

# Curriculum Vitae

## Personal Information

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Name Sonja Leitner  
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## Education

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Since 2013 **PhD Natural Resources and Life Sciences, BOKU University Vienna, Austria**  
Thesis: *"Impact of extreme weather events on soil microbial community composition and emissions of climate-relevant gases"*  
Supervisor: Prof. Sophie Zechmeister-Boltenstern

2011 - 2012 **Research assistant, BOKU University Vienna**  
Institute of Soil Research and Institute of Silviculture

2003 - 2010 **MSc Biology (Terrestrial Ecology), University of Vienna, Austria**  
Thesis: *"Influence of litter chemistry and stoichiometry on glucan depolymerization during decomposition of beech litter"*  
Supervisors: Prof. Andreas Richter & Prof. Wolfgang Wanek

## Fellowships

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2015 Austrian Marshall Plan Foundation scholarship to visit Prof. J Schimel, UCSB, USA, €6'000  
2013 PhD fellowship of the AXA research fund, €120'000

## Teaching Experience

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*I have co-supervised 6 master theses at BOKU University Vienna:*

- Pia Minixhofer: Impact of extreme weather events on plant available nitrogen and amino acids using microdialysis (2015)
- Markus Schartner: Impact of repeated dry-wet cycles on macro-aggregate stability and organic carbon stabilization of a beech forest soil (2015)
- Jan Bockholt: Rainfall partitioning and solute fluxes in a pure beech stand and the effect of droughts and heavy rain events at plot scale (2014)
- Paul Brugner: Influence of weather extremes on forest-soil nutrient cycling (2014)
- Orracha Sae-Tun: Impact of litter-removal and seasonality on soil microbial community composition in a beech forest (2014)
- Lukas Kranzinger: Impact of litter removal and seasonality on soil greenhouse gas fluxes and nutrient cycling in an Austrian beech forest (2014)

*I was a tutor at 2 lectures:*

- Summer term 2010: "C-cycling in alpine ecosystems", University of Vienna, Department of Microbiology and Ecosystem Science, with Prof. Dr. Andreas Richter and Prof. Dr. Wolfgang Wanek
- Winter term 2008: "Plant anatomy", University of Vienna, former Department of Ecophysiology and Functional Anatomy of Plants, with Prof. Dr. Gerhard Draxler

I have co-organized 1 summer-school and 2 student field trips:

- September 2015: **International Summer School** of the DBG Working Group Soil Gases: “Soil-Borne Greenhouse Gases: From Field Data to Publication”
- September 2012: **Field Course Soil Ecology** in the BOKU University Forest Rosalia, Austria, with 15 students, led by Dr. M. Zimmermann, Dr. K. Keiblinger and Dr. F. Zehetner (BOKU University, Inst. of Soil Research)
- August 2009: **Field Trip to Central Siberia**, Russia, with 30 students, led by Prof. Andreas Richter (University of Vienna, Dptm. of Microbiology and Ecosystem Science)

## Publications

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Leitner S, Minixhofer P, Inselsbacher E, Keiblinger KM, Zimmermann M, Zechmeister-Boltenstern S (2017): Short-term soil mineral and organic nitrogen fluxes during moderate and severe drying-rewetting events. *Applied Soil Ecology*, 114, 28-33, doi:10.1016/j.apsoil.2017.02.014.

Mooshammer M, Hofhansl F, Frank AH, Wanek W, Hämmerle I, Leitner S, Schnecker J, Wild B, Watzka M, Keiblinger KM, Zechmeister-Boltenstern S, Richter A (in press): Decoupling of microbial carbon, nitrogen and phosphorus cycling in response to extreme temperature events. *Science Advances*.

Leitner S, Sae-Tun O, Kranzinger L, Zechmeister-Boltenstern S, Zimmermann M (2016): Contribution of litter layer to soil greenhouse gas emissions in a temperate beech forest. *Plant and Soil*, doi:10.1007/s11104-015-2771-3

Liu D, Keiblinger KM, Leitner S, Mentler A, Zechmeister-Boltenstern S (2016): Is there a convergence of deciduous leaf litter stoichiometry, biochemistry and microbial population during decay? *Geoderma*, 272, 93-100. doi:10.1016/j.geoderma.2016.03.005

Schwen A, Zimmermann M, Leitner S, Woche SK (2015): Soil Water Repellency and its Impact on Hydraulic Characteristics in a Beech Forest under Simulated Climate Change. *Vadose Zone Journal*, 14 (12), doi:10.2136/vzj2015.06.0089.

