INSTITUTE
OF HUMAN GENETICS
POLISH ACADEMY OF SCIENCES

[37/2022/IGC/PSD] Announcement concerning recruitment to the Poznań Doctoral School of the Institutes of the Polish Academy of Sciences (PDS IPAS) as part of a research project

The Director of the Institute of Human Genetics, Polish Academy of Sciences (IHG PAS),
and leader of the current research project, **Kinga Katarzyna Bednarek, PhD**
gives notice of an open competition to be held for the position of
PhD student-scholarship holder at the Poznan Doctoral School of Institutes PAS,
Department of Cancer Genetics IHG PAS
Number of vacancies: **1**

I. General information

1. Department in which candidate would work: **Department of Cancer Genetics**
2. Discipline: **Medical Science**
3. Planned remuneration: scholarship to the value of about **4300 PLN gross/per month (3800 PLN net /per month)**
4. Period of involvement in research project: **34 months**
5. Deadline for submission of documents: **11.09.2022 r.**
6. Date of announcement: **11.08.2022 r.**

The proposed study will be carried out within the **SONATA-17 2021/43/D/NZ5/01608**
PI – Kinga Katarzyna Bednarek, PhD
Project title: **'cfDNA methylome analysis in Hodgkin lymphoma patients'**

7. **Concise description of research:**

Hodgkin lymphoma (HL) is one of the most common neoplastic diseases in young adults (15-35 years old). A common feature of HL is the presence of specific malignant cells, named Hodgkin and Reed–Sternberg (HRS) cells in lymph node biopsies from HL patients. New possibilities for the genetic analysis of HL have appeared with introduction of liquid biopsy and analysis based on cell-free DNA (cfDNA) to the molecular studies.

It was previously shown, that plasma cfDNA reflects HRS cells genetics, which makes liquid biopsy a good technique for diagnostics and health monitoring of the patient. Inactivation of the genes due to their hypermethylation, is extremely significant in HL development. Thus, the current project assumes the analysis of genomic DNA and cfDNA methylation level in samples derived from HL (cell lines, blood samples and nodal biopsies) and comparison of the obtained results with DNA methylation status of genomic DNA and cfDNA samples from healthy volunteers. The analysis will be performed using next generation sequencing (NGS) techniques which allow for fast and accurate determination of DNA sequence and identification of methylated nucleotides within the analyzed fragment of DNA. As a result of this part of the project, we plan to establish the panel of five genes - potential biomarkers of HL - hypermethylated in HL cells, but not methylated in non-lymphoma cells. In the second part of our project implementation, we plan to re-analyse plasma cfDNA methylation profile of HL patients after therapy. We also plan to perform similar analysis,using blood samples collected from the newly diagnosed Hodgkin lymphoma patients. This will allow to estimate the utility of liquid biopsy as a tool to measure residual disease in HL, as well as to verify its usability for HL diagnosis.

Keywords:

Liquid biopsy, cell-free DNA, cHL, classical Hodgkin lymphoma, epigenetic factors

Predicted tasks in the project:

- active participation in the realization of project goals and analysis of obtained results,
- presenting results at seminars and conferences, participation in writing scientific papers,
- supervision of students.

Opportunities:

- work in an international research team, highly experienced in many molecular and cellular methodologies, and enthusiastic about conducting scientific research,
- participation in research training, international conferences and workshops.

II. Requirements for candidates

1. Master's degree in molecular biology, biotechnology, genetics, medicine or related field,
2. Knowledge of molecular biology, cancer genetics and epigenetics,
3. Knowledge of molecular biology and next generation sequencing techniques,
4. Knowledge of the basics of working with cell lines: cell lines culturing,
5. Experience in work with DNA and RNA: extraction of nucleic acids,
6. Very good written and oral communication skills in English,
7. Motivation and enthusiasm about working in the field of science,
8. Good collaborative and team work skills.

III. Required documents

1. CV, including research achievements.
2. Cover letter.
3. A copy of the diploma confirming completion of a Master's Studies Programme, or a certificate of their completion (in the case of diplomas issued by foreign institutions , the diploma referred to in article 326 para.2 point 2 or article 327 para. 2 of the Act of 20 July 2018 – Law on Higher Education and Science (Journal of Laws of 2018, item 1668 as amended), giving the right to apply for a doctoral degree in the country in which the University of Higher Education issuing the diploma operates. If the candidate does not have the above-mentioned documents, s/he is obliged to provide them before being admitted to Poznań Doctoral School IPAS. More information about foreign diplomas is available at: **https://nawa.gov.pl/en/recognition/recognition-for-academic-purposes/applying-for-admission-to-doctoral-studies**.
4. Contact details of at least one current supervisor or other researcher who has previously agreed to issue an opinion about the candidate. The opinion should not be included in the application.
5. Consent for the processing of candidate's personal data for the purposes of the recruitment process: http://bip.igcz.poznan.pl/wp-content/uploads/2018/10/Zgoda-rekrutacja-Consent_for_the_processing.pdf
6. Application for admission to the Poznań Doctoral School IPAS, together with a consent to the processing of personal data for the purposes of the recruitment procedure plus a statement on his/her familiarity with recruitment regulations for the Poznań Doctoral School (Application is available on: **http://igcz.poznan.pl/en/phd-studies/poznan-doctoral-school-of-institutes-of-pas/recruitment-regulations-for-psd-ipan/**)
7. Certificates or other documents indicating level of English language proficiency, if the candidate possesses any.

IV. Criteria for the evaluation of candidates

1. Candidate's scientific and professional experience based on his/her participation in conferences, workshops, training courses and internships; participation in research and commercial projects; involvement in scientific societies and associations; international and professional mobility; experience in other sectors, including industry
2. Background in molecular biology
3. Candidate's scientific achievements, based on study grades, scientific and popular science publications, scholarships; prizes and awards resulting from research carried out; student activity or other achievements
4. Communication skills in English.

V. Announcement of results

Up to 30 days after the deadline of documents submission. Selected candidates will be invited for interview.

VI. Additional conditions

1. A condition of involvement in the project is participation in the Institutes of PAS (after passing the recruitment procedure). Details of the studies are available on https://igcz.poznan.pl/en/phd-studies/poznan-doctoral-school-of-institutes-of-pas/Fulfillment of requirements as set out in the Regulations for Granting Scholarships in Research Grants Financed by the National Research Center are available on (https://www.ncn.gov.pl/sites/default/files/pliki/uchwaly-rady/2019/uchwala25_2019-zal1_ang.pdf).

VII. Additional information

Address to which documents should be submitted:

by e-mail to the Secretary for Scientific Purposes: **phdstudies@igcz.poznan.pl**. Please, include the number of the announcement: [**37/2022/IGC/PSD**] in the title of your e-mail.

Additional information is available from:
Kinga Bednarek: kinga.bednarek@igcz.poznan.pl,
and the Secretary for Scientific purposes: phdstudies@igcz.poznan.pl, tel. +48 61 6579-142

Applications sent after the deadline will not be considered.

Once the recruitment process is finished, unsuccessful candidates will be informed about the scores they have obtained at each step of evaluation.

Refusal of admission to PDS IPAS takes place by way of an administrative decision. The candidate is entitled to submit a request for reconsideration of the decision to the director of the institute concerned.

Project Leader

Director of the Institute
Z-ca DYREKTORA
Instytutu Genetyki Człowieka PAN
ds. administracyjnych
mgr Małgorzata Strecker