

## Assistant Professor in the group of “Theoretical and Experimental Biocatalysis”

- Employer: Jerzy Haber Institute of Catalysis and Surface Chemistry Polish Academy of Sciences, Krakow, Poland
- Research field:
  - Chemistry > biochemistry
  - Chemistry > computational chemistry
- Researcher profile: R2
- Deadline for applications: 05.02.2020, 15:00 – CEST
- Place: Poland, Kraków
- Type of contract: to be defined later
- Employment contract: full-time
- Working hours/week: 40
- Start of employment: 16.03.2020

Jerzy Haber Institute of Catalysis and Surface Chemistry PAS invites applications for an Assistant Position in the “Theoretical and Experimental Biocatalysis” 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 5 for the position of assistant professor (adjunct) are encouraged to apply for the position.

The Candidate will take part in research conducted by the group of Theoretical and Experimental Biocatalysis, which focus on study of reaction mechanisms catalysed by enzymes originating from facultative anaerobic bacteria such as *Sterolibacterium denitrificans*, *Aromatoleum aromaticum* or *Thauera aromatica*. The scope of these studies will encompass both experimental aspects, such as bacteria cultivation under anaerobic conditions, isolation of enzymes and their biochemical characterizations, kinetic studies (steady- and pre-steady-state), reactor tests, reaction engineering, as well as theoretical aspects such as homology modeling, molecular dynamics simulations of enzyme-substrate complex, parametrization of metal cofactors with quantum-chemical methods, testing the obtained parameters in QM:MM or MD calculations. The Candidate as an assistant professor will be also expected to initiate new topics of research in the field of enzymology.

In particular the assistant professor will be responsible for:

- Cultivation of bacteria and isolation of enzymes;
- Full biochemical and catalytic characterization of the isolated biocatalysts;
- Optimization of reactor conditions with isolation and identification (LC-MS) of the obtained reaction products;
- Conducting theoretical studies of the selected enzymes using MD and QM methods
- Writing scientific papers and patent applications;
- Preparation of the grant applications that will provide support funding for the conducted research and will provide funding for new areas of studies initiated by the candidate.

***Required education:***

PhD in chemistry

***Skills/qualifications:***

1. MSc in Chemistry, Biochemistry, Biotechnology or related and PhD in Chemistry
2. Experience in cultivation of aerobic and anaerobic microorganism including experience in running fermenters (50-100 l);
3. Experience confirmed by publication record (JCR journals) in chromatographic techniques for analysis of small molecules (LC-MS) and preparative purification of proteins (FPLC);
4. Experience confirmed by publication record (JCR journals) in conducting kinetic tests and biocatalytic synthesis in reactor systems;
5. Experience confirmed by publication record (JCR journals) in molecular modeling: homology modeling of proteins, molecular dynamics of proteins, quantum chemical calculations, parametrization of metallic cofactors;
6. Scientific achievements (publications in journals from the Journal Citation Reports (JCR) list, participation in conferences, participation in research projects) in the area of biocatalysis. Experience of preparation of patent application will be an advantage;
7. Ability to obtain financing for research proven by record of acquired grants will be an advantage;
8. At least 6 months (i.e. 24 weeks) of research experience in biocatalysis, microbiology or molecular modeling of proteins undertaken in the scientific institutions other than that issued PhD to the candidate;

### *Specific requirements*

1. An application.
2. 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.) and fill in the form „Obowiązek informacyjny dla osób mających podjąć pracę/współpracę” confirming acquainting with its content. The form is available on the institute website [[FORM](#)].
3. A copy of scientific degree certificate.
4. Full CV (including information on maternal leaves, voluntary work and periods of work in the industry).
5. At least one opinion on the Candidate given by an independent researcher.
6. List of scientific achievements (scientific papers, patent, patent applications, grants etc.).
7. Copies of 3 best publications connected to the topic of the call.
8. The Candidate's own report on his/her scientific interests and research aims (an A4 page).

### *Languages*

English – fluent in speech and writing

### *Research experience*

Experience in conducting experimental research in the field of enzymology and microbiology as well as molecular modelling of proteins. Experience acquired in different scientific institutions associated with topic of the call. Experience in preparation of patent applications.

### *Additional information:*

#### **Remuneration:**

The brutto salary will be at least 4680 PLN/month depending on the Candidate's experience.

#### **Eligibility criteria:**

- Proven record in conducting research in the filed biocatalysis (papers from JRC or patents);
- Scientific stay(s) in institutions other than where PhD studies were done – 6 months minimum.

## Selection process

Applications should be sent in electronic form to: [ncikifp@cyf-kr.edu.pl](mailto:ncikifp@cyf-kr.edu.pl), with the message subject “Assistant professor – biocatalysis KSN 1/2020”

Deadline for applications: 05.02.2020 at 3:00 pm CEST. The competition will be settled by 13.03.2020. The candidates will be notified of the results.

The employment will be proceeded with accordance to the rules of Labour Code for at least 12 months.

## Additional information:

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