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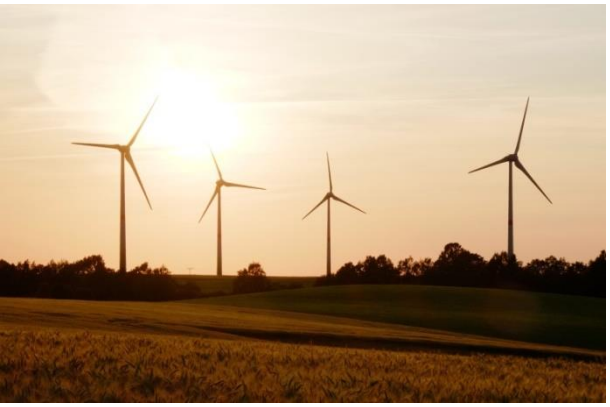

Wir sind ein mittelständisches Ingenieurunternehmen mit langjährigen Erfahrungen auf den Gebieten Bergbau, Energie, Umwelt und Infrastruktur. Unser breites Leistungsprofil bieten unseren Kunden deutschlandweit auf hohem technischem Niveau an.

# H2020 - P-TRAP

**Converting Fe residual materials into filter-stable sorbent materials for P removal**

## Converting Fe residual materials into filter-stable sorbent materials for P removal

P-TRAP

**Diffuse phosphorus input to surface waters**
- new concepts in removal, recycling and management -

Supervisor: Dr. Susan Reichel (G.E.O.S. Ingenieurgesellschaft mbH, Germany)
Co-supervisor: Prof. Dr. Stefan Peiffer (University of Bayreuth, Germany)
Employer: G.E.O.S. Ingenieurgesellschaft mbH, Germany

**Project description:**

This project is part of the European H2020 Marie Slodowska-Curie Innovative Training Network P-TRAP (Preventing Phosphorus Input to Surface Waters – New Concepts in Trapping, Recycling and Management). P-TRAP tackles two urgent interlinked global problems: Potential shortages of phosphate for producing agricultural fertilizers and the decline of surface water quality upon excess phosphate input. P-TRAP targets the P flux from artificially drained agricultural areas and the internal P load of lakes. By this, P-TRAP aims at intercepting the undesired flux of phosphate from agricultural systems into surface waters and developing a phosphate recycling strategy.

The project comprises the development, testing and optimization of filter-stable iron based sorbent materials for P-removal. Conventional adsorbents are used in passive water treatment systems. To measure the effectiveness of the adsorbents in such systems the ESR will have to investigate key-parameters e. g. P sorption capacity and kinetics of the adsorbents, determine the influence of environmental variables to use the results for optimization of the adsorbent production conditions and develop design criteria for P-removal systems (e. g. cartridges) based on new filter-stable sorbent materials. Work will also focus on optimization of the sorbent properties inter alia in view of recycling or application as soil conditioner. The research will include a field test in North Bavaria and field and laboratory experiments. The project will be performed in close collaboration with the University Bayreuth and international partners and involves secondments in the consortium but also at companies which are partner organization in the P-TRAP project.

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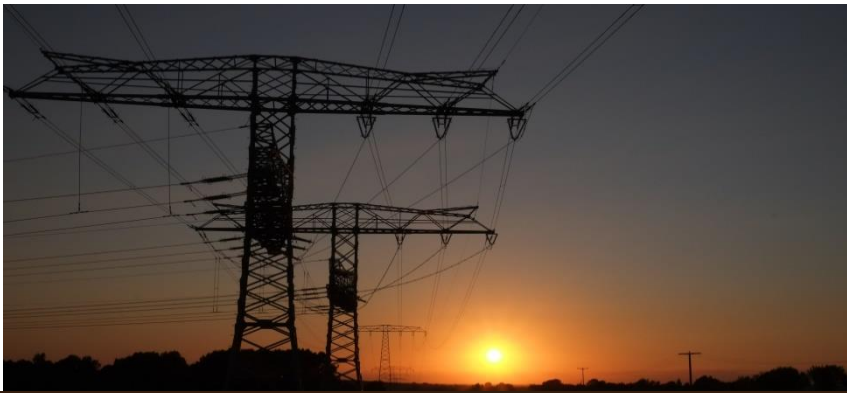

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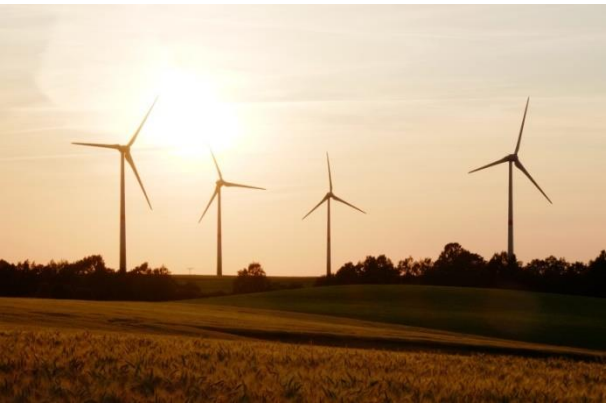

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**Qualifications**:

We are looking for a committed PhD student who holds a MSc degree (at the start of the contract) in process engineering, water management, chemical or environmental engineering and has a high interest in industrial and waste water treatment processes. The position requires experiences in experimental, field and laboratory work and a thorough knowledge of water chemistry. Technical skills, competences and experience in sample analyses will be helpful.

