TUD Dresden University of Technology, as a University of Excellence, is one of the leading and most dynamic research institutions in the country. Founded in 1828, today it is a globally oriented, regionally anchored top university as it focuses on the grand challenges of the 21st century. It develops innovative solutions for the world's most pressing issues. In research and academic programs, the university unites the natural and engineering sciences with the humanities, social sciences and medicine. This wide range of disciplines is a special feature, facilitating interdisciplinarity and transfer of science to society. As a modern employer, it offers attractive working conditions to all employees in teaching, research, technology and administration. The goal is to promote and develop their individual abilities while empowering everyone to reach their full potential. TUD embodies a university culture that is characterized by cosmopolitanism, mutual appreciation, thriving innovation and active participation. For TUD diversity is an essential feature and a quality criterion of an excellent university. Accordingly, we welcome all applicants who would like to commit themselves, their achievements and productivity to the success of the whole institution.

At the **Faculty of Environmental Sciences, Department of Forest Sciences, Institute of Soil Science and Site Ecology,** the **Chair of Soil Resources and Land Use** offers a position as

Research Associate / PhD Student (m/f/x)
(subject to personal qualification employees are remunerated according to salary group E 13 TV-L)

starting **January 1, 2026**. The position is initially limited until December 31, 2027 with the option of extension to three years subject to the extension of the project. The project comprises 65% of the full-time weekly hours. The period of employment is governed by the Fixed Term Research Contracts Act (Wissenschaftszeitvertragsgesetz - WissZeitVG). The position offers the chance to obtain further academic qualification (usually PhD).

Tasks: The position is part of a DFG funded project “Decoupling above- from belowground litter decomposition and impacts on stabilization of soil organic matter with increasing aridity”. Drylands cover large areas of the land surface and may continue to expand in the future due to climate change. Even though dryland soils have low organic carbon (OC) concentrations, they store a significant fraction of global soil OC stocks. However, predicting effects of increasing aridity on soil OC stocks is not yet possible because above- and belowground processes of litter decomposition and soil organic matter (SOM) stabilization are differently affected by aridity. Therefore, the project focuses on the differential response of above- and belowground litter decomposition to increasing aridity and to elucidate the consequences for SOM stabilization. We will take advantage of a unique gradient in precipitation found on common parent material in Spain. We will study above- and belowground litter decomposition and SOM stabilization by applying ^{13}C-labelled litter (shoots and roots) of an annual herbaceous plant in the field along the aridity gradient. The use of stable isotopes allows us to monitor litter decomposition and follow SOM formation under conditions as natural as possible along the gradient. We will measure $^{13}CO_2$ fluxes in the field and combine these data with the incorporation of the ^{13}C tracer into different SOM fractions. Experiments in the laboratory complement the field approach.

Requirements: For our project, we are looking for a highly motivated PhD student with a university degree (master or equivalent) in earth or natural sciences (e.g., Soil Sciences, Earth Sciences, Biogeochemistry, Environmental Sciences, Ecology, Biology) or related subjects and strong knowledge in the dynamics of organic matter in natural systems. Experiences in field and lab work including biogeochemical analyses and a driving license are required. As this project is a joint effort with The Hebrew University of Jerusalem in Rehovot (Israel), the Max-Planck Institute for Biogeochemistry in Jena (Germany) and the University of Extremadura in Plasencia (Spain), the potential PhD candidate is expected to work in intensive collaboration with our partners including internships at these institutes and multi-day field work in Spain. Excellent knowledge of spoken and written English and excellent communication skills are expected.

We offer: an inspiring international and interdisciplinary atmosphere with state-of-the-art analytical tools to determine the dynamics of soil organic matter.

TUD strives to employ more women in academia and research. We therefore expressly encourage women to apply. The University is a certified family-friendly university. We welcome applications from candidates with disabilities. If multiple candidates prove to be equally qualified, those with disabilities or with equivalent status pursuant to the German Social Code IX (SGB IX) will receive priority for employment.

Please submit your detailed application (including CV, motivation letter, transcript of records of the master program degree, a summary of your master thesis (if already completed) and the names (affiliation, telephone, e-mail) of two references) by **October 10, 2025** (stamped arrival date of the university central mail service or the time stamp on the email server of TUD applies) to: **TU Dresden, Professur für Bodenressourcen und Landnutzung, Herrn Prof. Karsten Kalbitz, Helmholtzstr. 10, 01069 Dresden, Germany** or via the TUD SecureMail Portal https://securemail.tu-dresden.de by sending it as a single pdf file to **karsten.kalbitz@tu-dresden.de.** 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 to you on the website: https://tu-dresden.de/karriere/datenschutzhinweis.