

PHD POSITION IN MODELING PHYTOPLANKTON DYNAMICS (M/F/DIVERSE) JOB ID 19-20

Jacobs University is a private, state-accredited, English-language research university in Bremen. We are offering PreDegree, Bachelor, Master or PhD programs in three focus areas: Health, Mobility and Diversity. Our principles are first class research and teaching, international diversity and transdisciplinary cooperation. As an international university we attract highly talented and open-minded students from all over the world. Currently, more than 1,400 students from 110 nations live and study on our residential campus.

The department „Physics & Earth Sciences“ invites interested candidates to apply for the next possible date as a

PhD Position in Modeling Phytoplankton Dynamics (m/f/diverse)

(Full-time, limited for 3 years)

Job ID 19-20

Research Topic:

The dynamics of phytoplankton communities are controlled by bottom-up (water physics and chemistry) and top-down (natural enemies) drivers. However, the relative importance and direction of these drivers on community compositions and relative abundances are not well established: they vary in time and space and also depend on trait-mediated physiological and ecological interactions.

The goal of this project is to quantify the relative effects of interacting drivers on phytoplankton, within taxonomic and size-based categories. The PhD student will consider physiological and ecological processes (e.g. nutrient acquisition, growth rates, and food-web interactions) and their size-scaling properties to develop theoretical models of how physical forcing, competition for resources, and grazing from specialist or generalists shape: 1) size distributions of prey and predators, 2) size-abundance and other trait-abundance relationships of phytoplankton communities, and 3) abundances of different plankton taxa and functional groups.

The project is funded by DFG (the German Research Foundation) and is based on a close cooperation with the group of Dr. Francesco Pomati (<https://www.eawag.ch/en/department/eco/main-focus/phytoplankton-ecology/>), which provides in situ physical, chemical, and biological data at high frequency and spatial resolutions, including morphological traits of individual organisms (size, shape, and pigments), and will be conducted in partnership with Dr. Lan Smith (JAMSTEC, Yokohama, Japan) and Prof. Andrew Barton (Scripps Institution of Oceanography, San Diego, USA).

Your qualifications:

- University degree (Master or Diploma) in Physics, Applied Mathematics, Theoretical Ecology, Theoretical Biology, or Aquatic Sciences
- Curiosity and enthusiasm in understanding and simulating natural phenomena
- Very good command of English, both in written and oral communication
- Very good programming skills, ideally in python
- No knowledge of the German language is required, Jacobs University Bremen is an international research university
- Ability to work independently and in a team

Your application:

Please send your application stating the Job ID, your availability as a single PDF document via email to Prof. Dr. Agostino Merico merico@jacobs-university.de, with subject “PhD Position in Modeling Phytoplankton Dynamics”.

For further information see: <https://www.leibniz-zmt.de/de/tropenforschung/organisation/wissenschaftliche-abteilungen-struktur/theoretische-oekologie-modellierung/ag-systemoekologie.html>.

The review of applications will begin immediately and will continue until the position is filled.