

FACULTY OF MEDICINE

21 M. K. Čiurlionio, LT-03101 Vilnius
Tel. 239 8700
E-mail: mf@mf.vu.lt
<http://www.mf.vu.lt/>

Dean – Prof. Dr Habil. *Algirdas Utkus*

STAFF

652 teachers (401 holding research degree), 108 research fellows (86 holding research degree), 150 doctoral students.

DEPARTMENTS OF THE FACULTY

Institute of Biomedical Sciences:

Department of Anatomy, Histology and Anthropology
Department of Physiology, Biochemistry, Microbiology and Laboratory Medicine
Department of Pathology, Forensic Medicine and Pharmacology
Department of Radiology, Nuclear Medicine and Physics of Medicine
Department of Human and Medical Genetics
Lithuanian Population and Rare Diseases Biobank
Pharmacy Center

Institute of Clinical Medicine:

Clinic of Obstetrics and Gynaecology
Clinic of Anaesthesiology and Reanimatology
Clinic of Ear, Nose, Throat and Eyes Diseases
Clinic of Gastroenterology, Nephrourology and Surgery
Clinic of Infectious Diseases and Dermatovenereology
Clinic of Chest Diseases, Immunology and Allergology
Clinic of Neurology and Neurosurgery
Clinic of Psychiatry
Clinic of Rheumatology, Orthopaedics Traumatology and Reconstructive Surgery
Clinic of Cardiovascular Diseases
Clinic of Children's Diseases
Clinic of Internal Medicine, Family Practice and Oncology
Clinics of Emergency Medicine
Centre for Visceral Medicine and Translational Research

Institute of Dentistry

Institute of Health Sciences:

Department of Rehabilitation, Physical and Sports Medicine
Department of Nursing
Department of Public Health
Center for Health Ethics, Law and History

RESEARCH AREAS

Human Genome Diversity, Its Origin and Phenotypic Realization

Human and Public Health, Quality of Life and Environment

Etiopathogenesis, Diagnostics, Treatment of Diseases: Fundamental and Clinical Research, Innovative Technologies

RESEARCH INTERESTS

Phenotypic variety of Lithuanian and other populations in a changing environment

Ethical legal and social issues of biobanking

Biobank quality management

Genetic variants associated with COVID-19 susceptibility and severity

Prevention, diagnosis and treatment of a wide range of serious illnesses

New scientific discoveries that benefit people's health

Personalized medicine

National and international scientific collaboration

Genetic structure and variation in the Lithuanian population

Genomics of intellectual disability and congenital anomalies and rare genetic disorders

Genetic analysis of hereditary phenotypes – genetic characterization of human phenome, genome and regulome

Exercise Genetics and Genomics, Biology of Healthy Aging, Molecular Biology of Physical Activities, "OMICS" Technologies

Drug utilization research

Renal pathology, digital pathology image analysis, pathology informatics, health information systems, standards, testing of cancer biomarkers in tissue, multi-resolution analysis of biomarkers

Inflammatory cardiomyopathy: prognostic biomarkers of heart failure

Cancer immunology: T-lymphocytes, macrophages

Creation of new functional and anatomical imaging techniques and evaluation of effectiveness for diagnostics of cardiovascular, abdominal and oncological diseases.

Estimation of iron overload in liver and heart.

Physical properties in vitro of metabolites using high resolution 9.4T NMR spectrometer.

AI and deep learning applications in diagnostic imaging.

Health of mother and foetus: physiology and pathology

Etiopathogenesis, diagnostics, treatment of diseases: fundamental and clinical research, innovative technologies

Impact of perioperative and psychosocial risk factors on long term mortality, quality of life, stress reactions after cardiac surgery

Optimization of low back pain diagnosis and treatment

Organ dysfunction in critically ill oncohaematological patients

Early changes in cognitive functioning in patients undergoing general anesthesia

Spinal bupivacaine baricity and dose in day-case surgery

Development of new methods of opioid detoxification for illicit and prescription opioid dependent patients

Estimation of the influence of morphology and clinical peculiarities of otorhinolaryngological and ophthalmological diseases to results of application of novel diagnostic methods and treatment

Minimally invasive surgery of abdominal organs, development and improvement of new procedures and devices for the performance of minimally invasive procedures, especially of abdominal malignancies

Research of liver and pancreas transplantation techniques (listing and preparing of patients for liver, pancreas, kidney transplantation)

Research of liver and pancreas transplantation techniques

Study of dietary treatment of enteropathies

Minimal hepatic encephalopathy

Gut microbiota in health and disease

Extrahepatic complications of liver cirrhosis

Diagnostic/prognostic markers for prediction of HCC

Novel treatment for the GI bleeding

Contemporary diagnostic analysis of ascite liquid

Epidemiology and novel treatment of viral hepatitis

Patients with chronic hepatitis C quality of life study during DAA therapy

Urological cancer

Kidney stone disease

Urinary incontinence

Primary glomerular diseases

Resistant hypertension

Peritoneal dialysis

Medical kidney transplant management

Pathogenesis, diagnostics, treatment and prevention of infectious diseases: assessment of the current diagnostics, treatment and prevention methods; search of a new diagnostics, treatment and prevention methods; study of the mechanisms of infectious diseases pathogenesis; study of a safety and efficacy of a new vaccines and drugs for the treatment and prevention of infectious diseases.

Effectiveness, feasibility and impact of latent tuberculosis treatment for the prevention of active tuberculosis among HIV-positive individuals.

Incidence, etiology and pathogenesis of inflammatory chronic dermatosis (acne, hidradenitis suppurativa, rosacea, psoriasis, dermatitis, eczema, vitiligo): basic and clinical research, implementation of innovative technologies.

Dermatooncology in Lithuania: epidemiology, pathogenesis, diagnostics, treatment.

Evaluation of the efficacy of the diagnostic and treatment methods in obstructive, interstitial, neoplastic and allergic lung diseases: diagnosis and management of interstitial lung diseases.

Diagnosis and management of COPD and bronchial asthma; sensitivity to various kinds of disinfectants among the medical staff.

Development of new technologies, methods of early cancer detection and treatment interventions

Improvement of the quality of life of cancer patients.

Pleural disease, diagnostic procedures, pleural biopsy; diagnosis, epidemiological and clinical research of drug hypersensitivity.

Allergen immunotherapy: selection of patients, efficacy of different methods and long term treatment results.

Drug hypersensitivity diagnostic peculiarities.

Contact allergy to cosmetics, textiles, and heavy metals.

Study of interactions between allergic rhinitis and bronchial asthma, application of new technologies in allergic and respiratory diseases.

Strategy and approaches of the surgical management of patients with different thoracic pathology.

Role of mobile technologies in diagnostic and management of allergic diseases.

Cognitive disorders in neurodegenerative, cerebrovascular, demyelinating diseases and epilepsy.

Diagnostic evaluation and treatment of cerebrovascular disorders, headache, dizziness, traumatic brain injuries degenerative spinal diseases and cerebral neoplasms.

Historical research on the prevalence, diagnosis and treatment of nervous diseases in the Grand Duchy of Lithuania, 19th century and interwar Lithuania.

Evaluation of functioning and quality of life of patients with psychiatric disorders

Analysis of outcome variables of the treatment of developmental, neurotic, affective and psychotic in children and adults

Transition processes in young people, medical students

Different approaches on psychosocial rehabilitation and assertive outreach for comprehensive integrated community care for people with mental disorders in the community settings

Evaluation of services for people with mental illness and their families

Suicidal behaviour and psychiatric and somatic disorders.

Outcomes of early undifferentiated arthritis

Associations between genetic, epigenetic factors, rheumatoid arthritis etiopathogenesis and clinical course

Outcomes of systemic sclerosis

Musculoskeletal ultrasound

The role of nailfold videocapillaroscopy in diagnosing other systemic diseases

Epidemiology of rheumatic diseases

Clinical applications of free and pedicled flaps, results

Autologous breast reconstruction – key methods, clinical results

Implant-based breast reconstruction – clinical analysis of complications

Breast reduction: methods, clinical results, factors contributing in choosing the best technique

Pelvic trauma, hip and knee arthroplasty, foot surgery, wrist surgery

Investigation of arterial wall functional and structural disorders in atherosclerosis and metabolic syndrome.

Primary and secondary prevention of cardiovascular diseases. Development of high risk strategy in prevention of cardiovascular diseases.

Studies of the multidisciplinary heart failure care, novel biomarkers, telemonitoring and physical training.

Rare cardiovascular diseases: searching for mechanisms and new methods of diagnostics and treatment technologies.

Fundamental and clinical research in cardiac arrhythmias. Improvement of methods of complex treatment of atrial and ventricular tachyarrhythmia.

Complex multi imaging assessment of left and right ventricular function in coronary artery disease, hypertension and heart failure.

Congenital heart disease cardiac surgery in infants.

New possibilities of hybrid (interventional and surgical) and minimally invasive technologies in cardiovascular medicine.

Air pollution and child health

Allergic rhinitis and its impact on bronchial asthma in children

Health care of mother and child: physiological and social aspects and research of natural development of the child

Studies of functional development of organs and systems of newborns and children

Studies of neonatal pathology and perinatal mortality in Lithuania

Non-invasive analysis of immunological markers in amniotic fluid to predict fetal inflammatory response syndrome and outcomes of preterm neonate.

Investigations of the significance of genetic factors for adaptive suitability in the group of preterm infants in Lithuania

Studies of the effects of gestational diabetes on neonatal health.

Studies of peculiarities of chronic inflammation as diagnostic markers and targets for early therapeutical intervention in children with asthma and cystic fibrosis

Peculiarities of central and peripheral hemodynamics in premature and sick newborn babies

Studies of electric impedance tomography as new diagnostic tool in neonatal pulmonology

Development of the methods of diagnostics, treatment and prophylaxis of acute, and chronic and new emerging infectious, immune, allergic, metabolic diseases

Progression and outcomes of pediatric renal disorders

Studies of immunoprophylaxis and vaccination

Diagnostics and treatment of inherited metabolic diseases

Diagnostics, treatment and prophylaxis of children's abuse and trauma

Gut microbiota and gut brain axis

Studies on childhood cancer etiology and predisposition, identification of new therapeutical targets and criteria for treatment risk-group stratification to further improve treatment individualization and reduce the treatment burden and long-term side effects

Research in childhood acute leukemias, including research in leukemia etiology, PK/PD studies for chemotherapy drugs, investigations in acute and late toxicities;

Studies on antimicrobial stewardship in paediatrics

Studies for improving the quality of care for children and young adolescents in health facilities

Etiology and long-term outcomes of pediatric inherited and acquired pediatric kidney diseases (cystic kidney diseases, glomerulopathies, chronic kidney disease, vesicoureteral reflux)

Early vascular aging, left ventricular abnormalities and neurocognition in hypertensive children

Cardiovascular disease and kidney function impairment in children with solitary functioning kidney

Health, shared decision making and other modern technologies for the management of chronic noncommunicable disease (CNDs)

Healthy ageing through the early diagnostics and prevention of CNDs

Human ecology

Development of the methods of diagnostics, treatment and prophylaxis of acute and chronic pediatric neurological and developmental disorders, research on immune, genetic, metabolic and other factors as well as the application of digital technologies, research on the distance education of children during the COVID-19 pandemic

Studies on the long-term impact of exposure to screens on children's physical and mental health

Studies on the diagnostic accuracy of allergological tests and optimal management of pediatric patients with allergic conditions

Etiopathogenesis, diagnostics, treatment of diseases: fundamental and clinical research, innovative technologies

Early diagnostics and prevention of non-infection diseases in family practice and in gerontology

Biomarker research in hematology and oncology

Investigation of etiopathogenetic risk factors and quality of patients' life with internal diseases

Emergency medicine

Acute cardiac care

Resuscitation

Polytrauma

Triage

Acute coronary syndromes

Sudden death

Acute heart failure

ECMO

Biomarkers in Emergency Department

Single cell diagnostics

Intraoperative liver and pancreas tumor visualization

Non-invasive biomarkers

"Organ-On-A-Chip" models

Microbiome impact

Artificial intelligence

Genetics and proteomics

Single cell diagnostics

Individualized cancer treatment

2D/3D Organoids

Pressurized intraperitoneal aerosol chemotherapy (PIPAC)

Single cell diagnostics

Intraoperative liver and pancreas tumor visualization

Non-invasive biomarkers

"Organ-On-A-Chip" models

Microbiome impact

Artificial intelligence

Genetics and proteomics

DOCTORAL DISSERTATIONS MAINTAINED IN 2021

D. Žilėnaitė. Assessment of Immunohistochemistry Biomarkers in the Spatial Context of Microenvironment of Hormone Receptor-Positive Ductal Breast Carcinoma by Digital Image Analysis.

D. Linkevičiūtė-Ulinskienė. Diabetes and Cancer in Lithuania: Epidemiology, Interaction and Importance for Disease Control.

M. Morkūnas. Development of Tumor Microenvironment-Oriented Digital Pathology Methods for Whole Slide Image Segmentation and Classification.

A. Vaitkus. The Value of Qualitative Sensory Testing for Diagnostics of Chronic Lumbosacral Radiculopathy with Radicular Pain and Treatment of Related Chronic Pain with Transforaminal Epidural Steroid Injection.

A. Jasionis. Relationship of Emotions, Cognitive and Social Functions of People with Epilepsy and Their Demographic and Clinical Characteristics.

A. Petrulionienė. Clinical Syndromes and Epidemiological Factors of Lyme Disease in Lithuania.

G. Petryla. Pelvic Function, Quality of Life and Mortality after Pelvic Fractures.

I. J. Paulavičienė. Changes in Human Milk Macronutrient Content of Non-Breastfeeding Mothers after Delivery and Factors or Procedures Affecting its Composition.

A. Pliauckienė. Non-Invasive Monitoring and Its Changes During Systemic Infection in Neonatal Patients.

N. Stirbienė. Peculiarities of Drug Allergy in Children.

K. Ažukaitis. Arterial Stiffness in Children with Chronic Kidney Disease: Prevalence, Risk Factors and Functional Consequences

L. Džiaugytė-Eyberdiyev. Impact of Theory-Based Interventions to Oral Self-Care Behavior of 15-16 Years Old Adolescents.

V. Zaleckienė. Traumatic Dental Injuries in Permanent Occlusion: Analysis of Lithuanian Dentists' Knowledge; Prevalence and Prevention of Dental Injuries Among Sixth Grade Schoolchildren.

S. Žukauskas. Influence of Vertical Implant Position and Augmentation of Soft Tissues on Marginal Bone Stability Around Dental Implants.

A. Gedrimienė. Accuracy of Digital Implant Impressions and Implant-Supported Restorations: In Vitro and In Vivo Assessments.

I. Gendviliene. Development and Evaluation of the Innovative 3D Printed Scaffolds for Bone Regeneration In Vitro and In Vivo

R. Maceinaitė. Participation of Members of Lithuanian School Communities in the Process of Health Promotion Among Students in Grades 9 and 10.

A. Patašius. PSA Test-Based Prostate Cancer Screening Program in Lithuania: Performance and Effectiveness.

A. Bilotienė Motiejūnienė. The Problem of Hospitalizations During Return Visits to the Hospital Emergency Department, Their Impact on the Quality of Healthcare Services and the Ways to Manage Them.

J. Kazlauskienė. Factors Affecting Post-Traumatic Stress Disorder, Depression and Suicidal Thoughts in Breast Cancer Patients.

D. Dudutienė. Use of Scientific Knowledge in the Development of Evidence-Based Safety and Health Policies for Health Workers in the Context of Psychosocial Risk Management.

MAIN CONFERENCES ORGANIZED IN 2021

National conferences:

Immunohistochemistry for Diagnostics and Prediction, 3 December, 2021

Vaccine-Controlled Diseases and Vaccination of Pregnant Women (the cycle of remote national conferences), 3-31 May, 2021

Treatment of Acute Pain, 6 October, 2021

Ultrasound Guided Regional Anesthesia, 6 December, 2021

Advances in Rhinogenic and Odontogenic Sinusitis Diagnostics and Treatment, 15-16 October, 2021

Rare Allergic and Immunological Diseases, 18 March, 2021.

News in Allergology and Clinical Immunology, 25 November, 2021.

Winter of Allergology and Clinical Immunology, 3 December, 2021

Topical Problems of Pulmonology, 14 May, 2021

News in Pulmonology, 26 November, 2021

Lithuanian Stroke Conference 2021, 30 April, 2021

19th Lithuanian Summer School of Neurology, 27-29 August, 2021

Information Technologies in the Work of Children and Adolescents Psychiatric: Benefits and Damages, 12 February, 2021

Consequences of Psychoactive Substance Use and Possibilities of Assistance in Children and Adolescents. 3 June, 2021

Significance of Complex, Long-Term Cases in Clinical Practice: Actual Questions, 9 December, 2021

LSC Virtual School: Cardiovascular Imaging Update, 14 January, 2021

Acute Myocardial Infarction: from Prevention to Outcome Management, 8 December, 2021

Cardiology in Lithuania -2021, 14 December, 2021

Updates on Paediatric Allergology 2021, 26 November, 2021

Endocrinology Seminars (Obesity treatment – team work challenges; Oncology in endocrinology; Diabetes – from research to clinical practice), 2021

60 years in the World of Intensive Cardiology, 30 years for Intensive Cardiology at VU Hospital Santaros Clinics, 17 December, 2021

Psychosocial Work Environment: Pandemic Lessons and Challenges, 28 May, 2021

International conferences:

We Decide, dedicated to World Down Syndrome Day in Lithuania, 22 March, 2021

Rare disease training and capacity building, 26 March, 2021

Inborn Errors of Metabolism Presenting with Psychiatric Symptoms, 28-27 May, 2021

Cosmetic, Functional and Reconstructive Gynaecology – Contemporary Actualities, 24 September, 2021

Dermatovenereology Update 2021, 4 June, 2021

17th Congress of the Baltic Association of Dermatovenereologists, 17-19 September, 2021

Angioedema: News in Diagnosis and Treatment, 14 May, 2021

14th Baltic Sea Summer School of Epilepsy, 12-15 March, 2021

7th Baltic Conference on Multiple Sclerosis and Autoimmune Disorders, 7 May, 2021

AO Trauma Course - Foot and Ankle, 2–4September, 2021

AO Recon Course Principles of Total Hip and Knee Arthroplasty, 18-19 November, 2021

6th International Meeting of Baltic Society of Cardiac Magnetic Resonance, 10 September, 2021

7th International Meeting on Acute Cardiac Care and Emergency Medicine, 11 September, 2021

30th Vilnius International Paediatric Pulmonology and Allergology Conference-School in Vinnytsia, Ukraine, 28April, 2021

B2B Congress of Child Health and Wellbeing: from the Baltic to the Black Sea in Kyiv, 27-28 May, 2021

31st Vilnius International Paediatric Pulmonology and Allergology Conference-School in Chisinau, Moldova, 24 September, 2021

Sharing the Experience, Baltic Haematology Congress, 30 September, 2021

Management of Thromboembolic Complications in the Background of COVID-19, 28 January, 2021

A set of remote Joint Seminars of Lithuanian and Expert Doctors from Abroad, 26 February, 16 April, 1 July, 2021

What Patients and Healthcare Professionals Need to Know About COVID-19, 27 May, 2021

Endobaltic 2021, 26-27 November, 2021

Prosthetic Dentistry 4.0 2021, 7 May, 2021

MAIN SCIENTIFIC ACHIEVEMENTS IN 2021

The Tumour-Stroma Interface Immunogradient has been further upgraded and validated in independent patient cohorts. Besides breast and colorectal cancer studies, the research and development is now expanding into lung cancer, hepatocellular carcinoma, and glioblastoma patient

cohorts. In addition, deep learning AI methods are employed to feature extraction studies in tumour and non-tumour pathology.

Migliori GB, Thong PM, Alffenaar JW, ..., Danila E, Gauging the impact of the COVID-19 pandemic on tuberculosis services: a global study. *Eur Respir J* 2021; 58: 2101786.

Pfaar O, Klimek L, Jutel M,...Kvedarienė V,... Agache, I. COVID-19 pandemic: Practical considerations on the organization of an allergy clinic - an EAACI/ARIA position paper. *Allergy* 2021; 76: 648–676.

Kvedarienė V, Orvydaitė M, Petraitytė P, Rudytė J, Tamošiūnas AE. Inherent clinical properties of non-immediate hypersensitivity to iodinated contrast media. *Int J Clin Pract* 2021; 75: e14766.

Prof. Arūnas Valiulis reached H=33 and published 12 WoSCC articles (9 in Q1 journals) in 2021 as well as established and lead two new research groups of Vilnius University Medical Faculty: Quality of Life Research and Human Ecology Research. Prof. Arūnas Valiulis was one of the organizer and Vice-Chairman of National conference of medical students and young scientists of Ukraine in Kyiv on April 15, 2021.

2021 EU and USA patent application expansion (LT 2018548, PCT/ISA220) “Non-Invasive Approach to Early Diagnosis and Prognosis of Acute Severe Pancreatitis Based on the Mechanism of Heat Shock Proteins”

2021 EU patent application expansion- collaboration with Kaunas University of Technology (LT 2020538) “Usage of Automated Ultrasound and Contrast-Enhanced Ultrasound Images and Database System for Early Diagnosis of Pancreas Diseases”

Academic research initiative “*From cell biology to surgery and beyond*” between Kansai Medical University, Japan and Vilnius University, Lithuania. Prof. K. Strupas , Dr. A. Gulla. 2021-2022.

INSTITUTE OF BIOMEDICAL SCIENCES

Department of Anatomy, Histology and Anthropology

21/27 M. K. Čiurlionio, LT-03101 Vilnius

Tel. 239 87 06

E-mail: janina.tutkuviene@mf.vu.lt

<http://www.aha.mf.vu.lt>

Head – Prof. Dr *Janina Tutkuvienė*

STAFF

Professors: dr. (HP) R. Jankauskas, dr. (HP) J. Tutkuvienė, dr. R. Šimkūnaitė-Rizgelienė, dr. V. Žalgevičienė.

Associate professors: dr. A. Barkus, dr. R. Čepulienė, dr. E. M. Jakimavičienė, dr. Ž. Miliauskienė, dr. L. Nedzinskienė, dr. A. Suchomlinov, dr. V. Tutkus (part-time).

Assistants professors: dr. M. Leonavičiūtė-Klimantavičienė (part-time).

Teachings assistants: R. Mackevičienė, R. Morkūnienė.

Lecturers: dr. V. Bartuškienė (part-time), D. Bandzevičienė (part-time), L. Barkienė (part-time), V. Gurskytė (part-time), R. Karneckė (part-time), J. Janavičius (part-time), E. Paulikaitė (part-time).

Research fellows: senior researcher dr. D. Piombino-Mascali; researcher dr. J. Kozakaitė;

Doctoral students: K. Kuolienė, G. Laurinavičiūtė, V. Lukošaitis, R. Mackevičienė R. Morkūnienė, A. Vaitiekus.

Students' scientific group of Human Biology and Evolutionary Medicine: scientific supervisor – prof. J. Tutkuvienė; coordinator – student E. Stukaitė-Ruibienė in total – 52 members of students.

RESEARCH INTERESTS

Phenotypic variety of Lithuanian and other populations in a changing environment

The variety of morphometric (skeletal and dental) health indicators of Lithuanian paleopopulations, paleopathology and its factors (ecological, demographic, social).

The peculiarities and factors of growth programming, prenatal and postnatal development, also health risk factors, using data from experimental animal models (chicken embryos, rats, other) studies.

The diversity of physical status of Lithuanian and other populations, the biotic and abiotic factors of phenotypic expression, and the relationship between markers of physical and general health status from the viewpoint of evolutionary medicine.

RESEARCH PROJECTS CARRIED OUT IN 2021

Projects Supported by University Budget

Phenotypic Variety of Lithuanian Inhabitants, Its Prenatal and Postnatal Factors in a Changing Environment. Supervisors: Prof. J. Tutkuvienė, Prof. R. Jankauskas. 2019–2023.

Bioarcheological investigations. Results of paleopathological and paleodontological analysis of remains of victims of the 2nd World War, buried at Zokniai (part of Šiauliai city) and Armalėnai

(Šilutė county) summarised. New data on research of historical mummified bodies summarized and published. Results of growth disruption regularities in historical populations summarized and published. New data on nutrition and migration of past populations (stable isotope data) analysed.

Main publications:

Piombino Mascali, Dario; Gipson, Lauren; Smith, Jessica; Jankauskas, Rimantas. Mummy taphonomy and arthropod associates of decay // The handbook of mummy studies: new frontiers in scientific and cultural perspectives / editors: Dong Hoon Shin, Raffaella Bianucci. Singapore: Springer Nature Singapore Pte Ltd., 2021. eISBN 9789811516146. p. [1-18]. DOI: 10.1007/978-981-15-1614-6_40-3.

Piombino Mascali, Dario; Brindzaitė, Rūta; Jankauskas, Rimantas; Girčius, Rokas; Tamošiūnas, Algirdas Edvardas; Motuzaitė Matuzevičiūtė, Giedrė; Kozakaitė, Justina. A bioarchaeological approach for the examination of two Lithuanian clergymen: Juozapas Arnulfas Giedraitis and Simonas Mykolas Giedraitis (18th-19th centuries AD) // International journal of osteoarchaeology. Hoboken: Wiley. ISSN 1047-482X. eISSN 1099-1212. 2021, first on line, p. [1-20]. DOI: 10.1002/oa.3045. [DB: Scopus, Social Sciences Citation Index (Web of Science), Arts & Humanities Citation Index (Web of Science)]

Holder, Sammantha; Miliauskienė, Žydrūnė; Jankauskas, Rimantas; Dupras, Tosha. An integrative approach to studying plasticity in growth disruption and outcomes: A bioarchaeological case study of Napoleonic soldiers // American journal of human biology: Special Issue: Biocultural approaches to the plasticity of the human skeleton. Hoboken: Wiley. ISSN 1042-0533. eISSN 1520-6300. 2021, vol. 33, iss. 2, art. no. e23457, p. [1-15]. DOI: 10.1002/ajhb.23457. [DB: Science Citation Index Expanded (Web of Science), Social Sciences Citation Index (Web of Science), Scopus, Current Contents, MEDLINE]

Experimental (growth programming) investigations. The experimental study of impact of maternal obesity on retinal morphology of offspring was started (project “Nutrition-microbiota-nervous system: effect of maternal fat diet on offspring neurodevelopment” in collaboration with Vilnius University Life Sciences Center, granted by Vilnius University Science Promotion Foundation) and the first preparations of eye balls and retinal wholemounts were performed. Further analysis of data of aged rat retinas from the experimental study of two generations of rat offspring, whose mothers were nutritional deprived, was continued, prepared for the publication and submission. Investigation of viability of periodontal ligament cells in different media was continued, tested groups were enlarged, results were analysed. Further analysis of data from the experimental study of two generations of Long-Evans clone rats that drank fluorinated and/or boron-saturated water was continued: samples for bone marrow analysis were prepared and analysed.

Investigations of physical status of contemporary inhabitants. Manuscript on newborns head circumference was submitted for publication, also the analysis of data for longitudinal study of preterm newborns (n=450) in Lithuania was continued. Analysis of data on alcohol abuse in pregnancy was finished, and materials were published. The collection of data for the study on body image in young and elderly people was continued. Analysis of data on premenstrual syndrome was continued and materials for publication were analyzed. The manuscript on female’s breast morphology was prepared for publication. Studies about peculiarities of andropausal period in men and perimenopausal period in women were continued. The study on consumption of psychoactive substance of different age and sex groups, also incarcerated persons was finished, and materials were published. Collecting data on adult eating habits and their impact on health and quality of life was started. Materials of the study of age dynamics of facial indices during puberty (longitudinal study) were analysed and prepared for publication. Data on physical and ophthalmologic status of older adolescents (in total, 182 persons) with myopia were analysed and prepared for publication. The study on relation between malnutrition in the early developmental periods and ophthalmologic status in aging individuals was started (a questionnaire was prepared, permission from local bioethical

committee was received, pilot group of individuals was investigated: anthropologic, ophthalmological examinations and optical coherent tomography were performed). The study on the relationship between the joint's alignment in relation to the lower limb function and physical status of young adults was finished (in total, 176 persons were investigated), and results were continued to be analysed. The study on anatomical variants of cerebral arteries in relation to cerebral vascular pathologies was continued: in total 166 patients were included into the investigation

Main publications:

Hermanussen M., <...> Suchomlinov A. <...> Tutkuvienė J., Jakimavičienė E.M., Cepulienė <...> et al. Growth, Nutrition and Economy: Proceedings of the 27th Aschauer Soiree, Held at Krobielowice, Poland, November 16th, 2019. *Human Biology and Public Health*, Vol. 1 2021, pp. 1–13: <https://doi.org/10.52905/hbph.v1.1>

Perminaitė R., Petkevičiūtė J., Isakova J., Drazdienė N., Basys V., Tutkuvienė J. & Jakimavičienė E. M. Moterų, nėštumo metu vartojusių alkoholi, charakteristika ir jų naujagimių fizinė bei sveikatos būklė (Lietuvos medicininių gimimų duomenimis) [Alcohol abuse in pregnancy: maternal characteristics, physical and health indices of their newborns (according to Lithuanian medical data of births)]. *Visuomenės sveikata*, 2021;1:57–63.

Jankaitytė G., Nedzinskienė L. Tabako vartojimas tarp pataisos namuose kalinčių moterų [Tobacco using among incarcerated women]. *Visuomenės sveikata*, 2021;2:46-50.

