

# STEFANO SERAFIN

University of Vienna, Department of Meteorology and Geophysics

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## PERSONAL INFORMATION

Birth: 21.12.1977 in Como (Italy)  
Gender: male  
Family status: married, 2 children  
Nationality: Italian  
ORCID: [0000-0002-5838-7514](https://orcid.org/0000-0002-5838-7514)  
WoS Researcher ID: [D-7660-2015](https://www.researcherid.org/rid/D-7660-2015)  
Scopus Author ID: [11939923400](https://orcid.org/11939923400)  
Languages: Italian (native), English (fluent), German (intermediate)

## QUALIFICATIONS, EDUCATION

Abilitazione Scientifica Nazionale (Italian national scientific qualification, associate professor)

28.8.2018 – 28.8.2029 04/A4 (Geophysics)

11.7.2018 – 11.7.2029 02/C1 (Astronomy, astrophysics, earth and planetary physics)

Doctorate in Environmental Engineering, University of Trento, Italy

20.2.2006 Dissertation on *Boundary-layer processes and thermally driven flows over complex terrain*. Supervisor: Prof. Dino Zardi.

Degree in Environmental Science, University of Milano-Bicocca, Milan, Italy

12.3.2002 Full grades (110/110) and honours. Title (Italian): *Studio della precipitazione in eventi severi con un modello di previsione meteorologica ad alta risoluzione e confronto con dati pluviometrici*. Supervisors: Prof. Daniele Fuà, Prof. Rossella Ferretti, Prof. Lucia De Biase.

Scientific high school leaving certificate (Diploma di maturità scientifica)

1996 Liceo Scientifico Castelli, Saronno, Italy, grades: 52/60.

## ACADEMIC POSITIONS

University of Vienna, Austria, Department of Meteorology and Geophysics

1.6.2020 – present Senior scientist

1.9.2016 – 31.7.2018 Project scientist

1.10.2010 – 31.8.2016 Assistant professor (Universitätsassistent, Post-Doc)

University of Innsbruck, Austria, Department of Atmospheric and Cryospheric Sciences

1.3.2018 – 31.5.2020 Senior project scientist

University of Trento, Italy, Department of Civil and Environmental Engineering

1.3.2006 – 30.9.2010 Post-doctoral researcher

1.11.2002 – 28.2.2006 Doctoral student

University of L'Aquila, Italy, Department of Physics/CETEMPS

1.6.2002 – 30.11.2002 Research consultant

## RESEARCH INTERESTS

I am a mountain meteorologist and I work mostly with high-resolution numerical weather modelling techniques, such as large-eddy simulation. I recently developed an interest in ensemble-based data assimilation.

### Main research topics

Superscripts point to the relevant articles.

Numerical weather prediction	Parameter estimation with ensemble methods <sup>2</sup> Forecast verification <sup>4 7 12 14 34</sup>
Mountain meteorology	Initiation of deep moist convection <sup>5 8 11 17 18</sup> Stratified flow over mountains <sup>20 21 22 24 25 26 27 28 29 35 36</sup> The boundary layer over mountains <sup>6 9 16 19 23 30 31 32 33</sup> Mountain climate <sup>10</sup>
Multidisciplinary research	Use of meteorological data in seismological research <sup>3 13 15</sup>

### Most important research results achieved

Documentation of previously unknown impacts of terrain geometry on the initiation of deep moist convection in weak synoptic flow<sup>5</sup>.

Contribution to the concept, planning and implementation of the TEAMx field campaign<sup>9</sup>.

First quantitative estimate of turbulence intensity in breaking mountain waves and atmospheric rotors, based on radar remote sensing<sup>26</sup>.

Advances in the understanding of trapped lee waves<sup>21 27</sup>.

First description of the partitioning of heat transfer processes in the convective mountain boundary layer into turbulent and advective components<sup>32</sup>.

### Upcoming articles

Titles are preliminary.

Kugler, L., S. Serafin, A. Hochebner, N. Pierotti and M. Weissman: Scale-dependent assimilation of resolved cloud fractions.

