

COMPETITION ANNOUNCEMENT

The Dean of the Faculty of Physics, with the consent of the Rector of the University of Warsaw, announces a competition for the position of Assistant Professor¹ in the project “Microscale fluid transport by active surfaces”.

About the project:

Title of project	Microscale fluid transport by active surfaces
Type of project	SONATA BIS 13
Funding institution	National Science Centre of Poland
Duration of project	60 months
Head of project	dr hab. Maciej Lisicki, prof. UW
Description of project	The project focuses on microscale fluid transport generated by active surfaces, including ciliary carpets, cell and microorganism surfaces, and engineered biomimetic systems. Its aim is to understand how the temporal dynamics and spatial organisation of actuation, together with surface geometry, determine the resulting flow, mixing, and transport. The research will combine theoretical and numerical modelling with analysis of experimental data provided by international collaborators. We will develop and apply methods based on Green's functions, hydrodynamic singularities, and boundary-integral approaches for viscous flows. These tools will be used to address biophysical problems including transport and mixing near active surfaces, swimming and feeding by ciliated organisms, and encounter and aggregation processes involving microorganisms. The project lies at the interface of fluid dynamics, active matter physics, applied mathematics, and biophysics.

Position details:

Position title	Assistant profesor
Organisational unit	Faculty of Physics
Employment group	Research (no teaching duties involved)
Position profile ²	R2, researcher holding a PhD degree, building their scientific independence
Academic discipline ³	Physical sciences
Number of positions	1
Form of employment and length of working time (proportionally to full-time employment)	Employment contract, full-time employment

¹ The nouns used in the announcement apply to people of all genders.

² Complete only in the case of competition for the position in the research employment group or the research and teaching employment group.

³ Complete only in the case of competition for the position in the research employment group or the research and teaching employment group.

Expected date of commencement of work and employment period	24 months, starting 1.01.2027
Remuneration	Basic remuneration 140 000 PLN gross gross/month (including the employer's costs, additional annual remuneration, allowance for years of service, etc.). More information: link
Other working conditions	Workplace: Faculty of Physics, University of Warsaw, Pasteura 5, 02-093 Warsaw, Poland Career opportunities: The person employed as an assistant professor (postdoctoral researcher) will have the opportunity to conduct independent theoretical research in microscale fluid mechanics, statistical physics, and active matter, complemented by numerical analysis and computer simulations using the advanced computational infrastructure of the University of Warsaw. The project will provide opportunities to develop expertise in biological fluid mechanics, hydrodynamic interactions in active-matter systems, data analysis, and the preparation of scientific publications. Participation in scientific conferences and workshops is envisaged, together with collaboration with national and international partners and the development of new research directions in the field of active microhydrodynamics. More information: link
Basic responsibilities and obligations	– conducting theoretical and numerical studies of flows generated by active surfaces, with particular emphasis on the effects of geometry, curvature, and confinement on fluid transport; – developing hydrodynamic models of active surfaces and analysing the relationship between surface geometry, actuation patterns, and the structure of the resulting flows; – modelling ciliary flows and metachronal waves, including transport and mixing generated by arrays of rapidly beating cilia; – developing and applying analytical and computational methods, including hydrodynamic singularity methods, Green's functions, and boundary integral methods; – comparing model predictions with experimental data obtained in collaboration with the project's international partners, and contributing to the interpretation of experimental results; – collaborating with other members of the research team, in particular PhD students and Master's students working on related tasks; – preparing scientific publications and presenting research results at conferences and seminars. More information: Scope of responsibilities of the academic teacher
Conditions for entering the competition ⁴	– Fulfilment of the requirements set out in Article 113 of the Law on Higher Education and Science (Journal of Laws of 2024, item 1571, consolidated text) – at the time of commencing employment, the candidate must hold a PhD in physics, chemistry, or a related discipline; – a strong research track record, including scientific publications and conference presentations; – international experience, including research visits and/or scientific collaboration; – submission of a plan for further research activities; – very good command of written and spoken English. The candidate must meet the conditions set by the National Science Center for people employed in a post-doc position. In particular, the person employed for this position must have a doctoral degree obtained no earlier than 7 years before the year of employment in the project. This period does not include breaks related to maternity leave, additional maternity leave, leave on the conditions of maternity leave, additional leave on the conditions of maternity leave, paternity leave, or parental leave granted on the terms specified in the provisions of the Labor Code or the receipt of sickness allowance or

