Curriculum Vitae

11 March 2024

Manuela Lehner

University of Innsbruck
Department of Atmospheric and Cryospheric Sciences
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Degrees

2023	**Habilitation** Venia docendi for the subject "Atmosphärenwissenschaften", University of Innsbruck
2012	**Ph.D.** in Atmospheric Sciences University of Utah, Department of Atmospheric Sciences
2008	**Mag.rer.nat. (MS)** in Meteorology and Geophysics University of Innsbruck, Department of Meteorology and Geophysics

Professional appointments

2023–present	**Senior scientist** University of Innsbruck, Department of Atmospheric and Cryospheric Sciences
2016–2023	**Postdoctoral researcher** University of Innsbruck, Department of Atmospheric and Cryospheric Sciences
2016–2024	**Adjunct assistant professor** University of Utah, Department of Atmospheric Sciences
2015–2016	**Research assistant professor** University of Utah, Department of Atmospheric Sciences
2013–2015	**Postdoctoral research associate** University of Utah, Department of Atmospheric Sciences

Visiting scientist

2013, 2014 National Center for Atmospheric Research (4 weeks)

Grants and fellowships

2020–2024 **Austrian Science Fund FWF—Elise-Richter program**
Turbulent exchange in the stable mountain boundary layer (TExSMBL)
University of Innsbruck; EUR 273,346.50

2019–2023 **EGTC European Region Tyrol-South Tyrol-Trentino/Austrian Science Fund (FWF)**
Atmospheric boundary-layer modeling over complex terrain (ASTER)
University of Innsbruck; Co-PIs: Lorenzo Giovannini (University of Trento), Massimo Tagliavini (Free University of Bolzano); EUR 439,580 (University of Innsbruck share: EUR 194,136.29)

2014–2016 **National Science Foundation**
Modeling Thermal Flows and Cold-Air Pools in a Small Basin
University of Utah; Co-PI: C. David Whiteman (University of Utah); USD 138,421

2010–2012 **DOC-fFORTE fellowship, Austrian Academy of Sciences**
Thermally induced cross-basin and cross-valley circulations
University of Utah; EUR 90,000

University-internal funding

2020 **Research infrastructure call - FSP Alpiner Raum**
Surface-energy balance station (EUR 62,370)

Unfunded co-investigator

A new diagnostic for fluid flow instability and turbulence generation, PI: Miguel Teixeira (University of Reading)

Awards and Honors

2022	AMS Editor's Award - Journal of the Atmospheric Sciences for "providing constructive and thorough reviews that improved the organization, clarity, and content of manuscripts"
2012	Edward J. Zipser Award for Excellence in Graduate Research Department of Atmospheric Sciences, University of Utah
2010	Scientific Computing Thesis Award 2009 (Diploma thesis) University of Innsbruck

Teaching experience

University of Innsbruck

Theoretical Meteorology: Thermodynamics Exercises (undergraduate): summer semesters 2017–2020
Field course Atmospheric Sciences (graduate): co-taught; summer semesters 2017–2020
Geophysical Fluid Dynamics (graduate): co-taught; winter semesters 2016–2020
Boundary Layer Meteorology (graduate): co-taught; winter semesters 2016–2019
Graduate Seminar: co-coordinator; winter and summer semesters 2016–2020

University of Utah

Mountain Meteorology (undergraduate): fall semester 2014, spring semester 2016

Summer Schools—Guest lectures

Nanjing University Mountain Meteorology Summer School: Thermally driven circulations and mountain boundary layer, August 2022

Supervising students

PhD: G. Simonet (ongoing), M. Destro (ongoing, co-advisor)
MS: J. Bär (2018, co-advisor), M. Rosenkranz (2021), J. Zink (2022), A. Rauchöcker (2022), A. Rudolph (2022, co-advisor), F. Rizziero (ongoing, co-advisor), J. Schumann (ongoing)
BS: A. Engl (2019), B. Wibmer (2021), M. Demetz (2022), F. Thaller (2023), L. Brückner (2023)
Student assistants: R. Viehauser, P. Spannring, O. Pummer, I. Staudinger, B. Wibmer, H. Wieser

