

Project: *Designing the electronic properties of novel 2D layered crystals via alloy engineering for efficient photo-electro-chemical action*

Principal Investigator: prof. Agnieszka Jastrzębska

Position in the Project: Student

Institution: Institute of Metrology and Biomedical Engineering, Faculty of Mechatronics, Warsaw University of Technology

Requirements:

1. Student status in Mechatronics, Engineering, or Materials Science.
2. Ongoing studies - the student must be enrolled and conduct Bachelor's or Master's studies.
3. Knowledge in the field of mechatronics, engineering, and materials.
4. Experience in carrying out experimental scientific research in the field of two-dimensional (2D) materials.
5. Participation in the student scientific clubs/circles.
6. Very good soft skills towards efficient research teamwork.

General description of the project:

Warsaw University of Technology, Faculty of Mechatronics, is conducting research under the Opus 27 grant entitled "Designing the electronic properties of novel 2D layered crystals via alloy engineering for efficient photo-electro-chemical action", financed by the National Science Centre.

The scientific goal of the project is to conduct fundamental investigations into MXene-based electroactive surfaces. As part of the research tasks under the NCN project, the scholarship holder will conduct the research under WP 5: Preparation and characterization of structure, composition, morphology and optical and electrochemical properties of the alloyed 2D structures. The student will perform research on electrode development and material formulation. Develop water-based, sustainable, and environmentally friendly slurry formulations for active electrode materials (EMs). Process pristine and hybridised MXenes into aqueous printable/sprayable slurries/inks. The recruited student will also participate in preparing scientific publications and disseminating project results at scientific conferences.

What we offer:

1. Scholarship contract and competitive remuneration package.
2. Work in a dynamic and competent scientific group with an excellent research environment and international cooperation, promoting publications in high-impact journals.
3. Financial support for abroad scientific visits and attending conferences.
4. Encouragement and support in preparing grant applications and general career development.

Type of NCN Project: Opus 27 – ST.

Application deadline: 20.05.2026, 23:59.

Results available on 10.06.2026.

Submit documents to: agnieszka.jastrzebska@pw.edu.pl

Conditions of employment:

The total planned for the scholarship in the project: 48 000,00 PLN.

Preferred time of starting position: 1st July 2026.

The student should be enrolled and admitted to the Bachelor's or Master's studies.

Additional information:

To apply, please send your application, including a motivation letter, CV with the list of your publications and achievements, Master's degree thesis, alongside with contact information to the scientific supervisor and other referees (if available) to the following e-mail address: agnieszka.jastrzebska@pw.edu.pl. Incomplete applications will not be considered. We thank all applicants for their interest; however, only selected candidates may be invited for an interview. Applications will be accepted until the position is filled. If the competition winner declines to sign the contract, we reserve the right to select the next best person from the ranking list.

RODO statement:

Due to the entry into force of Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016, all candidates are requested to provide consent to the processing of his or her personal data by the institution which carries out the recruitment process. **Thus, please include in your application the following statement: "I hereby agree to the processing of my data included in the application documents by Warsaw University of Technology, Warsaw, Poland, to carry out the recruitment process."** Your personal data is processed on the basis of the Article 6 Part 1 Points (c) and (f) of the Regulation (EU) 2016/679 of the European Parliament and of the Council 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 (GDPR; Official Journal of the European Union L 119/1).