Serafin, S., and M. Weissmann: Exploiting ensemble model output statistics for error modelling in data assimilation.

## RESEARCH PROJECTS

### As principal investigator

2024 – 2028	FWF (Austrian Science Fund) stand-alone project DEPENDABLE (P 37259), <i>DEmonstrating Parameter Estimation with eNsemble-based Data Assimilation for Boundary-Layer modElling over mountains</i> , € 287'595,00, <a href="https://dx.doi.org/10.55776/P37259">https://dx.doi.org/10.55776/P37259</a> .
2018 – 2022	FWF (Austrian Science Fund) stand-alone project MICIA (P 30808-N32), <i>Multiscale Interactions in Convection Initiation in the Alps</i> , € 345'562,89, <a href="https://dx.doi.org/10.55776/P30808">https://dx.doi.org/10.55776/P30808</a> .
2012 – 2016	FWF (Austrian Science Fund) stand-alone project STABLEST (P 24726-N27), <i>STABLE Boundary Layer Separation and Turbulence</i> , € 222'953,09, <a href="https://dx.doi.org/10.55776/P24726">https://dx.doi.org/10.55776/P24726</a> .

## Other

2016 – 2019	Austrian Climate and Energy Fund, project ICE CONTROL, <i>Ensemble-Vereisungsprognosen als Basis zur innovativen Betriebsführung von Windkraftanlagen unter Vereisungsbedingungen</i> . English: <i>Ensemble icing forecasts supporting the operation of wind turbines under icing conditions</i> . PI: Dr. Alexander Beck (ZAMG).
2014	EU-FP7 Research Infrastructure HYDRALAB, project HyIV-CNRS-SECORO, <i>Influence of secondary orography on boundary-layer separation and rotors</i> . PI: Dr. Ivana Stiperski (University of Innsbruck).
2005 – 2008	EU-INTERREG IIIB Alpine Space, project FORALPS, <i>Meteo-hydrological forecast and observations for improved water resource management in the Alps</i> . PI: Prof. Dino Zardi (University of Trento).
2006 – 2007	EU-INTERREG IIIB CADSES, project HYDROCARE, <i>Hydrological cycle of the CADSES region</i> . PI: Dr. Valerio Lucarini (CINFAI).
2004 – 2005	EU-INTERREG IIIB Alpine Space, project METEORISK, <i>Mitigation of natural risks through improved forecasting of extreme meteorological events</i> . PI: Dr. Michael Staudinger (ZAMG).

## **TEACHING**

### University of Vienna

Lecturer at the University of Vienna (Faculty of Earth Sciences, Geography and Astronomy) in the B.Sc. and M.Sc. programmes in Meteorology, Academic Years between 2010 – 2011 and 2015 – 2016, then from 2020 – 2021 to present. Full record available at the [University of Vienna](#). A \* marks courses shared with other lecturers.

Lectures and exercises:	Fluid Dynamics of the Atmosphere (2022, 2023, 2024; 6 ECTS, 60 hours) Boundary-Layer Meteorology (2021, 2023, 2024; 5 ECTS, 45 hours) Mountain Meteorology (2020, 2022; 3 ECTS, 30 hours) Mesoscale Dynamics (2013, 2015, 2020; 5 ECTS, 60 hours) Fundamentals of Atmospheric Modelling (2011, 2012, 2013, 2014, 2015, 2016; 5 ECTS, 60 hours) Thermodynamics of the Atmosphere (2010, 2011, 2012; 3 ECTS, 30 hours)
Exercises:	Applied Numerical Methods in Meteorology (2012, 2013, 2014, 2015; 3 ECTS, 30 hours) Dynamics of the Atmosphere (2011; 2 ECTS, 15 hours)
Seminars:	Paper club* (2024; 3 ECTS, 30 hours) Doctoral Seminar* (2021, 2022; 2 ECTS, 30 hours) Bachelor Seminar* (2011, 2012, 2013, 2014, 2015, 2016; 2 ECTS, 30 hours)

