Universität Augsburg University

TROPSOC / Institute of Geography / Augsburg University

PhD position in Physical Geography / Plant & Soil Ecology including field work in Tropical Africa

Overview: The Institute of Geography (www.geo.uni-augsburg.de) at Augsburg University invites applications for an excellent PhD candidate for a three-year position working on the tropical carbon cycle with field sites and experiments in Eastern Africa (DRC, Uganda, Rwanda). We seek a candidate who uses quantitative and qualitative field and laboratory methods to study interactions between life and geologic, geochemical or hydrological processes.

The PhD position is based in DFG research group "TROPSOC" (http://gepris.dfg.de/gepris/projekt/387472333) and will be collaborating with several other groups in and outside Germany in the framework of TROPSOC.

Project: The response of soils to disturbance by erosion is one of the great uncertainties in predicting greenhouse gas fluxes from soils to the atmosphere and hence future earth system dynamics. Tropical Africa is a hotspot of land use change and is expected to experience important changes to both soil biogeochemical cycling and ecosystem level carbon (C) fluxes between soil, plants and the atmosphere in this century. In particular, it is unclear how nutrient fluxes and C allocation between soils, plants and the atmosphere will evolve and differ in tropical systems in relation to the controlling factors: mineralogy, topography and vegetation.

The main objective of the proposed project is to develop a mechanistic understanding of C allocation and release in plant/soil systems of Tropical Africa, studied in the eastern part of the Congo Basin. This region provides a unique combination of (i) geologically diverse parent material for soil formation and (ii) different levels of disturbance by human activity, taking place under a humid, tropical climate regime, where pristine forests are converted into agricultural land at high rates.

Tasks:

- Evaluation of disturbance sensitivity of heterotrophic soil respiration in contrasting tropical systems.
- Determination of the effect of geochemical soil properties on plant C allocation and C input.
- Evaluation of novel techniques for vegetation CNP stoichiometry in tropical systems (UAV spectroscopy) suitable for large scale assessments.
- Participation in several weeks long guided and independent field work in rural environments of Tropical Africa
- Presentation of scientific results at international conferences and in scientific publications

Requirements:

- Master-level degree or equivalent in geosciences, physical geography, plant/soil ecology, environmental sciences or related subjects with excellent grades, including knowledge of multivariate statistical methods
- Pronounced interest in biogeochemical research questions
- Strong interest in technical and analytical work (method application, conducting and guiding laboratory experiments)
- Willingness for occasional weekend activities related to monitoring of running experiments.
- Good knowledge of spoken and written English (TOEFL score 95 or higher, C1 certificate or equivalent) is a necessity
- Knowledge of spoken and written French is a strong asset.
- Knowledge of spoken and written Swahili is a strong asset.
- Experience with traveling and/or working in tropical countries is a strong asset.

Conditions:

- The position is funded for 3 years. Salary and benefits will be according to German Public Service Sector salary group TV-L 13, 65% (approx. EUR 1500 per month/net)
- (optional) Contribution to the teaching curriculum of the host institution
- The project will start on Jan 1st 2018. A later start for the PhD candidate is possible under exceptional circumstances. Job interviews are tentatively scheduled to take place on Nov 15th 2017.

Application: Augsburg University seeks to increase the number of women in sciences and therefore explicitly encourages women to apply. Applicants with severe disabilities will be favored when having substantially the same qualifications as applicants without severe disabilities. Please send your documents as a single pdf document (letter of motivation, CV, certificates, names of 2 referees) by email to TROPSOC@geo.uni-augsburg.de until **Nov 1st 2017.**

Contact for further information:

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