

Curriculum Vitae (CV)

Dr. Dagmar Woebken, Associate Professor

University of Vienna
Division of Microbial Ecology
Department of Microbiology and Ecosystem Science
Centre for Microbiology and Environmental Systems Science
Djerassiplatz 1, 1030 Vienna, Austria

Webpage: <http://www.microbial-ecology.net/people/dagmar-woebken>

Orcid ID: [0000-0002-1314-9926](https://orcid.org/0000-0002-1314-9926); Web of Science ResearcherID: [A-4447-2013](https://www.researcherid.org/A-4447-2013)

Research interests

“Soils” comprise many different habitats for microorganisms, even at the micro-scale, which is one factor that explains the enormous diversity of soil microbial communities. Soil habitats often represent challenging conditions for the residing microbes and yet, they endure and might even flourish in specific situations. Many questions regarding their adaptation to stressful conditions in soil habitats and the factors that influence their activity remain unanswered.

In my group, we are investigating the genomic and physiological features that allow for the survival and success of soil microorganisms. We aim to elucidate their survival strategies, as well as patterns and processes during resuscitation. Projects cover arid soils (desert biological soil crusts) that experience extended droughts, and temperate soils that are limited in easily available carbon sources.

To include the other end of the spectrum, we also work with plant-associated habitats, where soil microorganisms are provided with energy-rich root exudates. Here we are particularly interested in how plant microbiomes are assembled and their potential beneficial effects, like nitrogen fixation or salt-stress mitigation.

For our investigations, we combine molecular techniques (such as metagenomics and metatranscriptomics), stable isotope probing and single-cell approaches (such as NanoSIMS and Raman microspectroscopy) with process-level biogeochemical methods and cultivation-based investigations.

Scientific experience

Since May 2022	Associate Professor , Division of Microbial Ecology, Department of Microbiology and Ecosystem Science, Centre for Microbiology and Environmental Systems Science. University of Vienna, Austria
2018 to 2022	Assistant Professor , Division of Microbial Ecology, Department of Microbiology and Ecosystem Science, Centre for Microbiology and Environmental Systems Science. University of Vienna, Austria
2017	Maternity leave
2012 to 2017	Group Leader , Division of Microbial Ecology, Department of Microbiology and Ecosystem Science, University of Vienna, Austria
2008 to 2011	Postdoctoral fellow , Department of Civil and Environmental Engineering, Stanford University/Exobiology Branch, NASA Ames Research Center/Lawrence Livermore National Laboratory (LLNL), USA. PIs: Prof. Alfred Spormann (Stanford University) & Dr. Peter Weber (LLNL)
2007 and 2008	Teaching assistant , Microbial Diversity Course, Marine Biological Laboratory (MBL), Woods Hole, USA. Directors: Prof. Thomas M. Schmidt & Prof. William Metcalf

- 2007 to 2008 **Postdoctoral fellow**, Nutrient Group, Max Planck Institute for Marine Microbiology, Bremen, Germany. PI: Dr. Marcel Kuypers
- 2004 to 2007 **PhD student**, Department for Molecular Ecology, Max Planck Institute for Marine Microbiology, Germany. Advisers: Prof. Rudolf Amann & Dr. Bernhard Fuchs

Education

- May 2007 **Dr. rer. nat.**, Department for Molecular Ecology, Max Planck Institute for Marine Microbiology/University of Bremen, Bremen, Germany
Dissertation: "Diversity and *in situ* abundances of Planctomycetes in marine ecosystems" (Adviser: Prof. Rudolf Amann, finished with magna cum laude)
- Summer 2006 **Student**, Microbial Diversity Course, Marine Biological Laboratory (MBL), Woods Hole, USA
- 2004 - 2007 **PhD student**, Department for Molecular Ecology, Max Planck Institute for Marine Microbiology/University of Bremen, Bremen, Germany
- Nov. 2003 **Diploma in Biology**, Leibniz University Hannover, Hannover, Germany
Diploma thesis: Department for Molecular Ecology, Max Planck Institute for Marine Microbiology, Bremen, Germany (finished with grade 1, equivalent to grade A)
- 2000 to 2001 **Exchange student**, Northeastern University, Boston, MA, USA
Focus: Environmental microbiology (Laboratory of Prof. Slava Epstein)
- 1997 -2003 **Graduate studies** in biology at Leibniz University Hannover, Hannover, Germany
- Sept. 1999 **Pre-Diploma of Biology**, Leibniz University Hannover, Hannover, Germany (finished with grade 1, equivalent to grade A)
- 1997 - 1999 **Undergraduate studies** in biology, Leibniz University Hannover, Hannover, Germany

Academic prizes and awards

- 2019 Election to the Board of Directors of the **Young Academy of the Austrian Academy of Sciences** (ÖAW).
- 2016 **Science Award of the City of Vienna** for scientists <40 years of age ("Förderungspreis Stadt Wien")
- 2015 Member of the **Young Academy of the Austrian Academy of Sciences** (ÖAW).
- 2014 **European Research Council (ERC) Starting Grant**: *DormantMicrobes*.
- 2014 **Focus of Excellence Award**, Faculty of Life Sciences, University of Vienna, Vienna, Austria.
- 2012 **Marie Curie - Career Integration grant (CIG)**: *Understanding functional drivers in two terrestrial key processes- N₂ fixation and cellulose degradation- by a single cell approach*.
- 2010 **German Research Foundation (DFG) Research fellowship**: *Identifying N₂-fixing microorganisms in photosynthetic microbial mats by Stable Isotope Probing (SIP) and nanometer-scale Secondary Ion Mass Spectrometry (nanoSIMS)*.
- 2000 **Graduate Student Fellowship**, Northeastern University, Boston, MA, USA.

