardyjak, M. Lehner, C. D. Whiteman, and S. Hoch, Observations of evening and morning transition in valleys and slopes, 96th American Meteorological Society Annual Meeting, 10-14 January 2016, New Orleans, 10.3.
- **Jensen, D.**, D. F. Nadeau and E. R. Pardyjak, Assessing the effect of soil moisture on katabatic flow dynamics over a shallow slope during the MATERHORN field program, 96th American Meteorological Society Annual Meeting, 10-14 January 2016, New Orleans, 10.2.
- Nadeau, D., P. Girard, M. Overby, E.R. Pardyjak, R. Stoll, P. Willemsen, B. Bailey, and M.B. Parlange, Validation of a Fast-Response Urban Micrometeorological Model to Assess the Performance of Urban Heat Island Mitigation Strategies, presented at the 2015 Fall Meeting, AGU, San Francisco, Calif., 14-18 Dec. Abstract B33E-0765.
- Oldroyd, H.O., E.R. Pardyjak, C.W. Higgins, M.B. Parlange, Buoyant turbulence kinetic energy (TKE) production in katabatic flow despite stable thermal stratification, presented at the 2015 Fall Meeting, AGU, San Francisco, Calif., 14-18 Dec. Abstract A33Q-06.
- **Hang, C.**, D. Nadeau, **D.D. Jensen**, and E.R. Pardyjak, A comparison of potential temperature variance budgets over vegetated and non-vegetated surface, presented at the 2015 Fall Meeting, AGU, San Francisco, Calif., 14-18 Dec. Abstract A51R-08.
- Hoch, S. and E.R. Pardyjak, Observations of radiative cooling and heating under clear sky and fog conditions, *International Conference on Alpine Meteorology*, Innsbruck, Austria, 31 August – 4 September 2015, Poster.

- Chachere, C. N., Z. Pu, S. Hoch, E. R. Pardyjak, 2015: Evaluation of WRF forecasts of fog events against observations during MATERHORN Fog-X. 16th Conference on Mesoscale Processes, Boston, MA, 2-6 Aug. 2015.
- Bailey, B., M. Overby, R. Stoll, E. Pardyjak, P. Willemsen, **K. Briggs**, and **D. Alexander**, Incorporating Resolved Vegetation in City-Scale Simulations of Urban Micrometeorology and Its Effect on the Energy Balance, 9th International Conference on Urban Climate – ICUC 9 and 12th Symposium on the Urban Environment, Toulouse, France, July 20-24, Contribution 810, 2015.
- Pardyjak, E., **K. Briggs**, M. Overby, **D. Alexander**, B. Bailey, R. Stoll, and P. Willemsen, Exploring the impact of alternative urban design scenarios on microclimate using QUIC-EnvSim, 9th International Conference on Urban Climate – ICUC 9 and 12th Symposium on the Urban Environment, Toulouse, France, July 20-24, Contribution 805, 2015.
- Willemsen, P., D. Schroeder, M. Overby, R. Stoll, and E. Pardyjak, Visualization and Exploration of Urban Microclimate Simulations using the QUIC EnvSim GPU Framework, 9th International Conference on Urban Climate – ICUC 9 and 12th Symposium on the Urban Environment, Toulouse, France, July 20-24, Contribution 813, 2015.
- Willemsen, P., M. Overby, **K. Briggs**, B. Bailey, **D. Alexander**, R. Stoll, and E. Pardyjak, Integration of Urban Microclimate Models using the QUIC EnvSim GPU Framework, 9th International Conference on Urban Climate – ICUC 9 and 12th Symposium on the Urban Environment, Toulouse, France, July 20-24, Contribution 802, 2015.
- Grachev, A.A., L. Leo, S. Di Sabatino, H.J.S. Fernando, E.R. Pardyjak, and C. Fairall, The turbulence structure of katabatic flows below and above wind-speed maximum, European Geosciences Union, General Assembly 2015, Vienna, Austria, EGU2015-7763.
- Pardyjak, E.R., S. Hoch, D. Jensen, **N. Gunawardena**, C. D. Whiteman, S. Di Sabatino, C. Higgins, L. Leo, and H.J.S. Fernando, Observations of the evening transition processes on opposing slopes of a north-south oriented mountain, presented at the 2014 Fall Meeting, AGU, San Francisco, Calif., 15-19 Dec. Abstract A51D-3078.
- Oldroyd, H.J., E.R. Pardyjak, C.W. Higgins, and M.B. Parlange, Evaluation and Advancement of Similarity Scalings for a Steep Alpine Slope, presented at the 2014 Fall Meeting, AGU, San Francisco, Calif., 15-19 Dec. Abstract A53O-07.
- Bailey, B., R. Stoll, N. Miller, E. Pardyjak, W. Mahaffee, Improving and validating 3D models for the leaf energy balance in canopy-scale problems with complex geometry, presented at the 2014 Fall Meeting, AGU, San Francisco, Calif., 15-19 Dec. Abstract, Abstract A41B-3029.
- Nemati Hayati, A., R. Stoll, T. Harman, E. Pardyjak, Large-eddy simulation of street canyons and urban microclimate using Uintah:MPMICE, presented at the 2014 Fall Meeting, AGU, San Francisco, Calif., 15-19 Dec., Abstract A43A-3243.
- **Hang, C.**, Pardyjak, E. R., Nadeau D. F., Jensen D.D. and Hoch S.W., Soil Moisture Dynamics and Evaporation in Arid Alpine Environments, 21st AMS Symposium on Boundary Layers and Turbulence, Leeds, UK, 9-13 June 2014, Poster 31.
- **D. Jensen**, E. R. Pardyjak and S. W. Hoch, Toward understanding surface sensible heat fluxes during transitional stability over contrasting surfaces, 21st AMS Symposium on Boundary Layers and Turbulence, Presentation, Leeds, UK, 9-13 June 2014, 13B.4.
- Pardyjak, E. R., S.W. Hoch, **D. Jensen**, **N. Gunawardena**, C. D. Whiteman, S. Di Sabatino, L.S. Leo, C. Higgins, H.J.S. Fernando, Evening transition characteristics on a slope in an arid environment, 21st AMS Symposium on Boundary Layers and Turbulence, Presentation, Leeds, UK, 9-13 June 2014, 13B.8.

