ZMT LEIBNIZ CENTRE for Tropical Marine Research

The Leibniz Centre for Tropical Marine Research (www.leibniz-zmt.de) in Bremen is a member of the Leibniz Association, which is supported by the German Federal and State Governments. Through its research, ZMT contributes to developing science-based strategies for sustainable use of tropical coastal systems.

The Working Group 'Fisheries Biology' at ZMT invites applications for a

PhD Student Position

(Reference number: 103 – TRIATLAS)

for the project **TRIATLAS (South and Tropical Atlantic climate-based marine ecosystem prediction for sustainable management)**.

TRIATLAS brings together an interdisciplinary team of marine ecologists, physical oceanographers, climate researchers, and social scientists from 35 different institutions in Europe, Africa, and South America. It has four interrelated Core Themes (CTs) within a DPSIR (drivers-pressures-state-impact-response) framework. CT1 will deliver a description of the present state of the social-ecological system by means of new observations and existing data series (SO1). CT1 will further analyse local to regional social impacts as prerequisite for modelling developments along SSP trajectories (SO4). Extending on this, CT2 will assess past and present changes in the ecosystem, deliver improved understanding of the (climatic and human) drivers and pressures, and assess the performance of state-of-the-art Earth System Models (ESM) and marine ecological models (SO2). CT3 will focus on the future state with a focus on fisheries impacts while supplying the first multi-model climate-based ecosystem and fisheries predictions for the entire Atlantic Basin, with a particular focus on the Benguela upwelling off Southern Africa and the Northeast of Brazil, from seasonal, decadal and multi-decadal timescales, by combining ESMs and ecological models with improved understanding from CT1 and CT2. Taking the assessments and predictions from CT1-3, CT4 will furnish outlooks for the development of ecosystem components in key areas during the next 40 years and beyond, under different SSP, and assess future societal implications and impacts, in close dialogue with local stakeholders (SO4).

Tasks for the position advertised here are within the work package 1.3, which is conducted in cooperation with various other South American and Southern African institutes working on the topic: *Small pelagics, mesopelagic fauna and apex predators* [ZMT, TI, IRD, FURG, UFRPE, UFPE, ISRA-CRODT, UniCV, INIP, UNAM, DAFF]. We will study the abundance, diversity and vertical and horizontal distribution of small pelagic and mesopelagic fauna including their relevance for fisheries by means of historical trawling and fisheries data, shallow and open-ocean hydroacoustic data:

- Literature review of relevant themes (e.g. influence of climate change on marine ecosystems, biomass size spectra models, ecology of upwelling area and the open ocean)
- Participation in research cruises, employment and analysis of acoustic methods (EK80) and data to investigate the horizontal and vertical distribution of different size classes and life stages
- Deployment of multiple opening/closing nets to investigate species composition and verify acoustic results
- Conducting research visits to countries in Southern Africa and America
- Presentation of results in national and international working groups and scientific meetings
- Publication of results in peer reviewed scientific journals

Your profile:

- Advanced university degree in marine sciences (biological oceanography or physical oceanography with some biological background), fisheries biology or comparable disciplines
- Experience in the processing and analysis of extensive acoustic field data
- Very good knowledge of R
- Experience in longer research cruises and research visits are welcome
- Strong communication skills
- Ability to work organized and independently
- Excellent knowledge of the English language (written and spoken)

We offer:

- An exciting working environment in an interdisciplinary and internationally oriented institute and research project
- Possibilities to build and extend an international professional network and participate in a research field of high public and scientific interest
- A family-friendly working environment

The candidate will be on a three year contract. Salary will be paid according to the German TV-L EG 13. The post will be filled as a PhD Student Position (66,6 %).

ZMT is an equal opportunity employer. Applicants with a migration background are welcome. Handicapped applicants are especially considered if equally qualified for the job; a minimum of physical fitness, however, will be required because of travelling overseas and participating in research cruises.

For additional information please contact Dr. Werner Ekau (werner.ekau@leibniz-zmt.de).

Please send your application until March 31, 2019 as a single pdf under reference number "103 TRIATLAS" to Mrs. Lena Oehlmann, E-Mail: bewerbung@leibniz-zmt.de. Beyond that date, advertisement may remain open until a suitable candidate is selected.

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