

Postdoc in multiscale tomography: Xtreme imaging of bone here

One to three postdoc positions are available in the biological and bioinspired materials group lead by Henrik Birkedal at Aarhus University, Department of Chemistry and iNANO.

The postdoc work will be part of the larger interdisciplinary effort (XTREME-CT) in collaboration with the groups of Prof. Henning Friis Poulsen, Prof. Anders Dahl and Assoc. Prof. Tim Dyrby at the Danish Technological University.

The aim of the XTREME-CT project is to develop mesoscale 3D multiscale X-ray tomographic imaging. The ambition is to enable the collection of 3D tomographic data with a voxel to image ratio of 104-105, thus providing much larger information density than in existing approaches.

Expected start date and duration of employment

The positions are available from 15/1/2025 or as soon as possible thereafter. The duration of the positions will be between 12 to 24 months.

The place of work is Department of Chemistry, Langelandsgade 140, 8000 C, Denmark, and the area of employment is Aarhus University with related departments.

Job description

The focus of the postdoc is multiscale imaging of bone. It will involve collection and analysis of tomographic data using state of the art synchrotron 3D imaging methods complemented by in-house X-ray imaging (axia.au.dk). Additionally, you will be part of the XTREME-CT project team and contribute towards implementation of multiscale X-ray imaging at the DanMAX beamline. You should therefore expect to spend time at the DanMAX beamline in Lund, Sweden in addition to working at Aarhus University.

The biological and bio-inspired materials group uses a broad selection of tools with special emphasis on X-ray imaging techniques and diffraction (ACS Nano 2019, 13, 12949-12956, ACS Nano 2019, 13, 6421-6430, Science Advances 2020, 6, eaba4171), both done in-house and at synchrotrons. Our research group uses a variety of synchrotron facilities for our research and is associated with the Danish Lighthouse Initiatives in imaging (www.solid.dtu.dk) and the atomic structure of materials (SMART).

The group has excellent in-house X-ray 3D imaging infrastructure (axia.au.dk), access to state-of-the-art electron microscopy and are avid users of synchrotron X-ray sources around the world.

Your profile

You should hold a PhD in materials chemistry/science, physics, biomineralization, X-ray imaging or a related area, and be interested in working in an interdisciplinary area.

The ideal candidate is highly motivated, has a broad interdisciplinary training and relevant technical experience. Experience in programming, preferentially in python, and with experiments at synchrotrons is considered an advantage.

Who are we

The group currently consists of an almost equal number of male and female members. We see diversity as a strength. It is a priority that the successful candidate has a personality that promotes positive interactions with group members and staff. Together, we define the future of the group, both scientifically and with respect to thriving in our day-to-day work.

What we offer

We offer an exciting interdisciplinary environment, a research climate encouraging lively, open and critical discussion, and a work environment with close working relationships, networking and social activities characterized by professionalism and equality.

Aarhus University offers a good work-life balance. English is spoken widely, even if Danish is the main language. The working language is English. Aarhus University in general and our group in particular have a quite 'flat' work culture, where input is solicited from all employees.

Application Deadline:
10 November 2024

Faculty:
Faculty of Natural Sciences

Institute/Faculty:
Department of Chemistry

Academic contact person:
Henrik Birkedal
Professor
hbirkedal@chem.au.dk
+4522508475

Vacant positions:
2

Hours per week:
37

Number of months:
24

Expected date of accession:
15/01/2025

The city of Aarhus has excellent infrastructure, for example through widespread bike path networks. Aarhus has a thriving food-scene, excellent museums, beautiful natural scenery, etc. It is a lively student-rich city with a “young population”, resulting in a multitude of cultural events such as music festivals etc.

Contact information

For further information, please contact: Professor Henrik Birkedal, mobile +45 2250 8475, mail: hbirkedal@chem.au.dk.

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

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/