

Affiliation: Masaryk University, Faculty of Medicine
Study program: PhD program Biomedical Sciences
Specialization: Cell and Tissue Morphology
Workplace: Department of Histology and Embryology, Faculty of Medicine
Mode: Full-time

Supervisor: **Mgr. Zuzana Sumbalova Koledova, Ph.D.**
Lab's website: <https://histology.med.muni.cz/zuzana-koledova>

Title: Microenvironmental mechanics in epithelial morphogenesis and tumorigenesis

Brief annotation:

The *Sumbalova Koledova research group: Mechanisms of epithelial morphogenesis* aims to unravel critical mechanisms of organ formation and tumorigenesis. To this end, we use an interdisciplinary approach employing organoids, genetic mouse models, single-cell and spatial genomics, biosensors, state-of-the-art imaging techniques, mathematical modelling, and AI-driven image analysis. The PhD project will tackle the role microenvironmental mechanics in epithelial morphogenesis and tumorigenesis using iterative biological experimentation in mammary epithelial organoids by the PhD candidate and computational modelling by mathematically oriented engineers in our team.

Funding: Czech Science Foundation (GAČR)

Requirements:

- Highly motivated, passionate, self-driven and creative candidates with MSc (or equivalent) in cell, developmental or molecular biology or related areas
- Interest in developmental biology and fundamental processes of life
- Excellent communication skills, ability to work in an interdisciplinary team
- Previous experience with cell and organoid culture is advantageous but not essential
- Willingness to travel abroad for meetings and research internships
- Active knowledge of English

Publications from the Sumbalova Koledova group: shorturl.at/zDHOQ

For the latest information about our research activity, follow **Twitter** account @KoledovaZuzana

Informal inquiries about the PhD topic are welcome at koledova@med.muni.cz

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