

# CURRICULUM VITAE

16 December 2022

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## **Manuela Lehner**

University of Innsbruck  
Department of Atmospheric and Cryospheric Sciences  
Innrain 52f, A-6020 Innsbruck, Austria  
Manuela.Lehner@uibk.ac.at  
ORCID iD: 0000-0001-9600-0547

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### EDUCATION

- 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

- 2016–present**    **Postdoctoral researcher**  
University of Innsbruck, Department of Atmospheric and Cryospheric Sciences
- 2016–2020**      **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 (TE<sub>x</sub>SMBL)*  
 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

## 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)

**MS:** J. Bär (2018, co-advisor), M. Rosenkranz (2021), J. Zink (2022), A. Rauchöcker (2022), A. Rudolph (2022, co-advisor)

**BS:** A. Engl (2019), B. Wibmer (2021), M. Demetz (2022), F. Thaller (ongoing)

## PROFESSIONAL SERVICE

**Associate Editor** for Journal of Atmospheric Sciences (since 2018)

**Reviewer for** National Science Foundation (NSF), Advances in Atmospheric Sciences, Agricultural 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)

**Co-leader** of the Mountain Boundary Layer Working Group for the TEAMx programme (since 2020)

**Member** of the Coordination and Implementation Group, the Field Observations Committee and the Working Group on Surface-Atmosphere Exchange for the TEAMx programme (since 2020)

## OUTREACH

Co-taught a Meteorology 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**

Silva, T., E. Schlosser, and **M. Lehner**, 2021: A 25-year climatology of low-tropospheric temperature and humidity inversions for contrasting synoptic regimes at Neumayer Station, Antarctica. *Int. J. Climatol.*, in press

**PUBLISHED**

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: 10.1007/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.**, 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<sup>th</sup> International Conference on Alpine Meteorology, 2–6 September 2019, Riva del Garda, Italy.

### CONTRIBUTED ORAL PRESENTATIONS

**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 19<sup>th</sup> 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. 35<sup>th</sup> 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. 35<sup>th</sup> 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. 27<sup>th</sup> 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 18<sup>th</sup> 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 18<sup>th</sup> 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 18<sup>th</sup> 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 18<sup>th</sup> 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. 34<sup>th</sup> 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. 34<sup>th</sup> 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 17<sup>th</sup> 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 17<sup>th</sup> 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 22<sup>nd</sup> 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 22<sup>nd</sup> 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 22<sup>nd</sup> 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. 33<sup>rd</sup> International Conference on Alpine Meteorology, Innsbruck, Austria, 31 August–04 September 2015.

Whiteman, C. D., **M. Lehner**, S. W. Hoch, M. O. G. Hills, N. Kalthoff, B. Adler, R. Rotunno, R. Vogt, I. Feigenwinter, M. Grudzielanek, J. Cermak, T. Haiden, N. W. Cherukuru, and R. Calhoun, 2015: The second Meteor Crater Experiment (METCRAX II): Introduction and overview of recent results. 33<sup>rd</sup> International Conference on Alpine Meteorology, Innsbruck, Austria, 31 August–04 September 2015.

Hoch, S. W., N. W. Cherukuru, R. Calhoun, C. D. Whiteman, **M. Lehner**, B. Adler, N. Kalthoff, and W. O. J. Brown, 2015: Lidar observations during METCRAX-II. 33<sup>rd</sup> International Conference on Alpine Meteorology, Innsbruck, Austria, 31 August–04 September 2015.

Hills, M., D. Whiteman, S. Hoch, and **M. Lehner**, 2015: A parameter based approach to idealised numerical simulations of Meteor Crater downslope-windstorm-type flows. 33<sup>rd</sup> International Conference on Alpine Meteorology, Innsbruck, Austria, 31 August–04 September 2015.

Haiden, T., C. D. Whiteman, and **M. Lehner**, 2015: Do current theories of downslope-windstorm-type flows apply to the Meteor Crater? 33<sup>rd</sup> International Conference on Alpine Meteorology, Innsbruck, Austria, 31 August–04 September 2015.

Adler, B., N. Kalthoff, C. D. Whiteman, S. W. Hoch, and **M. Lehner**, 2015: Upstream conditions controlling downslope-windstorm-type flows in Arizona’s Meteor Crater. 33<sup>rd</sup> International Conference on Alpine Meteorology, Innsbruck, Austria, 31 August–04 September 2015.

**Lehner, M.**, C. D. Whiteman, S. W. Hoch, B. Adler, and N. Kalthoff, 2014: Upstream flow and temperature conditions controlling downslope-windstorm-type flows in Arizona’s Meteor Crater. AMS 16<sup>th</sup> Conference on Mountain Meteorology, San Diego, CA, USA, 18–22 August 2014.

Whiteman, C. D., **M. Lehner**, S. W. Hoch, E. Crosman, M. Jeglum, N. W. Cherukuru, R. Calhoun, T. W. Horst, W. O. J. Brown, R. Rotunno, N. Kalthoff, B. Adler, R. Vogt, and M. Grudzielanek, 2014: The second Meteor Crater Experiment (METCRAX II)—An overview of the October 2013 field study. AMS 16<sup>th</sup> Conference on Mountain Meteorology, San Diego, CA, USA, 18–22 August 2014.

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#### CONTRIBUTED POSTER PRESENTATIONS

**Lehner, M.**, M. W. Rotach, F. Obleitner, I. Stiperski, and L. Pfister, 2022: Recent findings from the i-Box turbulence measurement stations in a deep Alpine valley and associated measurement challenges. Poster, AMS 22<sup>nd</sup> Symposium on Meteorological Observation and Instrumentation at the AMS 102<sup>nd</sup> Annual Meeting, 23–27 January 2022, online.

**Lehner, M.** and M. W. Rotach, 2021: Characterization of near-surface turbulence in the stable atmosphere of the Alpine Inn Valley. PICO—interactive content, European Geosciences Union General Assembly 2021, Virtual Meeting, 19–30 April 2021.

**Lehner, M.**, C. D. Whiteman, S. W. Hoch, B. Adler, and N. Kalthoff, 2019: Bluff-body flow separation in the lee of a crater rim. Poster, 35<sup>th</sup> International Conference on Alpine Meteorology, 2–6 September 2019, Riva del Garda, Italy.

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Serafin, S., M. W. Rotach, **M. Lehner**, B. Goger, and I. Stiperski, 2019: Modelling and observing the atmospheric boundary layer over mountains. Poster, ECMWF Workshop: Observational campaigns for better weather forecasts, 10–13 June 2019, Reading, United Kingdom.

**Lehner, M.**, M. W. Rotach, and F. Obleitner, 2018: Identification of Valley-Wind Days. Poster, AMS 18<sup>th</sup> Conference on Mountain Meteorology, 25–29 June 2018, Santa Fe, NM, USA.

Stiperski, I., C. D. Whiteman, **M. Lehner**, and A. A. M. Holtslag, 2018: On the turbulence structure, dominant scales and scaling of deep katabatic flows on a shallow slope. Poster, EGU General Assembly, 2018, Vienna, Austria.

**Lehner, M.**, C. D. Whiteman, S. W. Hoch, 2017: Temperature and wind speed oscillations at Arizona's Meteor Crater. Poster, 34<sup>th</sup> International Conference on Alpine Meteorology, 18–23 June 2017, Reykjavik, Iceland.

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