

**ICHB PAN RECRUITMENT NO. 8/2026/SN
FOR POST-DOC POSITION**

INSTITUTION: Institute of Bioorganic Chemistry, PAS
ADDRESS: 12/14 Noskowskiego Str., 61-704 Poznań
POSITION F/M: post-doc
POSITIONS AVAILABLE: 1
SCIENTIFIC DISCIPLINE: biological sciences
PUBLICATION DATE: 20.07.2026
APPLICATION DEADLINE: 20.08.2026
IBCH PAS WEBSITE: <https://portal.ichb.pl/homepage/>

KEYWORDS: bioinformatics, metagenomics, metabolomics, cancer, machine learning, artificial intelligence
Principal Investigator: dr hab. Natalia Szóstak
Research topic: Prediction of response to immunotherapy in melanoma using metabolic signatures of the gut mycobiome.

I. Project description

The main objective of the project is to develop novel, interpretable predictive models for response to immunotherapy in patients with advanced melanoma, based on the functional activity of gut fungi (mycobiota) and their metabolites. Current research indicates that the gut microbiome plays a significant role in modulating immune responses and the efficacy of cancer immunotherapies; however, most existing studies focus on bacteria and taxonomic descriptions, which offer limited predictive power and poor biological interpretability. This project focuses on the underexplored fungal component of the microbiome, which exhibits distinct metabolic capacities and the ability to interact with both the host immune system and bacterial communities. It is hypothesised that the functional and metabolic properties of the gut mycobiota, rather than its taxonomic composition alone, may represent a key determinant of response to immunotherapy. The analyses will be conducted on a cohort of patients with advanced melanoma treated with immune checkpoint inhibitors (anti-PD-1 therapy), using metagenomic, metabolomic, and clinical data. Integration of these datasets will enable the identification of metabolic pathways and metabolites associated with treatment efficacy, as well as the development of machine learning models with high predictive performance and strong biological interpretability. The ultimate aim of the project is to move from descriptive microbiome analyses towards a functional and mechanistic understanding of the role of the gut mycobiota in modulating anti-tumour immune responses, and to identify potential non-invasive biomarkers of immunotherapy response, which may contribute to the development of precision oncology.

Research shall be carried out within the 2025/59/D/NZ2/00484 NCN project entitled "Prediction of response to immunotherapy in melanoma using metabolic signatures of the gut mycobiome", funded by National Science Centre.

II. Requirements for the candidates:

The candidate should have:

1. Ph.D. (or equivalent) in biological sciences, bioinformatics, computer science, or related disciplines.

2. Experience in analysis and integration of multi-omics data (metagenomics, metabolomics, immunophenotyping data).
3. Strong background in machine learning and statistical modeling, preferably in biomedical applications.
4. Proficiency in Python and/or R, as well as command-line bioinformatics tools.
5. Experience with high-performance computing (HPC) environments, including the use of job scheduling systems (e.g. Slurm) – considered an asset.
6. Very good command of English, enabling effective communication, as well as the reading and preparation of scientific papers.
7. Strong motivation for further development, be characterized by independence, good organizational skills, effective communication, and the ability to work in a team.

*According to NCN requirements, only individuals who obtained a doctoral degree no earlier than 12 years before the year of employment in the project may be admitted. This period may be extended by the time spent on long-term (over 90 days) documented sickness benefits or rehabilitation benefits due to incapacity for work. Additionally, the period may be extended by the number of months spent on leave for the care and upbringing of children, as specified under the Labor Code. For women, this period may also be increased by 18 months for each born or adopted child if this method of accounting for breaks in the scientific career is more advantageous.

Furthermore, according to NCN requirements, individuals who obtained a doctoral degree at an institution other than the Institute of Bioorganic Chemistry of the Polish Academy of Sciences, or those who earned the degree at ICHB PAN but completed a continuous, documented postdoctoral internship of at least 9 months at an institution other than the project-implementing entity and in a country different from where the doctoral degree was obtained, may be admitted.

