

**We are seeking a young scientist to join our team as a postdoctoral researcher for the project “Taming aggregation with AmyloGraphem 2.0: database and predictive model of amyloid self-organization of modulators”. The project is part of National Science Center Poland SONATA 19 contest (DEC-2023/51/D/NZ7/02847).**

**Name of entity:** Bioinformatics and Multiomics Analysis Laboratory, Clinical Research Centre, Medical University of Białystok

**Project Manager:** Michał Burdukiewicz, PhD

**Type of NCN contest:** SONATA 19

**Project number:** 2023/51/D/NZ7/02847

**Position name:** post-doc (scientific employee)

**Project description:**

Amyloids are proteins present in many diseases, i.e. Alzheimer’s disease, Parkinson's disease, Creutzfeldt-Jakob's disease and type 2 diabetes. They are characterized by their ability to self-aggregate into unique supramolecular fibrils. AmyloGraph, an amyloid interactions database developed by our team (<https://amylograph.com/>), is the largest source of information on the effect of modulators on amyloid self-aggregation. During the project, we will design and develop machine learning-based tools to process data. Moreover, we will rebuild user interface to facilitate access to newly gathered information. Apart from creating the new version of AmyloGraph, gathered data will be used to train predictive models to design new chemical compounds inhibiting self-aggregation, which might be used to treat various amyloid diseases. More information about our team and the project itself may be found at <https://biogenies.info/>.

**Requirements for the post-doc candidate:**

- Candidates must have obtained a doctoral degree either in the year they engage in the project or within seven years before January 1 of the year of engagement. If the candidate has obtained more than one doctoral degree, the reference date is the date of the first degree. This period may be extended by any documented long-term (over 90 days) sick leave or rehabilitation benefits due to inability to work. Additionally, the period may be extended by the number of months spent on parental leave as per the general rules specified in the Labour Code, or in the case of women, by 18 months for each child born or raised if this method of accounting for career breaks is more advantageous.
- The candidate must not have had the Principal Investigator (PI) as a supervisor or assistant supervisor during their doctoral dissertation defense.
- Candidates who obtained their doctoral degree in a field other than the one in which the employment is planned must have completed at least a 10-month continuous, documented postdoctoral internship in a different subject area than that of the entity implementing the project, and in a country other than the one in which they obtained their doctoral degree.
- During the period of receiving this remuneration, the candidate must not receive any other remuneration from funds granted under the direct costs of research projects financed through NCN Poland contests.

- During the period of receiving this remuneration, the candidate must not be employed by another employer under an employment contract, including employers based outside Poland, and must not receive retirement benefits from the social insurance system.
- The candidate must hold a doctoral degree in biological sciences, mathematics, computer science, or related fields.
- Experience in molecular biology and bioinformatics, as evidenced by at least three publications in scientific journals.
- Advanced proficiency in R programming, demonstrated by publishing at least one package on CRAN. Knowledge of Python or Julia is an advantage.
- Experience in developing predictive models using both shallow and deep learning methods.
- Experience in developing and managing biological databases, confirmed by relevant publications in scientific journals.
- Extensive knowledge of amyloids, amyloid aggregation, methods of their detection, and practical experience in working with them.
- Experience working with students, either through teaching classes or supervising a thesis.
- Positive attitude toward collaborating with other scientists.

#### **Tasks description:**

- Train and manage data curators (collective contractors in the project) for the AmyloGraph database.
- Oversee data curation for the new version of the AmyloGraph database.
- Design a new version of the AmyloGraph database.
- Develop tools for the automatic search of new information sources.
- Create tools for automated verification of data accuracy in the AmyloGraph database.
- Develop a model for automatic curation of scientific publications using deep learning techniques.

#### **Additional Information:**

Submission deadline: **07.10.2024, 15:00 (GMT+2)**

Submit documents: via e-mail: [michal.burdukiewicz@umb.edu.pl](mailto:michal.burdukiewicz@umb.edu.pl) in topic: **“post-doc in project no. 2023/51/D/NZ7/02847”**.

We reserve the right to grant responses solely to the selected candidates.

Qualification interviews (online, Google Meet) with persons who submit the required documents will be held on **14-16.10.2024**

#### **Employment conditions:**

- **Place of task performance:** Bioinformatics and Multiomics Analyses Laboratory, Clinical Research Centre, Medical University of Białystok, Poland.

