

FORM FOR EMPLOYERS

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

CITY: Warsaw

POSITION: Adjunct – Head of Research Team – Conductivity Measurements

DISCIPLINE: Chemistry

POSTED: 03.02.2026

EXPIRES: 20.03.2026

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

KEY WORDS: *conductivity and charge-transport measurements, electrical characterization of molecular systems, memristors, nanoelectronics, 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.

Head of Research Team No. 4 – Conductivity Measurements

The person appointed to this position will establish and lead an independent STM-based research group focused on conductivity measurements in molecular systems, including molecular memristor candidates. The role includes supervising PhD students, postdoctoral researchers, and senior researchers, as well as planning, coordinating, and executing experimental research activities.

The scope of responsibilities involves the design and execution of STM-based experiments aimed at probing charge transport, conductivity, and switching phenomena in molecular systems. The Group Leader will interpret experimental results in close collaboration with synthetic chemists, theorists, and device engineers within the MAB Centre, and will contribute to the development and optimization of molecular memristor concepts. The position also entails publishing high-impact research, contributing to joint grant proposals and technology-transfer activities, and actively participating 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 chemistry, physics, materials science, materials engineering, or a closely related discipline;
- postdoctoral experience in single-molecule electronic measurements or STM-based surface studies;
- documented publication record in leading international journals;
- documented specialist expertise in at least several of the following areas: scanning tunnelling microscopy (ambient or UHV conditions; low-temperature experience desirable); single-molecule junction techniques (STM-BJ or related platforms); molecular charge transport; surface science and molecular self-assembly;
- ability to conduct independent experimental research aligned with the project's scope;
- 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 in molecular electronics or memristive systems;
- familiarity with complementary techniques (AFM, CP-AFM, spectroscopy, vacuum deposition);
- experience working in interdisciplinary consortia;
- 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

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Secretariat

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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 - Conductivity measurements"

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

