

**IBCH PAS RECRUITMENT PROCEDURE NO. 8/2023/SN  
FOR THE POSITION OF A POSTDOCTORAL RESEARCH ASSISTANT**

INSTITUTION: Institute of Bioorganic Chemistry, Polish Academy of Sciences, Department of Cancer Genetics  
CITY: Poznan  
POSITION: assistant professor (post-doc)  
POSITIONS AVAILABLE: 1  
SCIENTIFIC DISCIPLINE: biological sciences  
PUBLICATION DATE: **March 8, 2024**  
APPLICATION DEADLINE: **April 18, 2024**  
WEBSITE: <http://www.ibch.poznan.pl>

**KEY WORDS:** human genetics, Birt-Hogg-Dubé syndrome, Tuberous Sclerosis Complex, Hereditary Leiomyomatosis and Renal Cell Cancer, ultrasensitive next generation sequencing, somatic mutations, skin tumors, lung cysts

**Principal Investigator:** dr Katarzyna Klonowska

**Research topic:**

We offer the position of an Assistant Professor (post-doc) within OPUS 25 (2023/49/B/NZ5/03438) project, entitled “*Ultrasensitive profiling of mutations driving tumorigenesis in hereditary syndromes associated with tumor suppressor genes inactivation*”, funded by the National Science Centre.

**Birt-Hogg-Dubé (BHD)** syndrome is one of the hereditary syndromes associated with inactivation of tumor suppressor genes, i.e., genes that help to protect cells in our bodies from tumorigenesis. The key gene in BHD pathogenesis is a tumor suppressor gene called folliculin (*FLCN*). Individuals with BHD have tumors in several organs including the skin and kidney, and also develop cysts in lungs. **It is suspected that the skin tumors and lung cysts that develop in BHD are due to somatic mutations (‘second hits’) occurring in *FLCN* but the genetic pathomechanism of their development is unknown.** BHD has similarities to **Tuberous Sclerosis Complex (TSC)** tumor suppressor syndrome, in which tumors occur due to somatic mutations in either *TSC1* or *TSC2* tumor suppressor genes. We have recently developed a method (i.e., ‘MHPA’ method) for **ultrasensitive detection of somatic mutations**. Using this method, we performed an analysis of somatic mutations in facial skin samples from TSC patients. The analysis led to the discovery that the UV component of sunlight causes numerous *TSC2* somatic mutations in facial skin, generating >10,000 facial skin tumors in most TSC patients.

We hypothesize that **UV in sunlight also causes mutations in the *FLCN* gene in the BHD skin tumors**, since BHD patients also develop a lot of skin tumors in sun-exposed body areas. In this project, we plan to use our new MHPA method to analyze *FLCN* in a large set of BHD skin tumors. Confirming this hypothesis would deliver **completely novel insights into how skin tumors develop in BHD**. We also plan to use the MHPA method for ultrasensitive analysis of a large set of BHD lung samples.

In addition, in this project we plan to perform an **ultrasensitive profiling of mutations in skin in other syndromes associated with tumor suppressor gene inactivation**, i.e., **TSC and Hereditary Leiomyomatosis and Renal Cell Cancer (HLRCC)**. This will **expand our knowledge on the currently unknown somatic mutations spectrum and genetic pathomechanisms** for these two additional tumor suppressor syndromes, and enable comparison among findings for all three syndromes studied in this project.

In addition, using our own research findings and publicly available data, we will prepare a **catalogue of somatic mutations and genes frequently mutated in normal skin, benign skin tumors** (like skin tumors in BHD, TSC, and HLRCC), and **malignant skin tumors** (like basal cell carcinoma, squamous cell carcinoma, and melanoma).

Institute of Bioorganic Chemistry of the Polish Academy of Sciences (**IBCH PAS**), in which this project will be carried out, is **one of the leading research entities specialized in chemistry, molecular biology, and biomedicine in Poland** (considering the number and quality of research papers published and grants awarded). The job will be performed in a **young, dynamic group**, providing opportunities for successful publication of research results. The position in the project is a great chance to develop and gain further experience in human genetics and computational biology, and also access to cutting-edge technologies. Work and experience gained in IBCH PAS, and within the group in which the project will be performed, give a **solid ground for future applications for various types of grants or stipends**.

