

Christina Kaiser - Publications

Total 27 Publications, 1195 citations, h-index = 18 (Web of Science, March 2019)

Publications (peer-reviewed)

1. Gorka S, Dietrich M, Mayerhofer W, Gabriel R, Wiesenbauer J, Martin V, Zheng Q, Imai B, Prommer J, Weidinger M, Schweiger P, Eichorst SA, Wagner M, Richter A, Schintlmeister A, Wobken D, **Kaiser C** (2019) Rapid transfer of plant photosynthates to soil bacteria via ectomycorrhizal hyphae and its interaction with nitrogen availability. *Frontiers in Microbiology*. DOI: <https://doi.org/10.3389/fmicb.2019.00168>
2. Canarini A, **Kaiser C**, Merchant A, Richter A, Wanek W (2019) Root exudation of primary metabolites: Mechanisms and their roles in plant responses to environmental stimuli. *Frontiers in Plant Science*. DOI: [10.3389/fpls.2019.00157](https://doi.org/10.3389/fpls.2019.00157)
3. Walker TWN, **Kaiser C**, Strasser F, Herbold CW, Leblans NIW, Wobken D, Janssens IA, Sigurdsson BD, Richter A (2018) Microbial temperature sensitivity and biomass change explain soil carbon loss with warming. *Nature Climate Change*. DOI: [10.1038/s41558-018-0259-x](https://doi.org/10.1038/s41558-018-0259-x)
4. Schmidt H, Nunan N, Höck A, Eickhorst T, **Kaiser C**, Wobken D, Raynaud X (2018) Recognizing Patterns: Spatial analysis of microbial colonization on root surfaces. *Frontiers in Environmental Science*, <https://doi.org/10.3389/fenvs.2018.00061>
5. Chagnon P, Rineau F, **Kaiser C** (2016) Mycorrhizas across scales: a journey between genomics, global patterns of biodiversity and biogeochemistry. *The New Phytologist*, Vol 209, p 913-916
6. Evans S, Dieckmann U, Franklin O, **Kaiser C**. (2016) Synergistic effects of diffusion and microbial physiology reproduce the Birch effect in a micro-scale model. *Soil Biology and Biochemistry*, Vol 93, p 28-37
7. **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*, 6:8960, DOI: [10.1038/ncomms9960](https://doi.org/10.1038/ncomms9960)
8. **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. *The New Phytologist* 205(4): 1537-1551.
9. **Kaiser C.**, Franklin O., Dieckmann, U., Richter A., (2014) Microbial community dynamics alleviate stoichiometric constraints during litter decay. *Ecology Letters*, 17: 680-690.
10. Gittel A, Barta J, Kohoutova I, Schneckner 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.
11. 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.
12. Wild B., Schneckner 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.

13. 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.
14. **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. **Rated "Must Read"** Faculty of 1000 (F1000) Biology (<http://f1000.com/prime/13371009>)
15. 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.
16. 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.
17. 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.
18. 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.
19. **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. [**Highly Cited paper**, Web of Science]
20. **Kaiser C.**, Frank A., Wild B., Koranda M., Richter A. (2010) Negligible contribution from roots to soil-borne phospholipid fatty acid fungal biomarkers 18:2 ω 6,9 and 18:1 ω 9. *Soil Biology and Biochemistry*, 42 (9): 1650-1652.
21. 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
22. 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.
23. **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.
24. 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.
25. **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.
26. 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.
27. 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.

Other publications

28. 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.