The University of Hamburg invites applications for 9 Professorship Positions (at W1 or W2 level)

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 set for CliSAP 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. In terms of regional consequences of climate change, CliSAP will quantify potential impacts of such changes on marine and terrestrial ecosystems as well as humans, including economy and security, with a focus on Northern Europe (see www.clisap.de). As part of the Cluster of Excellence CliSAP new professorships will be filled in the following areas:

Climate System Data Assimilation (*Code/Kennziffer 1950):*
The professorship will expand current capabilities in "Climate System Data Assimilation". While data assimilation has advanced to the point that routine analyses/re-analyses are possible for atmosphere or ocean separately, improving assimilation capabilities in the coupled ocean-ice or atmosphere-ocean-ice system is a challenging frontier of climate sciences. Coupled data assimilation will be essential in climate model initialization and seasonal to decadal forecasting. We seek candidates with strong background in modeling of one or more components of the climate system and demonstrated interest in improving climate models by combining them with observations through data assimilation.

Chemistry of Natural Aqueous Solutions (*Code/Kennziffer 1951):*
The professorship will be focused on the field of chemistry of aqueous systems. Applications are sought from experts in one of the following fields: the carbonate system of natural waters, nutrient cycles in pristine and impacted land-sea transition regions, stable isotope geochemistry of climatically relevant bio-elements. We specifically encourage applications from candidates with an experimental approach and seagoing experience. The successful candidate is expected to develop a vigorous research program by collaborating closely with a modeling consortium and groups focusing on regional soil hydrology, element fluxes, development of automated systems for environmental surveillance, and numerical modeling of material cycles.

Dynamical Systems (*Code/Kennziffer 1952):*
The professorship on Dynamical Systems will strengthen the understanding of climate dynamics and variability by the application of state-of-the-art mathematical and physical methods. The terrestrial climate is a high dimensional nonlinear dynamical system for which only limited theoretical background is available. Applications are invited from candidates with demonstrated expertise in one of the following fields: fundamentals of multi-scale model hierarchies including model embedding and downscaling approaches, the mathematical basis of reconstruction and assimilation methods, the parameterization of subscale processes including stochastic approaches and/or nonlinear time series analysis.

Surface Deformations (*Code/Kennziffer 1953):*
An expert is sought for studies of deformations of the Earth's crust using space and land based measurement techniques of surface deformations. Surface deformations contribute to changes of coast lines and sea level rise. Sea level changes, in turn, modify the load and

pore pressure of offshore sedimentary systems and influence slope stability and the stability of gas hydrates. Load changes further contribute to the development of the postglacial rebound. Large slope instabilities are a major natural hazard that may lead to tsunamis. The successful candidate is expected to participate in the modelling of past, present and future surface deformations and to assess the risk of surface deformations for sea level rise and storm surges.

Climate Change and Security (*Code/Kennziffer 1954):*
The professorship on Climate Change and Security will be filled to lead a group of scientists in the research on the impact of climate change effects on local and international security. A successful candidate will act as coordinator of research on conflicts related to climate change and will merge results from research on climate change with research on the causes, the prevention, the management and the consequences of local, regional and international conflicts. A major objective is to identify local conflict 'hot spots' of climate change through the combination of political and social data with data on climate change. We encourage especially applications from candidates with a degree in geography, conflict research or a related field and with demonstrated expertise in one of the following areas: Social adaptation to environmental change; conflict research, environmental security. We encourage candidates with a quantitative approach and candidates with particular regional expertise in the named fields. Experience in the development and use of geoinformation systems is welcome.

Media constructions of regional geohazards *(Code/Kennziffer 1955):*
The professorship will be filled in the area of media representations of climate (regional extreme events, specially storms) in the context of anthropogenic climate change. An area of interest is especially a comparative analyses of discourses in the fields of media and the natural sciences. The successful candidate should have knowledge and research experience in media content analyses (quantitative and qualitative methods), be at ease with discourse analyses. Knowledge and research experience on the field of communication theory (open to cultural theories) concerning journalistic coverage of extreme events. Also expected are skills in trans-disciplinary cooperation, especially with natural sciences; in international research and lecturing as well as project management.

