

# Curriculum Vitæ

## Personal Data

Name	Monika Feldmann	Address	Hallerstrasse 12
E-mail	monika.feldmann@unibe.ch		3012 Bern Switzerland

## Education

03-05/2022	Graduate Visitor Program, NCAR (USA)
02/2019-03/2023	Doctoral studies, environmental remote sensing, EPFL and MeteoSwiss (Switzerland)
02-09/2018	Master thesis as visiting student, atmosphere and climate science, MIT (USA)
09/2016-10/2018	Master of environmental sciences, ETH Zurich (Switzerland)
	Major in atmosphere and climate science, Minor in sustainable energy use
09/2013-09/2016	Bachelor of environmental sciences, ETH Zurich (Switzerland)

## Professional Experience

since 05/2023	Postdoctoral researcher, University of Bern (Switzerland)
02/2019-03/2023	PhD student, environmental remote sensing, EPFL and MeteoSwiss (Switzerland)
10-12/2018	Postgraduate researcher at ETH Zurich (Switzerland) and Sorbonne (Paris, France)
03/2017-01/2018	Communications assistant in global EHS (Environment, Health & Safety) at Givaudan (Switzerland))
09/2016-01/2017	Internship in atmospheric dispersion modelling in global EHS at Givaudan (Switzerland)
09/2014-12/2017	Assistant at ETH Zurich (Switzerland)

## Volunteer and Extracurricular Work

since 07/2023	Organization of University of Bern weather club
07/2023	Rapporteur at S2S Summit
05/2023	Session co-chair at 11th European Conference of Severe Storms
06-09/2022	Organization of online poster sessions at 11th European Conference on Radar in Meteorology and Hydrology
11/2019-12/2022	Organization and moderation of EPFL weather club
03-08/2018	Communications of the visiting student association MIT VISTA
08/2016-01/2018	Student representative of the "Schweizerische Gesellschaft für Meteorologie"
09/2015-06/2016	Actuary of the "Umwelt und Forstfachverein der ETH Zurich"

## Teaching and Supervision

since 02/2024	Research seminar on AI forecasts and extreme events, University of Bern
since 02/2024	Master thesis on supercell environments in climate simulations, University of Bern
09/2023-03/2024	Master thesis on supercells in climate simulations, University of Bern and ETH Zurich
09-12/2023	Lectures in Meteorology 3, University of Bern
09-12/2022	Student project on predicting supercell occurrence with supervised machine learning, EPFL
06/2022	Summer school lecture on Orographic Convection, Embry Riddle Aeronautical University
09/2021-01/2022	Master thesis on predicting supercell intensity with supervised machine learning, EPFL
08/2021	Guest lecture in summer course on Numerical Differentiation and Thunderstorm Research, MIT
02-06/2021	Student project on supercells and unsupervised machine learning, EPFL
02/2019-06/2021	Teaching assistant for "Remote Sensing" and "Geostatistics", EPFL
02-06/2016	Development of course material for "Corporate Sustainability", ETH Zurich

## Software

<a href="#">Pysteps</a>	Contribution of convective tracking algorithm <a href="#">T-DaTing</a>
R2D2	Operational <a href="#">Doppler velocity software</a> at MeteoSwiss (proprietary)
<a href="#">M-DaTing</a>	Operational <a href="#">mesocyclone detection algorithm</a> at MeteoSwiss

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## Languages

German	native language
English	native level
French	fluent
Italian	conversational
Mandarin	basic knowledge
Spanish	basic knowledge

## Fellowships and Awards

11/2023	Presentation award of CLIMACT Atmospheric Science Day
03-05/2022	NCAR graduate visitor program / advanced study program, awarded by NCAR
03-05/2022	EDCE Mobility grant, awarded by EPFL
02-09/2018	Master thesis grant, ETH Zurich and MIT, awarded by the Zeno Karl Schindler Foundation
10/2016-05/2017	IDEA League Challenge Program, ETH Zurich, training in consulting and interdisciplinary innovation

## Stays abroad

03-05/2022	Graduate Visitor Program at NCAR / Boulder, USA
02-09/2018	Visiting student at MIT / Cambridge, USA
06-07/2016	Chinese language courses in Singapore and Beijing, China
07/2012-07/2013	Au Pair in Auckland, New Zealand
1997-2001	Residence in Mobile, USA

