



Job ID: #JOB 40/2023

Job Description

Job Title: Post-doc in microscopy of semiconductor multiferroics (experimental)

Job Summary:

Post-Doc will study the coupling between the ferromagnetic and ferroelectric properties of tunable multiferroic (Ge,Sn,Mn)Te system. Multiferroics, such as (Ge,Mn)Te, combine interplay between spin and orbital degrees of freedom, with fundamental breaking of symmetries. The combination of the above effects in a single material can be utilized in spin-torque manipulation of magnetic domains. The use of Rashba splitting for spin manipulation is important in view of recent outstanding discoveries of new quantum phases such as topological insulators, Weyl semimetals, and Majorana fermions.

The first task during the employment will be to assemble the already purchased elements, test and implement the SPM microscope together with the helium cryostat coupled with it. The second task will be to use this equipment together with the rest of our laboratory's infrastructure to study the low-temperature ferroelectric and ferromagnetic ordering of semiconductor multiferroics. The acquired knowledge will be used to understand the spin-texture and domain wall dynamics of (Ge,Sn,Mn)Te multiferroics in view of possible applications in spintronics.

Job Description:

Post-Doc will study the coupling between the ferromagnetic and ferroelectric properties of tunable multiferroic (Ge,Sn,Mn)Te system. Multiferroics, such as (Ge,Mn)Te, combine interplay between spin and orbital degrees of freedom, with fundamental breaking of symmetries. The combination of the above effects in a single material can be utilized in spin-torque manipulation of magnetic domains. The use of Rashba splitting for spin manipulation is important in view of recent outstanding discoveries of new quantum phases such as topological insulators, Weyl semimetals, and Majorana fermions.

The first task during the employment will be to assemble the already purchased elements, test and implement the SPM microscope together with the helium cryostat coupled with it. The second task will be to use this equipment together with the rest of our laboratory's infrastructure to study the low-temperature ferroelectric and ferromagnetic ordering of semiconductor multiferroics. The acquired knowledge will be used to understand the spin-texture and domain wall dynamics of (Ge,Sn,Mn)Te multiferroics in view of possible applications in spintronics.

Requirements:

- research experience: experience in scanning probe microscopy and characterization techniques such as magnetometry and magnetotransport, confirmed by publications;
- degree held: Ph.D. in physics, chemistry, or materials engineering, (or PhD thesis submitted), obtained no earlier than 7 years before the beginning of the contract (calculated according to the official rules of NCN, as per the NCN resolution 26/2015 of 12 march 2015.);

- required skills: experience in laboratory work in a physics laboratory and proper knowledge of scanning probe microscopy, knowledge of LabView;
- proficiency in English;
- ability to work in a research team, interact with other members of the group;
- experience in writing research publications.

Main research field: Physics

Sub Research Field: Solid-state physics

Career Stage: Experienced researcher or 4-10 yrs (Post-Doc)

Research Profile ([details](#)): Recognised Researcher (R2)

Type of Contract: Temporary (12 months)

Status: Full-time

Salary: Approximately 8300 PLN per month (before ~ 30% taxes, exact amount depends slightly on applicable social security contributions).

Contact

More information can be obtained from Łukasz Kilański (e-mail: kilan@ifpan.edu.pl).

Application details

Application deadline: 15.10.2023. Applications sent after the deadline will not be considered.

Required materials:

- Curriculum Vitae
- List of publications
- Motivation letter
- Contact data (e-mail) to at least two potential referees.
- If applicable - documents confirming scientific stays in foreign institutions (foreign relative to the country of your doctoral degree).
- Consent to process your personal data (expressed on the form attached to this announcement)
- Certificate of obtaining a doctorate issued by an institution recognised in Poland. In the case of institutions not recognised in Poland, the doctorate will have to be nostrified before employment.

All materials should be submitted in electronic form to the address:

rekrutacja@ifpan.edu.pl with Job ID in the subject.

DATA PROCESSING UNDER CONSENT FOR THE PURPOSES OF RECRUITMENT

Under Art. 13 sections 1 and 2 of the Regulation of the European Parliament and of the Council (EU) 2016/679 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 Resolution), EU OJ L 119 of 04.05.2016, page 1, as amended, hereinafter referred to as "GDPR", we hereby inform as follows:

1. The Data Controller of the provided personal data is the Institute of Physics of the Polish Academy of Sciences, Al. Lotników 32/46, 02-668 Warsaw, phone (22) 116-2111, e-mail director@ifpan.edu.pl.
2. Contact details to the Data Protection Officer are as follows: e-mail iodo@ifpan.edu.pl
3. Your personal data shall be processed for the purpose of carrying out the recruitment process for the position of POST-DOC.
4. Processing of your personal data in scope of: full name, date of birth, correspondence address, information about education and course of past employment shall take place under Art. 22¹ § 1 of the Act of 26 June 1974 - Labour Code. In the scope in which you sent to us more personal data than indicated above, we process your data under the consent granted by you.
5. Your personal data shall be stored for 1 month from completion of the recruitment process. If you grant consent for processing of personal data for future recruitments, we shall process your data until withdrawal of the consent by you, however, no longer than for the period of 6 months from the day of submittal of the application by you.
6. Provision of the abovementioned data in the scope indicated above is a statutory requirement resulting from Art. 22¹ § 1 of the Act of 26 June 1974 - Labour Code, in the remaining scope it is voluntary. Failure to provide the data referred to in Art. 22¹ § 1 of the Act of 26 June 1974 - Labour Code precludes consideration of your candidacy for the offered position.
7. You have the right to access your personal data, to rectify them, erase them, restrict their processing.
8. You may submit a complaint to the Inspector General for the Protection of Personal Data.
9. You have the right to withdraw the consent to process your personal data in the scope in which they were provided at any time. Withdrawing the consent does not affect the lawfulness of processing carried out on the basis of consent before its withdrawal.

Consent content:

I grant my consent to the Institute of Physics of the Polish Academy of Sciences to process my personal data contained in the sent recruitment documents for the purpose of carrying out the recruitment process for the position of POST-DOC.

If you want us to consider your candidacy also in the future recruitment processes, please grant the additional consent:

I grant my consent to the Institute of Physics of the Polish Academy of Sciences to process my personal data contained in the sent recruitment documents in future recruitment processes taking place during 6 months from the day of appearance of this job advertisement.