Doctoral Researcher (m/f/d)

Department: Natural and Environmental Sciences “Institut für Umweltwissenschaften: AG Umweltphysik”

With about 15,000 students, more than 300 professorships and around 160 degree programs, the RPTU University Kaiserslautern-Landau is the technical university of the state of Rhineland-Palatinate. As a place of top international research, it offers excellent working conditions and career opportunities. Those who study, research or work at RPTU experience a cosmopolitan environment and shape the future.

We invite applications for a Doctoral Researcher (f/m/d) position within the DFG-funded research project “Understanding methane bubble dynamics in aquatic sediments through a multiscale, multidisciplinary approach.”

Methane emissions from aquatic sediments represent a major uncertainty in the global carbon cycle. This project seeks to advance our mechanistic understanding of methane gas dynamics across multiple spatial scales by integrating laboratory experiments, field observations, and theoretical modelling within an international, multidisciplinary research team.

The successful candidate will investigate how the mechanical properties of aquatic sediments control the formation, growth, and migration of methane gas bubbles. Laboratory experiments will be closely linked with innovative field measurements and modelling efforts conducted by our international project partners.

What we offer

- The opportunity to pursue a PhD within a highly innovative, DFG-funded research project addressing fundamental questions in environmental science.
- Close supervision and individualized mentoring to support your scientific and professional development.
- Access to state-of-the-art laboratory facilities and participation in cutting-edge field campaigns.
- Intellectual freedom to develop novel experimental approaches and contribute original ideas.
- An inspiring, collaborative, and international research environment with strong interdisciplinary interactions.
- Integration into established national and international research networks and opportunities to present your work at leading scientific conferences.
- The opportunity to publish your research in high-impact international journals and develop a cumulative doctoral thesis.

Your area of responsibility:

- Plan, coordinate, and participate in field campaigns for aquatic sediment sampling.
- Design and conduct laboratory experiments investigating how sediment mechanical properties influence methane bubble formation, migration, and release.
- Analyze and interpret experimental and field data to advance the mechanistic understanding of methane bubble dynamics.
- Collaborate closely with project partners working on field observations and theoretical modelling.
- Publish research findings in international peer-reviewed journals and integrate the results into a cumulative doctoral dissertation.
- Contribute actively to the scientific exchange within the project consortium and present your work at national and international conferences

Your requirements profile:

Applicants should hold an excellent Bachelor's **AND** Master's degree in a discipline related to environmental physical processes, such as environmental science, environmental engineering, hydrology, physics, physical geography, geosciences, or a closely related field.

We are looking for a motivated and curious researcher who has:

- a strong background in soil or sediment mechanics, environmental physics, or a related discipline
- a genuine interest in combining laboratory experiments, fieldwork, and quantitative data analysis
- enthusiasm for interdisciplinary research and collaboration within an international team
- excellent analytical and problem-solving skills
- strong communication skills in English, both written and spoken
- motivation to publish high-quality scientific research and complete a PhD within three years

We offer:

- Health promotion
- Family Service Center
- Vocational Training
- Flexible working hour and home office

- Jobticket
- Retirement provision
- Sport & Fitness programms
- Culture & Leisure offers
- Local recreation in the Palatinate Forest

RPTU stands for diversity among all employees. We welcome applications from all interested parties, regardless of their ethnic and social origin, age, religion, gender, disability and sexual orientation or identity. Preference will be given to severely disabled persons and persons equivalent to them if they have the appropriate qualifications and suitability.

The RPTU aims to increase the proportion of women in areas where women are underrepresented. Applications from researchers from abroad are expressly encouraged. The appointment will be subject to the German law on fixed-term contracts in science (WissZeitVG).

Your application:

We look forward to receiving your detailed application (a single pdf document including a letter of motivation, a reference letter from a mentor, degree certificates and a CV).

Please submit your application via our application portal (**https://jobs.rptu.de**).

For further questions, please contact Prof. Dr. Andreas Lorke (e-mail: **a.lorke@rptu.de).**

Reference number: L 42 32 07 26
Term limitation: limited for 3 years
Beginning: as soon as possible
Location: Landau
Scope: Part time 75% (29,25 hours per week)
Remuneration: E 13 TV-L