## Technical skills

Programming	Python and Matlab (advanced); C, Fortran90, Bash and R (basics)
Operating systems	Windows, Linux
Office	LaTeX, MS Office, LibreOffice
various	GIS software QGIS, version control and collaboration with Git environment management with Anaconda, server scheduling with slurm

## Peer Review

Nature Scientific Data, AMS Journal of Atmospheric and Oceanic Technology, AMS Weather and Forecasting, Atmospheric Measurement Techniques, npj Climate and Atmospheric Science, JGR Atmospheres

## Datasets

Feldmann, M., Hering, A., Gabella, M., Berne, A. (2022).  
Radar-based severe thunderstorm classification in Switzerland from 2016-2021 [Data set].  
Zenodo. [doi:10.5281/zenodo.6534510](https://doi.org/10.5281/zenodo.6534510)

Feldmann, M., Germann, U., Gabella, M., Berne, A. (2021).  
Radar-based mesocyclone detections in Switzerland from 2016-2020 [Data set].  
Zenodo. [doi:10.5281/zenodo.5122519](https://doi.org/10.5281/zenodo.5122519)

Feldmann, M. (2019).  
Climatology of rainfall from Atlantic hurricanes in the USA from radar data [Data set].  
Zenodo. [doi:10.5281/zenodo.1745239](https://doi.org/10.5281/zenodo.1745239)

## Publications

Feldmann, M., Rotunno, R., Germann, U., Berne, A. (2024).  
Supercell thunderstorms in complex topography - how mountain valleys with lakes can increase occurrence frequency.  
Monthly Weather Review, [doi:10.1175/MWR-D-22-0350.1](https://doi.org/10.1175/MWR-D-22-0350.1)

Sarhadi, A., Rousseau-Rizzi, R., Mandli, K., Neal, J., Wiper, M. P., Feldmann, M., Emanuel, K. (2024).  
Climate change intensifies compound flooding risk of tropical and extratropical cyclones in New York City.  
Bulletin of the American Meteorological Society, in press, [doi:10.1175/BAMS-D-23-0177.1](https://doi.org/10.1175/BAMS-D-23-0177.1)

Feldmann, M., Hering, A., Gabella, M., Berne, A. (2023).  
Hailstorms and Rainstorms Versus Supercells - A Regional Analysis of Convective Storm Types in the Alpine Region.  
npj Climate and Atmospheric Science 6(19), [doi:10.1038/s41612-023-00352-z](https://doi.org/10.1038/s41612-023-00352-z)

Feldmann, M., Germann, U., Gabella, M., Berne, A. (2021).  
A Characterisation of Alpine Mesocyclone Occurrence.  
Weather and Climate Dynamics, 2(4), 1225-1244, [doi:10.5194/wcd-2-1225-2021](https://doi.org/10.5194/wcd-2-1225-2021)

Feldmann, M. and James, C. N., Boscacci, M., Leuenberger, D., Gabella, M., Germann, U., Wolfensberger, D., Berne, A. (2020).  
R2D2 - A Region-based Recursive Doppler Dealiasing Algorithm for Operational Weather Radar.  
Journal of Atmospheric and Oceanic Technology, 37(12), 2341-2356, [doi:10.1175/JTECH-D-20-0054.1](https://doi.org/10.1175/JTECH-D-20-0054.1)

Feldmann, M., Emanuel, K., Zhu, L., and Lohmann, U. (2019).  
Estimation of Atlantic tropical cyclone rainfall frequency in the United States.  
Journal of Applied Meteorology and Climatology, 58(8), 1853–1866, [doi:10.1175/JAMC-D-19-0011.1](https://doi.org/10.1175/JAMC-D-19-0011.1)

Gasparini, B., Münch, S., Poncet, L., Feldmann, M., and Lohmann, U. (2017).  
Is increasing ice crystal sedimentation velocity in geoeengineering simulations a good proxy for cirrus cloud seeding?  
Atmospheric Chemistry and Physics, 17, 4871-4885, [doi:10.5194/acp-17-4871-2017](https://doi.org/10.5194/acp-17-4871-2017)

## Reports

Woolnough, S. J., and Coauthors, (2024).  
Celebrating 10 years of the Sub-Seasonal to Seasonal Prediction Project and looking to the future.  
Bulletin of the American Meteorological Society, 105, E521–E526, [doi:10.1175/BAMS-D-23-0323.1](https://doi.org/10.1175/BAMS-D-23-0323.1)

