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## PhD position in Neurosciences and Nano therapeutics against infectious diseases

Two PhD positions are available at The Laboratory of Biomedical Microbiology and Immunology (LBMI), <http://lbmi.uvlf.sk>. The positions are linked to the project - “Development of strategic therapeutics against selected vector-borne neuroinfections” and “Development of therapeutic biomolecules to block SARS-CoV-2 infection” financed by Slovak Research and Development Agency (APVV).

The goals of PhD research will focus on one of the following areas:

- (1) Enhancing the existing insights on molecular crosstalk occurring between neuroinvasive pathogens (e.g. Dengue virus, Zika virus or West Nile virus) and cells of neurovascular unit forming human blood-brain barrier.
- (2) Development of chimeric virus like particles of above said viruses for vaccination and diagnostic purpose.
- (3) Development of nanotechnology based therapeutics against neuroinvasive pathogens.
- (4) Blocking the ligand-receptor interactions between SARS-CoV-2 epitopes and host angiotensin-converting enzyme 2 using single domain antibodies or peptides.

PhD fellow will have opportunity to work on state-of-the art techniques like Mass spectrometry based mapping of ligand-receptor interactions, RNA sequencing, synthesis of single domain antibodies (nanobodies), anti-microbial peptides, protein and VLP expression, production of *in vitro* 3D blood-brain organoids etc.

### Desirable profile

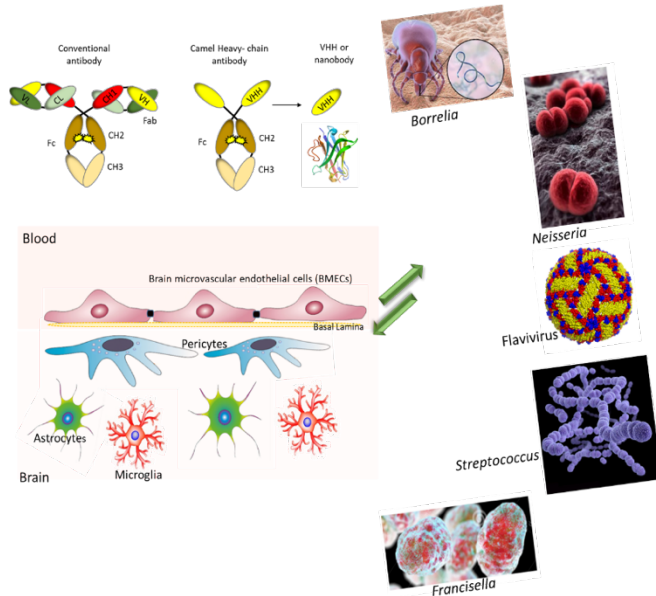
We look forward for highly motivated and ambitious post graduates who wish to flourish their research carrier by perusing a PhD in neurosciences or PhD in biomedical microbiology. You should have

1. Master’s degree in biology, biomedical sciences, biochemistry, neuroscience or related disciplines.
2. Strong theoretical and working knowledge on microbiology, cell culture proteomics and molecular biology techniques
3. Strong scientific communication skills: oral and written



## About us

The Laboratory of Biomedical Microbiology and Immunology (LBMI; <http://lbmi.uvlf.sk/>) is an output of two organizations - University of veterinary medicine and pharmacy in Košice and Institute of Neuroimmunology, Slovak academy of science, collaborating to attain the common goal of establishing a sophisticated research unit in the field on immunoproteomics.



Since its foundation in 1996, the LBMI is assuring excellence in research and education. The research activities of the LBMI have focused on exploring host-pathogen interactions of neuroinvasive human pathogens like *B. burgdorferi*, *N. meningitidis*, *Streptococcus pneumoniae*, *Francisella* Sp. West Nile virus and Tick-borne encephalitis virus to intervene in their early pathogenesis. Since 2020, LBMI has

initiated Slovak National project (APVV) on COVID 19 to reveal molecular interaction of COVID19 and various host cells and interfere in virus uptake/early pathogenesis.

## What we offer

1. Researchers will be trained on cutting edge technologies within the scientifically stimulating working environment
2. Opportunity to disseminate their research in international conferences every year
3. Funding for 4 years – 1000 euros (gross) per month.
4. To-and-fro air ticket

## Application instructions

Please send your curriculum vitae, list of publications and a reference letter with contact details in a single email to Dr. Amod Kulkarni ([kulkarni.adm@gmail.com](mailto:kulkarni.adm@gmail.com) and [mangesh.bhide@uvlf.sk](mailto:mangesh.bhide@uvlf.sk))

**Commencement of the PhD study – flexible between 1.9.2022**



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LBMI is committed to achieve gender balance and strongly encourages applications from women, who are currently under-represented at all levels. Appointment will be strictly base on merit.