Professional service

Associate Editor for Journal of Atmospheric Sciences (2018–2023)
Reviewer for National Science Foundation (NSF), Advances in Atmospheric Sciences, Agri-

cultural and Forest Meteorology, Atmosphere, Atmospheric Chemistry and Physics, Atmospheric Research, Boundary Layer Meteorology, Bulletin of the American Meteorological Society, Earth and Planetary Sciences Letters, Environmental Fluid Mechanics, International Journal of Climatology, Journal of Applied Meteorology and Climatology, Journal of Atmospheric Sciences, Journal of Geophysical Research, Journal of Heat and Mass Transfer, Meteorologische Zeitschrift, Meteorology and Atmospheric Physics, Monthly Weather Review, Quarterly Journal of the Royal Meteorological Society
Member of the AMS Committee on Mountain Meteorology (since 2022)
Main organizer of the 9th Meeting of the Austrian Meteorological Society (9. Österreichischer MeteorologInnentag) 2023
Contributions to the coordination of the TEAMx programme (www.teamx-programme.org/): Co-chair of the Mountain Boundary Layer Working Group for the TEAMx programme; chair of the Data Management Task Team (since 2023); member of the Coordination and Implementation Group, the Field Observations Committee, the Implementation Task Team, and the Working Group on Surface-Atmosphere Exchange for the TEAMx programme

Outreach

Co-taught a Meterology class for the "MINT Sommertechnikum", a STEM summer school of the University of Innsbruck for female High School students; 2017 and 2018

Professional memberships

Member **American Meteorological Society** (since 2010)
Member **American Geophysical Union** (since 2014)
Member **European Geosciences Union** (since 2021)
Member **Österreichische Gesellschaft für Meteorologie (Austrian Meteorological Society)** (since 2022)

Peer-reviewed publications

In press and submitted

Rauchöcker, A., A. Rudolph, I. Stiperski, and **M. Lehner**, 2024: Cold-air pool development in a small Alpine valley. *Quart. J. Royal Meteorol. Soc.*, in press. DOI: 10.1002/qj.4644

Babić, N., B. Adler, A. Gohm, **M. Lehner**, and N. Kalthoff, 2024: Exploring the daytime boundary layer evolution based on Doppler spectrum width from multiple coplanar wind lidars during CROSSINN. *Weather Clim. Dyn.*, accepted.

Pfister, L, A. Gohm, M. Kossmann, A. Wieser, N. Babić, J. Handwerker, N. Wildmann, H. Vogelmann, K. Baumann-Stanzer, A. Alexa, K. Lapo, I. Paunović, R. Leinweber, K. Sedlmeier, **M. Lehner**, A. Hieden, J. Speidel, M. Federer, and M. W. Rotach, 2024: The TEAMx-PC22 Alpine field campaign—Objectives, instrumentation, and observed phenomena. *Met. Z.*, submitted.

Lehner, M., 2024: The Boundary Layer over Complex Terrain. Encyclopedia of Atmospheric Sciences, submitted, invited contribution.

Published

Simonet, G., D. Oettl, and **M. Lehner**, 2023: The performance of GRAMM-SCI and WRF in simulating the surface-energy budget and thermally driven winds in an Alpine valley. *Boundary-Layer Meteorol.*, **189**, 251–280. DOI: 10.1007/s10546-023-00835-9

Lehner, M., and M. W. Rotach, 2023: The performance of a time-varying filter time under stable conditions over mountainous terrain. *Boundary-Layer Meteorol.*, **188**, 523–551. DOI: 0.1007/s10546-023-00824-y.

