

Andreas Eich

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andieich

Curriculum vitae

Education

- 11/2022 - **PhD** (Biology), École Pratique des Hautes Études (France) & Université Laval ongoing (Canada), *ADAPTOME: Coral ADAPTation to Climate change: multi-omics analysis of host-microbiOME interactions*
- 10/2014 - **MSc** (International Studies in Tropical Marine Ecology), University of Bremen 09/2016 (Germany) and Leibniz Centre for Tropical Marine Research, Bremen (Germany), *Thesis: Coral-algal competition indicates a negative impact of land run-off on a coral reef in Fiji*
- 10/2010 - **BSc** (Biology, focus on Marine Biology), University of Bremen (Germany), *Thesis: Fouling and degradation of plastic in the sea* 07/2013

Research experience

- 03/2018 - **Project leader & researcher**, *Coordination of fieldwork and scientific diving, planning, overseeing, and executing research projects, data analysis and visualization, writing technical reports and scientific publications*, HYDRA Marine Sciences GmbH, Bühl (Germany) 10/2022
- 08/2017 - **Freelance aquatic biologist (selected projects)**, *Scientific diving, technical support, data analysis*, Germany, Switzerland, Italy 03/2018
- 09/2016 - **Scientific diver & research assistant**, *Underwater sampling, dive planning, maintenance of diving and sampling equipment*, HYDRA Institute for Marine Sciences, Isola d'Elba (Italy) 07/2017
- 05/2011 - **Research assistant at various institutes (selection)**, *Analysis of diatom silicate content & cell counts, extracting, identifying and counting foraminifera, amino acid analysis of sediment core samples, scientific diving, plankton sampling*, HYDRA (Italy), MARUM (Germany), ZMT (Germany), AWI (Germany) 10/2014

Publications

Peer-reviewed journals

- [13] Bhalerao, A., Dueker, U., Weber, M., **Eich, A.**, Lott, C., Lecinski, J. *et al.* (2025). Material Matters: Unraveling the effect of biodegradable plastic polyhydroxybutyrate (PHB), conventional high-density polyethylene (HDPE), and bamboo on the bacterial community of marine eulittoral sediments. *Heliyon*, 11(12), e43530. <https://doi.org/10.1016/j.heliyon.2025.e43530>
- [12] Storm, Z., Meekan, M., **Eich, A.**, Speed, C., Killen, S. & Lester, E. (2025). Recovery of reef shark populations invokes anti-predator behaviours in mesopredatory reef fishes on a coral reef. *Journal of Animal Ecology*, 94(5), 919-931. <https://doi.org/10.1111/1365-2656.70024>

- [11] Brüwer, J., Sidhu, C., Zhao, Y., **Eich, A.**, Rößler, L., Orellana, L. *et al.* (2024). Globally occurring pelagiphage infections create ribosome-deprived cells. *Nature Communications*, 15(1), <https://doi.org/10.1038/s41467-024-48172-w>
- [10] De Vogel, F., Goudriaan, M., Zettler, E., Niemann, H., **Eich, A.**, Weber, M. *et al.* (2024). Biodegradable plastics in Mediterranean coastal environments feature contrasting microbial succession. *Science of The Total Environment*, 928, 172288. <https://doi.org/10.1016/j.scitotenv.2024.172288>
- [9] Bhalerao, A., Dueker, U., Weber, M., **Eich, A.**, Lott, C., Endres, H. *et al.* (2023). Bacterial diversity of biofilms on polyhydroxybutyrate exposed to marine conditions: Ex-situ vs. in-situ tests. *Science of The Total Environment*, 905, 167458. <https://doi.org/10.1016/j.scitotenv.2023.167458>
- [8] **Eich, A.**, Weber, M. & Lott, C. (2021). Disintegration half-life of biodegradable plastic films on different marine beach sediments. *PeerJ*, 9, e11981. <https://doi.org/10.7717/peerj.11981>
- [7] Lott, C., **Eich, A.**, Makarow, D., Unger, B., Eekert, M., Schuman, E. *et al.* (2021). Half-Life of Biodegradable Plastics in the Marine Environment Depends on Material, Habitat, and Climate Zone. *Frontiers in Marine Science*, 8, 662074. <https://doi.org/10.3389/fmars.2021.662074>
- [6] Lott, C., **Eich, A.**, Unger, B., Makarow, D., Battagliarin, G., Schlegel, K. *et al.* (2020). Field and mesocosm methods to test biodegradable plastic film under marine conditions. *PLOS ONE*, 15(7), e0236579. <https://doi.org/10.1371/journal.pone.0236579>
- [5] Saroni, A., Sciarra, A., Grassa, F., **Eich, A.**, Weber, M., Lott, C. *et al.* (2020). Shallow submarine mud volcano in the northern Tyrrhenian sea, Italy. *Applied Geochemistry*, 122, 104722. <https://doi.org/10.1016/j.apgeochem.2020.104722>
- [4] **Eich, A.**, Ford, A., Nugues, M., McAndrews, R., Wild, C. & Ferse, S. (2019). Positive association between epiphytes and competitiveness of the brown algal genus *Lobophora* against corals. *PeerJ*, 7, e6380. <https://doi.org/10.7717/peerj.6380>
- [3] McAndrews, R., **Eich, A.**, Ford, A., Bejarano, S., Lal, R. & Ferse, S. (2019). Algae sediment dynamics are mediated by herbivorous fishes on a nearshore coral reef. *Coral Reefs*, 38(3), 431-441. <https://doi.org/10.1007/s00338-019-01780-1>
- [2] Ford, A., **Eich, A.**, McAndrews, R., Mangubhai, S., Nugues, M., Bejarano, S. *et al.* (2018). Evaluation of coral reef management effectiveness using conventional versus resilience-based metrics. *Ecological Indicators*, 85, 308-317. <https://doi.org/10.1016/j.ecolind.2017.10.002>
- [1] **Eich, A.**, Mildenerger, T., Laforsch, C. & Weber, M. (2015). Biofilm and Diatom Succession on Polyethylene (PE) and Biodegradable Plastic Bags in Two Marine Habitats: Early Signs of Degradation in the Pelagic and Benthic Zone?. *PLOS ONE*, 10(9), e0137201. <https://doi.org/10.1371/journal.pone.0137201>

