

## Molecular Biology Master Studies Programme, 2022

| Institution                             |  | Department/Laboratory                                 | Themes  |
|---|--|---|---|
| <b>Life Sciences Center</b>             | <b>Institute of Biosciences</b>        | Department of Biochemistry and Molecular Biology      | The Prevalence of Heavy Metal Resistance Genes and Mobile Genetic Elements in Fish Farming Ponds and Lakes  |
|   | <b>Institute of Biochemistry</b>       | Department of Bioelektrochemistry and Biospectroscopy | Functional Reconstitution of Cholesterol Dependent Cytolysins Pneumolysin and Streptolysin O into Biomimetic Membranes  |
|   | <b>Institute of Biotechnology</b>      | Department of Protein – DNA Interactions              | Investigation of <i>Clostridium butyricum</i> Argonaute Protein Using Single-Molecule Fluorescent Microscopy<br><br>Spacer Acquisition in a Type V CRISPR-Cas System  |
|   |  | Department of Biological DNA Modifikation             | Analysis of 5'-NAD <sup>+</sup> -RNA in Model Organism <i>Escherichia coli</i> and Lactic Acid Bacteria <i>Lactocaseibacillus paracasei</i> and <i>Lactococcus lactis</i>   |
|   |  | Department of Eukaryote Gene Engineering              | Investigation of Chemical Conjugation of vB_EcoS_NBD2 Bacteriophage-Originated Nanotubes and Foreign Protein Attachment Possibilities<br><br>Investigation of Dolichol Kinase Mutants in <i>Saccharomyces cerevisiae</i><br><br>The Application of vB_EcoM_FV3 Bacteriophage-Originated Nanotubes for the Presentation of Foreign Protein Fragments |
| <b>Nature Research Centre</b>           | <b>Institute of Botany</b>             | Laboratory of Plant Physiology                        | Molecular and Biochemical Responses of Wheat to Drought by Application of Probiotics, Proline, and Calcium  |
| <b>Centre of Innovative Medicine</b>    | <b>Department of Immunology</b>        |   | The Influence of New High-Frequency Nanosecond Electrochemotherapy on the Elimination of LLC1 Tumours, the Prolongation of the Lifespan of the C57BL/6J Mice and Changes in Immune Cell Subpopulations  |
|   | <b>Department of Stem Cell Biology</b> |   | <i>In vitro</i> Study of the Effects of Exogenous Growth Factors on the Integrity of the Human Blood-Brain Barrier  |
| <b>Thermo Fisher Scientific Baltics</b> |  |   | Haplotype-resolved Whole Genome Sequencing<br><br>Analysis of Properties of the M-MuLV Reverse Transcriptase Mutants  |