

FORM FOR EMPLOYERS

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

CITY: Warsaw

POSITION: Adjunct – Head of Research Team – Memristors

DISCIPLINE: Chemistry

POSTED: 03.02.2026

EXPIRES: 20.03.2026

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

KEY WORDS: *computational chemistry, DFT, quantum-chemical methods, proton tunneling, research team leadership*

Project/Grant title: "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: R3-R4

Job description:

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



European Funds
for Smart Economy



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of Poland

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Polish Science

Head of Research Team No. 5 – Demonstration of the Memristive Effect at the Macroscopic Scale

The person appointed to this position will establish and lead an independent research team focused on the prototyping of molecular devices and large-area junctions for molecular memristors. The role includes supervising PhD candidates, postdoctoral fellows, and senior researchers, as well as planning, coordinating, and executing research activities related to the development of scalable molecular junction platforms and prototype molecular memristor devices.

The position involves providing scientific leadership to the team, supporting the professional and scientific development of its members, and ensuring alignment of the conducted research with the objectives of the project. Close collaboration with STM, synthetic chemistry, theory, and spectroscopy teams within CKCOM will be an essential part of the role. The Group Leader is also expected to publish high-impact research, contribute to joint grant proposals and innovation activities, and participate actively in the scientific life of IOC-PAS and the MAB Centre.

Within the led team, the project provides funding for the employment of one PhD candidate and two postdoctoral researchers until 31 December 2029.

- **Envisaged job starting date:** 01.07.2026

Offer:

Terms of employment: Full-time employment on a fixed-term contract until 31 December 2029; monthly salary of approximately PLN 20,000 gross (depending on length of professional experience), aligned with remuneration levels offered for comparable positions at IOC PAS.

Benefits: *private medical care package; co-financing of sports cards*

Career development opportunities:

- leading an independent research team within a prestigious international MAB project;
- development of leadership skills through direct team management, including scientific supervision of PhD candidates;
- conducting research at the interface of computational chemistry, quantum physics, and nanoelectronics;
- opportunity to co-create breakthrough solutions in the fields of memcomputing and molecular quantum technologies;
- collaboration with leading research groups nationally and internationally, with access to state-of-the-art research infrastructure;
- opportunity to build a strong international publication and patent record

Requirements:

required competencies

- PhD or habilitated PhD degree in Physics, Chemistry, Materials Science, Electrical Engineering, or a closely related field;
- postdoctoral experience in molecular electronics, organic electronics, or nanoscale device fabrication;
- documented specialist expertise in several of the following areas: large-area molecular junctions or molecular device fabrication; self-assembled monolayers or thin molecular film assembly; electrical characterization of nanoscale or organic devices;
- documented publication record in leading international journals;
- experience in mentoring students and/or early-career researchers;
- documented scientific achievements from the last 10 years in the above areas of expertise;
- experience in teamwork and potential to lead a research team, including mentoring junior researchers and PhD candidates;
- participation in research projects as a principal investigator or project participant;
- very good command of English, both written and spoken.

desirable competencies

- experience with memristive devices or resistive switching;
- knowledge of reliability testing (endurance, retention, cycling);
- experience in the integration of organic or molecular materials;
- experience in intellectual property generation, patenting, or collaboration with industry;
- previous success or clear potential in securing external research funding

Candidate evaluation criteria:

- quality and originality of up to three most significant scientific achievements from the last 10 years in the field of computational chemistry or related disciplines, assessed against the state of the art worldwide;
- experience in leading a research team or potential to assume such a role, including experience in supervising or co-supervising PhD research;
- experience in the implementation of grant-funded research projects, both as a principal investigator and as a project participant;
- experience in collaboration with industry or in the commercialization of research results;
- proficiency in English sufficient to manage an international research team.

List of required documents:

- scientific curriculum vitae (CV) including a list of publications and research experience (up to three pages);
- a list of up to three most significant scientific achievements from the last 10 years, together with a brief description of their importance;

- list of publications;
- description of experience in the implementation of research projects (grants);
- description of experience in leading a research team and/or supervising PhD candidates;
- documents confirming qualifications, competencies, and experience required to perform the duties of the position (including academic degree, scientific achievements, and project experience);
- cover letter including information on the earliest possible starting date (1 page);
- email addresses of two researchers who may provide letters of recommendation.

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

Competition settlement date: 27.04.2026

Additional information:

Principal Investigator of the Project: Prof. Daniel Gryko

E-mail: daniel.gryko@icho.edu.pl

Secretariat

Institute of Organic Chemistry of the Polish Academy of Sciences
Kasprzaka 44/52 Street
01-224 Warsaw
Phone: +48 22 631 8788

Applications must be sent simultaneously to both e-mail addresses: rekrutacja@icho.edu.pl and ckcom_isc@yahoo.com.

ATTENTION! In the title of the e-mail, please enter "Recruitment – MAB - Memristor"

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

