

Scientific Researcher (PhD or Postdoc position) (UNIVERSITÄT MARBURG)**Bewerbungsfrist: 25.06.2018**

At the *Faculty of Geography*, the research group *Ecological Plant Geography* offers for a period of three years starting between August and October 2018, a part-time position (65 % of regular working hours), as **Scientific Researcher (project-based; at the level of a PhD student or Post-Doc)** Salary and benefits are according to a public service position in Germany, pay scale E 13 TV-H, and commensurate with experience.

The successful candidates will work within the German Research Foundation (DFG)-funded Project “A global approach to analyze the extent of the newly detected Tropical Lowland Cloud Forest (TLCF) based on a large-scale analysis of fog frequency and epiphyte growth, with a special focus on South America”. The overall project consists of a climatological/remote sensing and an ecological/ecophysiological part. Your focus will lie on the latter, describing and modelling patterns of epiphyte abundance and diversity in rain-forest and cloud-forest canopies, with a focus on bryophytes and filmy ferns. Your tasks will include planning and carrying out field work in Ecuador and French Guyana (describing epiphyte cover, installation and maintenance of microclimate stations in the canopy – tree-climbing training will be provided), identifying epiphyte species (training provided), ecophysiological measurements on bryophytes and filmy ferns (hydration kinetics, gas exchange – training provided), contributing to the development and validation of a moss carbon-balance model, using this model to predict moss growth as a function of microclimate, contributing to mapping epiphyte abundances based on this model and available climate data, validating the resulting maps, analysing data, reviewing literature, coordinating activities with those of your project colleague (focussing on climatology and remote sensing), and preparing several scientific publications. This part of the project is supervised by Jun.-Prof. Dr. Maaïke Bader, in collaboration with Prof. Dr. Robbert Gradstein (Museum of Natural History, Paris) for epiphyte ecology and Prof. Dr. Jörg Bendix and Dr. Lukas Lehnert (Marburg) for climatology/remote sensing.

Tropical cloud forests, with their extraordinary biodiversity particularly of epiphytic plants, are generally associated with mountainous regions, where they are referred to as “Tropical Montane Cloud Forests”. Our previous work in the Guianas now suggests that in basins and valleys of the Tropical Lowland Rain Forest (at elevations <500 m a.s.l.) another type of epiphyte-rich cloud forest type exists, referred to as “Tropical Lowland Cloud Forest” (TLCF). We hypothesize that this new forest type occurs globally in all natural tropical lowland forests where a sufficient moisture supply allows the development of nocturnal canopy fog in terrain depressions. The main aim of the project is to test this hypothesis with a combination of satellite data, field measurements, climate model data and mechanistic modelling of epiphyte growth. The relationship between fog occurrence and the high abundance of canopy epiphytes in the TLCF is examined using a carbon-exchange model for mosses, liverworts and filmy ferns. Epiphyte abundance patterns are then mapped for two regions in South America, based on high-resolution climatic model data and our carbon-exchange model. As high-resolution global climate datasets will become available in the future, this project prepares to map TLCF globally based on a deepened climatological and ecophysiological understanding of this new forest type. Obtaining further scientific qualification is not an official goal or task of the position, but if desired it can be arranged that the results of the project are used for pursuing a scientific qualification (e.g. PhD) outside the 65% of regular working hours of this position (65% positions are commonly given to PhD students in Germany, but in this case the position can also be filled by a Post-Doc). The time-frame of the position is limited according to § 2 Abs. 2 Wis-sZeitVG. The successful applicants will hold a PhD or MSc degree (with very good results) or equivalent in Biology or Geography or a related relevant discipline and have an interest and, preferably, practical experience in plant ecological and/or ecophysiological research, mechanistic modelling, informatics and programming (e.g. in R), and data analysis (statistics). Experience with bryology and with fieldwork in the tropics are beneficial, the willingness and physical condition necessary to carry out such fieldwork under primitive conditions and to climb tall rain-forest trees are necessary, although the need for climbing and extent of fieldwork are negotiable if very strong modelling skills can be demonstrated. Further requirements include a creative, analytical and critical mindset, the ability to work independently and to help further develop the project, good communication skills, and good English oral and writing skills. Knowledge of Spanish, French, and German are beneficial but not essential. More information about the position can be obtained from Jun.-Prof. Dr. Maaïke Bader, maaïke.bader@uni-marburg.de. We support women and strongly encourage them to apply. In areas where women are under-represented, female applicants will be preferred in case of equal qualifications. Applicants with children are welcome – Philipps-University is certified as a family-friendly university. Sharing a full-time position (§ 8 Abs. 2 S. 1 HGIG) as well as a reduction of working time is possible. Applicants with a disability as described in SGB IX (§ 2 Abs. 2, 3) will be preferred in case of equal qualifications. Application and interview costs can not be refunded. Please send your application (including a motivation letter in English, curriculum vitae and contact details of two potential referees) mentioning the **registration number fb19-0006-wmz-2018** as a single PDF to the faculty of Geography, Ms. Maaïke Bader, maaïke.bader@uni-marburg.de; **deadline June, 25th 2018**.