Awards and Fellowships of Lab Members

- 2016-2018 Maximilian Nepel: Doctoral fellowship, Austrian Academy of Sciences (ÖAW)
- 2015 Raphael Gabriel: Scholarship from the Austrian Marshall Plan Foundation

- 2014-2016 Hannes Schmidt: Marie Curie Intra-European Fellowship (IEF), Marie Curie FP7 (EU)
 2012-2014 Stephanie A. Eichorst: Marie Curie International Incoming Fellowship (IIF), Marie Curie FP7 (EU)

Peer-reviewed third-party funding

- 2023-2028 **'Cluster of Excellence' Microbiomes Drive Planetary Health.** Funded by the "Österreichische Wissenschaftsfonds FWF" (Austrian Science Fund) (PI on projects for total 781,774€)
- 2020-2024 **doc.funds Doctoral School: Microbial symbioses in dynamic environments: Metabolic interplay and novel interactions (MAINTAIN).** Funded by the "Österreichische Wissenschaftsfonds FWF" (Austrian Science Fund), (coordinators Matthias Horn, Jillian Petersen, principal investigator Dagmar Woebken; Supervisor of 1 PhD fellow, 190,264€ of 1,902,623 €).
- 2019-2023 **Project grant: Species interactions and their impact on nutrient recycling in ant-made fungal patches.** Funded by the "Österreichische Wissenschaftsfonds FWF" (Austrian Science Fund), project No. P 31990-B20 (399,028 €) (Co-PI).
- 2018 **Sequencing project: Revealing element cycling and microbial survival strategies in naturally occurring ultra-saline coastal microbial mats.** CSP New Investigator Proposal. Funded by the JGI's Community Science Program (co-PI).
- 2016-2021 **Doctorate Program: Microbial nitrogen cycling – From single cells to ecosystems.** Funded by the "Österreichische Wissenschaftsfonds FWF" (Austrian Science Fund), (project No. W 1257-B20, coordinators Christa Schleper, Michael Wagner, principal investigator Dagmar Woebken; Supervisor of 1 PhD fellow, 207,049 € of 2.34 Mio €).
- 2015-2021 **ERC Starting Grant: DormantMicrobes.** Funded by the European Research Council (ERC), project No. StG_2014_636928 (1.49 Mio €) (Lead-PI).
- 2014-2019 **Project grant: Investigating the function of the ubiquitous Acidobacteria in terrestrial environments.** Funded by the "Österreichische Wissenschaftsfonds FWF" (Austrian Science Fund), project No. P 26392-B20 (435,698 €) (Lead-PI).
- 2014-2016 **Project grant: Understanding the micro-environments of diazotrophs and their associated activities in rice.** Marie Curie Intra-European Fellowship (IEF), fellow Dr. Hannes Schmidt. Funded by Marie Curie FP7 (EU), project No. 628361 (179,137 €) (Lead-PI)
- 2013-2018 **Project grant: A functional approach to understand active non-symbiotic diazotrophs in soil.** Funded by the "Österreichische Wissenschaftsfonds FWF" (Austrian Science Fund), project No. P 25700-B20 (448,751 €) (Lead-PI).
- 2012-2016 **Project grant: Understanding functional drivers in two terrestrial key processes- N₂ fixation and cellulose degradation- by a single cell approach.** Marie Curie Carrier Integration Grant (CIG), fellow Dr. Dagmar Woebken. Funded by Marie Curie FP7 (EU), project No. 321742 (100,000 €).
- 2012-2014 **Project grant: NanoSIMS enabled approach to understand bacterial and fungal cellulose degraders in soils.** Marie Curie International Incoming Fellowship (IIF), fellow Dr. Stephanie A. Eichorst. Funded by Marie Curie FP7 (EU), project No. 300807 (180191 €) (Co-host).
- 2010-2011 **Project grant: Identifying N₂-fixing microorganisms in photosynthetic microbial mats by Stable Isotope Probing (SIP) and nanometer-scale Secondary Ion Mass Spectrometry (nanoSIMS).** Research fellowship, fellow Dr. Dagmar Woebken.

Funded by Deutsche Forschungsgemeinschaft" (German Research Foundation, DFG), project No. WO 1678/1-1 (61,000 €).

