

TAYLOR PRIEST

Microbial Ecologist - Genomics & Environmental Microbiology

tpriest@ethz.ch · +41 76 250 49 05

RESEARCH SUMMARY

I am a microbial ecologist studying the diversification, adaptation and structuring of microbes across environmental gradients through the lens of population genetics, microbial community dynamics and mobile genetic elements. While my research began by combining field sampling with molecular techniques, and bioinformatics to address these topics from the ground up, it has, more recently, evolved toward global-scale metagenomic analysis combined with the development of new computational frameworks and advanced statistical approaches to resolve and rigorously test biological signals.

EDUCATION & PROFESSIONAL TRAINING

Jul 2024 – present **NOMIS–ETH Postdoctoral Fellow**

Centre for Origin and Prevalence of Life, ETH Zurich, Switzerland

Institute of Microbiology, Department of Biology, ETH Zurich, Switzerland

Jul 2023 – Jun 2024 **Postdoctoral Researcher**

Institute of Microbiology, Department of Biology, ETH Zurich, Switzerland

Dec 2022 – Jun 2023 **Postdoctoral Researcher**

Max Planck Institute for Marine Microbiology & University of Bremen, Bremen, Germany

Apr 2019 – Dec 2022 **PhD, Marine Microbial Ecology**

Max Planck Institute for Marine Microbiology & University of Bremen, Bremen, Germany

Supervisors: Prof. Dr. Rudolf Amann & PD Dr. Bernhard M. Fuchs

Oct 2017 – Mar 2019 **MSc, Marine Microbiology**

Max Planck Institute for Marine Microbiology & University of Bremen, Bremen, Germany

Supervisor: PD Dr. Bernhard M. Fuchs & Dr. Marlis Reich

Sep 2014 – Jul 2017 **BSc, Marine Biology & Physical Oceanography**

Plymouth University, Plymouth, UK

Supervisor: Prof. Dr. Michael Cunliffe

FUNDING & GRANTS

- NOMIS–ETH Postdoctoral Fellowship, 2024–present (CHF 480,000; 4 years)

MANUSCRIPTS IN PREPARATION

Priest, T., Ruscheweyh, H., Bezshapkin, V., *et al.* The diversity and dissemination of mobile genetic elements across Earth's ecosystems. *In preparation* *

Paoli, L. & **Priest, T.**, Davín, A. A., *et al.* Genomically discrete populations as eco-evolutionary units in the global ocean microbiome. *BioRxiv* (2026) – *In preparation* *

SELECTED PEER-REVIEWED PUBLICATIONS

First authorships (*); Corresponding authorships (✉); full list available via Google Scholar (link below)

Sichert, A., Pollak, S., **Priest, T.**, *et al.* Synergistic degradation of fucoidans in the ocean. *Nature* (2026). <https://doi.org/10.1038/s41586-026-10980-z>.

Wiederkehr, F., Paoli, L., ... **Priest, T.**, *et al.* Coral microbiomes as reservoirs of unknown genomic and biosynthetic diversity. *Nature* 652, p.686–693 (2026). <https://doi.org/10.1038/s41586-026-10159-6>

Dede, B., Zehnle, H., Skoog, E., **Priest, T.**, *et al.* Active microbial communities and their extrachromosomal elements link organic matter degradation to methane cycling in anoxic sediments. *ISME Commun*, ycag217 (2026). <https://doi.org/10.1093/ismeco/ycag217>

Eriksson, D., Schiller, J., Schickele, A., **Priest, T.**, *et al.* Variations in the latitudinal diversity gradients of the ocean microbiome. *Cell Host Microbe* 34(8), 1560–1574 (2026). <https://doi.org/10.1016/j.chom.2026.05.016>

Priest, T., Henry, N., Weber, T., *et al.* The JEDI marker as a universal measure of planetary biodiversity. *BioRxiv* (2025). <https://doi.org/10.1101/2025.08.11.669668> – under review, *Nat Commun*. *

Calayag, A.M., **Priest, T.**, Oldenburg, E. *et al.* Arctic Ocean virus communities and their seasonality, bipolarity, and prokaryotic associations. *Nat Commun* 16, 6427 (2025). <https://doi.org/10.1038/s41467-025-61568-6>

Priest, T., Oldenburg, E., Popa, O. *et al.* Seasonal recurrence and modular assembly of an Arctic pelagic marine microbiome. *Nat Commun* 16, 1326 (2025). <https://doi.org/10.1038/s41467-025-56203-3> * ✉

