Assistant Professor (non-tenure track) for development of advanced DNP instrumentation and methods with optical excitation

Applications are invited for a non-tenure track assistant professor position for a period of 22 months in the research group of Professor Niels Chr. Nielsen. The position is available from September 1st, 2026 or as soon as possible thereafter.

Application Deadline:
28 June 2026

Institute/Faculty:
Department of Chemistry

Faculty:
Faculty of Natural Sciences

Academic contact person:
Niels Christian Nielsen
Professor
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Vacant positions:
1

Number of months:
22

Hours per week:
37

Expected date of accession:
01/09/2026

Job description/research project/research area

The position is funded by a recently awarded grant from the Novo Nordic Foundation entitled "Triplet-state DNP and EPR for Room-Temperature Quantum Sensing".

The project will involve building and integrating a laser-system into our home-build X-band pulsed DNP/EPR system to enable optical excitation of unpaired electron states to support high-sensitivity room-temperature quantum sensing. Besides the establishment of the experimental setup, this involves the design of pulsed DNP and EPR methods using advanced theoretical and numerical methods based on optimal control to optimize sensor selectivity and sensitivity. Using this setup, different sensor targets will be explored experimentally, and the data should be statistically analyzed using the calculation of electron-nuclear spin interactions based on quantum chemistry methods and advanced NMR/EPR calculations.

The position also involves teaching in related topics at Department of Chemistry as well as mentoring of students in collaboration with the NMR and research groups at Department of Chemistry.

Your profile

You should hold a PhD in chemistry, nanoscience, physics, or a similar field and have a passion and talent for interdisciplinary research.
You have several years of research experience as a postdoctoral researcher and have a proven track record of publishing in higher-impact peer-reviewed journals in the field.
You should have experience with supervision of students and leading research project(s). The applicant should speak English fluently and be able to teach students in magnetic resonance and related disciplines at elementary and advanced levels.

It is important that you have experience in advanced DNP/EPR/NMR instrumentation to build and realize integration of optical excitation to pulsed DNP/EPR experiments, have a strong background in advanced pulse sequence engineering with involvement of electron and nuclear spin interactions, and development and application of advanced NMR/EPR, optimal control, and quantum chemistry software and calculations.

The Department of Chemistry and the research group

The Department of Chemistry at Aarhus University is a leading European chemistry department with a broad research portfolio.
It is undertaking a restructuring and will have a permanent staff of 43 full, associate and assistant professors, a support staff of ~40 technical and administrative staff, ~150 PhD-students and ~100 postdocs and around 350 students.
In addition to excellence in research, teaching and supervision, the Department of Chemistry values equal opportunities, a collegial atmosphere, and a student-friendly mindset of future colleagues.

The research groups within NMR and DNP work on interdisciplinary projects centered on the development and application of advanced solid-state NMR, micro-MRI, EPR, and pulsed DNP experiments, being a central element in the Danish Center for Ultrahigh-Field NMR Spectroscopy.

Place of work and area of employment

The place of work is Gustav Wieds Vej 14, 8000 Aarhus C and the area of employment is Aarhus University with related departments.

Contact information

For further information, please contact Professor Niels Chr. Nielsen Phone: +45 2899 2541
E-mail: ncn@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 assessment committee if necessary, – the head of department selects the candidates to be evaluated. The selection is made on the basis of an assessment of who of the candidates are most relevant considering the requirements of the advertisement. All applicants will be notified within 6 weeks 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 will receive his/her assessment.

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.

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.

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.

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 37,000 students (FTEs) and 8.700 employees and has an annual

revenue of EUR 1.106 billion. Learn more at www.international.au.dk/