UNIVERSITETET I OSLO

Jobbnorge ID: 280781
Deadline: 6/8/2025
Website: http://www.uio.no/
Scope: Fulltime
Duration: Temporary

Postdoctoral Fellows in membrane biophysics: Droplet/condensate wetting at cellular membranes

About the positions

One or two Postdoctoral Research Fellowships are available at the Mechanics Division, Department of Mathematics at the University of Oslo.

Starting date as soon as possible, preferably by October 1st 2025.

The fellowship period is 3 years.

No one can be appointed for more than one Postdoctoral Research Fellowship at the University of Oslo.

The main purpose of a postdoctoral fellowship is to provide the candidates with enhanced skills to pursue a scientific top position within or beyond academia. To promote a strategic career path, all postdoctoral research fellows are required to submit a professional development plan no later than one month after commencement of the postdoctoral period.

It is expected that the successful candidate will be able to complete the project in the course of the period of employment.

More about the positions

1-2 three-year postdoctoral research fellowships are available at the Department of Mathematics in the research group of Prof. Andreas Carlson at the University of Oslo (UiO).

The position is part of large interdisciplinary project which focuses on the understanding of the biophysical processes as droplets/condensates wet membrane compartments in cells. Numerical simulations and theoretical membrane models will be developed, aiming to couple viscous interfacial fluid flow, elastic deformations and wetting-like processes at cellular membranes. The theoretical modelling will be in close collaboration with experimentalists, using both in vivo and in vitro membrane systems.

Droplets/condensates are found in a wide range of cellular processes and shown to play a role in infections, cancer and diseases. Because sculpting of the phagophore membrane is crucial for the process of autophagy, understanding this process will help identify processes that promote autophagy. So far, neither the molecular nor the biophysical principles of phagophore formation and sculpting are understood, and this is something we aim to achieve in the project. The work will involve theoretical and computational modelling of the droplets and how they wet soft interphases. It is planned that the numerical simulations and theoretical predictions will help advance our understanding of these membrane wetting dynamics. The postdoctoral fellow will be part of the group of Prof. Andreas Carlson, where the work will be conducted in close collaboration with experimental cell biologists at Oslo University Hospital in the group of Prof. Harald Stenmark. The project will also involve international collaborations and is a unique opportunity to work in an interdisciplinary environment.

This is the right position if you are highly motivated about fundamental science and excited about questions related to biophysics, interfacial fluid mechanics and/or soft matter physics. The postdoctoral fellow will join an international and interdisciplinary research group lead by Prof. Andreas Carlson, which hosts other projects including an ERC Consolidator Grant.

Qualification requirements

The Faculty of Mathematics and Natural Sciences has a strategic ambition to be among Europe’s leading communities for research, education and innovation. Candidates for these fellowships will be selected in accordance with this and expected to be in the upper segment of their class with respect to academic credentials.

- Applicants must hold a degree equivalent to a Norwegian doctoral degree in mechanics, physics or applied mathematics or similar. Doctoral dissertation must be submitted for evaluation by the closing date. Only applicants with an approved doctoral thesis and public defense are eligible for appointment.
- Fluent oral and written communication skills in English.
- A strong track record in fundamental research in modelling of biophysical phenomena, capillary flows or wetting phenomena.

Desired qualifications:

- A strong theoretical background and experience in numerical simulations and theoretical modelling will also be considered beneficial

Personal skills

- Self-driven and highly motivated about fundamental science
- Very good communication and collaboration skills
- Want to contribute to good social environment at the workplace
- Pro-active, result oriented and high performance capabilities

We offer

- Exciting and meaningful tasks in an organization with an important societal mission, contributing to knowledge development, education, and enlightenment that promote sustainable, fair, and knowledge-based societal development.
- Vibrant international academic environment.
- Good welfare schemes.
- Postdoctoral development programmes.
- Membership in the Statens Pensjonskasse, which is one of Norway's best pension schemes with beneficial mortgages and good insurance schemes.
- Salary in position as Postdoctoral Fellow, position code 1352 in salary range NOK 579 700 - 657 300, depending on competence and experience. From the salary, 2 percent is deducted in statutory contributions to the State Pension Fund.

Inclusive worklife and diversity at UiO

Inclusion and diversity are a strength. The University of Oslo has a personnel policy objective of achieving a balanced gender composition. Furthermore, we want employees with diverse professional expertise, life experience and perspectives.

If there are qualified applicants with disabilities, employment gaps or immigrant background, we will invite at least one applicant from each of these categories to an interview.

We hope that you will apply for the position.

More information about gender equality initiatives at UiO can be found here.

Application

Your application should include:

- Cover letter (statement of motivation and research interest)
- CV (summarizing education, positions, research background and other qualifying activity)
- Copies of educational certificates, academic transcript of records
- A separate complete list of publications
- Names and contact details of 2-3 references (name, relation to candidate, e-mail and telephone number) to be contacted for letters of recommendation

Application with attachments must be submitted via our recruitment system Jobbnorge, click "Apply for the position".

When applying for the position, we ask you to retrieve your education results from Vitnemålsportalen.no. If your education results are not available through Vitnemålsportalen, we ask you to upload copies of your transcripts or grades. Please note that all documentation must be in English or a Scandinavian language.

General information

The best qualified candidates will invited for interviews.

Applicant lists can be published in accordance with Norwegian Freedom of Information Act § 25. When you apply for a position with us, your name will appear on the public applicant list. It is possible to request to be excluded from this list. You must justify why you want an exemption from publication and we will then decide whether we can grant your request. If we can't, you will hear from us.

Please refer to Regulations for the Act on universities and colleges chapter 3 (Norwegian) and Guidelines concerning appointment to post doctoral and research posts at UiO (Norwegian).

The University of Oslo has a transfer agreement with all employees that is intended to secure the rights to all research results etc.

Contact persons:

Professor Andreas Carlson, phone: +47 22857223, web: https://acarlson-uio.github.io, e-mail : acarlson@math.uio.no

For technical questions related to the application portal please contact HR officer Ole Rustad, e-mail: ole.rustad@mn.uio.no

University of Oslo

The University of Oslo is Norway’s oldest and highest rated institution of research and education with 28 000 students and 7000 employees. Its broad range of academic disciplines and internationally esteemed research communities make UiO an important contributor to society.

The Department of Mathematics is part of the Faculty of Mathematics and Natural Sciences at the University of Oslo. The Department is engaged in teaching and research covering a wide spectrum of subjects within mathematics, mechanics and statistics. The research is on theory, methods and applications. The areas represented include: fluid mechanics, biomechanics, statistics and data science, computational mathematics, combinatorics, partial differential equations, stochastics and risk, algebra, geometry, topology, operator algebras, complex analysis and logic.

We have almost 50 persons in permanent academic positions and a large number of post docs and Ph.D. students. We also have an administrative and technical staff. The department represents a leading research environment in mathematical areas in Norway, and has a highly international profile.

Additional information

Place of service:

Moltke Moes vei 35 0851 Oslo (Oslo Municipality)