Christina Kaiser - Curriculum Vitae

Affiliation

Department of Microbiology and Ecosystem Science
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Personal information

Born 16. July 1974 in Austria; married, one daughter (11.10.1997)

Education

2010	PhD at the *University of Vienna, Department of Chemical Ecology and Ecosystem Research*
2003	Master in *Ecology* (Mag.) at the *University of Vienna*
1989-1994	Graduation Technical Highschool for Informatics and Organisation, Vienna (HTL-Spengergasse)

Research and Professional Experience

02/2014 -	University assistant at the Department for Microbiology and Ecosystem Science, *University of Vienna*
09/2014 -	Guest researcher at the *International Institute for Applied System Analysis (IIASA)*
12/2011 – 01/2014	Post-doc fellowship, *International Institute for Applied System Analysis (IIASA)*, Laxenburg, Austria
2011	Post-doc fellowship, School of Earth and Environment, *University of Western Australia (UWA)*
06/2010 - 12/2010	Post-doc position, *University of Vienna* . http://www.micdif.net/
2009-2014	Co-Principal Investigator within the project CryoCARB (Long-term carbon storage in cryoturbated arctic soils, European Science Foundation) http://www.univie.ac.at/cryocarb/the-cryocarb-project/

2006-2008	Research associate (PhD candidate) at the *University of Vienna* (Austrian Science Foundation)
2006-2008	Work package leader within a long-term socioecological research project (LTSER Eisenwurzen, 'Integrated modelling of socio-economic and ecological material flows' (part of the research program proVISION of the Austrian Ministry for Science and Research) at the *University of Vienna*.
2003–2005	Research assistant (freelancer) at the Department of Terrestrial Ecosystem Research, *University of Vienna*, for various research projects
1994-2000	Software engineer (Fortran, C , C++, Visual Basic, Java) in different companies (*Falko Standard EDV Software Ltd., Paradine, Inc. and Analog & Digital Messtechnik Ltd*)

Teaching and student supervision

02/2014-	Teaching within the Bachelor program 'Ecology' and the Master programs 'Ecology' and 'Environmental Sciences' at the *University of Vienna*. Supervision of Master theses at the Department of Microbiology and Ecosystem Science.
06/2012-	Supervision of PhD students summer projects within the Young Scientists Summer Program (YSSP) of the International Institute of Applied Systems Analysis (IIASA).
2008-2010	Associated lecturer in the undergraduate university course „Interactions of terrestrial and aquatic Ecosystems" (Bachelor program Ecology, University of Vienna)
2002-2005	Tutor in the course "Carbon and Nitrogen cycles in alpine ecosystems", University of Vienna

Professional activities

Since 01/2013	Subject editor for the Journal *Soil Biology and Biochemistry*
Ad-hoc Reviewer:	Soil Biology and Biochemistry, Applied Soil Ecology, Forest Ecology and Management, Functional Ecology, Plos ONE, Ecology Letters, National Science Foundation U.S.

Grants

2011	IIASA Postdoctoral scholarship (salary funding for two years)

External funding acquired

CryoCARB - Long-term carbon storage in cryoturbated arctic soils (European Science Foundation – PolarCLIMATE, FWF) http://www.univie.ac.at/cryocarb/the-cryocarb-project/

Co-Principal Investigator within the Austrian project part (€ 285.000, funded by FWF)

Invited talks

Kaiser C., Kilburn M.R., Clode P.L., Cliff J.B., Solaiman Z.M, Koranda M., Fuchslueger L, Murphy D.V, "Exploring the transfer of recent plant photosynthates to soil microbes via the mycorrhizal pathway". (2015) 8th International Conference on Mycorrhiza, August 3-7, 2015, Northern Arizona University, USA (Invited plenary symposium speaker)

Kaiser C., "Modeling dynamic interactions between microbes and substrate at the microscale". (2014) Department of Ecology, Evolution and Marine Biology, University of California Santa Barbara (UCSB), Santa Barbara, USA, 12.Dec. 2014 (Host: Prof. Joshua Schimel)

Kaiser C., Franklin O., Richter A., Evans S., Dieckmann U., (2014)"A microbial community perspective on the regulation of soil organic matter turnover" American geophysical Union (AGU) Fall meeting, San Francisco, USA, (San Francisco, 15-19 Dec) (Invited talk)

Kaiser C., Richter A., Franklin O., Evans S.E., Dieckmann U. (2012): Modelling the link between soil microbial community structure and function in a bottom-up approach. American Geophysical Union (AGU) Annual fall meeting, December 2012, San Francisco, USA (Invited talk)

