

The special recruitment to the Wrocław Doctoral School of Institutes of Polish Academy of Sciences at the Institute of Immunology and Experimental Therapy of the Polish Academy of Sciences in Wrocław for a PhD student and scholarship holder in the NCN research project OPUS 17

THE INSTITUTION: Wrocław Doctoral School of Institutes of Polish Academy of Sciences

CITY: Wrocław

POSITION: PhD student partially financed by Polish National Science Center (NCN) project.

SCIENTIFIC DISCIPLINE: biological sciences

THE DEADLINE FOR APPLICATIONS: 20.08.2020

THE OUTCOME OF THE RECRUITMENT: 17.09.2020.

PREFERRED JOB STARTING DATE: 01.10.2020

WDS IPAS website: http://wsdipan.intibs.pl/index_en.html

Hirszfeld Institute website: <https://www.iitd.pan.wroc.pl/pl>

KEYWORDS: immune checkpoints, non-small cell lung cancer, DNA methylation, miRNA, mRNA expression, protein expression, flow cytometry, tumor microenvironment

The Wrocław Doctoral School of Institutes of Polish Academy of Sciences announces special recruitment for 2 PhD students-scholarship holders in the research project entitled: *The immune checkpoints in non-small cell lung cancer - research on genetic and epigenetic mechanism regulating mRNA and protein expression* financed by the National Science Center (grant No. **2019/33/B/NZ5/03029**) in the Laboratory of Genetics and Epigenetics of Human Diseases and in Flow Cytometry and Confocal Microscopy Facility Core at the Institute of Immunology and Experimental Therapy of the Polish Academy of Sciences in Wrocław.

We offer work in a dynamic and friendly team dealing with research on association between genetic and epigenetic variations and the risk of development and outcome of tumors and autoimmune diseases as well as with research on functional characterization of genetic variants.

I. Project description

Research and two doctoral dissertations will be carried out as part of the research project "*The immune checkpoints in non-small cell lung cancer - research on genetic and epigenetic mechanism regulating mRNA and protein expression*" financed by the National Science Center (grant No. 2019/33/B/NZ5/03029).

Lung cancer is the cause of the highest number of deaths among patients with malignant tumours. The latest medical achievement in the treatment of lung cancer is immunotherapy directed at immunoregulatory molecules. Immunotherapy is aimed at intensification of naturally occurring processes involved in the fight against cancer, since it turns out, that some tumours can avoid the response of our immune system by using immune checkpoints – receptors which together with their ligands significantly control the immune response. The aim of the project is to investigate immune checkpoints (e.g. PD-1) in non-small cell lung cancer. In the frame of presented project we will determine the expression level of ICRs and their ligands in NSCLC microenvironment as well as investigate epigenetic and genetic

mechanisms regulating mRNA and protein expression of molecules selected to be examined in this project. We anticipate that the result obtained from our research may not only expand-up-to date knowledge about these ICRs but also may have clinical implication in terms of establishing prognostic factors for better selection of patients to immunotherapy.

II. Requirements

- MSc degree (or equivalent) in biotechnology, biology, medicine, or related fields (defended before the start of the work on the project),
- Scientific interests in the field of genetics, molecular biology and cancer immunology
- High average student grades
- Good written and oral communication in English
- A proactive approach to achieving tasks and objectives, good interpersonal skills, a collaborative attitude
- Eligibility for PhD studies in Poland
- Knowledge and experience in experimental and laboratory work (supported by bachelor and master research topics) in DNA or/and RNA isolation, PCR, RT-qPCR, flow cytometry, western blot; basic knowledge of bioinformatics tools, R Package are well seen.

III. Legal basis for recruitment

Recruitment is carried out in accordance with the Act of 20 July 2018 (Law on Higher Education and Science), Recruitment Rules for the Wrocław Doctoral School of Institutes of Polish Academy of Sciences, and - to the applicable extent - Regulations on the award of scholarships in research projects financed from the National Science Center funds on March 14, 2019, the current consolidated text of which is attached to the resolution of the Council of the National Science Center No. 25/2019.

