

LIST OF PHD RESEARCH TOPICS AND SUPERVISORS FOR THE FIELD OF **MEDICINE** IN THE  
AREA OF MEDICAL AND HEALTH SCIENCES FOR 2025

No.	Department	Research topic	Supervisor	Consultant
1	Institute of Endocrinology Diabetes laboratory	Assessment of genetic risk scores, epigenetic biomarkers, autoimmunity, and glycemic profile in relatives of patients with type 1 diabetes	Assoc. Prof. Dr. I. Stankutė	
2	Institute of Cardiology Automation of Cardiovascular Investigation laboratory	AI-based assessment of aortic valve stenosis severity using audible spectrum sound wave spectrography	Prof. Dr. V. Mizarienė	Prof. Dr. V. Raudonis (KTU)
3	Institute of Cardiology Automation of Cardiovascular Investigation laboratory	Artificial intelligence-based detection, of vascular damage and age-related changes, analysis, and clinical application for early diagnosis of retinal diseases	Prof. Dr. V.J. Balčiūnienė	Dr. G. Kalesnykas
4	Institute of Cardiology Automation of Cardiovascular Investigation laboratory	Artificial intelligence-based automated detection of supraventricular arrhythmias and assessment of interventional treatment options	Prof. Dr. V. Zabiela	
5	Institute of Cardiology Molecular Cardiology Laboratory	The influence of genetic, biochemical and clinical factors on the prognosis of late cardiac remodeling and long-term outcomes after myocardial infarction	Prof. Dr. D. Žaliaduonytė	Prof. Dr. S. Šimonytė
6	Institute of Cardiology Laboratory of Population Studies	A retrospective study of the occurrence, predisposing factors, clinical course, and mortality of ST-segment elevation myocardial infarction in the prepandemic, pandemic, and postpandemic periods	Prof. Dr. G. Šakalytė	
7	Faculty of Medicine Department of Ophthalmology	Ocular surface features and their associations with the ocular surface and gastrointestinal microbiome	Prof. Dr. R. Žemaitienė	Prof. Dr. D. Lukšienė Dr. R. Lukoševičius
8	Faculty of Medicine Department of Obstetrics and Gynaecology	The influence of the technique of the first cesarean section on the formation of the uterine scar niche	Assoc. Prof. Dr. E. Savukynė	
9	Faculty of Medicine Department of Anaesthesiology	Development of a methodology for acquiring regional anesthesia skills during residency using theoretical material, human remains, and artificial intelligence	Prof. Dr. A. Gelmanas	
10	Faculty of Medicine Department of Anaesthesiology	The value of personalized pharmacogenetic-based systemic postoperative analgesia in implementing precision medicine methods in clinical practice	Prof. Dr. J. Gudaitytė	
11	Faculty of Medicine Department of Anaesthesiology	The influence of the method of administration of epidural analgesia on the course and outcomes of labor	Prof. Dr. K. Rimaitis	Assoc. Prof. Dr. V. Vilimienė
12	Faculty of Medicine Department of Otorhinolaryngology	Ablative MRI-guided radiotherapy in the treatment of early laryngeal cancer: analysis of local tumor control, quality of life and voice changes, application of artificial intelligence algorithms in	Prof. Dr. E. Padervinskis	Assoc. Prof. Dr. V. Rudžianskas