Jankaitytė G., Nedzinskienė L. Pataisos namuose kalinčių moterų subjektyvaus sveikatos vertinimo įtaka jų gyvenimo kokybei [Health assessment impact on the quality of life of imprisoned women]. *Visuomenės sveikata*, 2021;2:58-63.

Vasilevska D., Nedzinskienė L. Prevalence and outcomes of self-harm in adolescents: literature review. *Visuomenės sveikata*, 2021;4:8-15.

National Research Projects

Genocide and Resistance Research Centre of Lithuania. **Anthropological Investigations of Remains of Participants of Anti-Soviet Resistance in 1944–1953** (Leipalingis, Alytus district). Prof. R. Jankauskas (leading scientist), Dr J. Kozakaitė (researcher), Assoc. Prof. Ž. Miliauskienė (researcher). 2019–2021.

During historical, archaeological and anthropological investigations in Leipalingis (Alytus district) 33 remains of participants of anti-Soviet resistance (1944–1953) were uncovered. At least 13 individuals were identified. Investigations were carried on.

International Research Projects

Horizon-2020 project (No. 964997) “Alliance4Life_ACTIONS”. Prof. J. Tutkuvienė (member of Steering Committee), 2021–2023.

During 2021 seven work packages were elaborated and actions were started: Culture for Excellence, Collaboration in Health & Research Innovation, Careers in Science and Beyond, Competences in Innovation for Human Health, Closing the map, Project management, Ethics requirements.

Horizon 2020 project Research and Innovation Framework Programme, Activity: WIDESPREAD-05-2020 - Twinning **Developing a New Network of Researchers on Contemporary European Motherhood (MotherNet)** (between Vilnius University, Uppsala University and National University of Ireland Maynooth). Teaching Assist. R. Morkūnienė – ESR's representative member of the Consortium management Committee, 2020–2022.

Activities of the project were started.

The Effect of Preterm Delivery, Newborn's Health and Psycho-Social Climate in Hospital to Maternal Mental Health and Bonding in cooperation with Vilnius University Santaros Clinics, and Uppsala University, Sweden. Teaching assist. R. Morkūnienė, 2021-2022.

Project activities were analysed and initialised.

Contractual Research

Anthropological investigation of remains buried at two historical cemeteries in Panevėžys city. Investigation is in progress.

Anthropological investigation of remains buried at territory of Samogitian Diocese Museum in Varniai. Investigation is in progress.

MAIN R&D&I (RESEARCH, DEVELOPMENT AND INNOVATION) PARTNERS

Institute of Anthropology, University of Vienna (Austria)

Max-Planck-Institute, Starnberg-Seewiesen (Germany)

Institute of Evolutionary Medicine, University of Zürich (Switzerland)

Institute for Anthropological Research, Zagreb (Croatia)

The Institute for Mummy Studies, Bolzano (Italy)

Institute of Forensic Medicine, Heinrich-Heine University of Düsseldorf (Germany)

Department of Anatomy, University of Göttingen (Germany)

University of Central Florida (Orlando, Florida, USA)

Medical University of Lodz (Poland)

University of Torun (Poland)

Cranfield University (UK)

University of Tartu (Estonia)

McMaster University (Canada)

University of Catania (Italy)

State Forensic Medicine Service (Lithuania)

OTHER RESEARCH ACTIVITIES

Prof. J. Tutkuvienė –

- member of the Council of the Faculty of Medicine, Vilnius University
- chair of the Doctoral Committee for PhD studies in Medicine at Vilnius University
- Council and Board member of the European Anthropological Association
- member of the Commission for Human Ecology of International Union of Anthropological and Ethnological Sciences (IUAES)
- member of the other international scientific societies: International Association of Human Biologists, Society for Studies of Human Biology, International Auxological Society
- member of national scientific societies: Lithuanian Morphological Society, Lithuanian Society of Obstetricians and Gynaecologists (Section of Gynaecology of Children and Adolescents)
- Chief Editor of the journal *Anthropologischer Anzeiger*
- Chief Editor of the journal *Homo*
- editorial board member of the journals: *Collegium Antropologicum*, *Journal of Human Ecology*; *Visuomenės Sveikata (Public health)*

Prof. R. Jankauskas –

- member of Lithuanian Academy of Sciences (<http://lma.lt/old/intranetas>)
- Editor-in-Chief of the journal *Acta Medica Lituanica*

- editorial boards member of the journals: Papers on Anthropology (Tartu University, Estonia); Antropological Review (Journal of Polish Anthropological Society); Lietuvos archeologija; Archaeologia Baltica; Visuotinė lietuvių enciklopedija
- member of the Board of the European Anthropological Association
- member of the Scientific Council of the Lithuanian Institute of History
- member of the Scientific Council of the Nature Research Center
- member of Paleopathology Association
- member of the Lithuanian Morphological Society
- member of the Lithuanian Society of Archaeology

Prof. R. Šimkūnaitė-Rizgeliė –

- member of the European Anthropological Association
- board member of the Lithuanian Morphological Society

Prof. V. Žalgevičienė –

- Chairperson of the Commission of Appeal at the Faculty of Medicine
- member of the Dispute Resolution Commission for Medical residency studies
- member of the Lithuanian Morphological Society
- member of Baltic Laboratory Animal Association (Balt-LASA)

Research Prof. D. Piombino-Mascali –

- board member of the Encyclopedia of Global Archaeology;
- member of British Association of Biological Anthropology and Osteoarchaeology;
- honorary inspector of the mummified bioanthropological heritage of Sicily;
- visiting professor of Institute of Legal Medicine, University of Catania, Italy;
- visiting professor of Department of Humanities, University of Catania, Italy;
- member of Paleopathology Association;
- honorary member of American Society of Embalmers;
- collaborator of the Department of Cultural Heritage and Sicilian Identity for the study of archaeological human remains;
- organizer and host of the II seminar of Human Bioarchaeology, Siciliantica, Santa Lucia del Mela, July 28, 2020.

Assoc. Prof. A. Barkus –

- member of the Lithuanian Morphological Society;
- member of the European Anthropological Association;
- member of the Lithuanian Society of Archaeology.

Assoc. Prof. R. Čepulienė –

- member of the Lithuanian Morphological Society;
- member of the European Anthropological Association;
- member of the World's Poultry Science Association.

Assoc. Prof. E. M. Jakimavičienė –

- member of the Lithuanian Morphological Society;
- member of the European Anthropological Association;
- member of the International Auxological Society.

Assoc. Prof. Ž. Miliauskienė –

- member of the Lithuanian Morphological Society;
- member of Paleopathology Association;
- member of the European Anthropological Association;
- member of the Lithuanian Society of Archaeology.

Assoc. Prof. L. Nedzinskienė –

- member of the Lithuanian Morphological Society.

Assoc. Prof. A. Suchomlinov –

- member of the European Anthropological Association;
- member of the International Auxological Society;
- member of the Lithuanian Morphological Society.

Assoc. Prof. V. Tutkus –

- member of European Society of Sports Traumatology, Knee Surgery and Arthroscopy (ESSKA);
- member of International Society of Arthroscopy, Knee Surgery and Orthopaedic Sports Medicine (ISAKOS);
- member of Lithuanian Association of Arthroscopic Surgeons;
- member of Lithuanian Society of Orthopaedics and Traumatology;
- member of Lithuanian Society of Plastic and Reconstructive Surgery.

Assist. dr. M. Leonavičiūtė-Klimantavičienė –

- member of Lithuanian Society of Children's Pulmonology;
- member of Lithuanian Society of Allergy and Clinical Immunology;
- member of European Respiratory Society.

Teaching Assist., PhD student R. Mackevičienė –

- member of the Lithuanian Morphological Society;
- member of the Lithuanian Ornithological Society.

Teaching Assist., PhD student R. Morkūnienė –

- member of Lithuanian Morphological Society;
- member of European Anthropological Association;
- member of the International Auxological Society.

Researcher J. Kozakaitė –

- Member of the Lithuanian Society of Archaeology

Lect. dr. V. Bartuškienė –

- member of the European Anthropological Association;
- member of the Lithuanian Morphological Society.

Lect. R. Karneckė –

- member of the Lithuanian Morphological Society.

Lect. J. Janavičius –

- president of Lithuanian Hand Surgery and Rehabilitation Society *Manus Lithuanica*;
- member of Lithuanian Foot Surgery Society;
- member of International Federation of Societies for Surgery of the Hand;
- member of European Foot and Ankle Society.

PhD student K. Kuolienė –

- member of the European Anthropological Association;
- member of Lithuanian Ophthalmological Society;
- member of the Association for Research in Vision and Ophthalmology.

PhD student G. Laurinavičiūtė –

- member of Lithuanian Ophthalmological Society;
- European Society of Cataract and Refractive Surgeons.

PhD student V. Lukošaitis –

- member of Lithuanian Association of Neurologists;
- member of Lithuanian Society for Epileptology;
- member of Lithuanian Stroke Association.

PhD student A. Vaitiekus –

- member of Lithuanian Society of Orthopaedics and Traumatology;
- member of Lithuanian Foot Surgery Society;
- member of European Foot and Ankle Association (EFAS);
- member of Lithuanian Association of Arthroscopic Surgeons.

BEST REPORTS DELIVERED AT CONFERENCES ABROAD

Kozakaite, J. Forest Brothers – the Search and Identification of the Participants of 1944-1953 Anti-Soviet Resistance. FAANE – Forensic Anthropology and Archaeology in Northern Europe; May 28, 2021 (online).

Tutkuvienė J., Morkuniene R., Gervickaite S., Jakimaviciene E.M. Sex ratio at birth and gestational age of Lithuanian newborns in relation to global economic recessions and local social measures. IUAES Congress 2021; March 9-14th, 2021, Croatia (online).

Tutkuvienė J., Navakauskaite A., Narutyte R., Barkus A., Brazaitis A. Ramification Patterns of Portal Vein: a Comparison of Corrosive Human Liver Specimens Prepared 50 years ago with the Data from Recent Studies. EACA-ISCAA Joint Congress Padova University, September 14th-16th, 2021 (online).

Tutkuvienė J., Gervickaite S., Kersnauskaite D. Biopsychosocial status of adolescents in the light of socioeconomic disasters and COVID-19 pandemic. The 29th Soirée of Auxological Society in Krobielowice: Growth & Public Health Concerns; the 20th of November, 2021 (online).

Visinskyte E., Vaiciulyte, U., Valciukaite R., Tutkuvienė J. Actual body size and body size perception using Stunkard's scale in elderly people from Lithuania. *Medicina: Abstracts accepted for the International Scientific Conference on Medicine organized within the frame of the 79th International Scientific Conference of the University of Latvia, Riga, Latvia. Kaunas: Lietuvos sveikatos mokslų universitetas. ISSN 1648-9233. 2021, vol. 57, suppl. 1, p. 113.*

MOST IMPORTANT PARTICIPATION CASES OF RESEARCHERS IN WORKING GROUPS OR COMMISSIONS SET UP BY STATE AUTHORITIES, STATE AND MUNICIPAL INSTITUTIONS AND ORGANISATIONS, AND BUSINESS ENTITIES

- Jankauskas R., Kozakaitė J. Working group on identification of remains of high ranking officers of Home Army (Armia Krajowa) with Institute of National remembrance.
- Jankauskas R. European Commission Research Executive Agency expert.
- Jankauskas R. The State Education Development Agency of Latvia expert.
- Jankauskas R. Head of working group for evaluation of efficacy of activities of the Research Council of Lithuania (ordered by Ministry of Education, Science and Sports).

CONSULTATIONS PROVIDED BY THE UNIT TO THE PUBLIC OR ECONOMIC ENTITIES

Tutkuvienė J. Regular consultations provided to public and other institutions with regard to growth and development criterions of Lithuanian children.

MOST IMPORTANT RESEARCH DISSEMINATION ACTIVITIES

TV3 show “Be Healthy” (on April 10th, 2021 at 10.30 am): J. Tutkuvienė “Sexual maturation of girls and boys in Lithuania and other countries: peculiarities, factors and changes in recent decades”.

LITHUANIAN POPULATION AND RARE DISEASES BIOBANK

21 M. K. Čiurlionio, LT-3101 Vilnius

Tel. 250 1791

E-mail: biobankas@mf.vu.lt

<http://www.biobankas.mf.vu.lt/>

Head – Dr *Violeta Mikštienė*

STAFF

Expert: Prof. dr. A. Utkus (part-time).

Senior researchers: Dr. Ž. Maldžienė (part-time)

Researchers: Dr. V. Mikštienė (part-time), Dr. T. Rančelis (part-time), Dr. J. Songailienė, dr. E. Siavrienė (part-time).

Research assistants: D. Balkelienė (part-time), Dr. R. Dzindzalieta (part-time), G. Mazur (part-time), M. Petkevičienė (part-time).

Data protection specialist: M.Siavris (part-time).

RESEARCH INTERESTS

Ethical legal and social issues of biobanking.

Biobank quality management.

Genetic variants associated with COVID-19 susceptibility and severity.

Prevention, diagnosis and treatment of a wide range of serious illnesses.

New scientific discoveries that benefit people's health.

Personalized medicine.

National and international scientific collaboration.

RESEARCH PROJECTS CARRIED OUT IN 2021

National Research Projects

Human Biological Resources Center (HBRC) (CPVA-V-701-16-0001). 2019–2022.

The aim of the project is to join to the international research infrastructure - BBMRi-ERIC, by creating a modern national biobank infrastructure in Lithuania. The objective of the project is to establish a National Center for Human Biological Resources (HBRC) with a unified system for the collection, processing, storage and data management of biological samples and related health information.

In 2021, the common IT system for data management was coordinated and documents for biobank licensing were prepared

MAIN R&D&I (RESEARCH, DEVELOPMENT AND INNOVATION) PARTNERS

National Cancer Institute (Lithuania)

Vilnius University Hospital Santaros Klinikos (Lithuania)

Lithuanian University of Health Sciences (Lithuania)

Hospital of Lithuanian University of Health Sciences Kauno klinikos (Lithuania)

State Research Institute Center for Innovative Medicine (Lithuania)

OTHER RESEARCH ACTIVITIES

Prof. Dr. A. Utkus –

- member of the Executive Committee of The Association of Medical Schools in Europe (AMSE);
- chairman of the National Health Council;
- editorial board member of the journal *Laboratorinė medicina (Laboratory Medicine)*;
- member of the Lithuanian Society of Human Genetics, <http://www.geneticahumana.lt/LZGD/organizacija.htm>;
- President of the Lithuanian Society of Human Genetics, <http://www.geneticahumana.lt/LZGD/organizacija.htm>;
- editorial board member of the journal *Sveikatos mokslai (Lietuva)*;
- editorial council member of the *Journal Acta Medica Lituanica*;
- member of the European Society of Human Genetics, www.eshg.org;
- member of the American Society of Human Genetics, www.ashg.org
- coordinator of ERN-RND (European Reference Network on Rare Neurological Diseases).

Dr. V. Mikštienė

- member of the Lithuanian Society of Human Genetics, <http://www.geneticahumana.lt/LZGD/organizacija.htm>
- member of the Lithuanian Heart Association, <http://www.heart.lt/lithuanian-heart-association/>

Dr. Ž. Maldžienė, Dr. T. Rančelis, D. Balkelienė, G. Mazur –

- members of the Lithuanian Society of Human Genetics, <http://www.geneticahumana.lt/LZGD/organizacija.htm>

Dr. R. Dzindzalieta –

- member of Lithuanian Computer Society, <https://www.liks.lt>

Dr. J. Songailienė –

- member of the Lithuanian Society of Human Genetics, <http://www.geneticahumana.lt/LZGD/organizacija.htm> ;
- member of the International Society for Neonatal Screening, <https://www.isns-neoscreening.org/>;
- member of the Society for the Study of Inborn Errors of Metabolism (SSIEM), <http://www.ssiem.org/home/welcome.asp>;
- president of the Baltic Metabolic Group, <http://www.ssiem.org/nationalsocieties/membercountries.asp>;
- National representative of Lithuania in ERNDIM/EuroGenTest (ERNDIM- European Research Network for Evaluation and Improvement of Screening, Diagnosis and Treatment of Inherited Disorders of Metabolism; EuroGenTest - EU-funded Network of Excellence), <https://erndim.org/home/start.asp>.

Dr. E. Siavrienė –

- Member of Lithuanian Society of Human Genetics, <http://www.geneticahumana.lt/LZGD/organizacija.htm>
- Member of Lithuanian Stem Cell Research Association, <http://www.stemcell.lt/>

M. Petkevičienė –

- Member of Lithuanian Society of Human Genetics, <http://www.geneticahumana.lt/LZGD/organizacija.htm>
- Member of the Baltic Metabolic Group, <http://www.ssiem.org/nationalsocieties/membercountries.asp>;

Department of Human and Medical Genetics

2 Santariškių, LT-08661 Vilnius

Tel. 250 1798, 250 1794

E-mail: genetika@mf.vu.lt

www <http://www.genetika.mf.vu.lt>

Head – Prof. Dr *Algirdas Utkus*

STAFF

Professors: Dr. L. Cimbalistienė (part-time), Dr. A. Jakaitienė (part-time), Habil. Dr. V. Kučinskas (emeritus), Dr. A. Utkus (part-time), Dr. E. Preikšaitienė (part-time).

Associate professors: Dr. L. Ambrozaitytė (part-time), Dr. A. Matulevičienė (part-time), Dr. A. Morkūnienė (part-time), Dr. A. Molytė (part-time), Dr. B. Tumienė (part-time), Dr. R. Janavičius (part-time), Dr. I. Kavaliauskienė (part-time), Dr. R. Sabaliauskaitė (part-time), Dr. S. Ustilaitė (part-time).

Assistant professors: Dr. A. Bankauskienė (part-time), Dr. N. Bratčikovienė (part-time), Dr. B. Burnytė (part-time), Dr. V. Šliužas (part-time), Dr. J. Songailienė (part-time).

Researchers: Dr. I. Domarkienė (part-time), Dr. V. Mikštienė (part-time), Dr. T. Rančelis (part-time), Dr. B. Aleksiūnienė (part-time), Dr. A. Urnikytė (part-time), Dr. E. Siavrienė (part-time).

Senior researchers: Dr. V. Ginevičienė (part-time), Dr. E. Pranckevičienė (part-time), Dr. Ž. Maldžienė (part-time).

Lecturers: K. Baronas, (part-time), N. Krasovskaja (part-time), K. Šablauskas (part-time).

Research assistants: J. Arasimavičius (part-time), L. Januška (part-time), R. Meškienė (part-time), L. Pranckėnienė (part-time), G. Petraitytė (part-time), Dr. R. Dzindzalieta (part-time), G. Žukauskaitė (part-time)

Doctoral students: E. Dagytė, G. Žukauskaitė, G. Petraitytė, K. Grigalionienė, D. Braždžiūnaitė, E. M. Vaitėnienė, D. Jančauskaitė, S. Dauengauer-Kirlienė.

Postdoctoral fellows: Dr. A. Urnikytė, Dr. T. Rančelis.

Genetic scientific student group: scientific leader – Prof. Dr. E. Preikšaitienė, coordinator – student Karina Mickevičiūtė; 25 students.

RESEARCH INTERESTS

Genetic structure and variation in the Lithuanian population

Genomics of intellectual disability and congenital anomalies and rare genetic disorders

Genetic analysis of hereditary phenotypes – genetic characterization of human phenome, genome and regulome

Exercise Genetics and Genomics, Biology of Healthy Aging, Molecular Biology of Physical Activities, "OMICS" Technologies

RESEARCH PROJECTS CARRIED OUT IN 2021

Projects Supported by University Budget

Genome and Transcriptome Analysis in the Studies of Rare Inherited Diseases Pathogenesis (No. MSF-JM-2/2020). PhD student G. Petraitytė, 2020–2021.

The next generation sequencing technologies were applied to sequence genomes of four affected individuals with a suspected diagnosis of rare genetic conditions as well as two transcriptomes of individuals with DNA variants in genes affecting other genes' expression and one transcriptome of a healthy control. The process of bioinformatical analysis of whole genome sequencing data and transcriptome data was performed and the main skills of bioinformatical analysis as well as genome and transcriptome next generation sequencing data results' interpretation were acquired.

CRISPR-Cas13 technology application to investigate resistance to chemotherapy agents (No. MSF-JM-2/2021). PhD student G. Petraitytė, 2021–2022.

Gene expression manipulation using genome editing technology CRISPR-Cas or RNA interference (RNAi) are the most promising approaches to investigate the genotype and phenotype changes of cells and the relationships (or networks) of these changes at gene level. Applying these approaches in studying a specific target protein could potentially reveal important cellular mechanisms of resistance to chemotherapy agents. CRISPR-Cas13 system is fairly new at gene expression studies and has a strong advantage in these experiments: the target of Cas13 is RNA molecule. This characteristic eliminates the possibility of the off-targets which is one of the main disadvantages of the CRISPR-Cas9 system. Moreover, CRISPR-Cas13 is more effective, long-term and does not cause nonspecific target cleavage compared to RNAi (using siRNA molecules). In this study we will evaluate the characteristics of CRISPR-Cas13 system for expression studies of long living protein serpin B5, located both in cell cytoplasm and nucleus.

Fundamental Research of Human Genome Architecture: Characterization of Phenome, Genome and Regulome Markers of the Lithuanian Population. Prof. Dr A. Utkus, 2019–2023.

The fundamental human population study on genomic variation and microevolutionary processes with the clinical and medical genetic research on the genetic variation in rare and complex disorders (phenotypes) was performed. The results analyse distinct population genetic structure, origin and evolution with the inferences on phenotype and genotype heterogeneity and their complex interaction.

Main publications:

Tumienė, Birutė; Utkus, Algirdas. Sub-genic intolerance, ClinVar, and the epilepsies: a whole-exome sequencing study of 29,165 individuals // *American journal of human genetics*. Cambridge, MA : Cell Press. ISSN 0002-9297. eISSN 1537-6605. 2021, vol. 108, no. 6, p. 965-982. DOI: [10.1016/j.ajhg.2021.04.009](https://doi.org/10.1016/j.ajhg.2021.04.009).

Kavaliauskienė, Ingrida; Domarkienė, Ingrida; Ambrozaitytė, Laima; Barauskienė, Lina; Meškienė, Raimonda; Arasimavičius, Justas; Irnius, Algimantas; Kučinskas, Vaidutis. Association study of taste preference: Analysis in the Lithuanian population // *Food science & nutrition*. Hoboken : Wiley of Science. ISSN 2048-7177. 2021, vol. 9, no. 8, p. 4310-4321. DOI: [10.1002/fsn3.2401](https://doi.org/10.1002/fsn3.2401).

Ginevičienė, Valentina; Jakaitienė, Audronė; Utkus, Algirdas; Hall, Elliott C. R.; Semenova, Ekaterina A.; Andryushchenko, Liliya B.; Larin, Andrey K.; Moreland, Ethan; Generozov, Edward V.; Ahmetov, Ildus I. CKM gene rs8111989 polymorphism and power athlete status // *Genes*. Basel : MDPI. eISSN 2073-4425. 2021, vol. 12, iss. 10, art. no. 1499, p. [1-8]. DOI: [10.3390/genes12101499](https://doi.org/10.3390/genes12101499).

Analysis of Biomarkers for Suicidal Tendencies and Depression, and Validation of the Prognostic Model in Lithuania. Prof. Dr A. Utkus, 2020-2021.

Three groups of suicidal, depressive and control individuals are collected for the analysis of methylation, transcriptome and biochemical markers (e.g. cortisol, IL6, TNFalpha and other).

Extensive questionnaire is filled for every participant. The project is the collaborative initiative among the Vilnius University, Faculty of Medicine, Institute of Biomedical Sciences, Department of Human and Medical Genetics and Korea Research Institute of Bioscience and Biotechnology, Republican Vilnius University Hospital (Respublikinė Vilniaus universitetinė ligoninė), Public Institution Vilnius City Mental Health Center (VšĮ Vilniaus miesto psichikos sveikatos centras) and Vilnius University Hospital Santaros Klinikos.

Main publications:

Strumila, Robertas; Lengvenytė, Aistė; Ambrozaitytė, Laima; Balkelienė, Danutė; Utkus, Algirdas; Dlugauskas, Edgaras. CYP2C19 polymorphisms are associated with severity of depression at initial evaluation and after the treatment independently of the prescribed medications: 4 weeks prospective study // *Psychiatric genetics* : Wolters Kluwer Health. ISSN 0955-8829. 2021, vol. 31, no. 5, p. 177-185. DOI: [10.1097/YPG.0000000000000287](https://doi.org/10.1097/YPG.0000000000000287).

National Research Projects

Ancient and New Alleles in Lithuanian's Genome: Mutations, Selection and Adaptation (ANELGEMIA), No. S-MIP-20-34. Prof. Dr Habil. V. Kučinskas, 2020–2022.

The main objective of the study is to analyse microevolutionary forces: mutations and signatures of adaptive positive selection of the Lithuanian population from whole genome sequencing data. Main question to answer is how commonly mutations are under selection in modern human and how human evolve generation after generation? This research will contribute to the progress of scientific knowledge and is of special importance in clarifying the relationship between natural selection and disease and improving our understanding of the evolutionary mechanisms observed at individual and population level.

Main publications:

Pranckėnienė, Laura; Kučinskas, Vaidutis. The relative fitness of the de novo variants in general Lithuanian population vs. in individuals with intellectual disability // *European journal of human genetics*. London : Nature Publishing Group. ISSN 1018-4813. eISSN 1476-5438. 2021, first on line, p. [1-7]. DOI: [10.1038/s41431-021-00915-9](https://doi.org/10.1038/s41431-021-00915-9).

Urnikytė, Alina; Molytė, Alma; Kučinskas, Vaidutis. Genome-wide landscape of North-Eastern European populations: a view from Lithuania // *Genes*. Basel : MDPI. eISSN 2073-4425. 2021, first on line, p. [1-13]. DOI: [10.3390/genes12111730](https://doi.org/10.3390/genes12111730).

Siavrienė, Evelina; Petraitytė, Gunda; Burnytė, Birutė; Morkūnienė, Aušra; Mikštienė, Violeta; Rančelis, Tautvydas; Utkus, Algirdas; Kučinskas, Vaidutis; Preikšaitienė, Eglė. Compound heterozygous c.598_612del and c.1746-20C > G CAPN3 genotype cause autosomal recessive limb-girdle muscular dystrophy-1: a case report // *BMC musculoskeletal disorders*. London : BMC. eISSN 1471-2474. 2021, vol. 22, iss. 1, art. no. 1020, p. [1-8]. DOI: [10.1186/s12891-021-04920-3](https://doi.org/10.1186/s12891-021-04920-3).

Adaptive Genetic Mechanisms – a Comprehensive Study of Whole Genome Variation in the Group of the Lithuanian Chernobyl Catastrophe Liquidators (ADAPT), No. S-MIP-20-35. L. Ambrozaitytė, PhD. 2020–2022.

The aim of the study is to characterize genome variation of the Chernobyl catastrophe liquidators in the context of the general Lithuanian and other populations. The object of the study is the microevolutionary processes which will be evaluated by investigating the adaptive mechanisms of genomes.

Obtained results will be important and have an impact on fundamental science of population and evolutionary genomics, personal and preventive medicine, application of genomic editing tools.

Main publications:

Žukauskaitė, Gabrielė; Domarkienė, Ingrida; Matulevičienė, Aušra; Vaitėnienė, Evelina Marija; Arasimavičius, Justas; Smailytė, Giedrė; Kučinskas, Vaidutis; Ambrozaitytė, Laima. Possible protective effect of LOXL1 variant in the cohort of Chernobyl catastrophe clean-up workers // Genes. Basel : MDPI. eISSN 2073-4425. 2021, vol. 12, no. 8, art. no. 1231, p. [1-10]. DOI: [10.3390/genes12081231](https://doi.org/10.3390/genes12081231)

Integrative research for genetic causes of rare inherited diseases (ATGC), No. S-MIP-21-15. E. Preikšaitienė, MD, PhD, 2021–2024.

The main idea of the project is to continue the study of rare genetic diseases beyond the DNA level, in order to better understand the origins of the diseases and to provide valuable insights into the biological processes underlying their development. To implement this idea, young researchers with expertise in programming and in different biomedical fields such as clinical genetics, molecular genetics, cytology, bioinformatics and functional genomics (transcriptomics, proteomics) will analyse the exome/genome sequencing data and will pursue the investigation of identified variants of uncertain clinical relevance at the level of the RNA and proteins by transcriptome sequencing, functional assays, and computational analysis of the modelling of the proteins and the assessment of their properties.

Impact of Genetic Markers of the Myokine Signaling Pathway on human metabolism and muscle function, No. 09.3.3-LMT-K-712-25-0200, supported by Research Council of Lithuania, under programme Development of Scientific Competence of Scientists, Other Researchers, Students through Practical Scientific activities. V. Ginevičienė, PhD, 2021 – 2022.

The project is designed to carry out research-based practical activities that provide students with higher education qualifications in line with modern technology and cognition, and to develop a fully educated, ethically responsible and creative personality.

Impact of Genetic Markers on Physical Performance and Risk of Injury, No. 09.3.3-LMT-K-712-22-0050 supported by Research Council of Lithuania under programme Development of Scientific Competence of Scientists, Other Researchers, Students through Practical Scientific activities. V. Ginevičienė, PhD, 2020 – 2021.