Leitner S, Wanek W, Wild B, Hämmerle I, Keiblinger KM, Zechmeister-Boltenstern S and A Richter (2012): Influence of litter chemistry and stoichiometry on glucan depolymerization during decomposition of beech (*Fagus sylvatica* L.) litter. *Soil Biology & Biochemistry*, 50, 174-187.

Keiblinger KM, Schneider T, Roschitzki B, Schmid E, Eberl L, Hämmerle I, Leitner S, Richter A, Wanek W, Riedel K and S Zechmeister-Boltenstern (2012): Effects of stoichiometry and temperature perturbations on beech litter decomposition, enzyme activities and protein expression. *Biogeosciences*, 9, 4537-4551.

Mooshammer M, Wanek W, Schnecker J, Wild B, Leitner S, Hofhansl F, Blöchl A, Hämmerle I, Frank AH, Fuchsluger L, Keiblinger KM, Zechmeister-Boltenstern S and A Richter (2012): Stoichiometric controls of nitrogen and phosphorus cycling in decomposing beech leaf litter. *Ecology*, 93(4), 770–782.

## Scientific Talks & Posters

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Leitner S, Zimmermann M, Holtermann C, Keiblinger K, Saronjic N, Zechmeister-Boltenstern S: Impact of repeated dry-wet cycles on soil CO<sub>2</sub> efflux and extracellular enzyme activities in a beech forest. Annual Conference of the Austrian Soil Science Society, Vienna, Sep 22, 2014. Talk.

Leitner S, Homyak PM, Blankinship JC, Eberwein J, Jenerette D, Zechmeister-Boltenstern S, Schimel JP: Linking NO<sub>x</sub>, N<sub>2</sub>O and CO<sub>2</sub> emission peaks to the mobilization of mineral N upon rewetting of dry soil. ClimMani/INTERFACE Workshop “After the extreme: Measuring and modeling impacts on terrestrial ecosystems when thresholds are exceeded”. Florence, Italy, 12-15 April, 2016. Poster.

Leitner S, Kobler J, Holtermann C, Saronjic N, Zechmeister-Boltenstern S, Zimmermann M: Response of Soil Respiration to Repeated Extreme Events in a Temperate Beech Forest in Austria. In: American Geophysical Union, Book of abstracts, B21F-0535. AGU Fall meeting 2015, San Francisco, USA, Dec 14-18, 2015. Poster.

Leitner S, Saronjic N, Kobler J, Holtermann C, Zechmeister-Boltenstern S, Zimmermann M: Impact of repeated dry-wet cycles on soil CO<sub>2</sub> efflux in a beech forest. In: COPERNICUS, Geophysical Research Abstracts, Vol. 17, EGU2015-15130. EGU General Assembly, Vienna, Austria, Apr 12-17, 2015. Poster.

Saronjic N, Leitner S, Keiblinger K, Zechmeister-Boltenstern S, Zimmermann M: How do soil microbial communities react on droughts and heavy rainfall events? In: COPERNICUS, Geophysical Research Abstracts, Vol. 17, EGU2015-15131. EGU General Assembly 2015, Vienna, AUSTRIA, Apr 12-17, 2015. Poster.

