

## PhD position on a Novo Nordisk Ascending Investigator grant in Biotechnology based synthesis and production

We invite applicants for a 3-year PhD scholarship in **cell surface biophysics of methanogenic archaea**. The scholarship is partly funded by the Novo Nordisk Foundation as part of its ambitious Research Leader Program intended to continue developing top researchers in the Nordic Region and partly by the Dept. of Biology and the Natural Science Faculty. The project will be carried out within Nordcee at the Department of Biology, University of Southern Denmark. The starting date for the position is **1st July 2021** or soon after. Application deadline: **15th June 2021**.

### Project background

We face three challenges: producing chemicals sustainably, capturing carbon dioxide, and storing renewable electricity. This Novo Nordisk-funded project deals with the fundamental understanding of a technology where all three challenges are addressed concomitantly. A year ago, my research team discovered that *Methanosarcina* captures renewable electricity directly from an electrode to convert carbon dioxide (e.g., from biogas) to synthetic natural gas – a fuel, which we can easily store. These *Methanosarcina* have unusual cell surface biology. Do not possess the typical electron transfer conduit described in bacteria. Have the thickest cell wall a prokaryote has ever “seen” (ca. 160nm), which is highly responsive to environmental stressors. Therefore, we anticipate an unprecedented mechanism of interactions with extracellular electron donors. The PhD project aims to explore the cell surface structures and how they respond to electrochemical stimuli.

### Qualifications

Candidates are expected to have an MSc degree in a field relevant to the project, such as biophysics, cell biology, nanoscience, chemistry, biochemistry, bioelectrochemistry, material science (only if dealing with biomimicry and/or biological materials). The candidate should have lab experience in biophysics and related fields. Experience with elemental analyses and/or energy dispersive X-ray analyses of biological materials is desirable. We are looking for candidates who are enthusiastic about science and technology, independent, and interested in working in an interdisciplinary environment, sharing ideas, and collaborating with people from different fields. The candidate should be proficient in spoken and written English.

For further information, please contact: Associate Prof. Amelia-Elena Rotaru, email: [arotaru@biology.sdu.dk](mailto:arotaru@biology.sdu.dk), Phone: +45 81920352

Read more about our work here: <https://rotarulab.com/>

Read more about the Nordcee section here: <https://www.nordcee.dk/>

### Application, salary etc.

Appointment as a PhD Research Fellow is for three years. Employment as a PhD fellow is a [3-year salaried position](#) (start salary amounts to approx. 3.378,- EURO per month incl. supplements).

You can also join a four-year MSc PhD program, if you have already passed your 1st year Master studies at your university.

Employment stops automatically at the end of the period. The holder of the scholarship is not allowed to have other paid employment during the three-year period.

The successful applicant will be employed in accordance with the agreement on salaried PhD scholars between the Ministry of Finance and AC (the Danish Confederation of Professional Associations). Please check links for more information on [salary](#) and [taxation](#).

The successful candidate will be enrolled at this university in accordance with faculty regulations and the Danish Ministerial Order on the PhD Program at the Universities (PhD order).

The University wishes our staff to reflect the diversity of society and thus welcomes applications from all qualified candidates regardless of personal background.

Application must be made in the form of a Declaration of Interest including the following:

- **A research proposal/description of your approach** to the above project (max one page excluding references)
- **A motivation letter** stating your specific interest, motivation and qualifications for the project in question (max. two pages) (please attach this under box "Application form")
- **Detailed CV**, including personal contact information
- Copies of **diplomas**, Bachelor as well as Master's degree, including transcript of notes/grades
- **At least two signed reference letters**. Should your referees wish to send their letters directly to us, please have them use e-mail: [anc@sdu.dk](mailto:anc@sdu.dk) mentioning your name and the title of the position in the subject line. And please note that these also need to reach us before deadline.

Shortlisting may be used in the assessment process.

Further information about the PhD-study can be found at the [homepage of the University](#).

Applications must be submitted electronically using the link "Apply online". Attached files must be in Adobe PDF or Word format. Each box can only contain a single file of max. 10 Mb. We strongly recommend that you read [How to apply](#) before you apply.

Incomplete applications and applications received after the deadline will neither be considered nor evaluated. This also applies to reference letters.

[Further information](#) for international applicants about entering and working in Denmark