Annex 1
Approved by VU Pro-Rector for Research order No. D–117 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
PHYSICS – N 002	1. *Models of disorder and localization in driven quantum systems*	Prof. Egidijus Anisimovas
	2. *EPR sensitivity enhancement: applications to novel functional materials*	Prof. Jūras Banys
	3. *Dielectric spectra of perovskite halides*	Prof. Jūras Banys
	4. *New nonlinear optical microscopy methods for biomedical research*	Prof. Virginijus Barzda
	5. *Histopathology investigations with nonlinear optical microscopy*	Prof. Virginijus Barzda
	6. *Identification of pathogenic microorganisms in biological tissues by the means of fiber based Infrared spectroscopy*	Doc. Justinas Čeponkus
	7. *Femtosecond supercontinuum generation in transparent dielectrics in adverse pumping conditions*	Prof. Audrius Dubietis
	8. *Investigation of optical parametric generator pumped by subnanosecond microlaser pulses*	Doc. Vygandas Jarutis
	9. *Numerical modeling of laser matter interaction with high repetition laser burst pulses*	Doc. Vytautas Jukna
	10. *Tailoring of emission properties of organic compounds*	Prof. Saulius Juršėnas
	11. *Classification and the modeling of carotenoids and polyenes using innovative methods of quantum chemistry*	Doc. Mindaugas Mačernis
	12. *Advanced Free-Form Micro-Optics Enabled via Multi-Photon 3D Lithography*	Dr. Mangirdas Malinauskas
	13. *Fatigue effect in optical coatings: parametric study on laser irradiation scaling and lifetime analysis*	Doc. Andrius Melninkaitis
	14. *Photospheric chemical composition as stellar evolutionary indicator*	Dr. Šarūnas Mikolaitis
	15. *Smart management of semiconductor microlaser radiation*	Prof. Kęstutis Staliūnas
	16. *Production and characteriation of tape-casted perovskite oxide thick films*	Doc. Šarūnas Svirskas
	17. *Environmentally-stable perovskite optoelectronic devices*	Dr. Patrik Ščajev

	18. *Abundances of chemical elements in magnetically active stars*	Prof. Gražina Tautvaišienė
	19. *A structure of star cluster system of the Triangulum galaxy*	Prof. Vladas Vansevičius
	20. *Excitation relaxation processes in activated scintillators*	Doc. dr. Saulius Nargelas