

310. **Job Advertisement - One vacant position for a full-time Project Researcher (m/f/d) at the Chair of Mining Engineering and Mineral Economics, in the Department Mineral Resources Engineering - Reference ID: 2406WPC**

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Do you want to make a difference with your work and make a sustainable contribution to the long-term development of people and companies? At Montanuniversitaet Leoben, as an innovative teaching and research institution, you will find the environment in which you can develop your potential.

One vacant position for a full-time Project Researcher (m/f/d) at the Chair of Mining Engineering and Mineral Economics, in the Department Mineral Resources Engineering. Start from the earliest possible date in an employment contract limited to three year. Salary Group B1 according to the Uni-KV, monthly minimum salary excl. Szlg.: € 3.578,80 for 40 hours per week (14 x per year), actual classification is according to previous relevant experience.

Project background

Responsible, sustainable and low CO2 footprint mineral extraction is vital for the preservation of our planet. Ensuring responsible supply of minerals, involves addressing the environmental, social, and economic impacts of mineral extraction and developing technologies and know-how to minimize them. Mining within these low-impact boundaries in a world that is putting an increasing pressure on the mineral supply requires developing environmentally friendly, safe, intelligent and resource efficient extraction technologies and methods. **REESOURCE will set a sustainable and decarbonized value chain basis for the extraction of Rare Earth Elements (REEs) in Europe**, supporting the ambition of the continent to become self-sufficient on REEs. This target will be achieved through a set of actions (scientific, technical, social and financial) that will serve to pave the road for the development of the European mining of the future. A key component of the project is Montanuniversität Leoben's contribution by **enhancing key technologies of raise mining** (an underground mining method developed in recent years with key contributions from Montanuniversität) **to foster "invisible mining"**, with minimal socioenvironmental impact and lower CO2 emissions' footprint compared to existing approaches.

Job description

We are looking for a PhD student interested in **developing the layout of a scheme for monitoring of the underground structure** with the goal of assessing the behaviour of the underground structure in real time. This includes the development of an integrated network of sensors with a focus on geophysical methods to monitor mining induced seismicity / passive and active seismic tomography, and a strategy for spatial evaluation, localization and assessment of damage and discrimination between damage mechanisms. It also involves a strategy to cope with missing/corrupt sensor data, e. g. the temporal malfunction of a single sensor. The results of this work should also link to another part of the project, which looks into using machine learning (ML) and artificial intelligence (AI) to make the geotechnical model of the mine self-learning and self-optimising.

What we are looking for / your background

Your background is in rock mechanics / mining engineering with a strong interest in ML / AI. You have an interest in working with students and supporting them in the preparation of their Bachelor's and Master's thesis. Additionally, you have a willingness to travel, show a self-reliant and independent working attitude, you have good interpersonal

and communication skills, and you are fluent in English (written and oral). German skills would be an additional benefit.

What we offer

You will be working within a young and motivated international team of researchers at the Chair of Mining Engineering and Mineral Economics, well recognized for its underground mining capabilities, of Montanuniversität Leoben, one of Europe's top technical universities related to raw materials. With this team, you will play a significant role in further advancing your – and our - capabilities in underground mining and rock mechanics. You will be working on a highly relevant mining method with the potential to become a significant mass mining method in the 21st century enabling you to further develop your skills on underground mining and rock mechanics and project management.

The Montanuniversitaet Leoben offers its employees an attractive and appreciative working environment:

- You live in Leoben, in the heart of Austria and Europe – in a safe and clean environment and have a job in an attractive location with a wide range of cultural and leisure opportunities.
- We offer you a university-owned car park, as well as e-charging stations and good connections to local and long-distance public transport.
- We attach great importance to appreciative and supportive teamwork as well as an extended induction phase. Furthermore, annual appraisal interviews are held between employees and supervisors.
- As a part of your employment, you are covered by full health and supplementary pension insurance and can take advantage of our health services (occupational physician, free preventive medical check-ups, health day, vaccination campaigns...). The University Sports Institute offers numerous sports and fitness courses at its own employee rate.
- We also have a company canteen with freshly prepared meals every day and numerous discounts with various trade partners and voucher campaigns.

For further inquiries please contact:

Ass.Prof. Dipl.-Ing. Dr.-Ing. Thomas Frühwirt

T: +43 3842 402 2010

thomas.fruehwirt@unileoben.ac.at

www.bergbaukunde.unileoben.ac.at

Reference ID: 2406WPC

End of Application: 31.07.2024

The Montanuniversitaet Leoben intends to increase the number of women on its faculty and therefore specifically invites applications by women. Among equally qualified applicants, women will receive preferential consideration.

For the application please use the online form on the homepage: <http://www.unileoben.ac.at/jobs>

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Project background

In response to climate and environmental challenges, the EU adopted the European Green Deal, which aims for a modern, resource-efficient, and competitive economy with no net greenhouse gas emissions by 2050 and economic growth decoupled from resource use. However, recent crises have highlighted the EU's dependency on supplies, underscoring how future disruptions in the supply of raw materials (RMs) could hinder the EU's green and digital transitions, affecting industries and citizens. In this context, **RAWCLIC** was established with the main goal of developing knowledge on the future demand and supply of RMs, as well as the environmental impacts associated with the twin transition in the EU, and supporting fact-based policy and industry decision-making to enable this transition. The results of the RAWCLIC project will help the EU secure access to the necessary RMs from both primary (geological stocks) and secondary (urban mining) sources, by improving and developing models to assess future demand, supply, and environmental effects. These models will help identify supply challenges and risks, opportunities, and mitigation measures at technological, sectoral, and EU levels.

Job description

We are looking for a PhD student interested in researching the topic of social acceptance in the production of primary RMs, with a particular focus on global and EU perceptions. This research will involve a comprehensive assessment of current levels of social acceptance of RM production, analyzing existing policies and regulations, as well as cultural and social perceptions. The study will also explore how social acceptance levels might change in the future in the context of climate change and the use of future extraction technologies. The candidate will have the opportunity to interact with industry stakeholders, policymakers, and academic experts to develop comprehensive ideas and practical recommendations that enhance social acceptance in RM production.

What we are looking for / your background

Your background is in social sciences, environmental studies, or mining engineering, and you demonstrate a strong interest in researching social acceptance in the production of RMs. This requires familiarity with social research methods, policy analysis, and understanding cultural and social perceptions related to environmental issues (climate change). Since the project consortium consists of 19 European partners you should be fluent in English (written and oral), be willing to travel, and have good interpersonal and communication skills as well as understanding and adaptability to cultural differences.

Writing reports and academic publications will be at the heart of your job and you will be required to be proactive, self-organised, and work independently.

What we offer

You will be working within a young and motivated international team of researchers at the Chair of Mining Engineering and Mineral Economics of Montanuniversität Leoben, one of Europe's top technical universities related to RMs. In this project, you will be working on a very broad and highly relevant subject enabling you to further develop your skills on analysing social acceptance of primary RMs production in the context of climate change. Additionally, personal skills in intercultural teamwork, project management, as well as confidence and capacity in producing and presenting scientific results to various audiences will be fostered.

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vaccination campaigns...). The University Sports Institute offers numerous sports and fitness courses at its own employee rate.

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For further inquiries please contact:

Univ.-Prof. Dipl.-Ing.Dr.mont. Michael Tost

T: +43 3842 402 2000

michael.tost@unileoben.ac.at

www.bergbaukunde.unileoben.ac.at

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Der Rektor:

Univ.-Prof. Dipl.-Ing. Dr.mont. Dr.-Ing. E.h. Peter Moser

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