Teaching activities at the University of Vienna, Austria

- since 2016 Laboratory course "*Scientific Practice in Molecular Microbiology and Microbial Ecology*", UE 300582
- 2016 Co-teaching of lecture series "*Microbial Nitrogen Cycling: From single cells to ecosystems*", VO 300291
- since 2014 Lecture series "*Selected aspects of bacterial physiology*", VO 300131
- since 2014 Practical Course „*Molecular Microbiology, Microbial Ecology and Immunobiology - Diversity and function of uncultured microbes in medical and environmental samples*“, UE 300484
- since 2013 Proseminar „*Microbial Ecology*“, PS 300487
- since 2013 Lecture series "*Microbial communities*", VO 300178
- since 2013 Workshop "*International FISH Course*", offered to the international scientific community

Services for the scientific community

- Member of Board of Directors** Young Academy of the Austrian Academy of Sciences (since 2019)
- Senior Editor:** The ISME Journal (2019/2020)
- Associate editor:** Frontiers - Terrestrial Microbiology (since 2016), and Frontiers - Systems Microbiology (2013 to 2016)
- Review Panel member:** National Centre of Excellence (NCCR) *Microbiomes*, Swiss National Science Foundation (SNSF)
- Ad-hoc reviewer:** Science, Nature Microbiology, Nature Ecology & Evolution, Nature Communications, Current Opinion in Biotechnology, The ISME Journal, Molecular Biology and Evolution, Environmental Microbiology and Environmental Microbiology Reports, Applied and Environmental Microbiology, Microbial Ecology, PLOS One, Systematic and Applied Microbiology,
European Research Council (ERC) Advanced Grant
Netherlands national research council "*Netherlands Organisation for Scientific Research (NWO)*", Council for the Earth and Life Sciences
GIF - German-Israeli Foundation for Scientific Research and Development
- PhD committee member:** Member of the PhD thesis committee of Anna Feurig, Leibniz Institute for Baltic Sea Research Warnemünde (IOW), Rostock, Germany;
Member of the PhD thesis and PhD assessment committee of Magdalena Mayr, ETH and Swiss Federal Institute of Aquatic Science and Technology (EAWAG), Switzerland, 2016-2019);
Member of the PhD assessment committees: Caitlin Petro (Aarhus University, Denmark, 2018); Martine Kox (Radboud University Nijmegen, The Netherlands, 2020); Zahra Islam (Monash University, Australia, 2020)

Invited presentations

- 2023 Leibniz Institute for Baltic Sea Research Warnemünde (IOW), Rostock, Germany. *Exploring endurance strategies of desert soil bacteria to water limitation.*

- 2023 Institute of Microbiology, Center for Functional Genomics of Microbes, University of Greifswald, Greifswald, Germany. *Exploring endurance strategies of desert soil bacteria to water limitation.*
- 2023 6th Austrian Microbiome Initiative (AMICI) Symposium, Vienna, Austria. *Exploring endurance strategies of desert soil bacteria to water limitation.*
- 2022 Section for Microbiology Department of Bioscience, Aarhus University, Aarhus, Denmark. *Microbial survival strategies and resuscitation dynamics in soil.*
- 2022 Aerobiology Network Group - DRAMA/ICARUS Seminar Series. Aarhus University, Denmark. *Investigating microbial activity using stable isotope labeling and single-cell analysis tools.*
- 2022 The Hebrew University of Jerusalem, Rehovot, Israel. *There is more than sporulation – exploring survival strategies in soil microorganisms.*
- 2022 Department of Microbiology, University of Innsbruck. *Microbial survival strategies and resuscitation dynamics in soil.*
- 2021 Helmholtz Centre for Environmental Research - UFZ, Leipzig, Germany. *There is more than sporulation – exploring survival strategies in soil microorganisms.*
- 2021 Aerobiology Network Group - DRAMA/ICARUS Seminar Series. Aarhus University, Denmark. *Studying microbial activity using stable isotope labeling and Raman microspectroscopy & NanoSIMS.*
- 2020 Max-Planck-Institute for Marine Microbiology, Bremen, Germany. *Beyond sporulation – exploring survival strategies in soil microorganisms.*
- 2020 Session host and invited keynote speaker: International Symposium on Microbial Ecology (ISME18), Cape Town, South Africa. Cancelled due to COVID19.
- 2019 4th Thünen Symposium on Soil Metagenomics, Braunschweig, Germany. *Beyond sporulation - exploring survival strategies in soil microorganisms.*
- 2018 8th NanoSIMS Workshop, Bremen, Germany. *Meeting the challenge of applying NanoSIMS analysis to elucidate the function of microorganisms in terrestrial ecosystems.*
- 2018 American Society for Microbiology (ASM Microbe 2018), Atlanta, USA. *Exploring the spatial organization of plant microbiomes - from identification to functional analysis via NanoSIMS.*
- 2018 Section for Microbiology Department of Bioscience, Aarhus University, Aarhus, Denmark. *Meeting the challenge of applying single-cell analyses to terrestrial systems*
- 2018 ÖAW Science Day, Austrian Academy of Sciences, Vienna, Austria. *Revealing the active microbial participants in terrestrial nutrient cycles*
- 2018 CIEMIC, University of Costa Rica, San Jose, Costa Rica. *Combining stable isotope labeling experiments and single-cell techniques to elucidate the function of microorganisms in the environment.*
- 2018 HWK Study Group “Diversity and Function of Phototrophic Biofilms in the Seas of Oman”, Hanse-Wissenschaftskolleg, Delmenhorst, Germany. *How single-cell activity assays can provide insights into the function of microorganisms in photosynthetic microbial mats.*
- 2017 Department of Surface Waters – Research and Management, Eawag, Kastanienbaum, Switzerland. *Combining stable isotopes, molecular and single-cell methods (NanoSIMS) to elucidate the active diazotrophs in terrestrial habitats.*
- 2017 Leibniz Institute DSMZ-German Collection of Microorganisms and Cell Cultures, Braunschweig, Germany. *Applying stable isotope labeling experiments, massive*

