

Academic CV

Personal details

Dr. Bettina Glasl (ORCID: 0000-0002-6812-868X, Research ID: OIR-9088-2025)

Centre for Microbiology and Environmental Systems Science (CeMESS), University of Vienna
Djarassiplatz 1, A-1030 Vienna

Link to publications: <https://scholar.google.com/citations?user=EGuKRFsAAAAJ&hl=de>

Education

2020 **PhD in Biology** (degree awarded on the 19th March 2020)

College of Science and Engineering, James Cook University, Australia

Healthy and Resilient Great Barrier Reef, Australian Institute of Marine Science, Australia

Supervisor: Univ.-Prof. Dr. David G. Bourne and Dr. Nicole S. Webster

2015 **MSc in Ecology** (Specialization in Marine Biology)

Department of Limnology and Bio-Oceanography, University of Vienna, Austria

Supervisor: Univ.-Prof. Dr. Gerhard Herndl

2012 **BSc in Biology** (Specialization in Ecology)

University of Vienna, Austria

Positions

Since 2024 Senior Scientists

Centre for Microbial Ecology and Environmental Systems Science, Division of Microbial Ecology, University of Vienna, Austria

2020 – 2024 Postdoctoral researcher

Centre for Microbial Ecology and Environmental Systems Science, Division of Microbial Ecology, University of Vienna, Austria

Net research experience:

Before completion of PhD degree: 5 years 9 months After completion of PhD degree: 5 years

Research interests:

My research focuses on understanding the fundamental mechanisms underpinning symbiotic interactions of sponges and corals. As these key ecosystem engineers face severe threats from climate change, understanding the contribution of their microbial symbionts to host health is critical for guiding effective conservation strategies. I have substantially advanced the implementation of microbial-based monitoring initiatives for coral reef health assessments. Combining a passion for field and aquaria-based research with my strong expertise in meta'omic analyses and chemical and fluorescence imaging, I investigate sponge microbiomes with a function-centric perspective, advancing our understanding of animal–microbe symbiosis at the mechanistic level.

Academic publications

In total, I have published 19 manuscripts (12 as first author): 18 in international peer-reviewed journals, including high-impact journals (Q1) such as *Microbiome*, *The ISME Journal*, *Communications Biology*, and *Environmental Microbiology*, and 1 as preprint in *bioRxiv*.

10 selected publications ([#] corresponded author, [&] mentored student)

