



Institute of Physics of the Polish Academy of Sciences

Scholarship for a PhD Student



Job ID: #JOB 56/2022

Job Description

Job Title: PhD student – scholarship holder

Job Summary:

Ultrafast melting and crystallization of metals

Job Description:

The aim of the proposed project is to understand the process of melting followed by glass formation and/or crystallization in metals. Pure elements and alloys in form of nanostructures (mostly thin layers) will be studied. The planned research involves the use of ultrafast annealing methods with lasers. It will be combined with structural characterization by a variety of experimental techniques involving optical, X-ray and electron scattering (including time-resolved measurements on ultrashort time scales of ps-ns), both with use of laboratory equipment available at IP PAS (optical and electron microscopy, SEM, TEM) and large scale facilities (x-ray diffraction on synchrotron sources and free electron lasers). The work will provide experimental data and analysis significant for understanding of the fundamental mechanisms responsible for melting and glass formation. The project will be carried out in the international environment, in particular in collaboration with European XFEL and Universitaet Duisburg-Essen, Germany.

Requirements:

Highly motivated student, preferably with Physics educational background and interest are desired. He/She should hold a M.Sc. degree in Physics or Materials Sciences or in a related research field (or an equivalent that qualifies one for PhD studies in physics in the country of issue). She/He should have strong interest in experimental science, but also to some extent in theoretical work. Any experience with fs laser and/or electron/X-ray-based techniques, in particular electron/X-ray diffraction will be an asset. Good programming skills in Matlab or Python will be an asset. Good communication skills in written and spoken English are necessary for efficient completion of the doctoral thesis. To be accepted, the candidate must be accepted into the PhD school in which the Institute of Physics participates. Applications for the scholarship are through recruitment to the School, online at warsaw4phd.eu.

Main research field: Physics

Sub Research Field: Solid State Physics

Career Stage: Early stage researcher or 0-4 yrs (Post-graduate)

Research Profile (details): First Stage Researcher (R1)

Type of Contract: Fixed term (39 months, with a possibility of extension up to 48 months, under condition of grant prolongation)

Status: Full-time

Salary: grant funding of **5000** PLN per month, before subtracting obligatory employer and employee social security contributions (~15%).

Contact

More information can be obtained from

Ryszard Sobierajski (e-mail: ryszard.sobierajski@ifpan.edu.pl)

<http://www.ifpan.edu.pl/SL-1/html/l-sl11.html>

Please make contact.

Application details

Application deadline: 4.01.2023 Later applications will not be considered.

Required materials:

- Scientific CV
- Cover letter
- Scan of MsC diploma or equivalent (or an explanation of when one is expected)
- Academic record (for finalized semesters)
- Recommended: A recommendation letter by an academic, or their contact email.

All materials should be submitted in electronic form by application to the PhD school warsaw4phd.eu, choosing the project: "*Ultrafast melting and crystallization of metals*".

The application system will be active from 21 December 2022.

Results regarding the position will be made available by 4 February 2023.