Fabian Wolf

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Professional Experience

August 2023 – Present: Postdoc at Leibniz Institute for Baltic Sea Research Warnmünde in the working group Ecology of benthic organisms. Coordination of the Project ArKoBi, which aims to unravel the carbon storage capacity of the ocean quahog (*Arctica islandica*) and its associate community under todays and future environmental conditions in the Baltic Sea.

September 2022 – Juni 2023: Researcher at GEOMAR Helmholtz Centre for Ocean Research Kiel in the working group Experimental Ecology - Benthic Ecology. The work aimed to finish publications from my doctorate as well as supporting the teaching of master students of the study program Biological Oceanography at Kiel University.

June – July 2022: Researcher at Åbo Akademi. The work aimed to set up and conduct a mesocosm experiment to investigate the impact of heatwaves on the seagrass community of *Zostera marina* in the finish Archipelago.

November 2018 – February 2022: Doctoral Researcher at GEOMAR Helmholtz Centre for Ocean Research Kiel (November 2018 – October 2021 was funded by the doctoral scholarship of the Deutsche Bundesstiftung Umwelt). The work aimed to elucidate the impact of heatwaves differing in frequency, duration and intensity combined with hypoxic upwelling on the common sea star *Asterias rubens* as well as on eelgrass *Zostera marina*.

May – October 2018: Researcher at GEOMAR Helmholtz Centre for Ocean Research Kiel in the working group Experimental Ecology - Benthic Ecology. The work aimed to identify the impact of a natural heatwave and several upwelling events in the Kiel Fjord on the predator-prey system European green crab *Carcinus maenas* and the common sea star *Asterias rubens* preying on *Mytilus edulis* using the Kiel Outdoor Benthocosms.

April 2016 – April 2018: Research assistant in different working groups at GEOMAR Helmholtz Centre for Ocean Research Kiel: Experimental Ecology - Benthic Ecology (Dr. Christian Pansch, Prof. Dr. Martin Wahl & Francisco Barboza), Experimental Ecology - Food Webs (Dr. Jamileh Javidpour), Chemical Oceanography - Water Column Biogeochemistry (Dr. Christian Schlosser & Insa Rapp), Chemical Oceanography - Transient Tracer (Dr. Toste Tanhua)

Education

2018 – 2022: Doctorate at Kiel University and GEOMAR Helmholtz Centre for Ocean Research Kiel
Degree: Dr. rer. nat. with the thesis title "Extreme events and warming in the Baltic Sea: relevance for coastal benthic communities"
Supervisors: Prof. Dr. Martin Wahl and Associate Prof. Dr. Christian Pansch

2015 – 2018: Master studies in Biological Oceanography at GEOMAR Helmholtz Centre for Ocean Research Kiel and Christian-Albrechts-Universität zu Kiel
Degree: Master of Science with the thesis title "The neglected role of environmental fluctuation in climate change research"
Supervisors: Prof. Dr. Martin Wahl and Dr. Christian Pansch

2012 – 2015: Bachelor studies in Biology at Philipps-Universität Marburg
Degree: Bachelor of Science with the thesis title "Predation pressure on insects (Lepidoptera) along an Urbanization gradient in Frankfurt on the Main"
Supervisors: Prof. Dr. Roland Brandl and Dr. Lars Opgenoorth

2004 – 2012: Academic high school at Lessing Gymnasium in Köln
Degree: A level graduated with a final grade of 1.3 (Excellent)

Teaching

January – February 2023: Co-Organization and realization of the module MNF-bioc-110 of the master program Biological Oceanography at Kiel University. The aim was the training of students in experiment design, running an experiment using the Kiel Indoor Benthocosms, analysing the data, and writing a manuscript.

June – July 2021: Co-Organization and realization of the module MNF-bioc232 of the master program Biological Oceanography at Kiel University. The aim was to teach the theory and practical implementation of the graphical display of abiotic as well as experimental long-time data based on previous analysis of Generalized Additive Mixed-effects Models (GAMMs).

September 2019: Co-Organization of a 10-days cruise (AL528) with the research vessel ALKOR to the Baltic Sea. The aim was the training of students of the master program Biological Oceanography at Kiel University in planktonic and benthic sampling at sea.