- parallel sequencing and single-cell analysis to elucidate the function of microorganisms in soil.*
- 2017 Max Planck Institute for Chemistry, Mainz, Germany. *Combining stable isotopes, molecular and single-cell methods to elucidate the function of microorganisms in photosynthetic mats.*
- 2016 International Symposium on Microbial Ecology (ISME16), Montreal, Canada. *Revealing the active participants of N₂ fixation in photosynthetic microbial mats.*
- 2016 74th Annual Swiss Society for Microbiology Meeting, Bern, Switzerland. *Combining stable isotope labeling experiments and single-cell analysis to elucidate the function of microorganisms in soil.*
- 2014 International workshop “NanoSIMS in biogeochemistry from soils to sediments, from geology to microbiology”, Chair of Soil Science, TU München, Freising-Weihenstephan, Germany. *Application of NanoSIMS to investigate the function of microorganisms in benthic and terrestrial ecosystems.*
- 2014 Gordon Conference Environmental Sciences - Water, Holderness, USA. *Investigating the function of uncultivated microorganisms using stable isotopes and molecular tools – from the process-level to single cells.*
- 2013 EMBO Conference on Aquatic Microbial Ecology: SAME13, Stresa, Italy (Keynote lecture). *N₂ fixation in coastal microbial mats: From the process level to single cells.*
- 2013 International workshop “FISH: Fundamentals and Applications”, University of Porto (FEUP), Portugal. *New developments on FISH – linking identity with function.*
- 2012 Institute of Ecology, University of Innsbruck, Austria. *Identifying the active diazotrophs in coastal microbial mats by a functional single-cell approach.*
- 2011 Department of Microbial Ecology, Vienna, Austria. *Identification of a previously unknown cyanobacterial group as active diazotrophs in coastal microbial mats using NanoSIMS analysis*
- 2008 Microbial Diversity Course, Marine Biological Laboratory (MBL), Woods Hole, USA. Directors: Prof. Thomas M. Schmidt & Prof. William Metcalf. *Investigations of marine anammox bacteria – their diversity, occurrence and genomic features*
- 2007 Environmental Science & Engineering, California Institute of Technology (CalTech), USA. *Diversity and ecology of marine Planctomycetes with focus on anammox bacteria*
- 2007 Department of Civil & Environmental Engineering, Stanford University, USA. *Investigating Planctomycetes in marine oxygen minimum zones using molecular methods.*
- 2007 Department of Microbiology, Oregon State University, USA. *Genomic investigations of Planctomycetes in marine oxygen minimum zones.*
- 2007 Department of Microbiology & Immunology, University of British Columbia, Canada. *Microdiversity of marine anammox bacteria in oxygen minimum zones.*

Contributions to international conferences (only presenting or last/corresponding author contributions listed)

Randi D, Oburger E, Schenkeveld W, Wienkoop S, **Woebken D**. 2023. *Factors influencing the microbial communities associated with wild plants in alkaline-saline soils at the soda lake region Seewinkel-Neusiedlersee, Austria.* Wageningen Soil Conference, Wageningen, the Netherlands, poster presentation.

Imminger S, Meier DV, Schintlmeister A, Legin A, Gillor O, Eichorst SA, **Woebken D**. 2023. ²H-NanoSIMS & population-resolved metatranscriptomics elucidate rapid and collective reactivation of a biocrust

microbial community. Symposium on Bacterial Genetics and Ecology (BAGECO 16), Copenhagen, Denmark.

Imminger S, Meier DV, Schintlmeister A, Legin A, Gillor O, Wagner M, Eichorst SA, **Woebken D.** 2022. *Rapid and collective reactivation of a desert soil crust microbial community upon a water pulse.* International Symposium on Microbial Ecology (ISME18), Lausanne, Switzerland.

Randi D, Oburger E, Schenkeveld W, Wienkoop S, **Woebken D.** *First insights into the microbial communities shaped by soil salinity, alkalinity and halophytic plants.* International Symposium on Microbial Ecology (ISME18), Lausanne, Switzerland.

Dietrich M, Séneca J, Mayali X, Lietard J, Weber P, Somoza M, Pötsch EM, Pett-Ridge J, Richter A, **Woebken D.** 2022. *Investigating the effect of climate change drivers on the active soil microbial community by Chip-SIP.* International Symposium on Microbial Ecology (ISME18), Lausanne, Switzerland.

Barrajon-Santos V, Nepel M, Hausmann B, Voglmayr H, **Woebken D,** Mayer VE. 2022. *Dissecting an ecosystem inside an ecosystem – Complex communities associated to an ant-plant mutualism.* International Symposium on Microbial Ecology (ISME18), Lausanne, Switzerland.

Imminger S, Meier D, Schintlmeister A, **Woebken D.** 2020. *Population-level transcriptional responses to wetting and desiccation in an arid biological soil crust.* VAAM, Leipzig, Germany, oral presentation.

