

Affiliation: Masaryk University, Faculty of Medicine
Study program: PhD program Biomedical Sciences
Specialization: Cell and Tissue Morphology
Workplace: Department of Anatomy, Masaryk University
Mode of study: On-site

Supervisor: MUDr. Peter Solár, Ph.D. (peter.solar@med.muni.cz)

Title: Reaction of brain barriers to hemorrhagic stroke

Brief annotation (max 200 words): Brain barriers play an important role in maintaining central nervous system homeostasis. Damage of blood-cerebrospinal fluid barrier and blood-brain barrier by hemorrhagic stroke such subarachnoid hemorrhage initiates various cascades resulting in brain injury. Subarachnoid hemorrhage is a type of hemorrhagic stroke with high mortality and morbidity. Currently, little is known about the molecular mechanisms underlying the complex pathophysiology of subarachnoid hemorrhage. A deeper understanding of pathophysiological mechanisms responsible for brain barrier damage after subarachnoid hemorrhage will form the basis for better treatment. In our team, we focused on the study of brain barrier's reaction following subarachnoid hemorrhage using *in-vivo* and *in-vitro* models and a combination of different laboratory techniques. The dissertation thesis aims to investigate the pathophysiological cascades including molecular and cellular mechanisms responsible for unfavorable outcome after spontaneous subarachnoid hemorrhage.

Requirements:

- Graduate student of Medical School, Molecular Biology, Biochemistry, or relevant disciplines
- Hands-on experiences with laboratory technics such as Western blot, PCR, and cell culture
- Active knowledge of English (min. B2)

Masaryk University, Faculty of Medicine

Kamenice 753/5, 625 00 Brno, Czech Republic

T: +420 549 49 2910, E: info@med.muni.cz, www.med.muni.cz

Bank account: KB Brno, Ref. No.: 85636621/0100, ID: 00216224, Tax ID: CZ00216224

Please quote the Reference Number in your reply.

Information about the supervisor:

- Assistant professor at Masaryk University, Department of Anatomy
- Neurosurgeon working at the Department of Neurosurgery - St. Anne's University Hospital Brno
- Ph.D. study at Masaryk University in Surgery and Reproductive Medicine, doctoral degree Programme (graduation in 2022)
- Publications in high-ranked journals
- Award of the Czech Anatomical Society (2021)
- Masaryk University Rector's Award for outstanding students of MU doctoral study programs in 2022
- Award of the Czech Anatomical Society for the best dissertation for the year 2022.