During the year 2021, the following tasks were implemented: students' abilities to make responsible decisions, organize and plan research activities, work independently, implement innovative ideas, improve professional activities, apply theoretical knowledge in practice.

In addition, the aim is to promote student' scientific communication: the formation of scientific ideas, research results and reports, the preparation of conference thesis and research work.

Main publications:

Ginevičienė, V; Jakaitienė, A; Utkus, A; Hall, E C. R.; Semenova, E A.; Andryushchenko, LB.; Larin, AK.; Moreland, E; Generozov, EV.; Ahmetov, II. CKM gene rs8111989 polymorphism and power athlete status // Genes. Basel: MDPI. eISSN 2073-4425. 2021, vol. 12, iss. 10, art. no. 1499, p. [1-8]. DOI: 10.3390/genes12101499.

Ahmetov, II.; Hall, EC.R.; Semenova, EA.; Pranckevičienė, E; Ginevičienė, V. Advances in sports genomics // Advances in clinical chemistry. San Diego, CA: Elsevier. ISSN 0065-2423. eISSN 2162-9471. 2021, first published online, p. [1-49]. DOI: 10.1016/bs.acc.2021.07.004.

Ginevičienė, V; Jakaitienė, A; Pranckevičienė, E; Milašius, K; Utkus, A. Variants in the myostatin gene and physical performance phenotype of elite athletes // Genes. Basel: MDPI AG. eISSN 2073-4425. 2021, vol. 12, no. 5, art. no. 757, p. [1-10]. DOI: 10.3390/genes12050757.

International Research Projects

Enhancing Psychiatric Genetic Counselling, Testing, and Training in Europe. European Cooperation in Science & Technology. (CA17130, COST). 2018–2021.

The Action *Enhancing Psychiatric Genetic Counselling, Testing, and Training in Europe* (EnGagE) aims to strengthen pan-European research into the newly emerging disciplines of Psychiatric Genetic Counselling (PsyGC) and Psychiatric Genetic Testing (PsyGT); and to develop a framework to facilitate the implementation of both disciplines into routine clinical care.

EnGagE is a knowledge-sharing and expertise-enhancing network combining preclinical and clinical researchers from the fields of neuroscience, psychiatric genetics, psychosocial research, and ethics; clinicians from the fields of psychiatry, psychology, and medical genetics; genetic counsellors, and scientists from diagnostic genetic testing laboratories from Europe and beyond. EnGagE will establish a framework for PsyGC and PsyGT; develop standardised guidelines, practice recommendations and research protocols; share scientific knowledge and data and provide standardized training in PsyGC and PsyGT.

The Impact of Natural Selection on Infectious Diseases in Lithuanian Population. Funded by the European Social Fund under the programme Development of Competences of Scientists, other Researchers and Students through Practical Research Activities, No. 09.3.3-LMTK-712-23-0104. Dr. A. Urnikytė, prof. dr. Vaidutis Kučinskas, 2021-2023.

The project aims to identify the areas of genome affected by natural selection in the Lithuanian population and to explain their adaptation to infectious diseases and to carry out comparison analysis with archaic genomes by analysing the data of the next generation of sequencing and to present the results of these studies at international conferences and publications.

Bioinformatic implementation and automatization of genome data associated with human risk behavior. Funded by the European Social Fund under the programme Development of Competences of Scientists, other Researchers and Students through Practical Research Activities, No. 09.3.3-LMTK-712-23-0119. Dr. T. Rančelis, prof. dr. Algirdas Utkus, 2021-2023.

The project aims at improving existing and acquiring new skills as well as implementing high-level R & D activities through planning and conducting high-level research in the field of genetics and genomics, participating in international traineeships and presenting research results at international conferences and scientific publications. In 2021, the researchers carried out a wide range of wide-ranging association studies and systematized in the analysis of a specific subject.

Genetic Background of Overgrowth Syndromes in Polish and Lithuanian Populations: Basis for Rapid Genetic Testing to Prevent Neoplasias (GOSPL), No. S-LL-21-5. Prof. (HP) A. Utkus, 2021–2024.

Overgrowth syndromes (OGs) are a highly heterogeneous group of conditions, which show a common feature of excessive growth. This project aims to determine the genetic background of OGs in Polish and Lithuanian populations to develop diagnostic algorithms and optimize healthcare strategy for neoplasia prevention. We hope that the whole genome analysis of identified novel and previously documented mutations and variants related to OGs will be a starting point to develop and implement personalised follow-up plans for these patients, in particular, to facilitate neoplasia prevention or timely treatment. This is a first collaborative study on overgrowth conditions between Lithuanian and Poland.

MAIN R&D&I (RESEARCH, DEVELOPMENT AND INNOVATION) PARTNERS

Ministry of Education, Science and Sport (Lithuania)

Thermo Fisher Scientific Baltics (Lithuania)

Department of Medical Research Kaohsiung Chang-Gung Memorial Hospital, Taiwan (China)

Korea Research Institute of Bioscience and Biotechnology

Republican Vilnius University Hospital (Respublikinė Vilniaus universitetinė ligoninė)

Public Institution Vilnius City Mental Health Center (VšĮ Vilniaus miesto psichikos sveikatos centras)

Vilnius University Hospital Santaros Klinikos

Medical University of Bialystok, Faculty of Medicine (Poland)

OTHER RESEARCH ACTIVITIES

Prof. (HP) Dr. A. Utkus –

- member of the Executive Committee of The Association of Medical Schools in Europe (AMSE);
- chairman of the National Health Council;
- editorial board member of the journal *Laboratorinė medicina (Laboratory Medicine)*;
- member of the Lithuanian Society of Human Genetics, <http://www.geneticahumana.lt/LZGD/organizacija.htm>;
- President of the Lithuanian Society of Human Genetics, <http://www.geneticahumana.lt/LZGD/organizacija.htm>;
- editorial board member of the journal *Sveikatos mokslai (Lietuva)*;
- editorial council member of the *Journal Acta Medica Lituanica*;
- member of the European Society of Human Genetics, www.eshg.org;
- member of the American Society of Human Genetics, www.ashg.org;
- coordinator of ERN-RND (European Reference Network on Rare Neurological Diseases).

Prof. Habil. Dr. V. Kučinskas –

- council member of the Federation of European Academies of Medicine, <https://www.feam.eu/about-us/governance>;
- chairperson of the division of Biology, Medicine and Geosciences of the Lithuanian Academy of Sciences, <http://www.lma.lt/>;
- member of the Presidium of the Lithuanian Academy of Sciences, <http://www.lma.lt/>;
- member of the Lithuanian Academy of Sciences, <http://lma.lt/intranetas/index.php?m=profile&user=309>;
- editorial board member of the journal *Laboratorinė medicina (Laboratory Medicine)*, <http://www.llmd.ip.lt/lm>;
- editorial board member of the *Journal of Applied Genetics* (Poland), <http://www.jay.au.poznan.pl/JAG/>;
- editorial board member of the journal *Medicina (Medicine)*;
- editorial board member of the *Journal Medical Genetics* (Russia);
- editorial council member of the *Journal Acta Medica Lituanica*;
- editorial board member of the *Balkan Journal of Medical Genetisc* (Makedonija);
- consultant on medical genetics, Ministry of Health of the Republic of Lithuania;
- board member of the Lithuanian Society of Human Genetics, <http://www.geneticahumana.lt/LZGD/organizacija.htm>;
- member of the European Society of Human Genetics, www.eshg.org;
- member of the American Society of Human Genetics, www.ashg.org;
- member of Human Genome Organization (HUGO).

Prof. (HP) Dr. L. Cimbalistienė –

- member of the Society for the Study of Inborn Errors of Metabolism (SSIEM), <http://www.ssiem.org>;
- member of the Lithuanian Society of Human Genetics (chairperson of Committee of Financial Supervisory Commission), <http://www.geneticahumana.lt/LZGD/organizacija.htm>;
- member of the Lithuanian Doctors' Union, <http://www.lgs.lt/>.

Prof. Dr. A. Jakaitienė –

- member of Lithuanian Mathematical Society, <http://www.mif.vu.lt/lmd/index.html>;
- board member of Lithuanian Statistics Society, <http://www.statistikusajunga.lt/>;
- member of International Biometric Association, <https://www.biometricsociety.org>;
- country representative of International Biometric Association in Nord Baltic Region, <http://ibsnbr.org>;
- country representative at European Statistical Advisory Committee, <https://ec.europa.eu/eurostat/web/european-statistical-advisory-committee-esac>.

Prof. Dr. E. Preikšaitienė –

- board member of the Lithuanian Society of Human Genetics, <http://www.geneticahumana.lt/LZGD/organizacija.htm>
- member of Lithuanian Society of Cardiology

Dr. E. Prancėvičienė –

- member of Canadian Society of Molecular Biosciences, <https://csmb-scbm.ca>;
- member of American Association of Advancement of Science, <https://www.aaas.org>;
- member of International Neural Network Society, <https://www.inns.org>;
- member of the Lithuanian Society of Human Genetics;
- member of the European Society of Human Genetics, www.eshg.org.

Dr. L. Ambrozaitė –

- managing editor of the journal *Acta medica Lituanica* <https://www.lmaleidykla.lt/ojs/index.php/actamedicalituanica>,
- member of the Lithuanian Society of Human Genetics (board member, till September 2021), <http://www.geneticahumana.lt/LZGD/organizacija.htm>;
- member of the European Society of Human Genetics, www.eshg.org.
- member of the American Society of Human Genetics, www.ashg.org.

Dr. I. Domarkienė –

- member of the Lithuanian Society of Human Genetics (board member since September 2021), <http://www.geneticahumana.lt/LZGD/organizacija.htm>
- member of the European Society of Human Genetics, www.eshg.org.

Dr. Ž. Maldžienė, Dr. A. Morkūnienė, Dr. T. Rančelis, Dr. E. Siavrienė, G. Žukauskaitė, G. Petraitytė, K. Grigalionienė, D. Brazdžiūnaitė –

- members of the Lithuanian Society of Human Genetics, <http://www.geneticahumana.lt/LZGD/organizacija.htm>.

Dr. V. Ginevičienė –

- members of the Lithuanian Society of Human Genetics, <http://www.geneticahumana.lt/LZGD/organizacija.htm>;
- member of the European College of Sport Science, <http://www.ecss.mobi/>;
- member of the Baltic Sport Science Society, www.leu.lt/download/6594/bsss_sutartis.pdf;
- member of the Lithuanian Federation of Sports Medicine, <http://www.lsmf.lt/>.

Dr. A. Matulevičienė –

- member of the European Society of Human Genetics, www.eshg.org.
- member of the Committee for Orphan Medicinal Products (COMP); <https://www.ema.europa.eu/en>
- member of the Lithuanian Society of Human Genetics, (board member of the Committee of Financial Supervisory Commission), <http://www.geneticahumana.lt/LZGD/organizacija.htm>;
- member of the Lithuanian Society of Doctors;
- coordinator of ERN-ITHACA (Network of Intellectual Disability and Congenital Malformations); <https://ern-ithaca.eu/>

Dr. A. Molytė –

- member of the Lithuanian Computer Society, <https://www.liks.lt/>
- member of Lithuanian Mathematical Society, <http://www.mif.vu.lt/lmd/index.html>

Dr. J. Songailienė –

- member of the Lithuanian Society of Human Genetics, <http://www.geneticahumana.lt/LZGD/organizacija.htm>;
- member of the International Society for Neonatal Screening, <https://www.isns-neoscreening.org/>;
- member of the Society for the Study of Inborn Errors of Metabolism (SSIEM), <http://www.ssiem.org/home/welcome.asp>;
- president of the Baltic Metabolic Group; <http://www.ssiem.org/nationalsocieties/membercountries.asp>;
- National representative of Lithuania in ERNDIM/EuroGenTest (ERNDIM- European Research Network for Evaluation and Improvement of Screening, Diagnosis and Treatment of Inherited Disorders of Metabolism; EuroGenTest - EU-funded Network of Excellence), <https://erndim.org/home/start.asp>.

Dr. V. Šliužas –

- member of the Lithuanian Society of Human Genetics, <http://www.geneticahumana.lt/LZGD/organizacija.htm>;
- member of the European Society of Human Genetics, www.eshg.org.

Dr. A. Bankauskienė –

- members of the Lithuanian Mathematical Society.

Dr. V. Mikštienė –

- member of the Lithuanian Society of Human Genetics, <http://www.geneticahumana.lt/LZGD/organizacija.htm>;
- member of the European Society of Human Genetics, www.eshg.org.

Dr. B. Tumienė –

- board member of the European Society of Human Genetics, www.eshg.org.
- Lithuanian representative in the European Reference Network Board of Member States, https://ec.europa.eu/health/ern_en;
- member of the Panel of Experts, Rare2030: Foresight in rare disease policies, <https://www.rare2030.eu/>;
- member of the Interregional Committee, Regions4PerMed, <https://www.regions4permed.eu/>;
- member of the Lithuanian Society of Human Genetics, <http://www.geneticahumana.lt/LZGD/organizacija.htm>;
- member of the Society for Studies of Inborn Errors of Metabolism, SSIEM;
- board member of Baltic Metabolic Group;
- member of Lithuanian Child Neurology Association;
- member of Lithuanian Society of Epileptology;
- member of Lithuanian Society of Neurosciences;
- Orphanet Lithuania National Coordinator, Orphanet Operating Committee member, <https://www.orpha.net/consor/cgi-bin/index.php>.

Dr. B. Aleksišienė –

- member of the Lithuanian Society of Human Genetics, <http://www.geneticahumana.lt/LZGD/organizacija.htm>;
- member of the European Society of Human Genetics, www.eshg.org.

Dr. B. Burnytė –

- member of the Lithuanian Society of Human Genetics, <http://www.geneticahumana.lt/LZGD/organizacija.htm>;
- member of the European Society of Human Genetics, www.eshg.org.
- member of the American Society of Human Genetics, www.ashg.org;
- member of the Society for Studies of Inborn Errors of Metabolism, SSIEM;
- Orphanet information scientist.
- member of the Lithuanian Society of Human Genetics, <http://www.geneticahumana.lt/LZGD/organizacija.htm>.

J. Arasimavičius –

- member of European Academy of Dermatology and Venereology, <https://eadv.org/>;
- member of Lithuanian Society of Dermatovenereologists, <http://www.ldvd.lt/>;
- member of European Association of Dermato Oncology, <http://www.eado.org/>;
- member of International Dermoscopy Society, <https://dermoscopy-ids.org/>;

Dr. A. Urnikytė – member of the European Society of Human Genetics, www.eshg.org.

BEST REPORTS DELIVERED AT CONFERENCES ABROAD

A. Jakaitienė. Functional pathways analysis for COVID-19 modelling: exploring Lithuanian data. XVII BALTIC CONFERENCE ON INTELLECTUAL COOPERATION MATHEMATICS FOR SOCIETY. Estonian Academy of Sciences, Tallinn, 28–29-06-2021.

A. Jakaitienė. Exploring COVID-19 Lithuanian data: from epidemiology to genetics. WMO ARTS & SCIENCE COLLEGE, MUTTIL, KALPETTA, WAYANAD, KERALA CSIR sponsored Two days' International Conference on "Statistical Machine Learning and covid-19". 4–5-10-2021.

Ambrozaitytė, Laima; Brilingaitė, Agnė; Bukauskas, Linas; Domarkienė, Ingrida; Rančelis, Tautvydas. Human characteristics and genomic factors as behavioural aspects for cybersecurity // Augmented Cognition: 15th International Conference, AC 2021 Held as Part of the 23rd HCI International Conference, HCII 2021 / Schmorrow D.D., Fidopiastis C.M. (eds). Cham: Springer International Publishing, 2021. ISBN 9783030781132. eISBN 9783030781149. p. 333-350. (Lecture Notes in Computer Science; vol 12776). DOI: [10.1007/978-3-030-78114-9_23](https://doi.org/10.1007/978-3-030-78114-9_23).

Žukauskaitė, Gabrielė; Domarkienė, Ingrida; Matulevičienė, Aušra; Vaitėnienė, Evelina Marija; Arasimavičius, Justas; Kučinskas, Vaidutis; Ambrozaitytė, Laima. Genome association study of the Lithuanian Chernobyl catastrophe liquidators indicates potentially protective alleles for multifactorial diseases // Ninth international conference on radiation in various fields of research, June 14-18, 2021, Herceg Novi, Montenegro: book of abstracts. Herceg Novi : [s.n.]. 2021, p. 18.

Ginevičienė, V. „The relationship between genetic markers of energy metabolism and the specificity of the phenotype in Lithuanian athletes”. International scientific-practical conference "Actual problems, modern trends in the development of physical culture and sports, taking into account the implementation of national projects", Plekhanov Russian Economic University, 22 – 23 April, 2021, Moscow, Russia.

Gineviciene, V. The role of variations within the genes encoding collagen I and III in Lithuanian athletes' performance. International Research Conference on Medical and Health Care Sciences «Knowledge for Use in Practice», Rīga Stradiņš university, 24 – 26 March, 2021, Riga, Latvia.

MOST IMPORTANT NATIONAL AND INTERNATIONAL AWARDS RECEIVED FOR R&D ACTIVITIES

G. Žukauskaitė, Doctoral student – the IIIrd place for oral presentation “The Association Study of a Wide Range of Mental Disorders in Lithuanian Chernobyl Catastrophe Clean-Up Workers’ Group”

in the Medicine and Health section of the Lithuanian Academy of Sciences Young Researcher 14th Conference “Biofuture: natural and life sciences perspectives”, in Lithuanian, Kaunas, 25-11-2021.

MOST IMPORTANT PARTICIPATION CASES OF RESEARCHERS IN WORKING GROUPS OR COMMISSIONS SET UP BY STATE AUTHORITIES, STATE AND MUNICIPAL INSTITUTIONS AND ORGANISATIONS, AND BUSINESS ENTITIES

- Prof. Dr. A. Jakaitienė – expert at the Council of Health Experts under the Presidency of the Republic of Lithuania (convened by the President of the Republic of Lithuania regarding COVID-19 pandemics)
- Dr. L. Ambrozaitytė – national representative to the initiative of European Commission Towards access to at least 1 million sequenced genomes in the European Union by 2022.
- \

MOST IMPORTANT RESEARCH DISSEMINATION ACTIVITIES

Events

Online events “Medical Genetics Awareness week”, 26/22-03-2021.

National DNA Day essay contest in commemoration of the International DNA Day followed by virtual event “DNA Day in Lithuania 2021”, 23-04-2021.

Event as a part of the Science Festival “Spaceship Earth”, 16-09-2021.

Event „International Fetal Alcohol Syndrome Day“, Panevėžys, 15-09-2021.

7th Congress of the Lithuanian Society of Human Genetics, MS Teams, 23-09-2021.

Oral interviews

Assoc. Prof. dr. Laima Ambrozaitytė. Interview „What do the genes of Chernobyl liquidators look like?“, “Žinių radijas“ radio programme "The Future Belongs to Them", host I. Klėjus, 22-04-2021.

Assist. prof. dr. I. Domarkienė. Interview “DNA testing for ethnic origin ” on LRT TV's live programme „Good afternoon, Lithuania“, host G. Pečiulytė, 27-10-2021.

Dr. A. Urnikytė. Interview „The Lithuanian genome: how many Vikings and Scandinavians are in us?“, LRT radio programme “Jazzy history ”, host I. Kaminckaitė, 10-03-2021.

Prof. dr. A. Utkus. Interview „Is our happiness encoded in our genes?“, LRT TV programme „Diet of Happiness“, host R. Kulvinskytė, 13-02-2021.

Prof. habil. dr. V. Kučinskas. Interview about Lithuanian origin, LRT TV programme „Detectives of history“, host V. Savukynas, 2021.

Articles

Article "Genome research on Lithuanian Chernobyl catastrophe clean-up workers debunks popular myth", Vilnius University journal SPECTRUM 1(33)/2021; reprinted at news portal LRT.lt „Science and IT“ section, 18-04-2021; reprinted in Lithuanian movement “Chernobyl” association’s newspaper "Černobylietis" 1(117)/2021.

Article at news portal DELFI "Chernobyl catastrophe clean-up workers’ genome research raises interesting questions: they do not have infectious diseases", <https://www.delfi.lt/news/daily/lithuania/cernobylio-likviduotoju-genomo-tyrimai-sukele-idomiu-klausimu-jiems-nebudingos-infekcines-ligos.d?id=87002989>, 02-05-2021.

Pharmacy Center

29A Geležinio Vilko, LT-03101 Vilnius
Tel. 239 8771
E-mails: dale.marciulioniene@mf.vu.lt

Head –Prof. Dr *Jolanta Gulbinovič*

STAFF

Professors: dr. Juozas Labokas (part-time), dr. Björn Wettermark (visiting professor)

Associate professors: dr. Jonas Grincevičius, dr. Jūratė Pečeliūnienė (part-time), dr. Kristina Garuolienė (part-time), dr. Afonso Cavaco (visiting associate professor)

Assistant professors: dr. Kristina Ložienė (part-time), dr. Aušra Liubavičiūtė (part-time), dr. Nora Šlekienė, dr. Rasa Kalėdaitė (part-time), dr. Andrius Vagoras (part-time), dr. Vitalijus Naumavičius (part-time).

Teaching assistant: Indrė Trečiokienė

Lecturers: dr. Kostas Ivanauskas, Rūta Matulaitienė (part-time), Rima Losinskaja (part-time)

Researcher assistants: Indrė Trečiokienė, Milda Girdenytė

RESEARCH INTERESTS

Drug Utilization Research

Research on drug utilization patterns in Lithuania, adherence and persistence rates in different ATC classes. Various source data on drug utilization is used to link morbidity, outcome of treatment and quality of care with the ultimate goal of assessing whether drug therapy is rational or not. Research goal is to describe the extent, nature and determinants of drug exposure.

RESEARCH PROJECTS CARRIED OUT IN 2021

Projects Supported by University Budget

Drug Utilization Research and Treatment Management in Hypertensive Patients. I.
Trečiokienė. 2019–2022.

During the year 2021, we studied the patterns of antihypertensive medicine use trends in Lithuania, Latvia and Estonia and submitted manuscript. In addition, we analysed the data from national health insurance database Sveidra received, antihypertensive drugs utilization patterns and persistence in hypertensive patients, prepared and submitted the manuscript.

Drug utilization research in cardiovascular and asthma patients. Principal investigator - I. Trečiokienė, J. Gulbinovič, B. Wettermark, 2021-2024.

The tasks done in 2021: research protocols prepared; the permissions (No. 2021/2-1314-790 and No. 2021/2-1316-792) obtained from Vilnius Regional Biomedical Research Ethics Committee; data from national health insurance database Sveidra received; 4 Master theses prepared.

Development, creation and installation of pharmaceutical services. SAVIGLI-VA study.
Principal investigator - Jurate Pečeliūnienė, 2021.

In 2021 the permission No. 2021/5-1341-817 from Vilnius Regional Biomedical Research Ethics Committee received; Master theses prepared and one article published.

Main publications:

Kamarauskaitė Anastasija; Pečeliūnienė Jūratė; Žukauskaitė Irena; Norkus Antanas. Vaistinių vaidmuo gliukemijos savikontrolei: 6 mėn. tęstinis tyrimas // Lietuvos endokrinologija. Kaunas: Medicininės informacijos centras. ISSN 1392-7213. 2021, t. 29, Nr.1-4, p. 4-10. [DB: Index Copernicus].

International Research Projects

ENABLE COST Action, J. Gulbinovič, I. Trečiokienė, K. Garuolienė. 2020–2024.

During 2021 the following actions have been done:

WG1. Protocol for two-part survey created. First part - key opinion leaders survey completed, second part – health care workers survey piloted, final version under construction. Intermediate results presented at Virtual ISPOR Europe 1 - 3 December 2021 - Pan-European Study on the Management of Medication Adherence: A Study Protocol by Cost Action ENABLE project Work Group 1;

WG1. Protocol on systematic review about Interventions to improve medication adherence in chronic diseases (high prevalence, lifelong and high burden treatment) created;

WG3. Questionnaire developed and piloted. Responses from 39 countries collected;

WG3. Hybrid meeting in Lodz was organized. Lithuanian experience MAEIs reimbursement presented.

MAIN R&D&I (RESEARCH, DEVELOPMENT AND INNOVATION) PARTNERS

Groningen University, Netherlands

Uppsala University, Sweden

Tartu University, Estonia

Copenhagen University, Denmark

OTHER RESEARCH ACTIVITIES

I. Trečiokienė –

- Member of scientific committee of XXXVI Congress of the Lithuanian Pharmaceutical Association and the International Scientific-Practical Conference „Present and future of pharmaceuticals. Lietuvos farmacijos žinios 2021 m. Nr. 3-4 (268-269), <https://www.lfsajunga.lt/dokumentai>,
- Scientific committee member of NCPC2021 conference “Next chapter in Patient Care: patient –centered approach and digital innovation in healthcare”, <https://ncpc2021.erpmusic.com/contacts/>,
- organizer of international Drug Utilization Research Summer School 2021, <https://www.mf.vu.lt/en/dur-summer-school/contacts>,
- Executive committee member of The European Drug Utilisation Group (Euro DURG), <https://www.pharmacoepi.org/eurodrug/executive-committee/>.

M. Girdenytė –

- Member of organizing committee of XXXVI Congress of the Lithuanian Pharmaceutical Association and the International Scientific-Practical Conference „Present and future of pharmaceuticals", Lietuvos farmacijos žinios 2021 m. Nr. 3-4 (268-269), <https://www.lfsajunga.lt/dokumentai>,
- Board member of Lithuanian Pharmaceutical Association, the chairperson of the committee of IT and relationships with students in the Lithuanian Pharmaceutical Association, <https://www.lfsajunga.lt/lfs-valdyba>,
- Vilniaus universiteto mentorius (<https://www.idialogue.lt/mentors/milda-girdenyte-2774>).

dr. K. Garuolienė –

- Program Committee member of Nordic-Baltic HTA Forum – what’s happening nationally, regionally and in EU? <https://nordic-baltic-hta-forum-8-dec-2021.in.howspace.com/speakers>,
- member of EuroDurg,
- member of Lithuanian Society of Clinical Pharmacology.

dr. J. Grincevičius –

- member of Lithuanian Pharmaceutical Association,
- member of ISIDOG: International Society for Infectious Diseases in Obstetrics and Gynecology.

dr. K. Ivanauskas –

- member of Lithuanian Pharmaceutical Association

dr. J. Labokas –

- Member of the European Cooperative Programme for Plant Genetic Resources – ECPGR (Wild Species Conservation in Genetic Reserves Working Group and Medicinal and Aromatic Plants Working Group);
- Member of the Reviewer Board, Journal "Diversity".

dr. K. Ložienė –

- editor of special issue "Chemical Composition and Biological Activity of Essential Oils and Other Extracts: From Extraction to Application" of journal "Molecules" (MDPI Publishing, https://www.mdpi.com/journal/molecules/special_issues/extractin_oilslietuvos_sveikata),
- board member of “THAISZIA - Journal “Botany“ (P. J. Šafárik University, Košice, Slovakia) (ISSN 2233-0275),
- member of joint of doctoral committee of Nature Research Centre and Vilnius University (domain Biomedical Sciences, direction - Ecology and Environmental Science).

dr. J. Pečeliūnienė –

- Membership in SEPD; CINP; EAN; ESC

dr. V. Naumavičius –

- Permanent member of WCMFS (World Federation of Chinese Medicine Societies) Committee of Education Instructions,
- Member of LAGA (Lithuanian Association of Acupuncture Physicians).

dr. A. Liubavičiūtė –

- guest editor in a magazine „Jove“ (<https://www.jove.com/methods-collections/263>). A theme I created for the magazine: Models to assess the efficacy of pharmacological substances for various diseases studies,
- Member of Lithuanian Society for Stem Cell Research organization,
- Member of Lithuanian Society for Immunology, Baltic Laboratory Animal Science Association (Balt-LASA).

R. Losinskaja –

- Board member of Lithuanian Pharmaceutical Association, <https://www.lfsajunga.lt/lfs-valdyba>

R. Matulaitienė –

- Board member of Lithuanian Pharmaceutical Association, <https://www.lfsajunga.lt/lfs-valdyba>

MOST IMPORTANT PARTICIPATION CASES OF RESEARCHERS IN WORKING GROUPS OR COMMISSIONS SET UP BY STATE AUTHORITIES, STATE AND MUNICIPAL INSTITUTIONS, ORGANISATIONS, BUSINESS ENTITIES

I. Trečiokienė

- Task Force to review and adjust HTA process in Lithuania, initiated by Health Ministry

A. Vagoras

- Task Force to review and adjust HTA process in Lithuania, initiated by Health Ministry

MOST IMPORTANT RESEARCH DISSEMINATION ACTIVITIES

Pečeliūnienė, Jūratė (sudaryt.); Anglickis Marius; Augustinienė Vida; Bičkauskienė Violeta; Francaitė-Daugėlienė Miglė, Jonikienė Diana, Kabašinskaitė Eglė, Kamarauskaitė Anastasija; Kasiulevičius Vytautas; Krivolap Aušra; Lazauskas Liudvikas; Norkus Antanas; Ostrauskas Rytas; Pečeliūnienė Jūratė; Ramonienė Gitana; Raudytė Jūratė; Sadauskaitė Neringa. Aš ir mano diabetas: patarimai sergantiesiems ir jų artimiesiems. Vilnius: Vilniaus universiteto leidykla, 2021. 188 p. ISBN 9786090706404.