Other teaching duties at the University of Vienna:

2024 – 2026	Substitute member of the committee for student affairs of course directorate 28, Earth Sciences, Geography and Astronomy.
2023 – present	Erasmus+ mobility coordinator for the study courses in Meteorology.
2023	Member of the working group for the revision of Master Thesis guidelines in Meteorology.
2022	Member of the working group for the revision of the B.Sc. and M.Sc. programmes in Meteorology.
2020 – 2021	Chairman of the Meteorological-Geophysikalisches Kolloquium, a seminar cycle jointly organized by the Department of Meteorology and Geophysics and Geosphere Austria, the Austrian weather service.

### University of Trento

Guest lecturer (Erasmus teaching staff mobility) of Geophysical Fluid Dynamics at the University of Trento (Doctoral School of Environmental Engineering), Academic Years 2012 – 2013, 2013 – 2014 and 2014 – 2015.

Assistant teacher and examiner in Atmospheric Physics and Meteorology at the University of Trento (Faculty of Engineering; M.Sc. programme in Environmental and Land Engineering and the B.Sc. programme in Environmental Management Engineering, A.Y. between 2003 – 04 and 2008 – 09).

### Supervision and mentoring

Doctoral students:

1. Georgios Thalassinou (2024 – present; U. Vienna, co-supervised with Prof. M. Weissmann);
2. Magdalena Fritz (2023 – present; U. Vienna, co-supervised with Prof. M. Weissmann);
3. Giorgio Doglioni (2021 – present; U. Trento, co-supervised with Prof. D. Zardi);
4. Matthias Göbel (2018 – 2024; U. Innsbruck, main advisor Prof. Mathias Rotach);
5. Johannes Sachsperger (2011 – 2016; U. Vienna, main advisor Prof. Vanda Grubišić);
6. Lukas Strauss (2010 – 2015; U. Vienna, main advisor Prof. Vanda Grubišić).

Supervisor or co-supervisor of 15 master theses and 7 bachelor theses at the Faculty of Earth Sciences, Geography and Astronomy, University of Vienna. Co-supervisor of 6 master and 4 bachelor theses in Environmental and Land Engineering at the Faculty of Engineering of the University of Trento.

### Other

Lecturer at the 2022 Summer School on Mountain Meteorology, Nanjing University, School of Atmospheric Sciences.

## **OTHER PROFESSIONAL ACTIVITY**

### Memberships

Member of the European Geosciences Union and of the Italian Society of Atmospheric Science and Meteorology. Past member of the American Meteorological Society and of the American Geophysical Union.

### Editing and reviewing

Member of the editorial board of the Bulletin of Atmospheric Science and Technology, official journal of the Italian Society of Atmospheric Science and Meteorology (2019 – present). Associate editor of Monthly Weather Review (2016 – 2020).

Reviewer for scientific journals (100 reviews in total, full record available at [Web of Science](#)): Monthly Weather Review (19), Quarterly Journal of the Royal Meteorological Society (17), Journal of the Atmospheric Sciences (11), Boundary-Layer Meteorology (11), Journal of Applied Meteorology and Climatology (10), Atmospheric Chemistry and Physics (6), Journal of Geophysical Research: Atmospheres (5),

Meteorologische Zeitschrift (4), Bulletin of Atmospheric Science and Technology (4), Atmospheric Research (3), npj Climate and Atmospheric Science (2), Atmosphere (2), Bulletin of the American Meteorological Society (1), Environmental Fluid Mechanics (1), Tellus-A (1), Advances in Meteorology (1), Annals of Geophysics (1), Frontiers in Earth Science (1).

Reviewer for funding or other agencies (number of reviews in brackets): MIUR, Italian Ministry of Education, Universities and Research (1); CINECA, Italian National Supercomputing Centre (2); GAČR, Czech Science Foundation (1); NSF, National Science Foundation, USA (1).

