

Molecular Biology, Bachelor Studies Programme, 2026

Institution		Department/Laboratory	Themes
VU Life Sciences Center	Institute of Biosciences	Department of Biochemistry and Molecular Biology	The Role of Totiviruses in Genome Stability: An Analysis of Transposition Frequency in <i>Saccharomyces cerevisiae</i> Yeast Study of the Effects of Targeted Therapy Compounds in 2D and 3D Model Systems of Endometrial Cancer Cells
		Department of Microbiology and Biotechnology	Studies of Biocide Resistance Genes and Phenotypic Characteristics of <i>Acinetobacter baumannii</i>
		Department of Botany and Genetics	Not Just for Smell: Transcriptomic Analysis of Immune Functions in the Fish Olfactory Rosette Functional Analysis of the Barley TPS1 Gene Using the CRISPR/Cas9 System
	Institute of Biochemistry	Department of Bioanalysis	Assessment of Disulphide Bonds Influence on the Activity and Stability of Glucose Oxidase Amperometric Assessment of Biomarkers of L-arginine Metabolism Application of PQQ-Dependent Glucose Dehydrogenase and Oxidized Maltodextrin for Spectrophotometric Determination of α -Amylase Activity and Concentration
		Department of Bioelectrochemistry and Biospectroscopy	Analysis of Interactions between Bacterial Membrane-Mimicking Lipid Models and Colistin
		Department of Biological Models	Effects of Psilocybin and its Analogs on Neuroinflammation in Aged Primary Microglial Cells
		Department of Molecular Cell Biology	Neurotrophic Potential Assessment of Amniotic Fluid Mesenchymal Stromal Cell Extracellular Vesicles in a miR-146a-5p Inhibited SH-SY5Y Cell Model Effects of PRMT Inhibitors and Metformin on the Immune Phenotype of Breast Cancer Cells

			Effects of PRMT Inhibitors on the Immunophenotype and Metabolic Response of Tumor Cells under Normoxic and Hypoxic Conditions
		Department of Molecular Microbiology and Biotechnology	Study of the Pupylation System in <i>Cellulosimicrobium</i> sp. Purification of Recombinant RudS Enzymes from <i>Pseudomonas putida</i> and <i>Pseudomonas aeruginosa</i> and Evaluation of Their Enzymatic Activity <i>in vitro</i>
		Proteomics Center	Analysis of the Senescence-Associated Secretory Phenotype in Normal and Cancer Cells
	Institute of Biotechnology	Sector of Amyloid Research	Study of S100A4 Protein Aggregation and Liquid-Liquid Phase Separation
		Department of Protein – DNA Interactions	Characterization of HEPN Effector-Associated Prokaryotic Argonaute Systems in <i>Escherichia coli</i> Study of Isolation and Activation of Monocytes
		Department of Bioinformatics	Analysis of Inconsistencies in Homodimeric Structures Determined by Crystallography
		Department of Biothermodynamics and Drug Design	Thermodynamic Studies of the Binding of Inhibitors to Chimeric Carbonic Anhydrase IX
		Department of Biological DNA Modification	Optimization of MxTOP Library Preparation Conditions for Epigenetic Analysis of the Neuroblastoma BE(2)-C Cell Differentiation Process Chemoenzymatic Derivatization of DNA 5-hydroxymethylcytosine
		Chronoepigenetics Laboratory	Study of the Expression of Human DNA Methylation Regulating Genes Over the Course of the Day
		Department of Eukaryote Gene Engineering	Optimization of the Synthesis of Bacteriophage vB_EcoS_NBD2 Nanostructures and Their Application for the Display of a Hybrid House Dust Mite Allergen Assessment of the Molecular Clock Signal in Mosquito RNA Viruses Using Public Metatranscriptomic Data Selection of Yeast Species for the Development of a Biosensor for SARS-CoV-2 Main Protease Activity

		Department of Immunology	Assessment of the Molecular Clock Signal in Mosquito RNA Viruses Using Public Metatranscriptomic Data
	EMBL Partnership Institute	Laboratory of dr. Giancarlo Russo	Coevolutionary Dynamics of DMS3Vir and Pseudomonas aeruginosa PA14 CRISPR-Cas Mutants
		Laboratory of Dr. Patrick Pausch	Investigation of the DRT4-mediated prokaryotic antiviral defense mechanism
VU Faculty of Medicine	Institute of Biomedical Sciences	Department of Human and Medical Genetics	Metagenomic Analysis of Human Remains from a 19th-Century Mass Grave in Vilnius St. Stephen's Churchyard
	Translational Health Research Institute	Centre for Human Bioarchaeology and Palaeogenetics	Assessment of the Suitability of Skeletal Samples for Ancient DNA STR Analysis from Remains Buried at the Skuodas Evangelical Lutheran Church
State Scientific Research Institute Nature Research Centre		Laboratory of Molecular Ecology	Genetic Profile of a Wild Capercaillie (Tetrao urogallus) from Lithuanian Forests Based on Microsatellite Markers in Comparison with Captive Individuals
Centre of Innovative Medicine	Research Departments	Department of Stem Cell Biology	The Impact of Extracellular Vesicles on Long-Term Microglial Inflammatory Response
National Cancer Institute	Research Departments	Biobank	(Epi)genomic Analysis and Response to KRAS Isoform Silencing in Breast Cancer Cell Lines of Different Molecular Subtypes
Thermo Fisher Scientific Baltics			Study of Isolation and Activation of Monocytes