Prof. Vytautas Kasiulevičius ir autorių kolektyvas (farmacijos centras – V. Lapinskas, J. Pečeliūnienė, I. Trečiokienė) Mokomoji knyga. Šeimos medicina: šiuolaikinis ligų diagnostikos, gydymo ir prevencijos vadovas, “Nacionalinis mokymų centras”, 2021.

Department of Pathology, Forensic Medicine and Pharmacology

21 M. K. Čiurlionio, LT-03101 Vilnius

Tel. 239 8727

E-mails: Arvydas.Laurinavicius@mf.vu.lt

Head – Prof. Dr *Arvydas Laurinavičius*

STAFF

Professors: Dr. Dainius Characiejus, Dr. Virginija Grabauskienė, Dr. Jolanta Gulbinovič, Dr. Violeta Kvedarienė, Dr. Arvydas Laurinavičius

Associate professors: Dr. Aušrinė Barakauskienė, Dr. Justinas Besusparis, Dr. Edita Kazėnaitė, Dr. Sigitas Laima, Dr. Aida Laurinavičienė, Dr. Jurgita Stasiūnienė, Dr. Edvardas Žurauskas

Assistant professors: Dr. Vaida Baltrūnienė, Dr. Sigitas Chmieliauskas, Dr. Tomas Janušonis, Dr. Sigitas Laima, Dr. Ingrida Lisauskienė, Dr. Dovilė Žilėnaitė

Teaching assistants: Tomas Baltrūnas, Augustinas Baušys, Julius Drachneris, Dmitrij Fomin, Aušra Garnelytė, Elena Jurevičienė, Ieva Kažukauskienė, Rokas Šimakauskas

Lecturers: Dalius Banionis, Artūras Barkus, Snežana Budrikienė, Agnė Čerkauskaitė, Armantas Gintautas, Rūta Barbora Grinevičiūtė, Skirmantė Jokubauskienė, Rimgaudas Katkus, Eglė Majauskienė, Vygantė Maskoliūnaitė, Ugnius Mickys, Donatas Petroška, Ignė Pilvelienė, Dovilė Ramanauskaitė, Dmitrij Šeinin, Marius Žiemininkas

Research professors: Dr. Aida Laurinavičienė, Dr. Arvydas Laurinavičius, Dr. Richard Dr. Benoit Plancoulaine

Senior researchers: Dr. Virginija Grabauskienė, Dr. Allan Rasmuson

Researcher: Dr. Nina Prokopčiuk

Research assistants: Renaldas Augulis, Ieva Kažukauskienė

Doctoral students: Agnė Čerkauskaitė, Julius Drachneris, Ieva Drejerienė, Aušra Garnelytė, Ieva Kažukauskienė, Rokas Stulpinas, Rokas Šimakauskas.

RESEARCH INTERESTS

Renal pathology, digital pathology image analysis, pathology informatics, health information systems, standards, testing of cancer biomarkers in tissue, multi-resolution analysis of biomarkers

Inflammatory cardiomyopathy: prognostic biomarkers of heart failure.

Cancer immunology: T-lymphocytes, macrophages.

RESEARCH PROJECTS CARRIED OUT IN 2021

Projects Supported by University Budget

Development of the New Diagnostic and Prognostic Molecular Markers and Tools for Their Quantification in the Tissues. Diagnostic Value of Pathology Tests and Efficiency of Cancer Prevention Programs. Prof. Dr A. Laurinavičius, 2019–2021.

Researches carried out by doctoral students, contributed to the implementation of this research activity:

- Modeling of immune response and microenvironment in renal cancer tissue by digital pathology methods (*Doctoral student: Aušra Garnelytė, Academic supervisor: Prof. Dr. Arvydas Laurinavičius, consultant Prof. Dr. F. Jankevičius*);

- Prognostic Modeling of Liver Tumour Pathology by Artificial Intelligence Tools (*Doctoral student: Rokas Stulpinas, Academic supervisor: Prof. Dr. Arvydas Laurinavičius*);
- Collagen IV $\alpha 345$ nephropathy phenotype-genotype associations and prognostic factors (*Doctoral student: Agnė Čerkauskaitė, Academic supervisor: Prof. Dr. Arvydas Laurinavičius*).
- Modeling of Urothelial Carcinoma and its Microenvironment by Digital Pathology and Artificial Intelligence Methods (*Doctoral student: Julius Drachneris, Academic supervisor: Prof. Dr. Arvydas Laurinavičius*).

Main publications:

Morkūnas, Mindaugas; Žilėnaitė, Dovilė; Laurinavičienė, Aida; Treigys, Povilas; Laurinavičius, Arvydas. Tumor collagen framework from bright-field histology images predicts overall survival of breast carcinoma patients // Scientific reports. Berlin: Nature research. ISSN 2045-2322. 2021, vol. 11, no. 1, art. no. 15474, p. [1-13]. DOI: [10.1038/s41598-021-94862-6](https://doi.org/10.1038/s41598-021-94862-6). [DB: MEDLINE, Scopus, Science Citation Index Expanded (Web of Science)]

Development of the Predictive, Preventive, Personalized and Prognostic Biomarkers of the Diseases. Prof. V. Grabauskienė, Prof. D. Characiejus, 2020-2021.

In 2021 prognostic significance of circulating T cell subsets in pancreatic cancer patients were carried out; inflammation-related biomarkers in association with heart failure severity and poor clinical outcomes.

Main publications:

Kažukauskienė, Ieva; Balčiūnaitė, Giedrė; Baltrūnienė, Vaida; Čelutkienė, Jelena; Maneikienė, Vytė Valerija; Čibiras, Sigitas; Ručinskas, Kęstutis; Grabauskienė, Virginija. Left ventricular global longitudinal strain predicts elevated cardiac pressures and poor clinical outcomes in patients with non-ischemic dilated cardiomyopathy // Cardiovascular ultrasound. London: BioMed Central. eISSN 1476-7120. 2021, vol. 19, no. 1, art. no. 21, p. [1-13]. DOI: [10.1186/s12947-021-00254-1](https://doi.org/10.1186/s12947-021-00254-1). [DB: MEDLINE, Scopus, Science Citation Index Expanded (Web of Science)]

Kažukauskienė, Ieva; Baltrūnienė, Vaida; Rinkūnaitė, Ieva; Žurauskas, Edvardas; Vitkus, Dalius; Maneikienė, Vytė Valerija; Ručinskas, Kęstutis; Grabauskienė, Virginija. Inflammation-related biomarkers are associated with heart failure severity and poor clinical outcomes in patients with non-ischemic dilated cardiomyopathy // Life. Basel: MDPI. eISSN 2075-1729. 2021, vol. 11, iss. 10, art. no. 1006, p. 1-14. DOI: [10.3390/life11101006](https://doi.org/10.3390/life11101006). [DB: PubMed, Scopus, Science Citation Index Expanded (Web of Science)]

Zaleskis, Gintaras; Pašukonienė, Vita; Characiejus, Dainius; Urbonas, Vincas. Do the benefits of being a smoker hint at the existence of PD-1/PD-L1 sensitizers for patients on single-agent immunotherapy? // Journal for immunotherapy of cancer. ISSN 2051-1426. eISSN 2051-1426. 2021, 9, 8, p. 1-4. DOI: [10.1136/jitc-2021-003191](https://doi.org/10.1136/jitc-2021-003191). [DB: Citation Index Expanded (Web of Science), MEDLINE, Scopus]

e-Poster presentation:

Meeting Abstract. Kažukauskienė, Ieva; Baltrūnienė, Vaida; Besusparis, Justinas; Daunoravičius, Dainius; Balčiūnaitė, Giedrė; Žurauskas, Edvardas; Maneikienė, Vytė Valerija; Grabauskienė, Virginija. Left ventricle global longitudinal strain is associated with myocardial inflammation and fibrosis // European journal of heart failure: Abstracts of the Heart Failure 2021 and the World Congress on Acute Heart Failure, 29 June - 1 July 2021, online congress. Hoboken: Wiley. ISSN 1388-9842. eISSN 1879-0844. 2021, vol. 23, iss. S2, p. 111. DOI: [10.1002/ejhf.2297](https://doi.org/10.1002/ejhf.2297). [DB: Science Citation Index Expanded (Web of Science)]

Genesis and Gnoseology of Violence. Assoc. Prof. Dr J. Stasiūnienė. 2020-2021.

The aim of the project is to investigate peculiarities of the physical violence in Lithuania. To be able to follow the rates of violence, find the sociodemographic profile of victims and suspects, risk factors as well as to define the health impairment, the data from the Information Technology and Communications Department under the Ministry of the Interior of the Republic of Lithuania and The State's Forensic Medicine Service are collected and analysed.

National Research Projects

Assessment of Glomerular Patterns of Injury by Using Artificial Intelligence Methods. ESF project No 09.3.3-LMT-K-712 under the measure „Educating the society and strengthening the potential of human resources” activity „Development of Competences of Scientists, Other Researchers and Students Through Practical Research Activities“). Project leader Prof. A. Laurinavičius, other participants: researcher J. Besusparis, 2020–2022.

In 2021 we employed machine-learning-based image analysis to digitize glomerular pathology evaluation to arrive at faster and more precise analytical approaches and overcome subjectivity. We start with glomeruli detection by a trained Halo classifier capable of detecting all types of glomeruli in a biopsy and employ classifier prediction masks to create a collection of glomeruli of different injury types cropped from original biopsy WSI into 1024 x 1024 pixel-sized patches. We then retrain the Xception neural network model with an additional classification layer to classify glomeruli into five major classes according to injury type. We finally apply a popular visual explanation method - the Grad-CAM that enables us to visualize features captured by a classification neural network. Grad-CAM produces heatmaps of neural model visual attention highlighting image areas having the highest impact for glomeruli classification. Then we tested the proposed approach utilizing 250 kidney biopsy WSI's yielding ~6000 glomeruli image collection. The Xception classifier was trained on 200 rotation augmented images of 50 glomeruli preselected by an experienced pathologist (representing five major injury types) and achieved over ~96% classification accuracy (~4% standard deviation as measured in five repeated experiments). For each analyzed glomerular image, we were able to extract visual attention heatmaps and a probability of class attribution.

Artificial intelligence-driven prediction of BCG immunotherapy response in patients with non-muscle invasive papillary urothelial bladder carcinoma (AI4BCG). 3rd competition of 10th call for implementation of researcher groups projects. Principal investigator – prof. dr. Feliksas Jankevičius, primary project implementers: Research prof. dr. Arvydas Laurinavičius, researcher dr. Albertas Čekauskas, research assistant dr. Mindaugas Morkūnas, research assistant Julius Drachneris, 2021-2024.

The objective of the proposed study is to develop independent predictive models based on machine vision and learning of TME architectural patterns and immune response properties in NMIPUC patients treated with BCG vaccine.

International Research Projects

Deep-Context Tissue Analytics for Integrated Pathology Modeling in Tumours and Kidney Allografts, ESF project under the measure No 09.3.3-LMT-K-712 „Strengthening the Skills and Capacities of Public Sector Researchers for Engaging in High Level R&D Activities“ activity „Strengthening of General Skills and Competences of Researchers Through Implementation of High Level R&D Projects“. Project leader Prof. Dr A. Laurinavičius, other participants: Dr. A. Laurinavičienė, Dr. A. Rasmusson, Dr. B. Plancoulaine, Dr. R. Levenson, Dr. M. Shribak, Dr. KY. Jen, 2014–2021.

The aim of the study is to develop novel tissue-based analytical assays for integrated modelling of tumor and kidney allograft pathology. Objective 1 is to explore tissue processing/data extraction approaches to discover unique digital signatures of tissue components and integrated pathology indicators; objective 2 is to design and validate the “deep-context” tissue assays for selected

analytical and clinical tasks to enable robust and affordable multidimensional modelling of tissue pathology.

Main publications:

Vitkūnaitė, Aistė; Laurinavičienė, Aida; Plancoulaine, Benoit; Rasmusson, Allan; Levenson, Richard Montefiore; Shribak, Michael; Laurinavičius, Arvydas. Intranuclear birefringent inclusions in paraffin sections by polychromatic polarization microscopy // Scientific reports. London: Nature research. eISSN 2045-2322. 2021, vol. 11, no. 1, art. no. 6275, p. [1-7]. DOI: [10.1038/s41598-021-85667-8](https://doi.org/10.1038/s41598-021-85667-8). [DB: MEDLINE, Scopus, Science Citation Index Expanded (Web of Science)]

Laurinavičius, Arvydas; Rasmusson, Allan; Plancoulaine, Benoit; Shribak, Michael; Levenson, Richard Montefiore. Machine-learning-based evaluation of intratumoral heterogeneity and tumor-stroma interface for clinical guidance // American journal of pathology. New York: Elsevier Science Inc. ISSN 0002-9440. eISSN 1525-2191. 2021, vol. 191, no. 10, p. 1724-1731. DOI: [10.1016/j.ajpath.2021.04.008](https://doi.org/10.1016/j.ajpath.2021.04.008). [DB: MEDLINE, Scopus, Science Citation Index Expanded (Web of Science)]

Radžiuvienė, Gedmantė; Rasmusson, Allan; Augulis, Renaldas; Grinevičiūtė, Rūta Barbora; Žilėnaitė, Dovilė; Laurinavičienė, Aida; Ostapenko, Valerijus; Laurinavičius, Arvydas. Intratumoral heterogeneity and immune response indicators to predict overall survival in a retrospective study of HER2-borderline (IHC 2+) breast cancer patients // Frontiers in oncology. Lausanne: Frontiers Research Foundation. ISSN 2234-943X. 2021, vol. 11, art. no. 774088, p. [1-15]. DOI: [10.3389/fonc.2021.774088](https://doi.org/10.3389/fonc.2021.774088). [DB: Scopus, Science Citation Index Expanded (Web of Science)]

MAIN R&D&I (RESEARCH, DEVELOPMENT AND INNOVATION) PARTNERS

Université de Caen Basse-Normandie (France)

Cancer Pathology Nottingham University (GB)

Brigham and Women's Hospital, Harvard Medical School, Boston, MA (USA)

Ruprecht-Karls-universitat Heidelberg, EMBL (Germany)

University Hospital Gießen and Marburg (Germany)

Division of Clinical Pharmacology, Karolinska Institutet, Karolinska University

OTHER RESEARCH ACTIVITIES

Prof. Dr. A. Laurinavičius

- member, Lithuanian Association of Nephrology, Dialysis, and Transplantation
- member, European Society of Pathology
- member, Renal Pathology Society
- member, the board of the Lithuanian Society of Pathology
- editorial board member of the journal *Medicina (Medicine)*
- editorial board member of the journal *Diagnostic Pathology*
- editorial board member of the journal *Pathology Informatics*
- chairman, Management Board, Lithuanian Association of Health Informatics and Bioinformatics

Prof. Dr. V. Grabauskienė

- fellow of the European Society of Cardiology (FESC)
- member of the European Association of Echocardiography (EAE) of the ESC
- member of the Heart Failure Association (HFA) of the ESC
- member of the American Society of Echocardiography;

- UEMS (European Union of Medical Specialist) Diploma of European Cardiologist Nr.52546
- member of the European Association for Predictive, Preventive and Personalized Medicine (EPMA)

Prof. Dr. Jolanta Gulbinovič

- Member of Executive Committee of the European Association of Clinical Pharmacology and Therapeutics (EACPT)
- Member of Council of European Drug Utilisation Group (EuroDurg)
- Board member of Lithuanian Association of Clinical Pharmacology
- Member of Pharmacovigilance Risk Assessment Committee of the European medicines Agency

Prof. Dr. D. Characiejus

- National Representative of the European Association for Predictive, Preventive and Personalized Medicine (EPMA) in Lithuania
- editorial board member of The EPMA Journal
- member of the Council of the Lithuanian Society of Immunology

Assoc. Prof. Dr. E. Žurauskas

- member of the Lithuanian Society of Pathology

Dr. Aida Laurinavičienė

- president of Lithuanian Association of Pathology Technologists

Ugnius Mickys

- board member of the Lithuanian Society of Pathology

D. Petroška

- member of the Lithuanian Society of Pathology

Assoc. Prof. Dr. Jurgita Stasiūnienė

- Member of the Lithuanian Society of Forensic Medical Physicians

Assistant professor Dr. Sigitas Chmieliauskas

- Member of the Lithuanian Society of Forensic Medical Physicians

Assistant professor Dr. Sigitas Laima

- Vice-President of the Lithuanian Society of Forensic Medical Physicians

Teaching Assistant Rokas Šimakauskas

- Member of the Lithuanian Society of Forensic Medical Physicians

Teaching Assistant Dmitrij Fomin

- Member of the Lithuanian Society of Forensic Medical Physicians

Lecturer Dalius Banionis

- Member of the Lithuanian Society of Forensic Medical Physicians

BEST REPORTS DELIVERED AT CONFERENCES ABROAD

Prof. Arvydas Laurinavičius, Dr. Allan Rasmusson (joint presentation): **Immunogradient: lymphocyte density profiles across the tumour-host interface**. 23rd September, 2021, Spatial Biology: Revolutionizing Tissue Imaging and Analysis using Spatial profiling (*webinar*)

Prof. Arvydas Laurinavičius: **Intratumoral heterogeneity and immune response in breast carcinoma**. 15th-18th June 2021, 17th European Congress on Digital Pathology (ECDP).

MOST IMPORTANT RESEARCH DISSEMINATION ACTIVITIES

Prof. Arvydas Laurinavičius: Digital Intelligence for Tissue Pathology Testing (sesion „Microscopic image analysis in the Age of AI“), 20th - 24th, September, 2021, [Life Sciences Baltics](#) (Digital Forum).

Prof. Arvydas Laurinavičius: [Lietuvos mokslininkai patentuoja išradimą, leidžiantį prognozuoti vėžio eigą](#). Published: 2021-06-23.

[The Lithuanian public broadcaster, Lithuanian Radio and Television \(LRT\), Nominations of the Year: Discovery of the Year – Arvydas Laurinavičius](#) (LRT Metų apdovanojimai. Metų atradimas).

Sigitas Chmieliauskas. Interview for Lithuanian news portal Delfi: <https://www.delfi.lt/moterys/pastebek-smurta/teismo-medicinos-ekspertas-zmogus-kuriam-patikimos-didziausios-paslaptys-papasakojo-kaip-vyksta-apziura-po-galimo-smurto.d?id=87515403> . Published: 2021-06-22.

Sigitas Chmieliauskas. Interview for Lithuanian news portal Delfi: <https://www.delfi.lt/sveikata/sveikatos-naujienos/mirusius-nuo-covid-19-tiriantis-daktaras-papasakojo-kaip-liga-paveikia-organizma-vienas-dalykas-ypac-stebina.d?id=87946773>. Published 2021-08-15.

Department of Physiology, Biochemistry, Microbiology and Laboratory Medicine

21 M. K. Čiurlionio, LT-03101 Vilnius

Tel. 239 8720

E-mail: Dovile.Karciauskaite@mf.vu.lt

Head – Assoc. Prof. Dr *Dovilė Karčiauskaitė*

STAFF

Professors: Dr. Zita Aušrelė Kučinskienė, Dr. Algis Abaravičius, Dr. Arvydas Kaminskas, Dr. Vaiva Hendrixson.

Associate professors: Dr. Dovilė Karčiauskaitė, Dr. Valerija Jablonskienė, Dr. Tomas Kačergius, Dr. Rėda Matuzevičienė, Dr. Loreta Bagdonaitė, Dr. Dalius Vitkus, Dr. Sandra Meidutė – Abaravičienė, Dr. Asta Mažeikienė, Dr. Agnė Kirkliauskienė.

Assistant professors: Dr. Valdas Banys, Dr. Vytautas Žėkas, Dr. Inga Bikulčienė. Dr. Dalia Paškevičienė

Teaching assistants: Mantas Radzevičius, Eglė Mazgelytė, Vika Gabė, Milda Vanagaitė-Žičkienė

Lecturers: Laima Vasiliauskaitė, Elvyra Ostanėvičiūtė.

Researchers: Dr. Maxim Bratčikov, Dr. Aušra Linkevičiūtė.

Doctoral students: Mantas Radzevičius, Eglė Mazgelytė, Ričardas Stonys, Linas Černiauskas

RESEARCH PROJECTS CARRIED OUT IN 2021

Projects Supported by University Budget

International Joint Project with the Department of Pharmaceutical Sciences and Chemistry, School of Pharmacy, Karaganda Medical University, Kazakhstan. **Formulation of an *Origanum vulgare* based dental gel with antimicrobial activity.** Assoc. Prof. Dr. T. Kačergius, Prof. Dr. G. A. Atazhanova (Kazakhstan), 2020–2021.

Results revealed that *O. vulgare* essential oil inhibited the growth of *S. mutans* biofilm by 98% compared with unexposed control bacteria ($p < 0.05$). Five samples of anti-caries gel (ACDG1, ACDG2, ACDG3, ACDG4, ACDG5) were formulated using the obtained oregano essential oil and extract. The ACDG1 and ACDG3 gel samples exhibited high antimicrobial activity against *Staphylococcus aureus*, *Bacillus subtilis*, *Candida albicans*, and moderate antimicrobial activity against *Escherichia coli* and *Pseudomonas aeruginosa*. Based on the data of this study, the ACDG3 sample may be considered an anti-caries gel owing to its high antimicrobial activity, as well as due to the inhibition of *S. mutans* cariogenic biofilm.

Main publications:

Badekova K. Zh., Atazhanova G. A., Kacergius T., Akhmetova S. B., Smagulov M. K. Formulation of an *Origanum vulgare* based dental gel with antimicrobial activity. *Journal of Taibah University Medical Sciences* 2021; 16(5): 712–718. DOI: 10.1016/j.jtumed.2021.05.009.

Investigation of the Mechanisms of Extracellular Microparticles (Exosomes) Involvement in the Cellular Response to Oxidative Stress. Assist. Prof. V. Žėkas. 2020–2021.

Work carried out in 2021: 1) A study of the reactive oxygen forms in HUVEC cell culture using a flow cytometry method using fluorescent antibodies (MitoSox, H2DCFDA) that marks reactive oxygen forms; 2) Western blot analysis of proteins important for cell survival and generation of oxidative stress: NADPH Oxidases NOX1, NOX2, NOX5, ERK 1/2, Akt B; 3) Preparation and submission of manuscript, currently under review. Title: “Changes in the amount and oxidative properties of human blood-derived extracellular vesicles after myocardial infarction”

Main publications:

Submitted to the journal and currently under review in the journal. Title: “Changes in the amount and oxidative properties of human blood-derived extracellular vesicles after myocardial infarction.”

Value of Biological Markers for Paraproteinemia. Leader of the project: Assoc Prof V. Peėeliūnas, Prof. L.Griškevičius (HP). Others: Assoc Prof. R. Matuzeviėienė, doctoral student M. Radzevičius. 2019 – 2023.

During the project the following were implemented: expression of myeloma disease immunoassay markers, their predictive value in the treatment with immunomodulators. Compilation of myeloma register and data analysis in collaboration with foreign researchers. Harmonization of normal and pathological plasma cell research methods in collaboration with foreign researchers. Analysis of clinical prognostic markers in patients with AL amyloidosis. Analysis of clinical prognostic markers in patients with AL amyloidosis.

Studies on the Virulence Potential of Meningococcal Isolates: Implications for an Improved Molecular Diagnostics of Invasive Meningococcal Disease. Funded by Research Council of Lithuania. Research leader: M. Pleėkaitytė. Member of research: Dr. Silvija Kiverytė, 2020 - 2023.

During the project the following were implemented: xpression of myeloma disease immunoassay markers, their predictive value in the treatment with immunomodulators. Compilation of myeloma register and data analysis in collaboration with foreign researchers. Harmonization of normal and pathological plasma cell research methods in collaboration with foreign researchers. Analysis of clinical prognostic markers in patients with AL amyloidosis. Analysis of clinical prognostic markers in patients with AL amyloidosis.

Applying Innovative Non-Invasive Biomedical Research Methods to Managing Stress in Group Dynamics: Case of Military Conscript in Lithuania. Assistant Prof. A. Mažeikienė. 2020 -2022.

National Research Projects

Platform for non-invasive methods for early diagnosis and prognosis of severe acute pancreatitis. Project funded by the European Regional Development Fund according to the supported activity Research Projects Implemented by World-class Researcher Groups’ under Measure No. 01.2.2-LMT-K-718-01-0025. Assoc. prof. Dalius Vitkus, 2018-2022.

An in-depth analysis of biochemical processes was in order to construct platform for non-invasive methods to be used for early diagnosis and prognosis of severe acute pancreatitis. It was demonstrated the dependence of an amount of HSP70 and HSP90 in serum vs. severity of acute pancreatitis (AP) on a cohort of 49 patients. Tethered bilayer lipid membranes (tBLMs) have been developed to investigate HSPs’ interactions with tBLMs that can be probed by electrochemical impedance spectroscopy.

Main publications:

Budvytyte R, Milasiute A, Vitkus D, Strupas K, Gulla A, Sakinyte I, Razumiene J. Tethered Lipid Membranes as a Nanoscale Arrangement towards Non-Invasive Analysis of Acute Pancreatitis. *Biomedicines* 2021, 9, 755. <https://doi.org/10.3390/biomedicines9070755>

Applying Innovative Non-Invasive Biomedical Research Methods to Managing Stress in Group Dynamics: Case of Military Conscript in Lithuania. Funded by Research Council of Lithuania, No S-MIP-20-59. Assoc. Prof. A. Mažeikienė, Assoc. Prof. Dr. D. Karčiauskaitė, Doctoral student E. Mazgelytė, 2020–2022.

The project is designed to fill the knowledge gap between personalized stress diagnostics and stress management in teams. The association between endogenous hair steroid hormones as reliable biological indicators of an individual's stress level and the social environmental factors experienced during military training manifested at the beginning of compulsory military service was analysed. In a group of military conscripts, hair steroid hormone concentrations—cortisol, cortisone, dehydroepiandrosterone (DHEA), and testosterone were measured using the ultra-high-performance liquid chromatography-tandem mass spectrometry method. Six subjective social environmental factors in the military—attitude towards the military and military service, adaptation to the military environment, team, task, norm cohesion, and psychological (un)safety in the group—were evaluated using military-specific research questionnaires.

Main publications:

Mažeikienė, Asta; Bekešienė, Svajonė; Karčiauskaitė, Dovilė; Mazgelytė, Eglė; Larsson, Gerry; Petrėnas, Tomas; Kaminskas, Andrius; Songailienė, Jurgita; Utkus, Algirdas; Vaičaitienė, Ramutė; Smaliukienė, Rasa. The association between endogenous hair steroid hormones and social environmental factors in a group of conscripts during basic military training // *International journal of environmental research and public health*. Basel : MDPI. eISSN 1660-4601. 2021, vol. 18, no. 22, art. no.12239, p. [1-18]. DOI: 10.3390/ijerph182212239.

Thesis:

Mažeikienė, Asta; Karčiauskaitė, Dovilė; Mazgelytė, Eglė; Petrėnas, Tomas; Kaminskas, Andrius; Songailienė, Jurgita; Utkus. Reference values for scalp hair cortisol, cortisone, DHEA, and testosterone by ultra-high performance liquid chromatography-tandem mass spectrometry in healthy young man cohort // *Clinical Chemistry and Laboratory Medicine* 2021; 59, Special Suppl, pp S94 – S835. DOI 10.1515/cclm-2021-5034.

International Research Projects

Further investigation on the topic of etiopathogenetic relationship between uronephrolithiasis and metabolic syndrome with a focus on the research of early diagnosis and implementation of new prognostic markers of uronephrolithiasis. The Project is funded by British Council. Prof. Vaiva Hendrixson: Coordinator of the project of Lithuanian team: Recognition and Education in Violence, Abuse and Neglect for Medical and Healthcare Practitioners – REVAMP, 2019-1-UK01-KA203-061608, 2019–2022.

The big achievement was the introduction of new methods such as attenuated total reflection (ATR), surface-enhanced Raman spectroscopy (SERS), and infrared (IR) absorption microscopy to examine urinary sediment for the early diagnosis and evaluation of possible causes of uronephrolithiasis. The impact of our investigation on clinical medicine is that it enables people at risk of developing kidney stones to take early preventive measures such as diet and lifestyle changes.

Main publications:

Tamosaityte S, Pucetaite M, Zelvys A, Varvuolyte S, Hendrixson V, Sablinskas V. Raman spectroscopy as a non-destructive tool to determine the chemical composition of urinary sediments. *CR Chimie*, 2021, <<https://doi.org/10.5802/crchim.121>>.

ALLTogether1– A Treatment Study Protocol of the ALLTogether Consortium for Children and Young Adults (1–45 years of age) with Newly Diagnosed Acute Lymphoblastic Leukaemia (ALL). Assoc. Prof. R. Matuzevičienė, 2019–2023.

In 2021 study groups from the five Nordic countries, Estonia and Lithuania (NOPHO), the UK (UKALL), the Netherlands (DCOG), Germany (COALL), Belgium (BSPHO), Ireland (SHOP) and France (SFCE) have designed a common treatment protocol as new standard of care for children and young adults with ALL. The risk-stratification is based on a novel, personalised algorithm using clinical characteristics, genetic changes in the leukaemia and response to therapy.

