Postdoctoral Researcher / Assistant Professor

Advanced Optoelectronic Materials and Radiation Detectors

Department: Division of Applied Physics, Institute of Physics, Silesian University of Technology, ul. Konarskiego 22B, 44-100 Gliwice, Poland

Funding: OPUS 29, National Science Centre (NCN) Poland

Location: Gliwice, Poland

Type of Contract: Full-time, fixed-term (2 years, extendable to 3rd year) position funded by the Polish National Science Centre OPUS programme

Project Title: High-Sensitivity, Lead-Free Perovskite Thick Films for Low-Dose Medical X-Ray Imaging

Grant No.: 2025/57/B/ST11/04518

Application Deadline: 15th July 2026

Project Description

We are seeking a highly motivated Postdoctoral Researcher / Assistant Professor to join an NCN-funded OPUS-29 research project focused on "High-Sensitivity, Lead-Free Perovskite Thick Films for Low-Dose Medical X-Ray Imaging". The project explores lead-free perovskite and hybrid semiconductor materials for high-sensitivity detection technologies. The research combines materials synthesis, device fabrication, and optoelectronic characterisation to develop detectors with improved sensitivity, low noise, and enhanced environmental stability.

The successful candidate will contribute to the design, fabrication, and characterisation of advanced optoelectronic devices, enabling new sensing and imaging technologies. The successful candidate will work closely with Prof. Khurram Shehzad (PI), an expert in electronic materials and devices, and will engage in high-impact research.

Responsibilities

The selected candidate will:

- Conduct research on advanced semiconductor and optoelectronic materials
- Fabricate and characterise radiation detectors and photodetectors
- Perform structural and electrical characterisation (e.g., XRD, SEM, electrical measurements)
- Investigate charge transport mechanisms and device physics
- Prepare scientific publications and conference presentations
- Collaborate with international research partners
- Assist in supervising graduate students involved in the project

Requirements

Applicants should have:

- A PhD in Physics, Materials Science, Electrical Engineering, or a related field
- Experience in semiconductor devices, optoelectronics, or radiation detectors
- Hands-on experience in device fabrication or materials characterisation
- Knowledge of thin-film deposition or nanofabrication techniques
- Strong scientific writing skills and a publication record

- English language proficiency at a minimum B2 level (written and spoken), enabling effective scientific communication, manuscript preparation, and collaboration in an international research environment

Experience with perovskite materials, semiconductor detectors, or advanced characterisation techniques will be considered an advantage.

Salary and Benefits

The position offers a gross annual salary of 140,000 PLN, depending on qualifications and experience. The higher salary level is subject to approval by the National Science Centre.

The compensation package may also include a performance-based bonus, linked to research achievements and project milestones. Employment includes health insurance and social security coverage in Poland in accordance with the regulations of Silesian University of Technology.

Application Process

Interested applicants should submit:

- **A detailed CV** in English and Polish with a list of publications.
- **A cover letter** explaining research experience, interests, and fit for the project.
- **Contact information for two academic references,** who should send recommendation letters directly to the PI at kshehzad@polsl.pl.

Application Deadline: 15th July 2026.

This is an excellent opportunity to join an innovative and dynamic research group addressing critical challenges in materials and process development for next-generation X-ray detectors. For any enquiries, please contact: kshehzad@polsl.pl. Incomplete or late applications will not be considered. Please note that only candidates meeting the formal requirements will be contacted.

Rules and Regulations

Full-time remuneration for a post-doc position may be planned within the research project funds in the amount of PLN 140,000 per year, provided that the person to be employed meets all of the following conditions:

a) will be selected in an open competition conducted by a recruitment committee appointed by the head of the entity implementing the research project, composed of the project manager as chairperson and at least two individuals designated by him/her with appropriate scientific or professional qualifications. Candidates are evaluated based on the criteria presented in the competition announcement, with the proviso that the mandatory formal criterion for admission to the competition is obtaining a doctoral degree in the year of employment in the project or within the 12 years prior to January 1st of the year of employment in the project. This period may be extended by the time of long-term (over 90 days) documented sickness benefits or rehabilitation benefits due to incapacity for work. Additionally, this period may be extended by the number of months spent on leave related to the care and upbringing of children granted under the terms of the

Labour Code, and in the case of women – by 18 months for each child born or adopted, if this method of indicating breaks in the scientific career is more favourable. The above-mentioned period may not be shortened or extended by the competition organiser. The competition results are publicly announced by posting them on the website of the entity where the research project will be carried out;

b) has obtained a doctoral degree from an entity other than the entity where employment in this position is planned, or has completed at least 10 months of continuous and documented postdoctoral training in an entity other than the entity carrying out the project and in a country other than the country where the PhD degree was obtained;
c) will be employed for a period of no less than 6 months;
d) during the period of receiving this remuneration, will not receive any other remuneration from funds awarded as direct costs from research projects financed under NCN competitions;
e) during the period of receiving this remuneration, will not receive remuneration from another employer under an employment contract, including an employer based outside Poland;
f) during the period of receiving this remuneration, will not receive retirement benefits from the social security system.

Full-time remuneration for a post-doc may be planned for a period shorter than the research project implementation period, in an amount proportionally reduced to the period for which it is planned. A higher remuneration amount may be indicated if justified by the specific circumstances presented in the application. The justification for such an increase is subject to assessment by the Team of Experts. Employment of individuals in post-doc positions is permitted provided that the total employment period of all individuals in these positions does not exceed twice the planned duration of the project.

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Informative clause

Pursuant to Art. 13 of the Regulation on Personal Data Protection of 27 April 2016, please be informed:

1) the controller of your personal data is the Silesian University of Technology with its registered office at Akademicka 2A St, 44-100 Gliwice;

2) the Silesian University of Technology has appointed the Data Protection Officer who can be contacted via the email address: iod@polsl.pl;

3) personal data will be processed for the purpose of conducting the recruitment process for employment at the Silesian University of Technology;

4) the legal basis for processing personal data is Article 6(1)(c) of the GDPR (a legal obligation to which the controller is subject) in connection with Article 22^1 of the Labour Code and the Act of 20 July 2018 – Law on Higher Education and Science, as well as Article 6(1)(a) and Article 9(2)(a) of the GDPR (consent) in the case of personal data other than those indicated in Article 22^1 of the Labour Code;

5) personal data will not be disclosed to other entities, except in cases provided for by law. Personal data may also be transferred to partners providing technical and organizational IT support;

6) personal data will be stored for the period necessary to complete the recruitment process, or for up to 6 months after the conclusion of the recruitment process, if you have given consent for the processing of personal data for future recruitment processes;

7) you have the right to request the access to the content of your data and, to the extent provided for by applicable regulations, the right to: rectify, delete, limit processing, raise objections; if you consent to the processing of data, you have the right to withdraw your consent at any time;

8) you have the right to lodge a complaint with the President of the Office for Personal Data Protection, if you feel that the processing of your personal data violates the provisions of the General Data Protection Regulation;

9) providing data is voluntary, but necessary to achieve the purposes for which they are collected.

Khurram Shehzad

In accordance with the Act of 14 June 2024 on the Protection of Whistleblowers (Journal of Laws of 2024, item 928), we provide below a link to the Procedure for Receiving Internal Reports and Protecting Whistleblowers at the Silesian University of Technology.

https://www.polsl.pl/uczelnia/sygnalisci/