

THE INSTITUTE OF AGROPHYSICS
OF THE POLISH ACADEMY OF SCIENCES IN LUBLIN
IS SEARCHING FOR:

PhD FELLOWSHIP (f/m)
in the Department of Natural Environment Biogeochemistry
within research project no. 2022/45/B/NZ9/00605 entitled *Splash phenomenon as a mechanism*
***of transportation of soil microorganisms* funded by National Science Center**
within programme OPUS 23

1. Requirements:

- a) Master's degree in life sciences or engineering sciences;
- b) basic knowledge of soil physics or microbiology;
- c) knowledge of laboratory techniques and apparatus for soil analysis;
- d) good command of the English language;
- e) ability to use Microsoft Office;
- f) good communication skills and ability to work as a part of a team;
- g) availability to field trip and/or measurements;
- h) substantive knowledge of the methodology of preparing soil material for research; ability to operate high-speed cameras and basic knowledge of graphic analysis of images; knowledge of operating a laser diffractometer; basic knowledge of techniques for isolating DNA and RNA and performing PCR (qPCR) reactions; documented scientific activity.

2. Job description:

The Institute of Agrophysics, Polish Academy of Sciences, [Department of Natural Environment Biogeochemistry](#) is looking for PhD student in the [Doctoral School of Quantitative and Natural Sciences](#).

PhD thesis proposal:

The quantitative and qualitative description of the transportation of soil microorganisms during the splash phenomenon.

- The PhD studies will take place for 48 months (from 01.10.2023) at the Department of Natural Environment Biogeochemistry, Institute of Agrophysics, Polish Academy of Sciences, Lublin, Poland under scientific supervision of prof. dr hab. Andrzej Bieganski (a.bieganski@ipan.lublin.pl) the supervision of the Project Principal Investigator - dr inż. Michał Beczek (m.beczek@ipan.lublin.pl).
- The doctoral scholarship is financed by the National Science Centre, Poland – OPUS-23. The scholarship is guaranteed for a period of 48 months.
- Language of PhD course and thesis: English or Polish.
- The condition for the Candidate's involvement and payment of the scholarship in the OPUS-23 project under the conditions set out in the Act on Higher Education and Science of 20 July 2018

(Journal of Laws 2022 item 574 as amended) is his/her admission to the Doctoral School of Quantitative and Natural Sciences. Details (documents, procedures, deadlines) are available on [the website](#).

Soil splash (splash erosion) occurs when falling raindrops cause the detachment and ejection of soil particles displaced over different distances. This phenomenon, which is the first stage of water erosion process, is relatively well studied. However, the mechanism and effect of splash in the context of microorganism transportation is very poorly understood. Yet, it is obvious that microorganisms can be carried from soil together with the detached and ejected particles.

The research conducted under the project which provides the basis for the doctoral thesis, will be interdisciplinary in nature, dealing with issues in both soil physics and microbiology. With high-speed imaging technique and the use of high-speed cameras, soil splash characterization will be carried out by determining the number of splashed particles, as well as their parameters such as sizes and the range over which they will be carried. The use of modern microbiology research techniques (qPCR, NGS) will allow to determine the number of microorganisms and microbial community composition carried in the splashed soil material. The compilation of achieved results will make it possible to relate the basic processes of particle ejection and their characteristics to the spread of soil bacteria. The obtained knowledge will contribute to a better understanding of microbiota transport in agroecosystems and the results obtained will be complementary to previous studies on microbial transportation by other mechanisms (e.g. soil water, wind). A better understanding of the mechanism of bacterial transportation through the soil splash seems to be essential in the context of understanding the ways and consequently preventing the spread of diseases caused by bacteria not only in relation to plants but also in terms of animal and human infections.

Do not hesitate to contact with dr inż Michał Beczek (m.beczek@ipan.lublin.pl) with any question related to the PhD project.

- 3. Funding scheme:** OPUS-23
- 4. NSC panel name (Research field):** NZ9
- 5. Deadline for submitting applications:** till 17.08.2023, 2:00 p.m. UTC+2
- 6. How to apply:** in electronic form via our Recruitment System:
<https://career.ipan.lublin.pl/en/announcements/> and additionally in person or by traditional mail or by e-mail in accordance with the rules presented on [the website](#).
- 7. Interview:** 31.08.2023, with the stipulation the deadline can be changed.
- 8. Results will be announced by:** 29.09.2023, with the stipulation the deadline can be changed.
- 9. Terms of employment:**
The successful candidate will receive scholarship for 48 months, under the rules of Act on Higher Education and Science of 20 July 2018 (Journal of Laws of 2022 item 574 as amended) in the amount of PLN 5,000.00 per month, reduced by ZUS due contributions on the side of the scholarship holder and the Institute up to the month of a mid-term evaluation and in the amount of PLN 5,000.00 monthly, reduced by ZUS due contributions on the side of the scholarship holder and the Institute after a positive mid-term evaluation result. **Please be informed the amount stated above also include contributions and benefits payable by the Institute (total scholarship cost), therefore the gross amount of scholarship will be calculated as the above values being reduced accordingly.**

10. Additional information:

- a) The recruitment process is organized as an open competition pursuant to the terms and conditions stated in The Act on Higher Education and Science of 20 July 2018 (Journal of Laws of 2022 item 574 as amended).
- b) After the deadline for submitting applications will expire, the Committee may conduct interviews with candidates. In this case, each candidate will be informed individually about the first stage results, as well as the date of the interview.
- c) The Institute reserves the right to award the fellowship to the candidate ranked 2nd, only if the chosen candidate resigns before signing the fellowship agreement.

11. Required documents:

- 1) letter of application addressed to the Chairperson of the Committee – dr Michał Beczek;
- 2) Curriculum Vitae with an information on meeting requirements regarding competences and abilities, a summary of scientific accomplishments and awards (including in particular: published scientific papers, conference speeches, participation in research projects, internships, training courses as well as other research achievements and scientific distinctions);
- 3) copy of MSc diploma;
- 4) recommendation letter issued by the research supervisor (additional document appreciated);
- 5) declaration of availability to work in the Project with the indication of the starting date 1st October 2023;
- 6) declaration of consent to the processing of personal data contained in the fellowship offer for the needs of the recruitment process in accordance with the example below:

*„I allow my personal data stated in the abovementioned applications to be processed for the purpose of the recruitment by the Institute of Agrophysics of the Polish Academy of Sciences (20-290 Lublin, ul. Doświadczalna 4), in accordance with the General Data Protection Regulation (EU) 2016/679.”**

*) Information clause on personal data is available on the following website:

<http://www.ipan.lublin.pl/wp-content/uploads/2019/02/information-clause-IA-PAS.pdf>

If you are interested in this position please send your application via our Recruitment System by 17.08.2023, 2:00 p.m. UTC+2: <https://career.ipan.lublin.pl/en/announcements/>

In addition, the Candidate should submit an application to Doctoral School of Quantitative and Natural Sciences according to information on [the website](#).

We kindly inform that we contact only chosen candidates and also applications that are incomplete, submitted after the deadline or in the different form than required will not be processed.