MAIN R&D&I (RESEARCH, DEVELOPMENT AND INNOVATION) PARTNERS

NOPHO (Nordic Pediatric Hemato-Oncology) group (<http://www.nopho.org/welcome/frame.htm>)

Malmö University, Malmö (Sweden)

Clinical Institute of Chemistry, Zagreb (Croatia)

AL-Qasemi Research Center (Israel)

Department of Human and Medical Genetics of Faculty of Medicine of Vilnius University (Lithuania)

Centre of Pediatrics, Faculty of Medicine, Vilnius University (Lithuania)

OTHER RESEARCH ACTIVITIES

Prof. Z. A. Kučinskienė –

- member of the Lithuanian Academy of Sciences;
- member of the European Atherosclerosis Society (EAS);
- member of the Board of the Lithuanian Society of Laboratory Medicine;
- member of the Lithuanian Society of Human Genetics;
- editor-in-Chief of the journal *Laboratorinė medicina (Laboratory Medicine)*;
- editorial board member of the journals: *Acta Medica Lituanica, Medicina, Medicinos teorija ir praktika, Sveikatos mokslai, Seminars in Cardiology*.

Prof. D. Karčiauskaitė –

- board member of Baltic Atherosclerosis Society;
- board member of Lithuanian Laboratory Medicine Society;
- member of European Atherosclerosis Society.

Prof. A. J. Abaravičius –

- member of the National Committee of New Food Products;
- member of the Lithuanian Society of Laboratory Medicine;
- member of Lithuanian Physiological Society.

Prof. A. Kaminskas –

- member of the Lithuanian Society of Laboratory Medicine.

Prof. V. Hendrixson –

- member of the Lithuanian Society of Laboratory Medicine;
- member of Open Medical Institute Lithuanian Association of Neuroscience;
- member of Federation of European Neuroscience Societies (FENS);
- member of Lithuanian Association of Neuroscience
- member of Lithuanian Association of Physiology.
- Honorary Professor of the Karaganda State Medical University.
- Member of editorial board of open access journal *Clinical Research in Neurology*: <https://asclepiusopen.com/clinical-research-in-neurology/editorial-board>

Assoc. Prof. L. Bagdonaitė –

- member of the Lithuanian Society of Laboratory Medicine;
- member of the Lithuanian Society of Allergology and Clinical Immunology.

Assoc. Prof. V. Jablonskienė –

- Scientific Editor of the journal *Laboratorinė medicina* (Laboratory Medicine)
- Editorial board member of the journal *Laboratorinė medicina* (Laboratory Medicine);
- member of the Lithuanian Society of Laboratory Medicine;

Assoc. Prof. T. Kačergius –

- member of the Lithuanian Society of Medical Microbiologists.
- member of the European Society of Clinical Microbiology and Infectious Diseases, Basel, Switzerland.

Assoc. Prof. R. Matuzevičienė –

- editorial board member of the journal *Laboratorinė medicina* (Laboratory Medicine),
- member of the Lithuanian Society of Laboratory Medicine;
- member of the Lithuanian Society of Haematology;
- member of the Lithuanian Society of Allergology and Clinical Immunology;
- member of the Lithuanian Medical Association;
- member of the European Society for Clinical Cell Analysis – ESCCA.

Assoc. Prof. D. Vitkus –

- president of the Lithuanian Society of Laboratory Medicine;
- Member-at-large of the Executive Board of the European Federation of Clinical Chemistry and Laboratory Medicine (EFLM);
- National Representative at the International Federation of Clinical Chemistry and Laboratory Medicine (IFCC);
- Corresponding Member of the EFLM Working Group “Register
- Member of the EFLM Profession Committee Task Group EFLM Syllabus Course;
- Member of the Scientific Committee of the European Organisation for External Quality Assurance Providers in Laboratory Medicine (EQALM), Chairmen of the WG for Performance Specifications;
- member at large of the Board of Baltic Association of Laboratory Medicine (BALM);
- member of the American Association for Clinical Chemistry;
- corresponding Member of the Committee of Nomenclature for Properties and Units of Scientific Division of the (IFCC);
- corresponding Member of the Committee of Traceability in Laboratory Medicine of Scientific Division of the IFCC;
- corresponding member of the IFCC EMD Clinical Laboratory Management; Committee, Analytical Quality Committee;
- corresponding member of the EFLM Working Group on Congresses and Postgraduate Education;
- External Quality Assessment Scheme expert, “Labquality OY”, Finland
- editorial board member of the journal *Laboratory Medicine*.

Assoc. Prof. A. Kirkliauskienė –

- member of the Lithuanian Society of Laboratory Medicine;
- member of the Lithuanian Society of Infectious Diseases.

Assoc. Prof. A. Mažeikienė –

- member of European Atherosclerosis Society (EAS);
- member of the Lithuanian Society of Laboratory Medicine.

Assist. Prof. S. Kiverytė –

- member of the European Society of Clinical Virology;
- member of the Lithuanian Society of Laboratory Medicine.

Assist. Prof. V. Banys –

- board member and treasurer of the Lithuanian Society of Laboratory Medicine;
- AACC (American Association for Clinical Chemistry);
- ISTH (International Society on Thrombosis and Haemostasis);
- CLSI (Clinical and Laboratory Standards Institute);
- corresponding member of IFCC (International Federation of Clinical Chemistry and Laboratory Medicine):
 - IFCC EMD Evidence-Based Laboratory Medicine Committee (C-EBLM);
 - IFCC EMD Harmonization of Interpretive Comments EQA Working Group (WG-ICQA);
 - IFCC EMD Laboratory Errors and Patient Safety Working Group (WG-LEPS);
 - IFCC SD Reference Intervals and Decision Limits Committee (C-RIDL);
 - IFCC Task Force on Ethics (TF-E);
 - IFCC Task Force for Young Scientists (TF-YS).

Teaching assistant Vika Gabė –

- member of Society of Lithuanian microbiologists;
- member of the Lithuanian Society of Laboratory Medicine;
- member of the Lithuanian Society of Infectious Diseases.

BEST REPORTS DELIVERED AT CONFERENCES ABROAD

Thesis

Adomaitytė, Toma; Domarkienė, Ingrida; Karčiauskaitė, Dovilė; Ambrozaitytė, Laima; Kavaliauskienė, Ingrida; Meškienė, Raimonda; Urnikytė, Alina; Kučinskienė, Zita Aušrelė; Mažeikienė, Asta; Burokienė, Neringa; Coj, Andrejus; Kučinskas, Vaidutis. Associations of genetic variants and inflammation markers in the Lithuanian population // ESHG 2021 virtual conference, August 28-31, 2021 : European Society of Human Genetics. 2021.

Belousova, Viktorija; Vosyliūtė, Rūta; Kapačinskaitė, Medeinė; Kirkliauskienė, Agnė (vadov.). The investigation of contact lens wearers in a non clinical setting: knowledge and hygiene habits of Vilnius University students // IMSC 2021: International Medical Students' Conference [on line]: abstract book, April 20nd-24th. Kraków : Jagiellonian University Medical Collage. 2021.

Janonytė, Neda; Domarkienė, Ingrida; Karčiauskaitė, Dovilė; Kučinskienė, Zita Aušrelė; Burokienė, Neringa; Mažeikienė, Asta; Coj, Andrejus; Ambrozaitytė, Laima; Kavaliauskienė, Ingrida; Meškienė, Raimonda; Urnikytė, Alina; Kučinskas, Vaidutis. Association between indicators of lipid metabolism and genetic profile in the Lithuanian population // ESHG 2021 virtual conference, August 28-31, 2021 : European Society of Human Genetics. 2021.

Lindemann, Jakob Michael Ino; Kleier, Paul Christian; Purakevič, Olga; Kirkliauskienė, Agnė. Prevalence of mupirocin resistance among community and nosocomial Staphylococcus aureus strains in Vilnius // Rīga Stradiņš University international student conference 2021 (Rīga, March 22nd-23rd, 2021): abstract book – Health sciences. Riga : Rīga Stradiņš University, 2021.

Reports

I. Bikulčienė. Association of platelet membrane fatty acid composition with markers of oxidative stress in healthy men and men after a myocardial infarction. European Society of Medicine Congress 2021.

Department of Radiology, Nuclear Medicine and Medical Physics

2 Santariškių, LT-08661 Vilnius
Tel. 236 5177
E-mail: algirdas.tamosiunas@santa.lt

Head – Prof. Dr *Algirdas Edvardas Tamošiūnas*

STAFF

Professors: Dr. A. E. Tamošiūnas, Dr. N. R. Valevičienė.

Associate professors: Dr. J. Dementavičienė, Dr. S. Letautienė, Dr. B.Gricienė

Asisstants: Dr. A. Samuilis, Dr. A.Brazaitis, Dr. D.Palionis, Dr. J.Ušinskienė, Dr. M. Matačiūnas, Dr. R. Briedienė, D. Valančienė.

Doctoral students: R.Komiagienė, G.Lengvenis, A.Domarkiene, D.Jocius.

RESEARCH INTERESTS

Creation of new functional and anatomical imaging techniques and evaluation of effectiveness for diagnostics of cardiovascular, abdominal and oncological diseases.

Estimation of iron overload in liver and heart.

Physical properties in vitro of metabolites using high resolution 9.4T NMR spectrometer.

AI and deep learning applicaions in diagnostic imaging.

RESEARCH PROJECTS CARRIED OUT IN 2021

Projects Supported by University Budget

Possibilities of Low Dose Computed Tomography and Nuclear Medicine Applications in Medical Diagnostics. Dr A. E. Tamošiūnas, Dr J. Dementavičienė, Dr A. Samuilis, D. Jocius, 2014–2023

Objective for 2021 was to implement new created protocols to reduce radiation exposure for patients and personel during PET/CT, SPECT/CT and CT imaging studies. Those protocols were evaluated how Lithuanian DRL how could be improved.

Main publications:

V. Kvedariene, M.Orvydaite, P.Petraityte, J.Rudyte, A.E.Tamosiunas. Inherent clinical properties of non-immediate hypersensitivity to iodinated contrast media. Int J Clin Pract 2021 Nov;75(11):e14766. doi: 10.1111/ijcp.14766. Epub 2021 Sep 6.

Lukšaitė-Lukštė, Raminta; Kliokytė, Rūta; Samuilis, Artūras; Jasiūnas, Eugenijus; Lukšta, Martynas; Strupas, Kęstutis; Poškus, Tomas. Conditional CT strategy - an effective tool to reduce negative appendectomy rate and the overuse of the CT // Journal of clinical medicine. Basel : MDPI. eISSN 2077-0383. 2021, vol. 10, no. 11, art. no. 2456, p. [1-11].

DOI: 10.3390/jcm10112456. [Scopus; MEDLINE; Science Citation Index Expanded (Web of Science)] [Citav. rod.: 4,242, bendr. cit. rod.: 5,182, kvartilis: Q1 (2020, InCites JCR SCIE)] [M.kr.: M 001]

New Non-Invasive Imaging Methods for the Diagnostics of Chronic Liver Diseases. Dr. A. E. Tamošiūnas, Dr. J. Dementavičienė, Dr. A. Samuilis, D. Jocius, R. Komiagienė, 2014–2020.

For 2021 we evaluated preliminary study data, and implemented AI applications for ultrasound elastography to replace conventional liver biopsy were studied.

Main publications:

Ridziauskas, Martynas; Zablockienė, Birutė; Jančorienė, Ligita; Samuilis, Artūras; Zablockis, Rolandas; Jackevičiūtė, Aušrinė. Assessment of liver stiffness regression and hepatocellular carcinoma risk in chronic B. hepatitis C patients after treatment with direct-acting antiviral drugs // *Medicina*. Basel : MDPI AG. ISSN 1010-660X. eISSN 1648-9144. 2021, vol. 57, no. 3, art. no. 210, p. [1-14]. DOI: 10.3390/medicina57030210. [Embase; Scopus; PubMed Central; MEDLINE; Science Citation Index Expanded (Web of Science)] [Citav. rod.: 2,430, bendr. cit. rod.: 5,182, kvartilis: Q2 (2020, InCites JCR SCIE)] [M.kr.: M 001]

Kielaitė-Gulla, Aistė; Samuilis, Artūras; Raisutis, Renaldas; Dzemyda, Gintautas; Strupas, Kęstutis. The concept of AI-based algorithm: analysis of CEUS images and HSPs for identification of early parenchymal changes in severe acute pancreatitis // *Informatika*. Vilnius : Vilniaus universiteto leidykla. ISSN 0868-4952. eISSN 1822-8844. 2021, vol. 32, no. 2, p. 305-319. DOI: 10.15388/21-INFOR453. [Zentralblatt MATH (zbMATH); Scopus; Science Citation Index Expanded (Web of Science)] [Citav. rod.: 2,688, bendr. cit. rod.: 2,773, kvartilis: Q1 (2020, InCites JCR SCIE)] [M.kr.: T 007, M 001]

OTHER RESEARCH ACTIVITIES

Prof. A. E. Tamošiūnas –

- board member of Lithuanian Radiologists' Association;
- board member of Lithuanian Ultrasound Association;
- member of European Society of Radiology.

Assoc. Prof. J. Dementavičienė –

- editorial board member of the journal *Theory and Practice in Medicine*;
- vicepresident of Lithuanian Radiologists' Association;
- member of European Society of Radiology;
- member of European Society of Neuroradiology;
- member of International Society of Magnetic Resonance in Medicine;
- member of Radiology Society of North America;
- social Adviser to Health Care Minister of Lithuania;
- lecturer at continuing and advanced education courses at Vilnius University in Neuroradiology, Chest, Abdominal, Musculoskeletal Imaging;
- member of Research Committee at European Society of Radiology.

Assist. Prof. Dr. R. Briedienė –

- managing editor of the journal *Acta Medica Lituanica*.

Assoc. Prof. B. Gricienė –

- Board member of Medical Physicists Society of Lithuania
- Member of Radiation Protection Society of Lithuania
- Member of Lithuanian Radiologists' Association

BEST REPORTS DELIVERED AT CONFERENCES ABROAD

B. Gricienė. A Python -based tool for patient CT dose tracking and analysis. International conference Medical physics in Baltic states, Kaunas, Lietuva, 2021 (oral presentation).

INSTITUTE OF CLINICAL MEDICINE

Clinic of Obstetrics and Gynaecology

2 Santariškių, 08661 Vilnius
Tel. 250 1484; 250 1487
E-mail diana.ramasauskaite@mf.vu.lt

Head – Prof. Dr *Diana Ramašauskaitė*

STAFF

Professors: Dr D. Ramašauskaitė, Dr G. S. Drašutienė, Dr Ž. Bumbulienė, K. Mačiulienė (Prof. of partnership).

Associate professors: Dr A. Arlauskienė, Dr D. Bartkevičienė, Dr N. Drazdienė, Dr D. Laužikienė, Dr V. Rudaitis, Dr M. Šilkūnas, Dr R. Vansevičiūtė-Petkevičienė (Assoc. Prof. of partnership), Dr J. Zakarevičienė.

Assistant professors: Dr A. Amšiejienė, Dr D. Bužinskienė, Dr G. Domža, Dr V. Paliulytė.

Teaching assistants: K. Norvilaitė, G. Balčiūnienė, Ž. Sabonytė-Balšaitienė.

Lecturers: I. Daunoravičienė, R. Einikytė, E. Frolovas, A. Rimkevičienė, B. Žaliūnas, V. Žitkutė.

Doctoral students: Ž. Sabonytė-Balšaitienė, G. Balčiūnienė, K. Norvilaitė, R. Gričius, V. Gulbinienė, L. Andreika.

RESEARCH INTERESTS

Health of mother and foetus: physiology and pathology

RESEARCH PROJECTS CARRIED OUT IN 2021

Project Supported by University Budget

Peculiarities of Women's Health Care. Prof. Dr. D. Ramašauskaitė, 2019–2023.

In Lithuania we evaluated the reproductive health in long-term pediatric cancer survivors by conducting a crosscut survey. Low prevalence of sexual dysfunction, fertility related disorders or delayed puberty was found, but we had a low response rate. We take part in international Oncofertility Consortium – initiative designed to explore the urgent unmet need associated with the reproductive future of cancer survivors. We also concentrate our attention on the diagnosis and treatment the individuals with 46 XY differences of sexual development.

Main publications:

Stukaitė-Ruibienė, Eglė; Jurkonis, Mantas; Adomaitis, Robertas; Bumbulienė, Žana; Gudlevičienė, Živilė; Verkauskas, Gilvydas; Žagminas, Kęstutis; Vaičiūnienė, Rasa; Rascon, Jelena. A crosscut survey on reproductive health in Lithuanian childhood cancer survivors // *Ginekologia polska*. Gdańsk: Via Medica. eISSN 2543-6767. 2021, vol. 92, p. [1-9]. DOI: 10.5603/GP.a2021.0027.

Barnea, Eytan R; Nicholson, Wanda; Theron, Gerhard; Ramašauskaitė, Diana; Stark, Michael; Albini, S Mark; Nassar, Anwar H. From fragmented levels of care to integrated health care: framework toward improved maternal and newborn health // *International journal of gynecology*

and obstetrics. Hoboken: Wiley. ISSN 0020-7292. eISSN 1879-3479. 2021, vol. 152, no. 2, p. 155-164. DOI: 10.1002/ijgo.13551.

Valatkaitė, Elvina; Baušytė, Raminta; Vitkevičienė, Aida; Ramašauskaitė, Diana; Navakauskienė, Rūta. Decidualization potency and epigenetic changes in human endometrial origin stem cells during propagation // *Frontiers in cell and developmental biology*. Lausanne : Frontiers media SA. ISSN 2296-634X. 2021, vol. 9, art. no. 765265, p. [1-15]. DOI: 10.3389/fcell.2021.765265.

National Research Projects

Noninvasive Immunological Analysis of Amniotic Fluid in Preterm Birth. Funded by Research Council of Lithuania, a project No P-MIP-19-66. Prof. D.Ramašauskaitė, 2019–2022.

The study included 156 patients with preterm premature rupture of membrane before 34 weeks of gestation. It was evaluated the levels and predictive values of immunological markers (IL-6, TNF- α , MMP-8, suPAR, sTLR-2, sTLR-4 and α defensins) in non-invasively collected amniotic fluid for histological chorioamnionitis. The predictive values of amniotic fluid markers were compared to the values of maternal blood inflammatory markers, widely used in clinical practice.

Main publications:

Balčiūnienė, Greta; Kvederaitė-Budrė, Greta; Gulbinienė, Violeta; Dumalakienė, Irena; Vilienė, Rita; Pilypienė, Ingrida; Drąsutienė, Gražina Stanislava; Ramašauskaitė, Diana. Neutrophil–lymphocyte ratio for the prediction of histological chorioamnionitis in cases of preterm premature rupture of membranes: a case-control study // *BMC pregnancy and childbirth*. London : BioMed Central. eISSN 1471-2393. 2021, vol. 21, no. 1, p. 38-57. DOI: 10.1186/s12884-021-04101-z.

Balčiūnienė, Greta; Gulbinienė, Violeta; Kvederaitė-Budrė, Greta; Dumalakienė, Irena; Vilienė, Rita; Pilypienė, Ingrida; Drąsutienė, Gražina Stanislava; Ramašauskaitė, Diana. A value of soluble Toll-like receptor 2 and 4 in vaginally obtained amniotic fluid for the prediction of histological chorioamnionitis // *Acta obstetrica et gynecologica Scandinavica*. Hoboken : Wiley. ISSN 0001-6349. eISSN 1600-0412. 2021, first published online, p. [1-7]. DOI: 10.1111/aogs.14228.

Balčiūnienė, Greta; Gulbinienė, Violeta; Dumalakienė, Irena; Vilienė, Rita; Bartkevičienė, Daiva; Pilypienė, Ingrida; Drąsutienė, Gražina Stanislava; Ramašauskaitė, Diana. Prognostic markers for chorioamnionitis: IL-6, TNF- α , and MMP-8 in vaginally obtained amniotic fluid // *Journal of clinical medicine*. Basel : MDPI. eISSN 2077-0383. 2021, vol. 10, no. 5, art. no. 1136, p. [1-9]. DOI: 10.3390/jcm10051136.

MAIN R&D&I (RESEARCH, DEVELOPMENT AND INNOVATION) PARTNERS

Zurich University (Switzerland)

University of Gdansk (Poland)

Warsaw Medical University (Poland)

Jagiellonian University Krakow (Poland)

Pomeranian Medical University (PMU) Szczecin (Poland)

Lund University (Sweden)

Riga Stradins University (Latvia)

Niels-Stensen-Kliniken Marienhospital Osnabrück (Germany)

University Hospital Estaing Of Clermont-Ferrand (France)

OTHER RESEARCH ACTIVITIES

Prof. G. S. Drąsutienė –

- editorial board member of the journal *Lietuvos chirurgija (Lithuanian Surgery)*.

Prof. D. Ramašauskaitė –

- president of Lithuanian Society of Obstetricians Gynaecologists, (<http://www.lagd.lt/apie-mus/valdybos-nariai/28>);
- editorial board member of the journal *Lietuvos akušerija ir ginekologija (Lithuanian Obstetrics & Gynaecology)*;
- elected member of Committee for Safe Motherhood and Newborn Health FIGO (FIGO - The International Federation of Gynaecology and Obstetrics), <https://www.figo.org/committee-safe-motherhood-and-newborn-health>;
- member of EBCOG Council (EBCOG European Board & College of Obstetrics and Gynaecology, <https://www.ebcog.eu/council>);
- moderator of the international conference „Women's Health Days 2021”, 9 November 2021 (online)
- moderator of the international conference "Standardizing Analysis of Caesarean Section Rates", 12 March 2021 (online)
- organizing and scientific committees board member of the international conference "ART: Focus on Take Home Baby Rate", 10 June 2021 (online)
- working group member of the 6th LifeCourse Immunisation Summit – 2021, 2 December (on line)

Prof. Ž. Bumbulienė –

- president of EURAPAG (European Association of Paediatric and Adolescent Gynaecology), <http://www.eurapag.com/association/ec/>;
- board member of FIGIJ (International Federation Of Infant and Juvenile Gynaecology), <http://www.figij.org/>;
- secretary of Lithuanian Society of Obstetricians Gynaecologists, (<http://www.lagd.lt/apie-mus/valdybos-nariai/28>);
- board member of Vilnius Medical Society;
- board member of Lithuanian Polish Medical Association;
- editorial advisory board member of the journal *Ginekologia Polska*, https://journals.viamedica.pl/ginekologia_polska/about/editorialTeam;
- international editorial board member of the journal *Wiadomości Lekarskie*, <https://wiadlek.pl/editorial-board-2/>;
- international advisory board member of the journal *Paediatric and Adolescent Reproductive Health*, <http://rzdp.geotar.ru/>;
- editorial board member of the journal *Lietuvos akušerija ir ginekologija (Lithuanian Obstetrics & Gynaecology)*;
- head of editorial board of the journal *Ginekologijos aktualijos*;
- organizing committee board member of the EURAPAG 2021 conference, Rotterdam, The Netherlands, 9–12 June 2021;
- organizing committee board member of the 2nd conference *Pan-European Trainees' Congress in Paediatric and Adolescent Gynaecology*, Rotterdam, The Netherlands, 11 June 2021.

Assoc. Prof. A. Arlauskienė –

- board member and treasurer of Lithuanian Society of Obstetricians Gynaecologists;
- editorial board member of the journal *Lietuvos akušerija ir ginekologija (Lithuanian Obstetrics & Gynaecology)*;
- member of International Society of Ultrasound in Obstetrics and Gynaecology, www.isuog.com;
- director of Ian Donald School of Medical Ultrasound Branch for Lithuania, www.iandonaldschools.com.

Assoc. Prof. N. Drazdienė –

- board member of Lithuanian Paediatric Society and Vilnius Paediatric Society;

Assoc. Prof. M. Šilkūnas –

- head of Vilnius region Society of Obstetrics and Gynaecology;
- board member of Lithuanian Society of Obstetricians Gynaecologists;

Assoc. Prof. D. Bartkevičienė –

- president of the Lithuanian Aesthetic Gynaecology Association, (<http://www.estetineginekologija.lt/daiva-bartkeviciene/>);
- editorial board member of the journal *Sveikatos mokslai (Health Sciences)*;
- board member of Vilnius region Society of Obstetricians Gynaecologists;
- member of Lithuanian Society of Obstetricians Gynaecologists;
- member of International Society of Ultrasound in Obstetrics and Gynaecology (ISUOG), www.isuog.com;
- member of European Society for Gynaecological Endoscopy (ESGE);
- member of the International Ovarian Tumour Analysis (IOTA) group;
- member of the European Society of Aesthetic Gynaecology (ESAG).

Assoc Prof. V. Rudaitis –

- president of Gynaecology Oncology Association;
- board member of EU initiative programme # ENI-LLB-1-029 on reduction of social exclusion in the quality of life cancer patients in Vilnius and Grodno regions;
- consultant for enhancement of minimal invasive total laparoscopic hysterectomy *On-Site Training* during regular scheduled interventions for physicians selected by Medtronic company.
- member of Lithuanian Society of Obstetricians Gynaecologists;
- member of European Society of Gynecological Oncology
- Head of Teaching program “ Diagnostic and treatment of oncogynecological diseases”
- Principal investigator of HPV-301 trial for treatment of preinvasive cervical diseases

Assist. Prof. V. Paliulytė –

- member of International Society of Ultrasound in Obstetrics and Gynaecology, <http://www.isuog.com>;
- board member of Vilnius region Society of Obstetrician Gynaecologists;
- member of Lithuanian Society of Obstetrician Gynaecologists.

Teach. Assist. K. Norvilaitė –

- Member of the Lithuanian Association of Obstetricians and Gynecologists (LAOG).
- Member of International Society of Ultrasound in Obstetrics and Gynaecology (ISUOG).
- Member of American College of Obstetricians and Gynecologists (ACOG).

Teach. Assist. Ž. Sabonytė-Balšaitienė –

- member of Lithuanian Society of Obstetricians Gynaecologists;
- member of the European Society of Aesthetic Gynaecology (ESAG).

Lect. V. Žitkutė –

- doctorant in Medical University of Graz, Austria.
- member of Lithuanian Society of Obstetricians Gynaecologists;
- member of International Society of Ultrasound in Obstetrics and Gynecology (ISUOG);
- member of Austrian Society for Surgery;

Lect. I. Daunoravičienė –

- board member of of the Medical Ethics Commission of Vilnius City Clinical Hospital.

BEST REPORTS DELIVERED AT CONFERENCES ABROAD

Gulbinienė V, Balciuniene G, Petroniene J, Viliene R, Dumalakiene I, Pilypiene I, Ramasauskaite D. The Significance of TNF- α , MMP-8 Concentrations in Non-invasively Obtained Amniotic Fluid Predicting Fetal Inflammatory Response Syndrome. FIGO 2021 World Congress 2021. 21–28th of October, 2021. Sydney, Australia.

Balciuniene G, Gulbinienė V, Dumalakiene I, Viliene R, Pilypiene I, Drasutiene GS, Ramasauskaite D. Predictive Value of SuPar on Chorioamnionitis. FIGO 2021 World Congress 2021. 21–28th of October, 2021. Sydney, Australia.

Žana Bumbuliene. Vaccination coverage. Lithuanian data. Remote International Scientific Practical Conference "EFC – LAGD 3rd Baltic Colposcopy Conference", 2021.02.26-27.

Zana Bumbuliene. Stump the professor: Primary amenorrhoea. The 2nd conference Pan-European Trainees' Congress in Paediatric and Adolescent Gynaecology, Rotterdam, The Netherlands, June 11, 2021.

Balciuniene G, Gulbinienė V, Dumalakiene I, Viliene R, Pilypiene I, Drasutiene GS, Ramasauskaite D. Neutrophil-Lymphocyte Ratio for the Prediction of Chorioamnionitis. 27th EBCOG Conference. Athens, 2021 September 2-4 d.

Sabonytė-Balšaitienė Živilė; Poškus Tomas; Barkauskaitė Gabija; Šmigelskaitė Mantė; Jasiūnas Eugenijus; Strupas Kęstutis; Drasutienė Gražina. Preventing hemorrhoids and fissures of pregnancy: results of the randomized controlled trial// "27th European Congress of Obstetrics and Gynaecology", Athens, 2021 September 2-4 d.

MOST IMPORTANT NATIONAL AND INTERNATIONAL AWARDS RECEIVED FOR R&D ACTIVITIES

Doctoral student Greta Balčiūnienė received a scholarship from the Lithuanian Science Council for academic achievements in 2021 (registration No. P-DAP-21-145, Order No. V-472) (Už akademinį pasiekimą 2021 m. doktorantei Greta Balčiūnienei skirta Lietuvos mokslo tarybos stipendija (registracijos Nr. P-DAP-21-145, įsakymo Nr. V-472)).

MOST IMPORTANT PARTICIPATION CASES OF RESEARCHERS IN WORKING GROUPS OR COMMISSIONS SET UP BY STATE AUTHORITIES, STATE AND MUNICIPAL INSTITUTIONS AND ORGANISATIONS, AND BUSINESS ENTITIES

- prof. D. Ramašauskaitė The member of Group of Experts of Biomedical Research of Lithuanian Bioethics Committee
- prof. D. Ramašauskaitė Vice – President of Management Committee for Perinatology Integrated Health Care of Ministry of Health of the Republic of Lithuania
- prof. D. Ramašauskaitė Member of Committee on the Evaluation of Personal Health Services of Ministry of Health of the Republic of Lithuania
- prof. Ž. Bumbulienė Member of the Working Group to assess the need to compensate the drug levonorgestrel for sexually active girls aged 15-20 years.
- Prof. Žana Bumbulienė – 2020-2021 Head of the working group of the Lithuanian Society of Obstetricians and Gynecologists for the preparation of the Clinical recommendations: Menopause. Menopausal hormone therapy.
- Rasa Vansevičiūtė-Petkevičienė – Expert at the Commission for the Expert of the SAM Commission for the Determination of Damage to Patients' Health under the Ministry of Health of the Republic of Lithuania (SAM Pacientų sveikatai padarytos žalos nustatymo komisijos ekspertė)

CONSULTATIONS PROVIDED BY THE UNIT TO THE PUBLIC OR ECONOMIC ENTITIES

Prof. Dr. Žana Bumbulienė - scientific editor of book Jen Gunter „Vaginos biblija. Kaip atskirti faktus nuo mitų“ [Jen Gunter, MD The Vagina Bible: The Vulva and the Vagina—Separating the Myth from the Medicine CITADEL PRESS, New York, 2019], published in Lithuanian in 2021.

