

Making research results usable for society and the economy!

On the campus of the University of Bremen, the first “innovate! Center” of the Joachim Herz Foundation, is being created. It aims to bring research results in the field of ‘Materials for Sustainable Technologies’ into application more quickly ([see press release](#)). To this end, the Joachim Herz Foundation and the University of Bremen have jointly established the

“innovate!Center MaTeNa (Materials - Technologies - Sustainability)”

in the legal form of a gGmbH as an affiliated institute of the University of Bremen. We are seeking as soon as possible:

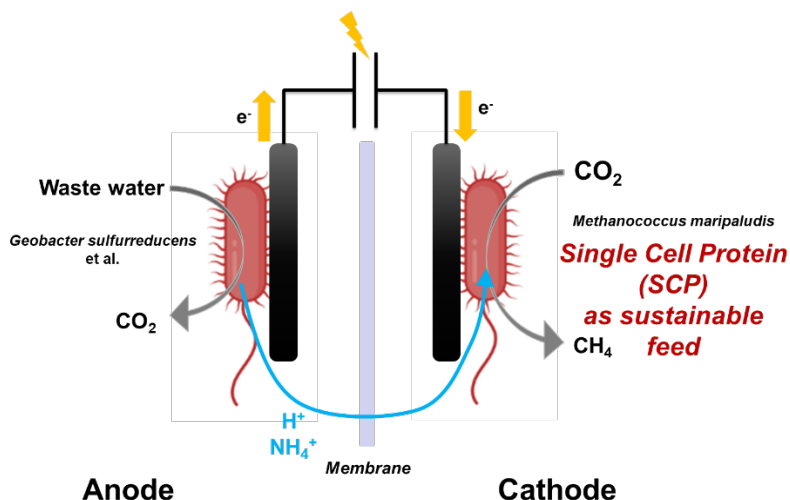
Research assistant (m/f/d)

from the field of

Microbiology or Biotechnology

in the transfer project

“Production of single-cell protein from electricity and CO₂ as a sustainable feed for aquaculture”



Background

The use of single cell proteins (SCP) instead of fishmeal as feed in aquaculture is a promising approach to reduce the exploitation of natural fish stocks. Currently, SCP are produced in a comparatively laborious process based on organic carbon sources or by means of gas fermentation (CH₄, H₂). In contrast, microbial electrosynthesis enables the production of SCP directly from electricity and CO₂, and can also be coupled with the treatment of wastewater and residues (e.g. from the food industry) (see figure). While the technology has already been demonstrated in the laboratory (TRL 4), the concept is now to be gradually transferred to application together with partners from research and industry. The aim of the five-year transfer project is the development and testing of an up-scaled microbial electrosynthesis cell for the production of SCP (TRL 6) and, based on this, possibly the founding of a start-up.

Your tasks

Your task is to optimize the electro-biotechnological cultivation of *Methanococcus maripaludis* as a single-cell protein source. In particular, the influence of the cultivation conditions and the electrode material on growth and productivity will be investigated. The work will also include the accompanying analysis of the composition and protein spectrum of the product, as well as interdisciplinary collaboration with aquaculture experts who will carry out feeding trials during the project. Furthermore, you will support the parallel development and characterization of an up-scaled microbial electrosynthesis cell for SCP production with your microbiological expertise and ideally accompany the spin-off of a corresponding start-up.

While you are employed by the gGmbH, you will be fully integrated into the [Environmental Process Engineering working group](#) (Prof. Dr.-Ing. Sven Kerzenmacher) at the [Center for Environmental Research and Sustainable Technologies \(UFT\)](#) at the University of Bremen. The interdisciplinary team researches the fundamentals, materials and processes of sustainable environmental and biotechnology. The focus is on new (electro)biotechnology processes, such as those relevant for energy-efficient wastewater treatment, bioproduction and the recovery of recyclable materials.

Your profile

Qualifications and experience:

- You have completed a university degree (Master's level) in the field of microbiology, biotechnology, or a related field.
- You have in-depth knowledge and practical experience in the cultivation of microorganisms.
- Ideally, you already know and have practical experience in the use of common analytical methods such as HPLC, LC-MS, qPCR, fluorescence microscopy.
- Ideally, you also have experience in the field of electrobiotechnology, but this is not a prerequisite.

Skills and competencies you should bring with you:

- Strong analytical skills.
- Ability to communicate project results clearly, both verbally and in writing.
- Strong interpersonal and teamwork skills.
- Good communication skills in English.

Personal qualities we would like to see in you:

- Enjoy working in an international and interdisciplinary team at the interface between science and business.
- Enthusiasm for transferring a new technology from the laboratory to practical application.
- Initiative, the ability to work in a team and a sense of responsibility.
- A goal-oriented, careful and structured way of working.
- Ideally, you have an entrepreneurial spirit and can imagine founding a company based on the project results.

We offer you

- An exciting research topic in a meaningful and application-oriented project.
- Collaboration in an interdisciplinary and highly motivated team with scope for your own ideas.
- A collegial and dynamic environment with flat hierarchies, which will also encourage and support you in starting-up a spin-off company.
- A five-year position with the possibility of a doctorate or scientific qualification (PostDoc).
- Attractive working conditions and remuneration in line with TvÖD (E 13).

Contact

If you have any questions, please contact Prof. Dr.-Ing. Sven Kerzenmacher at kerzenmacher@uni-bremen.de or +49 421 218-63331, to whom you can also send your application documents (cover letter, CV, certificates as a pdf file) by e-mail, stating the earliest possible starting date.

We look forward to receiving your application!