- Zimmermann M, Leitner S, Saronjic N, Zechmeister-Boltenstern S: Impact of manipulation experiments on soil greenhouse gas fluxes at the LTER site Rosalia Lehrforst. Joint Conference of LTER Europe and EXPEER Related Sites Group, Vienna, Feb 17-19, 2015. Poster.
- Zimmermann M, Leitner S, Saronjic N, Zechmeister-Boltenstern S: Extreme weather events and soil greenhouse gas fluxes: what do we see by automatic chambers? Nitrous Oxide Research Alliance NORA ICOS workshop 2015, Götheburg, May 10-13, 2015. Poster.
- Leitner S, Zimmermann M, Bockholt J, Schartner M, Brugner P, Holtermann C, Zechmeister-Boltenstern S: Impact of repeated dry-wet cycles on soil greenhouse gas emissions, extracellular enzyme activity and nutrient cycling in a temperate forest. In: COPERNICUS, Geophysical Research Abstracts, Vol. 16, EGU2014-12753. EGU General Assembly, Vienna, AUSTRIA, Apr 27-May 02, 2014. Poster.
- Leitner S, Zimmermann M, Kobler J, Holtermann C, Keiblinger K, Zechmeister-Boltenstern S: Impact of repeated dry-wet cycles on soil CO<sub>2</sub> efflux and extracellular enzyme activities in a temperate beech forest. In: EU COST Action – ES1308, Integrating climate change experiments, data syntheses and modelling. 1st ClimMani COST action workshop, Aveiro, Nov 12-14, 2014. Poster.
- Minixhofer P, Leitner S, Zimmermann M: Impact of extreme weather events on plant-available nitrogen and amino acids using microdialysis. Annual Conference of the Austrian Soil Science Society, Vienna, Sep 22, 2014.
- Saronjic N, Leitner S, Keiblinger K, Zechmeister-Boltenstern S, Zimmermann M: Impact of droughts and heavy rainfall events on soil microbial communities in a beech forest. Annual Conference of the Austrian Soil Science Society, Vienna, Sep 22, 2014. Poster.
- Zechmeister-Boltenstern S, Leitner S, Zimmermann M: Impact of droughts and heavy rain on greenhouse gas emissions and soil microbial activities in a beech forest. In: Holzheu S & Thies B (eds.), BIOGEMON 2014, Book of Abstracts, Band 119/2014, ISSN 0944 – 4122. BIOGEMON, 8th International Symposium on Ecosystem Behaviour, Bayreuth, GERMANY, JUL 13-17, 2014. Poster.
- Zimmermann M, Orracha ST, Kranzinger L, Leitner S, Zechmeister-Boltenstern S: Impact of litter removal on greenhouse gas fluxes, soil nutrients and microbial communities. In: Holzheu S & Thies B (eds.), BIOGEMON 2014, Book of Abstracts, Band 119/2014, ISSN 0944 – 4122. BIOGEMON, 8th International Symposium on Ecosystem Behaviour, Bayreuth, GERMANY, JUL 13-17, 2014. Poster.
- Leitner S, Keiblinger KM, Zimmermann M, Zechmeister-Boltenstern S: Impact of extreme weather events on soil microbial community composition and emissions of climate-relevant gases. ClimMani Workshop “Extreme weather conditions and consequences for terrestrial ecosystems”, Dubrovnik, Croatia, 05-08 June 2012. Poster.
- Keiblinger KM, Leitner S, Schneider T, Riedel K, Zechmeister-Boltenstern S: Temperature perturbations and their effects on the microbial community involved in decomposition of beech litter with different resource stoichiometries. ClimMani Workshop “Extreme weather conditions and consequences for terrestrial ecosystems”, Dubrovnik, Croatia, 05-08 June 2012. Poster.
- Keiblinger KM, Leitner S, Zechmeister-Boltenstern S: Leaf litter decomposition of four different deciduous tree species – resource chemistry, stoichiometry and microbial community. 4<sup>th</sup> international congress EUROSIL, Bari, 02 – 06 July 2012. Poster.
- Leitner S, Keiblinger KM, Zechmeister-Boltenstern S: Leaf litter decomposition of four different deciduous tree species – resource chemistry, stoichiometry and microbial community composition. In: COPERNICUS, Geophysical Research Abstracts, Geophysical Research Abstracts Vol. 14, EGU2012-1441. EGU General Assembly, Vienna, 22 – 27 April 2012. Poster.
- Keiblinger KM, Schneider T, Leitner S, Hämmerle I, Riedel K, Zechmeister-Boltenstern S: Metaproteome analysis of the microbial community during leaf litter decomposition – the impact of stoichiometry and temperature perturbations. In: COPERNICUS, Geophysical Research Abstracts Vol. 14, EGU2012-2700. EGU General Assembly, Vienna, 22-27 April 2012. Poster.
- Kranzinger L, Leitner S, Zimmermann M, Keiblinger K, Zechmeister-Boltenstern S: Comparing greenhouse gas fluxes CO<sub>2</sub>, CH<sub>4</sub> and N<sub>2</sub>O on a pure beech transect on the basis of two different treatments. Annual Conference of the Austrian Soil Science Society, Tulln, Austria, 19 October 2012. Poster.
- Leitner S, Wanek W, Wild B, Haemmerle I, Keiblinger KM, Zechmeister-Boltenstern S, Richter A: 13C-isotope pool dilution to investigate glucan depolymerization in decomposing beech litter. SINA Stable Isotope Network Meeting, Vienna, Austria, Nov 4-5, 2011. Poster.