



**Institute of Molecular Physics  
Polish Academy of Sciences**  
Mariana Smoluchowskiego 17, 60-179 Poznań, Poland  
[www.ifmpan.poznan.pl](http://www.ifmpan.poznan.pl)  
tel. 61 8695 100, fax 61 8684 524

**Director of the Institute of Molecular Physics of the Polish Academy of Sciences**  
announces a competition for a post-doc position in the OPUS-20 Research Project

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

**City:** Poznań, Poland

**Position:** Post-doc

**Scientific discipline:** physical sciences (or similar)

**Opening date:** 10 May 2024

**Application deadline:** 31 May 2024, 15:00 CEST

**Website:** <http://www.ifmpan.poznan.pl>

**Keywords:** solid state physics, surface physics, condensed matter properties,

## **I. Offer description:**

### **Title of the scientific project:**

Artificial magnetic domains without domain walls in magnetically patterned Rare-Earth–Transition-Metal ferrimagnetic films (TWIST).

**Principal investigator:** Dr. hab. Eng. Piotr Kuświk, Assoc. Prof. IMP PAS

### **Description of the project:**

In this project, we will study ferrimagnetic (FI) rare earth (RE) - transition metal (TM) layered systems. Our research is focused on the development of methods allowing local control of the domination of a specific subsystem and on the fabrication of two-dimensional lattice with magnetic domination of TM embedded in a matrix with magnetic domination of RE.

### **Research objectives:**

In this project we intend to fabricate artificial FI domains for use in different applications, e.g. controlled propagation of spin waves, magnetophoresis devices, and information technologies. It is important to identify the optimal patterning method for the FI layer based on the critical parameters such as: minimum resolution, attainable and durability of magnetic properties. This means that it is necessary to select the appropriate layer system and optimize the modification, in particular to achieve resolution in the nanometer range.

## **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:** PhD in physics (or related) granted not earlier than 7 years\* before the year of a start of employment.

**3. Required qualifications and skills:**

- knowledge of the basic measurement methods in solid-state physics, especially in the physics of magnetism;
- experimental experience in the study of magnetic thin film/nanostructures
- experimental experience in the study realized under high-vacuum conditions
- knowledge of the deposition of layered systems/nanostructures under the ultra-high vacuum conditions
- documented scientific achievements (publications, talks, awards, etc.);
- good knowledge of programs available for research analysis (Microsoft Office, Origin, etc.).

**4. Special requirements:**

The candidate must meet the conditions described in point 2.1.1 Annex to NCN Council Resolution No 95/2020 of 14 September 2024 about the regulations on awarding funding for research tasks funded by the National Science Centre as regards research projects

**5. Knowledge of English:** good, enabling communication with other team members.

**6. Scientific experience required:**

- in the discipline of physical sciences (or similar);
- on the topic of: solid state physics, surface physics, condensed matter properties, magnetic thin films.

**III. Duration of the employment:** 15 months (with the possibility of extension).

**IV. Type of contract:** full-time job, employment contract

**V. Expected date of employment start:** July 2024

**VI. Employment type:** contract covered by the NCN OPUS-20 project No. 2020/39/B/ST5/01915

**VII. Salary:** ca. 10 000 PLN/month (ten thousand PLN gross gross per month)

**VIII. Number of positions offered:** 1

**IX. Job benefits:** excellent working conditions, state-of-the-art technical facilities, international cooperation

**X. Required documents:**

1. Application;
2. CV including information on education and the course of scientific careers, internships and scientific training, conference presentations and seminars, prizes and awards, participation in research projects, acquired funds, organizational achievements, etc.;
3. list of scientific publications with their copies in pdf format;
4. a scan or photocopy of English certificate for non-native English speakers;
5. a scan or photocopy of the PhD degree;
6. consent to the processing of personal data for recruitment purposes (Appendix No. 1);
7. statement that if the contest is won, Institute of Molecular Physics 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;
8. supervisor's opinion or other recommendations are optional.

**Documents in other languages than Polish or English should be translated into Polish or English.**

**XI. Method of submitting offers:**

Applications with the annotation „**Competition for the post-doc position – ZN 3 – No. 01/2024**” 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:** Dr. hab. Eng. Piotr Kuświk, Assoc. Prof. IMP PAS,

Piotr.Kuswik@ifmpan.poznan.pl

**XII. Qualification criteria:**

- 1) Scientific achievements in the field of experimental research on a magnetic thin film/nanostructures and research carried out under high vacuum conditions;
- 2) Knowledge of experimental methods for magnetic materials, especially for magnetic thin films/nanostructures.
- 3) Knowledge of the thin film/nanostructures deposition techniques under high vacuum conditions.

**XIII. Qualification process:**

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

The evaluation and selection will be conducted by a three-person recruitment committee appointed by the Director of the Institute of Molecular Physics of the Polish Academy of Sciences following "Regulations on awarding funding for research tasks funded by the National Science Centre as regards research projects" constituting an annex to the resolution of the NCN Council No. 95/2020 of September 14, 2020.

A candidate who receives a negative opinion from the recruitment committee has the right to appeal against the evaluation results to the Director of the Institute within 7 days from the date of receiving the opinion.

**XIV. Expected date of the results announcement:** June 2024**XV. Additional information:** IMP PAS does not provide accommodation.

*\* Period may be extended by a time of long-term (in excess of 90 days) documented sick leaves or rehabilitation leaves granted on account of being unfit to work. In addition, the period may be extended by the number of months of a childcare leave granted pursuant to the Labour Code and in the case of women, by 18 months for every child born or adopted, whichever manner of accounting for career breaks is preferable.*

## **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 RODO, we inform that:

1. The administrator of your personal data is the Institute of Molecular Physics Polish Academy of Sciences in Poznań, ul. Mariana Smoluchowskiego 17.
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).

.....

Name

.....

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).

.....

Name

.....

Date and signature