Priest, T., Vidal-Melgosa, S., Hehemann, J., Amann, R., Fuchs, B. Spatial heterogeneity in carbohydrates and their utilisation by microbial communities in the high North Atlantic. *ISME Commun* 3(1), 130 (2023). <https://doi.org/10.1038/s43705-023-00324-7> * ✉

Priest, T., Von Appen, J., Oldenburg, E., *et al.* Variations in Atlantic water influx and sea ice cover drive taxonomic and functional shifts in Arctic marine bacterial communities. *ISME Jour* 17(10), 1612–1625 (2023). <https://doi.org/10.1038/s41396-023-01461-6> * ✉

Priest, T., Heins, A., Harder, J., Amann, R., Fuchs, B. M. Niche partitioning of the ubiquitous and ecologically relevant NS5 marine group. *ISME Jour* 16(6), 1570–1582 (2022). <https://doi.org/10.1038/s41396-022-01209-8> *

Priest, T., Orellana, L. H., Huettel, B., Fuchs, B. M., Amann, R. Microbial metagenome-assembled genomes of the Fram Strait from short and long read sequencing platforms. *PeerJ* 9, e11721 (2021). <https://doi.org/10.7717/peerj.11721> *

Priest, T., Fuchs, B., Amann, R., Reich, M. Diversity and biomass dynamics of unicellular marine fungi during a spring phytoplankton bloom. *Environ Microbiol* 23(1), 448–463 (2021). <https://doi.org/10.1111/1462-2920.15331> *

BOOK PUBLICATIONS

Munn, C., **Priest, T.**, Roberts, C., *et al.* Marine Microbiology: Ecology and Applications. 4th ed. CRC Press (2026) – <https://doi.org/10.1201/9781003518839>

AWARDS & HONOURS

- FEMS Microbiology Ecology Lecture Prize, 9th International Conference on Polar and Alpine Microbiology, Potsdam, Germany, 2022
- MARMIC Teaching Excellence Award, International Max Planck Research School for Marine Microbiology, 2021–2022

TEACHING

- Practical Training in Bioinformatics (BSc & MSc), ETH Zurich, 2026–present
 - Curriculum design and delivery; in-class teaching; design and grading of assessments
- Concepts Course in Bioinformatics (BSc & MSc), ETH Zurich, 2024–2026
 - Curriculum design and delivery; in-class teaching; design and grading of examinations

ACADEMIC SUPERVISION

Supervised 1 PhD candidate, 3 MSc theses, and 7 MSc short-term research projects since 2020

SELECTED CONFERENCE PRESENTATIONS & INVITED TALKS

- **Invited speaker:** Centre for the Origins and Prevalence of Life seminar series, Switzerland (2026)
- **Poster:** Origins Federation Conference, Switzerland (2026)
- **Poster:** Gordon Research Conference of Marine Microbes, Barcelona, Spain (2026)
- **Invited speaker:** BioOceans5D European Research Project seminar series, Switzerland (2025)
- **Invited speaker:** National Centre for Competence in Research, Microbiome Project seminar, Switzerland (2025)
- **Speaker:** Tara Oceans foundation annual retreat, Nice, France (2025)
- **Poster:** ISME19 Conference, Cape Town, South Africa (2024)
- **Invited speaker:** PacBio Day, Wageningen University, Netherlands (2022)

PROFESSIONAL SERVICE

- Executive Board and Steering Committee member, Tara Oceans Foundation (2025–present)
- Chair, Tara Oceans Seminar Series Committee (2024–present)
- Secretary, SeqCode Reconciliation Committee (2023–present)
- Chair, Gordon Research Seminar for Marine Microbes (2026)
- Session Chair, European Society for Evolutionary Biology Conference (2025)

RESEARCH EXPEDITIONS

Organisation and execution of ship- and land-based expeditions, including:

- Arctic Seafloor integrity cruise no. MSM95 (2020). <https://hdl.handle.net/10013/epic.066f7e4a-95f4-4400-8d64-be7aacad0eb9>
- The Permafrost Carbon in the Beaufort Sea (PeCaBeau) Expedition of the Research Vessel CCGS Amundsen no. AMD1204 (2022). <https://hdl.handle.net/10013/epic.b1219421-40dd-46cc-af48-5e0c9711cfce>

PEER REVIEW ACTIVITY

Reviewer for: *Nature Microbiology*, *Nature Communications*, *The ISME Journal*, and other journals.

PROFESSIONAL MEMBERSHIPS

Member, International Society for Microbial Ecology (ISME), 2024–present.

LINKS

Google Scholar: <https://scholar.google.com/citations?user=enxasNQAAAAJ&hl=en&oi=ao>

ORCID: <https://orcid.org/0000-0003-4173-8354>

Personal website: <https://taylorpriest.com>