You approach scientific problems with determination and eager to develop multidisciplinary skills. You must be willing to travel abroad for secondments and measurement campaigns, and to present your research to an international research community. As this project requires close collaboration within the consortium, candidates are expected to be excellent team players. You also have excellent written and spoken English skills.

According to EU eligibility criteria, researchers may be of any nationality, BUT must be at their early carrier stage and may not have resided or carried out their main activity (work, studies, etc.) in Germany for more than 12 months in the 3 years immediately before the application deadline.

**Terms of employment:**

You will be offered a full-time position for a period of three years with a probationary period of six months. The conditions are based on the Marie Skłodowska Curie Action as determined for the employment of the EU-Researcher.

You will profit from the training activities within P-TRAP which includes summer schools and other project-wide and local activities.

**About the organisation:**

The G.E.O.S. Ingenieurgesellschaft mbH works in the field of geological Exploration of mineral resources, detection of groundwater and geotechnical exploration in Europe, Asia and Africa. The company leads mine planning and approval processes. G.E.O.S. facilitates hydrogeological and geotechnical services, environmental impact assessments, consulting services for communal and regional planning. One important working field is the development of deep geothermal resources. Further services are remediation investigations and planning for mining legacies and contaminated sites, concepts for site development, landfill site planning, consultancy services for bridges, tunnels, road construction and other structures, as well as construction supervision. The company develops and operates water treatment plants using biotechnological solutions and also works in the field of renewable energies. Other services include quality and environmental audits,

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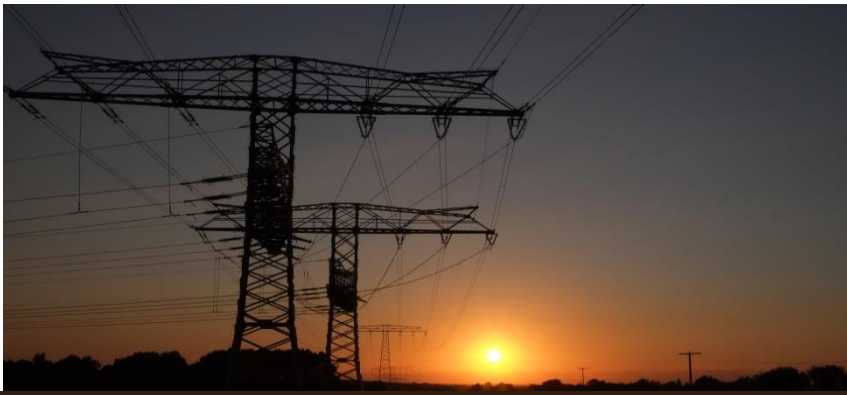

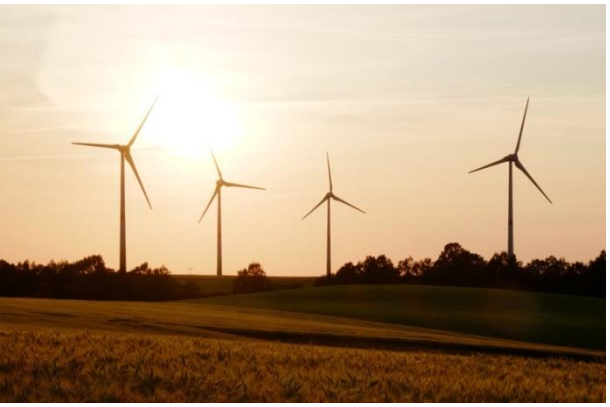

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implementation and management of environmental management systems, development of safety concepts and risk management systems.

You will be working within the department process engineering and biotechnology in a team of about 20 engineers, technicians and experienced scientists. Work in the department is focused on the design and implementation of concepts for industrial, mine and waste water treatment systems and the processing of secondary raw materials. For the development of technologies from lab to pilot scale the company hosts a microbial, a water and a processing laboratory. The department has gained experience in various national and international research projects i. a. in the field of the development of new filter stable iron based adsorbents.

**How to apply:**

Please upload your application material before April 30th, 2019 by using the vacancy portal of the University Utrecht

(https://ssl1.peoplexs.com/Peoplexs22/CandidatesPortalNoLogin/ApplicationForm.cfm?&PortalID=4362&VacatureID=1031172).

Evaluations and interviews are planned soon thereafter. The intended start will be September 1st of 2019

The application material should include a letter of motivation, a curriculum vitae, copies of university and high-school degrees (including grades) and either two letters of recommendation or contact information of two people that can be contacted for reference. The selection procedure will follow the Code of Conduct for Recruitment. Candidates will be selected first on EU eligibility criteria, second on qualifications. The candidate will be selected based on a job-interview with the direct supervisors. For more information on the P-TRAP project, including this and other vacancies, please visit the P-TRAP website (https://h2020-p-trap.eu/esr-4/).

**Contact:**

Additional information about the vacancy can be obtained from Kristin Schneider via k.schneider@geosfreiberg.de or Dr. Susan Reichel via s.reichel@geosfreiberg.de.

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