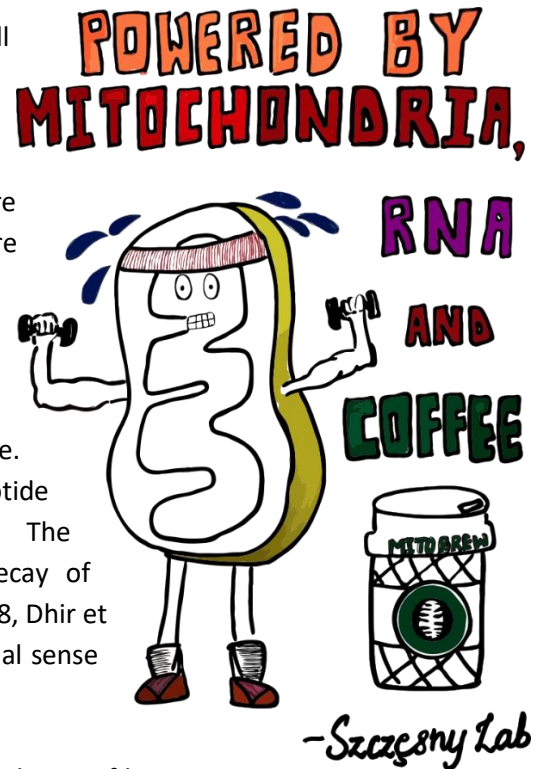


Postdoc position in human mitochondrial RNA biology

Laboratory of RNA Biology IBB PAS seeks a highly motivated Postdoc candidate who would like to join a mitochondrial research group working under the supervision of **Dr Roman Szczesny**.

Mitochondria are essential organelles found in almost all eukaryotic cells. Due to the organization of human mitochondrial DNA, the regulation of individual gene expression at the transcription level is limited. Despite the fact that most protein-coding mitochondrial genes are transcribed at the same rate, the levels of mature transcripts are different. Therefore, posttranscriptional processes appear to play a significant role in tuning mitochondrial mRNA (mt-mRNA) levels. Our research, as well as others, have identified the only known RNA degradation pathway in human mitochondria, which depends on a complex called degradosome. This complex comprises the RNA helicase SUV3 and polynucleotide phosphorylase (PNPase) (Borowski et al. NAR, 2013). The degradosome pathway is primarily responsible for the decay of mitochondrial antisense RNA (Pietras et al., Nat Commun, 2018, Dhir et al., Nature, 2018). The mechanism of the human mitochondrial sense transcripts degradation is far from being understood.



The main objective of our proposed research is to identify regulators of human mitochondrial mRNA levels, particularly nuclear-encoded proteins involved in mt-mRNA decay. We will also investigate the potential role of posttranscriptional processing and translation in regulating mt-mRNA levels. To achieve these goals, we will employ a high-throughput siRNA-based screening of the human genome that enables silencing of the expression of 6,395 selected nuclear genes. Human cells will be transfected with the siRNA library and then examined for mt-mRNA levels and degradation using a fluorescent microscopy-based approach. The identified proteins will be further characterized using various molecular, biochemical, and transcriptomic methods.

The selected Candidate will be involved in a part of the project focused on identifying the molecular mechanisms responsible for eliminating malformed mitochondrial RNA. They will also be responsible for functional studies of mitochondrial RNA factor(s) identified through an siRNA screen. To carry out these research tasks, the Candidate will need to implement methods for long RNA reads. Depending on the Candidate's experience and research interests, they may also be involved in identifying the mechanism that regulates the activity of the mitochondrial degradosome.

Visit our web to learn more about us: <https://ibb.edu.pl/en/laboratory/roman-szczesny/>

What we offer:

- Interesting and important research project.
- Supportive and inspiring work environment.
- Possibility to develop skills to supervise young researchers (doctoral and master students).
- Possibility to participate in specific international courses, workshops and conferences.
- A three-month probationary period, followed by up to 37-months position.

- Position with 100% focus on research (no teaching obligations).
- Remuneration: 7500-8500 PLN/month/gross, depending on experience.
- Additional annual remuneration (provided that the formal criteria are met).
- Motivation allowance (depending on research achievements affiliated with IBB PAS).
- Benefits including reduced-rate for private healthcare program and membership in MultiSport program.
- Support from the IBB Welcome Center with moving to a new place (<https://welcome.ibb.edu.pl/>).
- Delicious coffee and fruity Wednesdays.

Position starts on: September 2024, but can be discussed.

Profile of a candidate:

- PhD degree (or equivalent) in biology, biochemistry, genetics or other related life science discipline at the time of starting the position (you don't need to have the degree when applying). The PhD degree cannot have been obtained earlier than 2017¹.
- Passion for science, love of experimental research, and creativity.
- Ability to survey literature, analyze data and draw conclusions.
- Independent thinking, structured work organization, and a good team spirit are expected.
- Any experience in *in vitro* cell culture, RNA biology techniques, next-generation sequencing, fluorescent microscopy imaging, and involvement in studies on mitochondrial biology will be an advantage **but is not mandatory. Don't worry; we will be happy to support and teach you.**

Deadline for application:

The application **deadline** is **08-07-2024**. Selected candidates will be invited for interview (online). The competition may be extended until a suitable candidate who fulfils all requirements is found.

Don't wait; apply now.

Required documents:

- CV including scientific achievements, a short description of the research project(s) conducted so far, a list of known/used methods by the applicant, any other relevant information (prizes, honours, IT skills, organization of scientific meetings, experience in supervision of students/teaching).
- A copy of the PhD diploma or any other document that confirms PhD promotion or equivalent title.
- List of publications, if applicable.
- Contact information for at least one professional reference.
- Optional documents: reference letter(s), motivation letter - summary and relevance of your current research. Why you are interested in the position?

How to apply:

- All documents (written in English or Polish) should be merged into one pdf file. The file should be named as follows: Last name_First name_CV.pdf. **Please email the file to rszczesny@ibb.waw.pl. Add "Postdoc mtRNA position" to the message's subject.**

¹ This period may be extended by a time of long-term (in excess of 90 days) documented sick leaves or rehabilitation leaves granted on account of being unfit to work. In addition, the period may be extended by the number of months of a child care leave granted pursuant to the Labour Code and in the case of women, by 18 months for every child born or adopted, whichever manner of accounting for career breaks is preferable (please contact us if applicable).

- Please include the following statement in your CV: *"I hereby agree to the processing of my personal data, included in the application documents by the Institute of Biochemistry and Biophysics PAS, 5A Pawińskiego Street, 02-106 Warsaw, for the purpose of carrying out the current recruitment process."*

Contact:

Any questions should be addressed to Roman Szczesny, rszczesny@ibb.waw.pl, and the "Postdoc mtRNA position" should be added to the message's subject.

Funding

National Science Center, Project number 2021/42/E/NZ2/00442, Project name: Identification and analysis of mechanisms controlling steady-state levels and quality of mitochondrial mRNA.

JOIN US