

assoc. Prof. Dr. Georg Leitinger

Department of Ecology

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**AREAS OF EXPERTISE**

- strong expertise in systems ecology and landscape ecology of mountain ecosystems, performing process analysis on various temporal and spatial scales ranging from the ecosystem to the landscape level
- research encompassing field experiments as well as development and implementation of statistical models and scenario techniques
- main research focus: analysis of the ecological effects of land-use changes in mountain regions with special regard to biodiversity, vegetation changes, potential risks, water and carbon cycle, and ecosystem service bundles; incorporating links to socioeconomic / applied research
- latest research: **(1)** assessment of water balance in alpine environments using rainfall simulation, high-precision lysimetry, and ecosystem chambers; **(2)** analyses of surface energy balance by thermal imaging and micrometeorological measurements with regard to model evapotranspiration and sensible heat flux of different land-cover types; **(3)** quantification and mapping of ecosystem services; **(4)** resilience of social-ecological systems.

PERSONAL

Born July 27th, 1976 in Schwaz (Tyrol/Austria), Austrian citizen, family status: married, 2 children

EDUCATION AND POSITIONS HELD

- since 2016: Associate Professor at the Department of Ecology, *ResearchGroup Ecosystem and Landscape Ecology*
- 2010 - 2016: Assistant Professor at the University of Innsbruck, Department of Ecology, RG Ecosystem and Landscape Ecology (Habilitation in Ecology– *venia docendi*)
- 2009 – 2010: Post-Doc at the Department of Ecology, University of Innsbruck.
- 2009: PhD at the University of Innsbruck, Department of Ecology (pass with distinction). Dissertation: *Implications of land-use/cover change for carbon sequestration and natural hazard risks*
- 2006: Granting of a two-years PhD fellowship by the University of Innsbruck.
- 2006: Award of the Research Platform 'Alpine Space – Man and Environment', University of Innsbruck: *Outstanding Interdisciplinary Research in Alpine Space*.
- 2004 to 2006: Scientific Collaborator at the European Academy Bolzano/Bozen (Italy), Institute for Alpine Environment
- 2003 to date: Teaching at the University of Innsbruck, Department of Ecology with the main topics Geographic Information System (GIS), Landscape Ecology, Landscape Modelling & Scenario Development, and Ecological Research Methods.
- 2003: Scientific assistant at the Department of Botany (University of Innsbruck), Department of Ecology within the EU-project CARBOMONT.
- 2003: MSc at the Department of Ecology, University of Innsbruck (pass with distinction). Diploma thesis within the framework of EU-project INTEGRALP and ECOMONT: *Effect of land-use changes on snow gliding and its implications*.

CURRENT SCIENTIFIC PROJECTS:

LUCSES (2021-2025), Forecasting impacts of land-use and climate change on ecosystem services from shrub-encroached mountain grassland. (FWF-ANR)

PUBLICATIONS (selected, ORCID for all ISI-papers: 0000-0001-6639-3386)

