Complete list of all scientific publications

Until now I have published 57 papers in peer-reviewed journals (including 1 paper in *Nature Communications*, 3 papers in *PNAS*, 1 each in *Nature Climate Change, Cell*, *Science Advances, 2 in New Phytologist*, and 8 in *The ISME Journal*), as well as 2 book chapters.
The papers were cited >6800 times. Current "h-index" of 35 (Scopus, January 2025).

PhD thesis:

Woebken D. Diversity and ecology of marine Planctomycetes with focus on anammox bacteria. 2008. University of Bremen, Bremen, Germany.

Peer-reviewed publications:

1. Trojan D, García-Robledo E, Hausmann B, Revsbech NP, **Woebken D**, Eichorst SA. 2024. A respiro-fermentative strategy to survive nanoxia in *Acidobacterium capsulatum*. *FEMS Microbiology Ecology*, 100:fiae152.
2. Dietrich M, Panhölzl C, Angel R, Giguere A, Randi D, Hausmann B, Herbold CW, Pötsch EM, Schaumberger A, Eichorst SA, **Woebken D**. 2024. Plant roots affect free-living diazotroph communities in temperate grassland soils despite decades of fertilization. *Communications Biology* 7:846.
3. Barrajon-Santos V, Nepel M, Hausmann B, Voglmayr H, **Woebken D**, Mayer VE. 2024. Dynamics and drivers of fungal communities in a multipartite ant-plant association. *BMC Biology* 22:112
4. Imminger S, Meier DV, Schintlmeister A, Legin A, Schnecker J, Richter A, Gillor O, Eichorst SA, **Woebken D**. 2024. Survival and rapid resuscitation permit limited productivity in desert microbial communities. *Nature Communications* 15:3056.
5. Nepel M, Mayer VE, Barrajon-Santos V, **Woebken D**. 2023. Bacterial diversity in arboreal ant nesting spaces is linked to colony developmental stage. *Communications Biology* 6:1217.
6. Schmidt H, Gorka S, Seki D, Schintlmesiert A, **Woebken D**. 2023. Gold-FISH enables targeted NanoSIMS analysis of plant-associated bacteria. *New Phytologist* 240:439—451.
7. Dietrich M, Montesinos-Navarro A, Gabriel R, Strasser F, Meier DV, Mayerhofer W, Gorka S, Wiesenbauer J, Martin V, Weidinger M, Richter A, Kaiser A, **Woebken D**. 2022. Both abundant and rare fungi colonizing *Fagus sylvatica* ectomycorrhizal root-tips shape associated bacterial communities. *Communications Biology* 5:1261.
8. Schagerl M, Angel R, Donabaum U, Gschwandner AM, **Woebken D**. 2022. *Limnospira fusiformis* harbors dinitrogenase reductase (*nifH*)-like genes, but does not show N_2 fixation activity. *Algal Research*. 66: 102771.
9. Falkenberg R, Fochler M, Sigl L, Bürstmayr H, Eichorst SA, Michel A, Oburger E, Staudinger A, Steiner B, **Woebken D**. 2022. The breakthrough paradox - How focusing on one form of innovation jeopardizes the advancement of science. *EMBO Reports*. 23:e54772.
10. Nepel M*, Pfeifer J, Oberhauser FB, Richter A, **Woebken D***, Mayer VE. 2022. Nitrogen fixation by diverse diazotrophic communities can support population growth in arboreal ants. *BMC Biology*. 20:135. (*co-corresponding authors).
11. Nepel M*, Angel R, Borer ET, Frey B, MacDougall AS, McCulley RL, Risch AC, Schütz M, Seabloom EW, **Woebken D***. 2022. Global grassland diazotrophic communities are structured by combined abiotic, biotic, and spatial distance factors but resilient to fertilization. *Frontiers in Microbiology*. 13:821030.

12. Trojan D, García-Robledo E, Meier DV, Hausmann B, Revsbech NP, Eichorst EA, **Woebken D**. 2021. Microaerobic lifestyle at nanomolar O_2 concentrations mediated by low-affinity terminal oxidases in abundant soil bacteria. *mSystems.* 6:e00250-21.

13. Mayerhofer W, Schintlmeister A, Dietrich M, Gorka S, Wiesenbauer J, Martin V, Gabriel R, Reipert S, Weidinger M, Clode P, Wagner M, **Woebken D**, Richter A, Kaiser C. 2021. Recently photoassimilated carbon and fungal-delivered nitrogen are spatially correlated at the cellular scale in the ectomycorrhizal tissue of *Fagus sylvatica*. *New Phytologist* 232:2457–2474.

14. Meier DV, Greve AJ, Chennu A, van Erk MR, Muthukrishnan T, Abed RMM, **Woebken D**, De Beer D. 2021. Limitation of microbial processes at saturation-level salinities in a microbial mat covering a coastal saltflat. *Applied Environmental Microbiology.* 87:e00698-21.

15. Giguere AT*, Eichorst SA***,** Meier DV, Herbold CW, Richter A, Greening C, **Woebken D.** 2021. Acidobacteria are active and abundant members of diverse atmospheric H_2-oxidizing communities detected in temperate soils. *The ISME Journal* 15:363–376. (*co-first authors)

16. Meier DV, Imminger S, Gillnor O, **Woebken D.** 2021. Distribution of mixotrophy and desiccation survival mechanisms across microbial genomes in an arid biological soil crust community. *mSystems* 6:e00786-20.

