



At the group of Prof. Etzold (Department Technische Chemie 1 at the Technische Universität Darmstadt, the position of a

Research Assistant (Ph.D. Student) (f / m / d) – 67 %

is to be filled at the earliest opportunity in an employment contract limited to 3 years.

As part of a project funded by the state of Hesse *in situ* generation of oxygen within nutrition solution through electrochemical water splitting as well as external dissolution of oxygen through polymer membranes is studied. Background is, that oxygen together with nutrition is source of life. Organoids are believed to be key for replacing animal testing and reduce the risk during drug developments. Growing organoids which are large enough for this tasks, makes up the need of providing continuously variable levels of oxygen to nutrition solutions. The PhD project takes up this challenge and studies two complementary approaches. First of all, an external saturation of nutrition solution through a Teflon AF contractor membrane. Secondly, the directly electrochemical water splitting within electrolyte solution will be studied. The second field touches the highly important fields of sea-water electrolysis as well as microbiological electrochemistry. Collaborations with groups in these fields can evolve during the PhD.

Required qualification:

Motivated candidates with a completed scientific university degree (M.Sc.) in chemistry, biochemical engineering, or an equivalent degree should have in-depth knowledge and practical experience in gas/liquid mass transfer phenomena and/or electrochemistry of water splitting, preferably in the field of bioelectrochemistry or sea water electrolysis.

The general tasks include the supervision of students in the field of industrial chemistry, e.g. in internships, exercises and seminars, as well as participation in the research and teaching process. There is an opportunity to prepare for a doctorate. The provision of the service also serves the applicant's academic qualification

The remuneration is based on the collective agreement for the Technische Universität Darmstadt (TV - TU Darmstadt).

Application process:

Applications must be sent to Prof. Bastian Etzold latest 31st of January with the usual documents (including copies of certificates) in the form of a single, coherent PDF document. Email: bastian.etzold@tu-darmstadt.de.