



**Institute of Molecular Physics**  
**Polish Academy of Sciences**  
Mariana Smoluchowskiego 17, 60-179 Poznań, Poland  
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**Director of the Institute of Molecular Physics of the Polish Academy of Sciences  
announces recruitment for the assistant professor  
at the Department of Low Temperature Physics, Quantum Materials  
and Technologies (ZN4)**

**Institution:** Institute of Molecular Physics of the Polish Academy of Sciences (IMP PAS)  
[PL: Instytut Fizyki Molekularnej Polskiej Akademii Nauk (IFM PAN)]

**City:** Poznań, Poland  
**Position:** assistant professor  
**Scientific discipline:** physical sciences  
**Opening date:** 13 May 2025  
**Application deadline:** 03 June 2025, 15:00 CEST  
**Website:** <https://www.ifmpan.poznan.pl/en/>

**Keywords:** quantum mechanics, solid state physics, condensed matter properties, mesoscopic physics, nanotechnology, quantum information technology, electron spin resonance

**I. Offer description:**

- Theoretical modelling of experiments on the electrical control of single spin dynamics in quantum dots in the presence of magnetic electrodes with noncolinear directions of magnetisation;
- Theoretical description and analysis of experimental results obtained using spin-polarised scanning tunneling microscopy (SP-STM) for single molecules and atoms;
- Theoretical studies on Cooper pair splitter (CPS) devices and research on modelling of experiments allowing for spin correlation measurements and detection of quantum entanglement in the CPS;
- Analysis of experimental and theoretical result and participation in the preparation of publications and grant applications.

**II. Requirements for candidates:**

**1. Research career stage:**

R2: Recognised Researcher (PhD holders or equivalent who are not yet fully independent). More information on career stages: <https://www.more-4.eu/indicator-tool/career-stages-r1-to-r4>.

**2. Required education:**

- in the discipline of physical sciences;
- academic degree: doctor.

**3. Required qualifications and skills:**

- Knowledge of solid state physics, mesoscopic physics, nanotechnology, basics of quantum information technology, electron spin resonance;
- Proven experience in the field of spin-dependent electric transport calculations for nanoscopic systems in the strong Coulomb blockade limit, taking into account spin dynamics, and in the field of research on and detection of non-local quantum entanglement states;
- Documented scientific achievements (publications, talks, awards, etc.);
- Good knowledge of computer programs necessary to perform theoretical modelling, prepare publications, and programming skills (Microsoft Office, Latch, Origin, Mathematica, etc.).

**4. Special requirements:**

- Documented experience in conducting research within the area outlined above in Sec. I;
- Experience in acquiring funding (grants) for scientific studies within research projects.

**5. Knowledge of English:** good, enabling free communication with other team members and preparation of scientific publications.**6. Scientific experience required:**

- in the discipline of physical sciences;
- on the topic of: quantum mechanics, solid state physics, condensed matter properties, mesoscopic physics, nanotechnology, quantum information technologies, electron spin resonance.

**7. Professional experience required:**

4-10 years (including research experience)

**III. Duration of the employment:** to be determined individually (in accordance with regulations)**IV. Type of contract:** full-time job**V. Expected date of employment start:** 01 July 2025**VI. Employment type:** employment contract**VII. Salary:** approximately 6840 PLN gross per month  
(approximately six thousand eight hundred and forty)**VIII. Number of positions offered:** 1**IX. Job benefits:**

- Raising the level of competence, acquiring new knowledge, experiences, and skills;
- The experienced scientific staff of the Scientific Department can be helpful in further scientific and professional development of the candidate;
- Establishing scientific cooperation, including international cooperation;
- A diverse and integrated working environment;
- Seniority allowance (for more than 3 years of service) ranging from 3 to 20% of the base salary, depending on the documented length of employment;
- Benefits from the social fund;
- Access to a group insurance scheme.

