

ANNOUNCEMENT

DEAN OF THE FACULTY OF ENERGY AND ENVIRONMENTAL ENGINEERING

announces the competition for the position

postdoc researcher

in the Department of Technologies and Installation for Waste Management at the Faculty of Energy and Environmental Engineering, at the Silesian University of Technology in Gliwice, Akademicka 2A St.

Department: Department of Technologies and Installation for Waste Management

Faculty of Energy and Environmental Engineering

Location: Gliwice, Poland

Project Title: Unraveling the Mechanisms of Functionalized Biochar in the (Im)mobilization and Transformation of Potentially Toxic Metal(loid)s in Soil-Plant Systems for Climate Resilience

Funding: DAINA 3, National Science Center (NCN) Poland

Grant Number: UMO-2024/52/L/ST10/00263

Internal Grant Number: 08/030/PMN25/0152

Position Overview:

The Faculty of Energy and Environmental Engineering at the Silesian University of Technology is pleased to invite applications for a Postdoctoral Researcher to join the Regenerative Waste Conversion and Net-zero Emission Research Group. The position is part of a groundbreaking project titled "Unraveling the Mechanisms of Functionalized Biochar in the (Im)mobilization and Transformation of Potentially Toxic Metal(loid)s in Soil-Plant Systems for Climate Resilience," funded by the National Science Center (NCN) Poland under the prestigious DAINA 3 program.

This project investigates how biochar, specifically when functionalized to improve its efficiency, can interact with PTMs in soils, altering their bioavailability, mobility, and toxicity. By focusing on the immobilization and transformation processes, the research seeks to provide a deeper understanding of the conditions under which biochar can effectively reduce the environmental and health risks associated with PTM contamination. The successful candidate will work closely with **Prof. PŚ, dr. inż. Balal Yousaf (PI)**, experts in pyrolysis, waste conversion, and environmental remediation,

and will engage in high-impact research that aligns with global efforts for regenerative environmental management.

Key Responsibilities:

- Synthesize, functionalize, and characterize biochar using advanced techniques (e.g., FTIR, SEM-EDS, XRD) to enhance its performance.
- Develop and conduct experiments to study the effects of functionalized biochar on metal(loid) immobilization and transformation in soil-plant systems.
- Collaborate with a multidisciplinary team to investigate mechanisms of biochar-metal(loid) interactions and develop predictive models to optimize biochar applications.
- Guide and mentor Master's and Ph.D. students within the research group.
- Prepare and publish research articles in top-tier scientific journals.
- Assist in project management, including writing progress reports and contributing to future grant proposals.

Position Requirements:

- Ph.D. in Environmental Science and Engineering, Chemical Engineering, or a closely related field.
- Postdoctoral Experience: 1-5 years of postdoctoral experience in a relevant research area.
- Publication Record: Strong track record of publications in high-impact journals.
- The ideal candidate will possess strong expertise in biochar production technologies and its use in soil remediation, as well as hands-on experience with advanced analytical instruments, which are essential for the experimentation.

Additional Requirements:

- Strong communication and interpersonal skills, with the ability to collaborate effectively in a multidisciplinary team.
- Proven ability to work independently, manage time efficiently, and meet deadlines.

Research Facilities:

The selected candidate will have access to state-of-the-art research facilities, including:

- Advanced pyrolysis unit
- Pyrolysis-GCMS (Gas Chromatography-Mass Spectrometry)
- FTIR (Fourier-Transform Infrared Spectroscopy)
- Other essential instruments for conducting cutting-edge research in waste conversion and environmental engineering.

Salary and Benefits:

- I. Annual Salary: 140,000 PLN
- II. Additional Allowances: Performance-based incentives, including additional allowances for high-quality publications.
- III. Contract Duration: 1 years, with potential extensions based on performance and funding availability.

Application Process:

Interested applicants should submit:

- A detailed CV with a list of publications.
- A cover letter explaining research experience, interests, and fit for the project.
- Contact information for two academic references, who should send recommendation letters directly to the PI at balal.yousaf@polsl.pl.

Application Deadline: **28 February 2025** (Applications will remain open until the position is filled).

This is an excellent opportunity to join an innovative and dynamic research group that is addressing critical challenges in waste management and environmental sustainability. If you are passionate about waste-to-energy technologies and want to contribute to net-zero emission solutions, we encourage you to apply.

For any inquiries, please contact: balal.yousaf@polsl.pl.

Incomplete or late offers will not be considered.

Please be informed that we will contact only with the candidates that meet formal requirements.

Informative clause

According to art. 13 of the Regulation on Personal Data Protection of 27 April 2016, please be informed :

- 1) The controller of your personal data is the Silesian University of Technology with its registered office at .Akademicka 2A St, 44-100 Gliwice,
- 2) The Silesian University of Technology has appointed the Data Protection Officer who can be contacted via the email address: iod@polsl.pl,
- 3) Your personal data will be processed in order to carry out the recruitment process for work at the Silesian University of Technology,
- 4) the basis for the processing of your personal data is art. 221 of the Labour Code and, if you agree to use your CV in future recruitments at the Silesian University of Technology, art. 6 clause 1 point a of the GDPR Regulation shall apply,
- 5) only employees authorized to process personal data to the necessary extent will have access to your personal data within the organizational structure of the Silesian University of Technology,
- 6) Your personal data shall not be disclosed to other entities, except in cases provided for by law,
- 7) Your personal data shall be stored for the period necessary to carry out the recruitment process or for the next 9 months from the end of the recruitment process, if you authorize the processing of personal data in future recruitment processes,
- 8) You have the right to request the access to the content of your data and, to the extent provided for by applicable regulations, the right to: rectify, delete, limit processing, raise objections; if you consent to the processing of data, you have the right to withdraw your consent at any time,
- 9) You have the right to lodge a complaint with the President of the Office for Personal Data Protection, if you feel that the processing of your personal data violates the provisions of the General Data Protection Regulation,
- 10) providing data is voluntary, but necessary to achieve the purposes for which they are collected.

Dziekan Wydziału Inżynierii Środowiska i Energetyki

Prof. dr hab. inż. Mariusz Dudziak