1. **Glasl B[#]**, Kitzinger K, Luter HM, Legin A, Salas E, Heldwein N, Damjanovic K, Schuster S, Rutsch M, Vekeman B, Speth DR, Geerlings NMJ, Pjevac P, Séneca J, Watzka M, Wanek W, Wagner M (2025) Branched-chain amino acid assimilation promotes mixotrophy of ammonia-oxidizing archaeal sponge symbionts. *bioRxiv* <https://doi.org/10.1101/2025.09.09.672702>
2. **Glasl B[#]**, Luter HM, Damjanovic K, Kitzinger K, Mueller AJ, Mahler L[&], Engelberts JP, Rix L, Osvatic J, Hausmann B, Séneca J, Daims H, Pjevac P, Wagner M (2024) Co-occurring nitrifying symbiont lineages are vertically inherited and mediate nitrification in marine sponges. *The ISME J* 18 (1) wrae069 <https://doi.org/10.1093/ismejo/wrae069>
3. Moeller FU, Herbold CW, Schintlmeister A, Mooshammer M, Motti C, **Glasl B**, Kitzinger K, Behnam F, Watzka M, Schweder T, Albertsen M, Richter A, Webster NS, Wagner M[#] (2023) Taurine as a key intermediate for host-symbiont interaction in the tropical sponge *Ianthella basta*, *The ISME Journal*, 17 (8), 1208–1223 <https://doi.org/10.1038/s41396-023-01420-1>
4. Robbins SJ, Song W, Engelberts JP, **Glasl B**, Slaby BM, Boyd J, Marangon E, Botté ES, Laffy PW, Thomas T, Webster NS[#] (2021) A genomic view of the microbiome of coral reef demosponges. *The ISME J* 15, 1641–1654. <https://doi.org/10.1038/s41396-020-00876-9>
5. **Glasl B[#]**, Robbins SJ, Frade PR, Marangon E, Laffy PW, Bourne DG, Webster NS (2020) Comparative genome-centric analysis reveals seasonal variation in the function of coral reef microbiomes. *The ISME J* 14, 1435–1450. <https://doi.org/10.1038/s41396-020-0622-6>
6. **Glasl B[#]**, Bourne DG, Frade PR, Thomas T, Schaffelke B, Webster NS (2019) Microbial indicators of environmental perturbations in coral reef ecosystems. *Microbiome* 7, 94. <https://doi.org/10.1186/s40168-019-0705-7>
7. **Glasl B[#]**, Smith CE[&], Bourne DG, Webster NS (2018) Exploring the diversity-stability paradigm using sponge microbial communities. *Scientific Reports* 8, 8425. <https://doi.org/10.1038/s41598-018-26641-9>
8. **Glasl B[#]**, Webster NS, Bourne DG (2017) Microbial indicators as a diagnostic tool for assessing water quality and climate stress in coral reef ecosystems. *Marine Biology* 164 (4), 91. <https://doi.org/10.1007/s00227-017-3097-x>
9. Astudillo-García C, Bell JJ, Webster NS, **Glasl B**, Jompa J, Montoya JM, Taylor MW[#] (2017) Evaluating the core microbiota in complex communities: A systematic investigation. *Environmental Microbiology* 19: 1450-1462. <https://doi.org/10.1111/1462-2920.13647>
10. **Glasl B**, Herndl GJ, Frade PR[#] (2016) The microbiome of coral surface mucus has a key role in mediating holobiont health and survival upon disturbance. *The ISME J* 10, 2280–2292. <https://doi.org/10.1038/ismej.2016.9>

Additional research achievements

Top 10 research achievements:

- *Selected fellowships and awards*
 - Hertha-Firnberg Postdoctoral Fellowship, Austrian Science Fund (FWF), Austria, Project name: SPICI – Sponge microbe interactions (EUR 243,120)
 - Reinforcing Women in Research (REWIRE) and Marie Skłodowska-Curie Actions COFUND Programme, European Commission (awarded but not pursued)
 - Advance Queensland PhD Scholarship, Queensland Government, Australia Project name: Microbial indicators for coral reef health (AUD 45,000)
- *Selected contributions to conferences*
 - Trends in Marine Animal-Microbe Symbiosis Symposium, Padova, Italy, Oct 2025, Oral presentation (**selected as one of the Top 10 Abstracts**) <https://marinesymbioses.eu>
 - International Symposium on Microbial Ecology (ISME19), Cape Town, South Africa. Aug 2024, **Oral presentation** (Session: Microbial interactions between organisms, species and kingdoms) <https://isme-microbes.org/isme19-highlights/>
 - Animal-Microbe Symbiosis Gordon Research Conference (GRC) and Seminar (GRS), Lucca, Italy. Jun 2023, Poster (**Best Poster Award**) <https://www.grc.org/animal-microbe-symbioses-conference/>
 - International Symposium on Microbial Ecology (ISME18), Lausanne, Switzerland. Aug 2022, **Invited speaker** (Session: Host-microbe associations across the animal Tree of Life and beyond) <https://isme-microbes.org/isme-symposia/past-isme-symposia/>
- *Organization of scientific meetings*
 - Local organizing committee member – European N-cycle meeting, Vienna, Austria (Sept 2025) <https://univie.eventsair.com/enc2025/>
 - Session organizer – Basal Metazoa: microbe interactions in the present and future ocean, ASLO Aquatic Science Meeting, Spain (Jun 2020) <https://www.aslo.org/2021-virtual-meeting/session-list/>
- *Editorial activities*
 - Since 2023 Associate Editor at the journals *Microbiome* and *Environmental Microbiome* <https://microbiomejournal.biomedcentral.com/about/editorial-board>