Silva, T., E. Schlosser, and **M.Lehner**, 2023: A 25-year climatology of low-tropospheric temperature and humidity inversions for contrasting synoptic regimes at Neumayer Station, Antarctica. *Int. J. Climatol.*, **43**, 456–479. DOI: 10.1002/joc.7780

Rotach, M. W., S. Serafin, H. C. Ward, M. Arpagaus, I. Colfescu, J. Cuxart, S. F. J. De Wekker, M. Evans, V. Grubišić, N. Kalthoff, D. J. Kirshbaum, **M. Lehner**, S. Mobbs, A. Paci, E. Palazzi, A. Raudzens Bailey, J. Schmidli, C. Wittmann, G. Wohlfahrt, and D. Zardi, 2022: A collaborative effort to study atmospheric exchange processes over mountains. *Bull. Amer. Meteorol. Soc.*, **103**, E1282–E1295. DOI: 10.1175/BAMS-D-21-0232.1

Babić, N., B. Adler, A. Gohm, N. Kalthoff, M. Haid, **M. Lehner**, P. Ladstätter, M. W. Rotach, 2021: Cross-valley vortices in the Inn Valley, Austria: Structure, evolution and governing force imbalances. *Q. J. R. Meteor. Soc.*, 147, 3835–3861. DOI: 10.1002/qj.4159

Lehner, M., M. W. Rotach, E. Sfyri, and F. Obleitner, 2021: Spatial and temporal variations in near-surface energy fluxes in an Alpine valley under synoptically undisturbed and clear-sky conditions. *Q. J. R. Meteor. Soc.*, **147**, 2173–2196. DOI: 10.1002/qj.4016

Adler, B., A. Gohm, N. Kalthoff, N. Babić, U. Corsmeier, **M. Lehner**, M. W. Rotach, M. Haid, P. Markmann, E. Gast, G. Tsakanakis, and G. Georgoussis, 2021: CROSSINN—a field

experiment to study the three-dimensional flow structure in the Inn Valley, Austria. *Bull. Amer. Meteor. Soc.*, **102**, E38–E60. DOI: 10.1175/BAMS-D-19-0283.1

Stiperski, I., C. D. Whiteman, A. A. M. Holtslag, **M. Lehner**, S. W. Hoch, 2020: On the turbulence structure of deep katabatic flows on a gentle mesoscale slope. *Q. J. R. Meteor. Soc.*, **146**, 1206-1231. DOI: 10.1002/qj.3734

Lehner, M., M. W. Rotach, F. Obleitner, 2019: A method to identify synoptically undisturbed, clear-sky conditions for valley-wind analysis. *Boundary-Layer Meteorol.*, **173**, 435–450. DOI: 0.1007/s10546-019-00471-2

Lehner, M., C. D. Whiteman, S. W. Hoch, B. Adler, and N. Kalthoff, 2019: Flow separation in the lee of a crater rim. *Boundary-Layer Meteorol.*, **173**, 263–287. DOI: 10.1007/s10546-019-00466-z

Sfyri, E., M. W. Rotach, I. Stiperski, F. C. Bosveld, **M. Lehner**, and F. Obleitner, 2018: Scalar flux similarity in the layer near the surface over mountainous terrain. *Boundary-Layer Meteorol.*, **169**, 11–46. DOI: 10.1007/s10546-018-0365-3

Lehner, M., and M. W. Rotach, 2018: Current Challenges in Understanding and Predicting Transport and Exchange in the Atmosphere over Mountainous Terrain. *Atmosphere*, **9**, **276**, 1–28. DOI: 10.3390/atmos9070276.

Whiteman, C. D., **M. Lehner**, S. W. Hoch, B. Adler, N. Kalthoff, R. Vogt, I. Feigenwinter, T. Haiden, and M. O. G. Hills, 2018: The evolution of atmospheric structure in a crater basin as a nocturnal katabatic flow is lifted over its rim. *J. Appl. Meteor. Climatol.*, **57**, 969–989. DOI: 10.1175/JAMC-D-17-0156.1

Whiteman, C. D., **M. Lehner**, S. W. Hoch, B. Adler, N. Kalthoff, and T. Haiden, 2018: Katabatically driven cold air intrusions into a basin atmosphere. *J. Appl. Meteor. Climatol.*, *J. Appl. Meteorol. Climatol.*, **57**, 435–455. DOI: 10.1175/JAMC-D-17-0131.1

Lehner, M., C. D. Whiteman, and M. Dorninger, 2017: Inversion buildup and cold-air outflow in a small Alpine sinkhole. *Boundary-Layer Meteorol.*, **163**, 497–522.

Rotunno, R., and **M. Lehner**, 2016: Two-layer stratified flow past a valley. *J. Atmos. Sci.*, **73**, 4065–4076.