Meier D, Imminger S, Gillor O, **Woebken D.** 2019. *Different metabolic adaptations enable drought survival and fast reactivation of microorganisms in desert biological soil crusts as revealed by population-resolved metagenomics and transcriptomics.* 4th Thünen Symposium on Soil Metagenomics, Braunschweig, Germany, poster presentation.

Woebken D. 2019. *Insights into the diazotrophic microbiome of wetland rice and its N₂-fixation activity.* Symposium on Bacterial Genetics and Ecology (BAGECO 15), Lisbon, Portugal, oral presentation.

Woebken D. 2019. *Exploring the potential and ecological implications of atmospheric gas scavenging in soil acidobacteria.* Symposium on Bacterial Genetics and Ecology (BAGECO 15), Lisbon, Portugal, oral presentation.

Schmidt H, Randi D, Dufour L, Strasser F, **Woebken D.** 2018. *Insights into the diazotrophic microbiome of wetland rice and its N₂-fixation activity* oral presentation. 13th European Nitrogen Fixation Conference (ENFC2014), Stockholm, Sweden, oral presentation.

Nepel M, Angel R, Peer T, Lázaro Suau R, Büdel B, Wanek W, **Woebken D.** 2018. *Comparing N₂ fixation activity and diazotrophic community composition in biological soil crusts and subsoils along a European climate gradient,* poster presentation. 13th European Nitrogen Fixation Conference (ENFC2014), Stockholm, Sweden, poster presentation.

Strasser F, Widder S, Eichorst SA, **Woebken D.** 2018. *Niche differentiation of cellulose-degrading bacteria and fungi due to nutrient availability in a forested soil.* International Symposium on Microbial Ecology (ISME17), Leipzig, Germany, poster presentation.

Trojan D, Robledo EG, Giguere A, Revsbech NP, Eichorst SA, **Woebken D.** 2018. *Shallow breathing acidobacteria: exploring the respiratory kinetics of aerobic soil acidobacteria at nanomolar oxygen concentrations.* International Symposium on Microbial Ecology (ISME17), Leipzig, Germany, poster presentation.

Meier DV, Imminger S, Gillor O, **Woebken D.** 2018. *Microbial diversity patterns within arid biological soil crusts – an actinobacterial world.* International Symposium on Microbial Ecology (ISME17), Leipzig, Germany, poster presentation.

Dietrich M, Gorka S, Mayerhofer W, Gabriel R, Strasser F, Schintlmeister A, Weidinger M, Eichorst SA, Richter A, Kaiser C, **Woebken D.** 2018. *Unravelling the complexity of the microbiome in the ectomycorrhizal network of Fagus sylvatica.* International Symposium on Microbial Ecology (ISME17), Leipzig, Germany, poster presentation.

- Imminger S, Meier D, Schintlmeister A, Angel R, Eichorst SA, **Woebken D**. 2018. *Detecting active cells in drylands by stable isotope probing combined with Raman spectroscopy and NanoSIMS*. International Symposium on Microbial Ecology (ISME17), Leipzig, Germany, poster presentation.
- Nepel M, Richter A, Kaiser C, **Woebken D**, Mayer V. 2018. *Microorganisms putatively involved in the nutrient recycling of ant-plant associations by degrading chitin and cellulose*. International Symposium on Microbial Ecology (ISME17), Leipzig, Germany, oral presentation.
- Giguere AT, Trojan D, Watzka M, Richter A, **Woebken D**, Eichorst SA. 2018. *Exploring H₂ utilization in mesophilic soil acidobacteria*. International Symposium on Microbial Ecology (ISME17), Leipzig, Germany, poster presentation.
- Eichorst SA, Trojan D, Giguere A, Roux S, Herbold C, Rattei T, **Woebken D**. 2018. *Exploring the ecophysiology of acidobacteria and identifying the potential strategies for their success in soil*. ASM 2018, Atlanta, Georgia, USA, poster presentation.
- Imminger S, Strasser F, Schintlmeister A, Angel R, Eichorst SA, **Woebken D**. 2017. *Single-cell level activity measurements in terrestrial ecosystems: combining stable isotope probing with Raman microspectroscopy and NanoSIMS*. How dead is dead? 5th conference on exploring the edge of bacterial life. Vienna, Austria, poster presentation.
- Angel R, Imminger S, Schintlmeister A, Eichorst SA, **Woebken D**. 2017. *Contribution of heterotrophs to nitrogen fixation in cyanobacteria-dominated arid biological soil crusts*. BAGEGO14: 14th symposium on bacterial genetics and ecology. Aberdeen, United Kingdom, oral presentation.
- Eichorst SA, Strasser F, Schintlmeister A, Richter A, **Woebken D**. 2016. *Exploring the niches of cellulose degradation in a forested soil – from the process to the single-cell scale*. International Symposium on Microbial Ecology (ISME16), Montreal, Canada, oral presentation.
- Angel R, Gabriel R, Eichorst SA, **Woebken D**. 2016. *An optimised toolbox for investigating free-living diazotrophs in soil: from bulk measurements to single-cell analysis*. International Symposium on Microbial Ecology (ISME16), Montreal, Canada, poster presentation.
- Woebken D**. 2015. *Combining stable isotope labeling experiments and single-cell analysis techniques to detect active microorganisms in soil*. Ecology of Soil Microorganisms. Prague, Czech Republic, oral presentation.
- Nepel M, Angel R, Peer T, Büdel B, Wolfgang Wanek, **Woebken D**. 2015. *Identifying potential key players of N₂ fixation in European biological soil crusts*. Ecology of Soil Microorganisms. Prague, Czech Republic, poster presentation.
- Schmidt H, **Woebken D**. 2015. *Diversity and spatial distribution of diazotrophs associated with micro-environments of wetland rice*. Ecology of Soil Microorganisms. Prague, Czech Republic, poster presentation.
- Strasser F, Eichorst SA, Fuchslueger L, Schnecke J, Watzka M, Richter A, **Woebken D**. 2015. *Influences of carbon substrates and nitrogen availability on microbial-mediated cellulose degradation in an Austrian beech forest soil*. Ecology of Soil Microorganisms. Prague, Czech Republic, poster presentation.
- Angel R, Gabriel R, Eichorst SA, **Woebken D**. 2015. *Optimizing the toolbox to investigate free-living diazotrophs in soil: from bulk measurements to single-cell analysis*. Ecology of Soil Microorganisms. Prague, Czech Republic, poster presentation.
- Trojan D, Eichorst SA, Herbold C, Rattei T, **Woebken D**. 2015. *Investigating the ecophysiology of the ubiquitous Acidobacteria in the dynamic soil environment*. Ecology of Soil Microorganisms. Prague, Czech Republic, poster presentation.
- Woebken D**. 2015. *Combining stable isotopes and single-cell methods to detect active microorganisms in soils*. How Dead is Dead IV conference, Zürich, Switzerland, oral presentation.
- Schmidt H, Hoefler C, **Woebken D**. 2015. *Diversity and spatial distribution of diazotrophs associated with micro-environments of wetland rice*. Rhizosphere4, Maastricht, The Netherlands, poster presentation.

