

Curriculum Vitae

Marlis Hofer

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Date & place of birth: 17.03.1982 in Brixen, Italy
Nationality: Italian

Areas of research interest

1. Atmospheric downscaling: statistical, intermediate complexity and full physics based methods
2. Model evaluation strategies and quantification of predictive uncertainty
3. Global-scale glaciology

Employment history

03/2012 - present Postdoctoral researcher at the ACINN, principal investigator, part time
02/2017 - 03/2018 Maternity leave dedicated to daughter Dorothea (born in April, 2017)
02/2013 - 03/2014 Maternity leave dedicated to daughter Rosa (born in April, 2013)
08/2011 - 10/2012 Maternity leave dedicated to son Kassian (born in October, 2011)
01/2010 - 02/2012 Project member and PhD at the ACINN
03/2008 - 5/2009 Meteorologist at the weather service Aufwind (part-time, Innsbruck, Austria)

Education

01/2008 - 03/2012 PhD at the Institute of Atmospheric and Cryospheric Sciences ACINN, University of Innsbruck (Austria)

- 07/2006 - 11/2008 Diploma thesis at the ACINN, and the Laboratoire de Glaciologie et Geophysique de l'Environnement (LGGE, Grenoble, France)
- 03/2004 - 11/2008 Master student at the ACINN
- 10/2001 - 02/2004 Master student at the Faculty of Mathematics, Computer Sciences and Physics, University of Innsbruck (Austria)
- 1996 - 2001 Matura of the Realgymnasium of modern languages (Brixen, Italy)

Advanced schools, internships & workshops

- 11/2016 Climate Change Workshop (Obergurgl, Austria)
- 4/2015 Workshop on scientific writing (ACINN)
- 4/2015 Statistical Learning (T. Hastie and R. Tibshirani, Online Course by the Stanford University, California)
- 8/2010 IASS Workshop on Mountain Cryospheric Reservoirs (Potsdam, Germany)
- 6/2010 Monsoon Variability, Teleconnections, and Impacts on Mid to Low Latitude Glaciers (Obergurgl, Austria)
- 3/2010 NCCR Climate Change Scenario Workshop (Zurich, Switzerland)
- 9/2009 NCAR WRF-Basic, -VAR, -MET tutorials (Boulder, USA)
- 6/2009 Field safety and rescue management on glaciers (Rettenbachferner, Austria)
- 2/2009 Photomodeler 6.0/Scanner; T. Pfeffer (Innsbruck, Austria)
- 10/2008 Work shop of the Austrian Science Fund (Innsbruck, Austria)
- 9/2007 NCAS Summer School on Atmospheric Measurement (Leeds, UK)
- 8/2007 IMAU Summer School Physics of the Climate System (Utrecht, Netherlands)
- 9/2006 - 1/2007 Internship at the LGGE (Grenoble, France)

07/2006 Internship at the air weather service Austrocontrol (Innsbruck, Austria)

Contributions to international conferences (only convener or chairing activities and posters/lectures as a principal author listed)

- 4/2018 EGU: European Geosciences Union General Assembly 2019 - poster
- 4/2018 EGU: European Geosciences Union General Assembly 2018 - session chair of "Downscaling: methods and applications" (Vienna, Austria)
- 4/2017 EGU: European Geosciences Union General Assembly 2017 - co-organization of the session "Downscaling: methods and applications" (Vienna, Austria)
- 4/2016 EGU: European Geosciences Union General Assembly 2016 - lecture, and co-convener of the session "Downscaling: methods and applications" (Vienna, Austria)
- 8/2015 ICAM: International Conference on Alpine Meteorology 2015 - poster (Innsbruck, Austria)
- 6/2015 26th IUGG general assembly 2015 - lecture, and chair of the IACS symposium C11: "Climate downscaling for modeling glacier mass balance" (Prague, Czech Republic)
- 7/2013 Foro International de Glaciares (Huaraz, Peru) - poster
- 4/2011 European Geosciences Union General Assembly 2011 (Vienna, Austria) - poster
- 11/2010 7. BMBF-Forum für Nachhaltigkeit (Berlin, Germany) - invited lecture
- 4/2010 European Geosciences Union General Assembly 2010 (Vienna, Austria) - lecture
- 3/2010 14th Alpine Glaciological Meeting (Milano, Italy) - poster
- 4/2009 European Geosciences Union General Assembly 2009 (Vienna, Austria) - lecture
- 3/2009 13th Alpine Glaciological Meeting (Innsbruck, Austria) – lecture
- 3/2008 12th Alpine Glaciological Meeting (Chamonix, France) - lecture

Research projects

2015 to 2020 Atmospheric Downscaling for Glacierized mountain environments - DoG, **PI**
(EUR 350,000)

2013 to 2016 Reconstruction and Projecting the Global Behaviour of Glaciers from 1850 - 2300
- project member (PI: Ben Marzeion)

