UNIVERSITETET I OSLO

Jobbnorge ID: 276516
Deadline: 3/28/2025
Website: http://www.uio.no/
Scope: Fulltime
Duration: Temporary

Postdoctoral Research Fellow in Fluid Mechanics: Droplet flow dynamics on twisted fibers

About the position

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

Starting date no later than September 1st, 2025.

The appointment is a fulltime position and is for a period of three years.

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

Two 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 positions are part of the **TWIST** project funded by the European Research Council (ERC) for optimizing droplet transport on twisted fibers.

The project will provide a fundamental understanding of the physical processes at play when droplets wets and spreads on twisted fiber structures. Essential to the project is developing a new understanding of the capillary flow and wetting in grooves in twisted fibers. The postdoctoral fellow will develop theoretical and/or computational models of the droplet flow.

The project has the ambition to understand how we can optimize capillary flows on twisted fibers to help improve the fog net technology. A fog net is a low cost, efficient and simple technology for harvesting water from the atmosphere. The project provides oportunities to collaborate with both national and international collaborators, as well as helping develop the fog harvesting technology. The project has an ambition to further develop new sustainable materials for use in fog nets.

This is the right position if you are highly motivated about fundamental science and excited about questions related to droplet flows, wetting, interfacial fluid mechanics and/or soft matter physics. The postdoctoral fellow will join an international and interdisciplinary research group lead by Prof. Andreas Carlson.

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.

Knowledge development in a changing world - Science and technology towards 2030.

The Faculty of Mathematics and Natural Sciences

Video: https://www.youtube.com/watch?v=t4wvWQEhDEs

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.
- Strong background in experiments and/or scientific computing, implementing and solving numerically droplet flows or similar interfacial flow phenomena.
- Fluent oral and written communication skills in English.
- A strong track record in fundamental research in fluid mechanics.
- Experience within interfacial flows, droplets and wetting phenomena will also be considered highly 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:

- Salary NOK 579 700 - 657 300 per annum depending on qualifications in position as Postdoctoral Research Fellowship (position code 1352)
- Attractive welfare benefits and a generous pension agreement
- Professionally stimulating working environment
- Vibrant international academic environment
- Postdoctoral development programmes
- Oslo's family-friendly surroundings with their rich opportunities for culture and outdoor activities

The application must 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 publication list
- Names and contact details of 2-3 references (name, relation to candidate, e-mail and telephone number)

The application with attachments must be delivered in our electronic recruiting system, please follow the link "apply for this job". Foreign applicants are advised to attach an explanation of their University's grading system. Please note that **all** documents should be in English (or a Scandinavian language).

In assessing the applications, special emphasis will be placed on the documented, academic qualifications, as well as the candidates motivation and personal suitability. Interviews with the best qualified candidates will be arranged.

Formal regulations:

Please see the guidelines and regulations for appointments to Postdoctoral fellowships at the University of Oslo.

If an applicant has applied for and been granted funding for a fulltime research stay abroad while being employed as a Postdoctoral Research Fellow, the employment will be prolonged with the equivalent time as the research stay, but for no longer than of twelve months (thus extending the employment to a maximum of four years)

No one can be appointed twice as a Postdoctoral fellow financed with funds from The Research Council of Norway (NFR).

According to the Norwegian Freedom and Information Act (Offentleglova) information about the applicant may be included in the public applicant list, also in cases where the applicant has requested non-disclosure.

The University of Oslo has an agreement for all employees, aiming to secure rights to research results a.o.

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.

Contact persons:

For further information about the position please contact: Professor Andreas Carlson, phone: +47 22 85 72 23, web: https://acarlson-uio.github.io, e-mail: acarlson@math.uio.no

For questions regarding the recruitment system, please contact HR Adviser Ole Rustad, e-mail: ole.rustad@mn.uio.no

About the 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)