- Nadeau, D., Oldroyd, H.J., E. R. Pardyjak, N. Sommer, and M. B. Parlange, Morning Transition of Steep Slope Flows in a Narrow Alpine Valley, Presentation, 21st AMS Symposium on Boundary Layers and Turbulence, Leeds, UK, 9-13 June 2014.
- Miller, N.E., B. N. Bailey, R. Stoll, W. Mahaffee, and E. R. Pardyjak, Mean and Turbulent Flow Statistics in a Trellised Agricultural Canopy, 21st AMS Symposium on Boundary Layers and Turbulence, Leeds, UK, 9-13 June 2014.
- Oldroyd, H.J., E. R. Pardyjak, H. Huwald, and M. B. Parlange, Challenges Associated with Adapting the Governing Flow Equations for Coordinate Systems Aligned with Steep Slopes, Presentation, 21st AMS Symposium on Boundary Layers and Turbulence, Leeds, UK, 9-13 June 2014.
- Hoch, S., **D. Jensen**, E. R. Pardyjak, and H. J. S. Fernando, Surface Energy Balance Observations during MATERHORN, 16th Conference on Mountain Meteorology, American Meteorological Society, San Diego, CA, 17-22 Aug 2014, Poster 56.
- **Jensen, D.**, E.R. Pardyjak and S. Hoch, Monin-Obukhov Similarity Scaling Over Contrasting Surfaces During the Morning and Evening Transition, 16th Conference on Mountain Meteorology, American Meteorological Society, San Diego, CA, 17-22 Aug 2014, 15.7.
- Massey, J. D., W. J. Steenburgh, S. W. Hoch, J. C. Kniewel, and E. R. Pardyjak, Improving boundary layer and near-surface temperature forecasts over arid mountainous regions: Results from the Materhorn field campaign, 16th Conference on Mountain Meteorology, American Meteorological Society, San Diego, CA, 17-22 Aug 2014.
- Lehner, M., C. D. Whiteman, S. W. Hoch, **D. Jensen**, E. R. Pardyjak, L. S. Leo, and S. di Sabatino, 2014: A case study of downslope flows during MATERHORN, 16th Conference on Mountain Meteorology, American Meteorological Society, San Diego, CA, 17-22 Aug 2014, Poster 31.
- Pardyjak, E.R., R. Stoll, P. Willemsen, J. Steenburgh, T. Harman, A. Kochanski, D. Johnson, B. Bailey, M. Overby, **K. Briggs, D. Alexander**, G. Torkelson, A. Nemati Hayati, A multiscale modeling framework for Green Environmental Urban Simulations for Sustainability (GEnUSiS)', ASME 2014 4th Joint US-European Fluids Engineering Division Summer Meeting, Symposium on Urban Fluid Mechanics, 3-7 Aug 2014, FEDSM2014-22134.
- Stoll, R., E. R. Pardyjak, J.-J. Kim, T. Harman, **A. Nemati Hayati**, An inter-model comparison of three computation fluid dynamics techniques for step-up and step-down street canyon flows, ASME 2014 4th Joint US-European Fluids Engineering Division Summer Meeting, Symposium on Urban Fluid Mechanics, 3-7 Aug 2014, FEDSM2014-22093.
- Overby, M., S. Halverson, B. Bailey, P. Willemsen, R. Stoll, and E. Pardyjak. QUIC EnvSim: Radiative Heat Transfer in Vegetative and Urban Environments with NVIDIA OptiX, NVIDIA GPU Technology Conference (GTC) 2014, 27 March 2014, San Jose CA.
- Leo, L.S., S. Di Sabatino, A. Grachev, H.J.S. Fernando, C. Hocut, E. Pardyjak, and **D. Jensen**, Structure and dynamics of katabatic flows: results from MATERHORN X-1, 18th Joint Conference on the Applications of Air Pollution Meteorology with the A&WMA, 92nd American Meteorological Society Annual Meeting, February 2-6, 2014, Atlanta, 15.4
- C.M. Hocut, R. Dimitrova, Z. Silver, S. Di Sabatino, L. S. Leo, S.W. Hoch, Y. Wang, E.R. Pardyjak, and H. J. S. Fernando, Slope and Valley Flow Interactions in MATERHORN-1, 18th Joint Conference on the Applications of Air Pollution Meteorology with the A&WMA, 92nd American Meteorological Society Annual Meeting, February 2-6, 2014, Atlanta, 15.5.
- Di Sabatino, S., L.S. Leo, H.J.S. Fernando, A. Grachev, R. Dimitrova, Z. Silver, R. Quarta, T. Zsedrovits, T. Pratt, Z. Lin, D. Zajic, J. C. Pace, E. Pardyjak, **D. Jensen**, and S. W. Hoch, Observations of flow and turbulence in complex terrain during evening transition, 18th Joint

Conference on the Applications of Air Pollution Meteorology with the A&WMA, 92nd American Meteorological Society Annual Meeting, February 2-6, 2014, Atlanta, 15.6.

