

## PhD Candidate

<b>Project Description:</b>	<p><b>Brackish Water Desalination by Capacitive Deionization and/or Electrodialysis</b></p> <p>KIT is one of the biggest research institutions worldwide and has access to state-of-the art research facilities within the National Research Centre of the Helmholtz Association and the former Technical University. The Institute of Functional Interfaces (IFG) plays a central role in the surface related research of KIT including aspects of catalysis, biofouling or sorption technologies. The six departments of the IFG work on different aspects of interfacial phenomena. The IFG-Membrane Technology Department was established in March 2014 and cooperates closely with the department “Bioprocess materials and interfacial phenomena” which has more than 15 years of experience in the design and application of separation processes based on electrical or magnetic fields.</p> <p>As a PhD Candidate you will be responsible to work on a research project that applies capacitive dionization or electrodialysis to brackish water desalination. Within this topic different focus areas can be chosen based on candidate interest (i) new membrane and electrode materials, (ii) membrane retention and fouling mechanisms, and (iii) membrane systems development – applied to desalination.</p> <p>This entails the identification of a set of research questions based on detailed literature survey and discussion of research needs with colleagues. Development of a research plan and timetable for the 3 year research project, set-up of required equipment and development of relevant analytical methods. Execution of the research plan through conducting of experiments, sample and data analysis and write up of results for scientific publication are part of the PhD process – a journey to become an independent researcher.</p> <p>In addition, cooperation with internal and external partners, bachelor and master student supervision, oral presentations and contribution to teaching within the Faculty of Chemical and Process Engineering are part of the candidate responsibilities. Travel and research funding is sought from national and international funding bodies. The position is not defined by a particular project and hence provides the opportunity for the candidate to develop a project of personal interest (obviously in agreement with the supervisor(s)).</p>
<b>Qualifications:</b>	<p><b>Masters in Chemical/Process/Environmental Engineering/Applied Science or equivalent</b></p> <p>You have completed a diploma / master degree and have a strong interest in research. Experience with water treatment processes, membrane technologies, polymer materials, electrochemistry, and environmental issues will be a good foundation to the position.</p>
<b>Affiliation:</b>	<p><b>KIT - Institute of Functional Interfaces (IFG) – Membrane Technology</b> c/o KIT Campus North, Hermann-von-Helmholtz-Platz 1, 76344 Eggenstein-Leopoldshafen, Germany</p>
<b>Faculty:</b>	<p><b>KIT - Faculty of Chemical and Process Engineering</b> c/o KIT Campus South, Kaiserstrasse 12, 76131 Karlsruhe, Germany</p>
<b>Deadline:</b>	Applications are open and candidates will be considered continuously
<b>Start Date:</b>	Open
<b>Contact:</b>	<p>Prof. Dr.-Ing. Andrea Iris Schäfer, Tel +49(0)721/608-26906, Andrea.Iris.Schaefer@kit.edu Professor of Water Process Engineering - Faculty of Chemical and Process Engineering Head of Membrane Technology Department - Institute of Functional Interfaces (IFG), <a href="https://www.ifg.kit.edu/english/mt.php">https://www.ifg.kit.edu/english/mt.php</a></p> <p>Prof. Dr.-Ing. Matthias Franzreb, Tel +49(0)721/608-23595, Matthias.Franzreb@kit.edu Head of Bioprocess Materials and Interfacial Phenomena Department - Institute of Functional Interfaces (IFG), <a href="https://www.ifg.kit.edu/84.php">https://www.ifg.kit.edu/84.php</a></p>
<b>Applications:</b>	Please send applications with CV, publication list (if relevant), academic transcripts, degree certificates, contact details for three references as well as a preliminary research proposal.