

**PhD-Researcher Position within the SE<sup>2</sup>A Research Cluster**

***Recombinant microbial electrosynthesis routes towards aviation fuels***

**Temporary Position (up to 3,5 years), Salary Level TV-L E13, up to 66%**

**Background:**

The Cluster of Excellence SE<sup>2</sup>A - *Sustainable and Energy Efficient Aviation* ([www.tu-braunschweig.de/se2a](http://www.tu-braunschweig.de/se2a)) is a DFG-funded interdisciplinary research center investigating technologies for a sustainable and eco-friendly air transport system. Scientists from engineering, economics, chemistry and biology are working on the reduction of drag, emissions and noise, life-cycle concepts for airframes, improvements in air traffic management and new technologies for energy storage and conversion. Technische Universität Braunschweig, the German Aerospace Center (DLR), Leibniz University Hannover (LUH), the Braunschweig University of Art (HBK) and the National Metrology Institute of Germany (PTB) have joined forces in this extraordinary scientific undertaking. The overall project is structured into the three core research areas “Assessment of the Air Transport System”, “Flight Physics and Vehicle Systems” and “Energy Storage & Conversion”.

The Institute of Biochemical Engineering (ibvt, [www.ibvt.de](http://www.ibvt.de)) is part of the Department of Mechanical Engineering and contributes to research and teaching in the areas of Biochemical and Pharmaceutical Engineering, Biotechnology. Our central research areas comprise the optimization of enzymatic and microbial bioprocesses using molecular biological, biochemical as well as engineering methods.

**Task:**

You will contribute to the core research area “Energy Storage & Conversion” and investigate a set of bioelectrochemical synthesis reactions in order to provide a toolbox of half-cell reactions that may be assembled to a bio/electrochemical route leading towards aviation fuels with optimal combustion characteristics. To this end, you will generate, apply and quantitatively characterize recombinant enzymes and cells in an electrochemical reactor setting and evaluate the efficiency of the corresponding reactions together with your project partners. We encourage and support you to submit a dissertation thesis at the end of this project. In addition to the scientific tasks you will contribute to the Institute’s self-organisation and teaching, e.g. by supervision student research projects.

**Who we are looking for:**

- A very good Master degree (M.Sc., M.Eng, diploma and comparable) in Biotechnology, Biochemical Engineering or related sciences.
- Practical experimental skills in at least one of the areas of molecular biology, (whole cell) biocatalysis, electrochemistry, biochemical reaction engineering.
- A very good team player.

- Excellent written and oral communication skills in English, and the willingness to acquire German skills for daily communication and teaching within one year.

**Employment:**

The position is located at the Institute of Biochemical Engineering (ibvt, [www.ibvt.de](http://www.ibvt.de)) in Braunschweig. The entry date is as soon as possible, and the duration is initially limited to 3 years. Depending on fulfilment of personal requirements, the remuneration is based on the salary level TV-L E13. International applicants may have to successfully complete a visa process before hiring can take place. We are an equal opportunity employer, and all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, sexual orientation, gender identity, or national origin, disability status, or any other characteristic protected by German law.

**Application Process:**

Applications should be sent by e-mail to ([a.spiess@tu-braunschweig.de](mailto:a.spiess@tu-braunschweig.de)) and must contain the following documents.

- Motivation Letter
- Curriculum Vitae including complete address, phone number, email address, educational background, language skills, and work experience
- Copies of school leaving certificate, bachelor and master diploma and corresponding transcript of grades in original language and in English or German translation
- Additional Documents must be provided on request

All documents should be in PDF format, preferably in a single file. Personal data and documents relating to the application process will be stored electronically.