III. Duties in the project:

1. Active involvement in the project, including planning and conducting multi-omics analyses (metagenomics, metabolomics, and immunophenotyping), as well as interpretation of results using bioinformatics and machine learning methods.
2. Preparing summaries and reports.
3. Continuously expanding knowledge in areas relevant to the project.
4. Preparing scientific publications.
5. Supervising the work of students and PhD students.
6. Presenting results at seminars, scientific meetings, and conferences.

IV. Required documents:

1. Application to the Director of IBCH PAN, containing contact details of previous scientific supervisors or other scientific employees who can give an opinion on the candidate.
2. A copy of the diploma confirming the achievement of the doctoral degree.
3. Scientific CV containing, among others, information on scientific, didactic and organizational achievements, including a list of scientific publications, information on management or participation in research projects.

V. Applications should be submitted via the eRecruiter portal at

<https://system.erecruiter.pl/FormTemplates/RecruitmentForm.aspx?WebID=208f227e631e443db34b85f13ec834e1>

VI. Submission deadline is 20.08.2026.

VII. After an initial verification based on the submitted documents, selected candidates will be invited to a job interview, during which the candidate recommended for employment will be chosen. The main criteria considered in the selection process will include: (i) scientific achievements (publications), (ii) relevance of previous experience to the research tasks planned within the project, and (iii) experience gained during research internships.

VIII. The recruitment procedure shall be concluded no later than **17.09.2026**

IX. Additional Information:

The position is available immediately (depending on the competition results) and is offered for a period of 36 months, with the possibility of extension. The expected salary is approximately PLN 14,250 gross. Employment will be in accordance with the provisions of the Labor Code.

For additional information please contact the Principal Investigator:

dr hab. Natalia Szóstak

e-mail: nszostak@ibch.poznan.pl

Information clause:

Pursuant to the stipulations of the regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation), further referred to as GDPR, we hereby inform that:

1. *The Institute of Bioorganic Chemistry, Polish Academy of Sciences, seated in Noskowskiego St. 12/14, 61-704 Poznan; REGON 000849327, NIP 777-00-02-062 is the administrator of the collected personal data (further referred to as the Institute).*

2. *The Administrator appointed a Data Protection Officer, who can be contacted in writing, via traditional mail, by sending a letter to the following address: Z. Noskowskiego St. 12/14, 61-704 Poznan, or by sending an e-mail to: dpo@ibch.poznan.pl.*

3. *The personal data of the candidates is processed for the purposes of fulfilling the tasks of the administrator, associated with conducting the recruitment procedure for a vacant position.*

4. *The legal basis for processing personal data is the Act of 26 June 1974 – The Labor Code, Act of 30 April 2010 on the Polish Academy of Sciences or the consent of the person whose data shall be subjected to processing.*

5. *Your personal data shall be subjected to processing for period of 3 months upon the date of decision of the recruitment committee. Following this period, the data will be irretrievably and effectively destroyed.*

6. *The personal data of the candidates shall not be transferred to any third country.*

7. *The person whose data shall be subjected to processing has the right to:*

- *request access to his/her personal data, and to amend it or delete it, pursuant to articles 15-17 of GDPR;*
- *limit data processing, in the events stipulated in article 18 of GDPR;*
- *data transferring, pursuant to article 20 of GDPR;*
- *withdraw consent at any moment, without influencing compliance with the law of the processing that was executed prior to consent withdrawal;*
- *file a complaint to the Inspector General for Personal Data Protection.*

Providing personal data in the scope stipulated in article 22 (1) of the Act of 26 June 1974 – The Labor Code is mandatory, whereas providing data in a broader scope is voluntary and requires consent for its processing.

Protection for whistleblowers

In the case of reporting violations using a dedicated system for whistleblowers, the reporting person's data will be processed in accordance with applicable provisions on the protection of personal data, including the above-mentioned Regulation (EU 2016/679 of 27 April 2016). We ensure confidentiality and protection of the identity of reporting persons, and that their data will not be disclosed without their consent, unless the law provides otherwise. Detailed rules regarding the protection of personal data and procedures for reporting violations of the law can be found in our Regulations on internal reporting at the Institute of Bioorganic Chemistry, Polish Academy of Sciences, available at the link: <https://portal.ichb.pl/wp-content/uploads/2024/10/INTERNALREPORTINGREGULATIONS.pdf>