		developing prognostic models of disease outcomes		
13	Faculty of Medicine Department of Surgery	Personalized medicine solutions using cytoreductive surgery and hyperthermic regional chemotherapy for the treatment of locally advanced gastric cancer	Prof. Dr. A. Maleckas	Dr. A. Jasukaitienė
14	Faculty of Medicine Department of Gastroenterology	Multi-step molecular assay for predicting the course of inflammatory bowel diseases	Prof. Dr. G. Kiudelis	Prof. Dr. J. Skiecevičienė Prof. Dr. A. Franke (Kiel University)
15	Faculty of Medicine Department of Gastroenterology	A comprehensive study of the T cell repertoire and its links to the pathogenesis of liver cirrhosis	Prof. Dr. J. Kupčinskas	Dr. D. Nikitina Prof. Dr. J. Bajaj
16	Faculty of Medicine Department of Immunology and Allergology	Peculiarities of immune response modulation during atopy	Prof. Dr. B. Gradauskienė	
17	Faculty of Medicine Department of Immunology and Allergology	Local and systemic immune response: effects of different types of smoking	Dr. L. Tamašauskienė	
18	Faculty of Medicine Department of Intensive Care	Study of microcirculation and systemic blood flow reactivity during adaptation to ischemia by pharmacological and mechanical methods in critically ill patients	Prof. Dr. A. Pranskūnas	
19	Faculty of Medicine Department of Cardiology	Correlations between morphological and physiological features of coronary atherosclerotic plaques in patients with chronic coronary artery syndrome	Dr. K. Briedis	Dr. A. Aldujeli
20	Faculty of Medicine Department of Laboratory Medicine	Associations between community-acquired pneumonia agents, patient risk factors, and systemic inflammatory response with disease course and outcomes	Prof. Dr. A. Vitkauskienė	
21	Faculty of Medicine Department of Skin and Venereal Diseases	Comparative study of cold atmospheric plasma and topical immunomodulatory treatment of basal cell carcinoma	Prof. Dr. S. Valiukevičienė	Prof. Dr. S. Emmert
22	Faculty of Medicine Institute of Oncology	The influence of undetermined potential of clonal hematopoiesis and polymorphisms of interleukin genes on the development of cardiac damage during autologous hematopoietic stem cell transplantation	Prof. Dr. R. Gerbutavičius	Prof. Dr. T. Lapinskas Prof. Dr. G.-N. Franke
23	Faculty of Medicine Department of Orthopaedics and Traumatology	Evaluation of the effectiveness of genicular artery embolization compared with standard treatment methods in patients with knee osteoarthritis	Prof. Dr. A. Smailys	Prof. Dr. S. Lukoševičius
24	Faculty of Medicine Department of Pathological Anatomy	Study of histomorphometric and molecular prognostic markers of endometrial carcinoma, development of a prognostic model based on artificial neural networks	Assoc. Prof. Dr. L. Poškienė	
25	Faculty of Medicine Department of Pulmonology	Study of the effect of eosinophils on bronchial epithelial cell differentiation, novel markers of epithelial damage, and clinical remission in asthma	Prof. Dr. K. Malakauskas	Dr. A. Januškevičius

26	Faculty of Medicine Department of Radiology	Identification of new predictive factors and their significance for improving the outcomes of radioligand therapy in patients with metastatic castration-resistant prostate cancer	Prof. Dr. D. Vajauskas	Dr. L. Gilys Prof. Dr. R. Jančiauskienė
27	Faculty of Medicine Department of Radiology	Correlation of multiparametric MRI and blood markers in detecting significant changes with different physical activity in patients with MCI	Prof. Dr. R. Gleiznienė	Prof. Dr. S. Lukoševičius
28	Faculty of Medicine Department of Radiology	Safety and efficacy of selective preoperative intraarterial <sup>177</sup> Lu-PSMA radioligand therapy in men with localized high-risk prostate cancer	Prof. Dr. D. Vajauskas	Prof. Dr. M. Jievaltas Dr. L. Gilys
29	Faculty of Medicine Department of Cardiac, Thoracic and Vascular Surgery	The influence of the sympathetic nervous system on the development of abdominal aortic aneurysm	Prof. Dr. D. H. Pauža	
30	Faculty of Medicine Department of Cardiac, Thoracic and Vascular Surgery	Measurements of vitamin C and glycocalyx biomarkers (syndecan-1, heparan sulfate, hyaluronan) along with endogenous glycocalyx layer density: impact of their changes on early postoperative outcomes in patients undergoing aortic valve surgery with mechanical ventilation	Prof. Dr. P. Jakuška	
31	Faculty of Medicine Department of Urology	Study of risk factors for the development of renal carcinoma and prognostic biomarkers for disease course and outcome	Prof. Dr. E. Skrodenienė	Assoc. Prof. Dr. P. Aniulis
33	Faculty of Medicine Department of Paediatric Surgery	The influence of the gut microbiome and mycobiome on the pathogenesis and outcome of necrotizing enterocolitis in preterm neonates	Assoc. Prof. Dr. A. Lukošūtė-Urbonienė	Prof. Dr. D. Malcius Prof. Dr. T. Wester
33	Faculty of Medicine Department of Pediatrics	Obstructive sleep apnea in children at risk: associations between clinical, functional, and neurocognitive indicators before and after individualized treatment	Prof. Dr. V. Misevičienė	