- Overby, M., B. Bailey, R. Stoll, P. Willemssen, and E. Pardyjak, Simulating Radiative Transport for Vegetation in complex urban environments with green Infrastructure, 11th Symposium on the Urban Environment, 92nd American Meteorological Society Annual Meeting, February 2-6, 2014, Atlanta, 7.5.
- Pu, Z., H. Zhang, X. Zhang, E. Pardyjak, W.J. Steenburgh, D. Zajic, Y. Wang, S. DiSabatino, S.W. Hoch, S. F. J. De Wekker, J. Massey, M. E. Jeglum, C. D. Whiteman, and H. J. S. Fernando, Evaluation of the real-time WRF forecasts during the Mountain Terrain Atmospheric Modeling and Observations (MATERHORN) Program: Performance, comparison with observations, and further implications, 18th Joint Conference on the Applications of Air Pollution Meteorology with the A&WMA, 92nd American Meteorological Society Annual Meeting, February 2-6, 2014, Atlanta, 16.2.
- Stoll, R., E. Pardyjak, B. Bailey, **D. Alexander**, **K.A. Briggs**, A. Kochanski, J. Steenburgh, T. Harman, P. Willemssen, and M. Overby, A building and tree resolving modeling framework for simulating , momentum, energy, pollutant dispersion, and moisture budgets in complex urban canopies over a wide range of spatial scales, 11th Symposium on the Urban Environment, 92nd American Meteorological Society Annual Meeting, February 2-6, 2014, Atlanta, 11.3.
- Kochanski, A.K., E.R. Pardyjak, W.J. Steenburgh, R. Stoll, and A. Gowardhan, Simulation of urban dispersion using a fast response building resolving model coupled with WRF, 11th Symposium on the Urban Environment, 92nd American Meteorological Society Annual Meeting, February 2-6, 2014, Atlanta, 11.5.
- **Alexander, D.C.**, N. Shingleton, **K.A. Briggs**, M. Overby, J. Clark, S. Halverson, E. R. Pardyjak, P. Willemssen, and R. Stoll, Development and Testing of a Spatially Resolved Urban Land Surface Model Utilizing Parallel Computing on Graphics Processing Units (GPUs), 11th Symposium on the Urban Environment, 92nd American Meteorological Society Annual Meeting, February 2-6, 2014, Atlanta, 291.
- **K.A. Briggs**, M. Overby, **D.C. Alexander**, R. Stoll, P. Willemssen, and E. R. Pardyjak, Evaluation of moisture and heat transport in the building-resolving urban transport code QUIC EnviSim, 11th Symposium on the Urban Environment, 92nd American Meteorological Society Annual Meeting, February 2-6, 2014, Atlanta, 7.6.
- Kulandaivelu, V., **D.D. Jensen**, S. Hoch, and E.R. Pardyjak, Evaluation of turbulence budget terms and the spectra using highly resolved hot and cold wire measurements over a desert playa, 18th Joint Conference on the Applications of Air Pollution Meteorology with the A&WMA, 92nd American Meteorological Society Annual Meeting, February 2-6, 2014, Atlanta, 15.2.
- Pardyjak, E., S.W. Hoch, **D.D. Jensen**, N. Gunawardena, S. Di Sabatino, C.D. Whiteman, L. Leo, C.M. Hocut, C.W. Higgins, and H.J. Fernando (2013). The effect of shadow fronts on dynamics of the surface layer during evening transitions. Abstract A14D-03, presented at the 2013 Fall Meeting, AGU, San Francisco, Calif., 9-13 Dec.
- Fernando, H.J., E. Pardyjak, J. Hacker; S. De Wekker, F. K. Chow, and Y. Wang (2013). The Mountain Terrain Atmospheric Modeling and Observations (MATERHORN) Program: An Overview. Abstract A14D-02, presented at the 2013 Fall Meeting, AGU, San Francisco, Calif., 9-13 Dec.
- Higgins, C.W., S.W. Hoch, and E. Pardyjak (2013). The Temperature Gradient and Transition Timescales as a Function of Topography in Complex Terrain. Abstract A14D-07, presented at the 2013 Fall Meeting, AGU, San Francisco, Calif., 9-13 Dec.

- Oldroyd, H.J., G.G. Katul, E. Pardyjak, H. Huwald, and Marc B. Parlange (2013). Katabatic flows over steep alpine slopes covered with short vegetation. Abstract A11F-0123, presented at the 2013 Fall Meeting, AGU, San Francisco, Calif., 9-13 Dec.
- **Jensen, D.D.** and E. Pardyjak (2013). Assessing the validity of Monin-Obukhov Similarity Theory over mountainous desert terrain. Abstract A11F-0120, presented at the 2013 Fall Meeting, AGU, San Francisco, Calif., 9-13 Dec.
- Pardyjak, E., S. Hoch, **D. Jensen, N. Gunawardena**, S. Di Sabatino, C. D. Whiteman, C. Higgins, L.S. Leo, C. Hocut, and H.J.S. Fernando (2013). First observations of the effects of shadow fronts on surface layer dynamics during morning and evening transitions: MATERHORN-X Fall, Davos Atmosphere and Cryosphere Assembly 2013 Air, Ice & Process Interactions, July 8-12, 2013, Davos, Switzerland, Abstract 1080.
- Hocut, C., R. Dimitrova, Z. Silver, S. Di Sabatino, L.S. Leo, S. Hoch, Y. Wang, E. Pardyjak, H.J.S. Fernando (2013). Slope and valley flow interactions in MATERHORN-1, Davos Atmosphere and Cryosphere Assembly 2013 Air, Ice & Process Interactions, July 8-12, 2013, Davos, Switzerland, Abstract 1258.
- Leo, L.S., S. Di Sabatino, A.A. Grachev, C.M. Hocut, H.J.S. Fernando, E.R. Pardyjak, **D. Jensen**, S.W. Hoch, C.D. Whiteman (2013). Spatial and Temporal Evolution of katabatic flows in MATERHORN 1, Davos Atmosphere and Cryosphere Assembly 2013 Air, Ice & Process Interactions, July 8-12, 2013, Davos, Switzerland, Abstract 1230.
- Oldroyd, H., E.R. Pardyjak, M. Calaf, H. Huwald, M.B. Parlange (2013). Katabatic flow and nocturnal turbulence observations over a steep alpine slope, Davos Atmosphere and Cryosphere Assembly 2013 Air, Ice & Process Interactions, July 8-12, 2013, Davos, Switzerland, Abstract 1008.
- **Jensen, D.** and E.R. Pardyjak (2013) Assessing the validity of Monin-Obukhov Similarity Theory over mountainous desert terrain, Davos Atmosphere and Cryosphere Assembly 2013 Air, Ice & Process Interactions, July 8-12, 2013, Davos, Switzerland, Abstract 333.
- Overby, M.C., B. Bailey, R. Stoll, P. Willemsen, and E. Pardyjak, 2013. A highly scalable modeling framework based on GPU technology for simulating radiative transport in complex urban and plant canopies, 98th Ecological Society of America Annual Meeting, 4-9 August 2013, Minneapolis, MN, Abstract #44420.
- Overby, M.C., B. Bailey, **K. Briggs**, A. Vegesna, E. Pardyjak, R. Stoll, and P. Willemsen, 2013. Modeling Vegetative Heat Transfer in Urban Environments with OptiX. GPU Technology Conference, 18-21 March 2013, San Jose, CA.
- Blay-Carreras, E., E.R. Pardyjak, and D. Pino, 2013. An investigation of the failure of flux gradient theory during the evening transition period, European Geosciences Union, General Assembly 2013, Vienna, Austria. EGU2013-914.
- Fernando, H., E. Pardyjak, D. Zajic, S. De Wekker, and J. Pace, 2012. The Mountain Terrain Atmospheric Modeling and Observations (MATERHORN) Program: The First Field Experiment (MATERHORN-X1) (Invited, presentation given by Pardyjak). Abstract A12D-0, presented at 2012 Fall Meeting, AGU, San Francisco, Calif., 3-7 Dec.
- Oldroyd, H.J., E. Pardyjak, M. Calaf, D.F. Nadeau, M. Hultmark, and M.B. Parlange, Steep slope flow observations during the morning transition in a narrow alpine valley. Abstract A13C-0243, presented at 2012 Fall Meeting, AGU, San Francisco, Calif., 3-7 Dec.
- Stoll, R., B.N. Bailey, E. Pardyjak, P. Willemsen, and M. Overby. A building and tree resolving modeling framework for simulating momentum, energy, and moisture budgets in complex urban canopies over a wide range of scales. Abstract H23G-07, presented at 2012 Fall Meeting, AGU, San Francisco, Calif., 3-7 Dec.

