Technische Universität Dresden - Faculty of Environmental Sciences, Institute of Photogrammetry and Remote Sensing

Technische Universität Dresden

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. The Faculty of Environmental Sciences is looking for three Research Associates to work together in a larger project consortium with six Chairs from TUD. The aim of the joint project „Forests in transition: The future of European beech under drought stress“ (funded by the Eva Mayr-Stihl foundation) is to quantify the influence of stem density reduction (i.e., varying degrees and forms of forest thinning) on the water supply and associated biomass development and vitality, as well as carbon storage in beech stands across Saxony, Germany. This will be achieved through a novel combination of different cross-scale monitoring approaches, which will enable an improved understanding of the causes and consequences of varying water availability to individual beech trees, as well as upscaling to larger areas and model-based predictions for the future.

Research Associate (m/f/x) in Remote and Proximal Sensing

In this project, the Institute of Photogrammetry and Remote Sensing offers, subject to the availability of resources, a position as Research Associate (m/f/x) in Remote and Proximal Sensing (subject to personal qualification employees are remunerated according to salary group E 13 TV-L) starting April 1, 2026. The position is limited until December 31, 2029 and entails 65% of the full-time weekly hours. The period of employment is governed by § 2 (2) Fixed Term Research Contracts Act (Wissenschaftszeitvertragsgesetz - WissZeitVG). The subproject “Scaling Tree Vitality and Water Dynamics from Trees to Landscapes with Remote Sensing” is a collaborative project between the Chair of Environmental Remote Sensing and the Chair of Geosensor Systems. This project will focus on the estimation of tree crown vitality, transpiration, and water status and the upscaling of these parameters from single-tree to landscape scale using advanced remote sensing techniques. The ultimate goal is to establish a framework for spatially extensive monitoring of European beech vitality under drought stress in Germany and Central Europe. This project offers an inspiring, international, and interdisciplinary working environment with state-of-the-art proximal, drone and satellite remote sensing platforms.

City: Dresden; Starting date (earliest): 01/04/26; Duration: limited until December 31; Remuneration: subject to personal qualification employees are remunerated according to

salary group E 13 TV-L; Reference number: w25-360; Closing date: 16/02/26

Working field

The successful candidate will be responsible for the following tasks:
— coordination and execution of regular Unmanned Aerial Vehicle (UAV) campaigns over the study areas
— derivation of crown water status indicators using multispectral and thermal infrared drone and satellite imagery
— development of robust procedures to derive morphological crown condition from drone-based Laser Scanner and high-resolution image data.
— development of methods to compare remote sensing indices with in-situ measurements of tree transpiration and leaf water potential
— development of a data-driven approach for scaling the results from the single-tree level to stand and landscape scales
— establishing the prerequisites for large-scale, spatially explicit monitoring of beech vitality under drought stress

Requirements

— a university degree (Master’s or equivalent) in Remote Sensing, Geoinformatics, Data Science, or Computational Environmental Sciences or a related field
— proven interest or experience in working with and processing multispectral satellite data and UAV-based photogrammetric or LiDAR data
— strong programming and data analysis skills (e.g., R, Python)
— proven ability to work independently in diverse, interdisciplinary teams
— scientific publishing experience is desirable
— a German driver’s license (class B) is mandatory
— basic knowledge of German is desirable, but not mandatory

What we offer

— an inspiring, international, and interdisciplinary working environment with access to cutting-edge remote sensing and computing resources
— attractive working conditions and opportunities for further professional development at a leading European technical university
— flexible working hours and the possibility to combine family and career
— You will be able to further develop your own scientific profile, e. g. through courses offered by TUD’s graduate academy; as well as support BSc/MSc students on a project-related basis under the professional responsibility of the chairholder.

Application

For questions, please get in touch with Jun.-Prof. Dr. Anette Eltner (anette.eltner@tu-dresden.de).
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 (incl. cover letter, CV, written example of an English publication e.g., BSc. or MSc. thesis or first publication, certificates, diplomas, and the names and contact details of two references) by February 16, 2026 (stamped arrival date of the university central mail service or the time stamp on the email server of TUD applies), preferably via the TUD SecureMail Portal https://securemail.tu-dresden.de by sending it as a single pdf file to anette.eltner@tu-dresden.de or to:
TU Dresden, Junior Professorship in Geo Sensor Systems, Jun.-Prof. Dr. Anette Eltner, Helmholtzstr. 10, 01069 Dresden, Germany.
Please submit copies only, as your application will not be returned to you. Expenses incurred in attending interviews cannot be reimbursed.

TUD is a founding partner in the DRESDEN-concept alliance.
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.

More information at https://stellenticket.de/200371/TUBS/
Offer visible until 16/02/26