Supervision

September 2025 – Present: Supervision of a Master student with the topic "Stress test for *Arctica islandica*: Physiological responses to environmental change across salinity regimes".

April 2024 – June 2025: Supervision of a Bachelor student on the topic "Physiologie und Verbreitung von *Arctica islandica* in der westlichen Ostsee".

May 2020 – May 2022: Supervision of a bachelor student on the topic "Consecutive marine heatwaves decrease the performance of the common starfish *Asterias rubens* by accumulation of thermal stress".

June 2019 – January 2020: Co-supervision of a bachelor student with the topic "The role of recovery phases in mitigating the negative effects of marine heatwaves on the sea star *Asterias rubens*".

June – December 2018: Co-supervision of a bachelor student with the topic "The impact of heatwaves and upwelling events on the predator *Asterias rubens* within the Baltic Sea".

Cruises

April 2025: 5-days cruise (EMB363) with the research vessel ELISABETH MANN BORGESE on the Baltic Sea (**Chief Scientist**). Die main aim was to measure the ecosystem metabolism of *Arctica islandica* and compare different methods.

September 2024: 9-days cruise with FORTUNA KINGFISHER on the Baltic Sea (**Chief Scientist**). The main aim was to collect samples for genetic analyses of *Arctica islandica* and to measure the carbon storage potential of *A. islandica*.

August 2024: 6-days cruise with FORTUNA CRANE on the Baltic Sea (**Co-Chief Scientist**). The main aim was the sampling of reefs by divers.

September 2019: 10-days cruise (AL528) with the research vessel ALKOR to the Baltic Sea. The aim was the training of students of the master program Biological Oceanography (Kiel University) in planktonic and benthic sampling at sea.

March – April 2018: 33-days cruise (MSM72) with the research vessel MARIA S. MERIAN to the Mediterranean Sea. The main scope of this cruise was to identify and understand long-term changes and trends in physical and biogeochemical parameters in the Mediterranean Sea.

October 2016: 10-days cruise (POS506) with the research vessels POSEIDON to the Western Baltic Sea in order to investigate the changing species community of Benthos and Plankton along a salinity gradient.

Public relations work

February 2023: Interview with "Sierra Club" about the interplay of marine heatwaves and hypoxic upwelling events
(https://www.sierraclub.org/sierra/sea-stars-threatened-intensifying-marine-heat-waves)

January 2023: Interview with "New scientist" about the interplay of marine heatwaves and hypoxic upwelling events
(https://www.newscientist.com/article/2355243-marine-heat-waves-could-wipe-out-all-common-sea-stars-by-2100/)

July 2021: Interview with "Bild der Frau" about the topic of marine heatwaves (issue of 23.07.2021).

June 2021: Interview with the ZDF for the "heute-journal" about the topic of marine heatwaves.

October 2019: Interview partner for junior reporters of the SHZ (https://www.shz.de/regionales/kina/kina-reporter/die-gefahr-im-schoenen-blau-id26074482.html)

Involvement

December 2019 – December 2021: Representation of the interests of GEOMAR doctoral researchers towards responsible people at GEOMAR level among the DokTeam and Helmholtz level among the Helmholtz Juniors.

Presentations at International Conferences

2026: Poster at the Annual Meeting of the British Ecological Society 2026 in Edinburgh: The carbon budget of the ocean quahog *Arctica islandica* in the German Baltic Sea in a blue carbon context.

2025: Poster at the Meeresumweltsymposium 2025 in Hamburg: Das Kohlenstoffbudget der Islandmuschel *Arctica islandica* in der deutschen Ostsee im Kontext eines Blue Carbon Ökosystems.

2023: Talk at the Swedish Oikos Conference 2023 in Gothenburg: Microclimatic differences drive heat selection in eelgrass.

2021: Poster at the SEB (Society of Experimental Biology) 2021 Annual Conference: The role of recovery phases in mitigating the negative impacts of marine heatwaves on the starfish *Asterias rubens*.

2020: Talk at the Festival of Ecology of the British Ecological Society: Impacts of consecutive heatwave and upwelling events on a marine keystone predator.

2018: Poster at the Deoxygenation Conference in Kiel: Heat waves and hypoxic upwelling events: relevance for coastal benthic communities and the possibilities for mitigation.