- Kochanski, A., E.R. Pardyjak, W.J. Steenburg, J.R. Stoll, and A. Gowardhan, 2012. Toward the Development of a Coupled WRF-QUIC Urban Modeling System, 8th International Conference on Urban Climate – ICUC 8 and 10th Symposium on the Urban Environment, 6-10 August 2012 - Dublin, Ireland.
- Willemsen, P., S. Halverson, D. Alexander, J. Clark, E.R. Pardyjak, 2012. Radiative Heat Transfer in Urban Environments using Real-Time Ray Tracing, 8th International Conference on Urban Climate – ICUC 8 and 10th Symposium on the Urban Environment, 6-10 August 2012 - Dublin, Ireland.
- **Addepalli, B.**, E.R. Pardyjak, P. Willemsen, D. Johnson, A. Vegesna, 2012. GPU-MCDM: A New Module of the Quick Urban and Industrial Complex (QUIC) Dispersion Modeling System for Urban Form Optimization, 8th International Conference on Urban Climate – ICUC 8 and 10th Symposium on the Urban Environment, 6-10 August 2012 - Dublin, Ireland.
- Pardyjak, E.R., P. Willemsen, R. Stoll, **B. Addepalli**, S. Halverson, **D. Alexander**, D. Johnson, J. Steenburgh, A. Kochanski, T. Harman, B. Bailey, 2012. Development of Tools for Studying the Impact of Green Infrastructure on Urban Microclimate and Air Quality, 8th International Conference on Urban Climate – ICUC 8 and 10th Symposium on the Urban Environment, 6-10 August 2012 - Dublin, Ireland.
- **Price, T.**, E. Pardyjak, J. Veranth, and S. Moran, 2012. Toward understanding the role of turbulence in enhancing particle deposition onto vegetation. AAAR 31th Annual Conference Minneapolis, Minnesota, USA, October 8-12, 2012, Paper Number: 10.AP.3.
- Garai, A., J. Kleissl, M. Lothon, F. Lohou, E. Pardyjak, F. Saïd, J. Cuxart, G. J. Steeneveld, C. Yagüe, S. Derrien, D. Alexander, and D. M. Villagrasa, High frequency ground temperature fluctuation in a Convective Boundary Layer. 20th Symposium on Boundary Layers and Turbulence, 9-13 July 2012, Westin Copley Place, Boston, MA.
- Pardyjak, E.R., D. Nadeau, C. Higgins, H. Huwald, and M. B. Parlange, 2012. Developing an improved understanding of steep slope evening transition processes. 92nd American Meteorological Society Annual Meeting, January 22-26, 2012, New Orleans, 11.6.
- Pardyjak, E.R., **D. Alexander**, M. Lothon, F. Lohou, S. Derrien; J. Reuder, D. Legain, O. Traulle, H. Pietersen, O. Decoster, G. Canut, C. Darbieu, A. Garai, E. Pique, 2011: First results from the surface heterogeneity focus area of the Boundary Layer Late Afternoon and Sunset Turbulence (BLLAST) Experiment, Abstract A41A-0034, presented at 2011 Fall Meeting, AGU, San Francisco, Calif., 5-9 Dec.
- **Alexander, D.**, E.R. Pardyjak, M. Lothon, F. Lohou, S. Derrien; J. Reuder; D. Legain; O. Traulle, H. Pietersen, O. Decoster, G. Canut, C. Darbieu, A. Garai, E. Pique, 2011: Investigation of the decay of turbulence over a forest during the Boundary Layer Late Afternoon and Sunset Turbulence (BLLAST) Experiment, Abstract A53D-07, presented at 2011 Fall Meeting, AGU, San Francisco, Calif., 5-9 Dec.
- Dennison, P.E., Y. Qi, A.K. Thorpe, E. Pardyjak, D.A. Roberts; E.S. Bradley, C.C. Funk, 2011: High Spatial Resolution Mapping of Power Plant Carbon Dioxide Plumes Using Imaging Spectrometer Data, Abstract A41H-05, presented at 2011 Fall Meeting, AGU, San Francisco, Calif., 5-9 Dec.
- Higgins, C.W., E. Pardyjak, M. Froidevaux; V.B. Simeonov; M.B. Parlange, 2011: Estimating advection for water vapor transport and the surface energy balance, Abstract H43L-08, presented at 2011 Fall Meeting, AGU, San Francisco, Calif., 5-9 Dec.
- Retallack, C., H. Fernando, E. Pardyjak, S. De Wekker, and J.C. Pace, 2011: The MATERHORN Experiment, Abstract A51C-02, presented at 2011 Fall Meeting, AGU, San Francisco, Calif., 5-9 Dec.

