

Post-doc offer in OPUS project at Faculty of Chemical Technology

Requirements

Skills/Qualifications:

1. Skills related to the synthesis protocols used for fabrication of different type of materials including hydro/solvothermal as well as microwave routes.
2. Skills concerning the modification methods of different type of systems.
3. The experience in doping process of inorganic materials.
4. Skills in laboratory work, including the analysis techniques such as: XRD analysis, SEM and TEM analysis, EDS analysis, low-temperature sorption of N₂ (parameters of the porous structure), FTIR spectral analysis, UV-Vis spectral analysis, TGA/DTA analysis.
5. The experience in catalysis (photocatalysis) as well as photovoltaic phenomena.
6. Knowledge of chemical technology, materials engineering, inorganic chemistry and photocatalysis process.
7. Ability to work both individually and in team.
8. Have an aptitude for scientific experimental research.
9. Have scientific interests in the synthesis of new materials, process design, as well as the use of photocatalytic processes in environmental protection.
10. Person who is available, punctual, independent, creative in problem solving and committed to the project objectives.
11. Proficiency in computer skills, MS Office, graphing software (e.g. Origin, Sigma Plot, etc.).

Specific Requirements:

The competition is open for all individuals who meet the requirements specified in Article 113 of the Law on Higher Education and Science of 20 July 2018 (Journal of Laws of 2024, item 1571 ; Polish: Dz. U. z 2024 poz. 1571 t.j.) and who meet the following requirements:

1. PhD in chemical sciences/chemical engineering/materials engineering obtained not earlier than 7 years ago. This period may be extended by the duration of maternity and parental leaves, or long-term incapacity to work due to illness.
2. The project leader (dr hab. inż. Katarzyna Siwińska-Ciesielczyk, prof. PP) was not the supervisor or the auxiliary supervisor of the candidate's doctoral dissertation.
3. Doctoral degree was obtained in an entity other Poznan University of Technology or candidate completed a continuous and documented postdoctoral fellowship for at least 10 months in an entity other than the entity implementing this project and in a country other than the country of obtaining the doctoral degree.

Description of the tasks:

The post-doc 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 dr hab. inż. Katarzyna Siwińska-Ciesielczyk, prof. PP at the Institute of Chemical Technology and Engineering, Department of Chemical Technology, Poznań University of Technology.

The main tasks of the post-doc will be related to the design and synthesis of heterostructured semiconductor materials, as well as the application of the fabricated systems in environmental protection processes. Tasks will also include depth physicochemical characterization of the fabricated materials. The post-doc will also be responsible for data management and storage, as well as preparing research reports and scientific articles. The post-doctoral 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.

Deadline for submission of applications: 13 April 2025, 23:59

Conditions of employment

Benefits:

1. Stable employment based on an employment contract at the renowned university.
2. Cooperation with the interdisciplinary academic community represented by well-known scientists.
3. Scientific support as well as the possibility of qualifications improvement and professional development.
4. Access to research infrastructure.
5. Additional social benefits.

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. Personal questionnaire filled in by the candidate.
3. Copy of the doctoral diploma or a diploma confirming the candidate's habilitation degree, if applicable, information on the candidate's scientific and organizational achievements.
4. Motivation letter with a description of past achievements and scientific interests.
5. Declaration of the candidate, confirming that the Poznan University of Technology will be their primary place of work, should they be selected in the selection procedure.
6. Statement under Article 113 of the Law on higher education and science.
7. 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."
8. Experience in project implementation.
9. 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 **18 April 2025 from 11:00 am**.

The chair of the competition committee announces the results and informs the candidates. This information will include justification with a reference to candidates' strengths and weaknesses.

Specific terms and conditions

1. Form of employment: full-time employment contract
2. Amount of salary: PLN 8,600 gross/month.

3. Funding period: initially for 12 months with the possibility of extension to 24 months depending on performance.

3. Start of employment: 5 May 2025.

Call results: 22 April 2025, 12:00 pm

Form of submission: by e-mail to

dr hab. inż. Katarzyna Siwińska-Ciesielczyk, prof. PP: katarzyna.siwinska-ciesielczyk@put.poznan.pl