- Huber L, Rudisser J, Meisch C, Stotten R, **Leitinger G**, Tappeiner U (2021). Agent-based modelling of water balance in a social-ecological system: A multidisciplinary approach for mountain catchments. *Sci. Total Environ.* 755, 142962. DOI: 10.1016/j.scitotenv.2020.142962.
- Tappeiner U, **Leitinger G**, Zarina A, Burgi M (2021). How to consider history in landscape ecology: patterns, processes, and pathways. *Landscape Ecol.* DOI: 10.1007/s10980-020-01163-w.
- Huber L, Schirpke U, Marsoner T, Tasser E, **Leitinger G** (2020) Does socioeconomic diversification enhance multifunctionality of mountain landscapes? *Ecosystem Services* 44:101122 doi:10.1016/j.ecoser.2020.101122
- Praeg N, Seeber J, **Leitinger G**, Tasser E, Newesely C, Tappeiner U, Illmer P (2020) The role of land management and elevation in shaping soil microbial communities: Insights from the Central European Alps *Soil Biol Biochem* 150:107951 doi:10.1016/j.soilbio.2020.107951
- Rüdissler J, **Leitinger G**, Schirpke U (2020) Application of the Ecosystem Service Concept in Social–Ecological Systems—from Theory to Practice *Sustainability* 12:2960
- Schirpke U ¹, **Leitinger G** ¹, Tasser E, Rüdissler J, Fontana V, Tappeiner U (2020) Functional spatial units are fundamental for modelling ecosystem services in mountain regions *Applied Geography* 118:102200 doi:https://doi.org/10.1016/j.apgeog.2020.102200. (¹joint first authors)
- Tello-García E, Huber L, **Leitinger G**, Peters A, Newesely C, Ringler M-E, Tasser E (2020) Drought- and heat-induced shifts in vegetation composition impact biomass production and water use of alpine grasslands *Environ Exp Bot* 169:103921 doi:10.1016/j.envexpbot.2019.103921
- Leitinger G.**, Meusburger, K., Rüdissler, J., Tasser, E., Walde, J. and Höller, P., (2018). Spatial evaluation of snow gliding in the Alps. *CATENA*, 165: 567-575. DOI: 10.1016/j.catena.2018.03.001
- Lavorel, S., Grigulis, K., **Leitinger G.**, Kohler, M., Schirpke, U., Tappeiner, U. (2017). Historical trajectories in land use pattern and grassland ecosystem services in two European alpine landscapes. *Regional Environmental Change*. DOI: 10.1007/s10113-017-1207-4
- Rogger M, Agnoletti M, Alaoui A, Bathurst JC, Bodner G, Borga M, Chaplot V, Gallart F, Glatzel G, Hall J, Holden J, Holko L, Horn R, Kiss A, Kohnova S, **Leitinger G**, Lennartz B, Parajka J, Perdigao R, Peth S, Plavcova L, Quinton JN, Robinson M, Salinas JL, Santoro A, Szolgay J, Tron S, van den Akker JJH, Viglione A, Blöschl G 2017. Land use change impacts on floods at the catchment scale: Challenges and opportunities for future research. *Water Resour Res* 53, 5209-5219. DOI: 10.1002/2017WR020723.
- Leitinger G.**, Ruggenthaler R., Hammerle A., Lavorel S., Schirpke U., Clement J.C., Lamarque P., Obojes N., Tappeiner U. (2015). Impact of droughts on water provision in managed alpine grasslands in two climatically different regions of the Alps. *Ecohydrology*. DOI: 10.1002/eco.1607
- Heinl M., Hammerle A., Tappeiner U., **Leitinger G.** (2015). Determinants of urban–rural land surface temperature differences – A landscape scale perspective. *Landscape and Urban Planning*, 134, 33-42. DOI: 10.1016/j.landurbplan.2014.10.003
- Schirpke U.¹, **Leitinger G.**¹, Tasser E., Schermer M., Steinbacher M., Tappeiner U. (2013). Multiple ecosystem services on landscape level of an Alpine region: past, present, and future. *International Journal of Biodiversity Science, Ecosystem Services & Management*, 9(2), 123-135. (¹joint first authors)
- Leitinger G.**, Tasser E., Newesely C., Obojes N., Tappeiner U. (2010). Seasonal dynamics of surface runoff in mountain grassland ecosystems differing in land use. *Journal of Hydrology*, 385 (1-4), 95–104.
- Leitinger G.**, Höller P., Tasser E., Walde J., Tappeiner U. (2008). Development and Validation of a Spatial Snow-Glide Model. *Ecological Modelling*, 211, 363-374.

PEER REVIEW ACTIVITIES: <https://publons.com/researcher/779425/georg-leitinger/peer-review/>

POSTER & ORAL PRESENTATIONS: ca. 50 posters / 50 oral presentations at national and international conferences