- Parlange, M.B., D.F. Nadeau, E. Pardyjak, H.J. Oldroyd, M. Calaf Bracons, M.H. Daniels, C.W. Higgins, and H. Huwald, 2011: Flow during the evening transition over steep alpine slopes (Invited), Abstract A52B-07, presented at 2011 Fall Meeting, AGU, San Francisco, Calif., 5-9 Dec.
- Lothon, M., F. Lohou, P. Durand, F. Couvreux, D. Legain, E. Pardyjak, J. Vilà-Guerau de Arellano, J. Reuder, D. Pino, P. Augustin, T. Aschenbrenner, A. van de Boer, J. Cuxart, A. Dabas, L. Fleury, F. Gibert, B. Gioli, O. Hartogensis, A. von den Kroonenberg, Y. Seity, and the BLLAST participants Team, 2011: The Boundary Layer Late Afternoon and Sunset Turbulence 2011 Field Experiment, 11th EMS Annual Meeting, 12-16 September, Berlin, Germany, EMS2011-612.
- Higgins, C.W., T. Mimouni, D.F. Nadeau, E. Pardyjak, and M.B. Parlange, 2010: The Effect of Energy Flux Partitioning on the Atmospheric Boundary Layer Height, 2010 AGU Fall Meeting, 13–17 December, San Francisco, CA, H21J-03
- Nadeau, D.F., E. Pardyjak, C.W. Higgins, H. Huwald, F. Baerenbold, and M.B. Parlange, 2010: Thermal circulation patterns and turbulent fluxes along steep mountain slopes, 2010 AGU Fall Meeting, 13–17 December, San Francisco, CA, H21J-07
- Daniels, M.H., E. Pardyjak, W.H. Brutsaert, R. Mage, and M.B. Parlange, 2010: Understanding the coupled surface energy flux-valley wind system using observations in an alpine valley, 2010 AGU Fall Meeting, 13–17 December, San Francisco, CA, H31B-1014 Poster
- Van de Giesen, N., F. Baerenbold, D.F. Nadeau, E. Pardyjak, and M.B. Parlange, 2010: Distributed landsurface skin temperature sensing in Swiss Alps, 2010 AGU Fall Meeting, 13–17 December, San Francisco, CA, H11A-0790 Poster
- Nadeau, D., E.R. Pardyjak (presenter), C. Higgins, and M. B. Parlange, 2010: Modeling the decay of the convective boundary layer over heterogeneous terrain, 9th Symposium on Boundary Layers and Turbulence, Keystone, CO, 1-6 August 2010, 10A.4
- **Allen, C.,** J. Clark, E. Pardyjak, and P. Willemsen, 2010: Development of a fast-response building-resolving urban energy model, Amer. Meteor. Soc., Ninth Symposium on the Urban Environment, Keystone, CO, 1-6 August 2010, J4C.3
- **Addepelli, B.,** E. Pardyjak, P. Willemsen, and D. Johnson, 2010: Urban Form Optimization for Air Quality Applications using Simulated Annealing and Genetic Algorithms, Amer. Meteor. Soc., Ninth Symposium on the Urban Environment, Keystone, CO, 1-6 August 2010.
- Jeyachandran, I., Burian, S.J., Pardyjak, E.R., Pomeroy, C.A., and Skousen, B., 2010: Impact of green infrastructure on urban energy fluxes and microclimate. EWRI 2010 International conference on Water Resources and Environment, Jan 5- Jan 7, Chennai, India
- H. Holmes, S. Speckart and E. Pardyjak 2010: Investigation of the Relationship Between Time Resolved Indoor and Outdoor Particulate Matter Concentrations Across the Urban Area of Nogales, Sonora, Mexico. AAAR 2010 Specialty Conference: Air Pollution and Health , 2D.5, San Diego, CA 22-26 March 2010.
- J. Veranth, **S. Speckart, B. Addepelli,** and E. Pardyjak, 2010: Development of windbreak dust control models for roadway fugitive dust mitigation and transport flux, AAAR 29th Annual Conference, Portland, OR, 25-29 October 2010. Paper Number: 8.B.16
- J. Clark, A. Larson, P. Willemsen, and E. Pardyjak, 2009: Particle Dispersion Modeling and Visualization in Urban Environments Using CUDA, NVIDIA GPU Technology Conference, Sept 30-Oct 2, 2009 – San Jose, CA.
- Pardyjak, E.R., P. Willemsen and D. E. Johnson, 2009: Optimization of urban designs for air quality and energy efficiency, Amer. Meteor. Soc., Eighth Symposium on the Urban Environment, Phoenix, AZ, 10-16 January 2009.

- Pardyjak, E.R., U.N. **Amatul**, M. A. Nelson, and M. J. Brown, 2009: Development of a vegetation deposition model for a fast response urban Lagrangian dispersion model, Amer. Meteor. Soc., Eighth Symposium on the Urban Environment, Phoenix, AZ, 10-16 January 2009.
- Christen A., C.S.B. Grimmond, M. Roth, E. Pardyjak, 2009: The IAUC Urban Flux Network - An international network of micrometeorological flux towers in urban ecosystems, Eos Trans. AGU, 90(52), San Francisco, CA, Fall Meet. Suppl., Abstract B31C-06.
- Jeyachandran, I., Burian, S.J., and Pardyjak, E.R., 2009: Cascading effects of landscape modification on microclimate, energy and water usage. AWRA 2009 Spring Specialty conference, May 4- May 6, Anchorage, AK.
- Jeyachandran, I., Burian, S.J., Augustus, N., Pardyjak, E.R., Ramamurthy, P., and Forster, C., 2008: Urban landscape and climate influences on urban water cycle. AWRA Annual Water Resources Conference, Nov 17 – Nov 20, New Orleans , LA.
- Jeyachandran, I., Burian, S.J., and Pardyjak, E.R., 2008: Effects of urbanization on interconnected water cycle, microclimate and energy usage in semi-arid regions. AGU fall conference, Dec 15- Dec 19, San Francisco, CA.
- Dwyer, T., Farley-Chrust, M.; McMurtry, P., and Pardyjak, E., 2007: Siting Wind Farms in Complex Terrain: Spanish Fork Canyon a Case Study, Conferencia Internacional de energía renovable, ahorro de energía y educación energética, May 23, 2007 Havana, Cuba.
- **Holmes, H.A.**, B.J. Tyler, R.E. Peterson, E.R. Pardyjak, 2007: Surface Chemistry Analysis of Urban and Rural Aerosols During a Night-time High PM Burning Event in Yuma, AZ. American Association for Aerosol Research 26th Annual Meeting, Reno, NV, 24-28 September 2007. Abstract 17E.1.
- Veranth, J., **S. Speckart**, E. Pardyjak, Experimental and modeling study of particle deposition near roads. American Association for Aerosol Research 26th Annual Meeting, Reno, NV, 24-28 September 2007. Abstract 11G.8.
- **Addepalli, B.**, M. J. Brown, E. R. Pardyjak, and I. Senocak, 2007: Investigation of the Flow Structure around Step-Up, Step-Down, Deep Canyon and Isolated Tall Building Configurations using Wind-Tunnel PIV Measurements, Seventh Symposium on the Urban Environment, San Diego, CA, 10-13 September 2007, Poster P1.19.
- **Gowardhan, A.**, E. Pardyjak, I. Senocak, and M. Brown, 2007: An investigation of thermal effects on flow and dispersion in an idealized urban area using LES , Seventh Symposium on the Urban Environment, San Diego, CA, 10-13 September 2007, P1.11.
- Pataki, D. E.; Dudley-Murphy, E. A.; Emmi, P. C.; Forster, C. B.; Mills, J. I.; Pardyjak, E. R.; Peterson, T. R., 2007: Improving fossil fuel emissions scenarios with urban ecosystem studies: A case study in the Salt Lake-Ogden metropolitan region. 2006 AGU Fall Meeting, San Francisco, CA, 11-15 December 2006.
- Pardyjak, E.R., D.E. Pataki, **P. Ramamurthy, J. Kiran**, Measurements of trace-gas fluxes and the surface energy budget in the semi-arid urban Salt Lake Valley, Utah, U.S.A. First International Conference on Carbon Management at Urban and Regional Levels: Connecting Development Decisions to Global Issues, Mexico City, September 4-8, 2006.
- **Addepalli, B.** and Pardyjak, E.R., 2006: Experimental Investigation of the Effect of Reynolds Number and H / δ Value on Flow Fields in Street Canyons with Cubical Buildings, American Physical Society, 59th Annual Meeting of the APS Division of Fluid Dynamics, Chicago, IL, November 19-21, 2006, abstract #HG.003