MOST IMPORTANT RESEARCH DISSEMINATION ACTIVITIES

Prof. Diana Ramašauskaitė – Press conference of the Member of the Seimas A. Lydeka on the issues of amending the Law on Assisted Fertilization. Statement on procedures for maintaining fertility and abolishing the age limit.

Prof. Diana Ramašauskaitė – 2021.03.28. LRT RADIO program "Health". Data on the effects of COVID-19 on pregnancy are increasing: the highest risk is in recent weeks, but the risk to the newborn is much lower.

Assoc. Prof. Vilius Rudaitis – TELE conference with non-governmental organizations of patients with oncological diseases in Belarus and Lithuania (participants - V.Andriukaitis, heads of organizations and patients).

Assist. Prof. Virginija Paliulytė – 2021-09-21 Lietuvos Rytas, Article "COVID-19 is also a threat to pregnant women: due to the disease they have to give birth after 7 months, life is in danger".

Prof. Žana Bumbulienė – 2021-03-04 HPV Day. Portal 15 min. Video "Silent killer of women: how threatening HPV is to men and how to protect against it" <https://www.15min.lt/gyvai/tylulis-moteru-zudikas-kuo-zpv-gresmingas-ir-vyrams-bei-kaip-nuo-jo-apsisaugoti-4314>

Prof. Žana Bumbulienė – 2021-03-30 LR program "Health". Bone fractures can sometimes go unnoticed: a disease that affects the elderly and becomes a common problem for women <https://www.lrt.lt/naujienos/sveikata/682/1378841/kaulo-luzio-kartais-galime-ne-nepajusti-vyresniuosis-uzklumpanti-liga-tampanti-dazna-problema-moterims>

Clinic of Anaesthesiology and Reanimatology

2 Santariškių, LT-08661, Vilnius

Tel. 236 5235

E-mail: jurate.sipylaitė@mf.vu.lt

Head – Prof. Dr *Jūratė Šipylaitė*

STAFF

Professor: Dr (HP) J. Šipylaitė.

Associate professors: Dr R. Badaras, Dr D. Činčikas, Dr A. Klimašauskas, Dr E. Kontrimavičiūtė, Dr I. Jovaišienė, Dr D. Ringaitienė, Dr M. Šerpytis, Dr S. Švedienė, Dr (HP) S.Vosylius.

Teaching assistants: Š. Judickas (part-time), D. Gražulytė (part-time), M. Svetikienė (part-time), Dr A. Vaitkus (part-time).

Lecturers: E. Gaižauskas (part-time), Dr D. Gasiūnaitė (part-time), V. Kuzminskaitė (part-time), T. Strainys (part-time), G. Šostakaitė (part-time), G. Laubner (part-time) .

Senior researcher: Dr A. Andrijauskas.

Research assistant: V. Vicka.

Doctoral students: Š. Judickas, D. Gražulytė, G. Laubner, M. Svetikienė, G. Šostakaitė.

Students' scientific group of Anaesthesiology and Reanimatology: scientific leader – Assoc. Prof. S. Vosylius, coordinator – student S. Miškinytė, 117 members in the group.

RESEARCH INTERESTS

Etiopathogenesis, diagnostics, treatment of diseases: fundamental and clinical research, innovative technologies

Impact of perioperative and psychosocial risk factors on long term mortality, quality of life, stress reactions after cardiac surgery

Optimization of low back pain diagnosis and treatment

Organ dysfunction in critically ill oncohaematological patients

Early changes in cognitive functioning in patients undergoing general anesthesia

Spinal bupivacaine baricity and dose in day-case surgery

Development of new methods of opioid detoxification for illicit and prescription opioid dependent patients

RESEARCH PROJECTS CARRIED OUT IN 2021

Projects Supported by University Budget

Perioperative Patient Optimization and Management of Critical States. Prof. Dr. J. Šipylaitė. 2019–2023.

Research of organ dysfunction in critically ill oncohaematological patients.

The research of critically ill patients with COVID-19 infection was initiated to evaluate risk factors and outcomes.

The research study on relationship between malnutrition, complications, quality of life and duration of hospital stay was continued in patients after cardiac surgery.

Main publications:

Bartuseviciene I., Vicka V., Vickiene A., Tetianec L., Dagys M., Ringaitiene D., Klimasauskas A., Sipylaite J. Conceptual model of adding antibiotics to dialysate fluid during renal replacement therapy. *Scientific Reports*, Article number: 23836(2021). 13 December 2021.

<https://www.nature.com/articles/s41598-021-03450-1>

Vaidas Vicka, Elija Januskeviciute, Sigute Miskinyte, Donata Ringaitiene, Mindaugas Serpytis, Andrius Klimasauskas, Ligita Jancoriene, Jurate Sipylaite Comparison of mortality risk evaluation tools efficacy in critically ill COVID-19 patients. *BMC Infect Dis* 2021 22;21(1):1173. doi: 10.1186/s12879-021-06866-2

Š. Judickas, R. Stasiūnaitis, A. Žučenka, T. Žvirblis, M. Šerpytis, J. Šipylaitė. Outcomes and Risk Factors of Critically Ill Patients with Hematological Malignancy. Prospective Single-Centre Observational Study. *Medicina*. 2021, 57, 1317. <https://doi.org/10.3390/medicina57121317>

National Research Projects

Biosensor platform for fast, cheap and accurate quantification of amino acids in patients undergoing renal replacement therapy (DIALSENS). Participants: D. Ratautas, M. Dagys, L. Tetianec, A. Laurynenas, E. Ramonas, L. Ginotiene, M. Butkevicius, J. Razumiene, V. Gureviciene, I. Sakinyte, R. Babrauskas, J. Gineityte, J. Sipylaite, D. Ringaitiene, M. Serpytis, I. Lisauskiene, V. Vicka, A. Vickiene, I. Kvietinskaite. 2020–2024.

The project is funded under Measure 01.2.2-LMT-K-718 ‘Targeted Research in Smart Specialisation Areas’ (Funding instrument – European Regional Development Fund). Measure implementation is managed by the Ministry of Education, Science and Sport of the Republic of Lithuania and the Research.

During the year 2021 the study protocol was performed and a data collection was initiated with the approval of the Bioethics Committee (No.: 2021/2-1306-784).

Contractual Research

Developing and validation of a prototype innovative lung ventilation device. Industry (Teltonika Telemedic) ordered Research project (20210804-02 // (1.57) 15600-INS-127). Audrius Andrijauskas (PI), and expert-consultants: Tomas Jovaiša, Darius Činčikas, Saulė Švedienė. 2021-2022.

Feasibility study using the State of Art (SoA) analysis to investigate the viability of remote monitoring and partial control of mechanical lung ventilation.

Recommendations for the development of remote monitoring and partial control of mechanical lung ventilation, as well as consulting during the development process.

MAIN R&D&I (RESEARCH, DEVELOPMENT AND INNOVATION) PARTNERS

Research and Education, Department of Clinical Science and Education, Karolinska Institutet/Södersjukhuset Section of Anaesthesiology and Intensive Care (Sweden)

Institute of Physiology and Pharmacology, Faculty of Medicine, Medical Academy of the Lithuanian University of Health Sciences (Lithuania)

Veterinary Academy of the Lithuanian University of Health Sciences (Lithuania)

University of Limerick (Ireland)

Optical Fibre Sensors Research Centre www.OFSRC.ul.ie

OTHER RESEARCH ACTIVITIES

Prof. J. Šipylaitė –

- council member of Lithuanian Society of of Anaesthesiology and Intensive Care, <http://anest-rean.lt/>;
- member of the European Society of Anaesthesiology, <https://www.esahq.org/>;
- member of European Society of Intensive Care Medicine, <https://www.esicm.org/>;
- member of the Board of Anaesthesiology of Medical Specialists of the European Union, <http://www.eba-uems.eu/>;

Senior Researcher A. Andrijauskas –

- member of the Lithuanian Society of Anaesthesiology and Intensive Care, <http://anest-rean.lt/>;
- member of the European Society of Anaesthesiology, <https://www.esahq.org/>;
- member of Western Anaesthesia Society of Ireland, <https://anaesthesiawest.wordpress.com/>.

Assoc. Prof. R. Badaras –

- council member of Lithuanian Society of of Anaesthesiology and Intensive Care, <http://anest-rean.lt/>;
- member of the Lithuanian Society for Parenteral and Enteral Nutrition, www.lpemd.org;
- member of the Lithuanian Society of Clinical Toxicology, <https://www.apsinuodijimai.lt/>;
- member of European Association of Poisons Centres and Clinical Toxicologists (EAPCCT), <https://www.eapcct.org/>;
- member of European Society for Clinical Nutrition and Metabolism (ESPEN), <https://www.espen.org/>;
- member of the pool of experts on *ad hoc* rapid risk assessment of chemical threats under the Scientific Committee on Health, Environmental and Emerging Risks (SCHEER) at European Commission, https://ec.europa.eu/health/scientific_committees/scheer_en.

Assoc. Prof. D. Činčikas, Assoc. Prof. E. Kontrimavičiūtė –

- members of the Lithuanian Society of Anaesthesiology and Intensive Care, <http://anest-rean.lt/>.

Assoc. Prof. I. Jovaišienė –

- member of the Lithuanian Society of Anaesthesiology and Intensive Care, <http://anest-rean.lt/>;
- member of the European Society of Anaesthesiology, <https://www.esahq.org/>;
- Representative Council member of European Association of Cardiothoracic Anaesthesiology, <http://www.eacta.org/about-eacta/organs/representative-council/>;
- member of European Association of Cardiothoracic Anaesthesiology (EACTA);
- National representative of Lithuania in EACTA. Member of EACTA Representative Council, <http://www.eacta.org>.

Assoc. Prof. A. Klimašauskas –

- vicepresident of the Lithuanian Society for Parenteral and Enteral Nutrition, www.lpemd.org;
- council member of the Lithuanian Society of Anaesthesiology and Intensive Care, <http://anest-rean.lt/>.

Assoc. Prof. D. Ringaitienė –

- member of Lithuanian Society of Anaesthesiology and Intensive Care, <http://anest-rean.lt/>;
- member of European Society of Intensive Care Medicine, <https://www.esicm.org/>;

- member of European Society for Clinical Nutrition and Metabolism, <http://www.espen.org/>.

Assoc. Prof. M. Šerpytis –

- council member of Lithuanian Society of Anaesthesiology and Intensive Care, <http://anest-rean.lt/>;
- treasurer of the Lithuanian Society of Anaesthesiology and Intensive Care, <http://anest-rean.lt/>.

Assoc. Prof. S. Vosylius –

- council member of Lithuanian Society of of Anaesthesiology and Intensive Care, <http://anest-rean.lt/>;
- member of the European Society of Intensive Care Medicine, <https://www.esicm.org/>;
- editorial board member of the journal *Lietuvos chirurgija*, <http://www.zurnalai.vu.lt/lietuvos-chirurgija/pages/view/editorial-board>;
- member of Vilnius Regional Biomedical Ethics Committee, <http://www.mf.vu.lt/lt/content/vrbtek/vrbtek-sudetis-ir-darbo-nuostatai>.

Assoc. Prof. S. Švedienė –

- member of the Lithuanian Society of Anaesthesiology and Intensive Care, <http://anest-rean.lt/>;
- member of the European Society of Anaesthesiology, <https://www.esahq.org/>;
- member of the European Society of Regional Anesthesia, <https://esraeurope.org/>;
- council member of the Baltic Society of Regional Anesthesia, <https://www.facebook.com/balticregional/>;
- Board and Scientific committee member of the International congress, organized by Baltic Society of Regional Anesthesia, <https://www.facebook.com/balticregional/>;
- Principal scientific coordinator of theoretical course and on-site training „Advanced monitoring of cerebral functioning: oximetry and bispectral index.“ in Vilnius, Lithuania <http://anest-rean.lt/lard-renginiai>

Teaching Assist. Š. Judickas –

- member of the Lithuanian Society of Anaesthesiology and Intensive Care, <http://anest-rean.lt/>;
- member of European Society of Intensive Care Medicine, <https://www.esicm.org/>.

Teaching Assist. D. Gražulytė –

- member of the Lithuanian Society of Anaesthesiology and Intensive Care, <http://anest-rean.lt/>;
- member of European Association of Cardiothoracic Anaesthesiology (EACTA), <http://www.eacta.org>.

Teaching Assist. A. Vaitkus –

- council member of Lithuanian Society of Anaesthesiology and Intensive Care, <http://anest-rean.lt/>;
- member of Association of Pain Clinics, Lithuania, www.skausmoklinika.lt.

Lect. E. Gaižauskas –

- member of European Airway Management Society, <https://www.eamshq.net/>;
- member of the Difficult Airway Society, <https://das.uk.com/>;
- member of the Lithuanian Society of Anaesthesiology and Intensive Care, <http://anest-rean.lt/>;
- member of European Society of Intensive Care Medicine, <https://www.esicm.org/>.

Lect. V. Kuzminskaitė –

- member of the Lithuanian Society of Anaesthesiology and Intensive Care, <http://anest-rean.lt/>;
- member of the European Society of Anaesthesiology, <https://www.esahq.org/>.

BEST REPORTS DELIVERED AT CONFERENCES ABROAD

S. Judickas, R. Stasiunaitis, A. Zucenka, M. Serpytis, J. Sipylaite. Survival of patients with acute myeloid leukaemia admitted to intensive care unit: single centre experience. Electronical poster. Presented at 34th annual congress of European society of intensive care medicine LIVES 2021, October 3-6, 2021.

I. Bartuševičienė, V. Vicka, D. Ringaitiene, J. Sipylaite. Adding antibiotics in dialysate fluid during renal replacement therapy: proof of concept. ESICM LIVES Digital Annual Congress 2021 October 3-6.

V. Vicka, E. Januskeviciute, S. Miskinyte, D. Ringaitiene, M. Serpytis, A. Klimasauskas, L. Jancoriene, J. Sipylaite. Prediction of ICU mortality in COVID-19 patients with ISARIC 4C score". ESICM LIVES Digital Annual Congress, 2021 October 3-6.

V. Vicka, E. Januskeviciute, J. Krauklyte, A. Aleknaviciene, G. Patapaviciute, D. Ringaitiene, L. Jancoriene, J. Sipylaite. Silent hypoxemia in critical COVID-19 patients: prevalence, risk factors and importance of prolonged disease course before ICU admission. 40th ISICEM, Brussels, 2021 August 31 - September 03.

I. Jovaišienė. Opioid free cardiac anesthesia. EACTAIC (European Association of Cardiothoracic Anesthesia and Intensive Care) 2021.

MOST IMPORTANT PARTICIPATION CASES OF RESEARCHERS IN WORKING GROUPS OR COMMISSIONS SET UP BY STATE AUTHORITIES, STATE AND MUNICIPAL INSTITUTIONS, ORGANISATIONS, BUSINESS ENTITIES

- J. Šipylaitė, A. Klimašauskas – members of working group of the Ministry of Health of Lithuania for the review of the provision of resuscitation and intensive care services for adults.
- J. Šipylaitė member of working group of the Ministry of Health of Lithuania for the provision of anesthesia services.

Clinic of Ear, Nose, Throat and Eye Diseases

2 Santariškių, LT-08661 Vilnius
Tel.: 236 52 70, 250 1867
E-mail: eugenijus.lesinskas@mf.vu.lt

Head – Prof. Dr *Eugenijus Lesinskas*

STAFF

Professor: Dr E. Lesinskas.

Associate professors: Dr R. Ašoklis, Dr A. Cimbalas, Dr S. Galgauskas.

Assistant professors: Dr V. Beleškienė, Dr D. Rauba, Dr J. Ivaška, Dr R. Strupaitė-Šileikienė, A. Kadziauskienė, Dr A. Paškonienė.

Lecturers: A. Morozas, A. Matulevičius, A. Misevičė, M. Polianskis, D. Vaitkūnaitė.

Students' scientific groups of:

Ophthalmology: scientific leader – Assoc. Prof. S. Galgauskas, coordinator – student I. Janiškevičiūtė; 30 members of the group.

Otorhinolaryngology: scientific leader – Prof. E. Lesinskas, coordinator – student G. Venclovaitė 30 members of the group.

RESEARCH INTERESTS

Estimation of the influence of morphology and clinical peculiarities of otorhinolaryngological and ophthalmological diseases to results of application of novel diagnostic methods and treatment

RESEARCH PROJECTS CARRIED OUT IN 2021

Projects Supported by University Budget

Children and Adults Hearing Rehabilitation Surgery and Cochlear Implantation Distant Results Analysis. Prof. Eugenijus Lesinskas, lekt. A. Morozas, 2014–2023.

Study of the patients with the Meniere's disease was completed. Results of 3T MRI evaluation and testing of peripheral vestibular system were studied for different form of the diseases.

OTHER RESEARCH ACTIVITIES

Prof. E. Lesinskas –

- senior otorhinolaryngologist of the Ministry of Health of the Republic of Lithuania;
- president of the Lithuanian Society of Otorhinolaryngologists;
- member of the Council of the Faculty of Medicine;
- member of the Council of Vilnius University
- editorial board member of the journals *Medicinos teorija ir praktika (Theory and Practice in Medicine)*; *Journal of Hearing Science*.

Assoc. Prof. Dr R. Ašoklis –

- board member of Lithuanian Society of Ophthalmologists;
- board member of Vilnius County Ophthalmologists Association;
- member of European Board of Ophthalmology;

- national delegate in European Union of Medical Specialists.

Assoc. Prof. Dr A. Cimbalas –

- board member of Lithuanian Society of Ophthalmologists;
- board member of Vilnius County Ophthalmologists Association;
- member of Lithuanian Glaucoma Society;
- international member of American Academy of Ophthalmology.

Assoc. Prof. Dr S. Galgauskas –

- board member of Vilnius County Ophthalmologists Association;
- member of Lithuanian Society of Ophthalmologists;
- member of Lithuanian Glaucoma Society;
- member of European Association for Vision and Eye Research;
- member of Association for Research in Vision and Ophthalmology.

Assist. Dr D. Rauba –

- board member of Lithuanian Society of Otorhinolaryngologists.

BEST REPORTS DELIVERED AT CONFERENCES ABROAD

- Mikolajki, Poland, “Glau Cat” 2021. 08.27 – 28
- Aistė Kadziauskienė - „Lamina cribrosa after trabeculectomy: morphologic changes and clinical associations“.
- Rimvydas Ašoklis ”Bizarre stories.“
- Saulius Galgauskas „Effect of obstructive sleep apnea on corneal morphological characteristics.“
- Ernesta Jasinskiene „Advanced glaucoma patients follow-up.“
- Rasa Strupaitė-Šileikienė „Inherited retinal dystrophies and glaucoma.“

Clinic of Gastroenterology, Nephrourology and Surgery

2 Santariškių, LT-08661 Vilnius

Tel. 236 5250

E-mail: kestas.strupas@mf.vu.lt

Head – Prof. Dr Habil. *Kęstutis Strupas*

STAFF

Professors: Dr Habil. K. Strupas, Dr E. Poškus, Dr T. Poškus, Dr G. Simutis, Dr A. Šileikis, Dr G. Brimas, Dr F. Jankevičius, Dr M. Miglinas, Dr Habil. J. Valantinas, Dr G. Verkauskas.

Associate professors: A. Černiauskienė, Dr G. Sadauskaitė, Dr A. Gradauskas, Dr V. Jotautas, Dr S. Mikalauskas, Dr V. Sokolovas, Dr A. Stašinskas, Dr A. Želvys, Dr L. Rimševičius, Dr I. Stundienė.

Assistant professors: Dr R. Adomaitis, Dr A. Bakavičius, Dr G. Bernotavičius, Dr V. Bilius, Dr B. Buckus, Dr A. Čekauskas, Dr Ž. Juodeikis, D. Kubilius, Dr L. Mašalaitė, Dr M. Petrulionis, Dr I. Savlan, Dr A. Strumila, Dr R. Vaicekauskas.

Teaching assistants: E. Mačionienė, B. Kurlinkus,

Lecturers: P. Gradauskas, R. V. Dagilytė.

Researchers: Dr V. Liakina, Dr G. Sadauskaitė, Dr A. Kielaitė-Gulla, Dr G. Simutis, M. Kryžauskas.

Doctoral students: E. Mačionienė, J. Makevičius, G. Tauginienė-Valeikaitė, D. Sukackienė, R. Lukšaitė, B. Kurlinkus, R. Račkauskas, M. Kryžauskas, V. Kazlauskas, M. Snicorius, A. Baušys, U. Žakauskienė, G. Platkevičius, T. Januškevičius, G. Varanauskas, E. Dieninytė-Misiūnė, M. Lukšta, A. Grybas.

RESEARCH INTERESTS

Minimally invasive surgery of abdominal organs, development and improvement of new procedures and devices for the performance of minimally invasive procedures, especially of abdominal malignancies

Research of liver and pancreas transplantation techniques (listing and preparing of patients for liver, pancreas, kidney transplantation)

Research of liver and pancreas transplantation techniques

Study of dietary treatment of enteropathies

Minimal hepatic encephalopathy

Gut microbiota in health and disease

Extrahepatic complications of liver cirrhosis

Diagnostic/prognostic markers for prediction of HCC

Novel treatment for the GI bleeding

Contemporary diagnostic analysis of ascite liquid

Epidemiology and novel treatment of viral hepatitis

Patients with chronic hepatitis C quality of life study during DAA therapy

Urological cancer

Kidney stone disease

Urinary incontinence

Primary glomerular diseases

Resistant hypertension

Peritoneal dialysis

RESEARCH PROJECTS CARRIED OUT IN 2021

Projects Supported by University Budget

Investigation Efficiency of Traumatic – Restorative, Minimally Invasive Surgeries and Transplantation Methods in Visceral Surgery. Prof. K. Strupas, Prof. G. Brimas. 2019–2023.

The application of minimally invasive surgical techniques in patients with hepatobiliary, pancreatic, gastrointestinal, colorectal and endocrine pathology, regional therapy for metastatic gastrointestinal cancer, virtual surgical planning and biomarkers for pancreatic cancer were evaluated and outcomes reported. Results of the research were presented in national, regional and international meetings and published in peer-reviewed journals. The successful organ-tissues transplantations-program in Vilnius University Hospital Santaros Klinikos is the best fact to take Vilnius University Hospital as the leading Transplantation Center in the Baltic States.

Main publications:

Baušys, Augustinas; Ümarik, Toomas; Lukšta, Martynas; Reinsoo, Arvo; Račkauskas, Rokas; Anglickienė, Giedrė; Kryžauskas, Marius; Tõnismäe, Kristina; Senina, Veslava; Šeinin, Dmitrij; Baušys, Rimantas; Strupas, Kęstutis. Impact of the interval between neoadjuvant chemotherapy and gastrectomy on short- and long-term outcomes for patients with advanced gastric cancer // *Annals of surgical oncology*. New York : Springer. ISSN 1068-9265. eISSN 1534-4681. 2021, vol. 28, iss. 8, p. 4444-4455. DOI: 10.1245/s10434-020-09507-1.

Poskus, Tomas; Jakubauskas, Matas; Čekas, Karolis; Jakubauskiene, Lina; Strupas, Kestutis; Samalavičius, Narimantas Evaldas. Local perianal anesthetic infiltration is safe and effective for anorectal surgery // *Frontiers in surgery*. Lausanne : Frontiers Media S.A. eISSN 2296-875X. 2021, vol. 8, art. no. 730261, p. 1-6. DOI: [10.3389/fsurg.2021.730261](https://doi.org/10.3389/fsurg.2021.730261).

Nepogodiev, Dmitri; Dulskas, Audrius; Kuliavas, Justas; Čekauskas, Albertas; Kielaitė-Gulla, Aistė; Poškus, Tomas; Strupas, Kęstutis; Želvys, Arūnas. SARS-CoV-2 vaccination modelling for safe surgery to save lives: data from an international prospective cohort study // *British journal of surgery*. Oxford : Oxford University Press. ISSN 0007-1323. eISSN 1365-2168. 2021, first published online, p. [1-8]. DOI: 10.1093/bjs/znab101.

Chronic Liver Diseases Genomic and Proteomic, These Diseases Pathogenetic Relationship with Other Abdominal Disease, Optimization of Therapeutic and Surgical Treatment. Prof. J. Valantinas, Ass. Prof. G. Sadauskaitė, Ass. Prof. I. Stundienė, Dr V. Liakina, Dr L. Mašalaitė, Dr I. Savlan, Dr E. Gavėlienė, Dr R. Vaicekauskas, A. Aleknaitė. 2019–2023.

This research is focused on interrelationships of liver diseases and other disorders of digestive tract. Research in 2021 have been focused on stressing gastroenterologists-practitioners' attention on such life threatening liver cirrhosis complication like development of umbilical herniation. In this research, four key questions are addressed regarding the management and prevention of Flood syndrome: (1) Which is the best treatment approach-conservative treatment or urgent surgery? (2) How can we establish the individual risk for herniation and possible hernia rupture in cirrhotic patients? (3) How can we prevent umbilical hernia ruptures? And (4) How can we manage these patients in the conditions created by the coronavirus disease 2019 pandemic?

Another 2021 research activity has been focused on improving of NAFLD clinical management and civil society engagement in formation of NAFLD policies. The data from 102 countries have been collected and analysed in this research and a preparedness index was developed by coding questions into 6 domains (policies, guidelines, civil awareness, epidemiology and data, NAFLD detection, and

NAFLD care management) and categorising the responses as high, medium, and low; a multiple correspondence analysis was then applied.

Main publications:

Strainiene S, Peciulyte M, Strainys T, Stundiene I, Savlan I, Liakina V, Valantinas J. Management of Flood syndrome: What can we do better? **World J Gastroenterol** 2021;27(32):5297-5305. Published online Aug 28, doi: 10.3748/wjg.v27.i32.5297 [IF=5.742] **Q2**

Lazarus JV, Mark HE, Anstee QM, Arab JP, Batterham RL, Castera L, Cortez-Pinto H, Crespo J, Cusi K, Dirac MA, Francque S, George J, Hagström H, Huang TT, Ismail MH, Kautz A, Sarin SK, Loomba R, Miller V, Newsome PN, Ninburg M, Ocama P, Ratziu V, Rinella M, Romero D, Romero-Gómez M, Schattenberg JM, Tsochatzis EA, Valenti L, Wong VW, Yilmaz Y, Younossi ZM, Zelber-Sagi S; NAFLD Consensus Consortium. Advancing the global public health agenda for NAFLD: a consensus statement. **Nat Rev Gastroenterol Hepatol.** 2021 Oct 27. doi: 10.1038/s41575-021-00523-4. Online ahead of print. PMID: 34707258 **Q1**

Lazarus JV, Mark HE, Villota-Rivas M, Palayew A, Carrieri P, Colombo M, Ekstedt M, Esmat G, George J, Marchesini G, Novak K, Ocama P, Ratziu V, Razavi H, Romero-Gómez M, Silva M, Spearman CW, Tacke F, Tsochatzis EA, Yilmaz Y, Younossi ZM, Wong VW, Zelber-Sagi S, Cortez-Pinto H, Anstee QM; NAFLD policy review collaborators. The global NAFLD policy review and preparedness index: Are countries ready to address this silent public health challenge? **J Hepatol.** 2021 Dec 8:S0168-8278(21)02168-1. doi: 10.1016/j.jhep.2021.10.025. Online ahead of print. PMID: 34895743 **Q1**

Diagnostic investigation of urinary tract cancerogenous tissue by infrared spectroscopy., Assoc.prof. A.Zelvys, G.Platkevicius, Prof. F.Jankevicius 2019-2023

In 2021 analysed 52 tissue samples. Prepared article : „Toward SERS Diagnostic Tool for Discrimination between Cancerous and Normal Bladder Tissues via Analysis of the Extracellular Fluid“, authors: Edvinas Zacharovas, Martynas Velička, Gediminas Platkevičius, Albertas Čekauskas, Arūnas Želvys, Gediminas Niaura, Valdas Šablinskas. This study shows the possible application of the label-free SERS for the discrimination between the 29 cancerous and normal human bladder tissues via analysis of the extracellular fluid of the tissues. The proposed 30 method is not suitable for identification of cystitis effected bladder tissue since the chemistry of both not cancerous 31 cell types is similar. Study presented in European Urology Association congress 2021: SERS spectroscopy to discriminate between bladder cancer tissue and urothelium. Platkevicius G, Zacharovas E, Velicka M, Cekauskas A, Zelvys A, Niaura G, Sablinskas EUROPEAN UROLOGY 79, JUN 2021, pp.S1017-1018.

Prostate cancer detection and treatment choice investigation. Prof. F.Jankevicius, A.Bakavicius, M.Barisiene, 2016-2022.

