

## Curriculum vitae and publications of Erika Hiltbrunner

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Dr. Erika Hiltbrunner

Born: 21.12.1962 Langnau i. E., Switzerland

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*Position* Senior scientist PPE group of Prof. Ansgar Kahmen (University of Basel)  
Permanent position (50%) since 01.01.2017

### Education

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1990 Diploma in Biology, University of Basel  
1991-1997 Ph.D. University of Basel (“summa cum laude”)

### Professional experience

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1997-2000 Post-doc at the ETH Zürich (Assessment of new methods on tree vitality, BAFU/FOEN Project)

2000-2002 Post-doc at the Institute of Applied Plant Biology, Schönenbuch, Project on critical loads for nitrogen in Swiss forests

2002-2005 Post-doc: NRP 48 Landscape and Habitats of the Alps (University of Basel)

2006-2009 Post-doc: Scientific and technical supervision of CO<sub>2</sub> MiniFACE with glacier forefield plants (2006-2008) and different alpine grassland types (2008-2009; Furka)

2008-2011 Co-PI of the project: Bio-CATCH funded by the Swiss Federal Office for Agriculture, PhD Project of Nicole Inauen (PI Prof. Christian Körner)

2004-2011 Post-doc: FOEN project (Effects of elevated atmospheric N deposition on alpine vegetation - experimental N additions)

2006-2009 NRP project in Bolivia (Towards sustainable land use in the Bolivian Altiplano: effects of grazing and fire on the biomass productivity, diversity and soil stability). Co-supervision of the two PhD projects: Lita Patty, Jose Monteiro (PI Prof. Christian Körner)

2010-2011 Spanish version Alpendino of the e-learning course ALPECOle (funded by DEZA).

2009-2012 Post-doc: NRP VALUrsern-The ecological and socio-economic consequences of land transformation in alpine regions. Project coordination, supervision of PhD project: Thijs van den Bergh (PI Prof. Christian Körner)

2010-2014 Co-PI of the Project of Zurich-Basel PSC-Mercator Research Fellowship Program: The Alnus-problem and the exceedance of critical loads for nitrogen in the Alps (ALNEX). PhD project: Tobias Bühlmann (supervision; PI Prof. Christian Körner)

2013-2014 Post-doc FOEN project: Measuring total N deposition at two alpine and one montane sites in the Swiss Alps

2013-2020 PI FOEN project: Effects of atmospheric N deposition on the alpine vegetation in three different habitats

2016- 2020 Co-PI/Project Manager of the Project of Zurich-Basel PSC-Mercator Research Fellowship Program: “Changing snow loads and summer drought press alpine plants and force economy (SNOSU-FORCE)” PhD project: Maria Vorkauf (PI Prof. Ansgar Kahmen)

2017-2022 PI Project Manager: “With Engadine sheep against the green alder expansion in the Swiss Alps” (applied project, funded by Swiss Finance and Property Zürich and Al Breach, Andermatt)

- Inauen N, Körner C, Hiltbrunner E (2013) Hydrological consequences of declining land use and elevated CO<sub>2</sub> in alpine grassland, *Journal of Ecology* 101: 86-96
- Huck C, Körner C, Hiltbrunner E (2013) Plant species dominance shifts across erosion edge-meadow transects in the Swiss Alps, *Oecologia* 171: 693-703
- Van den Bergh T, Inauen N, Hiltbrunner E, Körner C (2013) Climate and plant cover co-determine the elevational reduction in evapotranspiration in the Swiss Alps, *Journal of Hydrology* 500: 75-83
- Bühlmann T, Hiltbrunner E, Körner C (2014) *Alnus viridis* expansion contributes to excess reactive nitrogen release, reduces biodiversity and constrains forest succession in the Alps, *Alpine Botany* 124: 187-191
- Hiltbrunner E, Aerts R, Bühlmann T, Huss-Danell K, Magnusson B, Myrold DD, Reed SC, Bjarni DS, Körner C (2014) Ecological consequences of the expansion of N<sub>2</sub>-fixing plants in cold biomes, *Oecologia* 176: 11-24
- Bühlmann T, Hiltbrunner E, Körner C, Rihm B, Achermann B (2015) Induction of indirect N<sub>2</sub>O and NO emissions by atmospheric nitrogen deposition in (semi-)natural ecosystems in Switzerland. *Atmos Environ* 103: 94-101
- De Boeck HJ, Bassin S, Verlinden M, Zeiter M, Hiltbrunner E (2015) Simulated heat waves affected alpine grassland only in combination with drought. *New Phytol.* doi: 10.1111/nph.13601
- Nagelmüller S, Hiltbrunner E, Körner C (2015) Critically low soil temperatures for root growth and root morphology in three alpine plant species. *Alpine Botany*. 10.1007/s00035-015-0153-3
- Obojes N, Bahn M, Tasser E, Walde J, Inauen N, Hiltbrunner E, Saccone P, Lohet J, Clement JC, Lavorel S, Tappeiner U, Körner C (2015) Vegetation effects on the water balance of mountain grasslands depend on climatic conditions. *Ecohydrol* 8: 552-569
- Bühlmann T, Körner C, Hiltbrunner E (2016) Shrub expansion of *Alnus viridis* drives former montane grassland into nitrogen saturation. *Ecosystems* 19: 968-985. doi:10.1007/s10021-016-9979-9
- Bühlmann T, Caprez R, Hiltbrunner E, Körner C, Niklaus CA (2017) Nitrogen fixation by *Alnus* species boosts soil nitrous oxide emissions. *European Journal of Soil Science*. doi: 10.1111/ejss.12457
- Nagelmüller S, Hiltbrunner E, Körner C (2017) Low temperature limits for root growth in alpine species are set by cell differentiation. *AOB Plants*. doi: 10.1093/aobpla/plx054
- Scholz K, Hammerle A, Hiltbrunner E, Wohlfahrt G (2017) Analyzing the effects of growing season length on the net ecosystem production of an alpine grassland using model–data fusion. *Ecosystems* doi: 10.1007/s10021-017-0201-5
- Van den Bergh T, Körner C, Hiltbrunner E (2017) *Alnus* shrub expansion increases evapotranspiration in the Swiss Alps *Reg Environ Change*. doi:10.1007/s10113-017-1246-x
- Körner C, Hiltbrunner E (2018) The 90 ways to describe plant temperature. *Perspect Plant Ecol Evol Syst* doi.org/10.1016/j.ppees.2017.04.004