

The Leibniz Centre for Tropical Marine Research (ZMT) GmbH (www.leibniz-zmt.de) is an independent research and teaching institute that provides scientific knowledge for the protection and sustainable use of tropical coastal ecosystems. To this end, we work in an inter- and transdisciplinary manner with our partners in the tropics. The ZMT is a member of the Leibniz Association.

With Earth warming at an unprecedented pace, major ecosystems are expected to change profoundly by the end of this century. Located at the warmest and most biodiverse region of the planet, tropical ecosystems face a number of stress factors. Mangrove forests, seagrass beds, and coral reefs, which are caught at the intersection between climate change and human coastal development, are particularly vulnerable. In three tropical oceans of the world – the Atlantic, the Indian, and the Pacific Ocean – we aim at investigating the multidirectional pathways connecting mangrove forests, seagrass beds, and coral reefs to understand how ecosystem functioning and service provision can be sustained at seascape scales under different climate-change-driven scenarios. We plan to develop a spatially-explicit, Agent-Based Model of connected mangrove forests, seagrass beds and coral reefs. The model will be designed in a modular fashion so that each of the three ecosystems can be included or excluded, and it will be flexibly configured so that ecosystems can be arranged at desired distances. We will undertake numerical experiments to assess the role of structural and functional connectivity in determining the strength of ecological interdependences and biogeochemical fluxes across mangrove forests, seagrass beds, and coral reefs. Specific mobile link organisms will be considered to connect the different ecosystems to different degrees. Numerical experiments will test how future warming scenarios will modify continuity of natural habitats, movement of organisms, and biogeochemical fluxes within tropical seascapes.

The working group Systems Ecology is seeking to fill an opening for a doctoral candidate (subject to release of funds).

Doctoral candidate (gn)

(Reference: 26-SeaStrong-PhD)

Your tasks:

- Develop scientific expertise on coral reefs, seagrasses, and mangroves
- Develop scientific competences in the field of ecosystem connectivity
- Develop data-driven Agent-Based Models of meta-ecosystems
- Integrate observational data into Agent-Based Models of ecosystems
- Produce results publishable in peer-reviewed scientific journals
- Produce and defend a PhD thesis at Bremen University

Requirements:

- Applicants must hold a Master degree in one of the following disciplines: mathematics, physics, computational sciences, environmental modelling, theoretical ecology, or in similar quantitative or numerical disciplines.
- Knowledge or a keen interest in marine biology, ecology, biogeochemistry, oceanography, or environmental sciences will represent an advantage.
- Candidates should possess very good programming skills, possibly in python, and should have a keen interest in developing a research career focused on the mathematical modelling of environmental problems.

- We are looking for highly motivated students with good communication and scientific writing competences.
- The working language is English.
- This PhD position is part of a large Horizon Europe project involving several EU countries and tropical locations, for further details see [here](#). We require a close cooperation with our partners and willingness to travel in the tropics.

Further information:

For questions, please contact Prof. Dr. Agostino Merico, email: agostino.merico@leibniz-zmt.de

Details of position:

Remuneration is based on Pay Group 13 of the Collective Agreement for the Public Service of the Federal States (TV-L). The gross monthly salary is determined in accordance with the provisions of the TV-L and currently ranges from 4759.37 EUR to 6764.69 EUR employees gross salary per month, depending on the candidate's recognized relevant professional experience. The gross salary listed here applies to a full-time position. For part-time employment, this amount should be adjusted proportionally. Further details regarding remuneration are governed by the TV-L and the TV-L Pay Scale Regulations (Entgeltordnung zum TV-L).

The position is available for part-time (2/3 of a full-time position) employment starting December 1st, 2026 **for 48 months** (typically, PhD positions are offered for 36 months, but in this particular case, we offer 12 additional months of funding). The fixed term is for academic qualification according to § 2 (1) WissZeitVG (Wissenschaftszeitvertragsgesetz). Accordingly, only applicants who still have the relevant qualification periods according to § 2 (1) WissZeitVG can be considered. The position is intended to provide further academic qualification with the aim of obtaining a doctorate.

ZMT is an equal opportunity employer. Applicants with a migration background are welcome. Persons with severe disabilities are given special consideration if they have the same professional and personal qualifications. The ZMT values its diverse workforce and pursues the goal of providing equal opportunity, which incorporates gender neutrality (gn). We will be happy to accept your documents without a photo.

We offer:

- A challenging and varied job in an international, dynamic and interdisciplinary research environment
- A motivated and committed team from different countries and cultures
- An open and cooperative working atmosphere
- Opportunities for personal and professional development
- Interesting, varied and challenging tasks and family-friendly working conditions
- Company pension plan (VBL)
- Company health promotion and the opportunity to participate in company fitness with EGYM Wellpass

Submission of application:

Please submit your complete application documents (cover letter, resume, references, job references, certificates and attestations) and a letter of motivation **by 15.10.2026 as a single pdf file** with the reference number "**26-SeaStrong-PhD**" to Ms. Wiebke Harms-Krusemeyer, email: bewerbung@leibniz-zmt.de.

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