

**CV PD Dr. Mag. Mag. Andrea Fischer**

Position Director  
Address Institute of Interdisciplinary Mountain Research,  
Austrian Academy of Sciences,  
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[www.mountainresearch.at](http://www.mountainresearch.at)

**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**

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)

Member of the IACS initiative on ice thickness

**Austrian Academy of Sciences:**

Member of the Climate and Air Quality Commission of the Austrian Academy of Sciences  
 Member of the GIScience Commission of the Austrian Academy of Sciences  
 Cospeaker 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, Quaternary 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

**Selected research projects**

ColdIce: Prospecting cold based summit glaciers in the Austrian Alps: A novel approach for past glacier extent	FWF	2016-2019	P29256-N36
3P Clim: Climate Change in three provinces	Interreg	2012-2015	
Integral Glacier Monitoring system	FWF Herta Firnberg	2006-2009	T329
Glacier monitoring Hallstätter Glacier	Federal government	2006-	
Glacier monitoring Mullwitzkees	Federal government	2006-	
Glacier monitoring Venediger Kees	Federal government	2012-	
Active glacier protection	AlpS/EU Comet	2004-2006	

**Publications**

ResearcherID: A-9366-2012

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For a complete list of publications please consult: <http://www.andreafischer.at/publications/>

Most important publications of the last 10 years

- Fischer, A., G. Patzelt, M. AchRAINER, G. Groß, G. K. Lieb, A. Kellerer-Pirklbauer & G. Bendler, 2018. Gletscher im Wandel: 125 Jahre Gletschermessdienst des Alpenvereins. Springer Spektrum, 140 S. doi:10.1007/978-3-662-55540-8. <http://www.springer.com/de/book/9783662555392>.
- Bohleber, P., Hoffmann, H., Kerch, J., Sold, L., and Fischer, A., 2018. Investigating cold based summit glaciers through direct access to the glacier base: a case study constraining the maximum age of Chli Titlis glacier, Switzerland, The Cryosphere, 12, 401-412, <https://doi.org/10.5194/tc-12-401-2018>.
- Farinotti, D., Brinkerhoff, D.J., Clarke, G.K.C., Fürst, J.J., Frey, H., Gantayat, P., Gillet-Chaulet, F., Girard, C., Huss, M., Leclercq, P. W., Linsbauer, A., Machguth, H., Martin, C., Maussion, F., Morlighem, M., Mosbeux, C., Pandit, A., Portmann, A., Rabatel, A., Ramsankaran, R., Reerink, T. J., Sanchez, O., Stentoft, P. A., Singh Kumari, S., van Pelt, W. J. J., Anderson, B., Benham, T., Binder, D., Dowdeswell, J. A., Fischer, A., Helfricht, K., Kutuzov, S., Lavrentiev, I., McNabb, R.,

- Gudmundsson, G. H., Li, H., and Andreassen, L. M., 2017. How accurate are estimates of glacier ice thickness? Results from ITMIX, the Ice Thickness Models Intercomparison eXperiment, *The Cryosphere*, 11, 949-970, doi:10.5194/tc-11-949-2017,.
- 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.
- Zemp, M., Frey, H., Gärtner-Roer, I., Nussbaumer, S. U., Hoelzle, M., Paul, F., Haeberli, W., Denzinger, F., Ahlstrøm, A. P., Anderson, B., Bajracharya, S., Baroni, C., Braun, L. N., Cáceres, B. E., Casassa, G., Cobos, G., Dávila, L. R., Granados, H. D., Demuth, M. N., Espizua, L., Fischer, A., Fujita, K., Gadek, B., Ghazanfar, A., Hagen, J. O., Holmlund, P., Karimi, N., Li, Z., Pelto, M., Pitte, P., Popovnin, V. V., Portocarrero, C. A., Prinz, R., Sangewar, C. V., Severskiy, I., Sigurðsson, O., Soruco, A., Usubaliev, R. and Vincent, C., 2015. Historically unprecedented global glacier decline in the early 21st century, *Journal of Glaciology*, 61 (228), 745–762, doi:10.3189/2015JoG15J017.
- Zemp, M., Thibert, E., Huss, M., Stumm, D., Rolstad Denby, C., Nuth, C., Nussbaumer, S. U., Moholdt, G., Mercer, A., Mayer, C., Joerg, P. C., Jansson, P., Hynek, B., Fischer, A., Escher-Vetter, H., Elvehøy, H., and Andreassen, L. M., 2013. Reanalysing glacier mass balance measurement series, *The Cryosphere*, 7, 1227-1245, doi:10.5194/tc-7-1227-2013.
- Stocker-Waldhuber, M., Fischer, A., Keller, L., Morche, D., Kuhn, M., 2016. Funnel-shaped surface depressions - Indicator or accelerant of rapid glacier disintegration? A case study in the Tyrolean Alps. *Geomorphology*, Special Issue: SEDIBUD. in press: DOI: <http://dx.doi.org/10.1016/j.geomorph.2016.11.006>
- 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.
- Fischer, A., 2011. Comparison of direct and geodetic mass balances on a multi-annual time scale, *The Cryosphere*, 5, 107-124, doi:10.5194/tc-5-107-2011.
- Fischer, A., 2010. Glaciers and climate change: Interpretation of 50 years of direct mass balance of Hintereisferner, *Global and Planetary Change*, 71, 1-2, 13-26, DOI: 10.1016/j.gloplacha.2009.11.014.
- Olefs, M., Fischer, A. and Lang, J., 2010. Boundary conditions for artificial snow production in the Austrian Alps, *Journal of Applied Meteorology and Climatology*, 49, S1096 - 1113.
- Fischer, A., 2009. Calculation of glacier volume from sparse ice thickness data, applied to Schaufelferner, Austria. *Journal of Glaciology*, 55 (191), 453-460.
- Joerin, U. E., K. Nicolussi, A. Fischer, T. F. Stocker and C. Schlüchter, 2008. Holocene optimum events inferred from subglacial sediments at Tschierva Glacier, Eastern Swiss Alps, *Quaternary Science Reviews*, 27, 3-4, 337-350, DOI: 10.1016/j.quascirev.2007.10.016.