Publications Leifeld *February 2022*

researcher profile

Peer-reviewed journal articles

2022

1. Wang, Y., Paul, S.M., Jocher, M., Alewell, C., Leifeld, J., 2022. Reduced nitrous oxide emissions from drained temperate agricultural peatland after coverage with mineral soil. Frontiers in Environmental Science 10: article 656599.
2. Klein, K., Schellekens, J., Gross-Schmölders, M., von Sengbusch, P., Alewell, C., Leifeld, J., 2022. Characterizing ecosystem-driven chemical composition differences in natural and drained Finnish bogs using Pyrolysis-GC/MS. Organic Geochemistry 165: 104351.
3. Grafmüller, J., Böhm, A., Zhuang, Y., Spahr, S., Müller, P., Otto, T., Bucheli, T., Leifeld, J., Giger, R., Tobler, M., Schmidt, H.-P., Dahmen, N., Hagemann, N., 2022. Wood ash as an additive in biomass pyrolysis: effects on biochar yield, properties and agricultural performance. ACS Sustainable Chemistry & Engineering, accepted.

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4. Rodrigues, L., Hardy, B., Huyghebeart, B., Fohrafellner, J., Fornara, D., Barančíková, G., Bárcena, T.G., De Boever, M., Di Bene, C., Feizienė, D., Käetterer, T., Laszlo, P., O'Sullivan, L., Seitz, D., Leifeld, J., 2021. Achievable agricultural soil carbon sequestration across Europe from country-specific estimates. Global Change Biology 27:6363–6380.
5. Schmidt. H.P., Kammann, C., Hagemann, N., Leifeld, J., Bucheli, T.D., Sánchez-Monedero, M.A., Cayuela, M.L., 2021. Biochar in agriculture – a systematic review of 26 meta-analyses. Global Change Biology Bioenergy 13: 1708-1730.
6. Gross-Schmölders, M., Klein, K., Birkholz, A., Leifeld, J., Alewell, C. Rewetting and drainage of nutrient-poor peatlands indicated by specific bacterial membrane fatty acids and a repeated sampling of stable isotopes (δ 15 N, δ 13 C). Frontiers Environmental Science 9: 730106.
7. Wang, Y., Paul, S.M., Jocher, M., Espic, C., Alewell, C., Szidat, S., Leifeld, J., 2021. Soil carbon loss from drained agricultural peatland after coverage with mineral soil. Science of The Total Environment 800: 149498.
8. Leifeld, J., Alewell, C., Paul, S.M., 2021. Accumulation of C4-carbon from *Miscanthus* in organic-matter-rich soils. Global Change Biology Bioenergy 13: 1319-1328.
9. Huang, Y., Ciais, P., Luo, Y., Zhu, D., Wang, Y., Qiu, C., Goll, D.S., Guenet, B., Makowski, D., De Graaf, I., Leifeld, J., Kwon, M.J., Hu, J., Qu, L., 2021. Tradeoff of CO_2 and CH_4 emissions from global peatlands under water-table drawdown. Nature Climate Change 11: 618-622.
10. Egli, M., Wiesenberg, G., Leifeld, J., Gärtner, H., Seibert, J., Röösli, C., Wingate, V., Dollenmeier, W., Griffel, P., Suremann, J., Weber, J., Zyberaj, M., Musso, A., 2021. Formation and decay of peat bogs in the vegetable belt of Switzerland. Swiss Journal of Geosciences 114: 2.
11. Paul, S.M., Ammann, C., Alewell, C., Leifeld, J., 2021. Carbon budget response of an agriculturally used fen to different soil moisture conditions. Agricultural and Forest Meteorology 300: 108319.
12. Klein, K., Gross-Schmölders, M., Alewell, C., Leifeld, J., 2021. Heating up a cold case: Applications of analytical pyrolysis GC/MS to access molecular biomarkers in peat. Advances in Agronomy 165: 115-159.
13. Burgeon, V., Fouché, J., Leifeld, J., Chenu, C., Cornélis, J.-T., 2021. Organo-mineral associations largely contribute to the stabilization of century-old pyrogenic organic matter in cropland soils. Geoderma 388: 114841.

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17. Gross-Schmölders, M., von Sengbusch, P., Krüger, J.P., Klein, K., Birkholz, A., Leifeld, J., Alewell, C. Switch of fungal to bacterial degradation in natural, drained and rewetted oligotrophic peatlands reflected in $\delta^{15}N$ and fatty acid composition. SOIL 6: 299-313.
18. Klein, K., Gross-Schmölders, M., De la Rosa, J.M., Alewell, C., Leifeld, J., 2020. Investigating the influence of instrumental parameters and chemical composition on pyrolysis efficiency of peat. Communications in Soil Science and Plant Analysis 51:1572-1581.
19. Leifeld, J., Klein, K., Wüst-Galley, C., 2020. Soil organic matter stoichiometry as indicator for peatland degradation. Scientific Reports, 10:7634.
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Rosenau, T., Soja, G., Schmidt, H.-P., 2019. Designing biochar properties through the blending of biomass feedstock with metals: Impact on oxyanions adsorption behavior. Chemosphere 214: 743-753.

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