Leibniz Institute of
Ecological Urban and
Regional Development

TECHNISCHE
UNIVERSITÄT
DRESDEN

DRESDEN
concept

The Leibniz Institute of Ecological Urban and Regional Development e. V. (IOER) in Dresden offers the following position (employment according to WissZeitVG) until 30 April 2028 as soon as possible:

Head (f, m, d) of the DRESDEN-concept Research Group SITES.AI
„Advanced Environmental Risk and Sustainability Modelling of Cities and Regions Using AI"
TV-L, E 14, Full time with 40 working hours per week.

The Leibniz Institute of Ecological Urban and Regional Development is a non-university research centre, and a member of the Leibniz Association. Our subject is the sustainable development and transformation of cities and regions in the context of the global human-ecological crisis.

The advertised position is assigned to the research area Spatial Information and Modelling with the IOER Research Data Centre: LINK

The DRESDEN-concept Research Group "Advanced Environmental Risk and **S**ustainability Modelling of C**it**ies and R**e**gions U**s**ing AI" (SITES.AI) is being set up by the TUD Dresden University of Technology and the Leibniz Institute of Ecological Urban and Regional Development as part of the Center for Scalable Data Analytics and Artificial Intelligence (ScaDS.AI): https://scads.ai.

Job Description

SITES.AI strives for fundamental and socially relevant methodological innovations in the data-intensive modelling of environmental risks and the sustainability of cities and regions by incorporating and further developing the latest and most promising approaches of artificial intelligence and data analytics. It draws on the expertise in environmental and geoinformatics of the IOER and data analytics and AI of the TUD/ScaDS.AI, both partners of DRESDEN-concept, and is jointly expanding this expertise in an internationally visible manner. The topic and the in-depth research work refer to the mission statement of the IOER and the 2022 - 2028 research programme as well as research activities of SacDS.AI, especially with regard to the Big Data and AI topic area of Environmental and Earth Sciences.

In the context of this field, the position takes over the lead of the research group, for which the involvement of at least two doctoral students and one to two scientists is planned. The participation of further scientists from both research institutions is planned. The own research should contribute in particular to the adaptation, implementation and testing of AI methods for the development of emulators for the computationally intensive coupled modelling of complex human-environment systems such as risk systems of cities and regions with their dynamics. The emulators are intended to facilitate parameterisation from heterogeneous data and coupling with other system models as well as to increase the performance of simulations. When modelling the systems, both anthropogenic environmental impacts and their societal consequences are to be represented with a high spatial and temporal resolution. Dynamics of societal processes such as urbanisation and changes in the Earth system such as climate change

are therefore considered as driving forces. Alternative system interventions are also included in the sense of transformation pathways. Scenario- or ensemble-based and action-orientated simulations carried out with the emulators are intended to support decision-making by regional and local actors in risk management and in the promotion of systemic sustainability. For this reason, interfaces with visualisation approaches such as decision theatre, serious gaming and virtual reality are to be established.

Expected skills and competencies

- excellent doctorate, preferentially in a field related to environmental or geoinformatics
- significant publications in international peer-reviewed journals
- success in acquiring third-party funding projects in academic competition
- ability to lead a research team with collaborative leadership skills
- experience with academic teaching and the supervision of scientific qualification theses
- ability to work independently and to self-organize
- strong interest in and, if possible, experience of interdisciplinary collaboration
- English language proficiency (CEFR level C1 or higher)
- German language proficiency would be an asset

We offer you

- collaboration in a highly motivated, interdisciplinary team in a leading research institute of the Leibniz Association and its close cooperation with the TUD Dresden University of Technology
- flat hierarchies and opportunities for participation
- creative and motivating working environment
- lively social culture and diversity
- openness and trusting cooperation
- family justice and flexible working time models
- equal opportunities (multiple Total-E-Quality certification)
- career planning and further education opportunities
- sustainability management
- job ticket
- supplementary pension cover through a company pension scheme (VBL)

Place of work is Dresden. Workplaces are both the IOER and the TUD Dresden University of Technology/ScaDS.AI.
The IOER promotes professional equality between women and men as well as diversity, and is particularly committed to reconciling family and professional life. Women are expressly encouraged to apply. Applications from recognised severely disabled people are welcome.

Please send your application (letter of motivation, curriculum vitae, certificates, references) in the form of a single PDF file as an e-mail attachment, stating the password **"SITES.AI-1"** by **15 April 2024** to jobs@ioer.de