Publications

*shared first authorship

Kraufvelin, Lucinda; Pansch, Christian; **Wolf, Fabian**; Barboza, Francisco R.; Vajedsamiei, Jahangir; Nordström, Marie C.; Kortsch, Susanne (2026): Warming simplifies marine ecological networks through losses in trophic and non-trophic interactions. In *MEPS*, DOI: https://doi.org/10.3354/meps15092

Schulz, Louisa; Gogina, Mayya; Friedland, René; **Wolf, Fabian**; Kniesz, Katharina; Zettler, Michael L. (2025): Recent distribution and population structure of the ocean quahog, *Arctica islandica* (Linnaeus, 1767), in the German waters of the Baltic Sea – Ecological insights and relevance for conservation. In *J. Sea Res.*, DOI: https://doi.org/10.1016/j.seares.2025.102630

Rühmkorff, Sarah*; **Wolf, Fabian***; Vajedsamiei, Jahangir; Barboza, Francisco Rafael; Hiebenthal, Claas; Pansch, Christian (2023): Marine heatwaves and upwelling shape stress responses in a keystone predator. In *Proc. R. Soc. B*, DOI: 10.1098/rspb.2022.2262

Wolf, Fabian (2022): Extreme events and warming in the Baltic Sea: relevance for coastal benthic communities. Doctoral Thesis, macau.unikiel.de/servlets/MCRFile NodeServlet/macau_derivate_00003910/Fabian_Wolf.pdf

Wolf, Fabian; Seebass, Katja; Pansch, Christian (2022): The Role of Recovery Phases in Mitigating the Negative Impacts of Marine Heatwaves on the Sea Star Asterias rubens. In *Front. Mar. Sci*. 8, p. 1029. DOI: 10.3389/fmars.2021.790241.

Wahl, Martin; Barboza, Francisco R.; Buchholz, Björn; Dobretsov, Sergey; Guy-Haim, Tamar; Rilov, Gil; Schuett, Renate; **Wolf, Fabian**; Vajedsamiei, Jahangir; Yazdanpanah, Maryam; Pansch, Christian (2021): Pulsed pressure. Fluctuating impacts of multifactorial environmental change on a temperate macroalgal community. In *Limnol. Oceanogr*. 33, p. 477. DOI: 10.1002/lno.11954.

Melzner, Frank; Buchholz, Björn; **Wolf, Fabian**; Panknin, Ulrike; Wall, Marlene (2020): Ocean winter warming induced starvation of predator and prey. In *Proc. R. Soc. B* 287 (1931), p. 20200970. DOI: 10.1098/rspb.2020.0970.

Morón Lugo, Sonia C.; Baumeister, Moritz; Nour, Ola Mohamed; **Wolf, Fabian**; Stumpp, Meike; Pansch, Christian (2020): Warming and temperature variability determine the performance of two invertebrate predators. In *Scientific reports* 10 (1), p. 6780. DOI: 10.1038/s41598-020-63679-0.

Rapp, Insa; Schlosser, Christian; Browning, Thomas J.; Wolf, Fabian; Le Moigne, Frédéric A. C.; Gledhill, Martha; Achterberg, Eric P. (2020): El Niño-Driven Oxygenation Impacts Peruvian Shelf Iron Supply to the South Pacific Ocean. In: *Geophysical Research Letters*, Band 47, 7, DOI: 10.1029/2019GL086631.

Funding

Doctoral scholarship of the Deutsche Bundesstiftung Umwelt (DBU; 20018/553)

Skills

Foreign Languages

English: C1 Level after the Frame Work Reference for Languages

IT-Knowledge

R (language and environment for statistical computing and graphics): very good

Python (Programming language): Beginner

Office (Excel, Word, PowerPoint): Very good

Diving Qualifications

Since December 2020 Diving with Nitrox in Scientific Diving after training at the Scientific Diving Centre of the Institute for Geoscience at Kiel University.

Since August 2020 Examined European Scientific Diver after training at the Scientific Diving Centre of the Institute for Geoscience at Kiel University.

Other

Sport Boat License for Coastal Waters (SBF See)

Short Range Certificate for VHF radio communication