



# UNIVERSITÄT POTSDAM

## INSTITUT FÜR BIOCHEMIE UND BIOLOGIE

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**Ökologie / Ökosystemmodellierung**

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Within the DFG Priority Programme **AQUASHIFT (The impact of climate variability on aquatic ecosystems: Match and mismatch resulting from shifts in seasonality and distribution)**

### **a Ph. D. position (50% E13)**

is available from now onwards for modelling trophic interactions within plankton communities during spring succession. Extending previous research (e.g. Tirok & Gaedke 2007 *Oecologia*; Tirok & Gaedke 2007 *Aquat. Microbial Ecol.*; Tirok & Gaedke, *subm.*; all available upon request) and based on outstanding data sets on long-term observations of plankton abundance, we aim to study predator (e.g. algivorous ciliates) – prey (e.g. small phytoplankton) interactions and how they are modified by climate change. Special attention is given to a suitable representation of the adaptability (microevolution) of natural food webs at the level of individuals, populations and communities in the mathematical models since these are regarded as crucial for understanding and predicting ecosystem dynamics under climate change. This is done by exploring new methods to account for the natural diversity in the models. We consider recent developments in conceptual ecology (e.g. variability-biodiversity debate, complexity-stability debate) in our process-based ecological modelling based on systems of ordinary differential equations (occasionally also partial differential equations).

The project is linked to our EU Programme **FEMMES (Feedback Mechanisms in Models for Ecological forecastS)**, and the successful candidate is invited to join the **Potsdam Graduate Initiative UpGradE** on “**Modelling the response of populations, species and communities to global change**”. This Graduate Initiative conducts interdisciplinary research and an education program which deals with different ecological and evolutionary aspects of the response of populations, species, and communities to global change and other anthropogenic impacts.

Applicants must have an above-average Master’s degree or equivalent in Natural Sciences and a good background and interest in conceptual/theoretical ecology and mathematics. Preknowledge in limnology and computer simulations (including e.g. MatLab) is highly welcome but not essential.

Applications, preferably in electronic form, should be send as soon as possible and should include a CV, copies of degree certificates, and possibly a letter of recommendation to Prof. Dr. Ursula Gaedke (email: [gaedke@uni-potsdam.de](mailto:gaedke@uni-potsdam.de)). For more specific information see also the web pages (e.g. <http://www.bio.uni-potsdam.de/professuren/oekosystemmodellierung>; <http://www.ifm-geomar.de/?id=1985&L=1>; <http://brandenburg.geoecology.uni-potsdam.de/users/schroeder/upgrade/members.html>), and the literature provided and/or contact us.