2009 to 2014 Downscaling of Climate Variability: Towards an Impact Assessment for Glaciers in the Cordillera Blanca, Peru - project member (PI: Ben Marzeion)

Awards and scholar ships

2018 Dr. Otto Seibert-Paper Award 2018 of the University of Innsbruck (Austria)

2015 Research grant by the University of Innsbruck (Austria)

2011 *LFUI Best Student Paper Award* by the University of Innsbruck (Austria)

2008 & 2009 Scholar ship of the *Verein zur Förderung der wissenschaftlichen Tätigkeit von Südtirolern an der Landesuniversität Innsbruck*

Field experience

2011 Teaching the course "Meteorologisches Instrumentenpraktikum" at the ACINN

2008 - 2011 Meteorological and glaciological field campaigns in the Cordillera Blanca (Peru) and the Alps (Italy, Austria)

9/2007 NCAS Summer School on Atmospheric Measurement (Leeds, UK)

Technical and language skills

- Expert in the design, installation and maintenance of automatic weather stations in difficult environments (in the tropics, at altitudes exceeding 5000 m asl, on glaciers)
- Trained in glacier and avalanche rescue
- Computer: Matlab, Latex, R, CDO, NCL, UNIX shell scripting, Fortran, git, Python
- Languages: German (mother tongue), English (full professional proficiency), Italian (full professional proficiency), French (medium level), Spanish (basics)

Reviewer of research articles

Since 2010, e.g., for Climate Dynamics, Geophysical Model Development, International Journal of Climatology, Journal of Glaciology, Journal of Hydrometeorology, Climatic Change.

Science apart

- Yoga teacher (RYT200, Iyengar style)
- Rock climbing (UIAA IX+ RP)

Journal articles (published after peer-review)

Horak, J., **M. Hofer**, F. Maussion, E. Gutmann, A. Gohm, and M. W. Rotach, **2019**: Assessing the Added Value of the Intermediate Complexity Atmospheric Research Model (ICAR) for Precipitation in Complex Topography. *Hydrol. Earth Syst. Sci.*, **23**, 2715-2734, URL <https://doi.org/10.5194/hess-23-2715-2019>.

Hofer, M., J. Nemeč, N.C. Cullen, and M. Weber, **2017**: Evaluating predictor strategies for regression-based downscaling with a focus on glacierized mountain environments. *Journal of Applied Meteorology and Climatology*, **56**, 1707–1729, URL <https://doi.org/10.1175/JAMC-D-16-0215.1>.

Gurgiser, W., I. Juen, K. Singer, M. Neuburger, S. Schauwecker, **M. Hofer**, and G. Kaser, **2016**: Comparing peasants' perceptions of precipitation change with precipitation records in the tropical Callejon de Huaylas, Peru. *Earth Syst. Dynam.*, **7**, 499-515, doi:10.5194/esd-7-499-2016, 2016.

Hofer, M., B. Marzeion, and T. Mölg, **2015**: A statistical downscaling method for daily air temperature in data-sparse, glaciated mountain environments. *Geoscientific Model Development*, **8** (2), 579–593, doi:10.5194/gmd-8-579-2015, URL <http://www.geosci-model-dev.net/8/579/2015/gmd-8-579-2015.html>.

Hofer, M., B. Marzeion, and T. Mölg, **2012**: Comparing the skill of different reanalyses and their ensembles as predictors for daily air temperature on a glaciated mountain (Peru). *Climate Dynamics*, **39**, 1969—1980, doi:10.1007/s00382-012-1501-2.

Marzeion, B., **M. Hofer**, A. H. Jarosch, G. Kaser, and T. Mölg, **2012**: A minimal model for reconstructing interannual mass balance variability of glaciers in the european alps. *The Cryosphere*, **6** (1), 71–84, doi:10.5194/tc-6-71-2012, URL <http://www.the-cryosphere.net/6/71/2012/>.

Marzeion, B., A. H. Jarosch, and **M. Hofer**, **2012**: Past and future sea-level change from the surface mass balance of glaciers. *The Cryosphere*, **6** (6), 1295–1322, doi:10.5194/tc-6-1295-2012, URL <http://www.the-cryosphere.net/6/1295/2012/>.

Mölg, T., M. Grosshauser, A. Hemp, **M. Hofer**, and B. Marzeion, **2012**: Limited forcing of glacier loss through land-cover change on Kilimanjaro. *Nature Climate Change*, **2**, 254–258.

Hofer, M., T. Mölg, B. Marzeion, and G. Kaser, **2010**: Empirical-statistical downscaling of reanalysis data to high-resolution air temperature and specific humidity above a glacier surface (Cordillera Blanca, Peru). *Journal of Geophysical Research: Atmospheres*, **115** (D12), n/a–n/a, doi:10.1029/2009JD012556, URL <http://dx.doi.org/10.1029/2009JD012556>.