## Conferences and Presentations

Feldmann, M., Poulain-Auzeau, L., Gomez, M., Beucler, T., Martius, O. (2024).  
Convective environments in AI-models - What have Panguweather, Graphcast and Fourcastnet learned about atmospheric profiles?  
EGU General Assembly 2024

Feldmann, M., Domeisen, D.I.V., Martius, O. (2024).  
Investigating the predictability link between heatwaves and severe convective outbreaks in Europe.  
4th European Hail Workshop

Feldmann, M., Poulain-Auzeau, L., Gomez, M., Beucler, T., Martius, O. (2024).  
Convective environments in AI-models - What have Panguweather, Graphcast and Fourcastnet learned about atmospheric profiles?  
4th European Hail Workshop

Feldmann, M., Forcadell, V., Lin, Y. (2024).  
Early career panel discussion: Teaching and research in meteorology in the time of AI  
4th European Hail Workshop

Feldmann, M., Rotunno, R., Germann, U., Berne, A. (2023).  
Supercell thunderstorms in the Alpine region - a modeling framework for frequency clusters.  
CLIMACT Atmospheric Science Day

## Conferences and Presentations

Feldmann, M., Domeisen, D. I. V., Martius, O. (2023).

Investigating the predictability of severe convective outbreaks in central Europe.  
WWRP / WCRP S2S Summit 2023

Feldmann, M., Rotunno, R., Germann, U., Berne, A. (2023).

Supercell thunderstorms in complex topography - how lakes in mountain valleys can increase occurrence frequency.  
11th European Conference on Severe Storms

Feldmann, M., Rotunno, R., Germann, U., Berne, A. (2022).

Supercells in the Alpine Region - From Observations to Idealized Modeling.  
30th Conference on Severe Local Storms, AMS

Feldmann, M., Gabella, M., Berne, A. (2022).

Supercells vs. Hailstorms and Rainstorms - A Radar-based Comparison of Severe Thunderstorms in the Alpine Region.  
11th European Conference on Radar in Meteorology and Hydrology

James, C., Feldmann, M., Boscacci, M., Leuenberger, D., Gabella, M., Germann, U., Wolfensberger, D., Berne, A. (2022)

Region-based Recursive Doppler Dealiasing (R2D2) - An Operational Algorithm For Difficult Doppler Velocity Retrievals  
11th European Conference on Radar in Meteorology and Hydrology

Feldmann, M., Gabella, M., Berne, A. (2022).

Hailstorms vs. Supercells - A Comparison of Severe Thunderstorms in the Alpine Region.  
EGU General Assembly 2022

Feldmann, M. (2022). Supercells in the Alpine Region - From Observations to Idealized Modeling.

NCAR MMM Seminar

Feldmann, M. (2022). Supercell thunderstorms in the Swiss radar network.

Customer information day, MeteoSwiss in the security network of Switzerland

Feldmann, M., James, C., Gabella, M., Boscacci, M., Germann, U., Berne, A. (2021).

Doppler Velocity Products in Convection - Mesocyclone Detection.  
MetObs Forecaster Training, MeteoSwiss

Feldmann, M., Emanuel, K., Zhu, L., Lohmann, U. (2021).

Estimating Long-Term Tropical Cyclone Rainfall Frequency - A Physics-Based Approach.  
34th Conference on Hurricanes and Tropical Meteorology, AMS

Feldmann, M., Germann, U., Gabella, M., Berne, A. (2021).

Characterization of Rotation in Severe Convection.  
3rd European Hail Workshop

Feldmann, M., Gabella, M., Berne, A. (2021).

Characterization of Mesocyclonic Rotation in Severe Convection Over the Swiss Alps.  
EGU General Assembly 2021

Feldmann, M., Emanuel, K., Zhu, L., Lohmann, U. (2020).

Estimating Long-Term Tropical Cyclone Rainfall Frequency - A Physics-Based Approach.  
100th Annual Meeting, AMS

Feldmann, M., Gabella, M., Berne, A. (2019).

Radar-based mesocyclone detection and tracking in alpine regions.  
10th European Conference on Severe Storms

Bern, May 15, 2024

