

**Recruitment for the Poznań Doctoral School of the Institutes of the Polish Academy of Sciences
at the Institute of Bioorganic Chemistry, PAS in Poznań
Procedure no. 46/2021/ICHB/PSD**

INSTITUTION: Institute of Bioorganic Chemistry, PAS
CITY: Poznań
POSITION: PhD student
POSITIONS AVAILABLE: 1
SCIENTIFIC DISCIPLINE: Biological sciences
PUBLICATION DATE: 03.01.2022
APPLICATION DEADLINE: 04.02.2022
IBCH PAS WEBSITE: <https://portal.ibch.poznan.pl/homepage/>
PDS IPAS WEBSITE: http://www.psd-ipan.ibch.poznan.pl/?page_id=355&lang=en

KEY WORDS: CAG repeat sequences, polyglutamine diseases, non-coding RNA, RNA-RNA interactions, protein-protein interactions

Principal Investigator: Agnieszka Fiszer, PhD, professor of IBCH PAS

Research topic: Biology of RNAs containing repeated tracts in the context of their functions and human neurodegenerative diseases

Website of Department of Medical Biotechnology: <https://portal.ichb.pl/department-of-medical-biotechnology/>

I. Project description

The aim of this project is to discover the functioning of a wide spectrum of RNA molecules containing multiple repeats of a three-base sequence, and to show how the length of a sequence of repeats affects the activity of a given RNA or encoded protein. We will focus on repeated CAG (cytosine-adenine-guanine) sequences in the context of the nervous system. For a better understanding of how our brain functions and how we can effectively treat neurodegenerative diseases, it is important to understand the network of molecules that interact there, including RNA and proteins.

Detailed scientific questions that we want to answer in this project are:

- What functions, important for the nervous system, do RNA molecules containing CAG repeat sequences?
- Is there a specific network of interacting RNAs containing tracts of trinucleotide repeats?
- What is the protein-protein interaction network mediated by the polyglutamine chain?
- Whether some CAG repeat RNAs act as both non-coding and coding RNAs proteins/peptides?
- How the length of the CAG/glutamine repeats (within the normal range) affects function specific RNA/protein?
- How dysfunctional are somatically expanded CAG/glutamine repeat tracts?

To answer these questions, we will use the optimal models, i.e. those appropriate for the planned methods, and also with the neural phenotype to find a clear relationship with functioning in the nervous system. This includes, but is not limited to, models derived from induced pluripotent stem cells (iPSCs). The methodological concept assumes the use of sets of cell lines with the same genetic background, which should allow highlighting the effects closely related to the length of the CAG and glutamine sequences. In addition, the observations will be verified in mouse brain tissue.

Additional information:

1. Research and doctoral theses shall be carried out within the 2021/41/B/NZ3/03803 project, entitled "Function and dysfunction of repeated tracts in non-coding and protein-coding transcripts", funded by National Science Center
2. PhD students shall receive a stipend in the gross amount of approx. 4300 PLN (approx. 3800 PLN net), for the period of 48 months with the possibility of further employment.

3. PhD students shall be subject to social insurance, pursuant to article. 6 section 1 passage 7b of the act of October 13th, 1998 on the social insurance system (Journal of Laws of 2019, item 300, 303 and 730).

II. Requirements for the candidates:

1. The professional title of master's degree in the field of biology or related, or meeting the conditions specified in art. 186 paragraph 2 of the Act of July 20, 2018, Law on Higher Education and Science (Journal of Laws of 2018, item 1668, as amended).
2. Experience in laboratory work in the field of molecular biology. Experience in RNA biology and/or experience in cloning genetic constructs and working with cell line cultures are welcome.
3. Ability to search the literature on the subject of the project and use online databases in the field of molecular biology.
4. Very good work organization and motivation for scientific work.
5. Ability to work independently and cooperate in a team.
6. Very good command of spoken and written English.

III. Duties in project:

1. Generation of genetic constructs and development of modified cell lines
2. Optimization and implementation of protocols for the analysis of RNA molecules and proteins
3. Regular presentation of the results at department seminars
4. Analysis of results and preparation of publication manuscripts.

IV. Required documents:

1. Application for admission to PDS IPAS along with the consent for processing personal data upon the recruitment procedure and a statement on having acknowledged the regulations of recruitment for PDS IPAS, using form downloaded from:
http://www.psd-ipan.ibch.poznan.pl/wp-content/uploads/2021/10/ICHBApplication_for_admission_202110.docx
2. Certified copy of the diploma confirming graduation or a certificate confirming graduation (in the case of diplomas issued by foreign higher education schools, diploma stipulated in article 326, section 2, passage 2 or article 327, passage 2 of the act of July 20th, 2018 – Law on Higher Education and Science (Journal of Laws of 2018, item 1668, as amended), entitling to apply for conferment of a doctoral degree in the state in where such a certificate was issued by the relevant higher education school. In the event when the candidate is not in possession of the aforementioned documents, he/she is obliged to submit them prior to admission to PDS IPAS. Additional information on foreign school diplomas are available at:
<https://nawa.gov.pl/en/recognition/recognition-for-academic-purposes/applying-for-admission-to-doctoral-studies>
3. Scientific CV encompassing track record of previous education and employment, information on involvement in scientific activities (participation in student research groups, attendance at scientific conferences, accomplished internships and training, awarded prizes and distinction) and list of publications.
4. Cover letter featuring a short description of research interests, achievements and justification for the intention to commence education at the doctoral school.
5. Certificates or other documents confirming the degree of proficiency in English, if the candidate is in possession of such materials.
6. Contact details of at least one, previous scientific supervisor or another researcher who is entitled to issue an opinion on the candidate.

V. Applications should be submitted via the eRecruiter portal at:

<https://system.erecruiter.pl/FormTemplates/RecruitmentForm.aspx?WebID=044cf3a218084e49a602d0b2b2a00100>

VI. Submission deadline is **February 4, 2022.**

VII. Criteria for evaluation of candidates:

1. Candidate's research achievements, pursuant to the grades obtained in the course of studies, scientific publications, awarded scholarships and distinctions resulting from conducting scientific research or student activities or other achievements.
2. Candidate's scientific and professional experience, pursuant to participation in conferences, workshops, training sessions and internships, implementation of research and commercial projects, involvement in scientific trusts and societies, international and professional mobility, experience in other sectors, including industry.
3. Candidate's knowledge on the following discipline: biological sciences.
4. Knowledge of the subject matter described in the recruitment advertisement.

VIII. The recruitment procedure shall be concluded no later than **March 4, 2022.**

IX. The description of the recruitment process is stipulated in the Regulations of Recruitment for PDS IPAS. Following the recruitment procedure, the unadmitted candidates shall be informed on the number of points obtained at both stages.

Incomplete applications will not be considered.

For additional information please contact the Principal Investigator:

Agnieszka Fiszer

e-mail: agnieszka.fiszer@ibch.poznan.pl

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.*
- *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.