

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 professor (post-doc)**¹ in the in the project financed by the Polish National Agency for Academic Exchange titled: **'From Coarse Grains to Atoms and Back: A Rigorous Multiscale Modeling Approach to Diffusion Under Macromolecular Crowding'**

About the programme/project/undertaking:

Title programme/project/undertaking	of	From Coarse Grains to Atoms and Back: A Rigorous Multiscale Modeling Approach to Diffusion Under Macromolecular Crowding
Type programme/project/undertaking	of	Polish Returns
Funding institution		Polish National Agency for Academic Exchange
Duration of programme/project/undertaking		36 months
Head of programme/project/undertaking		Dr. Tomasz Skóra
Description of programme/project/undertaking		<p>Biomacromolecules in biological cells move chaotically, driven by countless collisions with solvent molecules. This Brownian motion macroscopically leads to the well-known phenomenon of diffusion. Multiple experiments have shown that this motion, although sharing the same mechanism as the movement of particles suspended in pure water, deviates from simple models. The main difference between dilute solutions and cells is the sheer number of macromolecules in the latter, leading to the so-called macromolecular crowding. The main goal of this project is to understand the microscopic mechanism of deviations from the Stokes-Einstein relation in crowded environments and their observed cancelation in vivo.</p> <p>This project will employ a multiscale approach that combines the strengths of molecular dynamics — all-atom resolution, explicit water — with the strengths of coarse-grained approaches — computational efficiency and enhanced interpretability. Coarse-grained models will be rigorously constructed based on the results of molecular dynamics simulations using a bottom-up coarse-graining methodology. Understanding this physics is essential for predicting the rates of diffusion-limited reactions in cells, including drug delivery.</p>

Position details:

Position title	assistant professor (post-doc)
Organisational unit	Faculty of Physics

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

Employment group	Research academics
Position profile ²	R2
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
Expected date of commencement of work and employment period	15/10/2026
Remuneration	Basic remuneration PLN 7045 gross/month plus the additional annual remuneration, allowance for years of service, supplementary remuneration PLN 7200 gross/month. More information: link
Other working conditions	Workplace: University of Warsaw, Faculty of Physics, Pasteura 5, 02-093 Warsaw, Poland Career opportunities: An opportunity to work at the intersection of statistical physics, cell biology, and computational chemistry, providing a unique platform to expand your research expertise into new disciplines. Access to state-of-the-art high-performance computing (HPC) infrastructure at the Faculty of Physics, University of Warsaw, and the Interdisciplinary Centre for Mathematical and Computational Modelling (ICM). More information: link
Basic responsibilities and obligations	<ul style="list-style-type: none"> – Planning, preparation, conducting and analysis of molecular dynamics simulations of macromolecularly crowded systems. – Bottom-up coarse-graining of simulated systems. – Preparation, conducting and analysis of coarse-grained Brownian dynamics simulations of macromolecularly crowded systems. – Disseminating research finding through scientific articles and conferences. – Actively monitoring scientific literature and collaborating with the research group. <p>More information: Scope of responsibilities of the academic teacher</p>
Conditions for entering the competition⁴	<ul style="list-style-type: none"> – 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) – The candidate must have a doctoral degree (PhD) (at the start of the employment) in physics, chemistry, or related disciplines. – Significant scientific achievements; – Description of future research plans. – International experience (eg. participation in conferences or scientific exchange programs); – Very good written and spoken English.
In addition, we expect ⁵	<ul style="list-style-type: none"> – Mathematical intuition and critical thinking. – Experience in molecular dynamics simulations and high performance computing. – Experience in programming (preferably python) and fluency in using linux.

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.

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.

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

	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	<p>1. Scientific achievements (publications, projects, presentations)</p> <ul style="list-style-type: none"> – 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 <p>2. Research experience and competencies</p> <ul style="list-style-type: none"> – Consistency of experience with the project's subject matter – Experience in molecular dynamics simulations and high performance computing. – Experience in programming and in using linux. <p>3. Soft and organizational skills</p> <ul style="list-style-type: none"> – Communication skills and ability to work in a team – Independence in planning and conducting research – Ability to present results (both orally and in writing) – Very good written and spoken English

Position ~~related~~/not related⁶ to activities covered by the protection of minors.

Competition rules:

Announcement reference number	WF-1210-13/2026
Keywords	biophysics, diffusion, macromolecular crowding, molecular dynamics, coarse-grained models.
Deadline for submitting applications⁷	July 17, 2026
Method of submitting an application	Please send the applications to: Tomasz.Skora@fuw.edu.pl
Required documents	<ul style="list-style-type: none"> – Candidate's questionnaire link – Copy of doctoral diploma or confirmation of obtaining a doctoral degree. – If applicable — information on the planned date of obtaining the doctoral degree (the doctoral degree is required prior to submitting documents for employment) – Cover letter in English. – Contact details for at least two academic references who may be contacted to provide recommendation letters at the committee's request. <p>Please ensure that your application is complete and submitted by the deadline indicated!</p>

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	<p>The competition consists of the following stages:</p> <ul style="list-style-type: none"> – 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,
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⁶ Delete as appropriate.

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



	– Stage V - adjudication of the competition and announcement of results.
Anticipated date and method of notification of the competition outcomes	25.08.2026 - Candidates will be individually notified of the competition results via email.
Contact for any questions relating to the competition	Tomasz.Skora@fuw.edu.pl 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	The Faculty of Physics at the University of Warsaw conducts cutting-edge research in physics, astrophysics, and interdisciplinary fields, including biophysics, medical physics, geophysics, nanostructure engineering, and nuclear energy. Our strategy is focused on continuously enhancing research quality, developing state-of-the-art instrumentation, strengthening national and international collaborations, and actively participating in prestigious research projects.
Teaching profile of faculty/ unit	The Faculty of Physics at the University of Warsaw offers a broad and compelling educational portfolio tailored to the needs of students and the labor market, with a particular focus on individual support for exceptionally gifted youth in STEM fields. Study programs are continuously updated to reflect scientific and economic trends, addressing interdisciplinary challenges and employing innovative teaching methods, including digital tools. We provide access to modern experimental equipment and offer comprehensive education in English.
Other information	The Faculty of Physics at the University of Warsaw fosters an environment built on the collaboration of the entire academic community – including researchers, students, and administrative and technical staff. Through the collective efforts of all stakeholders, we effectively achieve our shared goals and continue to develop the Faculty as a premier center for high-level research and education.

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.



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