#### Community service

- 2014 – present                      Convener or co-convener of the EGU Annual Meeting sessions on “Mountain Weather and Climate” (2022, 2024), “Mountain Climatology and Meteorology” (2019, 2020), “Mountain Meteorology” (2018) and “Atmospheric Processes over Complex Terrain” (2014, 2015, 2016).
- 2017 – present                      TEAMx research programme: Member of the Coordination and Implementation Group (2017 – present). Co-chair of the *Mountain Boundary Layer* Working Group (2020 – present). Programme coordinator (2018 – 2019). Member of the Scientific Organizing Committee and of the Local Organizing Committee of the *First TEAMx workshop* (2019).
- 2021                                      Co-organizer of the topical session on *Real-case large-eddy simulation over complex orography: Motivations, experiences, challenges* at the *ICAM online event 2021*.
- 2019                                      Chairman of the Programme Committee of the *35th International Conference on Alpine Meteorology*.

#### Research visits

- 2015                                      Department of Civil and Environmental Engineering and Earth Sciences, University of Notre Dame, South Bend, IN (USA).
- 2014                                      Geophysical fluid mechanics laboratory, National Center for Meteorological Research, Météo France, Toulouse (France).
- 2012 and 2014                      Earth Observing Laboratory, National Center for Atmospheric Research, Boulder, CO (USA).

### **INVITED TALKS**

*Prospects for high-resolution data assimilation over complex orography*

36th International Conference on Alpine Meteorology, St. Gallen (CH), 23.6.2023

*TEAMx: A research programme on observing and modelling the mountain boundary layer*

Meteorological Institute, Ludwig-Maximilians-Universität München, Munich (D), 14.1.2020

*Observations and modelling of atmospheric rotors*

Department of Atmospheric and Cryospheric Science, University of Innsbruck (A), 25.4.2018

Inst. Atmospheric Sciences and Climate, National Research Council of Italy, Bologna (I), 14.5.2015

*Daytime processes in the atmospheric boundary layer over mountainous terrain*

Dept. Civil and Env. Engineering and Earth Sciences, U. of Notre Dame, IN (USA), 10.2.2015

*A case study of nonstationary boundary-layer separation and rotor formation*

National Center for Atmospheric Research, Boulder, CO (USA), 28.8.2012

Department of Atmospheric Sciences, University of Wyoming, Laramie, WY (USA), 15.8.2012

Department of Meteorology and Geophysics, University of Innsbruck (A), 16.5.2012

*Idealized simulations of thermally driven winds over mountainous terrain*

Department of Geophysics, University of Zagreb (HR), 24.01.2012

Department of Atmospheric Physics, Johannes-Gutenberg University of Mainz (D), 30.08.2011

Department of Meteorology and Geophysics, University of Vienna (A), 30.11.2010

## AWARDS AND RECOGNITIONS

2022	VISESS Earth PhD Fellowship for the proposal <i>Data-driven methods to reduce model errors in numerical weather prediction</i> . This three-year doctoral grant was awarded by the Vienna International School of Earth and Space Science (VISESS) at the Faculty of Earth Sciences, Geography and Astronomy of the University of Vienna, after external review. The project I proposed was selected among five competitors. The grant covers Magdalena Fritz's doctoral project.
2022	<a href="#">Highlight article</a> on <i>Reviews of Geophysics</i> .
2022	<a href="#">Highlight paper</a> on <i>Geoscientific Model Development</i> .
2017	<a href="#">Featured research article</a> on the <i>Quarterly Journal of the Royal Meteorological Society</i> .
2016	<a href="#">Featured research article</a> on the <i>Quarterly Journal of the Royal Meteorological Society</i> .
2005	2 <sup>nd</sup> - best student poster presentation at the 28th International Conference on Alpine Meteorology and MAP Meeting.
2002	3-yr scholarship at the Doctoral School of Environmental Engineering, University of Trento (first candidate in ranking).

