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COMPETITION ANNOUNCEMENT

The Dean of the Faculty of Mathematics, Informatics and Mechanics, with the consent of the Rector of the University of Warsaw, announces a competition for the position of as an assistant professor in the group of research employees in the project "PhoMemtor – Quantum photonic memristor networks" funded by the National Science Center (2021/03/Y/ST2/00177).

About the programme/project/undertaking:

Title of programme/project/ undertaking	PhoMemtor – Quantum photonic memristor networks
Type of programme/project/ undertaking	QuantERA
Funding institution	National Science Center
Duration of programme/ project/undertaking	1.06.2022 – 31.05.2026
Head of programme/ project/undertaking	Dr hab. Magdalena Stobińska, prof. UW
Description of programme/ project/undertaking	This project aims at using the advantages of photonic quantum systems for combining both paradigms: the demonstration of quantum neural networks that exploit novel quantum memristor devices to introduce controllable nonlinear gate operations and short-time memory. The integrated photonic processor is going to be realized on a glass substrate by femtosecond laser micromachining, a technique which provides outstanding advantages such as circuit reconfigurability, low insertion losses, rapid prototyping, and three-dimensional circuit topology, all of which are critical for the success of the project. The quantum processor will be capable of executing programmable finite discrete mathematical transforms. By combining the complementary expertise in photonic quantum computing, integrated quantum photonics and quantum information theory we will build a tunable photonic quantum memristor network. The versatility of this nonlinear processor will be shown by demonstrating real-life quantum-enhanced applications reaching from speech recognition to image identification, accelerated via quantum reservoir computing architectures. The goals of this project will lay the foundations for new quantum technology based on the particular features of quantum memristors. Our interdisciplinary consortium and work methodology give us the best conditions to tackle the conceptual and technological challenges involved and thus establish the first generation of quantum neuromorphic computing hardware based on a quantum photonic platform

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Position details:

Position title	Assistant Professor in „Pho-Memtor – Quantum photonic memristor networks" project
Organisational unit	Institute of Informatics, Faculty of Mathematics, Informatics and Mechanics UW
Employment group	Group of research employees
Position profile[2]	R2
Academic discipline[3]	Physical sciences / Informatics
Number of positions	2
Form of employment and length of working time (proportionally to full-time employment)	Employment contract, 100% of full-time employment
Expected date of commencement of work and employment period	01.12.2025, 6 months
Remuneration	Total remuneration PLN 8800 gross/month (including seniority bonus) plus the additional annual remuneration, More information: *link*
Other working conditions	– *Workplace:* Faculty of Mathematics, Informatics and Mechanics UW – *Career opportunities:* More information: *link*
Basic responsibilities and obligations	– *Conducting research under the supervision of the Principal Investigator.* – *Performing theoretical calculations, both analytical and numerical.* – *Preparing manuscripts and submitting them to peer-reviewed journals.* – *Participating in conferences and research visits.* – *Publishing research results.* – *Regularly studying literature and suggesting solutions to scientific problems.* – *Performing auxiliary organizational and administrative tasks.* – *Reporting.* *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)* – *Candidates for the position should have obtained their doctoral degree no more than seven years prior to commencing work in this position. This period may be extended at the candidate's request by one year for each child born or adopted who was under the candidate's personal care.* – *Proficiency in spoken and written English (at least level B2).* – *During employment, the employee should not receive other funds under an employment contract from any other employer.* – *presenting a plan for further research activities* – *international experience*
In addition, we expect[5]	– *Experience in theoretical research in the field of quantum mechanics, in particular quantum information processing and quantum optics. Knowledge of machine learning methods is desirable.* – *Practical experience in numerical programming (e.g., C++, Fortran, Python), good knowledge of mathematical tools (e.g., Wolfram Mathematica, Matlab) and general computer software (e.g., Microsoft Office, Zoom) as well as the LaTeX typesetting environment*

	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	- *scientific excellence (publications, projects)*
	- *experience in quantum mechanics, quantum optics, quantum information*
	- *scientific profile matching the project topic.*

Position related/not related[6] to activities covered by the protection of minors.

Competition rules:

Announcement reference number	**SOB/D110/2025/01/PS-238**
Keywords	Quantum information, quantum machine learning, photonic quantum computing
Deadline for submitting applications[7]	10.11.2025
Method of submitting an application	To apply for the position, candidates should send an email titled "POSTDOC - PhoMemtor" to: mstobinska@mimuw.edu.pl, attaching the required documents in PDF format.
Required documents	– *Candidate's questionnaire* – *a copy of your doctoral diploma;* – *your academic CV with a list of publications;* – *no more than your three most recent publications;* – *a brief description of your research to date (1-2 pages).* 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 competiton	*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	*14.11.2025 – by e-mail*
Contact for any questions relating to the competition	mstobinska@mimuw.edu.pl with the announcement reference number 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	*www.mimuw.edu.pl*
Teaching profile of faculty/ unit	*n/a*
Other information	*Quantum Information Technologies Research Group –* *www.stobinska-group.eu* The competition committee consists of:

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1. prof. dr hab. Magdalena Stobińska (Chair))
2. dr hab Radosław Łapkiewicz (Faculty of Phisics UW)
3. prof. dr hab. Krzysztof Diks
4. prof. dr hab. Piotr Mucha
5. dr hab. Piotr Skowron, prof. ucz

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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