Kaiser C., Richter A., Franklin O., Dieckmann U. (2012): From individuals to the community: Interactions between microbial functional group dynamics and C and N flows. 2nd International "Enzymes in the Environment" Workshop on Incorporating Enzymes and Microbial Physiology into Biogeochemical Models, 16th May 2012, Enzymes in the Environment Research Coordination Network, Natural Resource Ecology Laboratory, Fort Collins, Colorado State University, Colorado, USA (Invited talk)

Kaiser C., Richter A., Franklin O., Dieckmann U. (2012): The role of microbial community dynamics for modeling carbon and nitrogen cycles in the soil, ISIS Science talks, 9th May 2012, Institute of Systems Science, Innovation and Sustainability Research (ISIS), University Graz

Kaiser C., Fuchslueger L., Koranda M., Gorfer M., Kitzler B., Schweiger P., Zechmeister-Boltenstern S., Richter A., (2011): The effect of tree belowground C allocation on the seasonal course of microbial N cycling in an European beech forest soil, Soil and Water Seminar, 8th March 2011, University of Western Australia, Perth, Australia

Publications

Peer-reviewed journals:

1. **Kaiser C**, Franklin O, Richter A, Dieckmann U. (2015) Social dynamics within decomposer communities lead to nitrogen retention and organic matter build-up in soils. *Nature communications,* in press

2. Evans S, Dieckmann U, Franklin O, **Kaiser C**. (2015) Synergistic effects of diffusion and microbial physiology reproduce the Birch effect in a micro-scale model. *Soil Biology and Biochemistry*, in press

3. **Kaiser C**, Kilburn MR, Clode PL, Fuchslueger L, Koranda M, Cliff JB, Solaiman ZM, Murphy D V. (2015) Exploring the transfer of recent plant photosynthates to soil microbes: mycorrhizal pathway versus direct root exudation. *New Phytologist* 205(4): 1537-1551.

4. Gittel A, Barta J, Kohoutova I, Schnecker J, Wild B, Capek P, **Kaiser C,** Torsvik VL, Richter A, Schleper C, et al. (2014). Site- and horizon-specific patterns of microbial community structure and enzyme activities in permafrost-affected soils of Greenland. *Frontiers in Microbiology* 5: 1–14.

5. **Kaiser C.**, Franklin O., Dieckmann, U., Richter A., (2014) Microbial community dynamics alleviate stoichiometric constraints during litter decay. *Ecology Letters*, 17: 680-690.
Altmetric Score of 50 (article is amongst the highest ever scored in this journal and in the top 5% of all articles ever tracked with this metric)

6. Koranda M**., Kaiser C.,** Fuchslueger L., Kitzler B., Sessitsch A., Zechmeister-Boltenstern S., Richter A. (2014) Fungal and bacterial utilization of organic substrates depends on substrate complexity and N availability. *FEMS Microbiology Ecology* 87(1) : 142-152.

7. Wild B., Schnecker J., Bárta J., Čapek P., Guggenberger G., Hofhansl F., **Kaiser C**., Lashchinsky N., Mikutta R., Mooshammer M., Šantrůčková H., Shibistova O., Urich T., Zimov S.A., Richter A. (2013) Nitrogen dynamics in Turbic Cryosols from Siberia and Greenland. *Soil Biology and Biochemistry*: 67: 85-93.

8. Koranda M., **Kaiser C.**, Fuchslueger L., Kitzler B., Sessitsch A., Zechmeister-Boltenstern S., Richter A. (2013) Seasonal variation in functional properties of microbial communities in beech forest soil. *Soil Biology and Biochemistry* 60: 95-104.

9. **Kaiser C**., Fuchslueger L., Koranda M., Kitzler B., Gorfer M., Stange F., Rasche F., Strauss J., Zechmeister-Boltenstern S., Sessitsch A., Richter A. (2011). Plants control the seasonal dynamic of microbial N cycling in a beech forest soil by belowground allocation of recently fixed photosynthates, *Ecology*, 92 (5): 1036-1051.
Faculty of 1000 (F1000) Biology: Rated "Must Read" (http://f1000.com/prime/13371009)

10. Franklin O., Hall E., **Kaiser C.**, Battin T., Richter A. (2011) Optimization of Biomass Composition Explains Microbial Growth-Stoichiometry Relationships. *The American Naturalist*, 177 (2), E29-E42.