Lehner, M., R. Rotunno, and C. D. Whiteman, 2016: Flow regimes over a basin induced by upstream katabatic flows - An idealized modeling study. *J. Atmos. Sci.*, **73**, 3821–3842.

Lehner, M., C. D. Whiteman, S. W. Hoch, E. T. Crosman, M. E. Jeglum, N. W. Cherukuru, R. Calhoun, B. Adler, N. Kalthoff, R. Rotunno, T. W. Horst, S. Semmer, W. O. J. Brown, S. P. Oncley, R. Vogt, A. M. Grudzielanek, J. Cermak, N. J. Fonteyne, C. Bernhofer, A. Pitacco, and P. Klein, 2016: The METCRAX II field experiment—A study of downslope windstorm-type flows in Arizona's Meteor Crater. *Bull. Amer. Meteor. Soc.*, **97**, 217–235. DOI: 10.1175/BAMS-D-14-00238.1

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. G. Knievel, 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. Thomson, H. Zhang, and T. Zsedrovits, 2015: The MATERHORN—Unraveling the intricacies of mountain weather. *Bull. Amer. Meteor. Soc.*, **96**, 1946–1967. DOI: 10.1175/BAMS-D-13-00131.1

Lehner, M., C. D. Whiteman, S. W. Hoch, D. Jensen, E. R. Pardyjak, L. S. Leo, S. Di Sabatino, H. J. S. Fernando, 2015: A case study of nocturnal boundary-layer evolution on a slope at the foot of a desert mountain. *J. Appl. Meteor. Climatol.*, **54**, 732–751. DOI: 10.1175/jamc-d-14-0223.1

Cherukuru, N. W., R. Calhoun, **M. Lehner**, S. W. Hoch, and C. D. Whiteman, 2015: Instrument configuration for Dual Doppler Lidar co-planar scans: METCRAX II. *J. Appl. Remote Sensing*, **9**, 096090.

Lehner, M., and C. D. Whiteman, 2014: Physical Mechanisms of the Thermally Driven Cross-Basin Circulation. *Quart. J. Royal Meteorol. Soc.*, **140**, 895–907.

Martínez Villagrasa, D., **M. Lehner**, C. D. Whiteman, S. W. Hoch, and J. Cuxart, 2013: The upslope-downslope flow transition on a basin sidewall. *J. Appl. Meteor. Climatol.*, **52**, 2715–2734.

Lehner, M., and C. D. Whiteman, 2012: The Thermally Driven Cross-Basin Circulation in Idealized Basins under Varying Wind Conditions. *J. Appl. Meteor. Climatol.*, **51**, 1026–1045. DOI: 10.1175/JAMC-D-11-0181.1

Adler, B., C. D. Whiteman, S. W. Hoch, **M. Lehner**, and N. Kalthoff, 2012: Warm-Air Intrusions in Arizona's Meteor Crater. *J. Appl. Meteor. Climatol.*, **51**, 1010–1025. DOI: 10.1175/JAMC-D-11-0158.1

Haiden, T., C. D. Whiteman, S. W. Hoch, and **M. Lehner**, 2011: A Mass-flux Model of Nocturnal Cold Air Intrusions into a Closed Basin. *J. Appl. Meteor. Climatol.*, **50**, 933–943. DOI: 10.1175/2010JAMC2540.1

Lehner, M., C. D. Whiteman, and S. W. Hoch, 2011: Diurnal Cycle of Cross-Basin Winds in Arizona's Meteor Crater. *J. Appl. Meteor. Climatol.*, **50**, 729–744. DOI: 10.1175/2010JAMC2520.1

Whiteman, C. D., S. W. Hoch, **M. Lehner**, and T. Haiden, 2010: Nocturnal Cold Air Intrusions into a Closed Basin: Observational Evidence and Conceptual Model. *J. Appl. Meteor. Climatol.*, **49**, 1894–1905. DOI: 10.1175/2010JAMC2470.1

Lehner, M. and A. Gohm, 2010: Idealised Simulations of Daytime Pollution Transport in a Steep Valley and its Sensitivity to Thermal Stratification and Surface Albedo. *Boundary-Layer Meteorol.*, **134**, 327-351. DOI: 10.1007/s10546-009-9442-y.