## PARTICIPATION TO CONFERENCES

EGU General Assembly 2024, Vienna (A), 15.4–18.4.2024  
9th International Symposium on Data Assimilation, Bologna (I), 16.10–20.10.2023  
36th International Conference on Alpine Meteorology, Sankt Gallen (CH), 18.6.–23.6.2023  
4° Congresso Nazionale AISAM, Milan (I), 15–19.2.2022  
35th International Conference on Alpine Meteorology, Riva del Garda (I), 2.9.–6.9.2019  
EGU General Assembly 2019, Vienna (A), 8.4–12.4.2019  
1° Congresso Nazionale AISAM, Bologna (I), 10–13.9.2018  
EGU General Assembly 2018, Vienna (A), 9.4–13.4.2018  
34th International Conference on Alpine Meteorology, Reykjavík (IS), 19.6.–23.6.2017  
EGU General Assembly 2016, Vienna (A), 17.4–22.4.2016  
8th European Conference on Severe Storms, Wiener Neustadt (A), 14.9–18.9.2015  
33rd International Conference on Alpine Meteorology, Innsbruck (A), 31.8.–4.9.2015  
26th IUGG Assembly 2015, Prague (CZ), 22.6.–2.7.2015  
EGU General Assembly 2015, Vienna (A), 12.4.–17.4.2015  
21st Symposium on Boundary Layers and Turbulence, Leeds (UK), 9.6.–13.6.2014  
EGU General Assembly 2014, Vienna (A), 27.4–2.5.2014  
AGU Fall Meeting 2013, San Francisco (USA), 9.12.–13.12.2013  
32nd International Conference on Alpine Meteorology, Kranjska Gora (SI), 3.6.–7.6.2013  
EGU General Assembly 2013, Vienna (A), 7.4.–12.4.2013  
15th Conference on Mountain Meteorology, Steamboat Springs (USA), 20.8.–24.8.2012  
EGU General Assembly 2012, Vienna (A), 23.4.–27.4.2012  
4. Österreichischer Meteorologentag, Klagenfurt (A), 3.1.–4.11.2011  
31st International Conference on Alpine Meteorology, Aviemore (UK), 23.5.–27.5.2011  
30th International Conference on Alpine Meteorology, Rastatt (D), 11.5.–15.5.2009  
Convegno Nazionale di Fisica della Terra Fluida e Problematiche Affini, Ischia (I), 11.6.–15.6.2007  
29th International Conference on Alpine Meteorology, Chambéry (F), 4.6.–8.6.2007  
EGU General Assembly 2007, Vienna (A), 16.4.–20.4.2007  
28th International Conference on Alpine Meteorology, Zadar (HR), 23.5.–27.5.2005

XXIX Convegno di Idraulica e Costruzioni Idrauliche, Trento (I), 7.9.–10.9.2004  
27th International Conference on Alpine Meteorology, Brig (CH), 18.5.–23.5.2003

## **PARTICIPATION TO TRAINING COURSES AND WORKSHOPS**

Fourth TEAMx Workshop

Organizer: University of Innsbruck  
Innsbruck (A), 19.11. – 20.11.2024

Doctoral Supervision: Tools and Methods

Organizers: University of Vienna, Dr. Gitte Wichmann-Hansen  
Vienna (A), 22.5-23.5.2024, 16.10.2024

Third TEAMx Workshop

Organizers: University of Innsbruck, ETH Zürich  
Zürich (CH), 15.6. – 16.6.2023

Second TEAMx Workshop

Organizer: University of Innsbruck  
Virtual, 10.5. – 12.5.2021

First TEAMx Workshop

Organizers: University of Trento, University of Innsbruck, AISAM  
Rovereto (I), 28.8. – 30.8.2019

Verification in complex terrain: Spatial Verification Methods and NWP Model Performance

Organizer: University of Vienna, Department of Meteorology and Geophysics  
Vienna (A), 8.7. – 9.7.2019

Observational campaigns for better weather forecasts

Organizer: ECMWF, European Centre for Medium-Range Weather Forecasts  
Reading (UK), 10.6. – 13.6.2019

