ZMT LEIBNIZ-ZENTRUM für Marine Tropenforschung

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.

The strategic extension of ZMT, "Modelling socio-economic dimensions across Tropical Coastal Ecosystems and the Earth System – TropEcS", aims to link ZMT's existing research capacities in socioeconomics, marine ecology, physical oceanography and biogeochemistry with Earth system modelling. Its overarching goal is to better understand and predict the impacts of global change on tropical coasts and their feedbacks to the Earth system. Within this initiative, the Hydro-Geochemical Fluxes Working Group aims to improve the representation of land-to-sea fluxes in tropical coastal regions.

The project will develop and apply a high-resolution, process-based modelling framework to investigate dissolved nutrient transport from tropical coastal landscapes to coastal waters. It will examine how hydrological pathways mediate the effects of climate variability, land-use change, human pressures and extreme events affect nutrient fluxes under present and future conditions. The results will provide improved nutrient-flux information for regional coastal modelling and support better representation of tropical coastal processes in Earth system models. The PhD will develop models within a reflexive process that examines how model structure, inputs and outputs carry meaning for people.

In this context ZMT is seeking to fill an opening for doctoral candidate (subject to release of funds)

Doctoral candidate (gn)

(Reference: 22-STB-PB3-PhD)

Your tasks:

- Develop and apply a high-resolution, process-based modelling framework for dissolved nutrients transport from tropical coastal landscapes to coastal waters (e.g., case-study regions in Colombia, Indonesia and/or India).
- Compile and analyze spatial, climatic, hydrological, land-use, water quality, and socio-economic datasets.
- Assess how climate variability, land-use change, human pressures and extreme events affect dissolved nutrient delivery under present and future conditions.
- Apply reflexive modelling approaches (e.g., journaling, discussion, documenting decision points, sensitivity analysis) to examine assumptions, indicator choices, uncertainties, and the relevance of outputs for decision support across key actor groups.
- Publish results in peer-reviewed journals and present findings at conferences.
- Collaborate with researchers at ZMT, within TropEcS and with international partners.

Requirements:

- MSc degree in Hydrology, Hydrogeology, Geosciences, Environmental Sciences, or a related field.
- Experience with hydro(geo)logical, catchment or water-quality modelling approaches such as SWAT/SWAT+, HYPE, INCA or similar is desirable.
- Knowledge of coastal hydrology, groundwater systems and nutrient transport
- Skills in GIS, quantitative data analysis and preferably programming, for example in Python or R.
- Interest in science-society interfaces and sustainability-oriented modelling, with willingness to critically reflect on model assumptions, choices and uncertainties and to collaborate respectfully in an intercultural research environment.
- Ability to work independently, structure complex tasks and think analytically.
- Advanced written and oral communication skills in English

Further information:
For questions, please contact Dr. Murugan Ramasamy, email: murugan.ramasamy@leibniz-zmt.de and Prof. Dr. Marie Fujitani, email: marie.fujitani@leibniz-zmt.de.

Details of position:
Salary will be paid according to the German TV-L (EG 13). The position is available for part-time (2/3 of a full-time position) employment starting as soon as possible for 36 months. The fixed term is for academic qualification according to § 2 (1) WissZeitVG (Wissen-schaftszeitvertragsgesetz). 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, including conference participation and visitor exchange
- 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), a letter of motivation, and an outline of the PhD project as a research plan **by 09.06.2026 as a single pdf file** with the reference number "**22-STB-PB3-PhD**" to Ms. Lena de Carné-Oehlmann, email: bewerbung@leibniz-zmt.de.

Leibniz Centre for Tropical Marine Research, Fahrenheitstraße 6, D-28359 Bremen.

Leibniz Gemeinschaft

Zertifikat seit 2018
audit berufundfamilie