Monographs

Serafin, S., M. W. Rotach, M. Arpagaus, I. Colfescu, J. Cuxart, S. F. J. De Wekker, M. Evans, V. Grubišić, N. Kalthoff, T. Karl, D. J. Kirshbaum, M. Lehner, S. Mobbs, A. Paci, E. Palazzi, A. Raudzens Bailey, J. Schmidli, G. Wohlfahrt, and D. Zardi, 2020: Multi-scale transport and exchange processes in the atmosphere over mountains. Programme and experiment. *innsbruck university press (IUP)*, Innsbruck. ISBN 978-3-99106-003-1.

Invited seminar presentations

Lehner, M., 2023: TEAMx (Multi-scale transport and exchange processes in the atmosphere over mountains - programme and experiment). Fachsitzung der Deutschen Meteorologischen Gesellschaft Sektion Frankfurt, Offenbach, 21 September 2023.

Lehner, M., 2020: Transport and exchange in the mountain boundary layer (MoBL). Seminar, Department of Meteorology, University of Reading, 24 February 2020.

Lehner, M., M. W. Rotach, E. Sfyri, F. Obleitner, and I. Stiperski, 2017: Diurnal cycles of turbulent fluxes in an east-west oriented valley. Seminar, Department of Atmospheric Sciences, University of Utah, 6 September 2017.

Lehner, M., 2012: The thermally driven cross-basin circulation in a small and closed basin. Seminar, Institute for Meteorology and Geophysics, University of Vienna, 18 December 2012.

Lehner, M., 2012: The thermally driven cross-basin circulation in a small and closed basin. Seminar, Institute for Meteorology and Geophysics, University of Innsbruck, 5 December 2012.

Conference presentations

Invited conference presentations

Lehner, M., G. Simonet, M. W. Rotach, F. Obleitner, L. Giovannini, L. Montagnani, 2022: Simulating the land-atmosphere exchange over mountainous terrain. EGU General Assembly 2022, 23–27 May 2022, Vienna, Austria.

Lehner, M., M. W. Rotach, F. Obleitner, E. Sfyri, and I. Stiperski, 2019: Near-Surface Turbulent Exchange in an East-West Oriented Alpine Valley. Poster, AGU Fall Meeting 2019, 9–13 December 2019, San Francisco, CA, USA.

Lehner, M., 2019: Stratified flow past valleys. Richard Rotunno Symposium at the 35$^{\text{th}}$ International Conference on Alpine Meteorology, 2–6 September 2019, Riva del Garda, Italy.

Contributed oral presentations

M. Lehner, 2023: Characterization of near-surface turbulence in the stable atmosphere of the Alpine Inn Valley. 36th International Conference on Alpine Meteorology, 19–23 June 2023, St. Gallen, Switzerland.

Lapo, K., L. Pfister, S. Mosso, **M. Lehner**, I. Stiperski, 2023: The Shape of the Boundary Layer: Revealing the Types of Temperature Profiles using Distributed Temperature Sensing. 36th International Conference on Alpine Meteorology, 19–23 June 2023, St. Gallen, Switzerland.

Rotach, M. W., M. Arpagaus, S. De Wekker, D. Kirshbaum, P. Knippertz, **M. Lehner**, S. Mobbs, A. Paci, E. Palazzi, S. Serafin, H. Ward, C. Wittmann, D. Zardi, 2023: TEAMx - state of affairs. 36th International Conference on Alpine Meteorology, 19–23 June 2023, St. Gallen, Switzerland.

Lehner, M., and M. W. Rotach, 2023: Characterization of Near-Surface Turbulence in the Stable Atmosphere of the Alpine Inn Valley. AMS 24th Symposium on Boundary Layers and Turbulence at the AMS 103rd Annual Meeting, 8–12 January 2023, Denver, CO, USA. [online presentation]

Lehner, M., and M. W. Rotach, 2022: Analysis of the filter time scale under stable conditions in mountainous terrain. EGU General Assembly 2022, 23–27 May 2022, Vienna, Austria.