- **Addepalli, B.** and E.R. Pardyjak, 2005: 2D PIV Measurements of flow between a pair of model buildings with varying geometries, American Physical Society, 58th Annual Meeting of the APS Division of Fluid Dynamics, Tampa Bay, FL, November 19-21, 2006, abstract #HG.003.
- **Speckart, S.**, E.R. Pardyjak and J. Veranth. Assessment of Windbreaks as a Dust Control Strategy in Arid Climates. The 2006 SCERP Annual Technical Conference, San Diego, CA January 17, 2006.
- Veranth, J., **S. Speckart**, E. Pardyjak, V. Etyemezian, Experimental and numerical studies of near source fugitive dust transport, American Association for Aerosol Research, 2005 Annual Conference, Austin, Texas October 17 - 21, 2005.
- Veranth, J.M., E.R. Pardyjak, **S. Speckart**, K. Perry, J. Chow, J. Watson, V. Etyemezian COMPUTATIONAL MODELING OF NEAR-SOURCE DEPOSITION OF FUGITIVE DUST ON VEGETATIVE SURFACES Air and Waste Management Association meeting, June 2005.
- Pataki, D.E., J.R. Ehleringer, C.B. Forster, J.C. Klewicki, E.R. Pardyjak, R.E. Peterson, W. J. Steenburgh, B. J. Tyler, Understanding urban atmospheric CO₂: Challenges and opportunities. 2004 AGU Fall Meeting, San Francisco, CA, 13-17 December 2004.
- Kastner-Klein, P., E.R. Pardyjak, **A. Gowardhan**, M.J. Brown. Evaluation of the fast response model QWIC-URB based on wind tunnel flow measurements idealized street canyons. 11th *International Conference on Wind Engineering*, Lubbock, TX June 2003.
- M.E. Tuohig, J.P. Mattson, E.R. Pardyjak, J.C. Martin 2003: A linear damper model does not fully predict passive muscle work during cyclic length change. Presented at the 50th *annual meeting of the American College of Sports Medicine*, San Francisco CA.
- Pardyjak, E.R. Decay of Turbulence in the Atmospheric Surface Layer During Evening Transition. *Ninth Annual Workshop on Weather Prediction in the Intermountain West*, Salt Lake City, UT 2002.
- Pardyjak, E.R., P. Monti, and H.J.S. Fernando. Mixing Efficiency Parameterization During Stable Periods in Complex Terrain, Seventeenth Arizona Fluids Conference, Tucson, AZ. February, 2001.
- Fernando, H.J.S, J.C.R. Hunt, and E.R. Pardyjak. Thermal Circulation in Complex Terrain, International Symposium of Stratified Flows - British Columbia, CA. June, 2000.
- Pardyjak, E.R., H.J.S. Fernando, G. Wang, J. Anderson, N.S. Berman. Breakdown of Complex Terrain Atmospheric Boundary Layers, Fifty-Second Annual Meeting, American Physical Society, Division of Fluid Dynamics, November 21-23, 1999. New Orleans, LA.
- Pardyjak, M. Brown, D. Decroix and H.J.S. Fernando, Development of a Counter Gradient Transport Model for HOTMAC, 1999 SCERP Technical Conference, November 18, 1999. Las Cruces, NM.
- Yu, F., N.S. Berman, H.J.S. Fernando, E. Pardyjak, and A. Mahalov. Stable Nocturnal Vertical Structure of the Atmospheric Boundary Layer in Phoenix, Fifteenth Arizona Fluid Mechanics Conference, April 23, 1999, Tucson, AZ.
- Pardyjak, E.R., A.A. Grachev, H.J.S. Fernando, J.C.R. Hunt, N.S. Berman, J.R. Anderson, M.L. Hildebrandt, and D.S. McGuinness. Structure of the Atmospheric Boundary Layer Over the Complex Terrain of Phoenix: In Site Measurements during PAFEX-I, Fourteenth Arizona Fluid Mechanics Conference, March 27-28, 1998, Tempe, AZ.
- Grachev, A.A., E.R. Pardyjak, H.J.S. Fernando, J.C.R. Hunt. Some Observations of the Atmospheric Nocturnal Boundary Layer Over Complex Terrain, Fourteenth Arizona Fluid Mechanics Conference March 27-28, 1998, Tempe, AZ.
- Mahalov, A., N.S. Berman, H.J.S. Fernando, F. Yu, E.R. Pardyjak, Stable Layers in the Atmospheric Boundary Layer. *Bulletin of the American Physical Society*. 51st Annual Meeting of the Division of Fluid Mechanics. November 22-24, 1998. Philadelphia, PA. November 1998. Volume 43, No.9.