The aim of this study is to evaluate the diagnostic potential of molecular serum biomarker [-2]proPSA and its derivatives %p2PSA, prostate health index (PHI) and prostate health index density (PHID) for early prostate cancer diagnosis in males with serum PSA levels of 2 – 10 ng/mL and negative digital rectal examination. Prostate cancer has been diagnosed in 112 (53.3%) out of 210 males enrolled in the study. PHI significantly improved the diagnostic accuracy of multivariate model consisted of demographic, clinical and other blood serum biomarkers in predicting ISUP grade ≥ 2 prostate cancer.

Comparison of „Endoscopy First“ and „Laparoscopic Cholecystectomy First“ strategies for patients with gallstone disease and intermediate risk of choledocholithiasis. Prof. G.Simutis, doctoral student A. Aleknaitė. 2018 – 2021.

In 2021, a randomized clinical study enrolling adult patients undergoing laparoscopic cholecystectomy for symptomatic gallbladder stones with intermediate risk of

choledocholithiasis was completed. A total of 74 participants were included and randomized into two groups. Analysis of collected data was performed, a doctoral dissertation „The preoperative prediction and management of choledocholithiasis before planned laparoscopic cholecystectomy based on individual risk of choledocholithiasis” was prepared and defended on 24th of September 2021.

Main publications:

Aleknaite A, Simutis G, Stanaitis J, Jucaitis T, Drungilas M, Valantinas J, Strupas K. Comparison of Endoscopy First and Laparoscopic Cholecystectomy First Strategies for Patients With Gallstone Disease and Intermediate Risk of Choledocholithiasis: Protocol for a Clinical Randomized Controlled Trial. *JMIR Res Protoc.* 2021 Feb 4;10(2):e18837. doi: 10.2196/18837. PMID: 33538700; PMCID: PMC7892280.

Analysis of factors influencing extracorporeal lithotripsy efficiency and their optimization . Assoc.prof. A.Želvys, M.Snicorius, 2018-2022.

Extracorporeal lithotripsy and endourology are the methods used for surgical treatment of kidney stone disease: Age, gender, location, skin-to-stone distance, maximum stone length, stone volume, stone surface area, mean stone Hounsfield units (HU) and highest HU score were explored in uni- and multivariate regression analysis. For stone composition FTIR-ATR spectroscopy was used. The recommendations for treatment choice are expected at the end of scientific work.

Main publications:

Factors influencing extracorporeal shock wave lithotripsy efficiency for optimal patient selection. Snicorius M, Bakavicius, A, Cekauskas, A, Miglinas, M, Platkevicius, G, Želvys. *A VIDEOSURGERY AND OTHER MINIINVASIVE TECHNIQUES.* Volume 16. Issue 2. Page 409-+. DOI 10.5114/wiitm.2021.103915, Published 2021.

The Influence of Immune System Senescence to Kidney Transplant Survival and Choice of Immunosuppression. E. Mačionienė, prof. M. Miglinas. 2015–2022.

The Study started in 2016 and is performed in collaboration with the Life Sciences Center. The study focuses on identification of molecular biomarkers of kidney transplant rejection. Additional clinical data has also been collected. 90 patients were included into the Study and patient enrolment is continued. This Study is paused in 2020-2021 due to maternity leave of PhD Student E. Macioniene and will be continued next year.

Dynamics of Changing Nutritional Status and Related Factors in Patients after Kidney Transplantation. D. Sukackiene, L. Rimsevicius, Prof. M. Miglinas, 2017–2021.

Main publications:

Sukackiene D, Laucyte-Cibulskiene A, Badaras I, Rimsevicius L, Banys V, Vitkus D, Miglinas M. Early Post-Transplant Leptin Concentration Changes in Kidney Transplant Recipients. *Medicina (Kaunas).* 2021 Aug 17;57(8):834.

Assesment of sodium intake in Lithuanian population and its relationship to arterial hypertension and kidney damage markers. U. Žakauskienė, prof. M. Miglinas, 2019-2023.

The aim of this study is to evaluate salt intake and its effect on blood pressure and kidney damage. This study is approved by Vilnius Regional Bioethics Committee. Data collection and participant enrolment were finished in 2020. More than 1000 subjects participated in the study. Data analysis was performed in 2021. The manuscript is being prepared for publication.

Comparative study of renal function and factors influencing kidney dysfunction after radical and partial nephrectomies. J. Makevičius, prof. M. Miglinas, prof. F. Jankevicius, 2016-2022.

The aim of the study was to identify the acute kidney injury and chronic kidney disease incidence after renal surgery due to renal lesion and determine the predictor factors of those conditions among patients with high, normal or mild decreases in glomerular filtration rate with no presence of abnormal albuminuria. This Study paused in 2021 and will be continued in 2022.

National Research Projects

Research Council of Lithuania. **Development of Novel Proteomics-Based Drug Selection Approach for Pancreatic Cancer Individualized Therapy.** Prof. Dr P. Schemmer, Prof. A. Šileikis, Assist. Prof. Dr M. Petrulionis. 2020–2021.

During 2021, 9 further participants were included in the analysis.

New tissue, blood serum and urine samples were collected and moved further to Vilnius University Life Science centre for final storage.

19 surgically collected pancreatic tissue samples were analysed via high-definition mass spectrometry.

239 blood serum samples previously left at Vilnius University Hospital Santaros Clinics Laboratory Medicine Center were analysed using Enzyme Linked Immunosorbent Assay (ELISA) and Chemiluminescent Microparticle Immunoassay (CMIA) techniques. Further Kaplan–Meier survival analysis concluded that poorer overall survival was significantly dependent on increased CEACAM6 blood serum concentrations (17.0 vs. 12.6 months, $p = 0.017$) in pancreatic cancer patients after radical treatment and adjuvant chemotherapy.

Main publications:

Zalyte E., Dedonyte V., Kurlinkus B., Sileikis A., Schemmer P., Valius M. Establishment and Characterization of a New Pancreatic Ductal Adenocarcinoma Cell Line Capan-26. *Anticancer Res.* 2021 Mar;41(3):1401-1406. doi: 10.21873/anticancer.14897.

Kurlinkus B, Ger M., Kaupinis A., Jasiunas E., Valius M., Sileikis A. CEACAM6's Role as a Chemoresistance and Prognostic Biomarker for Pancreatic Cancer: A Comparison of CEACAM6's Diagnostic and Prognostic Capabilities with Those of CA19-9 and CEA. *Life* 2021, 11, 542. doi.org/10.3390/life11060542.

Artificial Urethra for the Treatment of Hypospadias and Urethral Strictures. R&D

Implementation scheme (SMART) (funded under Measure 01.2.2-LMT-K-718 „Targeted Research in SMART Specialisation Areas“ and managed by the Ministry of Education, Science and Sport of the Republic of Lithuania and the Research Council of Lithuania). G. Verkauskas, A. Zelvys. 2020–2023.

The work was carried on creation of urethral tissue by using 3D printing technology, the structural material and the stem cell source, and test it in vivo, in laboratory rabbit. The causes of strictures at the molecular level in human operative material were analysed. Acquired knowledge of the development of the fibrosis process in the urethra and its control by anti-fibrotic agents, will be used to construct personalized, 3D printed issue.

Effects of suPAR hemadsorption on the development and progression of acute renal failure in COVID-19 patients. L. Rimševičius, G. Žulpaitė, M. Miglinas, 2021-2022.

A representative sample size of the study was determined. A group of patients meeting the inclusion criteria were selected. The severity of the condition and comorbidities of the included patients were assessed. Blood samples of the patients were collected and plasma was separated. suPAR concentration in plasma was measured. The clinical condition of the patients was assessed (blood

tests, C-reactive protein, lactatdehydrogenase, D-dimers, ferritin, creatinine concentrations were measured). The correlation between general condition, kidneys function and suPAR concentration are about to be evaluated.

International Research Projects

International project on hepatitis B and C Epidemiology “Polaris Observatory”. Coordinator: CDA Foundation, USA. Prof. J. Valantinas, dr V. Liakina, 2014-2025

The 69th World Health Assembly endorsed the Global Health Sector Strategy for Viral Hepatitis, embracing a goal to eliminate hepatitis infection as a public health threat by 2030. This year research was focused on the analysis of different countries progress in pursuing of aforementioned target. The Polaris Observatory collaborators agreed on following recommendations: (1) simplify the hepatitis elimination targets, (2) change to absolute targets and (3) allow countries to achieve these disease targets with their own service coverage initiatives that will have the maximum impact.

Main publications:

Polaris Observatory Collaborators. The case for simplifying and using absolute targets for viral hepatitis elimination goals. *J Viral Hepat.* 2021 Jan;28(1):12-19. doi: 10.1111/jvh.13412. Epub 2020 Nov 4. PMID: 32979881 Q1

MAIN R&D&I (RESEARCH, DEVELOPMENT AND INNOVATION) PARTNERS

Academy of Science of Ukraine (Ukraine)
Karolinska Institute (Sweden)
University of Heidelberg (Germany)
Renal Services at Westmead Hospital, Sydney (Australia)
Academy of Science of Ukraine (Ukraine)
Karolinska Institute (Sweden)
University of Warsaw (Poland)
University of Latvia (Latvia)
University of Tallinn (Estonia)
Radboud university medical center, Nijmegen, (Netherlands)
Royal Free Hospital of London, United Kingdom

OTHER RESEARCH ACTIVITIES

Prof. Dr Habil. K. Strupas –

- board member of the European Academy of Surgical Sciences (EAeSS);
- member of International Hepato-Pancreato-Biliary Association;
- President of the Association of Lithuanian Surgeons;
- member of European Association for Endoscopic Surgery (EAES);
- editorial board member of the international journal *Viszeralmedizin*, <http://content.karger.com/Journal/EditorialBoard/223970>;
- editorial board member of the journal *Medicinos teorija ir praktika (Theory and Practice in Medicine)*, <http://www.mtp.lt/lt/redaktoriu-kolegija-8/>;
- editorial board member of the journal *Lietuvos chirurgija (Lithuanian Surgery)* <http://www.chirurgija.lt>;
- editorial board member of the journal *Medicina (Lithuania, ISI)*, <http://medicina.kmu.lt>.

Prof. Dr. G. Simutis –

- board member of the Lithuanian Minimally Invasive Surgery Society;
- member of Vilnius Association of Surgeons;
- member of Lithuanian Surgical Oncology Society;

- member of European hernia society (EHS).

Prof. Dr. E. Poškus –

- chairman of the Lithuanian Minimally Invasive Surgery Society;
- member of Lithuanian Surgical Oncology Society;
- member of the Lithuanian Society of Coloproctologists;
- member of the European Society of Coloproctology;
- member of the International Society of University Colon and Rectal Surgeons;
- member of European Association for Endoscopic Surgery (EAES).

Prof. Dr. A. Šileikis –

- chairman of Vilnius Association of Surgeons;
- member of Lithuanian Surgical Oncology Society;
- member of the International HepatoPancreato Biliary Association (IHPB);
- member of the American Society of Clinical Oncology (ASCO);
- member of the Lithuanian Minimally Invasive Surgery Society.

Prof. Dr. T. Poškus –

- Vice-president of the Lithuanian Society of Coloproctologists;
- member of Lithuanian Surgical Oncology Society;
- member of Vilnius Association of Surgeons.

Assoc. Prof. Dr. V. Sokolovas –

- president Lithuanian Association of Transplantology;
- member of the Lithuanian Minimally Invasive Surgery Society;
- member of Vilnius Association of Surgeons;
- member of Lithuanian Surgical Oncology Society;
- member of the Lithuanian Enteral and Parenteral Nutrition Society;
- member of the Lithuanian Society of Gastroenterology.

Assoc. Prof. Dr. V. Jotautas –

- member of the Lithuanian Minimally Invasive Surgery Society;
- member of Vilnius Association of Surgeons;
- member of the Lithuanian Society of Coloproctologists.

Assoc. Prof. Dr. S. Mikalauskas –

- board member of the Lithuanian Minimally Invasive Surgery Society;
- member of Vilnius Association of Surgeons;
- member of the Lithuanian Society of Coloproctologists;
- member of European Association for Endoscopic Surgery (EAES);
- member of Lithuanian Surgical Oncology Society.

Prof. Dr Habil. J. Valantinas –

- editor-in-Chief of the journal *Internistas* supplement *Gastroenterology*;
- editorial board member of the journal *World Journal of Gastroenterology*;
- editorial board member of the journal *Medicinos teorija ir praktika*;
- member of the international *Pancreas-2000* scientists group;
- member of the European Association for the Study of the Liver (EASL);
- member of the World Organization of Gastroenterology (OMGE);
- president of the Lithuanian Society of Gastroenterology.

Assoc. Prof. G. Denapienė, Assoc. Prof. Dr. I. Stundienė, Assistant Prof. L. Mašalaitė, Lect. I. Savlan, Lect. R. Vaicekauskas –

- members of the Lithuanian Society of Gastroenterology.

Research Prof. V. Liakina –

- member of the European Association for the Study of the Liver (EASL);
- member of the Lithuanian Society of Gastroenterology;
- member of the Lithuanian Society of Immunology.
- editorial board member of the journal *World Journal of Gastroenterology*;

Prof. Dr G. Brimas –

- deputy editor-in-Chief of the journal *Lietuvos chirurgija*;
- editorial board member of the journal *Videosurgery and Miniinvasive Techniques*.

Assoc. Prof. Dr. A. Stašinskas –

- editorial board member of the journal *Lietuvos chirurgija*;
- board member of the Association of Lithuanian Surgeons.

Assist. Prof. Dr. B. Buckus –

- member of Vilnius Society of Surgeons.

Prof. Dr. G. Verkauskas –

- member of the European Paediatric Surgeons' Association (EUPSA);
- member of the European Society for Paediatric Urology (ESPU);
- member Lithuanian Society of Pediatric Nephrology;
- board member of the Lithuanian Society of Pediatric Surgery;
- member of Lithuanian Society of Urology (LUD);
- member of the Baltic Association of Pediatric Surgeons (BAOPS).

Assist. Prof. Dr. G. Bernotavičius –

- member of the Baltic Association of Pediatric Surgeons (BAOPS);
- board member of the Lithuanian Society of Pediatric Orthopedics and Traumatology (LVOTD);
- member of the Lithuanian Society of Orthopedics and Traumatology (LTOD);
- member of Scoliosis Research Society (SRS).

Assist. Prof. Dr. A. Strumila –

- member of the Lithuanian Society of Pediatric Surgery;
- member of the Baltic Association of Pediatric Surgeons (BAOPS);
- member of the European Paediatric Surgeons' Association (EUPSA).

Assist. Prof. Dr. V. Bilius –

- member of the Lithuanian Society of Pediatric Surgery;
- member of the Baltic Association of Pediatric Surgeons (BAOPS);
- member Lithuanian Society of Pediatric Nephrology;
- member of Lithuanian Society of Urology (LUD).

Prof. Dr F. Jankevičius –

- chairman of the Lithuanian Early Prostate Cancer Detection Programme;
- member of the European Association of Urology (EAU);
- corresponding Member of Deutschen Gesellschaft für Urologie;
- member of Lithuanian Urological Association;
- chairman of Lithuanian Society of Oncologists.

Assoc. Prof. Dr. A. Želvys –

- member of the European Board of Urology (EBU);
- member of the European Association of Urology (EAU);
- member of the Lithuanian Urology (LUD) Society;
- member of the Lithuanian Nephrology Dialysis Transplantation Association (LNDTA);
- member of the Lithuanian Society for Sexual Medicine (LSSM).

Assoc. Prof. Dr. A. Černiauskiene –

- member of the Lithuanian Urology (LUD) Society;
- member of the Lithuanian Society for Sexual Medicine (LSSM).

Assist. Prof. Dr. A. Čekauskas –

- member of the Lithuanian Urology (LUD) Society;
- member of the Lithuanian Nephrology Dialysis Transplantation Association (LNDTA);
- member of the European Association of Urology (EAU).

Assist. Prof. Dr. R. Adomaitis –

- member of the Lithuanian Urology (LUD) Society;
- member of the Lithuanian Society for Sexual Medicine (LSSM);
- member of the European Society for Sexual Medicine (LSSM).

Assist. Prof. Dr. A. Bakavičius –

- member of the Lithuanian Urology (LUD) Society;
- member of the European Association of Urology (EAU).

Prof. Dr. M. Miglinas –

- member of the European Dialysis Transplantation Association – European Renal Association (EDTA-ERA);
- member of the European Society of Hypertension (ESH);
- member of the International Society of Nephrology (ISN);
- member of the International Society of Hypertension (ISH);
- president of Lithuanian Kidney Foundation;
- president of the Lithuanian Hypertension Society.

Assoc. Prof. Dr. L. Rimševičius –

- member of the European Dialysis Transplantation Association – European Renal Association (EDTA-ERA);
- member of Lithuanian Nephrology, Dialysis and Transplantation Association (LNDTA);
- member of Lithuanian Kidney Foundation (LKF).

Teach. Assist. E. Mačionienė –

- member of the European Dialysis Transplantation Association – European Renal Association (EDTA-ERA);
- member of Lithuanian Nephrology, Dialysis and Transplantation Association (LNDTA);
- member of Lithuanian Kidney Foundation (LKF).

MOST IMPORTANT PARTICIPATION CASES OF RESEARCHERS IN WORKING GROUPS OR COMMISSIONS SET UP BY STATE AUTHORITIES, STATE AND MUNICIPAL INSTITUTIONS AND ORGANISATIONS, AND BUSINESS ENTITIES

- Working group for organ donation improvement – created by Lithuanian Ministry of Health with participation of Presidency of Lithuania. A. Zelvys.

Clinic of Infectious Diseases and Dermatovenereology

Santariškių street 14, LT- 08406 Vilnius

Tel. +370 5 275 2594

E-mail: ligita.jancoriene@mf.vu.lt

Head – Prof. Dr. *Ligita Jančorienė*

Centre of Infectious Diseases

Santariškių street 14, LT- 08406 Vilnius

Tel: +370 5 275 2594

E-mail: ligita.jancoriene@santa.lt

Head – Prof. Dr. *Ligita Jančorienė*

Centre of Dermatovenereology

J. Kairiūkščio street 2, LT-08411 Vilnius

Tel. +370 5 272 0385

E-mail: jurate.grigaitiene@mf.vu.lt

Head – Dr. *Jūratė Grigaitienė*

STAFF

Professors: Dr. L. Jančorienė (part-time), Dr. R. Matulionytė, Dr. M. Bylaitė-Bučinskienė (part-time).

Associate professors: Dr. R. Gancevičienė (part-time), Dr. D. Radzišauskienė (part-time), Dr. J. Grigaitienė (part-time).

Assistant professors: Dr. B. Zablockienė (part-time), Dr. R. Valintėlienė (part-time).

Lecturers: I. Kisielienė (part-time), T. Raudonis (part-time), E. Matulytė (part-time), M. Macejevska (part-time), M. Paulauskas (part-time), L. Svetikas (part-time), O. Aliancevič (part-time), D. Stundys (part-time), A. Marcinkutė (part-time), K. Žvirblytė - Skrebutėnienė.

Doctoral students: I. Kisielienė, T. Raudonis, E. Matulytė, D. Stundys, E. Strumilienė, I. Kubiliūtė.

Research assistant: S. Grubytė (doctoral student) (part-time), E. Strumilienė (doctoral student) (part-time).

Investigator: I. Kubiliūtė (part-time).

Students' scientific groups:

Infectious diseases: scientific leader – Assist. Prof. B. Zablockienė, coordinator – student T. Alčauskas; 44 members of the group.

Dermatovenereology: scientific leader – I. Kisielienė, coordinator – student I. Česnavičiūtė, 110 members of the group.

RESEARCH INTERESTS

Pathogenesis, diagnostics, treatment and prevention of infectious diseases: assessment of the current diagnostics, treatment and prevention methods; search of a new diagnostics, treatment and prevention methods; study of the mechanisms of infectious diseases pathogenesis; study of a safety and efficacy of a new vaccines and drugs for the treatment and prevention of infectious diseases.

Effectiveness, feasibility and impact of latent tuberculosis treatment for the prevention of active tuberculosis among HIV-positive individuals.

Incidence, etiology and pathogenesis of inflammatory chronic dermatosis (acne, hidradenitis suppurativa, rosacea, psoriasis, dermatitis, eczema, vitiligo): basic and clinical research, implementation of innovative technologies.

Dermatooncology in Lithuania: epidemiology, pathogenesis, diagnostics, treatment.

RESEARCH PROJECTS CARRIED OUT IN 2021

Projects Supported by University Budget

Biomarkers of Hidradenitis Suppurativa. Assoc. Prof. Ruta Ganceviciene, Assoc. Prof. Jurate Grigaitiene, PhD Student Tadas Raudonis, 2021–2023.

The objective of this study is to evaluate biomarkers of hidradenitis suppurativa, their associations with disease severity and comorbidities. Biomarkers are planned to be evaluated in skin samples from the affected and unaffected areas. In addition, saliva samples will be used for genotyping. Biological sample collection was underway during 2021, they will be stored in a biobank for future studies. First publications are planned in 2022-2023.

Analysis of epidemiological, risk and preventive factors of atopic dermatitis, impact of inflammatory and genetic markers to disease type, clinical appearance and course. Prof. dr. Matilda Bylaite-Bucinskiene, PhD Student Inga Kisieliene, 2020-2022.

The objective of this study is to establish the prevalence of atopic dermatitis in Lithuanian population, to analyse potential risk factors for the development of atopic dermatitis in children of atopic and non-atopic parents, to analyse inflammatory markers associations with disease severity, clinical appearance and course and to evaluate associations between severity of atopic eczema and child behavior problems. The investigation is a population-based, single-centre, prospective with one years follow-up. Data are collected from physical examination, questionnaires (evaluation of risk factors, disease severity, Child behavior checklist) and patients blood serum. First publication is planned 2022.

Evaluation of quality of life and correlation between facial anthropometric parameters, cancer worry, scar appearance distress and self-esteem in patients with facial basal cell carcinoma Prof. Ligita Jančiorienė, Prof. Janina Tutkuvienė, PhD Student Domantas Stundys, 2020-2024.

The perspective single-centre study focuses on the evaluation of facial skin cancer patients starting right after the skin cancer diagnosis was established, continuing during the perioperative period, with an extended follow-up until full scar healing is achieved. The objective of this study is to evaluate the quality of life, cancer-worry related distress and body image self esteem of facial skin cancer patients considering already existing facial and body anthropometric parameters as well as their changes postsurgically. First publication is planned in 2022.

Effectiveness, Feasibility and Impact of Latent Tuberculosis Treatment for the Prevention of Active Tuberculosis among People Living with Human Immunodeficiency Virus. Prof. Dr. Raimonda Matulionytė, PhD Student Elžbieta Matulytė, 2018–2022.

Scientific activities in 2021: 1) the dynamics of morbidity, socio-demographic and clinical characteristics, and outcome-related risk factors of active TB in people living with HIV (PLHIV) were evaluated by performing a retrospective cohort analysis; 2) to determine the prevalence of latent tuberculosis infection (LTBI) and LTBI-related risk factors, 200 PLHIV and 400 HIV-negative persons were screened with TST and (or) IGRA and filled in the structured questionnaire; 3) PLHIV found TST and/or IGRA positive (n=58) were screened for clinical symptoms and signs of active TB.

Prevalence of Viral Hepatitis A, B and C Serological Markers in Donor's Population and General Lithuanian Population. Prof. Dr. Ligita Jančorienė, Research Assist. Samanta Grubytė, 2012–2021.

During this project two analyses to identify main epidemiological patterns and risk factors of HCV infection have been performed: evaluation of the prevalence, incidence rates of HCV infection and its transmission residual risk at the National Blood Center of Lithuania from 2004 to 2018; a descriptive analysis of all the acute HCV cases officially registered via the Lithuanian mandatory notification system from 2005 to 2018. As a result of the studies described above, the main risk factors that might be crucial to develop efficient policies and evidence-based national HCV screening strategy in Lithuania have been evaluated. The results of the studies were published in PlosOne and Medicina journals.

Main publications:

Grubyte S, Urboniene J, Nedzinskiene L, **Jancoriene L.** The Epidemiological Patterns of Hepatitis C in Lithuania: Changes in Surveillance from 2005 to 2018. *Medicina (Kaunas)*. 2021 Oct 17;57(10):1120. doi: 10.3390/medicina57101120

Grubyte S, Urboniene J, Nedzinskiene L, Jelinskaite A, Zagminas K, Ambrozaitis A, **Jancoriene L.** Prevalence, incidence and residual risk of transfusion transmitted viruses (HBV, HCV and HIV infections) in Lithuanian blood donors from 2004 to 2018: The incidence/window-period model study. *PLoS One*. 2021 Feb 19;16(2):e0246704. doi: 10.1371/journal.pone.0246704.eCollection 2021

The characterization of genetic diversity and association with COVID-19 disease indicators in the Lithuanian population (COVID-19_LT). Prof. Dr. Ligita Jančorienė, Assist. Prof. Dr. Birutė Zablockienė, Lecturer Mindaugas Paulauskas, PhD Student Ieva Kubiliūtė, 2021 - 2026.

The aim of this study - to identify host genomic factors increasing susceptibility or resistance to the SARS-CoV-2 infection and COVID-19 infection severity in the Lithuanian population. More than 400 participants were included in this study in 2021. This biomedical study is being conducted in collaboration with Finnish researchers and is part of the international *COVID-19 Host Genetics Initiative*, which aims to bring together researchers from around the world to study genetic factors relevant to the pathogenesis of COVID-19.

Direct self-sampled gargle water LAMP as a screening method for the detection of SARS-CoV-2 infections. Prof. Dr. L. Jančorienė, Assist. Prof. Dr. B. Zablockienė. 2020-ongoing.

The indirect RT-PCR of oro-nasopharyngeal swab samples is currently considered the gold standard method for detecting SARS-CoV-2 infections, yet as the method is technically complex and time-intensive, it is generally not suitable for the rapid testing and stratification of patients. We assessed whether the direct LAMP (Loop-Mediated Isothermal Amplification) of gargle water samples is sensitive enough to serve as a more rapid and affordable alternative to the gold standard. Manuscript „Self-sampled gargle water direct RT-LAMP as a screening method for the detection of SARS-CoV-2 infections“ recently submitted to *Science Advances*.

Medical technologies to improve SARS-CoV-2 testing: development and testing of an innovative saliva sampling system and testing method. Prof. Dr. L. Jančorienė, Assist. Prof. Dr. B. Zablockienė, lecturer M. Paulauskas, 2020 – 2021.

The aim of the study is to develop and test a new generation solution for the safe collection of a saliva sample for the genetic testing of SARS-CoV-2 in saliva. Samples of saliva, nasopharyngeal swab and blood from 100 COVID-19 patients treated at the Infectious Diseases Center of Vilnius University Hospital Santara Clinics were included in the study, repeating the study 3 times every 3 days. The publication is being prepared.

Patients with COVID-19 Infection and Hospitalized in Vilnius University Hospital Santaros Klinikos, clinical course and medical care study. Prof. Dr. L. Jančorienė, Assist. Prof. Dr. B. Zablockienė, lecturer M. Paulauskas, 2020 – 2023.

The aim of the study is to identify COVID-19 infected inpatient persons COVID-19 infection course, complications, prognosis, and patient medical care effectiveness. More than 1000 patients are included.

The analysis of COVID-19 pneumonia long-term sequelae to the respiratory system and quality of life, the identification of possible prognostic immunologic and genetic markers. Prof. Dr. Ligita Jancoriene, Prof. Dr. Laura Malinauskiene, Assist. Prof. Dr. B. Zablockienė, PhD Student Edita Strumiliene, 2021 - 2026

The aim of this study is to analyze the long-term consequences of COVID-19 pneumonia in the group of moderate and severe COVID-19 disease survivors, analyzing the sequelae to the respiratory system and quality of life, and identifying the possible prognostic factors. This follow-up research was started at 2021 and is being continued collecting the follow-up data of radiological lung examination, pulmonary function tests and quality of life questionnaires. The blood samples for analysis of possible prognostic markers to the severity of COVID-19 disease and long-term lung injury are being collected.

Main publications:

Strumilienė, Edita; Zeleckienė, Ingrida; Bliūdžius, Rytis; Samuilis, Artūras; Žvirblis, Tadas; Zablockienė, Birutė; Strumila, Arūnas; Gruslys, Vygantas; Malinauskienė, Laura; Kasiulevičius, Vytautas; Jančorienė, Ligita. Follow-up analysis of pulmonary function, exercise capacity, radiological changes, and quality of life two months after recovery from SARS-CoV-2 pneumonia // *Medicina*. Kaunas; Basel : LSMU ; MDPI AG. ISSN 1010-660X. eISSN 1648-9144. 2021, vol. 57, no. 6, art. no. 568, p. 1-12. DOI: 10.3390/medicina57060568.

Mitigating Arrhythmia Risk in Hydroxychloroquine and Azithromycin Treated COVID-19 Patients Using Arrhythmia Risk Management Plan. Main researcher Prof. Dr. L. Jančorienė, research consultant Prof. Dr. L. Griškevičius, investigators Assist. Prof. Dr. B. Zablockienė, lecturer M. Paulauskas, 2020 –2021.

The aim of the study was to assess cardiac safety in COVID-19 patients treated with the combination of Hydroxychloroquine and Azithromycin using arrhythmia risk management plan. There was retrospectively examined arrhythmia safety of treatment with Hydroxychloroquine and Azithromycin in the setting of pre-defined arrhythmia risk management plan. The study recorded a low incidence of QTc prolongation - 500 ms and no ventricular tachycardia events in COVID-19 patients treated with Hydroxychloroquine and Azithromycin using cardiac arrhythmia risk management plan.