⁴ Required by the Act, the Law on Higher Education and Science, the Statute of the University of Warsaw, as well as necessary for the position.

	rehabilitation benefits in connection with incapacity for work, including those caused by diseases requiring medical rehabilitation. For women, the indicated 7-year period may be extended by 18 months for each child born or adopted. A woman can choose a more favourable way to indicate breaks in her scientific career. The employment will take place in accordance with the NCN regulations, in particular the employed person must meet the following conditions jointly: - the principal investigator was not a supervisor or assistant supervisor of her doctoral dissertation; - their PhD degree has been awarded by another institution than the one planned to employ them at this post or they have completed a continuous and evidenced post-doctoral fellowship of at least 10 months in another institution than the host institution for the project and in another country than the one in which they have been conferred a PhD degree; - at the time of receiving remuneration, they will not be receiving any other remuneration paid from the funds granted to research projects under NCN calls under the heading of direct costs; - in the period of receiving the remuneration they will be receiving no remuneration from another employer pursuant to an employment contract, including an employer with registered office outside of Poland; - during the period of receiving this remuneration, he will not receive retirement benefits from the social security system; - will be employed for at least 6 months.
In addition, we expect ⁵	- mathematical intuition and critical thinking skills; - experience in mathematical modelling of Stokes flows; - programming experience, preferably in Python. If hired, we expect the University of Warsaw to be the primary workplace for the successful candidate.
Criteria for the assessment of candidates in a competition	1. Scientific achievements (publications, projects, presentations) – The number and quality of scientific publications (including those in JCR-listed journals), assessed in the context of the length of the candidate's academic career – Participation in research projects (national and international) – Presentations at scientific conferences 2. Research experience and competencies – Consistency of experience with the project's subject matter – Knowledge of tools, methods, and techniques relevant to the modelling of microscale flows in active systems – Experience in mathematical and numerical modelling of physical phenomena 3. Soft and organizational skills – Communication skills and ability to work in a team – Independence in planning and conducting research – Ability to present results (both orally and in writing).
Position-related/not related ⁶ to activities covered by the protection of minors.	
Competition rules:	
Announcement reference number	WF-1210-17/2026
Keywords	microhydrodynamics, Stokes flows, active flows, active surfaces, ciliary flows, biological fluid dynamics, fluid transport and mixing.
Deadline for submitting applications⁷	30 October 2026

⁵ Additional conditions to be met; however, not meeting them will not lead to a negative formal assessment.

⁶ Delete as appropriate.

⁷ Not sooner than 30 days from the date of publication of the announcement.

Method of submitting an application	Applications should be sent to the email address: mklisicki@uw.edu.pl
Required documents	– Candidate's questionnaire link – Copy of the diploma confirming the required degree; – If applicable, information on the expected date of obtaining the PhD degree (the PhD degree must be obtained before submitting the documents required for employment); – CV and list of publications – Cover letter in English; – Names and e-mail addresses of at least two researchers who have agreed to provide a letter of recommendation upon request from the selection committee. Please ensure that your application is complete and submitted by the deadline indicated!
The competition is the first stage of the recruitment process, please read the Policy of Open, Transparent and Merit-Based Recruitment at the University of Warsaw link	
Stages of competition	The competition consists of the following stages: – Stage I - formal evaluation of documents, – Stage II - substantive evaluation on the basis of submitted documents, – Stage III - interview with selected candidates , – Stage IV - final evaluation of competence, experience and scientific achievements, – Stage V - adjudication of the competition and announcement of results.
Anticipated date and method of notification of the competition outcomes	Candidates will be informed individually of the results of the selection process by email by 10 November 2026.
Contact for any questions relating to the competition	By email to: mklisicki@uw.edu.pl, quoting the reference number of the announcement. Accessibility needs should be indicated on the Candidate's Questionnaire, in: Other relevant information from a candidate

Employing faculty/unit:

Research profile of faculty /unit	https://www.fuw.edu.pl/
Teaching profile of faculty/ unit	https://www.fuw.edu.pl/informacje-ogolne.html
Other information	Principal Investigator's website: https://softmatter.fuw.edu.pl

The University of Warsaw has implemented the procedure for whistleblowers reporting cases of law violation and for undertaking follow-up actions. For **more information** about this topic and the processing of candidates' personal data please follow the [link](#)

The University of Warsaw is a winner of the HR Excellence in Research award granted by the European Commission to institutions adhering to the European Charter for Researchers.