- **Salary payment period:** 12.11.2024 – 12.11.2025 (with a possibility of extension until at least 09.07.2027); based on project work contract.
- **Salary amount:** PLN 11 666.67 gross per month (with workloads for employer and employee).
- **Planned start date for project work:** 12.11.2024.
- **Additional benefits:** covering conferences costs.

**Required documents:**

1. Cover letter,
2. Contact details to at least 2 persons who may provide references sent directly to [michal.burdukiewicz@umb.edu.pl](mailto:michal.burdukiewicz@umb.edu.pl) by persons issuing the references.
3. CV presenting achievements and scientific experience of the candidate, including:
  - scholarships, internships, workshops, attended conferences, participation in scientific projects,
  - certificates confirming skills needed to perform tasks in the project, publications
  - the candidate should present documents confirming achievements and scientific experience included in the CV during the interview.
  - Please include an email and phone number in the current CV.
4. PhD diploma,
5. List of publications confirming experience on project topic including copies of publications in PDF format.
6. Signed below Information on processing of personal data by the Medical University of Bialystok, elaborated in the form of a separate document:

**Please merge all files in one file, preferably pdf, with your initials.**

## **Information on processing of personal data by the Medical University of Bialystok**

Pursuant to Art. 13 of the General Data Protection Regulation from 27 April 2016 (hereinafter GDPR), the Medical University of Bialystok hereby notifies that:

- the controller of your personal data is the Medical University of Bialystok with its seat at: ul. Jana Kilińskiego 1, 15-089 Białystok, represented by the Rector,
- contact details of the Data Protection Officer at the Medical University of Bialystok, email address: iod@umb.edu.pl,
- your personal data shall be processed for the purpose of recruitment on the basis of:
  - Art. 6 sec. 1 letter c of GDPR, that is, provisions of the Labour Code,
  - Art. 6 sec. 1 letter b of GDPR, that is, processing is necessary for undertaking actions prior to conclusion of agreement and for the execution of the agreement,
  - Art. 6 sec. 1 letter a of GDPR, that is, consent for the processing of personal data expanding beyond the scope specified in the Labour Code and the Bylaws of granting resources for the realization of tasks financed by the National Science Centre in the scope of research projects (Appendix to the Resolution of the NCN Council no. 50/2023 from 11 May 2023) - if applicable,
- Your personal data shall not be passed onto any third parties with the exception of entities authorized on the basis of law,
- your personal data shall be stored until the end of the period of project durability, in accordance with the provisions concerning archiving,
- you have the right to demand access to your personal data, amend them, transfer them, remove data or limit their processing,
- you are entitled to withdraw the expressed consent for the processing data at any time without it impacting compliance with the law of the processing which was performed prior to such consent withdrawal; You may withdraw consent at any time in a written form, i.e. By sending information in this regard to the address of the Medical University of Bialystok at: ul. Kilińskiego 1, 15-089 Białystok or electronically to the email address of the Data Protection Inspector at: iod@umb.edu.pl,
- you are entitled to submit a complaint to the President of the Personal Data Protection Office, ul. Stawki 2, 00-193 Warszawa, [www.uodo.pl](http://www.uodo.pl), when it is justified that your personal data are processed by the controller in breach of the general data protection regulation from 27 April 2016,
- indication of data is obligatory in the scope specified in the Labour Code and in the Bylaws of granting resources for the realization of scientific tasks financed from the resources of the National Scientific Centre, attachment to the resolution of the NCN Council no. 50/2023 from 14.03.2019, and in the remaining scope – voluntary,
- no automated decisions, including also profiling, shall be made based on the submitted personal data.

## **CONSENT FOR PERSONAL DATA PROCESSING**

In accordance with Art. 6 sec. 1 letter a of the general data protection regulation from 27 April 2016 I grant consent for the processing of my personal data for the purposes of recruitment.

I acknowledge my right to withdraw the expressed consent at any time, without it impacting compliance with the law of the processing which was performed prior to such consent withdrawal.

I may withdraw consent at any time in a written form, i.e. by sending information in this regard to the address of the Medical University of Białystok at: ul. Kilińskiego 1, 15-089 Białystok or electronically to the email address of the Data Protection Officer at: [iod@umb.edu.pl](mailto:iod@umb.edu.pl),

.....

Candidate's signature