Faculty of Environmental Sciences

At the **Department of Forest Sciences, Institute of Soil Science and Site Ecology,** the **Chair of Site Ecology and Plant Nutrition** invites applications for a project position as

Research Associate / Postdoc

(subject to personal qualification, employees are remunerated according to salary group E 13 TV-L)

The position is part of the DFG-funded project "Linking soil erosion dynamics with identification of source areas and stratigraphic-geochemical sediment core analysis for deciphering the impact of land-use change in the watershed of a drinking water reservoir in Central Kenya" starting **January 1, 2022**. The position is limited until December 31, 2024. The period of employment is governed by § 2 (2) Fixed Term Research Contract Act (Wissenschaftszeitvertragsgesetz - WissZeitVG).
Tasks: The DFG project focuses on the impact of historical land-use change and short-term hydrological events on soil erosion and the linked matter transport. It follows a novel 'source-to-sink' approach combining plot experiments, river monitoring, and detailed stratigraphic-geochemical analyses of dated sediment cores. The watershed of the Ruiru River comprises a typical rural landscape in the highlands of Central Kenya with a reservoir that since the 1940s has been operated for the purpose of drinking water supply of Nairobi. Eroded particles are traced from source (plots with various land use) to sink (reservoir sediments) by means of phosphorus fractions and selected biomarkers. The successful candidate will be in charge of the design and operation of a monitoring system of dynamics of suspended sediments in the reservoir. Furthermore, undisturbed sediment cores will be taken and analyzed for sedimentological and geochemical features (i.e., high-resolution magnetic susceptibility connected to µ-XRF core scanning, P fractions, lipid and sugar biomarkers). Sediment core chronologies will be established (^{7}Be, ^{137}Cs, ^{210}Pb) and modeled ages will then be compared with micro-sedimentological information (i.e., flood event markers). Results from sedimentology will be connected with available information on historic land-use in the watershed (by means of historic and recent maps, aerial photographs, satellite imagery). Outcomes of the research will be combined with information from plot-scale experimental studies and assessment of suspended sediment dynamics in the river in the watershed within the frame of an accompanying PhD project.
Requirements: We are looking for a highly motivated scientist with an university and PhD degree (Postdoc level) with a background in earth or natural sciences (e.g., physical geography, geoecology, geology, environmental sciences) or related subjects and with a research focus in the fields of sediment (bio-), geochemistry and/or paleolimnology. Experiences in field work, preferably in sub-Saharan Africa, experiences in relevant lab techniques as well as knowledge of the dynamics of suspended sediments in watersheds are favorable. Experiences in the analysis of satellite images and remote sensing data are considered as asset. As this project is a joint effort with partners in Kenya (Jomo Kenyatta University of Agriculture and Technology; Nairobi City Water and Sewerage Company; Kenya Forest Service), Germany (TU Dresden Geography, Helmholtz-Centre Potsdam - GFZ German Research Centre for Geosciences, Augsburg University), and Switzerland (ETH Zurich) the potential candidate is expected to work in intensive collaboration with our partners including field work in Kenya and research visits. Excellent knowledge of spoken and written English and communication skills are expected.
We offer an inspiring international and interdisciplinary atmosphere with state-of-the-art analytical tools.
For further information, please, contact Prof. Dr. Karl-Heinz Feger by e-mail: karl-heinz.feger@tu-dresden.de.

Applications from women are particularly welcome. The same applies to people with disabilities. Please submit your application by **October 22, 2021** (stamped arrival date applies) by e-mail attaching one PDF document including CV, motivation letter and the names (affiliation, telephone, e-mail) of two references and your doctoral thesis via the TU Dresden SecureMail Portal https://securemail.tu-dresden.de to **karl-heinz.feger@tu-dresden.de** or by mail to **TU Dresden, Fakultät Umweltwissenschaften, Fachrichtung Forstwissenschaften, Institut für Bodenkunde und Standortslehre, Herrn Prof. Dr. Karl-Heinz Feger, Pienner Str. 19, 01737 Tharandt, Germany**. Please submit copies only, as your application will not be returned to you. Expenses incurred in attending interviews cannot be reimbursed.

Reference to data protection: Your data protection rights, the purpose for which your data will be processed, as well as further information about data protection is available on the website: https://tu-dresden.de/karriere/datenschutzhinweis