



ADAM MICKIEWICZ  
UNIVERSITY  
POZNAŃ



European Research Council  
Established by the European Commission

## PhD student

*Institute of Molecular Biology and Biotechnology, Faculty of Biology & Center for Advanced Technology, Adam Mickiewicz University, Poznań, Poland*

We are seeking a highly motivated PhD candidate to join the **Genomic Regulation Lab** (known also as STOP lab) led by **dr hab. Kinga Kamieniarz-Gdula** at Adam Mickiewicz University, Poznań, Poland. You will be offered the opportunity to participate in cutting edge research and lead your own project aiming at understanding how alternative gene ends are selected in human cells.

The full-time position is funded for four years, for work on the prestigious **ERC Starting Grant** "AlternativeEnds". The stipend will be 4450 PLN pre-tax (brutto brutto) for the first 24 months, and after successful mid-term evaluation 6259 PLN pre-tax (brutto brutto) for the remaining 24 months.

**Expected start date: 1<sup>st</sup> October 2024.**

**Application deadline: 15<sup>th</sup> August 2024.**

### **Project:**

The human genome contains only ~20.000 genes, however, most of them encode multiple transcripts resulting from alternative promoter usage, splicing, and 3' end selection. Gene 3' ends can be defined by the positions of RNA 3' cleavage, or the location where RNA polymerase II terminates transcription. Alternative 3' ends determine the properties of the encoded protein: typically its abundance, but sometimes also domain structure – as for immunoglobulin M heavy chain which is membrane-bound or secreted depending on the 3' cleavage site. Widespread changes in 3' end usage are characteristic of many processes e.g. differentiation and cancer. We do not understand what drives this selectivity.

In order to find out the determinants of gene end selection we will study the crosstalk of RNA cleavage and transcription termination. Within this PhD project you will study this crosstalk using a genetic approach, generating human cell lines engineered with CRISPR/Cas9 to exchange DNA elements required for cleavage and termination. You will test the effect of the generated mutations by cutting-edge NGS transcriptomics techniques..

Ultimately, understanding the complex crosstalk between RNA cleavage and transcription termination in alternative 3' end selection will enable the manipulation of this process e.g. to alleviate human disease.

### **Tasks:**

Leading own research project: planning and conducting molecular biology and cell culture experiments as well as computational analysis of NGS data. Presenting results in group meetings, internal seminars and conferences, manuscript preparation.

### **Essential qualifications:**

- MSc in Molecular Biology/Biotechnology or a related science degree (obtained by 30 Sept 2024)
- experience in standard Molecular Biology/Biochemistry techniques
- high motivation and enthusiasm for research
- fluency in English

### **Desirable qualifications (training will be provided whenever necessary):**

- experience with NGS techniques (particularly RNA-seq and ChIP-seq)
- experience with cell culture and CRISPR/Cas9 modified cell line generation
- bioinformatic skills
- co-authorship in publications from a relevant subject

**Interested candidates should send:** a cover letter, CV and the contacts of three referees as a single pdf file to: [kinga.kamieniarz-gdula@amu.edu.pl](mailto:kinga.kamieniarz-gdula@amu.edu.pl). The cover letter should explain the candidate's motivation to join the team.  
Informal inquiries and questions welcome.

**Please include in the CV and cover letter the following statement:** *In accordance with Article 6(1)(a) of the General Data Protection Regulation of 27 April 2016 (Journal of Laws of the EU L 119/1 of 4 May 2016) I agree to the processing of personal data other than those indicated in Article 221 of the Labour Code (name(s) and surname; parents' names; date of birth; place of residence; address for correspondence; education; previous employment), included in my job offer for the purpose of current recruitment.*

**Lab webpage:**

<https://STOPlab.org>

**Selected publications:**

1) *CLP1-dependent premature transcription termination opposes neurodegeneration.*

Gdula MR, Koczyńska M, Saha U, Kamieniarz-Gdula K.

**Neuron.** 2022 <https://doi.org/10.1016/j.neuron.2022.03.012>

2) *Transcriptional Control by Premature Termination: A Forgotten Mechanism.*

Kamieniarz-Gdula K, Proudfoot NJ.

**Trends Genet.** 2019 <https://doi.org/10.1016/j.tig.2019.05.005>

3) *Selective Roles of Vertebrate PCF11 in Premature and Full-Length Transcript Termination.*

Kamieniarz-Gdula K, Gdula MR, Panser K, Nojima T, Monks J, Wiśniewski JR, Riepsaame J, Brockdorff N, Pauli A, Proudfoot NJ.

**Mol Cell.** 2019 <https://doi.org/10.1016/j.molcel.2019.01.027>

4) *WNK1 kinase and the termination factor PCF11 connect nuclear mRNA export with transcription.*

Volanakis A, Kamieniarz-Gdula K [joint-first & co-corresponding author], Schlackow M, Proudfoot NJ.