11. Rasche F., Knapp D., **Kaiser C.**, Koranda M., Kitzler B., Zechmeister-Boltenstern S., Richter A., Sessitsch A. (2011) Seasonality and resource availability control bacterial and archaeal communities in soils of a temperate beech forest. *The ISME Journal*, 5 (3): 389-402.

12. Pröll, G., Dullinger S., Dirnböck T., **Kaiser C.**, Richter A. (2011) Nitrogen effects on tree recruitment in a temperate montane forest as analyzed by measured variables and Ellenberg indicator values. *Preslia*, 83 (1): 111-127.

13. Koranda M., Schnecker J., **Kaiser C.**, Fuchslueger L., Kitzler B., Zechmeister-Boltenstern S., Sessitsch A., Richter A. (2011) Microbial processes and community composition in the rhizosphere of European beech – The influence of plant C exudates. *Soil Biology and Biochemistry,* 43 (3): 551-558.

14. **Kaiser C.**, Koranda M., Kitzler B., Fuchslueger L., Schnecker J., Schweiger P., Rasche F., Zechmeister-Boltenstern S., Sessitsch A., Richter A. (2010) Belowground carbon allocation by trees drives seasonal patterns of extracellular enzyme activities by altering microbial community composition in a beech forest soil, *New Phytologist* 187: 843-858.

15. **Kaiser C.**, Frank A., Wild B., Koranda M., Richter A. (2010) Negligible contribution from roots to soil-borne phospholipid fatty acid fungal biomarkers 18:2ω6,9 and 18:1ω9. *Soil Biology and Biochemistry*, 42 (9): 1650-1652.

16. Gaube V., **Kaiser C.**, Wildenberg M., Adensam H. , Fleissner P. , Kobler J., Lutz J., Schaumberger A., Schaumberger J., Smetschka B., Wolf A., Richter A. and H. Haberl (2009) Combining agent-based and stock-flow modelling approaches in a participative analysis of the integrated land system in Reichraming, Austria. *Landscape Ecology,* 24 (9): 1149-1165

17. Biasi C., Meyer H., Rusalimova O., Hämmerle R., **Kaiser C.**, Daims H., Lashchinsky N., Barsukov, P. and Richter A. (2008) Initial effects of experimental warming on carbon exchange rates, plant growth and microbial dynamics of a lichen-rich dwarf shrub tundra in Siberia. *Plant and Soil* 307: 191-205.

18. **Kaiser, C.**, H. Meyer, C. Biasi, O. Rusalimova, P. Barsukov, A. Richter (2007) Conservation of soil organic matter through cryoturbation in arctic soils in Siberia. *Journal of Geophysical Research*, 112: G02017.

19. Meyer, H., **Kaiser, C.**, Biasi, C., Hämmerle, R., Rusalimova, O., Lashchinsky, N., Baranyi, C., Daims, H., Barsukov, P., and Richter A. (2006) Soil carbon and nitrogen dynamics along a latitudinal transect in Western Siberia, Russia. *Biogeochemistry* 81 (2): 239-252.

20. **Kaiser, C.**, Meyer, H., Biasi, C., Rusalimova, O., Barsukov, P., Richter, A. (2005) Storage and Mineralization of C and N in soils of a frost-boil tundra ecosystem in Siberia. *Applied Soil Ecology* 29 (2): 173-183.

21. Biasi, C., Rusalimova, O., Meyer, H., **Kaiser, C.**, Wanek, W., Barsukov, P., Högne, J. and Richter, A. (2005) Temperature-dependent shift from labile to recalcitrant carbon sources of arctic heterotrophs. *Rapid Communications in Mass Spectrometry* 19 (11): 1401-1408.

22. Biasi, C., Wanek, W., Rusalimova, O., **Kaiser, C.**, Meyer, H., Barsukov, P., Richter, A. (2005) Microtopography and plant cover controls on nitrogen dynamics in hummock tundra ecosystems in Siberia. *Arctic Antarctic and Alpine Research* 37 (4): 435-443.

h-index: 13. Total citations: 507 (ISI web of science, 23.10.2015)

Other publications:

23. Gaube, V., Kaiser, C., Wildenberg, M., Adensam, H., Fleissner, P., Kobler, J., Lutz, J., Smetschka, B., Wolf, A., Richter, A. and Haberl, H. (2008). Ein integriertes Modell für Reichraming. Partizipative Entwicklung von Szenarien für die Gemeinde Reichraming (Eisenwurzen) mit Hilfe eines agentenbasierten Landnutzungsmodells. Social Ecology Working Paper Nr. 106, Wien, ISSN 1726-3816, Institute of Social Ecology, IFF – Faculty for Interdisciplinary Studies.