



Institute of Molecular Physics
Polish Academy of Sciences
Mariana Smoluchowskiego 17, 60-179 Poznań, Poland
www.ifmpan.poznan.pl
tel. 61 8695 100, fax 61 8684 524

**Recruitment for the Poznan Doctoral School of the Institutes of the Polish Academy of Sciences
at the Institute of Molecular Physics, PAS in Poznan
Procedure No. 20/2020/IFM/PSD**

Institution: Institute of Molecular Physics Polish Academy of Sciences (IMP PAS)
City: Poznań, Poland
Position: Ph.D. student
Positions available: 1
Scientific discipline: physics, material engineering
Publication date: 20 August 2020
Application deadline: 21 September 2020, 15:00 CEST
IMP PAS website: <https://www.ifmpan.poznan.pl>
PDS website: <http://www.psd-ipan.ibch.poznan.pl>

RESEARCH PROJECT OFFER:

Research topic: *First-principles calculations of layered nanostructures for spintronic applications*
Keywords: solid state physics, condensed matter properties, computational physics, applied physics.
Research group: Department of Solid State Theory (Z2)

Principal Investigator: dr hab. Mirosław Werwiński

Project description:

Magnetic systems in the form of nanoscale layered heterostructures are modeled in computers in the form of crystallographic structures in which each single atom and electron is defined and their characteristic magnetic parameters, such as magnetic anisotropy, magnetization and Curie's temperature, are calculated with particular attention to magnetocrystalline, interface and shape anisotropy. That type of electronic-structure calculations is often referred to as first principles or ab initio.

Research objectives:

The computational study of magnetic layered systems will contribute to the development of the so-called pMTJ (perpendicular-anisotropy magnetic tunnel junctions) used in state-of-the-art MRAM computer chips.

Additional information:

1. Ph.D. students shall receive a stipend in the gross amount of 2.380,00 PLN, till the month of mid-term assessment and in the amount of 3.660,00 after the month when the mid-term assessment will be performed (the period of receiving the scholarship is 48 months);
2. Ph.D. students shall be subjected to social insurance, pursuant to article, 6 section 1 passage 7b of the act of October 13th, 1998 on the social insurance system (Journal of Laws o 2019, item 300, 303 and 730).



Requirements for candidates:

1. M.Sc. degree in physics or related sciences, or fulfilling the conditions stipulated in article 186, section 2 of the act of July 20th, 2018 Law on Higher Education and Sciences (journal of Laws of 2018, item 1668, as amended);
2. The candidate cannot hold the doctoral degree and be a participant of the doctoral school before entering the competition;
3. Knowledge in the field of solid state physics and basic skills in programming;
4. Experience in the subject of solid state physics, condensed matter properties, computer physics or applied physics;
5. Ability to use programs supporting research, for example: mathematica, origin, spreadsheet, etc.;
6. Commitment, critical thinking skills, and problem-solving abilities;
7. High motivation for further development, communication skills, and ability to work in a team and individually;
8. Fluency in English (both in speech and writing) on the level of B2-C2;
9. Skills which will be an advantage of the applicant:
 - Experience in working with ab initio calculations of magnetic materials and simulations of atomistic spins dynamics;
 - Scientific achievements: co-authorship of publications, internships, and trainings.

Job benefits:

- work in a young active team (including project leader, post-doc, three PhD students, master student, and bachelor student) which also implements other scientific project (Sonata Bis).

Expected date of employment start: 1st October 2020

Required documents:

1. Application for admission to Poznań Doctoral School of the Institutes of the Polish Academy of Sciences (PDS IPAS) along with the consent for processing personal data upon the recruitment procedure and a statement on having acknowledged the regulations of recruitment for PDS IPAS, using form downloaded from:
<https://www.ifmpan.poznan.pl/BIP/index.php/edukacja/psd-ipan;>
2. Certified copy of the diploma confirming graduation or a certificate confirming graduation (in the case of diplomas issued by foreign higher education schools, diploma stipulated in article 326, section 2, passage 2 or article 327, passage 2 of the act of July 20th, 2018 – Law on Higher Education and Science (Journal of Laws of 2018, item 1668, as amended), entitling to apply for conferment of a doctoral degree in the state in where such a certificate was issued by the relevant higher education school. In the event when the candidate does not have the aforementioned documents, he/she is obliged to submit them before admission to PDS IPAS. Additional information on foreign school diplomas is available at:
<https://nawa.gov.pl/en/recognition/recognition-for-academic-purposes/applying-for-admission-to-doctoralstudies;>
3. Scientific CV encompassing track record of previous education and employment;
4. A cover letter featuring a short description of research interests, scientific accomplishments, a list of publications, information on involvement in scientific activity (membership of student scientific groups, participation in scientific conferences, completed internships and training courses, prizes and distinctions



- received) and reasons for wishing to study at the doctoral school;
5. Certificates or other documents confirming the degree of proficiency in English, if the candidate owns such materials;
 6. Consent for the processing of personal data for recruitment purposes (Appendix A);
 7. Contact details of at least one previous scientific supervisor or another researcher who is entitled to issue an opinion on the candidate.

