PhD Position Vacancy

The University of Hamburg jointly with the Max Planck Institute for Meteorology and the Institute for Coastal Research at the GKSS Research Centre is establishing a trans-disciplinary research focus on “Integrated Climate System Analysis and Prediction, CliSAP”. The goal is to analyze ongoing and past changes of the state of the climate system, in response to natural and human-driven perturbations, to determine predictable elements of the climate system over a broad range of space and time scales, and to determine uncertainties intrinsic to predictions of important climate system and environmental indices (see www.clisap.de).

The Cluster of Excellence (CliSAP) invites applicants for the following sub-project:

‘**Hydrological controls on the carbon dynamics of boreal peatlands – Investigated at the Ust-Pojeg mire complex, Komi Republic, NW-Russia’**

Peatlands, which are mainly located in the northern high-latitudes, are globally important storages of freshwater and carbon. Will these sensitive ecosystems maintain their important functions as carbon sinks and water regulators under the on-going climate and land use change? To evaluate this question, we want to start an interdisciplinary cooperation project on the coupled water and carbon dynamics of boreal peatlands. We want to (1.) analyse the spatial and temporal dynamics of all water balance components of a typical boreal mire of Northwest-Russia, (2.) quantify the input, throughput and output of dissolved organic carbon (DOC) and dissolved inorganic carbon (DIC) of the mire, (3.) characterise the biogeochemical composition of DOC and DIC in inflow, peat pore and outflow waters and thus gain new insights into the processes that control the generation, transport and transformation of DOC and DIC in boreal peatlands, (4.) quantify the complete carbon balance of the investigated peatland by combining the results of the lateral carbon fluxes with measurements with the vertical land-atmosphere CO_2 and CH_4 fluxes determined by the eddy covariance approach, and (5.) compare the hydrological and biogeochemical measurement data with output from several regional hydrological models of different resolution and a wetland module of a dynamical earth system model, taking into account their different spatial scales.

For this project, the university has a 65% FTE (25 hours/week) position open for a

research associate (wissenschaftliche/r Mitarbeiter/in)

- salary group 13 TV-L - with a starting date as soon as possible.

The short-term contract will last 3 years from start, in accordance with §§ 27, 28 Hamburg Higher Education Law (Hamburgisches Hochschulgesetz); see also § 2 of the Academic Fixed-Term Contract Law (Wissenschaftszeitvertragsgesetz).

The university intends to increase the number of women amongst its academic personnel and expressly encourages qualified women to apply. In compliance with the Hamburg Equal Opportunity Law, preference will be given to qualified female applicants.

General Responsibilities:
A research associate’s duties include academic service in the project ‘Hydrological controls on the carbon dynamics of boreal peatlands – Investigated at the Ust-Pojeg mire complex,

Komi Republic, NW-Russia'. Within this framework associates have the opportunity to further their academic education, in particular through the completion of a doctoral dissertation. The data obtained in the project may be used for the dissertation. The PhD students will participate in CliSAP's "School of Integrated Climate System Science (SICSS)".

Specific Areas of Responsibility:
The PhD candidate will focus his/her work on the quantification of the input, throughput and output of dissolved organic carbon (DOC) and dissolved inorganic carbon (DIC) of the mire, and the characterisation of the biogeochemical composition of DOC and DIC in inflow, peat pore and outflow waters (Topics 2 and 3 of the project described above). He/She will participate in the planning of extensive field campaigns to a remote area in the Komi Republic in Russia. Field work at the investigated peatland site in Russia of about 2-3 months per year will be expected. The PhD candidate will help to establish and maintain hydrological and micrometeorological field instrumentation at the investigation site, including automatic discharge and water level recorders, standard-meteorological sensors and an eddy covariance flux measurement system. The PhD candidate will be responsible for appropriate sampling of inflow, peat pore and outflow waters as well as for in-depth biogeochemical analyses of DOC and DIC in the laboratories of the Institute of Soil Science and the Institute of Biogeochemistry and Marine Chemistry. He/She will conduct the statistical analysis and interpretation of the data and is expected to publish the results in international peer-reviewed journals.
The work of the PhD candidate will be closely integrated in the research activities of the junior research groups "Regional Hydrology of Terrestrial Systems" led by Jun.-Prof. Dr. Lars Kutzbach and "Chemistry of Natural Aqueous Solutions" led by Prof. Dr. Jens Hartmann. Specifically, his/her work will be complemented by the research of a postdoctoral scientist who will be responsible for the hydrological measurements and modelling at the investigated peatland site in the Komi Republik and shall be hired soon, too.

Requirements:
The PhD candidate should have an academic degree in an academic subject area qualifying the holder to carry out the above-mentioned responsibilities, e.g. Geosciences, Chemistry, Biology. He/She should have experience with laboratory and field work as well as with statistical data analysis The candidate should be an excellent team-player and should be highly motivated for interdisciplinary work in an international environment including extensive field work in a remote area of Russia. He/She should have very good English skills; language skills in Russian would be a plus.

Applications (including information about the received degree and the current CV) should be sent to:

Universität Hamburg
KlimaCampus
CliSAP Office
Code/Reference number 08/2-034
Grindelberg 5
20144 Hamburg

or to

office.clisap@zmaw.de

The deadline for receipt of applications is 15th June 2009. For additional information please contact Jun.-Prof. Dr. Lars Kutzbach (lars.kutzbach@zmaw.de).

Preference will be given to disabled applicants with equal qualifications.