Other Publications

- Streit, G.E., M.J. Brown, M.D. Williams, and E.R. Pardyjak, Urban Dispersion Studies for Determination of the Sensor Upwind Area of Influence, LA-CP-00-219. 2000.
- Fernando, H.J.S., Pardyjak, E. and Hunt J.C.R., PAFEX: A Joint Arizona State University/Arizona Department of Environmental Quality Study of Meteorology and Air Quality in the Phoenix Valley, *MAE Newsletter*, 1998.

Teaching Experience (All classes taught at the University of Utah)

- Environmental Instrumentation (co-taught with ATMOS SCI): Spring 2012
- Thermal Systems Design: Spring 2008, Fall 2008
- Intermediate Fluid Mechanics: Fall 2005, 2006, 2007, 2020, 2022
- Environmental Fluid Dynamics: Fall 2002, 2004, Spring 2007, 2009, 2011, 2013, 2015, 2019, 2021,2023
- Design of Complex Cont. Systems/Complex Continuum Phenomena: Fall 2004
- Introduction to Numerical Methods: Spring 2002, 2003, 2004, 2006
- Numerical Methods for Engineering Systems (ME2450): 2014, 2016, 2018
- Introduction to Sustainable Energy Systems Design I (Numerical Methods): Fall 2010, 2011
- Undergraduate Fluid Mechanics: 2001, 2003, 2012, 2019, Spring 2020, Fall 2022
- Undergraduate Heat Transfer: Fall 2013, Fall 2015, Fall 2021
- Advanced Convective Heat Transfer: Fall 2017
- GEO 5650/6650 Hydrology and Water Resources (team taught, my section has been evaporation processes): 2018, 2019, 2021

Guest Lectures in classes around the University of Utah campus including Civil and Environmental Engineering, Atmospheric Sciences, and Architecture and Urban-Planning.

Senior Design Project Advisor

- Assistant Faculty advisor for UofU solar vehicle team (Spring 2003)
- Advisor for UofU Modular Test-Bed Wind Turbine (2004-2005)
- Advisor for UofU Modular Test-Bed Wind Turbine (2005-2006)
- Advisor for UofU Modular Test-Bed Wind Turbine (2006-2007)
- Advisor for Tornado Machine project (2006-2007)
- Advisor for Boulder Kinetics human powered vehicle (2007-2008)
- Advisor Tiny Turbine team I (2008-2009)
- Advisor Tiny Turbine team II (2008-2009)
- Advisor FSAE Supercharger team (2008-2009)
- Co-Advisor Chimp Grip Strength team (2008-2009)
- Advisor MASS – tethered balloon sensors (2012-2013)
- Advisor Snow Depth Sensor (2014-2015)
- Fountain Water Flow Dynamics Study (2016-2017)
- Incendiary Wind Tunnel Phase I (2017-2018)
- Incendiary Wind Tunnel Phase II (2018-2019)
- UAV Infrared Imaging System (2019-2020)
- Educational Avalanche Board (2020-2021)
- Fog Measurement Probe Mount and Calibration Unit (2021-2022)

New Course/Curriculum Development

Environmental Fluid Dynamics (EFD) Graduate Track – This highly interdisciplinary track builds on existing collaborations across the department, college and university such as the Center for Sustainability and the Global Change and Ecosystems Center. The program is designed to provide an academic infrastructure to help develop a nationally recognized program in EFD through improved recruiting and the promotion of interdisciplinary research. The program will be composed of three course areas: (1) traditional thermal-fluid sciences taught in mechanical engineering, (2) applied mathematics and (3) environmental science. The tracks will allow students to take courses from traditionally non-ME courses without having special approval.

Undergraduate “Spiral” Curriculum – Worked with colleagues Roemer, Bamburg and Mascaro to develop the sophomore level “Introduction to Sustainable Energy Systems Design I” class that is part of a new two year Mechanical Engineering sequence at the University of Utah. This project was part of an NSF CCLI grant.

Fluid Mechanics Curriculum – Working with M. Metzger and P. McMurtry significant changes have been implemented into the undergraduate and graduate fluid mechanics curriculum. This includes removing out of date classes and replacing them with classes that more appropriately fit the needs of the undergraduate and graduate students. As part of this work, for the first time during the Fall 2005 semester, I developed the lectures and taught the new graduate level Intermediate Fluid Dynamics. The class has now been taught successfully three times.

Environmental Fluid Dynamics – the purpose of this class was to fill a void in the fluid mechanics curriculum that focused on length and time scales ranging from traditional micrometeorological scales to scales associated with classical engineering fluid mechanics. This class was taught for the first time in the Fall 2002 and then in Fall 2005, Spring 2007. The class typically has had predominate graduate student enrollment from mechanical and chemical engineering as well as meteorology. The class is now a regularly taught upper-level graduate fluid mechanic’s class.

Department, College and University Service Activities

Department

- Mech. Engineering RPT chair (8/2022 – present)
- Mech. Engineering Thermal-Fluids Energy Systems (TFES) Division Chair (8/16-8/21, 8/11-8/16, 09/08-05/09)
- Mech. Engineering Executive Committee (8/11-8/21, 09/08-05/09)
- Mech. Engineering Department Search Committees (2001-2002, 2007-2008, 2010-2011, 2011-2012, 2017-2018, 2019-present)
- Awards Committee (2018-Present)
- Mechanical Engineering Graduate Committee (2011-2107, 8/05-05/09)
- Mechanical Engineering Director of Graduate Studies (8/10-7/11)
- External Relations Committee – Department of Mech. Engineering (10/01-05/09, Chair 9/07-9/08, Chair 2014-2016)
- ME Department Seminar Committee (09/06-05/08, Chair 09/07-05/08)
- ME Department Dynamics Faculty Search Committee (2001-2002)

College

- College of Engineering RPT Committee (2018-2021, chair 2019-2020)
- University of Utah College Council member (2004 – 2007, 2018-present)
- Excellence in Teaching Committee, College of Engineering (2011-2012)
- Environmental Engineering Graduate Program Executive Council (2002-2009)

University

- VP for research ad-hoc committee, Field Station Task Force (2018)
- Seed Grant Committee (2014-2018)
- Internal reviewer for the Graduate Council review of the Geology & Geophysics Department (2017)
- Global Change and Sustainability Center, Executive committee member (2013-2015)
- Global Change and Ecosystem Center, Seminar Committee Chair (2011)
- Global Change and Ecosystem Center, Department Representative (2010-2015)
- Global Change and Ecosystem Center, Graduate Fellowship Committee (2011)
- Sustainable Campus Initiative Fund (SCIF) Allocation Committee – Faculty representative (2011-2014)
- University Research Committee – (08/03-05/09)

