Postdoctoral researcher position:
Engineering of photovoltaic-powered water-treatment systems

Project:

Researchers at KIT have a long-standing history of making a significant academic contribution in the area of photovoltaic-powered water treatment systems. We are seeking to design, research, and develop photovoltaic-powered membrane filtration systems that are i) small-scale, ii) robust, iii) reliable, and iv) decentralised, which can ultimately be deployed in the remote areas of developing countries. In addition, there is a strong interest to pursue the commercialisation of such systems.

We require an experienced postdoctoral researcher to lead this project. The position focuses on research in the following subjects:

- Simple and robust electrical control strategies to ensure that maximum water quality/quantity are achieved when operating without batteries (but possibly with supercapacitors).
- Being able to reliably determine the level of system performance at any time and relying on a minimum number of sensors (also via remote monitoring).
- Understanding the long-term effects of operating the system from a fluctuating and intermittent energy resource.

Throughout the project, there will be multiple opportunities for cooperation with internal and external partners, both academic and industrial, as well as providing the day-to-day supervision of Masters and PhD students, giving oral presentations at conferences, writing high-impact journal articles, as well as sharing your knowledge via teaching.

Qualifications and Experience:

You will already hold an engineering PhD in the area Process, Chemical, Electrical or Mechanical Engineering. You are a naturally curious person who is eager to learn more and is a demonstrated problem solver. You must have a strong research track-record. Given that position will involve working with international partners, overseas experience and/or a willingness to travel would be an asset. You will have experience in supervising more junior team members, such as PhD and MSc students, and a demonstrated ability to be able to thrive in a multidisciplinary research environment. Experience with membrane filtration systems (of any scale) is a definite advantage, as well as being comfortable in specifying electrical as well as process engineering system components. Excellent English language proficiency is essential (both written and spoken), while a good level of German language skills would be a clear advantage. You will be competent in conducting yourself in a professional manner during meetings with industry partners and you may have the opportunity to seize upon commercialisation opportunities.

KIT:

KIT is one of the biggest research institutions worldwide and has access to state-of-the art research facilities resulting from the merger of the National Research Centre of the Helmholtz Association and the former Technical University of Karlsruhe. This project bridges Membrane Technology department at the Institute for Functional Interfaces (IFG-MT) and the Nanophotonics for Energy group within the Institute of Microstructure Technology (IMT) and Light Technology Institute (LTI).

Position:

The present position is for a period of 3 years, with possibility to extend. For more information and to apply please see: https://www.pse.kit.edu/karriere/joboffer.php?id=2800&language=de

Contact:

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Applications:

For the application please provide the following documents in electronic form: i) Motivation letter; ii) CV; iii) Response to requested qualifications and experience; iv) List of publication; v) Transcript of records / MSc degree; vi) PhD certificate; vi) Contact details of 3 referees. Note that incomplete applications will not be considered.