

KSN 12/2023

Krakow, 23.10.2023

## **Call for Research Assistant position in the Theoretical and Experimental Biocatalysis research group**

- Employer: Jerzy Haber Institute of Catalysis and Surface Chemistry Polish Academy of Sciences, Krakow, Poland
- Research field:
  - Chemistry > inorganic chemistry, organic chemistry
  - Biotechnology > industrial microbiology
- Researcher profile: R2, R3
- Deadline for the applications: 23.11.2023, godzina 15:00 GTM+1
- Place: Poland, Krakow
- Type of Contract: 12 months
- Job Status: full time
- Working hours/week: 40
- Start of employment: 01.01.2024
- Keywords: Biopolymers, polyhydroxyalkanoates, fermentation processes in reactors, scaling up biosynthesis processes in reactors, running biological processes on a semi-industrial scale, enzyme catalysis, chemical synthesis of new biologically active substances, bacterial drug resistance, microbiology, detection of biologically active substances in the environment

Jerzy Haber Institute of Catalysis and Surface Chemistry Polish Academy of Sciences, Krakow, Poland invites applications for a position of a Research Assistant in the Theoretical and Experimental Biocatalysis research group.

The candidates who meet the conditions stated in the act “Ustawa o Polskiej Akademii Nauk” dated 30 April 2010 (Dz.U. 2018 poz. 1475 z póź. zm.), art 89. Ust. 4 for the position of Research Assistant are encouraged to apply for the position.

The Bioprocess Development Laboratory, which operates in the Theoretical and Experimental Biocatalysis research group, is a dynamic research centre focusing on innovative research in the field of bacterial fermentations, and mainly specialises in the synthesis of bacterial polymers, called polyhydroxyalkanoates (PHAs). The laboratory's activities focus on the



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development of novel ideas related to modern biorefining, where the biomass or the proteins produced by it are the key product.

As part of the intensive research conducted by the research group, bacterial fermentation strategies are being developed to efficiently valorise substrates from diverse biomass sources. The laboratory aims to create sustainable and environmentally friendly solutions in the area of polymer production by exploiting the potential of bacteria to synthesise biodegradable materials.

In addition, the research group focuses on finding new applications for the resulting PHA polymers, both in the medical field and in the wider industry, including the medical industry. Research is focused on identifying potential therapeutic properties and biocompatibility of the obtained materials, which opens up prospects for innovative solutions in the field of therapy and diagnostics.

The laboratory's activities are geared towards the integration of theoretical and experimental knowledge, which allows for a comprehensive understanding of biocatalysis processes and the effective application of the results obtained in practice. The research group is committed to collaborating with scientific and industrial partners, aiming to transfer technology and bring innovative solutions to the market.

The Assistant's responsibilities will in particular include:

- Performing a variety of microbial fermentations (both bacterial and yeast-based)
- Development of microbial culture strategies in bioreactors
- Scaling up of bacterial fermentation processes to semi-industrial volume (200 L)
- Collaboration with industrial partners and development of R&D project strategies according to partner needs
- Reporting results and evaluating achievements in the context of project objectives,
- Ensuring effective communication between the team and industrial partners
- Participate in research planning, analysis of results, preparation of scientific publications and conduct of scientific projects
- Presentation of research results at thematic national and international conferences
- Chemical synthesis of compounds with biological activities
- Operation of specialised laboratory equipment including: UHPLC-MS/MS, HPLC-DAD, GC-FID, GC-MS, 5L, 30L, 200L bioreactors, flow centrifuge.
- Development, validation and verification of analytical methods as part of research projects.

### **Required education level:**

The candidate should hold doctoral degree in science in the discipline of chemical and related sciences.

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### Skills/Qualifications

1. a minimum of 4 years' experience working under sterile conditions with bacteria and the ability to conduct microbiological cultures in bioreactors at laboratory and semi-industrial scale (0-20 points)
2. experience in laboratory work with SOP procedures and working knowledge of GLP (0-20 points)
3. a minimum of 5 months' scientific experience in a foreign scientific unit or pharmaceutical company as part of an internship (internship certificates required) (0-20 points)
4. ability to carry out basic assays for biologically active substances such as determination of MIC, MBC or genotoxicity (0-20 points)
5. experience in working with high-performance liquid chromatography in tandem with a mass spectrometer, attested by scientific output and certificates (0-20 points)
6. ability to carry out basic chemical syntheses, including biologically active compounds, and to purify the compounds obtained using FPLC techniques (0-20 points)
7. familiarity with the use of specialised laboratory apparatus such as: UHPLC-MS/MS, HPLC- DAD, GC-MS, GC-FID (0-20 points)

The minimum number of points of the successful Candidate: 70.

### Specific requirements:

An application should contain:

- a letter of application;
- “Consent to the processing of personal data for the needs necessary to carry out the recruitment process” in accordance with the Act of 29 August 1997 on the protection of personal data (t.j. Dz. U. z 2016 r. poz. 922, z 2018 r. poz. 138, 723.) [[FORM](#)] and “Information obligations – recruitment of a perspective employee/collaborators” confirming acquainting with its content [[FORM](#)] (both documents filled and signed by the Candidate);
- a copy of Ph.D. degree certificate or a confirmation of its completion;
- full CV (including information on maternal leaves, voluntary work, and periods of work in the industry);
- at least one current opinions on the Candidate given by previous supervisors, preferentially an independent researcher;
- list of scientific achievements (scientific papers, research and implementation projects, grants, conferences etc.).



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- report on the Candidate's scientific interests and research aims taking into consideration reference to the subject of the project (an A4 page).

### Languages:

Fluent in written and spoken Polish and English;

### Research experience:

- 1-4 years of experience

### Remuneration:

The gross salary **4350 PLN/month** (roughly **960 Euro/month**) depending on the Candidate's experience.

### Eligibility criteria:

- A doctoral degree in science in the discipline of chemical and related sciences
- Proven track record of JRC-listed publications or patents (applications, patents) confirming the required experience.
- Completion of a research internship(s) at centres other than those where the doctoral degree was obtained.

### Selection process:

Applications should be sent in electronic form to: [sekretariat@ikifp.edu.pl](mailto:sekretariat@ikifp.edu.pl) with the subject title „Assistant - Biocatalysis KSN 12/2023”

Deadline for applications: **23.11.2023 at 15:00 GMT+1**. The competition will be settled by 07.12.2023. The candidates will be notified of the results.

**The employment will proceed in accordance with the rules of the Labour Code for 12 months.**

### Additional information

The Institute has adapted to the needs of the disabled. The Institute does not provide accommodation. The recruitment process is conducted according to [OTM-R policy](#).