Postdoc in DNA/RNA nanotechnology for cell regulation

The interdisciplinary Nanoscience center (iNANO) at Aarhus University invites applications for a 1-year postdoc position, with the possibility of extension. This position offers an exciting opportunity to join an ERC-funded research project (BioRIcON) focused on developing nucleic acid-based artificial motors and devices for precise regulation of key cellular processes.

Application Deadline:
15 January 2026

Institute/Faculty:
Interdisciplinary Nanoscience Center

Faculty:
Faculty of Natural Sciences

Academic contact person:
Julián Valero Moreno
Tenure Track adjunkt
+4587150705
jvalero@mbg.au.dk

Vacant positions:
1

Number of months:
12

Hours per week:
37

Expected date of accession:
01/03/2026

Expected start date and duration of employment

This is a 1-year postdoc position, with the possibility of extension, available from 1st of March 2026 or as soon possible thereafter.

Job description

You are expected to contribute to a project focused on developing a novel class of nucleic-acid based, biohybrid interlocked molecules (BIMs) for precise biomolecular regulation.

This research involves a multifaceted approach, including: i) the design and assembly of nucleic acid-based interlocked motors and switches; ii) establishing the principles to operate them in cellular settings; iii) study of their properties and funtions for enhanced cell regulation; and iv) application of these adaptative systems for reversible control of cell function, exploring their potential biomedical use.

This project is part of an EU funded ERC interdisciplinary, collaborative project at the interface between nucleic-acid chemistry, DNA/RNA nanotechnology and cell biology.

Your profile

Applicants should hold a PhD in chemistry, molecular biology, biochemistry, nanoscience, nanotechnology, medicinal chemistry or similar, and have experience with nucleic acid chemistry or bioconjugation strategies, and DNA/RNA nanotechnology.

Expertise in cell assays/cell biology and single-molecule microscopy techniques (such as EM, TIRF, AFM microscopy) will be a major advantage. Experience with aptamer development, binding assays, confocal microscopy and flow cytometry will be an advantage.

The ideal candidate should be socially oriented, self-driven, and motivated, with strong communication skills and the ability to work as part of an international team. Proficiency in written and spoken English is a requirement for the position.

Who we are

iNANO, Interdisciplinary Nanoscience Center (www.inano.au.dk), was established in 2002 and at present is a major research and education center based at Aarhus University hosting 60 senior scientists, ~100 PostDocs and ~100 PhD students. The center combines expertise and faculty from Physics, Chemistry, Molecular biology and Medicine to carry out world-class interdisciplinary research in Nanoscience and Nanotechnology.

The center gives access to a broad range of infrastructure, tools and expertise including clean-room facilities. With a 5-year undergraduate nanotechnology programme and nanoscience graduate programme (https://phd.nat.au.dk/programmes/nanoscience/) the center provides a full educational environment. In addition to the large base of basic research, the center has a large number of ongoing industrial projects and partnerships.

In the Valero lab, we offer a dynamic, social and interdisciplinary scientific environment with a strong focus on nucleic acid chemistry, RNA technologies, biomedicine, and catalysis. Our team thrives in a collaborative atmosphere, working closely with leading scientists in biomedicine, virology, and synthetic biology at Aarhus University and within our international network.

What we offer

The successful applicant is offered:

- Access to a well-equipped research infrastructure and collaborative access to state-of-the-art core facilities.

- A scientific environment inviting open and critical thinking within and across interdisciplinary research fields, also fostering collaboration with academia and industrial partners.
- A working environment with teamwork, network activities among young scientists across different faculties at Aarhus University 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 Gustav Wieds Vej 14, 8000 Aarhus C, and the area of employment is Aarhus University with related departments.

As of 1 August 2026, iNANO's educational and research activities will be transferred to the faculty's departments. Consequently, your employment will as of that date be with a department.

Contact information

Further information about the position may be obtained from Assistant Prof. Julián Valero jvalero@inano.au.dk. Interested candidates are encouraged to contact for further details about the position.

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/