17. Man Leung P, Bay SK, Meier DV, Chiri E, Cowan DA, Gillor O, **Woebken D,** Greening C**.** 2021. Energetic basis of microbial growth and persistence in desert ecosystems. *mSystems* 5: e00495-19.

18. Eichorst SA, Trojan D, Huntemann M, Clum A, Pillay M, Palaniappan K, Varghese N, Mikhailova N, Stamatis D, Reddy TBK, Daum C, Goodwin LA, Shapiro N, Ivanova N, Kyrpides N, Woyke T, **Woebken D**. 2020. One complete and seven draft genome sequences of subdivision 1 and 3 *Acidobacteria* isolated from soil. *Microbiology Resource Announcement* 9:301087-19.

19. Sedlacek CJ, Giguere AT, Dobie MD, Mellbye BL, Ferrell RV, **Woebken D**, Sayavedra-Soto LA, Bottomley PJ, Daims H, Wagner M, Pjevac P. 2020. Transcriptomic reponse of Nitrosomonas europaea transitioned from ammonia- to oxygen-limited steady-state growth. *mSystems* 5: e00562-19.

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21. 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, **Woebken D***, Kaiser C*. 2019. Rapid transfer of plant photosynthates to soil bacteria via ectomycorrhizal hyphae and its interaction with nitrogen availability. *Frontiers in Microbiology* 10:168. (*co-corresponding authors)

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24. Zumstein MT, Schintlmeister A, Nelson TF, Baumgartner R, **Woebken D**, Wagner M, Kohler H-P E, McNeill K, Sander M. 2018. Biodegradation of synthetic polymers in soils: Tracking carbon into CO_2 and microbial biomass. *Science Advances* 4:eaas9024.

25. Schmidt H, Nunan N, Höck A, Eickhorst T, Kaiser C, **Woebken D**, Raynaud X. 2018. Recognizing Patterns: Spatial Analysis of Observed Microbial Colonization on Root Surfaces. *Frontiers in Environmental Science* 6:61.

26. Angel R, Nepel M, Panhölzl C, Schmidt H, Herbold CW, Eichorst SA, **Woebken D**. 2018. Evaluation of primers targeting the diazotroph functional gene and development of NifMAP – a bioinformatics pipeline for analyzing *nifH* amplicon data. *Frontiers in Microbiology* 9:703.

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31. Spohn M, Pötsch EM, Eichorst SA, **Woebken D**, Wanek W, Richter A. 2016. Soil microbial carbon use efficiency and biomass turnover in a long-term fertilization experiment in a temperate grassland. *Soil Biology and Biochemistry* 97:168–175.

32. Eichorst SA, Strasser F, Woyke T, Schintlmeister A, Wagner M, **Woebken D**. 2015. Advancements in the application of NanoSIMS and Raman microspectroscopy to investigate the activity of microbial cells in soils. *FEMS Microbiology Ecology* 91:fiv106

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36. Burow LC, **Woebken D**, Bebout BM, Marshall IPG, Singer SW, Pett-Ridge J, Prufert-Bebout L, Spormann AM, Weber PK, Hoehler TM. 2014. Identification of *Desulfobacterales* as primary hydrogenotrophs in a complex microbial mat community. *Geobiology* 12:221–230.

37. Lee JZ, Burow LC, **Woebken D**, Everroad RC, Kubo MD, Spormann AM, Weber PK, Pett-Ridge J, Bebout BM, Hoehler TM. 2014. Fermentation couples *Chloroflexi* and sulfate-reducing bacteria to *Cyanobacteria* in hypersaline microbial mats. *Frontiers in Microbiology* 5:61.

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39. Everroad RC, **Woebken D**, Singer SW, Burow LC, Kyrpides N, Woyke T, Goodwin L, Detweiler A, Prufert-Bebout L, Pett-Ridge J. 2013. Draft genome sequence of an oscillatorian cyanobacterium, strain ESFC-1. *Genome Announcements* 1(4):e00527–13.

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41. **Woebken D***, Burow LC, Prufert-Bebout L, Bebout BM, Hoehler TM, Pett-Ridge J, Spormann AM, Weber PK, Singer SW*. 2012. Identification of a novel cyanobacterial group as active diazotrophs in a coastal microbial mat using NanoSIMS analysis. *The ISME Journal* 6:1427–1439. (*co-corresponding authors)

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Book chapters

Eichorst SA, Trojan D, and **Woebken D**. 2018. *Terriglobus*. In Bergey's Manual of Systematics of Archaea and Bacteria. (eds. Whitman WB, Rainey F, Kämpfer P, Trujillo M, Chun J, DeVos P, Hedlund B and Dedysh S). doi:10.1002/9781118960608.gbm00003.pub2

Eichorst SA and **Woebken D.** 2014. *Investigation of microorganisms at the single-cell level using Raman Microspectroscopy and Nanometer-scale Secondary Ion Mass Spectrometry*. In Applications of Molecular Microbiological Method. (eds. Skovhus TL, Caffrey S, and Hubert CRJ). Caister Academic Press, Norfolk, UK.