PhD scholarship (UNIVERSITÄT HAMBURG)
Bewerbungsfrist: 31.03.2018

Faculty/Department: Mathematics, Informatics, Natural Sciences/Earth Sciences
Seminar/Institute: Institute for Soil Science

PhD scholarship: Soil Science
Universität Hamburg invites applications for a PhD-scholarship for soil science in the project "WEPSS - Warming Effects on Plant Soil interplay and ecosystem functioning in Wadden Sea Salt marshes". The PhD-scholarship includes 1100 Euro per month (tax free, without health insurance/ health insurance has to be organised by the student him/herself) and a monthly addition of 100 Euro to cover material costs and incidental expenses. The term is fixed for a period of 3 years. The starting date is 01.07.2018.

The PhD-student will be responsible for:

- Field work to quantify soil properties, biogeochemical processes and landatmosphere greenhouse gas fluxes in the Wadden Sea salt marsh warming experiment
- Statistical data analysis and interpretation of results
- Writing scientific publications for peer-reviewed international journals
- Collaborating with other researchers conducting field work in the same experiment
- Presenting results at conferences and to stakeholders

Requirements:

- An excellent university degree in a relevant field (e.g. soil science, biology, geosciences, environmental science)
- Interest in interdisciplinary research about climate change effects on salt marsh ecosystems
- Experience with the assessment of soil characteristics and land-atmosphere greenhouse gas fluxes
- The project includes field work in the North of Schleswig-Holstein, so experience with field work and willingness to stay at the field site for some time during the field season is expected
- Experience with statistical analysis of ecological data, e.g., using the Software 'R' or Matlab
- A valid driving licence
- Knowledge of the ecology of coastal ecosystems or other wetlands is useful
- Due to the expected collaboration with other project partners good English language skills are needed

The University aims to increase the number of women in research and teaching and explicitly encourages women to apply. Equally qualified female applicants will receive preference in accordance with the Hamburg Equality Act (Hamburgisches Gleichstellungsgesetz, HmbGleiG). Severely disabled applicants will receive preference over equally qualified non-disabled applicants.

PhD-student 3 (Soil Science) will be based at the Institute for Soil Science and academically supervised by Prof. Dr. Lars Kutzbach and Prof. Dr. Annette Eschenbach. For further information, please contact Dr. Stefanie Nolte (Stefanie.nolte@uni-hamburg.de) or Prof. Dr. Lars Kutzbach (lars.kutzbach@uni-hamburg.de) or consult our website at https://www.biologie.uni-hamburg.de/forschung/oekologie-biologischeressourcen/angpfloek.html or https://www.geo.uni-hamburg.de/en/bodenkunde.html
Applications should include a motivation letter (max. 2 page), curriculum vitae along with contact details of two referees (names and e-mail addresses), and copies of degree certificate(s). Please combine all documents into one single pdf-file. Please specify whether you apply for the topic (1) plant ecology, (2) soil fauna, or (3) soil science. The application **deadline is 31.03.2018**. Please send applications to: stefanie.nolte@uni-hamburg.de.

Project summary:

Salt marshes are highly dynamic ecosystems in the transition zone between marine and terrestrial environments and characterised by a complex interplay of abiotic and biotic factors. They are a vital habitat for many plant, bird and invertebrate species, including soil fauna, and therefore, they play an important role in biodiversity conservation. In addition, salt marshes are recognized for their high potential for ecosystems services such as carbon sequestration. Ecological research in the Wadden Sea salt marshes has previously mainly focussed on effects of livestock grazing; yet, we also need to understand how the valuable and sensitive salt marshes are affected by the on-going global change. The aim of this project is to better understand effects of warming on the interplay between plants and soil, and ecosystem functions in Wadden Sea salt marshes. To do so, a world-unique ecosystem warming experiment has been installed at Hamburger Hallig including experimental passive aboveground and active belowground heating in three vegetation zones. We will study how plants (PhD-student 1) and soil fauna (PhD-student 2), as well as their interactions, are affected by natural abiotic conditions and by experimental warming. Furthermore, we want to investigate how this interplay in turn affects critical ecosystem functions and services, especially in relation to greenhouse gas emissions (PhD-student 3). Overall, our results are expected to contribute to the development of sustainable management strategies for salt marshes in the Wadden Sea National Parks in times of climate change.