



We are announcing a position as

PhD Fellow

in the Biofabrication and Bio-Instructive Materials research group

TOPIC: 3D printing of gradient hybrid scaffolds for interface tissue engineering.

PROFILE: material science, biomedical engineering, additive manufacturing or similar.

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

Job description:

As a consequence of increasing average life expectancies and increasing physical activity, such as high impact sports, our bodies constantly experience high loads, which may lead to contusions. The number of musculoskeletal injuries, causing dysfunctions and chronic pain, requiring medical interventions, is constantly growing. Especially vulnerable are zones where different tissue types are in contact, such as hard bone and soft muscle. They are characterized by a complex structure, with a gradual change in the architecture, composition, cell types, and properties. Therefore, the healing is very difficult, and currently available medical solutions are not satisfactory. The main aim of our research program is to create a functional reconstruction of interface tissues by combining the melt electrowriting technique with 3D hydrogel bioprinting to obtain gradient, multifactorial, bio-instructive scaffolds.

The offered position is funded by the NCN OPUS grant received by dr Malgorzata Wlodarczyk-Biegun.

LOCATION:

Silesian University of Technology,
Biotechnology Center
Gliwice, Poland

WORKING CONDITIONS:

Full-time
Fellowship

APPLICATION DEADLINE:

7 February 2021

RESULTS:

22 February 2021

STARTING DATE:

March 2021

Requirements:

We are looking for a highly motivated, open-minded, and creative person who enjoys working with other people in a multidisciplinary environment. **A Master's degree** in material science, biomedical engineering, additive manufacturing, or similar is required. Candidates should have **experience in additive manufacturing**; hydrogels or bioinspired materials; microscopy (light, fluorescent, confocal); rheology; mechanical testing. Expertise in **cell culture**, polymer and peptide synthesis is a plus. **Enrollment to Graduate School is mandatory** to receive the Fellowship. **Proficiency in English**, in speaking and writing, is required. Foreign internships and publications in international peer-review journals will be highly rated. We expect you to dedicate yourself to your research program which includes participating in the research project, third-cycle courses, and some teaching duties (approx. 60 hours per year).

You will contribute to the goals of the project by focusing on bioplotting of bioactive molecules and 3D (bio)printing of hydrogels. You will work on the development of new gel systems for the composite printed materials; your tasks will include material synthesis (if necessary), biofunctionalization, gel preparation, physicochemical characterization of polymer and hydrogel, characterization of printability, and co-printing with MEW meshes. You will also contribute to project-related dissemination activities, present at national and international conferences, publish results in peer-reviewed scientific journals.

Offer:

We offer a great opportunity to participate in an exciting project that deals with relevant societal challenges. You will work in an attractive, interdisciplinary environment with a newly formed international, enthusiastic Research Group. The part of the Group is located in Groningen, The Netherlands, which facilitates international collaborations and will lead to the increased impact and quality of conducted work. We provide very good conditions for the development of your independent career and international scientific network. The family-friendly working environment allows for compatibility of work and family life.

The NCN PhD Scholarship (5 000 PLN gross/month = ca. 1 150 EUR/month; exempted from tax) is offered initially for a period of one year, which will be extended to 4 years in total after a positive evaluation. You are also entitled to the regular scholarship from Graduate School, with the possibility of performance bonuses and additional living allowance for Student from abroad.

About the organization:

This project will be performed in the Biotechnology Center at 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 state-of-the-art infrastructure. The Biotechnology Center gathers specialists from computer and environmental science, chemistry, and biology to work together on innovative projects in the field of bioinformatics, medical, environmental, and industrial biotechnology. The research lines include the development of new biomaterials, controlled cellular differentiation, modeling of bioprocesses. Director of the Center, Prof. Los, is a worldwide recognized specialist in regenerative medicine and biomedicine. The institution has long-standing collaborations with medical doctors, which will facilitate knowledge exchange with specialists from the medical field and support project development into applied outcomes.

Additional information:

The offers which are incomplete or submitted after the deadline will not be considered. We will contact only selected candidates who meet the criteria of the competition. The expected date of the final selection is **22th February**.

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

How to apply:

1. Submit your application in English by e-mail to: recruitment@biofabrication.group
2. In the subject include "PhD student NCN" and your first and last name.
3. Your application should contain: a motivation letter describing your research interests; a short CV with the description of your key achievements; a list of up to 5 of your (best) publications; a copy of your diploma; your contact details (e-mail and telephone number); names and contact details of at least two potential referees.
4. Please include the following statement in your application: "I hereby agree to the processing of my data included in the application documents by Silesian University of Technology, Gliwice, Poland, to carry out 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 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.