

Postdoc in atomic and nanoscopic dynamics in quantum materials

We are seeking applicants for a 2-year postdoc in Ultrafast X-ray probes of Quantum Materials to join us at the Department of Physics and Astronomy.

Starting Date and Period

The position is for 2 years and is available from August 1st or as soon as possible hereafter. There is the possibility of extension for up to more two years.

Job description

We are looking for a candidate to lead our X-FEL and synchrotron-based experiments to study the dynamics of light-induced phase transitions on atomic and nanoscopic length-scales driven by optical and phononic excitation.

The focus will be on understanding how different excitation methods generate polarons and correlated materials in the cuprates and other quantum materials, building on our recent results in the vanadium dioxide (see Johnson et al. *Nature Physics* **20**, 970 (2024)).

You will also work on expanding our coherent imaging methodology to look at dynamics and phase switching in materials at the nanoscale (Johnson et al. *Nature Physics* **19**, 215 (2023)).

Work at these facilities will be combined with research in our state of the art femtosecond laser labs.

Your profile

Applicants should hold a PhD in Physics or Chemistry or related field.

The applicant should have a strong background in either ultrafast physics or quantum materials. Ideally with significant experience working at XFEL or synchrotron, or advanced ultrafast laser experiments.

Experience with phase retrieval algorithms, clean room use and e-beam lithography are beneficial.

The candidate will be expected to participate at international user facilities and thus will be expected to travel.

Who we are

We are a small but growing research group who work together to tackle outstanding problems in quantum materials with innovative experiments. Our group has just been awarded a Novo Nordisk NERD grant, which will fund our research activities in quantum materials for the next 7 years.

What we offer

The successful candidate is offered:

- *access to a well-developed research infrastructure, including two femtosecond laser systems belonging to the research group.*
- *a research climate inviting lively, open and critical discussion within and across different fields of research*
- *a working environment with teamwork, close working relations, network activities among young scientists and social activities*
- *a workplace characterized by professionalism, equality and a healthy work-life balance*

Place of Work

The place of work is Ny Munkegade 120, 8000 Aarhus C.

Contact Information

Further information about the position may be obtained from / For further information

Application Deadline:
01 May 2026

Institute/Faculty:
Department of Physics
and Astronomy

Faculty:
Faculty of Natural
Sciences

**Academic contact
person:**
Simon Elliot Wall
Lektor
+4526306659
simon.wall@phys.au.dk

Vacant positions:
1

Number of months:
24

Hours per week:
37

**Expected date of
accession:**
01/08/2026

please contact:
Dr Simon Wall
+45 26306659
Simon.wall@phys.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.

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/