

The special recruitment to the Wrocław Doctoral School of Institutes of Polish Academy of Sciences for a PhD student and scholarship holder in the NCN research project PRELUDIUM BIS 1 at the Institute of Immunology and Experimental Therapy of the Polish Academy of Sciences in Wrocław

THE INSTITUTION: Institute of Immunology and Experimental Therapy of the Polish Academy of Sciences

CITY: Wrocław

POSITION: PhD student-scholarship holder in the NCN research project

SCIENTIFIC DISCIPLINE: biological sciences

NOTICE DATE: 07.07.2020

THE DEADLINE FOR APPLICATIONS: 07.08.2020

THE OUTCOME OF THE RECRUITMENT: 21.08.2020

LINK TO WSD IPAN WEBSITE: <http://wsdipan.intibs.pl>

LINK TO THE IITD PAN WEBSITE: www.iitd.pan.wroc.pl

KEYWORDS: boron clusters, metallacarboranes, insulin, conjugates, peptide drugs

The Wrocław Doctoral School of Institutes of Polish Academy of Sciences announces **special recruitment for a PhD student and scholarship holder in a research project** entitled "*Insulin – metallacarborane conjugates: A new strategy to enhance the biological efficacy of peptide drugs*", financed by the National Science Center (grant "**PRELUDIUM BIS-1**" No. 2019/35/O/NZ7/03764) in the Laboratory of Biomedical Chemistry at the **Institute of Immunology and Experimental Therapy Polish Academy of Sciences in Wrocław** implemented in the period from October 1, 2020 to September 30, 2024.

We offer work in a dynamic team dealing with interdisciplinary research at the interface of chemistry and biology - the use of boron clusters to modify biologically active molecules. The research is focused on providing new knowledge on the interactions of abiotic boron clusters with the biological environment, which is important for the design of a new type of compounds with biological and medical potential.

Research and doctoral dissertation will be carried out as part of the research project: "*Insulin – metallacarborane conjugates: A new strategy to enhance the biological efficacy of peptide drugs*" financed by the National Science Center grant "**PRELUDIUM BIS-1**" No. 2019/35/O/NZ7/03764.

The aim of the PRELUDIUM BIS project is to support the education of doctoral students in doctoral schools and to finance research projects carried out by doctoral students as part of their doctoral dissertations. The budget of the PRELUDIUM BIS project includes funds for research and scholarship costs. The terms of the PRELUDIUM BIS grant include, among others financing of the doctoral scholarship throughout the entire period of doctoral student education at the doctoral school. In addition, the PRELUDIUM BIS grant supports the international mobility of doctoral students who are required to carry out a 3 to 6-month foreign research internship financed by the National Agency for Academic Exchange (NAWA).

I. Description of the research project

The aim of the project is to determine the effect of covalent attachment of metallacarboranes to insulin on peptide's physicochemical and biological properties. The research planned in the project will

determine whether metallacarboranes can be used to modify the pharmacokinetics and pharmacodynamics of insulin with an aim to develop long-acting insulin analogues used in diabetes therapy. Molecular analysis will allow to determine the effect of metallacarborane attachment on many parameters, such as secondary and tertiary insulin structure, ability to create nanostructures, interaction with serum albumin, as well as on biological activity.

The knowledge gained during the project will allow to assess the potential of using metallacarboranes to improve the therapeutic properties of peptide drugs, and the development of new strategies to regulate the properties of such compounds can result in innovative conjugates useful in the treatment of many diseases.

II. Requirements:

- Master's degree in biotechnology, biology, chemistry or related fields,
- Due to the interdisciplinary nature of the project, basic knowledge of chemistry and molecular biology is necessary,
- Scientific interests in the field of organic and inorganic chemistry, biochemistry with particular emphasis on protein and peptide chemistry,
- Knowledge and experience in experimental and laboratory work are desired (basic techniques of organic preparation and molecular biology, the basis of instrumental analytics)
- Enthusiasm, motivation for scientific work, independence, ability to work in a team, creativity
- Only a person who does not have a doctoral degree and who is not a doctoral school participant may enter the competition;

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,
- Regulations for granting funds in research projects financed from the National Science Center funds, which is attached to the resolution of the Council of the National Science Center No. 49/2020 of April 29, 2020 regarding the amendment to the Regulations for granting funds for the implementation of tasks financed by the National Science Center in research projects.

IV. Criteria and evaluation method of Candidates:

The detailed criteria and method of assessing candidates are described in the Regulations for granting funds for the implementation of tasks financed by the National Science Center in the field of research projects, adopted by the Resolution of the Council of the National Science Center No. 49/2020 of April 29, 2020, and the Regulations of the Wrocław Doctoral School of the Institutes of the Polish Academy of Sciences.

V. Duties and obligations:

- Synthesis of insulin-boron cluster conjugates,
- Analytical and physicochemical studies of the conjugates using chromatographic techniques, mass spectrometry, circular dichroism and dynamic light scattering,

- Studies on the biological activity of the conjugates,
- Data analysis, preparation of scientific reports and publications,
- Cooperation with other researchers in the group, purchasing equipment and reagents, participation in scientific conferences,
- Implementation of tasks resulting from the duties of a doctoral student at the Wrocław Doctoral School IPAN.

