Neurosciences

Immanuel Kant Baltic Federal University

Degree or qualification is awarded: **Master**

Language of study: **Russian**
Mode of study: **full-time**
Duration: **2 years**
Availability of free education: **yes**
Price: **2 400 USD per year**

This course will help you develop the skills in the field of molecular foundations of life, molecular and cellular mechanisms of the nervous system, as well as genetic engineering solutions in neuroscience. The molecular foundations of life are universal, they are the same for all cells, both nervous and any other. Having acquired knowledge in the field of molecular neurophysiology, electrophysiology and neuropharmacology, neurooncology and neurogenesis, as well as having mastered modern methods of studying the processes occurring in the brain tissue, you will be able to master the principles of molecular diagnosis and modeling of brain diseases, as well as study the mechanics of their occurrence and treatment. The ability to understand how the genome works, how gene expression is modified and regulated, how changes in biological processes are analyzed by modern molecular genetic methods, and how the molecular, cellular, and systemic levels are practically linked is the key to the future of all biomedicine.

Specializations within this programme

What will I study?

- Electrophysiology
- cAMP signaling pathways and optical detection of signaling molecules
- Basic model systems and organisms used to study brain functions
- Optogenetics and pharmacogenetics as methods of selective control of cell function
- General understanding of expression as a regulated process
- Glial cells: properties and functions in normal and pathological conditions
- Neurogenesis, neurodegeneration, and neurooncology