

Doctoral study program: Biomedical Sciences

Form: *doctoral (present)*

Department: Department of Biology, Faculty of Medicine, MU

Supervisor: RNDr. Michaela Bosakova, Ph.D.

Ph.D. position: Ciliary signaling in human pathologies

Annotation:

A single immotile primary cilium exists on the surface of most mammalian cells to orchestrate communication with the extracellular environment by hosting and regulating multiple signaling machineries. Disrupted architecture and signaling of primary cilia result in developmental syndromes and homeostatic disorders called ciliopathies. Disease-causing variants in over 185 human genes give rise to more than 35 established human ciliopathies. While the individual developmental ciliopathies are rare disorders, collectively they are estimated to affect 1 in 500 individuals world-wide, and the overall frequency is likely much higher due to involvement of disrupted cilia in homeostasis and aging diseases including metabolic disorders and cancer.

This project aims to study selected signaling pathways associated with primary cilia, and their role in pathogenesis of selected ciliopathies. Beyond the research tools and technology available in the lab and the hosting department, they will have access to the state-of-the-art instrumentation and services at the MUNI University campus core facilities.

Funding of the research:

This project is funded by the Czech Health Research Council (AZV ČR)

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 Doctoral Board:

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.

Bosakova Lab: <https://www.researchgate.net/profile/Michaela-Bosakova>

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