Chapters

- [2] Lott, C., **Eich, A.** & Weber, M. (2022). Degradation of Fibrous Microplastics in the Marine Environment In *Polluting Textiles* (pp. 185-213). <https://doi.org/10.4324/9781003165385-10>
- [1] Lott, C., **Eich, A.**, Pauli, N., Mildenerger, T., Laforsch, C., Petermann, J. *et al.* (2018). Marine Fate of Biodegradable Plastic- Substitution Potential and Ecological Impacts In *Proceedings of the International Conference on Microplastic Pollution in the Mediterranean Sea* (pp. 195-197). https://doi.org/10.1007/978-3-319-71279-6_26

Technical reports

Eich, A. (2013). Organic carbon content of the Cold Water Corals *Callogorgia verticillata* (Pallas, 1766), *Dentomuricea meteor* (Grasshoff, 1977) and *Viminella flagellum* (Johnson, 1863).

Molari, M., Meyer, S., Weber, M., Guilini, K., Vielstädte, L., Bigalke, N. *et. al.* (2013). CRUISE REPORT ECO2-8 (Panarea Island, Italy).

Conferences

Invited talks

2026 **Midis des Sciences Nature et Société, ADAPTOME: Coral ADAPTation to Climate change: Multi-omics analysis of host-microbiOME interactions**, UQAR, Rimouski (Canada)

Presented

2026 **8ème Édition Conférences de la Recherche en Polynésie française**, *talk*, UPF, Puna'auia (French Polynesia)

2025 **SECOPOL MasterDoc**, *talk*, UPF, Puna'auia (French Polynesia)

2021 **GreenDays - Bioplastics-Science Meets Industry**, *poster (best poster award)*, Hof (Germany, online)

2020 **Micro2020 - Fate and Impacts of Microplastics: Knowledge and Responsibilities**, *talk*, Lanzarote (Spain, online)

2019 **MicroMED - International Conference on Microplastic pollution in the Mediterranean Sea**, *poster*, Capri (Italy)

2016 **13th International Coral Reef Symposium**, *talk*, Honolulu (USA)

Attended

2022 **15th International Coral Reef Symposium**, *member of staff*, Bremen (Germany)

2017 **Molecular Ecology and Evolution of Bacterial Symbionts**, *member of staff*, Isola d'Elba (Italy)

2014 **2nd SYMBIOMICS Field Workshop on Shallow Water Symbiosis**, *member of staff*, Isola d'Elba (Italy)

2013 **Research in Shallow Marine and Freshwater Systems**, *member of staff*, Bremen (Germany)

2012 **SYMBIOMICS Field Workshop on Shallow Water Symbiosis**, *member of staff*, Isola d'Elba (Italy)

2010 **BIOSAND - A World in a Sandpit**, *member of staff*, Isola d'Elba (Italy)

Workshops & summer schools

2016 **Coral Identification Workshop**, *by Russell Kelley, BYOGUIDES*, Honolulu (USA)

2015 **KAUST Summer School - Ecology of the Red Sea**, *fully funded*, King Abdullah University of Science and Technology (Saudi Arabia)

Service & memberships

Reviewer	PeerJ, Earth's Future, Marine Pollution Bulletin, Environmental Science & Technology
Memberships	British Ecological Society, International Society for Microbial Ecology, International Coral Reef Society

Teaching












Supervised theses

1 MSc (2024) 1 BSc (2025)

Teaching

Session	Course	Level	University
TP: Summer 2025	Environmental Risk: Introduction to Statistics	License II (BSc)	Université de la Polynésie française
TP: Summer 2026	UE 6.7: Biostatistiques 2	License III (BSc)	Université de la Polynésie française

Further skills

	Skill	Level	Comment
Programming & Analysis	R		analyses, package development, teaching
	Python		analyses
Fieldwork	Scientific diving		Advanced European Scientific Diver: plan & supervise scientific diving, ~700 scientific dives, CMAS*** dive master, NITROX, dry suit, Approx. 900 dives total
	Boat handling		German license for motor & sail boats in terrestrial waters & the sea (SBF See & Binnen), radio license
Languages	German		native tongue
	English		fluent in speech and writing
	French		intermediate
		 basic knowledge	 extensive knowledge
		 intermediate knowledge	 expert knowledge