- Woebken D.** 2014. *Advancements on the application of NanoSIMS to investigate microorganisms in terrestrial ecosystems*. 4th Edition NanoSIMS International Workshop, Paris, France, oral presentation.
- Woebken D.** 2014. Elucidating active diazotrophs in complex ecosystems by combining molecular tools, $^{15}\text{N}_2$ -stable isotope probing and high-resolution secondary ion mass spectrometry (nanoSIMS). 11th European Nitrogen Fixation Conference (ENFC2014), Tenerife, Canary Islands, Spain, oral presentation.
- Eichorst SA, Strasser F, Woyke T, Schintlmeister A, Wagner M, **Woebken D.** 2014. One Cell at a Time: Advancements on the application of single-cell methods, NanoSIMS and Raman microspectroscopy, in terrestrial environments. International Symposium on Microbial Ecology (ISME15), Seoul, South Korea, poster presentation.
- Eichorst SA, Strasser F, Fuchslueger L, Schnecker J, Watzka M, Richter A, **Woebken D.** 2014. Temporal patterns and edaphic drivers in microbial cellulose degradation in an Austrian beech forest soil. International Symposium on Microbial Ecology (ISME15), Seoul, South Korea, poster presentation.
- Woebken D.** 2014. Investigating N_2 fixation activity in photosynthetic microbial mats down to the single-cell level. BioFilm6, Vienna, Austria, oral presentation.
- Eichorst SA, Strasser F, Fuchslueger L, Schnecker J, Watzka M, Woyke T, Schintlmeister A, Richter A, **Woebken D.** 2014. *Investigating microbial cellulose degradation in an Austrian beech forest soil – from the process to the single-cell level*. DBG Workshop, Freising, Germany, oral presentation.
- Eichorst SA, Strasser F, Schintlmeister A, Woyke T, **Woebken D.** 2013. *Understanding the edaphic drivers of cellulose-degrading guilds in an Austrian beech forest soil*. 2nd Thünen Symposium on Soil Metagenomics, Braunschweig, Germany, poster presentation.
- Woebken D,** Burow LC, Weber PK, Singer SW, Spormann AM, Pett-Ridge J, Bebout BM. 2012. *Revisiting N_2 fixation in photosynthetic microbial mats by a functional approach - $^{15}\text{N}_2$ stable isotope probing combined with single cell analysis*. International Symposium on Microbial Ecology (ISME 14), Copenhagen, Denmark, oral presentation.
- Woebken D,** Burow LC, Prufert-Bebout L, Bebout B, Hoehler TM, Pett-Ridge J, Singer SW, Spormann AM, Weber PK. 2011. *Identification of a previously unknown cyanobacterial group as active diazotrophs in coastal microbial mats using NanoSIMS analysis*. Gordon Conference on Applied and Environmental Microbiology, South Hadley, USA, poster presentation.
- Woebken D,** Burow LC, Prufert-Bebout L, Bebout B, Hoehler TM, Pett-Ridge J, Singer SW, Spormann AM, Weber PK. 2010. *Identifying N_2 -fixing populations in photosynthetic microbial mats by combining biogeochemistry, molecular analysis and single cell techniques*. International Symposium on Microbial Ecology (ISME 13), Seattle, USA, poster presentation.
- Woebken D,** Singer SW*, Burow LC, Prufert-Bebout L, Bebout BM, Pett-Ridge J, Spormann AM and Weber PK. 2010. *NanoSIP: Combining stable isotope probing and high resolution Secondary Ion Mass Spectrometry to identify diazotrophs in stratified marine microbial communities*. Goldschmidt 2010, Knoxville, USA, oral presentation (* presenting author).
- Burow LC*, **Woebken D***, Prufert-Bebout L, Bebout B, Hoehler T, Pett-Ridge J, Singer SW, Spormann AM and Weber PK. 2009. *NanoSIP: Functional analysis of phototrophic microbial mat community members using high-resolution Secondary Ion Mass Spectrometry*. Genomic Science Annual Contractor-Grantee Workshop (*joint first authorship), Arlington, USA, poster presentation.
- Woebken D,** Lam P, Fuchs BM, Kuypers MMM, Naqvi SWA, Kartal B, Strous M, Jetten MSM and Amann R. 2008. *A microdiversity study of anammox bacteria reveals a novel *Candidatus Scalindua* phylotype in marine oxygen minimum zones*. American Society for Microbiology (ASM General Meeting), Boston, USA, poster presentation.
- Woebken D,** Fuchs BM, Lavik G, Kuypers MMM and Amann R. 2006. *Anammox bacteria and their co-occurring microbial flora in the Namibian and Peruvian upwelling systems*. VAAM, Jena, Germany, poster presentation.
- Woebken D,** Fuchs BM, Kuypers MMM, Amann R. 2006. *Anammox bacteria in oxygen minimum zones*. International Symposium on Microbial Ecology (ISME 11), Vienna, Austria, oral presentation.