Regional Hydrology in Terrestrial Systems (*Code/Kennziffer 1956):*
A professor position will be filled in the field of "Regional Water, Energy and Trace Gas Fluxes in Terrestrial Systems". Predictions on the feedback between climate change and regional water, dissolved matter, and trace gas fluxes within terrestrial environments still suffer from an insufficient understanding of the regulating processes. Applications are sought from candidates with proven expertise in studies on the coupled land-water-atmosphere-system. The successful candidate is expected to increase our knowledge on the energy and water controlled processes in the carbon, dissolved matter and trace gas cycles and will complement ongoing efforts at the Institute of Soil Science (IfB) and the Institute of World Forestry (IWF). He/she is expected to provide expertise in the experimental field of energy and matter fluxes in different land use types (forests, coastal wetlands, permafrost) with an emphasis on the carbon cycle and local to regional scale interactions.

Advancement of Coupled Climate Ocean Ecosystem Models *(Code/Kennziffer 1957):*
A professorship in Ecosystem Modeling will be filled to advance current knowledge of the coupled ocean-ecosystems and its impact on global to regional to local climate. To fill this position, we seek candidates with strong interdisciplinary background, including biology, applied mathematics or physics to further the development and application of intermediate complexity ecosystem models. Successful candidates will be expected to collaborate with the physical and geochemical oceanographic communities within CliSAP to address various urgent climate related problems. Activities can include the development of models of plankton functional types incorporating to higher trophic levels as well as the role of the marine ecosystem in CO_2 sequestering in the ocean.

Numerical Methods in the Geosciences *(Code/Kennziffer 1958):*
A professorship will be filled to advance numerical methods in the geosciences. Climate research increasingly relies on expertise in and guidance on scientific computing. Fields of interest for CliSAP include, but are not limited to, new algorithms in model formulation, data processing and visualization, or high-performance computing in the climate sciences. We seek applications from candidates interested in strengthening the links between climate sciences, computational sciences and applied mathematics. The successful candidate is expected to participate in climate system modeling, in mathematics for climate science and in advanced mathematical approaches in geosciences.

Basic requirements (According to § 15 / § 18 Hamburgisches Hochschulgesetz):
Successful candidates must have an excellent research record, and have experience in conception and realisation of research projects and / or field experiments. Collaboration with research groups within the Cluster of Excellence CliSAP is expected.
Appointments within Clusters of Excellence will normally be at grade W1 (German Junior Professor), grade W2 is however possible provided the fulfillment of both legal and personal qualification requirements.
Junior Professors (W1-positions) will initially be appointed for 3 years and can be extended by up to 3 additional years on the basis of a positive evaluation of academic performance. Junior Professors with an outstanding academic performance may apply for a W2 position.
W2 positions will be filled for 5 years initially; they can be transferred to permanent W2 positions provided outstanding academic performance.
Both W1 and W2 positions will have a reduced teaching responsibility. Teaching is expected to be in both German and English. The positions also bring with them funding for additional personnel as well as auxiliary research material in order to be able to quickly set up excellent research groups.

The University of Hamburg aims at increasing the number of women as scientific staff and therefore specifically requests applications from qualified women for these positions.
Disabled persons are given priority over applicants of equal suitability, qualification and degree of specialized knowledge.

Applicants should send a current CV, a list of publications, a list of previously taught courses and a vision for future research and teaching.

Applications should be sent under the respective Code/Kennziffer to:

The President of the University of Hamburg
Ref. 631.6
Moorweidenstrasse 18
20148 Hamburg, Germany.

The deadline for receipt of applications is January 22nd, 2008.
The University of Hamburg is an Equal Opportunity Employer.