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

Applications should be submitted electronically on e-mail address office@ifmpan.poznan.pl with the subject of the message "*Competition for the Ph.D. position No. 20/2020/IFM PSD*" as the attachment in the pdf file format.

Alternatively, if the electronic delivery is not possible, applications can be sent to the postal address of the Secretariat of the Institute of Molecular Physics, Polish Academy of Sciences.

ul. Mariana Smoluchowskiego 17, 60-179 Poznan, Poland

with an annotation on the envelope: "*Competition for the Ph.D. position No. 20/2020/IFM /PSD*".

Please do not send the originals of the documents.

Criteria for evaluation of candidates for Doctoral School:

1. Candidate's research achievements, according to the grades obtained in the course of studies, scientific publications, awarded scholarships, and distinctions resulting from conducting scientific research or student activities or other achievements;
2. Candidate's scientific and professional experience, according to participation in conferences, workshops, training sessions and internships, implementation of research and commercial projects, involvement in scientific trusts and societies, international and professional mobility, experience in other sectors, including industry;
3. Candidate's knowledge of the following discipline: physical sciences;
4. Knowledge of the subject matter described in the recruitment advertisement.

The recruitment procedure shall be concluded until September 30th, 2020

The description of the recruitment process for Doctoral School is stipulated in the Regulations of Recruitment for PDS IPAS. Following the recruitment procedure, the unadmitted candidates shall be informed on the strong and weak sides of their applications. The recruitment results are public.

For additional information, please contact:

Mirosław Werwiński, PhD
e-mail: werwinski@ifmpan.poznan.pl
phone: +48 (0) 61 8695150

Institute of Molecular Physics Polish Academy of Sciences does not provide accommodation.

DIRECTOR

prof. dr. hab. Zbigniew Trybuła



Information clause:

According to the content of art. 13 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 (General Data Protection Regulation), hereinafter referred to as GDPR, we inform that:

1. The administrator of the collected personal data is the Institute of Molecular Physics of the Polish Academy of Sciences, Mariana Smoluchowskiego 17, 60-179 Poznan, Poland, VAT No. PL 777-00-20-870 (hereinafter referred to as the Institute).
2. The administrator has appointed a Data Protection Inspector who can be contacted in writing, by traditional mail, writing to the Institute's address: Data Protection Inspector, Institute of Molecular Physics of the Polish Academy of Sciences, Mariana Smoluchowskiego 17, 60-179 Poznan, Poland or by sending an e-mail to iod@ifmpan.poznan.pl.
3. Personal data are processed to implement the administrator's tasks related to the recruitment to the Poznań Doctoral School of the Institutes of the Polish Academy of Sciences.
4. The legal basis for data processing is the Act of 26 June 1974 - Labor Code, the Act of 30 April 2010 on the Polish Academy of Sciences, the Act of 20 July 2018 Law on Higher Education and Science, and consent of the data subject.
5. Personal data collected in the current recruitment process will be stored for three months from the moment the recruitment process is resolved. After this period, personal data will be effectively destroyed.
6. Personal data will not be conveyed to a third country.
7. Personal data of the candidate selected in the competition may be made available to third parties authorized under the law.
8. The person whose data is processed has the right to:
 - access to the content of your personal data, demand their correction or deletion, on the terms set out in art. 15-17 GDPR;
 - set restrictions on data processing, in cases specified in art. 18 GDPR;
 - data transfer, on the principles set out in art. 20 GDPR;
 - withdrawal of consent at any time without affecting the lawfulness of the processing that was carried out based on consent before its withdrawal;
 - lodging a complaint to the President of the Office for Personal Data Protection.

Providing personal data in the scope resulting from art. 22 (1) of the Act of 26 June 1974 - Labor Code, is mandatory, providing data in a broader scope is voluntary and requires consent to their processing. Refusal to provide personal data prevents the application from being considered.

Appendix 1

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

