

Postdoc in catalytic RNA evolution and structural biology

Questions of how Darwinian evolution started are addressable with modern biochemistry. Applicants are invited for a **2-year postdoc position** in the field of **RNA synthetic biology** at the **Department of Molecular Biology and Genetics, Aarhus University, Denmark**. The project, termed Circles of Life (COL), explores the structural basis of natural and synthetic catalytic RNA complexes focusing on circular RNAs and their potential role at the origins of life. COL is funded by the Villum Foundation.

Expected start date and duration of employment

The starting date of the project is 01st October 2026 or as soon as possible thereafter.

Job description

The Kristoffersen-lab (Kristoffersen-lab.dk) is a new research group at the Department of Molecular Biology and Genetics at Aarhus University seeking to understand RNAs role in the onset of Darwinian evolution. The lab takes inspiration from simple natural replicons for engineering RNA systems that can restart replication [1-2].

The newly funded Circles of Life (COL) project focuses on a combined design and evolution strategy to produce and investigate natural and synthetic RNA complexes with advanced properties, primarily concerning circular RNAs. The postdoc project will be involved in all aspects of COL but focuses primarily on visualizing and structural characterizing catalytic RNA complexes. This work may involve a combination of biochemical, biophysical and structural biology techniques including:

- In vitro evolution and de novo design of RNAs,
- Biophysical characterization using single (sm) molecule fluorescence and other techniques, such as smFRET.
- Structural biology using electron microscopy, such as cryogenic electron microscopy (cryo-EM) and tomography (cryo-ET).

The postdoc will be central for helping to grow the new lab and will collaborate closely with a PhD student already working on the project. In addition, the postdoc will be part of a vibrant and growing research environment present at the interdisciplinary nanoscience center at Aarhus University, where the lab is physically located.

Your profile

We are looking for a highly creative, collaborative and experimentally skilled candidate with (or close to finishing) a Ph.D. in molecular biology, biochemistry, biophysics, biology, biotechnology, nanoscience or similar.

The successful candidate should have excellent skills in spoken and written English and be able to present a good track-record of scientific work. The project will involve experimental and computational work, and the candidate is expected to be comfortable with working independently with both.

Practical experience with structural biology is required and the following additional qualifications are beneficial:

- In vitro transcription and purification of RNA,
- Recombinant protein expression and purification,
- biochemical and biophysical characterization of nucleic acids
- Computational model building and structure prediction
- Single-molecule fluorescence microscopy techniques
- Experience in cryo-EM structural biology of nucleic acids.

Who we are

The postdoc will be affiliated with the Interdisciplinary Nanoscience Center (iNANO) and the Department of Molecular Biology and Genetics (MBG). The day-to-day work will be located at iNANO.

Application Deadline:
07 June 2026

Institute/Faculty:
Interdisciplinary
Nanoscience Center

Faculty:
Faculty of Natural
Sciences

Academic contact person:
Emil Laust
Kristoffersen
Adjunkt
emillk@inano.au.dk
+4529271306

Vacant positions:
1

Number of months:
24

Hours per week:
37

Expected date of accession:
01/10/2026

iNANO (inano.dk) is a major research and education centre based at Aarhus University hosting 60 senior scientists, ~100 postdocs and ~160 PhD students. The centre combines expertise from the disciplines including physics, chemistry, molecular biology and medicine to carry out world class interdisciplinary research in nanoscience and nanotechnology. The centre gives access to a broad range of infrastructure, tools and expertise including EMBION, the Aarhus university cryo-EM facility and associated scientific computing facility.

The Department of Molecular Biology and Genetics (mbg.au.dk) comprises research within the areas of Plant Molecular Biology, Neurobiology, RNA Biology and Innovation, Protein Science, Cellular Health, Intervention and Nutrition and Synthetic biology. MBG gives access to expertise in a broad range of molecular biology and bioinformatic infrastructure.

Together Aarhus University makes a world-class research community with many international postdocs and students from all over the world. Aarhus University offers a wide range of services to support international researchers and their families, including relocation assistance and career counselling for accompanying partners. English is the primary language used for internal communication and teaching, and international candidates are not required to learn Danish. Aarhus is one of the happiest cities in the world according to [happy city index](#).

What we offer

The department offers a dynamic, interdisciplinary research environment with many industrial, national and international collaborators. The city of Aarhus is the second largest in Denmark located on the eastern coast of the peninsula of Jutland. Aarhus offers a rich cultural life with its many international students and cultural events. It is easily accessible from major European cities either by train or plane. Furthermore, the workplace offers:

- a well-developed research infrastructure, laboratories and access to shared equipment.
- a research climate encouraging lively, open and critical discussion within and across different fields of research
- a work environment with close working relationships, networking 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 Wiedes Vej 14, 8000, Aarhus, Denmark, 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

For further information, please contact:

Assistant Professor Emil Laust Kristoffersen, +45 29271306, emillk@inano.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.

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 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/