VI. Scholarship:

The doctoral student will receive the doctoral scholarship in full from the funds of the National Science Center, i.e. from the budget provided in the Project for the doctoral salary of 5,000 PLN/month (gross gross, up to the month of the mid-term evaluation of the doctoral student at the doctoral school) and PLN 6,000 PLN/month (gross gross, after the month of the mid-term evaluation of a doctoral student at a doctoral school), pursuant to the Act of 20 July 2018 Law on Higher Education and Science (Journal of Laws of 2018, item 1668, as amended.) and on the basis of the Regulations for the granting of funds for the implementation of tasks financed by the National Science Center in the field of research projects, constituting an annex to the Resolution of the Council of the National Science Center No. 49/2020 of April 29, 2020 regarding the amendment to the Regulations for the allocation of funds for the implementation of tasks financed by the National Science Center for research projects.

Approximate amount of doctoral scholarship determined in accordance with art. 209 paragraph 1 of the Act of 20 July 2018 (Journal of Laws of 2018, item 1668, as amended) will currently be:

- a) 4,188 PLN gross monthly up to the month of the mid-term evaluation of the doctoral student at the doctoral school,
- b) 5,026 PLN gross monthly after the month of the mid-term evaluation of the doctoral student at the doctoral school.

The doctoral scholarship will be paid after deduction of all components, in accordance with applicable regulations. In particular, the funds allocated to the doctoral scholarship set out in the Regulations will cover the costs of compulsory social security contributions and - on request - the costs of sickness insurance.

VII. Application

Applications for admission to the School must be submitted by 07.08.2020 before 3:00 pm:

- in person at the School premises (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 TG), the original documents should be however delivered before the beginning of the education.

For further information please contact Tomasz Goszczyński, PhD (e-mail: goszczynski@hirszfied.pl, phone: +48 601205373).

VIII. Required documents:

- a completed integrated form downloaded from the WSD IPAN website containing: application for admission to the School, personal questionnaire and a statement that if admitted to WSD IPAN it will be the only doctoral school in which the candidate will be educated;
- a curriculum vitae containing a list of scientific publications, scholarships and awards, a list of conferences in which the Candidate participated together with the titles and authors of the speeches;
- a cover letter containing a brief description of scientific interests and achievements as well as the justification for the intention to undertake education in a doctoral school;
- a copy of the diploma confirming the completion of studies or a certificate of obtaining the master's degree, or a certificate of the prescribed period of defense;
- a copy of the entire index of first and second degree studies (or uniform master's studies), or a diploma supplement with grades from entire studies, or a student grade card from all years of studies confirmed by the dean's office,
- English language proficiency certificate at B2 level or higher (does not apply to candidates who have passed the final exam at this level during their studies),
- one or more letters of recommendation.

IX. **Information clause for recruitment process:**

Based on Article. 13 of Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of individuals 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) (Official Journal of the EU L 119 of 04/05/2016, p. 1), hereinafter "GDPR", I would like to inform you that:

- The administrator of your personal data is the Ludwik Hirszfeld Institute of Immunology and Experimental Therapy of the Polish Academy of Sciences in Wrocław, ul. Rudolfa Weigla 12, 53-114 Wrocław,
- The administrator of personal data can be contacted by post to the address provided in point 1 above, or by phone at 71 3709940, and the data protection officer appointed by him can be contacted in all matters regarding data processing via the email account: iod@hirszfeld.pl or by post to the office address,
- Personal data will be processed in order to implement the administrator's tasks related to recruitment for the research project entitled "*Insulin – metallacarborane conjugates: A new strategy to enhance the biological efficacy of peptide drugs*" implemented at the request of the National Science Center (grant "PRELUDIUM BIS-1" No. 2019/35/O/NZ7 / 03764) and to the Wrocław Doctoral School of the Polish Academy of Sciences Institutes, including your personal data will be processed on the basis of the Act of 20 July 2018 Law on Higher Education and Science (art.6 point 1 c RODO), the legitimate interest of the Administrator related to the implementation of the research project (art. 6 point 1 f of the GDPR) and in connection with their necessity to conclude the NCN scholarship agreement (Article 6 point 1 b of the GDPR),
- Providing your personal data is voluntary, but necessary to achieve the above-mentioned purposes,
- Personal data collected in the current recruitment process will be stored for the recruitment period,

- The person whose data is processed has the right to: access to personal data, request correction of personal data, request removal of personal data, request restriction of personal data processing, object to data processing due to a special situation,
- The person whose data is processed also has the right to lodge a complaint to the President of the Office for Personal Data Protection, in the event that the Administrator is found to have violated the provisions on the protection of personal data,
- As a result of processing, no decisions will be made in an automated manner (without human intervention), including those not based on profiling,
- Personal data may be disclosed to our authorized employees, processors, i.e. those carrying out activities on our behalf (e.g. IT services, accounting), and the personal data of the candidate selected in the competition may then be disclosed to third parties authorized by law.