Kuypers MMM, Lavik G, **Woebken D***, Fuchs BM, Schmidt M, Jetten MSM, Jorgensen BB and Amann R. 2005. *Detection of Anammox bacteria in the Benguela Upwelling System and their impact on the nitrogen loss in this ecosystem*. ASLO Summer Meeting, Santiago de Compostela, Spain, oral presentation (* presenting author).

Woebken D, Fuchs B and Amann R. 2004. *Diversity and abundance of marine bacterioplankton in the Namibian Upwelling Region*. International Symposium on Microbial Ecology (ISME 10), Cancun, Mexico, poster presentation.

National and international collaboration partners

Prof. Dr. Raeid Abed	Biology Department, College of Science, Sultan Qaboos University, Oman
Dr. Dirk de Beer	Max Planck Institute for Marine Microbiology, Germany
Prof. Dr. Kai Finster	Department of Biology, Aarhus University, Denmark
Prof. Chris Greening, PhD	School of Biological Sciences, Monash University, Australia
Emilio Garcia-Robledo, PhD	Department of Biology, Universidad de Cadiz, Spain
Dr. Osnat Gillor	The Jacob Blaustein Institutes for Desert Research, Ben-Gurion University of the Negev, Israel
Dr. Christina Kaiser	Division of Terrestrial Ecosystem Research, Department of Microbiology and Ecosystem Science, University of Vienna, Austria
Prof. Dr. Alexander Loy	Division of Microbial Ecology, Department of Microbiology and Ecosystem Science, University of Vienna, Austria
Dr. Veronika Mayer	Division of Structural and Functional Botany, Department of Botany and Biodiversity Research, University of Vienna, Austria
Prof. Dr. Thomas Rattei	Division of Computational Systems Biology, Department of Microbiology and Ecosystem Science, University of Vienna, Austria
Jennifer Pett-Ridge, PhD	Physical and Life Science Directorate, Lawrence Livermore Laboratory, USA
Dr. Erich M. Pötsch	Agricultural Research and Education Centre Raumberg-Gumpenstein, Austria
Prof. Dr. Niels Peter Revsbech	Department of Bioscience – Microbiology, Aarhus University, Denmark
Prof. Dr. Andreas Richter	Division of Terrestrial Ecosystem Research, Department of Microbiology and Ecosystem Science, University of Vienna, Austria
Dr. Simon Roux	DOE Joint Genome Institute, USA
Dr. Michael Sander	Department of Environmental Systems Science, Institute of Biogeochemistry and Pollutant Dynamics, ETH Zurich, Switzerland
Assist.-Prof. Dr. Tina Santl-Temkiv	Department of Bioscience, Aarhus University, Denmark
Prof. Dr. Michael Schagerl	Department of Limnology and Oceanography, University of Vienna, Austria
Dr. Andreas Schaumberger	Agricultural Research and Education Centre Raumberg-Gumpenstein, Austria
Prof. Dr. Michael Wagner	Division of Microbial Ecology, Department of Microbiology and Ecosystem Science, University of Vienna, Austria
Prof. Dr. Wolfgang Wanek	Division of Terrestrial Ecosystem Research, Department of Microbiology and Ecosystem Science, University of Vienna, Austria

Peter Weber, PhD	Physical and Life Science Directorate, Lawrence Livermore Laboratory, USA
Prof. Dr. Stefanie Wienkoop	Division of Molecular Systems Biology, Department of Ecogenomics and Systems Biology, University of Vienna, Austria
Dr. Tanja Woyke	Microbial Genomics Program Lead, DOE Joint Genome Institute, USA

