

Faculty of Mechanical Engineering, Silesian University of Technology announces a competition for a research scholarship in the OPUS-22 (LAP) project entitled: *Improving the fracture resistance of forging medium manganese steel under static, dynamic and cyclic loading conditions by means of fine-dispersed, partitioning-stabilized retained austenite*, project no. 2021/43/I/ST5/02658; principal investigator: Prof. Ph.D. Eng. Adam Grajcar.

Name of the institution: Silesian University of Technology, Faculty of Mechanical Engineering

Position: scholarship holder; student / PhD student

Requirements:

1. Status of a third (PhD) or second-degree (MSc) student with a materials engineering or related profile
2. Strong motivation for research, reliability, meticulousness, diligence and responsibility for the assigned work
3. Knowledge of issues regarding:
 - High-strength multi-phase steels for the automotive industry
 - Phase transformations in steels, including strain-induced martensitic transformation
 - Numerical simulation of thermomechanical processes,
 - Mechanical/thermal fatigue of metallic materials.
4. Good skills of operating laboratory equipment, including:
 - DSC / TGA calorimeter,
 - Preparations for preparing samples for observation in a scanning microscope and X-ray analysis,
 - Ansys or related software.
5. Ability to work independently and in a research team
6. Very good knowledge of English, spoken and written
7. Research experience confirmed:
 - Completed research internship or training in research techniques,
 - Authorship/co-authorship of publications in scientific journals or conference materials or presentation of research results at conferences.

Description of tasks:

The duties of the scholarship holder will include:

- Experimental work (preparation of metallographic sections and samples for testing, structural identification using SEM),
- Conducting and analyzing calorimetric and X-ray tests,
- Conducting FEM simulation,
- Analysis of research results,
- Preparing publications in English,
- Presenting research results during national and international scientific conferences.

NCN competition type: OPUS-22 (LAP) – ST5

Deadline for submitting application: August 21st, 2024, 23:59 p.m

Competition decision deadline: August 26th, 2024

Form of submission: e-mail

Conditions of employment:

Scholarship: PLN 4875 / month

Commitment period: 16 months

Start date: October 2024

Additional information:

It is possible to conduct an interview with selected candidates. Candidates will be notified electronically about the possible date of the interview.

The work is related to the implementation of a research project titled: *Improving the fracture resistance of forging medium manganese steel under static, dynamic and cyclic loading conditions by means of fine-dispersed, partitioning-stabilized retained austenite*, project no.: 2021/43/I/ST5/02658, principal investigator: Prof. Ph.D. Eng. Adam Grajcar.

The application should include:

- A cover letter containing a reference to the tasks presented in the advertisement,
- CV with a list of scientific achievements (participation in conferences, training, scientific publications, distinctions, awards, etc.),
- A copy of the diploma or diplomas confirming education.

The CV must be accompanied by consent to the processing of personal data: “I consent to processing of my personal data included in recruitment documents by Silesian University of Technology headquartered in Gliwice for the purposes necessary to carry out the current recruitment process”.

The documents should be delivered by email (in one PDF file) to the principal investigator's email address: adam.grajcar@polsl.pl. In the subject of the email, enter: scholarship holder 2 in the NCN OPUS-22 project (LAP)

Candidates will be selected and involved in the implementation of the project in accordance with the Regulations for awarding research scholarships in research projects financed by the National Science Center specified in the annex to the resolution of the NCN Council no. 25/2019 of March 14, 2019. The scholarship holder will be selected by a competition committee chaired by the principal investigator, Prof. Ph.D. Eng. Adam Grajcar.