

Scholarship offer for student or PhD student in OPUS project at Faculty of Chemical Technology

Number of positions: 2

Requirements:

A research scholarship may be awarded to a person who is a PhD student or student of second-cycle studies at the time of starting the implementation of the project tasks.

Other requirements:

- Professional title of Master of Science in Chemistry, Chemical Technology or related fields (PhD student, student) or professional title of Bachelor of Engineering in Chemistry, Chemical Technology or related fields (student).
- Experience in the synthesis of organic compounds, porous materials fabrication, porous materials sorption tests
- Ability to interpret IR and NMR spectra, and GC or HPLC results

Ability to operate laboratory/analytical equipment (including TLC, CC, FT-IR, GC, HPLC)

Ability to operate computer software enabling the preparation of text and graphic documents (scientific text, oral presentation, poster): Microsoft Word, Powerpoint, Excel, CorelDraw.

- Good knowledge of English enabling the use of scientific literature.
- Resourcefulness, motivation for scientific work, great commitment to the research work performed and the ability to work in a team.

Description of tasks:

As part of the implementation of research tasks in the NCN project "Novel multifunctional liquid and porous materials for extractive-oxidativedesulfurization of liquid fuels" NCN OPUS-26 UMO-2023/51/B/ST8/01723. The work will be carried out under the supervision of dr hab. inż. Karolina Wieszczycka, prof. PP at the Institute of Chemical Technology and Engineering, Faculty of Chemical Technology, Poznan University of Technology.

The duties of the PhD student/scholarship holder will include:

Position 1: Co-investigation of Tasks: : 5. Fabrication of porous task-specific ionic liquid modified silica powder materials (IL-Si), 7. Incorporation of selected polyoxometalate ion into task-specific ionic liquid-modified silica powder materials (POM-IL-Si), 12. Investigation of the oxidation-extraction process of removal of selected organic sulfur compounds from the hydrocarbon phase with the fabricated IL-Si and POM-IL-Si with and without the use of an oxidant 12.1. Determination of kinetic, equilibrium and thermodynamic parameters. 12.2. Investigation of the mechanism of sulfur compounds uptake and their oxidation. 12.3. Determination of conditions for desorption and regeneration of the material

Position 2: Co-investigation of Tasks: 6. Fabrication of task-specific ionic liquid –modified poly(vinyl alcohol)-silica powder materials (IL-Si-PVA), 13. Investigation of the oxidation-extraction process of removal of selected organic sulfur compounds from the hydrocarbon phase with the fabricated IL-Si-PVA and POM-IL-Si-PVA with and without the use of an oxidant 13.1. Determination of kinetic, equilibrium and thermodynamic parameters. 13.2. Investigation of the mechanism of sulfur compounds uptake and their oxidation. 13.3. Determination of conditions for desorption and regeneration of the material

NCN competition type: OPUS 26

Deadline for submitting offers: **May 30, 2025**

Form of submitting offers: e-mail

Employment conditions:

Form of employment: scientific scholarship

Amount of financing: 2 000 PLN per month.

Funding period: 12 months

Date of competition results: June 9, 2025

Start of work in the project: July 1, 2025.

Required documents:

CV containing a list of scientific interests, acquired skills, description of previous scientific work and a list of scientific achievements, including publications, conference presentations, awards and distinctions; list of grades from the course of studies to date, reference letter from the unit where the internship was completed or the diploma thesis was written. Statement with information on processing personal data together with consent to their processing.

The project manager reserves the right to conduct a job interview on October 30, 2024 in order to verify the candidate's declared knowledge and skills. The competition results will be published on October 30, 2024 on the faculty and project websites, and will also be sent by e-mail.

Form of submission of offers: e-mail, to the address karolina.wieszycka@put.poznan.pl. Documents can be submitted in Polish and English