





Institute of Physics of the Polish Academy of Sciences

Job ID: #JOB 25/2024

Job Description

Job Title: Research assistant, Junior postdoctoral researcher.

Job Summary:

The winning candidate will work as a research assistant at the International Centre for Interfacing Magnetism and Superconductivity with Topological Matter - MagTop of the Institute of Physics of the Polish Academy of Sciences. The Centre and the junior postdoctoral researcher position in the IRA project are supported by the Foundation for Polish Science within the Grant no. FENG.02.01-IP.05-0028/23 financed from the 2nd Priority funds of the Programme European Funds for Smart Economy 2021-2027 (FENG). The job is related to research on the electronic structure of materials that, based on theoretical predictions, have the potential for applications in the areas specified in the project agenda. Among other things, the winning candidate will conduct band structure studies using angle-resolved photoemission spectroscopy (ARPES) and transport measurements. Transport measurements will be carried out in a wide range of temperatures (down to mK) and magnetic fields. He/she will also develop experimental set-up used for transport measurements.

Job Description:

The main task of the MagTop Center is to solve the most important problems related to the coupling of topological matter with magnetism and superconductivity, as well as to experimentally and theoretically discover new materials and unexpected phenomena related to topology, which will expand research horizons in this field and indicate possible applications of these solutions in industry. An example is the identification of the best material platform showing quantized Hall resistance without an external magnetic field and the search for new phenomena relevant to this application area. Theoretical predictions will be verified by experimental studies of the electronic structure of various materials. Two complementary experimental methods for this purpose are ARPES and transport measurements. Among the methods for studying the structure of matter, ARPES spectroscopy, based on the photoelectric effect, plays an extremely important role because it allows the measurement of three fundamental parameters: energy, momentum and spin. Thus, it enables a complete experimental determination of the electronic structure of matter. Transport measurements, including: Fourier analysis of the Shubnikov-de Haas oscillations and examination of the angular dependence of the position of the determined maxima on the direction of the external magnetic field, also make it possible to determine the shape of the Fermi surface crosssections. In turn, carrier mobility analysis allows determining the number and type of carriers contributing to the conductivity.







Requirements:

- A PhD degree in Physics or in related fields, such as e.g. materials engineering, held for no longer than five years, is required,

- At least four years' "hands on" experience in studies of electronic structure of topological materials supported by publications is required,

- Knowledge of the technique of measurements at low and very low temperatures,
- Knowledge of programs that enable the analysis of APRES spectra,
- Experience in using various programing languages will be an asset,
- Ability to work in a team as well as independently,
- Very good knowledge of written and spoken English is required.

Main research field: Physics

Sub Research Field: Solid State Physics, Nanotechnology

Career Stage: Junior Postdoctoral Researcher – a person holding a doctoral degree for no longer than five years. The period of five years is counted from the year of obtaining the doctoral degree.

Research Profile (details): Recognized Researcher (R2)

Type of Contract: Initial employment for a fixed term of 24 months, including a 3-month probationary period. Prolongation of employment for a further 33 months will be based on performance and successful completion of evaluation.

Status: Full-time employee

Salary: The person will be employed as a full-time research assistant for a period of maximum 57 months (with all employee benefits and an additional LuxMed medical insurance package) with a gross salary of PLN 11 200 per month, which is approximately PLN 8 300 net/month. Project is supported by the Foundation for Polish Science within the Grant no. FENG.02.01-IP.05-0028/23 financed from the 2nd Priority funds of the Programme European Funds for Smart Economy 2021-2027 (FENG).

Contact

More information can be obtained from prof. Tomasz Dietl (e-mail: <u>dietl@MagTop.ifpan.edu.pl</u>); and: <u>https://magtop.ifpan.edu.pl/</u> Please make contact.

Application details

Application deadline: 5.08.2024. Later applications will not be considered.

Required materials:

- Detailed scientific CV (up to 3 pages),
- Scan of PhD diploma,
- Full list of publications,
- Cover/motivation letter, please mention earliest possible starting date,
- Contact details for two researchers who can provide references,
- A statement by the candidate of consent to the processing of personal data for the purposes of recruitment.



Dofinansowane przez Unię Europejską





All required materials for the young doctor position must be sent to <u>open positions@MagTop.ifpan.edu.pl</u> and <u>rekrutacja@ifpan.edu.pl</u> with the Job ID# as a subject.

Dofinansowane przez Unię Europejską





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:

- 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 <u>director@ifpan.edu.pl</u>.
- 2. Contact details to the Data Protection Officer are as follows: e-mail <u>iodo@ifpan.edu.pl</u>
- 3. Your personal data shall be processed for the purpose of carrying out the recruitment process for the position of Research assistant (Junior Postdoctoral Researcher)
- 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 Research Assistant (Junior Postdoctoral Researcher).

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

 \Box 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.



Fundusze Europejskie dla Nowoczesnej Gospodarki Rzeczpospolita Polska Dofinansowane przez Unię Europejską



