INSTITUTE
OF HUMAN GENETICS
POLISH ACADEMY OF SCIENCES

[24/2021/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, **Marta Olszewska, 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 Reproductive Biology and Stem Cells IHG PAS
Number of vacancies: **1**

I. General information

1. Department in which candidate would work: **Department of Reproductive Biology and Stem Cells**
2. Discipline: **Medical Science**
3. Planned remuneration: scholarship to the value of about **4 200 PLN br (3 700 PLN net/per month)**
4. Period of involvement in research project: **48 months**
5. Deadline for submission of documents: **17.09.2021 r.**
6. Date of announcement: **13.08.2021 r.**

The proposed study will be carried out within the **Sonata Bis 2020/38/E/NZ2/00134**
PI – Marta Olszewska, PhD
Project title: 'Cytogenetic and molecular analyses of positioning of human sperm chromosomes, including: sperm chromatin integrity, epigenetic marks, karyotyping and sperm fractioning'

7. **Concise description of research:**

The infertility is a social disease concerning about 10-18% of couples. It became clear that numerous factors, that can be reciprocally related between each other and which disturbances are being observed in males with reproductive failures, pays attention to the complexity of the problem. Beside of a variety of known molecular and environmental factors, such as: genetic mutations, chromosomal abnormalities, bad habits, work in heavy/toxic conditions, also the light should be shed on so-called epigenetic factors, which are in some kind a make-up for genetics. Among them, the methylation of sperm DNA, and methylation/acetylation of the sperm histones seems to play crucial role in proper embryo development. Another epigenetic factor is the positioning of chromosomes within sperm nucleus, what means the defined localization of particular chromosomes. Spermatozoa characterizes unique nuclear packaging of the chromatin; thus, the chromosomes' positions are also specific. It is known that in men with various disturbances of fertility, the nuclear organization is changed. Disturbances in those epigenetic elements are connected to male infertility. There are evidences that epigenetic changes are prone both to: genetics, as well as for environmental factors. The main purpose of the Project is to determine how the positions of the chromosomes within human sperm nucleus may be altered depending on: the state of fertility, karyotype, chromatin integrity status, epigenetic variations within DNA or histones, and between male members of the same family, incl. various fractions of sperm cells, according to their quality.

Keywords:

male infertility, chromosomal translocations, spermatozoa, sperm epigenetics, sperm chromosomes and chromatin, spermatogenesis, nuclear order of the cell

Predicted tasks in the project:

- active participation in the realization of project goals
- 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. Experience in DNA and molecular biology techniques (extraction, PCR)
3. The cytogenetic and epigenetic knowledge/skills will be an advantage
4. Very good written and oral communication skills in English
5. Motivation and enthusiasm about working in the field of science
6. 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 Poznan Doctoral School of 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: [**24/2021/IGC/PSD**] in the title of your e-mail.

Additional information is available from:
Marta Olszewska: marta.olszewska@igcz.poznan.pl, tel. +48 61 6579-231,
and the Secretary for Scientific purposes: phdstudies@igcz.poznan.pl,
tel. +48 61 6579-142

Incomplete applications 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

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