Synthesis Workshop on Mountain Meteorology and Climatology: Drivers, Processes and Related Impacts

Organizer: MRI, Mountain Research Initiative  
Vienna (A), 12.4.2019

Annual Seminar 2017. Ensemble prediction: past, present and future

Organizer: ECMWF, European Centre for Medium-Range Weather Forecasts  
Reading (UK), 11.9. – 14.9.2017

Training course on Predictability and Ocean-Atmosphere Ensemble Forecasting

Organizer: ECMWF, European Centre for Medium-Range Weather Forecasts  
Reading (UK), 8.5. – 12.5.2017

Workshop on Advances in Meso- and Micrometeorology

Organizer: University of Zagreb, Faculty of Science, Department of Geophysics  
Donja Stubica (HR), 3.11. – 4.11.2014

Wave-Turbulence Interactions in Stable Atmospheric Boundary Layers

Organizer: Geophysical Turbulence Program (GTP), NCAR  
Boulder (USA), 24.7. – 25.7.2012

Croatian-USA Workshop on Mesometeorology

Organizer: Croatian Meteorological and Hydrological Service  
Pisarovina (HR), 18.6. – 20.6.2012

HiRCoT 2012 Workshop: High Resolution Modelling in Complex Terrain

Organizer: University of Natural Resources and Life Sciences, Institute of Meteorology  
Vienna (A), 21.2. – 23.2.2012

19° Scuola Estiva di Calcolo Parallelo (19th Summer School on High Performance Computing)

Organizer: CINECA (Italian National Supercomputing Centre)

Bologna (I), 5.7. – 16.7.2010

Joint NCAR-NCAS WRF Users Workshop and Tutorial

Organizer: NCAR, NCAS

Cambridge (UK), 28.9. – 2.10.2009

GRASS, Free and Open Source GIS: Theory and Applications

Organizer: University of Trento, Department of Civil and Environmental Engineering

Trento (I), 27.6. – 30.6.2006

Summer School on Mountain Meteorology: Orographic effects on precipitation

Organizer: University of Trento, Department of Civil and Environmental Engineering

Trento (I), 25.7. – 30.7.2004

Meteorology and Regional Weather Forecasting

Organizer: University of Trento, Faculty of Mathematical, Physical and Natural Sciences

Trento (I), 1.12. – 5.12.2003

Prediction of Turbulent Flows

Organizer: Isaac Newton Institute for Mathematical Sciences

Cambridge (UK), 7.11.2003

5th International SRNWP-Workshop on Non-Hydrostatic Modelling

Organizer: Deutscher Wetterdienst

Bad-Orb (D), 27.10. – 29.10.2003

Summer School on Mountain Meteorology: Thermally driven winds in mountainous terrain

Organizer: University of Trento, Department of Civil and Environmental Engineering

Trento (I), 17.8. – 22.8.2003

Grand Combin Summer School on Fundamental Problems in Geophysical and Environmental Fluid Mechanics: Physics and Predictability of Rainfall and Floods