Professional External Service

- Associate Editor - *Environmental Fluid Mechanics* (2017-present)
- Journal Editorial Board Member – *Measurement Science & Technology*, Section Leader - Measurements for the environment (2011-present).
- Session Chair 2023 Annual AMS Meeting.
- Special Issue Guest Editor, *Quarterly Journal of the Royal Meteorological Society*: FATIMA Marine fog and turbulence (2023-present).
- Co-organizing Chair for the Meteorology and Climate - Modeling for Air Quality Conference (MAC-MAQ 2021), 15-17 September 2021, Davis, Sacramento, California.
- Session Co-convener and Chair, Session A33R, Observations, Modeling, and Forecasting of Coastal Fog Processes Posters, Annual AGU Fall Meeting (2019)
- Organizing Committee and session chair for the Meteorology and Climate - Modeling for Air Quality Conference (MAC-MAQ 2019), 11-13 September 2019, Davis, Sacramento, California.
- Member of the NCAR (National Center for Atmospheric Research) Observing Facilities Assessment Panel (OFAP) (2015-2017) – this panel monitors NSF-sponsored observing facilities at NCAR and other institutions that manage and operate the NSF’s Lower Atmosphere Observing Facilities (LAOF).
- Organizing Committee and session chair for the Modeling for Air Quality Conference (MAC-MAQ 2017) September 2017, Davis, California.
- Co-chair, Organizing committee for 22nd Boundary Layer Turbulence Conference, June 2016, Salt Lake City, UT (2015-2016).
- Special Issue Guest Editor, *ACP/AMT Inter-Journal SI*: The Boundary-Layer Late Afternoon and Sunset Turbulence (BLLAST) project (2013-2016).
- Special Issue Guest Editor, *Environmental Fluid Mechanics*: Special issue on complex terrain flows, with special emphasis on the MATERHORN program (2016-2019).
- Journal Editorial Board Member – *Datasets International: Dataset Papers in Atmospheric Sciences* (2012-2017).
- Regular *ad hoc* journal Guest Editor, *ACP/AMT Inter-Journal SI* (2013-2014).

- Session Co-convener and Chair, Session A530, Observations, Predictions, and Predictability of the Atmosphere Over Complex Terrain, Annual AGU Fall Meeting (2017)
- Session Co-convener and Chair, Session ID # 8181, Section: Atmospheric Sciences, Atmospheric Flows Over Complex Terrain, Annual AGU Fall Meeting (2015)
- Session Co-convener and Chair, Session A530, Observations, Predictions, and Predictability of the Atmosphere Over Complex Terrain, Annual AGU Fall Meeting (2014)
- Session Co-convener and Chair, Session A058. Research on Improving Weather Prediction for Mountain Terrain, Annual AGU Fall Meeting (2013)
- Session Co-convener and Chair, Session H004. Advances in spatial scaling of hydrological and biogeochemical processes, Annual AGU Fall Meeting (2013)
- Session Chair, DACA 2013, Davos, Switzerland
- Session Chair, Evaluation Studies and Applications, 92 Annual Meeting of the American Meteorological Society, 17th Conference on Air Pollution Meteorology with the A&WMA, New Orleans (2012)
- Session Chair 2007 Division of Fluid Mechanics American Physical Society annual conference in Salt Lake City, UT
- Session Co-Chair, *Urban Turbulence and Boundary Layers*, American Meteorological Society, San Diego, Seventh Symposium on the Urban Environment (2007)
- Co-Chair of the Organizing Committee for the 2007 Division of Fluid Mechanics American Physical Society annual conference in Salt Lake City, UT
- Chair of the Program Committee for the 2007 Division of Fluid Mechanics American Physical Society annual conference in Salt Lake City, UT
- Co-Organized QUIC Dispersion Modeling Conferences at the University of Utah 2003-2006. Participants included researchers and students from the University of Utah, Arizona State University, University of Oklahoma, University of California-Riverside and Los Alamos National Lab (2003-2006)
- Session Co-Chair American Meteorological Society, Vancouver, Fifth Symposium on the Urban Environment (2004)

Outreach Activities

- Wildfire outreach presentations and lab demonstrations – Atmospheric Sciences outreach day (2019)
- UofU College of Engineering MESA (Mathematics, Engineering, Science Achievement) – demonstrations in lab for 9-12 graders (2017)
- University of Utah – HiGear summer program participation (2013)
- University of Minnesota – Duluth Bridges to Baccalaureate Degree Program (2008, 2009, 2012, 2013)
- Judge for Intermountain Junior Science and Humanities Symposium (2002-2008)

Journal Reviewer

- | | |
|---|--|
| • Advances in Science and Research | • Building Simulation |
| • Atmosphere | • Civil Engineering and Environmental Systems |
| • Atmospheric Chemistry and Physics | • Environmental Fluid Mechanics |
| • Atmospheric Environment | • Experiments in Fluids |
| • Boundary-Layer Meteorology | • Global Change Biology |
| • British Journal of Environment and Climate Change | • International Journal of Climatology |
| • Building Research & Information | • International Journal of Heat and Fluid Flow |

- Journal of Applied Meteorology and Climatology
- Journal of the Air & Waste Management Association
- Journal of Geophysical Research
- Journal of Fluids Engineering
- Journal of Hydrology
- Journal of Solar Energy Engineering
- Land
- Measurement Science & Technology
- Quarterly Journal of the Royal Met. Soc.
- Science of the Total Environment
- Transportation Research Part D: Transport and Environment
- Urban Climate

Grant Reviewer

- National Science Foundation (NSF)
- European Research Commission (ERC)
- Swiss National Science Foundation (SNSF)
- Natural Sciences and Engineering Research Council of Canada (NSERC)
- German National Aerospace Agency (DLR)
- French national science foundation (INRS)
- Austrian national science foundation

Professional Registrations and Affiliations

- American Geophysical Union (Member)
- American Society of Mechanical Engineers (Fellow)
- American Meteorological Society (Member)
- American Physical Society (Member)
- American Society for Engineering Education (Member)