

FORM FOR EMPLOYERS

INSTITUTION: Institute of Organic Chemistry of the Polish Academy of Sciences

CITY: Warsaw

POSITION: Research Assistant - PhD student

DISCIPLINE: Chemistry

POSTED: 10.07.2026

EXPIRES: 21.08.2026

WEBSITE: <https://www.icho.edu.pl/en/>

KEY WORDS: *molecular electronics, STM, break-junction technique, single-molecule conductance, memristors*

Project title: MAB-CKCOM "Center for Quantum Digital Organic Memristors"

FENG.02.01-IP.05.-M005/25

The „Center for Quantum Digital Organic Memristors” project is carried out within the International Research Agendas (MAB FENG) programme of the Foundation for Polish Science co-financed by the European Union under the European Funds for Smart Economy 2021-2027 (FENG).

Number of positions available: 1

Researcher profile: R1

Job description:

The **Quantum Digital Organic Memristor Center (CKCOM)** project focuses on the development of a new generation of molecular memory and logic elements based on quantum proton tunneling. The objective is to advance energy-efficient memcomputing technologies that integrate information processing and storage within single molecular systems, with potential applications in nanoelectronics and artificial intelligence systems.



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The successful candidate will be employed as a researcher at CKCOM and will prepare a doctoral dissertation in the extramural mode, while attending lectures at the **Warsaw4PhD Doctoral School**. The research will be conducted in Dr Lucia Palomino Ruiz group.

Accepting the position entails a commitment to preparing a doctoral dissertation in a field consistent with the project's theme, under the supervision of the Research Group Leader.

Description of tasks:

The doctoral research project will be carried out in the field of molecular electronics and will focus on the electrical characterization of organic molecules for their application in memristors.

The main tasks will involve:

- Contribute to the setting up of the new electron-transport laboratory
- Study the electron transport processes through single organic molecules
- Using a scanning tunneling microscope (STM) for studying the electrical properties of single molecules, by means of the STM break-junction technique
- Investigate the effects of proton transfer in the electron-transport properties of single molecules.
- Perform painstaking data analysis and data representation
- Contribute to scientific publications and conference presentations
- Prepare topical seminar and participate in the group meetings

Envisaged job starting date: 01.10.2026

Offer

Terms of employment: Full-time employment for 39-month, including a 3-month probationary period; a monthly salary of approximately 8 300 PLN gross, corresponding to the level of remuneration offered for comparable positions at the Institute of Organic Chemistry PAS in projects funded from external sources.

Benefits: *private medical care package, co-financing for sports activities, co-financing for leisure activities, possibility of accommodation at the Doctoral Dormitory*

Career development opportunities: *The candidate will work in a young, open-minded and supportive team. The project allows to work in a multidisciplinary environment, in collaboration with organic chemists, theoreticians, and physicists. The candidate will acquire a strong background in molecular electronics, learning how to design and perform the experiments, as well as to analyze the obtained data in an independent way. The candidate will expand their knowledge upon regular meetings with group members and collaborators, will participate in international conferences and will have the opportunity of building a strong international publication record.*

Requirements

required competences



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- Hold a Master's degree in chemistry, physics, nanoelectronics, materials science, material engineering or a related field
- Laboratory work experience
- Familiarity working with organic compounds, organic solvents, preparation of solutions.
- Knowledge of Python and LabVIEW programming
- Experience with Origin, MatLab, Python and LabView
- Knowledge of platforms for reference management
- Experience preparing presentations and writing reports
- Proficiency in English
- Experience interacting with multidisciplinary and international teams.

desirable competences

- Experience with Scanning Probe Microscopy (SPM) techniques.
- Experience with Electrochemistry
- Experience with structural characterization of organic compounds using NMR, MS, UV-Vis, and IR spectroscopy
- Experience in forming molecular self-assembled monolayers (SAMs)

Candidate evaluation criteria

- Level of fulfilment of the required and desirable competencies previously described.
- Scientific achievements, measured by the quality and quantity of scientific publications or patents
- Candidate's previous experience in laboratory work
- Creativity and independence in conducting research
- Ability to work in a team/ability to transfer knowledge/managerial predispositions
- Awards or distinctions
- Opinions about the candidate contained in the recommendation letters
- Language knowledge enabling scientific research (fluid communication with the team members and collaborators, and writing of scientific papers and reports)

List of required documents

- Candidate's Curriculum Vitae
- cover letter
- description of scientific achievements including list of publications
- academic transcript including grade point average
- copy of MSc diploma or equivalent document
- Candidates who have submitted their Master's thesis must attach a certificate confirming the scheduled defense date
- letters of recommendation and references from previous employers/supervisors (if possess)
- consent to the processing of the Candidate's personal data for the purposes of the competition

Along with the required documents, please submit (or send a scan) a signed consent to the processing of personal data available at: <https://www.icho.edu.pl/en/cooperations/career/>

Competition settlement date: 10.09.2026

Additional information

Group Lider: Dr Lucía Palomino Ruiz

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Secretariat

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01-224 Warsaw

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Applications must be sent to e-mail address: rekrutacja@icho.edu.pl

ATTENTION! In the title of the e-mail, please enter reference numer

“CKCOM/2026/D/3”

We are an open and inclusive employer – we encourage applications from all individuals, regardless of gender, origin, nationality, or minority background.

