

PhD scholarship offer in OPUS project at Faculty of Chemical Technology

Position name: PhD Student - scholarship holder

Deadline for submission of applications: 21 July 2025, 23:59

Requirements:

Skills/Qualifications:

1. Hold a master's degree in chemistry, physics, chemical technology or a related specialization.
2. Be willing to undertake doctoral studies within the Doctoral School of Poznan University of Technology.
3. Be willing to teach within the Doctoral School of Poznan University of Technology.
4. Skills related to the synthesis protocols used for fabrication of different type of materials including hydro/solvothermal as well as microwave routes.
5. Skills concerning the modification methods of different type of systems.
6. The experience in doping process of inorganic materials.
7. Skills in laboratory work.
8. The experience in catalysis (photocatalysis) phenomena.
9. Knowledge of chemical technology, materials engineering, inorganic chemistry and photocatalysis process.
10. Ability to work both individually and in team.
11. Have an aptitude for scientific experimental research.
12. Have scientific interests in the synthesis of new materials, process design, as well as the use of photocatalytic processes in environmental protection.
13. Have a good command of spoken and written English (level B2 or higher), preferably confirmed by a certificate.
14. Person who is available, punctual, independent, creative in problem solving and committed to the project objectives.
15. Proficiency in computer skills, MS Office, graphing software (e.g. Origin, Sigma Plot, etc.).

Description of the tasks:

The PhD Student will participate in the project “*Design, characterization, and the performance mechanism description of heterostructured semiconductor materials in photocatalytic systems and dye sensitized photovoltaic cells*” (project funded by the National Science Centre, project number 2024/53/B/ST5/01357) under the supervision of Ph.D. Katarzyna Siwińska-Ciesielczyk, Assistant Professor at the Institute of Chemical Technology and Engineering, Department of Chemical Technology, Poznań University of Technology.

The main tasks of the PhD Student will be related to the design and synthesis of heterostructured semiconductor materials, as well as their modification with selected elements from the group of lanthanides in order to enhance their potential application of the fabricated systems in environmental protection processes. Tasks will also include depth physicochemical characterization of the fabricated materials and realization of photocatalytic tests concerning application of the synthesized materials in degradation of selected organic impurities. The PhD Student will also be responsible for data management and storage, as well as preparing research reports and scientific articles. The PhD Student will also be tasked with presenting research results at national and international conferences, expanding knowledge in the field of ongoing research through literature studies, and actively participating in scientific cooperation at national and international levels.

Duties summary:

1. Preparation, modification and characterization of heterostructured semiconductor materials (low-temperature sorption of N₂, XRD, XRF, FTIR, NIBS, TGA/DTA and others).

2. Comparative analysis of the use of heterostructured products as potential photocatalysts.
3. Comprehensive analysis of photocatalysis process.
4. Interpretation and analysis of obtained results.
5. Participation in preparation of manuscripts, results presentation.

Scholarship conditions:

1. Form of employment: doctoral scholarship (from NCN funds - 29 months), doctoral scholarship (Doctoral School - 19 months).
2. Amount of funding: 3 467 PLN gross/month for a period of 24 months. After a positive mid-term evaluation, the stipend will increase to 5 341 PLN gross/month for a period of 24 months.
3. The doctoral student will have his/her social insurance costs covered, as referred to in Article 6 (1) (7b) of the Social Security Act of October 13, 1998 (Journal of Laws of 2019, Item 300, 303 and 730).
4. Start of work in the project: **October 1, 2025.**

Eligibility criteria:

1. Resume including a list of publications, patent applications, patents and information on scientific achievements (participation in scientific conferences, scholarships, prizes and other achievements).
2. Copy of the master diploma.
3. Motivation letter with a description of past achievements and scientific interests.
4. A list of recommendations from a supervisor or other academic who can give an opinion on the candidate.
5. Statement on acknowledging and accepting the rules and regulations concerning intellectual property management and commercialization in force at the Poznan University of Technology: "I agree to the processing of my personal data contained in my application documents by Poznan University of Technology in Poznan for the purpose of the current recruitment procedure."
6. Experience in the projects research subject.

Selection process:

The first stage of the selection procedure is the formal assessment of the submitted documents. Candidates who meet the formal requirements will be selected for the interview stage.

The interview (directly or via electronic communication channels) to confirm the knowledge and skills of the candidate(s) will start on **21 July 2025, from 11:00 a.m..**

The chair of the competition committee announces the results and informs the candidates.

Call results deadline: 24 July 2025, 11:00 a.m.

Form of submission - by e-mail to: Ph.D. Katarzyna Siwińska-Ciesielczyk, Assistant Professor:
katarzyna.siwinska-ciesielczyk@put.poznan.pl