Annex 1
Approved by VU Pro-Rector for Research order No. D–125 on the 15th of March 2021

LIST OF DISSERTATIONS TOPICS FOR DOCTORAL STUDIES COURSES IN 2021

NATURAL SCIENCES

Scientific area	Topics of doctoral dissertations	Supervisors
BIOCHEMISTRY – N 004	1. *Application of self-assembled supramolecular systems in biosensors*	Dr. Gintautas Bagdžiūnas
	2. *Characterisation of new probiotic strains in vivo with anti-inflammatory and anti-diabetic functions*	Dr. Aurelijus Burokas
	3. *The role of lipid bilayer for lipid-biomolecule interaction*	Dr. Marija Jankunec
	4. *Origin, evolution and diversity of Cas9 and Cas12 proteins*	Dr. Darius Kazlauskas
	5. *Single-cell epigenomics and transcriptomics using droplet microfluidics*	Dr. Linas Mažutis
	6. *Single cell transcriptomics: diseased and healthy human tissues*	Dr. Linas Mažutis
	7. *Single-cell genotyping using microfluidics technology*	Dr. Linas Mažutis
	8. *Study of flavin-dependent oxygenases active towards N-heterocyclic compounds*	Prof. Rolandas Meškys
	9. *Study of ASCH domain containing proteins*	Prof. Rolandas Meškys
	10. *Epigenetic and gene expression profiling of human reproduction system stromal cells*	Prof. Rūta Navakauskienė
	11. *Statins in lipid membrane modulation for cancer therapy*	Dr. Giulio Preta
	12. *Interplay between viral elements in the Saccharomyces yeast*	Prof. Saulius Serva
	13. *Modern research models and novel technologies for cancer metastases research*	Prof. Kęstutis Sužiedėlis
	14. *Mechanistic studies of novel antiviral defense systems*	Prof. Virginijus Šikšnys
	15. *Exploration and application of novel genome editing tools*	Prof. Virginijus Šikšnys
	16. *Computational analysis and prediction of protein interactions*	Prof. Česlovas Venclovas
	17. *Studies of interactions between nucleic acids and proteins of bacterial defense systems at single-molecules level*	Dr. Mindaugas Zaremba
	18. *Investigation of macrophage activation by immune complexes of viral proteins and antibodies*	Dr. Aurelija Žvirblienė
	19. *Development of oligonucleotide-based electochemical sensors*	Dr. Marius Dagys