Postdoctoral position on archaea-bacteria interactions and cooperation

We invite applications for a 33-month postdoctoral scientist position to work on the project “Teaming Up: Archaea-Bacteria partnerships to thrive in low-energy anoxic environments”. The position will begin on April 1, 2026.

Job description

Microbial life in anoxic environments often relies on tight physical interactions that enable cells to function, conserve energy, communicate and regulate cellular processes efficiently. This project aims at understanding the formation and functioning of aggregate-forming Archaea-Bacteria partnerships. The project involves working with syntrophic deep-sea archaea-bacteria consortia and a wide array of imaging approaches including structural and chemical imaging. The postdoc will use the following methods:

- Handling and experimenting with anaerobic syntrophic cultures
- Stable isotope labelling coupled to nanoSIMS
- Fluorescence microscopy & Expansion microscopy
- Cryo-FIB in tandem with Cryo-EM

This position is financed by the Independent Research Fund Denmark.
The work will be carried out in the Archaea group, Section for Microbiology, Department of Biology with collaborations for Cryo-EM & correlative imaging (EMBION) at iNANO & the Department of Molecular Biology and Genetics, AU, and secondary ion mass spectrometry at the NanoSIMS lab, TU Munich, Germany.

Required research experience

We seek candidates with a background in microbiology, cell biology, microbial ecology, imaging of biological samples, or other related fields.
Candidates should have experience with one or several of the following techniques: fluorescence in situ hybridization (FISH, CARD-FISH), expansion microscopy, confocal laser scanning microscopy, scanning or transmission electron microscopy, cryo-electron tomography (cryoTEM). Candidates who have prior experience with imaging approaches are particularly encouraged to apply.

Qualifications

- Relevant university education and PhD degree
- Relevant background – this could be microbiology, molecular biology, cell biology, imaging, or other related fields
- Ability to work and collaborate in a group, to develop new ideas, and to write and communicate in English

The deadline for applications is January 30, 2026. Applicants seeking further information are invited to contact Associate Professor Niculina Musat (niculina.musat@bio.au.dk).

Who we are

The successful candidate will be employed by the Department of Biology at Aarhus University (http://bio.au.dk/en) and work in the Section for Microbiology at this department. The section employs 12 permanent scientific staff and ~20 PhD students and postdocs. Research at the section covers studies of microbial physiology, evolution, ecology, and biogeochemistry. It integrates basic and applied research, addressing the role, ecophysiology and evolution of microorganisms in natural, technical and clinical systems and in biotechnology (https://bio.au.dk/en/about-biology/sections/microbiology). The section has well-developed shared laboratory facilities and a permanent support staff of seven highly skilled laboratory technicians. From summer 2026, a new multimodal imaging facility – MicroCorr – dedicated to microbiological research will be available for research at the Section for Microbiology.

The principal investigator for this project is Associate Professor Niculina Musat.

Aarhus City

Aarhus is a city of about 300,000 inhabitants and the second largest city in Denmark. Aarhus is large enough to have a rich cultural scene and international community, but small enough to not feel crowded. It is a safe and welcoming environment for children - a great place for the whole family. For further details on the city and the university please follow this link: https://international.au.dk/

The place of work is Department of Biology, Section for Microbiology, Ny Munkegade 116, 8000 Aarhus C.

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.

If you wish to add a referee **after** you have submitted your application, you must send this person's details (name, job title, place of work, and email address) as well as the name of the position you have applied for to: HR.Nattech@au.dk

Formalities and salary range

Natural 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.

At the Faculty of Natural Science at Aarhus University, we strive to support our scientific staff in their career development. We focus on competency development and career clarification and want to make your opportunities transparent. On our website, you can find information on all types of scientific positions, as well as the entry criteria we use when assessing candidates. You can also read more about how we can assist you in your career planning and development.

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/