**X. Required documents:**

1. Application (including concise information about the candidate's scientific interests and important achievements – no more than 3 500 characters);
2. CV (including education and the course of scientific careers and information on: scientific experience as described above in Sec. II.3, II.4, and II.6; internships and scientific training; conference presentations and seminars; prizes and awards; participation in research projects; acquired funds (grants); organizational achievements, etc.);

3. List of scientific publications;
4. Scan or photocopy of the PhD degree diploma;
5. Consent to the processing of personal data for recruitment purposes – Appendix No. 1;
6. Statement that if the competition is won, the Institute of Molecular Physics of the Polish Academy of Sciences will be the primary place of work within the meaning of the Act of 20 July 2018 *Law on Higher Education and Science* (Journal of Laws of 2018, item 1668, as amended) – Appendix No. 2;
7. Optionally, an opinion of the supervisor or leader of the group in which the research was conducted.

**Documents in languages other than Polish or English must be translated to Polish or English.**

**XI. Method of submitting offers:**

Applications with the annotation “**Competition for an assistant professor at the Department of Low Temperature Physics, Quantum Materials and Technologies – ZN4 – No 03/2025**” should be delivered to the Institute’s address or sent to the e-mail address:  
[director@ifmpan.poznan.pl](mailto:director@ifmpan.poznan.pl)

**Contact person:**

Head of the Department of Low Temperature Physics, Quantum Materials and Technologies  
Prof. dr. hab. Zbigniew Trybula  
e-mail address: [trybula@ifmpan.poznan.pl](mailto:trybula@ifmpan.poznan.pl)

**XII. Qualification criteria:**

- Scientific achievements in the the area outlined above in Sec. II.3, II.4, and II.6;
- Proven experience in the field of spin-dependent electric transport calculations for nanoscopic systems in the strong Coulomb blockade limit, taking into account spin dynamics, and in the field of research on and detection of non-local quantum entanglement states;
- Completed research internships, acquired funds (grants) for research as a grant leader, and participation in research projects.

**XIII. Qualification process:**

- 1) Job application competition;
- 2) The best-ranked candidates may be invited to an interview (either an on-site interview or videoconference).

Candidate ratings will be done by the Competition Commission appointed by the Director. A candidate with a negative opinion may appeal against the results of the evaluation to the Director within 7 days from the date of receipt of the Competition Committee's opinion.

**XIV. Expected date of the results announcement:** June 2025

**XV. Additional information:** IMP PAS does not provide accommodation.

*/signed by: Dr. hab. Adam Rachocki, Prof. IFM PAN  
Deputy Director for Scientific Affairs/*

## **DISCLAIMER:**

According to art. 13 1 and 2 of Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of individuals with regard to the processing of personal data and on the free movement of such data and repealing Directive 95/46/EC (Journal of Laws UE L 119/1 of 4.5.2016), hereinafter referred to as GDPR, we inform that:

1. The administrator of your personal data is the Institute of Molecular Physics of the Polish Academy of Sciences, ul. Mariana Smoluchowskiego 17, 60-179 Poznań, Poland.
2. Your personal data will be processed for the duration of the recruitment process.
3. You have the right to request from the administrator access to personal data, the right to correct them, delete or limit processing, the right to object to the processing of personal data, as well as the right to transfer data.
4. You have the right to withdraw your consent at any time. The above does not affect the compliance with the law, which was made on the basis of your consent before it was withdrawn.
5. It is possible to lodge a complaint with the supervisory body - the President of the Office for Personal Data Protection.
6. Providing personal data is voluntary.
7. Your data will not be shared with entities other than entities authorized on the basis of applicable law.
8. The administrator will not transfer your personal data to recipients in third countries and international organizations.

**Consent for the processing of personal data for recruitment purposes**

I agree to the processing of personal data provided in this document for realising the recruitment process pursuant to the Personal Data Protection Act of 10 May 2018 (Journal of Laws 2018, item 1000) and in agreement with Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation).

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Name

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Date and signature

**DECLARATION**

I declare that if I win the Contest the Institute of Molecular Physics of the Polish Academy of Sciences will become my primary place of work within the meaning of the Act of 20 July 2018, *Law on Higher Education and Science* (Journal of Laws of 2018, item 1668, as amended).

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Name

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Date and signature