PhD Program between the Freie Universität Berlin (FUB) and the China Scholarship Council (CSC)
Open PhD position for CSC scholarship candidates 2015

The PhD position is only offered to Chinese PhD candidates for application in the framework of the FU-CSC Program.

Department/Institute:	Institute of Biology
Subject area:	Community Ecology
Name of Supervisor:	Prof. Dr. Jana Petermann
Number of open positions:	1 (Full-time / 3-4 y. OR Part-time / 1-2 y. PhD study)
Project title:	Negative soil feedbacks and coexistence in plant communities

Project description:

The mechanisms of species coexistence in diverse communities are still poorly understood. Traditionally, ecological research has linked coexistence in plant communities to complementary resource use. Recently, top-down control by consumers and pathogens has become an important part of plant coexistence theory (Petermann et al. 2008; Mordecai 2011). This project will focus on the latter pathway, using field and greenhouse experiments with temperate grassland plants and Arabidopsis relatives to elucidate mechanisms of coexistence based on negative density dependence of antagonistic interactions (Bukowski & Petermann 2014). The work will involve designing complex ecological experiments, growing, measuring and harvesting plants, both in potted greenhouse set-ups and under outdoor conditions in the field. Furthermore, soil will be collected from field sites and analyzed for macro- and microinvertebrates, fungi and general pathogens. Work with aboveground herbivores or other members of the grassland food web are possible. The candidate will expand the project using own ideas.

Literature: Bukowski, A.R. & Petermann, J.S. (2014) Intraspecific plant-soil feedback and intraspecific overyielding in Arabidopsis thaliana. Ecology and Evolution, 4, 2533-2545.
Petermann, J. S., A. J. F. Fergus, L. A. Turnbull, and B. Schmid. 2008. Ecology 89:2399-2406.
Mordecai, E. A. 2011. Pathogen impacts on plant communities: unifying theory, concepts, and empirical work. Ecological Monographs 81:429-441.

Language requirements:

Proficiency in written and spoken English is a requirement. The PhD thesis will be written in English, the language of conversation in the group is English. Additional knowledge of the German language is optional.

Academic requirements:

Suitable candidates will have an excellent academic track record preferably with international publications. Candidates should be able to work independently and have experience in ecological data collection, experimental design, field methods in ecology, plant sciences, data analysis and statistics (preferably using R) and scientific writing. A Master's degree in Ecology, Plant Sciences, Environmental Sciences, Zoology or a related field is required.

Link to professor and further information:

http://www.biologie.fu-berlin.de/en/arbeitsgruppen/zoologie/ag_petermann/index.html

Please note:

In a first step the complete application should submit to the Beijing Office for evaluation by January 4th. Please don't contact the professor before. She will get in contact with you after having received the complete application in January.