CV PD Dr. Mag. Mag. Andrea Fischer

Address Institute of Interdisciplinary Mountain Research,
Austrian Academy of Sciences,
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www.mountainresearch.at

Current position

Vice director of the Institute for Interdisciplinary Mountain Research
Leader of the working group 'Man and environment in high mountain areas'

Main areas of research

Mountain glaciology, geophysics, permafrost, paleoglaciology, mountain research.

Climate as one of the major forcings of the natural system in high alpine environments, its impact on the living conditions and cultural practices from early Holocene to modern climate change adaptation measures are a central part of the research portfolio. Glaciers as indicators and archives of climate change, but also as part of the hydrological system and as potential sources of hazards play a key role. Having a multidisciplinary academic education, the combination of approaches and methods opens new ground for investigations of a broader perspective on past and future transitions in high mountain areas, with special emphasis on process studies.

Academic career

Venia docendi, University of Innsbruck, 2011.
Dr. rer.nat., Institute for Meteorology (Remote sensing), University of Innsbruck, 2003.
Mag. rer.nat (Physics), University of Graz, 1999.
Mag. rer.nat (Environmental Sciences), University of Graz, 1999.

Former affiliations

University of Innsbruck
Austrian Academy of Sciences, Commission for Geophysical Research
AlpS Research GmbH

Research stays

NSIDC, Boulder, CO; 2012
INACH, Punta Arenas, Chile; 2011

Awards

2024 Wissenschafter des Jahres
2022 Full member of the Austrian Academy of Sciences
2014 Corresponding member of the Austrian Academy of Sciences
2013 Austria'13 Österreicher des Jahres im Bereich Forschung

Scientific community

National correspondent of the World Glacier Monitoring Service
Member of the board of the Austrian Geophysical Society
Member of the board of the Environmental History Cluster Austria (EHCA)

Austrian Academy of Sciences:
Speaker of Bundesländerinitiative Tirol and Vorarlberg of the Austrian Academy of Sciences

Reviewer for e.g.
Annals of Glaciology, Journal of GIS, International Journal of Climatology, Geophysical Research Letters, Journal of Sustainable Tourism, GW-Unterricht, APCC, Geografica Helvetica, Geografiska Annaler, Journal of Mountain Science, Quaterny International, Polar Research, New Zealand Journal of Hydrology, The Cryosphere, Earth System Sciences, various science funds.

Member of
International Glaciological Society IGS
European Geophysical Society
Austrian Geophysical Society
Österreichische Geographische Gesellschaft
International Association for Ladakh Studies

Publications

ResearcherID: A-9366-2012
ORCID: http://orcid.org/0000-0003-1291-8524
For a complete list of publications please consult: http://www.andreafischer.at/publications/

Most important publications of the last 10 years:

Fischer, A., Stocker-Waldhuber, M., Frey, M. *et al.* Contemporary mass balance on a cold Eastern Alpine ice cap as a potential link to the Holocene climate. *Sci Rep* **12,** 1331 (2022). https://doi.org/10.1038/s41598-021-04699-2

Fischer, A., T. Fickert, G. Schwaizer, G. Patzelt & G. Groß, 2019, Vegetation dynamics in Alpine glacier forelands tackled from space, **Nature Scientific Reports** 9, https://www.nature.com/articles/s41598-019-50273-2

Feng, Z., P. Bohleber, S. Ebser, L. Ringena, M. Schmidt, A. Kersting, P. Hopkins, H. Hoffmann, A. Fischer, W. Aeschbach, M. K. Oberthaler, 2019, Dating glacier ice of the last millennium by quantum technology, **Proceedings of the National Academy of Sciences**, 201816468; DOI: 10.1073/pnas.1816468116.

Zemp, M., Sajood, A.A., Pitte, P., van Ommen, T., Fischer, A., Soruco, A., Thomson, L., Schaefer, M., Li, Z., Ceballos Lievano, J.L., Cáceres Correa, B.E., Vincent, C., Tielidze, L., Braun, L.N., Ahlstrøm, A.P., Hannesdóttir, H., Dobhal, D.P., Karimi, N., Baroni, C., Fujita, K., Severskiy, I., Prinz, R., Usubaliev, R., Delgado-Granados, H., Demberel, O., Joshi, S.P., Anderson, B., Hagen, J.O., Dávila Roller, L.R., Gadek, B., Popovnin, V.V., Cobos, G., Holmlund, P., Huss, M., Kayumov, A., Lea, J.M., Pelto, M., and Yakovlev, A. (2019): Glacier monitoring to track warming. **Nature**, 576, p. 39. go.nature.com/34ak25y

Vincent, C., A. Fischer, C. Mayer, A. Bauder, S. P. Galos, M. Funk, E. Thibert, D. Six, L. Braun, and M. Huss, 2017. Common climatic signal from glaciers in the European Alps over the last 50 years, **Geophys. Res. Lett.,** 44, 1376–1383, doi:10.1002/2016GL072094.

Bohleber, P., Sold, L., Hardy, D. R., Schwikowski, M., Klenk, P., Fischer, A., Sirguey, P., Cullen, N. J., Potocki, M., Hoffmann, H., and Mayewski, P., 2017. Ground-penetrating radar reveals ice thickness and undisturbed englacial layers at Kilimanjaro's Northern Ice Field, **The Cryosphere**, 11, 469-482, doi:10.5194/tc-11-469-2017.

Fischer, A., Helfricht, K., and Stocker-Waldhuber, M., 2016. Local reduction of decadal glacier thickness loss through mass balance management in ski resorts, **The Cryosphere**, 10, 2941-2952, doi:10.5194/tc-10-2941-2016. http://www.the-cryosphere.net/10/2941/2016/

Fischer, A., Seiser, B., Stocker-Waldhuber, M., Mitterer, C., Abermann, J., 2015. Tracing glacier changes in Austria from the Little Ice Age to the present using a lidar-based high-resolution glacier inventory in Austria. **The Cryosphere**, 9 (2), 753-766, doi:10.5194/tc-9-753-2015.

Hartl, L., Fischer, A., Abermann, J. and Stocker-Waldhuber, M., 2016. Recent speed-up of an Alpine rock glacier: an updated chronology of the kinematics of Outer Hochebenkar rock glacier based on geodetic measurements. **Geografiska Annaler**: Series A, Physical Geography, 98, 129-141. DOI:10.1111/geoa.12127

Fischer, A. and Kuhn, M., 2013. GPR measurements of 64 Austrian glaciers as a basis for a regional glacier volume inventory, **Annals of Glaciology**, 54 (64), 179–188.