



We are announcing a position as

Scholarship Holder - Master's Student

in the Biofabrication and Bio-Instructive Materials research group

TOPIC: Composite scaffolds for skin engineering obtained by combining melt electrowriting with volumetric printing.

PROFILE: material science, biomedical engineering, chemistry or similar.

Outstanding Candidate needed. Are you willing to take up the challenge?

Job description:

The skin is the largest and one of the most complex organs of the human body, acting as a critical barrier against mechanical injury, infection, dehydration, and harmful environmental factors. While minor wounds can heal spontaneously, extensive skin damage caused by severe burns, trauma, or congenital disorders remains a major therapeutic and clinical challenge. Existing treatments, including wound patches, grafts, and commercial skin substitutes and models, often fall short due to their limited functionality and inability to replicate the complex structure and physiology of native skin closely.

Therefore, in this project, supported by the **FNP FIRST TEAM grant no. FENG.02.02-IP.05-0263/24** and implemented in collaboration with **the University of Groningen**, we aim to develop advanced, personalised skin models that closely mimic the three-layered architecture of human skin: epidermis, dermis, and subcutaneous adipose tissue. The project will focus on the functional integration of cutting-edge biofabrication technologies, including melt electrowriting (MEW) and volumetric bioprinting (VBP), with microfluidic platforms. The engineered models will provide a highly tunable, vascularised, and biologically functional platform suitable for regenerative medicine, toxicology, and translational research.

LOCATION:

The Silesian University of
Technology, Biotechnology
Centre
Gliwice, Poland

WORKING CONDITIONS:

Scholarship

APPLICATION DEADLINE:

10th September 2025

INTERVIEW:

18th, 19th September 2025

RESULTS:

End of September 2025

STARTING DATE:

October/November 2025 r.



Requirements:

We are looking for an enthusiastic, adaptable, and intellectually curious master's student with a strong drive for research and scientific exploration. We seek an individual who thrives in collaborative, interdisciplinary settings and is comfortable working within a culturally diverse, international research community.

Active participation in a degree program in materials science, biomedical engineering, chemistry, or a related field is required. Candidates should have **knowledge** of polymer synthesis, materials science, and additive manufacturing techniques. **Proficiency in English**, in speech and writing, is required.

The master's student will be involved in developing structures printed with MEW technology and in optimising the printing parameters. In particular, the focus will be on establishing durable and robust connections between the different printed layers of skin-mimicking models.

Offer:

We offer a unique opportunity to gain experience in cutting-edge biomanufacturing techniques by participating in an exciting project that addresses significant societal challenges. The successful candidate will join an engaging, interdisciplinary research environment within a newly established, enthusiastic, and international team.

The scholarship is awarded for a period of one year and amounts to **PLN 1,500 gross** per month (tax-exempt).

About the organisation:

This project will be conducted at the Biotechnology Center of the Silesian University of Technology (SUT) in Gliwice. SUT is one of the leading scientific institutions in Poland (ranked within the top 10 Polish research institutions), equipped with cutting-edge infrastructure. The Biotechnology Center brings together specialists from computer science, environmental science, chemistry, and biology to collaborate on innovative projects in the fields of bioinformatics, medical, environmental, and industrial biotechnology. The research lines include the development of new biomaterials, controlled cellular differentiation, and modelling of bioprocesses.

The Włodarczyk-Biegun lab, established here in 2019, is equipped with several printers, including a multifunctional GeSiM bioprinter with a melt electrowriting printhead, a Felix bioprinter, an FDM printer, an advanced rheometer with DMA function, a goniometer, and its own biological and chemical labs. A state-of-the-art volumetric printer (the second one in Poland) will be purchased from FNP First Team funds to implement the project. The group has solid experience in the field of biofabrication, developing new printable materials, new printing tools for hydrogel-based inks, electrowriting for the reconstruction of hierarchical structures and detailed characterisation of (bio)inks and printed scaffolds (e.g. rheology, SEM, and mechanical research).



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Additional information:

Incomplete applications or those submitted after the deadline will not be considered. Candidates selected for interviews will be contacted **after September 10th**. Please note that only candidates selected for interviews will be contacted. The hiring decision will be based on academic achievements, motivation, and the candidate's potential to fit into our interdisciplinary and collaborative team culture. The expected final candidate selection date is the **end of September 2025**.

For more information about this position and the project, please contact dr hab. inż. Malgorzata Wlodarczyk-Biegun, prof. PŚ (Associate Professor): gosia@biofabrication.group

How to apply:

1. Please send your application via email to recruitment@biofabrication.group.
2. Please include "Scholarship Applicant-Master's Student" and your name and surname in the subject line.
3. Your application should include: a cover letter describing your research interests; a short CV detailing your most important achievements; and contact information (email address and phone number).
4. Please include the following statement with your application: "I consent to the processing of my personal data contained in my application documents by the Silesian University of Technology in Gliwice for the purposes of the recruitment process."

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 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 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 authorised to process personal data to the necessary extent will have access to your personal data within the organisational 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 authorise 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.



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