Postdoc position in wastewater treatment biopolymer valorization and characterization

Are you interested in identifying new biomolecule targets for resource recovery and building new circular economies for waste and biopolymers? Do you have a background in biomolecule or biopolymer characterization, formulation or processing? Then the Department of Biological and Chemical Engineering invites you to apply for a three-year Postdoc position.

You will be part of the REcovery of extracellular polymers from wastewater Treatment residuals as a New circular bioeconomy (REThiNk) project, which is funded under Novo Nordisk Foundation Challenge 2022 – Recycling for a Sustainable Society. https://ingenioer.au.dk/en/current/news/view/artikel/saadan-omdanner-vi-spildevand-til-vaerdifulde-raastoffer https://novonordiskfonden.dk/en/news/dkk-337-million-awarded-for-research-that-can-help-solve-major-societal-challenges/

REThiNk aims to develop knowledge and technology to convert one of the world's largest biowaste products (i.e. activated sludge from wastewater treatment plants) into high value biomaterials. You will contribute to an interdisciplinary team comprising experts in wastewater engineering and microbiology, biopolymer science, downstream processing and characterization, and resource recovery, led by world leaders in their respective fields at Aalborg University, TU Delft and Aarhus University.

Expected start date and duration of employment
This is a two–year position from 1st May 2024 or as soon possible.

Job description

- You will use your expertise in macromolecular chemistry, biochemistry, biological or chemical engineering
- You will help establish and oversee a biofilm extracellular biopolymer production, recovery, characterization and valorization pipeline
- You will oversee descriptions of the chemical and higher order structures, and functionality of, biopolymers produced by wastewater treatment biofilms, or key populations therein
- You will coordinate the integration of findings into metagenomic and resource recovery pipelines
- You will contribute to the translation of structural and biophysical insights into technologies or methods for transforming recovered biopolymers into valuable products or process solutions for enhanced microbial production of extracellular polymers in wastewater treatment plants.

These activities will be in close collaboration with other project members across Aarhus University, Aalborg University and TU Delft, including microbiologists, process engineers, biopolymer and formulation specialists, and analytical chemists.

- A background within macromolecule chemistry and characterization (e.g. NMR, prep and analytical scale chromatography), biophysics, analytical chemistry, or downstream biopolymer processing, is an advantage.

Applicants should hold a PhD in chemistry (organic, macromolecular, analytical), biochemistry, biological or, chemical engineering. The ideal applicant has expertise or hands-on experience with one or several of the following points:

- Polysaccharide and/or protein isolation and characterization
- Biofilm extracellular polymer extraction and characterization
- Nuclear Magnetic Resonance
- Prep and analytical scale chromatography
- Biorefining

Application Deadline:
07 February 2024

Faculty:
Faculty of Technical Sciences

Institute/Faculty:
Department of Biological and Chemical Engineering

Academic contact person:
Thomas William Seviour
Lektor
twseviour@bce.au.dk
+4541893310

Vacant positions:
1

Hours per week:
37

Number of months:
24

Expected date of accession:
01/05/2024

- Excellence in both written and spoken English

As a group member you will be expected to be a team player, where you contribute to student co-supervision, teaching and day-to-day work of the group.

Who we are

You will be working in the “Biofilm Engineering and Sustainable Technologies” lab as part of the Dept. of Biological & Chemical Engineering at Aarhus University. The research activities aim to identify solutions to water and environmental problems through an understanding of biofilms, and more specifically the extracellular polymeric substances they comprise.

What we offer

The department/centre offers:

- The opportunity to work and collaborate with some of the leading figures in water engineering and systems biology
- The chance to be involved with an exciting new resource recovery concept that could redefine wastewater treatment
- 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 work is the Department of Biological and Chemical Engineering, Ole Worms Alle 3, Aarhus 8000, and the area of employment is Aarhus University with related departments.

Contact information

For further information, please contact: Associate Professor, Thomas Seviour, +45 41893310, twseviour@bce.au.dk.

Deadline

Applications must be received no later than 7th February 2024.

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/