Popular scientific contributions

October 2023	Contribution to blog of the Young Academy of Sciences (ÖAW), article on the <i>15-Year Celebration of the Young Academy</i> https://www.derstandard.at/story/3000000190560/15-jahre-junge-akademie
October 2023	Contribution to blog of the Young Academy of the ÖAW, article entitled <i>Was ist Leben?</i> https://www.derstandard.at/story/3000000192276/was-ist-leben
February 2020	Universität Wien - Audimax 28: <i>Mikrobiologin Dagmar Wuebken</i> https://medienportal.univie.ac.at/uniview/wissenschaft-gesellschaft/podcast-detail/artikel/audimax-28-mikrobiologin-dagmar-woebken/
January 2020	Guest contribution by Dagmar Wuebken, Universität Wien - Semesterfrage 2019/2020: <i>Wie schützen wir unsere Artenvielfalt? Mikroorganismen: Artenvielfalt im Boden</i> https://medienportal.univie.ac.at/uniview/wissenschaft-gesellschaft/detailansicht/artikel/mikroorganismen-artenvielfalt-im-boden/
November 2019	Contribution to blog of the Young Academy of the ÖAW, article entitled <i>„Bodenmikroorganismen als Überlebenskünstler: Wie schaffen die das?“</i> https://www.derstandard.at/story/2000111236544/bodenmikroorganismen-als-ueberlebenskuenstler-wie-schaffen-die-das
June 2019	Contribution to EU-Publication „Microbiome - Spotlight on ERC projects 2019“, article entitled <i>„Wake-up call for soil microbes“</i> https://publications.europa.eu/en/publication-detail/-/publication/21fd81ef-989d-11e9-b2f2-01aa75ed71a1
May 2018	Contribution to blog of the Young Academy of the ÖAW, article entitled <i>„Bodenmikroorganismen sind wahre Überlebenskünstler“</i> https://www.derstandard.at/story/2000079407951/bodenmikroorganismen-sind-wahre-ueberlebenskuenstler
April 2018	Guest contribution by Dagmar Wuebken, Universität Wien - Semesterfrage 2018: <i>Wie retten wir unser Klima? In Kooperation mit Österreichischen Zeitung Der Standard: Ist biologische Landwirtschaft global einsetzbar?</i> https://www.derstandard.at/story/2000078619960/ist-biologische-landwirtschaft-global-einsetzbar
April 2018	Guest contribution by Dagmar Wuebken, Universität Wien - Semesterfrage 2018: <i>Wie retten wir unser Klima? In Kooperation mit Österreichischen Zeitung Der Standard: Wie hängt unsere Ernährung mit dem Klima zusammen?</i> https://derstandard.at/2000078010071/Wie-haengt-unsere-Ernaehrung-mit-dem-Klima-zusammen
March 2018	Science Days der Jungen Akademie der Österreichischen Akademie der Wissenschaften (ÖAW). https://derstandard.at/2000076904658/Mikroorganismen-Yoga-Wissenschaftliche-Anknuempfungspunkte-gesucht

- June 2014 Video: *Mikrobiologin Dagmar Wöbken auf Spurensuche*. uni:view MAGAZIN
<http://medienportal.univie.ac.at/uniview/forschung/detailansicht/artikel/video-beitrag-mikrobiologin-dagmar-woebken-auf-spurensuche/>
- February 2014 Guest contribution to the uni:view MAGAZIN - Universität Wien: *Im Reich der wichtigen Kleinen*
<https://medienportal.univie.ac.at/uniview/forschung/detailansicht/artikel/im-reich-der-wichtigen-kleinen/>

Media coverage

- June 2024 Article in the German journal *Laborjournal: Kleine Überlebenskünstler* (in German)
https://www.laborjournal.de/rubric/journalclub/jc/jc_24_06_02.php
- May 2024 Podcast of the American Society of Microbiology (TWiM - This Week in Microbiology), highlighted paper
<https://asm.org/podcasts/twim/episodes/starvation-vs-dehydration-who-loses,-who-wins-twim>
- April 2024 Press release at the University of Vienna: *How soil microbes survive in harsh desert environments*
<https://medienportal.univie.ac.at/en/media/recent-press-releases/detailansicht-en/artikel/how-soil-microbes-survive-in-harsh-desert-environments/>
- Article in the Science-news section of the ORF (the Austrian Broadcasting Corporation) (in German): *Wie Bodenbakterien in der Wüste überleben*
<https://science.orf.at/stories/3224633/>
- Article in ScienceDaily: *How soil microbes survive in harsh desert environments*
https://www.sciencedaily.com/releases/2024/04/240417131016.htm?utm_medium=email&utm_source=rasa_io&utm_campaign=newsletter
- Article in the German national daily newspaper *Die Welt* (in German): *Wie es gelingt, Hitze, Dürre und Strahlung zu trotzen*
<https://www.welt.de/wissenschaft/article251141614/Oekosystem-Wueste-Wie-es-gelingt-Hitze-Duerre-und-Strahlung-zu-trotzen.html>
- July 2021 Press release at the University of Vienna: *Bacterial survival kit to endure in soil*
<https://medienportal.univie.ac.at/media/aktuelle-pressemeldungen/detailansicht/artikel/bacterial-survival-kit-to-endure-in-soil/>
- July 2020 Article in the Austrian weekly newspaper *Falter: Leben auf trockenem Boden* (in German)
<https://www.falter.at/heureka/20200708/leben-auf-trockenem-boden/9081039975>

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