

**Doctoral study program: PhD program in Biomedical Sciences**

**Form:** doctoral present

**Department:** Department of Biology

**Supervisor:** doc. Mgr. Lumír Krejčí, Ph.D.

**Ph.D. position:** Study of molecular details of DNA repair and its role in cancer

**Annotation**

Our laboratory focuses on studying the molecular basis of malignant diseases related to recombination and the repair of damaged DNA. The DNA within human cells is continuously damaged by both external and internal factors (radiation, UV light, as well as errors during replication, etc.). There can be up to half a million DNA lesions or breaks per day. Damaged DNA slows down or even stops the replication fork, leading to genomic instability and is associated with the development of various diseases, including cancer. One of the mechanisms ensuring error-free DNA repair and replication is homologous recombination. PhD project will focus on characterisation of selected protein(s) and its contribution to genome stability and disease development. The experimental work will encompass a wide range of molecular biology approaches, including DNA amplification and cloning, protein expression and purification, the study of protein interactions, and further characterization through biochemical, molecular biological, biophysical, structural, cellular biological, and genetic methods.

**Funding of the research**

The research will be funded by sources from Horizon Europa - TRIAD (Grant agreement ID: 101158508), institutional support, and further grants which will be obtained in the future.

**Information on funding PGS positions**

The program requires that all PhD students have some means of financial support of min. 25 000 CZK per month. This is often a combination of various sources (grants, scholarship etc.)

**Requirements for the student according to the Board for the PhD studies in Healthcare**

**Simulation at MU**

The student's minimum publication activity within the course of study is one first-author publication with an IF value above the median in the field or 2 first-author publications in journals with an IF value in the 3rd quartile in the field (Q3). A condition for successful completion of the studies is also a foreign internship of at least 1 month, which is an inseparable part of the studies. As part of their studies, students will also participate in the teaching.

**Supervisor**

doc. Mgr. Lumír Krejčí, Ph.D.

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