Simonet, G., **M. Lehner**, and M. W. Rotach, 2022: Sensitivity of WRF Land Surface Schemes to Land Cover Classification over Complex Alpine Terrain. EGU General Assembly 2022, 23–27 May 2022, Vienna, Austria.

Adler, B., A. Gohm, N. Kalthoff, N. Babić, **M. Lehner**, M. W. Rotach, and M. Haid, 2020: The CROSSINN Field Campaign on the Three-Dimensional Flow Structure in the Inn Valley, Austria: Overview and Selected Results. AMS 19th Conference on Mountain Meteorology, 13–17 July 2020, Virtual Meeting.

I. Stiperski, A. A. M. Holtslag, **M. Lehner**, and C. D. Whiteman, 2020: Stable boundary layer height on a gentle slope. General Assembly of the European Geosciences Union 2020, 4–8 May 2020, Virtual Meeting.

Lehner, M., M. W. Rotach, F. Obleitner, E. Sfyri, and I. Stiperski, 2019: Surface turbulent exchange in an east-west oriented valley. 35th International Conference on Alpine Meteorology, 2–6 September 2019, Riva del Garda, Italy.

Rotach, M. W., M. Arpagaus, J. Cuxart, S. F. J. de Wekker, V. Grubisic, N. Kalthoff, D. Kirshbaum, **M. Lehner**, S. Mobbs, A. Paci, E. Palazzi, S. Serafin, and D. Zardi, 2019: The First TEAMx Workshop—a summary of achievements after a week-end of contemplation. 35th International Conference on Alpine Meteorology, 2–6 September 2019, Riva del Garda, Italy.

Rotach, M. W., M. Arpagaus, J. Cuxart, S. F. J. de Wekker, V. Grubisic, N. Kalthoff, D. Kirshbaum, **M. Lehner**, S. Mobbs, A. Paci, E. Palazzi, S. Serafin, and D. Zardi,

2019: TEAMx. Multi-scale Transport and Exchange Processes in the Atmosphere over Mountains—Programme and Experiment. 27th IUGG General Assembly, 8–18 July 2019, Montréal, Canada.

Rotach, M. W., M. Arpagaus, J. Cuxart, S. F. J. de Wekker, V. Grubisic, N. Kalthoff, D. Kirshbaum, **M. Lehner**, S. Mobbs, A. Paci, E. Palazzi, S. Serafin, and D. Zardi, 2019: TEAMx. Multi-scale Transport and Exchange Processes in the Atmosphere over Mountains—Programme and Experiment. ECMWF Workshop: Observational campaigns for better weather forecasts, 10–13 June 2019, Reading, United Kingdom.

Lehner, M., M. W. Rotach, E. Sfyri, F. Obleitner, and I. Stiperski, 2018: The Diurnal Cycle of Turbulent Fluxes in an East–West Oriented Valley. AMS 18th Conference on Mountain Meteorology, 25–29 June 2018, Santa Fe, NM, USA.

Sfyri, E., M. W. Rotach, I. Stiperski, F. Bosveld, **Lehner, M.**, and F. Obleitner, 2018: Surface Flux Similarity in the Layer Near the Surface over Mountainous Terrain. AMS 18th Conference on Mountain Meteorology, 25–29 June 2018, Santa Fe, NM, USA.

Stiperski, I., C. D. Whiteman, **Lehner, M.**, and A. A. M. Holtslag, 2018: On the Turbulence Structure, Dominant Scales and Scaling of deep Katabatic Flows on a Shallow Slope. AMS 18th Conference on Mountain Meteorology, 25–29 June 2018, Santa Fe, NM, USA.

Rotach, M. W., M. Arpagaus, J. Cuxart, S. F. J. De Wekker, V. Grubisic, N. Kalthoff, D. J. Kirshbaum, **Lehner, M.**, S. D. Mobbs, A. Paci, S. Serafin, and D. Zardi, 2018: Why You Should Remember What TEAMx Means. AMS 18th Conference on Mountain Meteorology, 25–29 June 2018, Santa Fe, NM, USA.