**Genes Dev.** 2017 <https://doi.org/10.1101/gad.303677.117>

5) *BRCA1 recruitment to transcriptional pause sites is required for R-loop-driven DNA damage repair.*

Hatchi E, Skourti-Stathaki K, Ventz S, Pinello L, Yen A, Kamieniarz-Gdula K, Dimitrov S, Pathania S, McKinney KM, Eaton ML, Kellis M, Hill SJ, Parmigiani G, Proudfoot NJ, Livingston DM.

**Mol Cell.** 2015 <https://doi.org/10.1016/j.molcel.2015.01.011>

6) *R-loops induce repressive chromatin marks over mammalian gene terminators.*

Skourti-Stathaki K, Kamieniarz-Gdula K, Proudfoot NJ.

**Nature.** 2014 <https://doi.org/10.1038/nature13787>

**ERC in a nutshell**

The European Research Council (ERC), set up by the EU in 2007, is the premiere European funding organisation for excellent frontier research. Every year, it selects and funds the very best, creative researchers of any nationality and age, to run projects based in Europe.  
<https://erc.europa.eu>

**About the host institution**

**The Faculty of Biology at Adam Mickiewicz University (FB AMU)** has excellent organizational capability and experience in the field of project implementation. FB AMU is a leading research and education institution in Poland. CWTS Leiden Ranking 2020 indicated AMU as third University in Poland in number of publications but second in number of publications belonging to top 10% in the category „Life and Earth Sciences”. According to THE World University Ranking 2020 AMU was the second best Polish university in category “Life Sciences”. Since the setting-up of the National Science Centre (Narodowe Centrum Nauki, NCN) funding agency in Poland, FB AMU has been one of its main research grants beneficiaries. FB grants account for 30% of all Adam

Mickiewicz University grants; on average over 100 NCN research grants are pursued at FB AMU each year.

**The Institute of Molecular Biology and Biotechnology (IMBB, @UAM IBMiB)** is part of the Faculty of Biology and one of top molecular biology institutes in Poland. The expertise of IMBB encompasses several major fields of modern biology that can be further subdivided into: (1) Molecular medicine and gene therapy, (2) Plant molecular biology and biotechnology, (3) Molecular microbiology, and (4) Bioinformatics and molecular evolution. IMBB is staff is international at all levels – PhD students, postdocs and PIs. Two group leaders are members of EMBO. Institute webpage: <http://ibmib.amu.edu.pl/en/main-page/>

**The Genomic Regulation Lab** together with several other IMBB labs is physically located at and affiliated with the **Center for Advanced Technology at Adam Mickiewicz University (CAT AMU)** located ~500m from the IMBB. CAT AMU is a collaborative multi-disciplinary institute funded with 63mln € (85% from EU funds).



*The Centre for Advanced Technology, home of the Genomic Regulation Lab.*

**Poznań** is the capital of the Wielkopolska (Greater Poland) region. It is a vibrant university city, with an urban area population of ~1 million, located only 3 hours away from Warsaw and Berlin. At the same time, it is a paradise for nature lovers, as it is surrounded by beautiful forests & lakes.

#### **Information clause for jobseekers**

Pursuant to Article 13 of Regulation (EU) No. 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 Regulation on data protection (Official Journal of the European Union L 119/1 of 04.05.2016) I hereby inform you that.

1. The Controller of your personal data is Adam Mickiewicz University in Poznań with its registered office at 1, Henryka Wieniawskiego Street, 61-712 Poznań.
2. The controller of personal data has appointed a Data Protection Inspector to supervise the correctness of personal data processing, who can be contacted via e-mail address: [iod@amu.edu.pl](mailto:iod@amu.edu.pl).
3. The purpose of the processing of your personal data is to carry out the recruitment process for the indicated position.
4. The legal basis for the processing of your personal data is Article 6(1)(a) of the General Data Protection Regulation of 27 April 2016 and the Labour Code of 26 June 1974 (Journal of Laws of 1998, N21, item 94, as amended).
5. Your personal data will be stored for a period of 6 months from the end of the recruitment process.
6. Your personal data will not be made available to other entities, except for entities authorized by law. Access to your data will be granted to persons authorized by the Controller to process them within the scope of their professional duties.
7. You have the right to access your data and, subject to the provisions of law, the right to rectify, delete, restrict the processing, the right to transfer data, the right to object to the processing, the right to withdraw consent at any time.

8. You have the right to lodge a complaint to the supervisory authority - the President of the Office for Personal Data Protection, ul. Stawki 2, 00-193 Warszawa.
9. Provision of personal data is obligatory on the basis of legal regulations, in the remaining scope it is voluntary.
10. With regard to your personal data, decisions will not be taken automatically, in accordance with Article 22 RODO.