Organizer: CIMA, International Centre on Environmental Monitoring

Saint-Oyen (I), 25.6. – 5.7.2002



## PUBLICATIONS

### A Peer-reviewed scientific articles (supervised or co-supervised students underlined)

- 1 Dogliani, G., **S. Serafin**, M. Weissmann, G. Ferrari and D. Zardi (2025): Impact of the assimilation of surface observations on limited-area forecasts over complex terrain. *Met. Appl.*, under review.
- 2 **Serafin, S.**, and M. Weissmann (2025): Can ensemble-based parameter estimation aid parameterization optimization? *Q. J. R. Meteorol. Soc.*, under review.
- 3 Kramer, R., Y. Lu, Q.-Y. Wang, **S. Serafin**, A. Ceppi and G. Bokelmann (2025): Identifying large vulnerable water reservoirs using passive seismic monitoring. *Earth and Planetary Science Letters*, under review.
- 4 Necker, T., L. Wolfgruber, M. Weissmann, L. Kugler, M. Dorninger, **S. Serafin** (2024): The fractions skill score for ensemble forecast verification, *Q. J. R. Meteorol. Soc.*, **150**, 4457-4477.  
DOI: [10.1002/qj.4824](https://doi.org/10.1002/qj.4824) | Scopus: [2-s2.0-85200994149](https://scopus.com/record/display?id=2-s2.0-85200994149) | Web Of Science: [001286653400001](https://www.webofscience.com/doi/10.1286653400001)
- 5 Göbel, M., **S. Serafin** and M.W. Rotach (2023): Adverse impact of terrain steepness on thermally-driven initiation of orographic convection, *Weather Clim. Dynam.*, **4**, 725-745.  
DOI: [10.5194/wcd-4-725-2023](https://doi.org/10.5194/wcd-4-725-2023) | Scopus: [2-s2.0-85172880727](https://scopus.com/record/display?id=2-s2.0-85172880727) | Web Of Science: [001168865100001](https://www.webofscience.com/doi/10.1168865100001)
- 6 Weinkaemmerer, J., M. Göbel, **S. Serafin**, I. Bašták-Đurán, J. Schmidli (2023): Boundary-layer plumes over mountainous terrain in idealized large-eddy simulations, *Q. J. R. Meteorol. Soc.*, **149**, 3183-3197.  
DOI: [10.1002/qj.4551](https://doi.org/10.1002/qj.4551) | Scopus: [2-s2.0-85168919452](https://scopus.com/record/display?id=2-s2.0-85168919452) | Web Of Science: [001080238600001](https://www.webofscience.com/doi/10.1080238600001)
- 7 Strauss, L., **S. Serafin** and M. Dorninger (2022): Probability forecasts of ice accretion on wind turbines derived from multi-physics and neighbourhood ensembles. *Q. J. R. Meteorol. Soc.*, **148**, 2446-2467.  
DOI: [10.1002/qj.4311](https://doi.org/10.1002/qj.4311) | Scopus: [2-s2.0-85133132475](https://scopus.com/record/display?id=2-s2.0-85133132475) | Web Of Science: [000819329200001](https://www.webofscience.com/doi/10.00819329200001)
- 8 Manzato, A., **S. Serafin**, M.M. Miglietta, D.J. Kirshbaum and W. Schulz (2022): A pan-Alpine climatology of lightning and convective initiation *Mon. Wea. Rev.*, **150**, 2213-2230.  
DOI: [10.1175/MWR-D-21-0149.1](https://doi.org/10.1175/MWR-D-21-0149.1) | Scopus: [2-s2.0-85140143444](https://scopus.com/record/display?id=2-s2.0-85140143444) | Web Of Science: [000861183600002](https://www.webofscience.com/doi/10.000861183600002)
- 9 M.W. Rotach, **S. Serafin**, H.C. Ward, M. Arpagaus, I. Colfescu, J. Cuxart, S.F.J. De Wekker, V. Grubišić, N. Kalthoff, T. Karl, D.J. Kirshbaum, M. Lehner, S. Mobbs, A. Paci, E. Palazzi, A. Bailey, J. Schmidli, C. Wittmann, G. Wohlfahrt, and D. Zardi (2022): A collaborative effort to better understand, measure and model atmospheric exchange processes over mountains. *Bull. Amer. Meteorol. Soc.*, **103**, E1282-E1295.  
DOI: [10.1175/BAMS-D-21-0232.1](https://doi.org/10.1175/BAMS-D-21-0232.1) | Scopus: [2-s2.0-85131596576](https://scopus.com/record/display?id=2-s2.0-85131596576) | Web Of Science: [000886617900003](https://www.webofscience.com/doi/10.000886617900003)
- 10 Pepin, N.C., E. Arnone, A. Gobiet, K. Haslinger, S. Kotlarski, C. Notarnicola, E. Palazzi, P. Seibert, **S. Serafin**, W. Schöner, S. Terzago, J.M. Thornton, M. Vuille and C. Adler (2022): Climate changes and their elevational patterns in the mountains of the world. *Rev. Geophys.*, **60**, e2020RG000730.  
DOI: [10.1029/2020RG000730](https://doi.org/10.1029/2020RG000730) | Scopus: [2-s2.0-85127260411](https://scopus.com/record/display?id=2-s2.0-85127260411) | Web Of Science: [000777485900004](https://www.webofscience.com/doi/10.000777485900004)
- 11 Göbel, M., **S. Serafin** and M.W. Rotach (2022): Numerically consistent budgets of potential temperature, momentum, and moisture in Cartesian coordinates: application to the WRF model. *Geosci. Model Dev.*, **15**, 669-681.  
DOI: [10.5194/gmd-15-669-2022](https://doi.org/10.5194/gmd-15-669-2022) | Scopus: [2-s2.0-85124097084](https://scopus.com/record/display?id=2-s2.0-85124097084) | Web Of Science: [000751177700001](https://www.webofscience.com/doi/10.000751177700001)
- 12 Strauss, L., **S. Serafin** and M. Dorninger (2020): Skill and potential economic value of forecasts of ice accretion on wind turbines. *J. Appl. Meteor. Climatol.*, **59**, 1845-1864.  
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## B Book chapters

