PhD Position "DynaDeep – Biogeochemical processes in the Dynamic Deep subsurface of High-Energy Beaches" (m/f/d)

Background
The DFG-research unit DynaDeep aims for a deeper understanding of the physical and biogeochemical processes in the subsurface of high-energy beaches, the so-called subterranean estuary.

The specific goal of the PhD project is to understand how oxic and anoxic microbial processes in the porous sand body of a beach are controlled by the fluctuating matter inflow caused by waves, tides, and fresh groundwater discharge and how this shapes the overall carbon and nutrient cycling in the subterranean estuary.

In detail, we seek to combine in-situ measurements and laboratory experiments in order to quantify the flux of oxygen and other electron acceptors and the spatial heterogeneity of their consumption in beach sediments as a function of the overlying hydro- and morphodynamics. The work involves close cooperation with another 7 PhD projects. For further information please visit https://uol.de/icbm/verbundprojekte/dynadeep

Tasks
You will be responsible for the
- conduct of field measurements and setup incubation experiments using flow through reactors
- performance of laboratory-scale analysis of flow dispersion and heterogeneous reaction rates
- measurement of reaction rates in sediments under transient conditions
- application and development of empirical transport-reaction models
- presentation of results in scientific journals and to non-experts in comprehensible form

Requirements
- A qualifying academic university degree (M.Sc. or diploma) in environmental sciences, marine biogeochemistry or comparable disciplines.
• a background in the measurement and analysis of biogeochemical transport and reaction rates, preferably with knowledge of diffusion/flow dispersion and oxygen dynamics.
• very good English language skills (written and spoken).
• the willingness to carry out field work, also under harsh conditions, and
• a strong interest in collaborative research.

**Further Information**
For further information, please contact Moritz Holtappels (Tel: +49 471 4831 2030, moritz.holtappels@awi.de).

This position is limited to 3.5 years. The salary will be paid in accordance with the Collective Agreement for the Public Service of the Federation (Tarifvertrag des öffentlichen Dienstes, TVöD Bund), up to salary level 13 (75%). The place of employment will be Bremerhaven.

All doctoral candidates will be members of AWI's postgraduate program POLMAR or another graduate school and thus benefit from a comprehensive training program and extensive support measures.

**The AWI is characterised by**
• our scientific success - excellent research
• collaboration and cooperation - intra-institute, national and international, interdisciplinary
• opportunities to develop – on the job, aiming at other positions and beyond AWI
• a culture of reconciling work and family – an audited and well-supported aspect of our operation
• our outstanding research infrastructure – ships, stations, aircraft, laboratories and more
• an international environment – everyday contacts with people from all over the world
• having an influence – fundamental research with social and political relevance
• flat hierarchies – facilitating freedom and responsibility
• exciting science topics, with opportunities also in technology, administration and infrastructure

Equal opportunities are an integral part of our personnel policy. The AWI aims to increase the number of female employees and therefore strongly encourages qualified women to apply.

Disabled applicants will be given preference when equal qualifications are present.

The AWI fosters the compatibility of work and family in various ways and has received a number of awards as a result of this engagement.

**We look forward to your application!**
Please forward your application by June 3rd 2021, exclusively online. Reference number 21/91/D/Bio-b.