

RE-ADVERTISEMENT: Post Doc on CO₂ to Protein

Are you interested in microbial biotechnology, and can you contribute to the development of biological CO₂ to Protein processes? Then the Department of Biological and Chemical Engineering at Aarhus University AND The research group of Environmental Biotechnology in the Center for Applied Geosciences at the Eberhard Karls University of Tübingen invites you to apply for a 2-year position equally shared between Germany (1 year) and Denmark (1 year), starting in Germany (Tübingen).

Expected start date and duration of employment

This is a 2 year position from 1 December or as soon possible.

Job description

The project will focus on a biotechnological approach to radically change the way our societies produce food and chemicals. Current production schemes relies heavily on area use and fossil resources, and this must be fundamentally changed. Our societies emit too much carbon dioxide. This emission can be lowered by using carbon dioxide as a feedstock to produce methane, protein, and chemicals, as part of the power-to-gas, power-to-protein, and power-to-chemicals (power-to-x) transformation. Renewable power is first utilized to split water into hydrogen and oxygen gas, which can, for example, be used as electron donor and acceptor, respectively, in our 2-stage bioprocess system. This system reduces carbon dioxide into acetate with hydrogen in the first bioreactor and then oxidizes acetate with oxygen in the second bioreactor. We are looking for a post-doctoral research associate that can build and operate anaerobic gas fermentation bioreactors at the liter scale to optimize the carbon dioxide reduction bioprocess.

The successful candidate is expected to be involved in managing the project, which includes the supervision of bachelor and master students. Furthermore, she/he will closely interact with collaboration partners. Therefore, very good English language skills are necessary. Other requirements include the ability to work independently and in teams, have excellent management and communication skills, and be self-motivated. The candidate will have the opportunity to present her/his results in international journals and conferences.

Your profile

Qualified candidates would ideally have a doctoral degree (PhD) in (micro)biology, biotechnology, bioengineering, chemical engineering, or related fields. The available position is part of a larger project that is funded from the Office of Naval Research International. This project includes close collaborations with research groups from other Danish and German research institutions.

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Who we are

Department of Biological and Chemical Engineering (www.bce.au.dk)

In the Microbial Conversion Technologies research group in Aarhus, we focus on the use of microorganisms for solving some of the great societal, environmental and technical challenges that we as a society has to deal with.

Our main focus is Power-to-X or, more specifically, Power-to-Gas technologies for the conversion of renewable electricity from wind turbines or solar cells to methane through the process of bio-methanation. The produced methane – or biomethane - can be used for production of electricity and heat, heavy transportation or further processing to renewable chemicals.

The research in the Environmental Biotechnology group in Tübingen focuses on the recovery of carbon from diverse waste streams by open, defined-mixed, and pure microbial cultures. Examples of utilized platforms are: 1) syngas fermentation or power-to-x to recover carbon from industrial waste gases as chemicals; 2) chain elongation of ethanol and acetate or lactate to extractable medium-chain carboxylic acids; 3) storage

Application Deadline:
01 September 2023

Faculty:
Faculty of Technical
Sciences

Institute/Faculty:
Department of
Biological and
Chemical Engineering

**Academic contact
person:**
Lars Ditlev Mørck
Ottosen
Institutleder
ldmo@bce.au.dk
+4551371671

Vacant positions:
1

Hours per week:
37

Number of months:
24

**Expected date of
accession:**
01/12/2023

of electric power *via* power-to-gas with microbial systems, such as with methanogenic archaea; and 4) single-cell protein production from carbon dioxide and hydrogen and oxygen gases, which we refer to as power-to-protein. We apply methods from bioreactor design and operation (lab- and pilot-scale), genetic engineering, and systems biology.

The department/centre offers:

- a well-developed research infrastructure, laboratories and access to shared equipment
- an exciting interdisciplinary environment with many national, international and industrial collaborators
- a research climate encouraging lively, open and critical discussion within and across different fields of research
- a work environment with close working relationships, networking and social activities
- a workplace characterised by professionalism, equality and a healthy work-life balance.

Place of work and area of employment

The place of employment is Aarhus University, Department of Biological and Chemical Engineering. **The candidate will spend the first year of employment in the Environmental Biotechnology group (Prof Lars Angenent) at the Eberhard Karls Universität Tübingen, and the second year of employment in the Microbial Conversion Technology Group at Aarhus University (Prof Lars DM Ottosen).**

Eberhard Karls Universität Tübingen: Geschwister-Scholl-Platz, 72074 Tübingen
Aarhus University: Gustav Wieds Vej 10D, 8000 Aarhus C

Contact information

For further information, please contact: Prof. Lars DM Ottosen (+45 51371671), ldmo@bce.au.dk, or Prof. Lars Angenent (+49 7071 29 74729), L.angenent@uni.tuebingen.de.

Deadline

Applications must be received no later than 1 September 2023.

Application procedure

Shortlisting is used. This means that after the deadline for applications – and with the assistance from the assessment committee chairman, and the appointment committee if necessary, – the head of department selects the candidates to be evaluated. All applicants will be notified whether or not their applications have been sent to an expert assessment committee for evaluation. The selected applicants will be informed about the composition of the committee, and each applicant is given the opportunity to comment on the part of the assessment that concerns him/her self. Once the recruitment process is completed a final letter of rejection is sent to the deselected applicants.

Letter of reference

If you want a referee to upload a letter of reference on your behalf, please state the referee's contact information when you submit your application. We strongly recommend that you make an agreement with the person in question before you enter the referee's contact information, and that you ensure that the referee has enough time to write the letter of reference before the application deadline. Unfortunately, it is not possible to ensure that letters of reference received after the application deadline will be taken into consideration.

Formalities and salary range

Technical Sciences refers to the [Ministerial Order on the Appointment of Academic Staff at Danish Universities under the Danish Ministry of Science, Technology and Innovation](#).

The application must be in English and include a curriculum vitae, degree certificate, a complete list of publications, a statement of future research plans and information about research activities, teaching portfolio and verified information on previous teaching experience (if any). Guidelines for applicants can be found [here](#).

Appointment shall be in accordance with the collective labour agreement between the Danish Ministry of Taxation and the Danish Confederation of Professional Associations. Further information on qualification requirements and job content may be found in the [Memorandum on Job Structure for Academic Staff at Danish Universities](#).

Salary depends on seniority as agreed between the Danish Ministry of Taxation and the Confederation of Professional Associations.

Aarhus University's ambition is to be an attractive and inspiring workplace for all and to foster a culture in which each individual has opportunities to thrive, achieve and develop. We view equality and diversity as assets, and we welcome all applicants.

Research activities will be evaluated in relation to actual research time. Thus, we encourage applicants to specify periods of leave without research activities, in order to be able to subtract these periods from the span of the scientific career during the evaluation of scientific productivity.

Aarhus University offers a broad variety of services for international researchers and accompanying families, including relocation service and career counselling to expat partners. Read more [here](#). Please find more information about entering and working in Denmark [here](#).

Aarhus University also offers a Junior Researcher Development Programme targeted at career development for postdocs at AU. You can read more about it [here](#).

The application must be submitted via Aarhus University's recruitment system, which can be accessed under the job advertisement on Aarhus University's website.

Aarhus University

Aarhus University is an academically diverse and research-intensive university with a strong commitment to high-quality research and education and the development of society nationally and globally. The university offers an inspiring research and teaching environment to its 38,000 students (FTEs) and 8,300 employees, and has an annual revenues of EUR 935 million. Learn more at www.international.au.dk/