### **I. Requirements for the candidates:**

1. A PhD degree in molecular biology, computational biology, biotechnology, biochemistry or related sciences\*.
2. Well-documented research achievements in the form of research papers, published in reputable research journals (found in the Web of Science database, including first- authorship papers).
3. Experience in human genetics and/or molecular genetics of cancer and/or computational biology and/or biostatistics, or in other fields of molecular biology. Experience in work with R and Python will be an additional advantage.
4. Readiness to actively expand knowledge and skills.
5. Strong motivation to work and commitment to the project.
6. Ability to work and solve problems independently, as well as the ability to work in a team.
7. Good command of spoken and written English, enabling efficient communication and preparation of publications.

\*In accordance with the requirements of the National Science Center, only those candidates who received their PhD degree in the year of employment in the project or within 7 years before January 1 of the year of employment in the research project, are eligible for recruitment (In the case of persons who obtained more than one doctoral degree, the reference date is the date of obtaining the first of them). This period of 7 years may be extended by the time spent on long-term (over 90 days) documented sickness leaves or rehabilitation allowances due to incapacity for work. In addition, this period may be extended by the number of months spent on parental or related leaves governed by the stipulations of the Labor Code. In such cases, the aforementioned 7-year period shall be extended by additional 18 months for every descendant or adoptee. Female applicants may choose this way of indicating breaks in their research career, if it is more favorable in a given case.

Moreover, only those candidates who (i) obtained their PhD degree at an institution other than the Institute of Bioorganic Chemistry, PAS, or (ii) have obtained their PhD degree in the Institute of Bioorganic Chemistry, PAS but in addition have completed a continuous and evidenced post-doctoral fellowship with duration of at least 10 months in institution other than IBCH PAS outside Poland, are eligible for recruitment.

The offer is dedicated for experienced researchers, holding at least a PhD degree, to carry out research in the field of human genetics, particularly cancer genetics, computational biology and NGS (Next generation Sequencing) data analysis.

## II. Job Responsibilities:

1. Planning and performing experiments, and preparation of the results summary and their interpretation.
2. NGS data analysis and statistical analysis.
3. Preparation and assistance in preparation of the publication manuscripts.
4. Critical reading of the literature related to the research topic.
5. Presenting results at seminars and scientific meetings.
6. Supervising students.

## III. Required documents:

1. Letter of application to the Director of IBCH PAS with a statement confirming that the Institute shall be the candidate's primary place of employment, along with a consent for the Institute to include the recruited employer in the N figure.
2. CV featuring information on the candidate's scientific track record, including the list of papers published in journals listed in the Web of Science (WoS) database, stating the IF in accordance with WoS, number of citations and the H-index.

In addition, depending on the candidate's track record, the application may contain:

- list of additional papers;
- list of patents;
- information on the previously managed projects or participation in project implementation;
- information on the accomplished research internships;
- information on the awarded prizes and distinctions.

3. Copy of the doctoral diploma.
4. Preferable contact details of potential referees.

## IV. Applications should be submitted via the eRecruiter portal

<https://system.erecruiter.pl/FormTemplates/RecruitmentForm.aspx?WebID=b72579a23fd24ea3a1383bad88079131>

## V. The submission deadline is April 18, 2024.

## VI. Selection of candidates:

Following preliminary verification, based on the application documents, selected candidates will be invited to an interview, as a result of which a candidate recommended for employment shall be appointed. The main criteria, taken into consideration during the selection of the candidates, will be: (i) research output (research papers published), (ii) compliance of the previous experience with the tasks planned within the framework of the project (in the following order: genetics, cancerous diseases, some other experience in molecular biology/biotechnology or computational biology), (iii) experience gained during a long-term, foreign internship.

## VII. The recruitment procedure shall be concluded no later than on April 30, 2024.

## VIII. Start and duration of the position.

Employment shall take place in compliance with the provisions of the Labor Code of Poland.

- **Employment is available instantly (depending on the result of the recruitment procedure).**
- **The position is available for the period of 46 months, with possible extension.**
- **Monthly full remuneration cost approximately 11667 PLN (total employment cost; ca. 9600 PLN gross/month).**

For more details, please contact:

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#### **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:*

- *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).*
- *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](mailto:dpo@ibch.poznan.pl).*
- *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.*
- *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.*
- *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.*
- *The personal data of the candidates shall not be transferred to any third country.*
- *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.*