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## D Conference contributions

Over 150 lead-authored or co-authored contributions at international and national conferences.

## E Citation report

	Total number of citations	WoS 943	Scopus 1018	Scholar 1350
1	Pepin et al., RG, 2022	189	205	261
2	Serafin et al., ATM, 2018	142	150	194
3	Kirshbaum et al., ATM, 2018	124	127	170
4	Serafin and Zardi, JAS, 2010a	58	63	82
5	Giovannini et al., QJRMS, 2017	54	57	72
6	Serafin and Zardi, JAS, 2010b	49	49	64
7	Strauss et al., QJRMS, 2015	45	48	67
8	Serafin and Zardi, JAS, 2011	30	33	41
9	Schneider et al., EPSL, 2018	26	26	30
10	Strauss et al., JAS, 2016	25	29	40
11	Sachsperger et al., FES, 2015	21	23	30
12	Scheffknecht et al., QJRMS, 2017	19	20	23
13	Fuchs et al., SR, 2019	17	19	26
14	Zardi and Serafin, QJRMS, 2015	17	19	32
15	French et al., JAS, 2015	16	18	23
16	Rotach et al., BAMS, 2022	15	17	19
17	Grubišić et al., JAS, 2015	14	14	20
18	Sachsperger et al., QJRMS, 2016	12	11	18
19	Sachsperger et al., QJRMS, 2017	11	14	17
20	Manzato et al., MWR, 2022	10	10	17
21	Serafin et al., JAMC, 2017	9	9	8
22	Stiperski et al., ATM, 2017	8	7	9
23	Serafin and Ferretti, JAMC, 2007	7	8	12
24	Strauss et al., JAMC, 2020	6	8	12
25	Serafin et al., BLM, 2016	6	6	11
26	Göbel et al., GMD, 2022	4	4	4
27	Serafin et al., QJRMS, 2019	4	4	4
28	Göbel et al., WCD, 2023	3	3	7
29	Weinkaemmerer et al., QJRMS, 2023	2	2	2
30	Necker et al., QJRMS, 2024	0	0	5
31	Strauss et al., QJRMS, 2022	0	0	0
32	<i>Grey literature</i>	0	15	30

Key – ATM: Atmosphere; BAMS: *Bulletin of the American Meteorological Society*; BLM: *Boundary-Layer Meteorology*; EPSL: *Earth and Planetary Science Letters*; FES: *Frontiers in Earth Science*; GMD: *Geoscientific Model Development*; JAMC: *Journal of Applied Meteorology and Climatology*; JAS: *Journal of the Atmospheric Sciences*; MWR: *Monthly Weather Review*; QJRMS: *Quarterly Journal of the Royal Meteorological Society*; RG: *Reviews of Geophysics*; SR: *Scientific Reports*.

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