IV. Candidates Evaluation

During the recruitment the Candidate's assessment will be carried out in accordance with the criteria established for recruitment to the Doctoral School and to the extent enabling the award of the NCN scientific scholarship, taking into account the overall assessment of the candidate's suitability for the implementation of tasks provided for in the research project entitled: *The immune checkpoints in non-small cell lung cancer - research on genetic and epigenetic mechanism regulating mRNA and protein expression.*

V. Duties and obligations

- Isolation of cells from tumors and blood
- Analysis of immune checkpoints expression by immune system cells (flow cytometry)
- DNA, RNA, protein isolation from tumor tissues, peripheral blood mononuclear cells and FFPE tissues
- Genotyping, mRNA and miRNA expression analysis (RT-qPCR), methylation analysis (MS-HRM), western blot
- Data analysis, report and publication preparation and writing
- Collaboration within a project team according to the rules of Hirsfeld Institute
- Participation in scientific conferences and workshops

- Apply rules and recruitment procedures of Wrocław Doctoral School of Institutes of Polish Academy of Sciences.

VI. Scholarship

Upon obtaining doctoral status, the candidate will receive a doctoral scholarship, the amount of which is regulated by Art. 209 paragraph 1 of the Act of 20 July 2018 (Journal of Laws of 2018, item 1668, as amended), where the PhD student will be covered by the costs of social insurance, referred to in Art.6 clause 1 point 7b of the Act of 13 October 1998 on the social insurance system (Journal of Laws of 2019, item 300, 303 and 730).

The approximate **doctoral scholarship amounts** of according to Art. 209 paragraph 1 of the Act of 20 July 2018 (Journal of Laws of 2018, item 1668, as amended):

- a) PLN 2,371.70 gross monthly to the month of mid-term evaluation of the PhD student in the Doctoral School
- b) PLN 3,653.70 gross monthly after the month of mid-term evaluation of the PhD student in the Doctoral School

If during the recruitment the candidate also meets the requirements for granting **scientific scholarships**, specified in the Regulations on the award of scholarships in research projects financed from the National Science Center funds on March 14, 2019, the current consolidated text of which is attached to the resolution of the Council of the National Science Center No. 25/2019., will receive an additional financial benefit in the form of an **NCN scholarship for 36 months duration of the project**, in the approximate amounts of:

- a) PLN 2,168.00 per month for the 24 months (to the mid-term evaluation)
- b) PLN 638.00 per month for 12 months (after mid-term evaluation)

The scientific scholarship will be paid on the basis of a contract and the above-mentioned Regulations for the granting of scholarships.

VII. Applications

Applications for admission to the School must be submitted by 20.08.2020 before 3:00 p.m.

- in person at the School premises (i.e. at the Secretariat of the Institute of Low Temperatures and Structural Research of the Polish Academy of Sciences at Okólna Street 2 in Wrocław) from 9:00 a.m. to 3:00 p.m., or
- by e-mail to wsdipan@intibs.pl (with the note: recruitment MJ), the original documents should be however delivered before the beginning of the education (failure to meet this requirement will result in the removal from the list of doctoral students).

For further information please contact Monika Jasek, PhD (e-mail: monika.jasek@hirszfeld.pl, phone: +48 713371172 ext. 237).

VIII. Required documents

According to the rules of recruitment for WDS IPAS

(http://wsdipan.intibs.pl/rules_of_recruitment.html)

IX. Information clause for recruitment process

In accordance with article 13 pt 1 and 2 of The General Data Protection Regulation of the European Parliament and of the Council (GDPR) (EU) 2016/679 of 27th April 2016 concerning the protection of individuals with regard to processing of personal data and on the free movement of such data and directive 95/46/WE (Dz. Urz. UE L 119/1 Of 04/05/2016)- henceforth "GDPR" - we inform you that:

1) The administrators of your personal data are:

a) the Institute of Low Temperature and Structure Research, Polish Academy of Sciences, Okólna 2, 50-422 Wrocław,

b) the Institute of Immunology and Experimental Therapy, Polish Academy of Sciences. Rudolfa Weigla 12, 53-114 Wrocław