Annex 1
Approved by VU Pro-Rector for Research order No. D–191 on the 26th of March 2020

LIST OF DISSERTATIONS TOPICS FOR DOCTORAL STUDIES COURSES IN 2020

NATURAL SCIENCES

Scientific area	Topics of doctoral dissertations	Supervisors
PHYSICS – N 002	1. *Abundances of chemical elements in magnetically active stars*	Habil. dr. Gražina Tautvaišienė
	2. *Precision of the Drell-Yan process measurement with the CMS Phase II upgrade*	Dr. Andrius Juodagalvis
	3. *Electrical investigation of hybrid multifunctional ceramics with nanoinclusions*	Dr. Jan Macutkevič
	4. *Low frequency noise spectroscopy of infrared range optoelectronic devices*	Prof. Jonas Matukas
	5. *Impact of localization to charge carrier dynamics in semiconductors with partial disorder*	Doc. Ramūnas Aleksiejūnas
	6. *Development of new nonlinear optical microscopy imaging methods for biological investigations*	Prof. Virginijus Barzda
	7. *Novel TADF emitters: photophysical properties and application in OLEDs*	Dr. Karolis Kazlauskas
	8. *Nonlinear optical histopathology*	Prof. Virginijus Barzda
	9. *Modelling of relaxation features of excited electronic states of organic PI systems by quantum chemical methods*	Prof. Juozas Šulskus
	10. *Fast transient processes in inorganic materials for radiation detectors*	Prof. Gintautas Tamulaitis
	11. *Investigation of supercontinuum coherence generated in an optical fiber*	Doc. Vygandas Jarutis
	12. *Ultrafast UV laser pulse interaction with materials for laser microfabrication applications*	Doc. Domas Paipulas
	13. *NMR study of human G-quadruplex DNA structures under oxidative stress*	Prof. Vytautas Balevičius

	14. *Investigation of chemical evolution of stellar populations in Galactic globular clusters*	Prof. Arūnas Kučinskas
	15. *Spectroscopic study of the planet-host stars*	Dr. Edita Stonkutė
	16. *Materials investigations by high frequency electromagnetic waves*	Prof. habil. dr. Jūras Banys
	17. *Variable stars in eclipsing binary systems*	Dr. Erika Pakštienė
	18. *Photonic Crystal Microchip Lasers*	Prof. Kęstutis Staliūnas
	19. *Numerical modeling of laser matter interaction with high repetition laser burst pulses*	Doc. Vytautas Jukna