Rotach, M. W., M. Arpagaus, J. Cuxart, S. F. J. De Wekker, V. Grubisic, N. Kalthoff, D. J. Kirshbaum, **Lehner, M.**, S. D. Mobbs, A. Paci, S. Serafin, and D. Zardi, 2018: A coordinated effort to investigate Transport and Exchange Processes in the Atmosphere over Mountains-Experiment (TEAMx). EGU General Assembly, 2018, Vienna, Austria.

Lehner, M., M. W. Rotach, E. Sfyri, I. Stiperski, and F. Obleitner, 2017: Spatial variations in the diurnal cycle of turbulent fluxes in an east-west oriented valley. 34th International Conference on Alpine Meteorology, 18–23 June 2017, Reykjavik, Iceland.

Whiteman, C. D., **M. Lehner**, S. W. Hoch, B. Adler, N. Kalthoff, R. Vogt, I. Feigenwinter, T. Haiden, R. Rotunno, M. Hills, 2017: Interactions of a mesoscale katabatic flow with a small crater basin to produce cold and warm air intrusions, flow bifurcations and a hydraulic jump. 34th International Conference on Alpine Meteorology, 18–23 June 2017, Reykjavik, Iceland.

Lehner, M., C. D. Whiteman and S. W. Hoch, 2016: Oscillations in the Inversion and Drainage Flows in and around Arizona's Meteor Crater. AMS 17th Conference on Mountain Meteorology, 27 June–01 July 2016, Burlington, VT.

Whiteman, C. D., **M. Lehner**, S. W. Hoch, B. Adler, N. Kalthoff, and M. O. G. Hills, 2016: Lifting of Stable Layers Over a Circularly Symmetrical Terrain Obstacle. AMS 17th Conference on Mountain Meteorology, 27 June–01 July 2016, Burlington, VT.

Lehner, M., C. D. Whiteman, S. W. Hoch, M. O. G. Hills, N. Kalthoff, B. Adler, and T. Haiden, 2016: Bluff-Body Flow Separation in Arizona's Meteor Crater. AMS 22nd Symposium on Boundary Layers and Turbulence. 20–24 June 2016, Salt Lake City, UT.

Whiteman, C. D., **M. Lehner**, S. W. Hoch, M. O. G. Hills, T. Haiden, N. Kalthoff, and B. Adler, 2016: Cold Air Intrusions into Basins and Valleys. AMS 22nd Symposium on Boundary Layers and Turbulence. 20–24 June 2016, Salt Lake City, UT.

Feigenwinter, I., R. Vogt, M. Müller, E. Parlow, M. Grudzielanek, **M. Lehner**, S. Hoch, and C. D. Whiteman, 2016: Analysis of Flow Structures in the Barringer Meteor Crater using Thermal Infrared Data collected during the METCRAX II Field Experiment. AMS 22nd Symposium on Boundary Layers and Turbulence. 20–24 June 2016, Salt Lake City, UT.

Grudzielanek, A. M., R. Vogt, J. Cermak, M. Maric, I. Feigenwinter, C. D. Whiteman, **M. Lehner**, S. W. Hoch, M. G. Krauß, C. Bernhofer, and A. Pitacco, 2016: Airflow analyses using thermal imaging in Arizona's Meteor Crater as part of METCRAX II. General Assembly of the European Geosciences Union 2016.

Whiteman, C. D., **M. Lehner**, S. W. Hoch, M. O. G. Hills, B. Adler, N. Kalthoff, T. Haiden, R. Vogt, M. Grudzielanek, I. Feigenwinter, M. Maric, J. Cermak, R. Rotunno, R. Calhoun, N. Cherukuru, 2015: Katabatically Driven Downslope Windstorm-Type Flows over the Inner Sidewall of Arizona's Barringer Meteorite Crater. American Geophysical Union Fall 2015 Meeting. 16 December 2015, San Francisco, CA.

Lehner, M., C. D. Whiteman, S. W. Hoch, B. Adler, N. Kalthoff, and R. Rotunno, 2015: Downslope-windstorm-type flows and seiches in the Meteor Crater—responses of the nocturnal crater atmosphere to an impinging katabatic flow. 33rd International Conference on Alpine Meteorology, Innsbruck, Austria, 31 August–04 September 2015.

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