Main publications:

Maneikis, Kazimieras; Ringelevičiūtė, Ugnė; Bacevičius, Justinas; Dieninytė-Misiūnė, Eglė; Burokaitė, Emilija; Kazbaraitė, Gintarė; Janušaitė, Marta Monika; Dapkevičiūtė, Austėja; Žučėnka, Andrius; Pečeliūnas, Valdas; Kryžauskaitė, Lina; Kasiulevičius, Vytautas; Ringaitienė, Donata; **Zablockienė, Birutė; Žvirblis, Tadas; Marinskis, Germanas; Jančorienė, Ligita; Griškevičius, Laimonas.** Mitigating arrhythmia risk in Hydroxychloroquine and Azithromycin treated COVID-19 patients using arrhythmia risk management plan // *IJC heart & vasculature*. East Park Shannon: Elsevier Ireland. eISSN 2352-9067. 2021, vol. 32, art. no. 100685, p. [1-15]. DOI: 10.1016/j.ijcha.2020.100685.

National Research Projects

Prof. Dr. Ligita Jančorienė Principal Executor in a “**Programable virus nucleic acid detection using CRISPR nucleases (PRECISE)**” project, that was funded by Research Council of Lithuania (DNA short-term research projects in the fields of health and education), 2021.

Research-based recommendations COVID-19 to improve the laboratory diagnosis of infections and to predict the course of the disease. Project was funded by Research Council of Lithuanian. Prof. Dr. L. Jančorienė, Assist. Prof. Dr. B. Zablockienė, lect. M. Paulauskas, 2020-ongoing.

Study to improve laboratory diagnosis and prognosis of COVID-19 infection. The various laboratory material from nasopharyngeal, blood, fecal, urine samples from 100 COVID-19 infected patients is being compared. Publication is in preparation.

International Research Projects

Euroguidelines in Central and Eastern Europe Countries (ECEE) Network Group. Prof. R. Matulionytė, PhD student E. Matulytė. 2018–ongoing.

The Euroguidelines in Central and Eastern Europe Countries (ECEE) Network Group was established in 2016 to review the standards of care for HIV infection and viral hepatitis in the region. The Network consists of key experts from the field who are actively involved in HIV care. During 2021, the main work was carried in the areas of dynamics of HIV and hepatitis epidemiology, late presentation in care, access to cART and its components, hard to reach population and addressing the gaps of HIV continuum of care, laboratory monitoring instruments, new ART strategies, prophylaxis and vaccination.

Main publications:

Kowalska, Justyna; Kase, Kerstin; Vassilenko, Anna; Harxhi, Arjan; Lakatos, Botond; Lukic, Gordana Dragovic; Verhaz, Antonija; Yancheva, Nina; Dumitrescu, Florentina; Jilich, David; Machala, Ladislav; Skrzat-Klapaczynska, Agata; **Matulionytė, Raimonda**. The characteristics of HIV-positive patients with mild/asymptomatic and moderate/severe course of COVID-19 disease – a report from Central and Eastern Europe // International journal of infectious diseases. Oxford: Elsevier Science. ISSN 1201-9712. eISSN 1878-3511. 2021, vol. 104, p. 293-296. DOI: [10.1016/j.ijid.2020.12.026](https://doi.org/10.1016/j.ijid.2020.12.026).

Jilich, David; Skrzat-Klapaczyńska, Agata; Fleischhans, Lukas; Bursa, Dominik; Antoniuk, Sergii; Balayan, Tatevik; Begovac, Josip; Cicic, Alma; Dragovic, Gordana; Goekengin, Deniz; Harxhi, Arjan; Kase, Kerstin; Lakatos, Botond; **Matulionytė, Raimonda**; Mulabdic, Velida; Oprea, Cristiana; Papadopoulos, Antonios; Rukhadze, Nino; Tomazic, Janez; Tovba, Lida; Soják, Lubomír; Vassilenko, Anne; Yancheva, Nina; Yurin, Oleg; Kowalska, Justyna. National strategies for vaccination against COVID-19 in people living with HIV in Central and Eastern European region // HIV medicine. Hoboken: Wiley-Blackwell. ISSN 1464-2662. eISSN 1468-1293. 2021, first on line, p. [1-7]. DOI: [10.1111/hiv.13194](https://doi.org/10.1111/hiv.13194).

Lakatos, Botond; Kowalska, Justyna; Antoniuk, Sergii; Gokengin, Deniz; Begovac, Josip; Vassilenko, Anna; Wasilewski, Piotr; Fleischhans, Lukas; Jilich, David; **Matulionytė, Raimonda**; Kase, Kerstin; Papadopoulos, Antonios; Rukhadze, Nino; Harxhi, Arjan; Hofman, Sam; Dragovic, Gordana; Vasylijev, Marta; Verhaz, Antonija; Yancheva, Nina; Oprea, Cristiana. Retrospective evaluation of an observational cohort by the Central and Eastern Europe Network Group shows a high frequency of potential drug–drug interactions among HIV-positive patients receiving treatment for coronavirus disease 2019 (COVID-19) // HIV medicine. Hoboken : Wiley. ISSN 1464-2662. eISSN 1468-1293. 2021, first on line, p. [1-8]. DOI: [10.1111/hiv.13214](https://doi.org/10.1111/hiv.13214).

EU-co-financed Joint Action **On Integrating Prevention, Testing and Link to Care Strategies across HIV, Viral Hepatitis, TB and STIs in Europe (INTEGRATE)** in the partnership with

Vilnius University Hospital Santaros Kliniko (EU project 761319). Prof. R. Matulionyte, Assoc. prof. Dr. J. Grigaitiene, PhD student T. Raudonis. 2016–2021.

Main activities in 2021: analysis of expanded pilot testing data, development of the guidelines, preparation of publications.

Main publications:

Matulionytė, Raimonda; Jakobsen, M. L.; Grecu, V. I.; **Grigaitienė, Jūratė;** **Raudonis, Tadas;** Stoniene, L.; Olteanu, M.; de la Mora, L.; Raben, D.; Sullivan, A K. Increased integrated testing for HIV, hepatitis C and sexually transmitted infections in health care facilities: results from the INTEGRATE Joint Action pilots in Lithuania, Romania and Spain // BMC infectious diseases. London: BioMed Central. eISSN 1471-2334. 2021, vol.21, suppl. 2, art. no. 845, p. 1-7. DOI: [10.1186/s12879-021-06537-2](https://doi.org/10.1186/s12879-021-06537-2).

Simões, Daniel; **Matulionytė, Raimonda;** Stonienė, Loreta; Wysocki, Piotr; Kowalska, Justyna; Gasbarrini, Nadia; Cosmaro, Lella; Blažić, Tatjana Nemeth; Dišković, Arian; Dominković, Zoran; Jovovic, Iva; Razmiene, Ilona; Maffeo, Manuel; Jakobsen, Stine F. National multi-stakeholder meetings: a tool to support development of integrated policies and practices for testing and prevention of HIV, viral hepatitis, TB and STIs // BMC infectious diseases. London : BioMed Central. eISSN 1471-2334. 2021, vol. 21, suppl. 2, art. no.795, p. 1-10. DOI: [10.1186/s12879-021-06492-y](https://doi.org/10.1186/s12879-021-06492-y).

Run-up to Programmatic Management of Latent Tuberculosis Infection in HIV-infected People in Lithuania. Granted by Western-Eastern European Partnership Initiative on HIV, viral hepatitis and TB (WEEPI), a foundation incorporated in Switzerland, having its secretariat in Denmark (CHIP, Blegdamsvej 9, DK-2100 Copenhagen Ø) and Switzerland (University Hospital Basel, Infectious Diseases & Hospital Epidemiology, Petersgraben 4, CH-4031 Basel), and the Grantee, Vilnius University. Prof. R. Matulionyte, PhD student E. Matulyte. 2020–2021. <https://weepi.org/projects/stage-1/management-of-latent-tuberculosis-infection-in-hiv-infected-people-in-lithuania>

Scientific activities in 2021: 1) the dynamics of morbidity, socio-demographic and clinical characteristics, and outcome-related risk factors of active TB in people living with HIV (PLHIV) were evaluated by performing a retrospective cohort analysis; 2) to determine the prevalence of latent tuberculosis infection (LTBI) and LTBI-related risk factors, 200 PLHIV and 400 HIV-negative persons were screened with TST and (or) IGRA and filled in the structured questionnaire; 3) PLHIV found TST and/or IGRA positive were screened for clinical symptoms and signs of active TB.

EuroSIDA/RESPOND, ongoing since 2015.

Prof. Dr. R. Matulionyte (steering committee member, PI), PhD student E. Matulyte (investigator). <https://www.chip.dk/Research/Studies/EuroSIDA/Study-group>

EuroSIDA study is a prospective observational cohort study following adult people living with HIV (PLHIV). The study aims to follow the long-term clinical prognosis for the general population of HIV-infected patients living in Europe and to assess the impact of antiretroviral therapy on these patients. EuroSIDA was one of the cohorts to establish the International Cohort Consortium of Infectious Disease (RESPOND) cohort consortium on infectious diseases in 2017.

Main publications:

Fursa, Olga; Mocroft, Amanda; Lazarus, Jeffrey V; Amele, Sarah; Lundgren, Jens; **Matulionytė, Raimonda;** Rasmussen, Line D.; Rockstroh, Jürgen K.; Parczewski, Milosz; Jilich, David; Moreno, Santiago; Vassilenko, Anna; Lacombe, Karine; Wandeler, Gilles; Borodulina, Elena; Brännström, Johanna; Wiese, Lothar; Orkin, Chloe; Behrens, Georg M.N.; Mansinho, Kamal; Portu, Jose Joaquin; Peters, Lars. The hepatitis C cascade of care in HIV/HCV-coinfected individuals in Europe-

regional and intra-regional differences // AIDS. Philadelphia : Lippincott Williams & Wilkins. ISSN 0269-9370. eISSN 1473-5571. 2021, first on line, p. [1-24]. DOI: [10.1097/QAD.0000000000003112](https://doi.org/10.1097/QAD.0000000000003112).

Amele, Sarah; Peters, Lars; Rodger, Alison; Lundgren, Jens; Rockstroh, Jürgen; **Matulionytė, Raimonda**; Leen, Clifford; Jabłonowska, Elzbieta; Østergaard, Lars; Bhagani, Sanjay; Sarcletti, Mario; Clarke, Amanda; Falconer, Karolin; Wandeler, Gilles; Domingo, Pere; Maltez, Fernando; Zaccarelli, Mauro; Chkhartishvili, Nikoloz; Szlavik, Janos; Stephan, Christoph; Fonquernie, Laurent; Aho, Inka; Mocroft, Amanda. Effectiveness and safety of interferon-free direct-acting antiviral hepatitis C virus therapy in HIV/hepatitis C virus coinfecting individuals: results from a pan-European study // Journal of acquired immune deficiency syndromes. Philadelphia : Lippincott Williams & Wilkins. ISSN 1525-4135. eISSN 1944-7884. 2021, vol. 86, iss. 2, p. 248-257. DOI: [10.1097/QAI.0000000000002541](https://doi.org/10.1097/QAI.0000000000002541).

Amele, Sarah; Sandri, Anastasia Karachalia; Rodger, Alison; Vandekerckhove, Linos; Benfield, Thomas; Milinkovic, Ana; Duvivier, Claudine; Stellbrink, Hans- Jürgen; Sambatakou, Helen; Chkhartishvili, Nikoloz; Caldeira, Luis; Laguno, Monserrat; Domingo, Pere; Wandeler, Gilles; Gisinger, Martin; Kuzovatova, Elena; Dragovic, Gordana; Knysz, Brygida; **Matulionytė, Raimonda**; Rockstroh, Jürgen Kurt; Lundgren, Jens Dilling; Mocroft, Amanda; Peters, Lars. HCV reinfection after HCV therapy among HIV/HCV-coinfecting individuals in Europe. // HIV medicine. Hoboken: Wiley. ISSN 1464-2662. eISSN 1468-1293. 2021, first on line, p. [1-9]. DOI: [10.1111/hiv.13212](https://doi.org/10.1111/hiv.13212).

European AIDS Clinical Society (EACS). EACS Career Development Fellowship Programme.

Fellow – PhD student E. Matulyte, the mentor – Prof. Dominique Costagliola, Sorbonne Université, Institut national de la santé et de la recherche médicale (INSERM), the supervisor of PhD work – Prof. Dr. R. Matulionyte. 2020–2021.

COVID-19 surveillance and risk factors research (I-MOVE-COVID-19 LTU). Prof. Dr. Ligita Jančorienė, Assist. Prof. Dr. Birutė Zablockienė, PhD Student Ieva Kubiliūtė. 2020-2022.

Biomedical research of European hospital surveillance, risk factors and vaccine effectiveness I-MOVE-COVID-19 Network - Multidisciplinary European network for research, prevention and control of the COVID-19 pandemic. The aim of this study - to describe clinical, epidemiological characteristics of hospitalized patients with COVID-19 and determine the main risk factors associated with severe disease and death due to COVID-19. Until the end of November 2021, 487 participants were included. This study is the part of Influenza-Monitoring Vaccine Effectiveness in Europe-Coronavirus Disease 2019 (I-MOVE-COVID-19) hospital surveillance network. Abstract “COVID-19 risk factors among adults hospitalized in the university medical centre, Lithuania” submitted to ECCMID 2022.

Main publications:

Kuliešė, Monika; Mickienė, Auksė; **Jančorienė, Ligita; Zablockienė, Birutė**; Gefenaitė, Giedrė. Age-specific seasonal influenza vaccine effectiveness against different influenza subtypes in the hospitalized population in Lithuania during the 2015–2019 influenza seasons // Vaccines. Basel: MDPI. eISSN 2076-393X. 2021, vol. 9, art. no. 455, p. [1-17]. DOI: [10.3390/vaccines9050455](https://doi.org/10.3390/vaccines9050455).

Contractual Research

SOLIDARITY TRIAL and SOLIDARITY TRIAL PLUS World Health Organization An international randomised trial of additional treatments for COVID-19 in hospitalised patients who are all receiving the local standard of care. Prof. Dr. L. Jančorienė (steering committee member, PI), Assist. Prof. Dr. B. Zablockienė, lecturer M. Paulauskas, 2020-ongoing.

WHO helps evaluate drugs by randomising their effects on important outcomes. The WHO Solidarity trial involves collaboration between hundreds of hospitals in dozens of countries. It began by evaluating four repurposed drugs, and now guided by an independent Expert Groups, is now evaluating addition to the local Standard of Care of other potential drugs.

Main publications:

Pan, Hongchao; Peto, Richard; Henao-Restrepo, Ana-Maria; Preziosi, Marie-Pierre; Sathiyamoorthy, Vasee; Karim, Quarraisha Abdool; Alejandria, Marissa M.; García, César Hernández; Kieny, Marie-Paule; Malekzadeh, Reza; Murthy, Srinivas; Srinath Reddy, K.; Periago, Mirta Roses; Hanna, P. A.; Ader, Florence; Al-Bader, Abdullah M.; Alhasawi, Almonther; Allum, Emma; Alotaibi, Athari; Alvarez-Moreno, Carlos A.; Appadoo, Sheila; Asiri, Abdullah; Aukrust, Pål; Barratt-Due, Andreas; Bellani, Samir; Branca, Mattia; Cappel-Porter, Heike B.C.; Cerrato, Nery; Chow, Ting S.; Como, Najada; Eustace, Joe; García, Patricia J.; Godbole, Sheela; Gotuzzo, Eduardo; Griškevičius, Laimonas; Hamra, Rasha; Hassan, Mariam; Hassany, Mohamed; Hutton, David; Irmansyah, Irmansyah; Jančorienė, Ligita; Kirwan, Jana; Kumar, Suresh; Lennon, Peter; Lopardo, Gustavo; Lydon, Patrick; Magrini, Nicola; Maguire, Teresa; Manevska, Suzana; Manuel, Oriol; McGinty, Sibylle; Medina, Marco T.; Mesa Rubio, María L.; Miranda-Montoya, Maria C.; Nel, Jeremy; Nunes, Estevao P.; Perola, Markus; Portolés, Antonio; Rasmin, Menaldi R.; Raza, Aun; Rees, Helen; Reges, Paula P.S.; Rogers, Chris A.; Salami, Kolawole; Salvadori, Marina I.; Sinani, Narvina; Sterne, Jonathan A.C.; Stevanovikj, Milena; Tacconelli, Evelina; Tikkinen, Kari A.O.; Trelle, Sven; Zaid, Hala; Røttingen, John-Arne; Swaminathan, Soumya. Repurposed antiviral drugs for COVID-19 — Interim WHO solidarity trial results // *New England journal of medicine*. Waltham : Massachusetts Medical Society. ISSN 0028-4793. eISSN 1533-4406. 2021, vol. 384, no. 6, p. 497-511. DOI: 10.1056/NEJMoa2023184.

A Randomized, Double-Blind, Multicenter Study Assessing Short (16 Weeks) and Long-term Efficacy (up to 1 Year), Safety, and Tolerability of 2 Subcutaneous Secukinumab Dose Regimens in Adult Patients with Moderate to Severe Hidradenitis Suppurativa (SUNRISE).

Assoc. Prof. J. Grigaitienė, M. Krivickaitė, R. McGlone, T. Raudonis. 2019–2022.

This is a multicenter, randomized, double-blind, placebo-controlled, parallel group study with two secukinumab dose regimens in patients with moderate to severe HS. The study consists of: screening (up to 4 weeks) treatment period 1 (16 weeks, active drug or placebo) and treatment period 2 (up to 1 year all patients on active drug); there will be an optional extension study. Adult males and females with moderate to severe HS will be included, with a diagnosis of HS greater than 1 year prior to baseline. The primary objective is to demonstrate the efficacy of secukinumab compared to placebo with respect to HiSCR after 16 weeks of treatment; primary secondary objectives are to assess difference in proportion of patients with HS flares, and proportion of patients with clinical response in HS related skin pain after 16 weeks of treatment. Key safety data will be collected, along with Patient Reported Outcomes.

A Multicenter, Double-blind, Randomized Withdrawal extension study of subcutaneous secukinumab to demonstrate long-term efficacy, safety and tolerability in subjects with moderate to severe hidradenitis suppurativa. Assoc. Prof. J. Grigaitienė, T. Raudonis, 2021–2025.

Extension study to assess effects of non-interrupted versus interrupted and long-term treatment of two dose regimens on efficacy and safety in subjects with moderate to severe hidradenitis suppurativa. The purpose of this extension study is to evaluate maintenance of HiSCR response at Week 104 in either continuous or interrupted therapy (using a randomized withdrawal period) of two dose regimens and to assess long-term efficacy, safety and tolerability of secukinumab in subjects with moderate to severe hidradenitis suppurativa (HS) completing either of the two Phase III studies, CAIN457M2301 or CAIN457M2302, both 52 weeks in duration. In addition, this study will provide long-term access to the study medication.

A Randomized, Double-Blind, Placebo-Controlled Trial to Evaluate the Efficacy and Safety of Lebrikizumab in Patients with Moderate-to-Severe Atopic Dermatitis. Assoc. Prof. J. Grigaitienė, R. McGlone, T. Raudonis, M. Macejevska, I. Gylienė, 2020–2022.

This is a randomized, double-blind, placebo-controlled, parallel-group study which is 52 weeks in duration. The study is designed to confirm the safety and efficacy of lebrikizumab as monotherapy for moderate-to-severe atopic dermatitis utilizing a 16-week induction treatment period and a 36-week long-term maintenance treatment period.

Eligible adult and adolescent patients with moderate-to-severe atopic dermatitis for at least one year, defined according to the American Academy of Dermatology Consensus Criteria, an Eczema Area and Severity Index Score (EASI) of ≥ 16 , an Investigator Global Assessment (IGA) score of ≥ 3 and a body surface area (BSA) of $\geq 10\%$ will be enrolled. Efficacy will be measured through the IGA, EASI, BSA, SCORAD, Pruritus and Sleep-loss scores

Long-term Safety and Efficacy Study of Lebrikizumab (DRM06-AD07/J2T-DM-KGAA) in Participants with Moderate-to-Severe Atopic Dermatitis (Adjoin). Assoc. Prof. J. Grigaitienė, R. McGlone, I. Gylienė, 2021-2024.

A long-term study to assess the safety and efficacy of Lebrikizumab in patients with moderate –to- Severe Atopic Dermatitis. This is the extension of the previous lebrikizumab study. Primary endpoint - describe the proportion of patients discontinued from study treatment due to adverse events through the last treatment visit.

A Randomized, Double-Blind, Placebo-Controlled Study to Assess the Efficacy and Safety of Nemolizumab in Subjects with Moderate-to-Severe Atopic Dermatitis. Assoc. Prof. J. Grigaitienė, R. McGlone, M. Macejevska, 2020–2024.

This is a randomized, double-blind, placebo-controlled, multicenter, parallel-group study in adult and adolescent subjects with moderate-to-severe AD. The study is designed to confirm the safety and efficacy of nemolizumab in subjects with AD when the disease is not adequately controlled with topical medications. Eligible subjects must have a documented history of inadequate response to topical AD medication(s). The study consists of 4 periods over approximately 60 weeks: screening (including run-in), initial treatment, maintenance, and follow-up. Long-term extension up to 3 years in duration is foreseen. Eligible adult and adolescent patients with moderate-to-severe atopic dermatitis for at least two years, defined according to the American Academy of Dermatology Consensus Criteria, an Eczema Area and Severity Index Score (EASI) of ≥ 16 , an Investigator Global Assessment (IGA) score of ≥ 3 and a body surface area (BSA) of $\geq 10\%$ will be enrolled. Efficacy will be measured through the IGA, EASI, BSA, SCORAD, Pruritus and Sleep-loss scores.

A Phase 3, Multicenter, Randomized, Double-Blind Study Evaluating the Efficacy and Safety of ABP 654 Compared with Ustekinumab in Subjects With Moderate to Severe Plaque Psoriasis

Assoc. Prof. J. Grigaitienė, T. Raudonis, I. Gylienė, L. Lukavičiūtė, L. Martinelė. 2021–2022.

The study is designed to investigate the efficacy, safety, and immunogenicity of ABP 654 compared with ustekinumab in subjects with moderate to severe plaque psoriasis. During the approximately 56 weeks of total study participation, each subject will receive a total of either 5 or 6 doses, based on the one group to which they are assigned, as described below. Subjects will receive an initial 3 doses of either ABP 654 or ustekinumab at weeks 0, 4, and 16. From week 28 subjects will receive either ABP 654 or ustekinumab every 8 weeks (Q8W) or every 12 weeks (Q12W).

Subjects with a PASI 75 response or better improvement will continue on the study and will be re-randomized in a blinded fashion such that subjects initially randomized to Group A (ABP 654) will continue to receive ABP 654 and those in Group B (ustekinumab) will be re-randomized 1:1 to either continue on ustekinumab (Treatment Group B1) or switch to ABP 654 (Treatment Group B2).

Subjects will receive investigational product at week 28 and the last dose of investigational product at week 40.

A Phase III, randomised, double-blind, multicentre clinical study to evaluate the efficacy, safety, tolerability, pharmacokinetics, and immunogenicity of SB17 compared to Stelara® in subjects with moderate to severe plaque psoriasis Assoc. Prof. J. Grigaitienė, T. Raudonis, I. Gylienė, L. Lukavičiūtė, L. Martinelė, 2021–2022.

This is a randomised, double-blind, multicentre clinical study to evaluate the efficacy, safety, tolerability, PK, and immunogenicity of SB17 compared to Stelara® in subjects with moderate to severe plaque psoriasis.

Subjects will be randomised in a 1:1 ratio to receive either SB17 or Stelara® via subcutaneous injection. Investigational products (IPs) (SB17 or Stelara®) will be administered at Week 0, 4, and then every 12 weeks up to Week 40, and the last assessment will be done at Week 52. At Week 28, subjects who achieved a PASI50 response will enter the transition period. In the transition period, subjects receiving Stelara® will be randomised again in a 1:1 ratio to either continue on Stelara® (Stelara®/Stelara®) or be transitioned to SB17 (Stelara®/SB17), up to Week 40. Subjects receiving SB17 will continue to receive SB17 up to Week 40 but they will follow the randomisation procedure in order to maintain blinding.

MAIN R&D&I (RESEARCH, DEVELOPMENT AND INNOVATION) PARTNERS

Lithuanian University of Health Sciences (Lithuania)

Warren Alpert Medical School at Brown University, Providence, RI (USA)

Ludwig – Maximilians University, Munich (Germany)

Brandenburg Medical School Theodor Fontane, Branderburg (Germany)

Skåne university hospital, Lund University, Department of occupational and environmental dermatology (Sweden)

Lund University (Sweden)

Malmö University (Sweden)

Riga Stradins University (Latvia)

OTHER RESEARCH ACTIVITIES

PhD student E. Matulytė

2-weeks visit (2021/09/20 - 2021/10/03) to the mentor's institution - Sorbonne Université, Institut national de la santé et de la recherche médicale (INSERM). The visit was a part of EACS Career Development Fellowship Programme, the mentor – Prof. Dominique Costagliola.

Prof. Dr. L. Jančorienė

Member of WHO International Steering Committee of Solidarity Trial, from 2020.

Scientific Committee member of Central and Eastern European Meeting on Viral hepatitis and HIV 2021

Prof. L. Jančorienė –

- member of the European Association of the Study of the Liver, www.easl.ch;
- member of the International Society of Travel Medicine, www.istm.org;
- member of the European Society of Clinical Microbiology and Infectious Diseases, www.escmid.org;

- board member of the Lithuanian Society of Infectious Diseases, www.lid.lt;
- member of the Lithuanian Society of Gastroenterology, www.gastroenterologija.lt;
- member of the working group for preparation of Action Plan for Viral Hepatitis Prevention and Control 2019–2022, Lithuania;
- member of the Coordination group for the control of national HIV/AIDS and sexually transmitted infections action plan under Lithuanian Ministry of Health;
- member of Independent Experts (advisors, consultants) group for the National Immunoprophylaxis programme for 2019–2023;
- member of the working group for the concept of infectious diseases management and control, Ministry of Health of The Republic of Lithuania;
- member of WHO International Steering Committee of Solidarity Trial, from 2020;
- member of Expert group under Lithuanian Ministry of Health for the preparation of National guidelines for the rational use of antimicrobials and for the preparation of draft version of guidelines for the selection of the recommended first-line and reserve antimicrobials;
- L. Jančorienė officially participated in the activities of the expert group related to the management of COVID infection under the 17th Government of Lithuania;
- L. Jančorienė was appointed by the Prime Minister's Decree on 18 December 2020 to the Advisory Council of Independent Experts to consider and submit proposals on the management of COVID-19 disease;
 - member of Council of Health Experts initiated by the President of the Republic of Lithuania.
 - members of Working Group in the Ministry of Health of the Republic of Lithuania, preparing a ministerial order according the Description of Special Requirements for the Provision of Inpatient Health Care Services for Secondary and Tertiary Levels of Adult Infectious Diseases.
- member of National Health Board.
- Expert in Vilnius University project Nr. 09.42-ESFA-V-715-06-0001 “Improving the competencies and qualifications of medical doctors in Vilnius University”

Prof. R. Matulionytė –

- chair of the Vilnius Society of Infectious Diseases, www.lid.lt;
- board member of the Lithuanian Society of Infectious Diseases, www.lid.lt;
- member of the European Society of Clinical Microbiology and Infectious Diseases (ESCMID), www.escmid.org;
- member of the European AIDS Clinical Society, www.eacs.ws;
- member of the HIV Euroguidelines in Central and Eastern Europe (ECEE) Network Group;
- steering committee member for 2017–2022 of the multi-centre prospective observational cohort study group EuroSIDA;
- coordinator in the partnership of Vilnius University Hospital *Santaros Klinikos* in the EU project 761319 – Joint Action on integrating prevention, testing and link to care strategies across HIV, viral hepatitis, TB and STIs in Europe (INTEGRATE);
- member of Monitoring network for drugs and drug addiction at Drug, tobacco and alcohol control department of The Republic of Lithuania
- member of the Action plan for HIV/AIDS and STI Prevention and Control 2018–2020, Lithuania;
- member of Independent Experts (advisors, consultants) group for the National Immunoprophylaxis programme for 2019–2023;
- Lithuanian delegate in the European Union of Medical Specialists (UEMS) – Infectious Diseases section.

Prof. M. Bylaitė-Bučinskienė –

- board member of the European Association of Dermato Oncology, www.eado.org;
- board member of the Baltic association of Dermatovenereologists, www.badv.org;
- member of the European Academy of Dermatology and Venereology (EADV), www.eadv.org;
- member of the European Dermatology Forum, www.euroderm.org;
- member of the European Society for Pediatric Dermatology (ESPD), www.espd.info;
- member of the International Society of Dermatology, www.intsocderm.org;
- editorial board member of the *Journal of Health Sciences*;
- editorial board member of the *Journal of Lithuania's Obstetrics and Gynecology*;
- editorial board member of the journal *Sveikatos mokslai (Health Sciences)*, www.sam.lt/lt/sam/moksliniai/straipsniai/.

Assoc. Prof. R. Gancevičienė –

- president of the Lithuanian Society of Dermatovenereology, www.ldvd.lt;
- member of the European Academy of Dermatology and Venereology, www.eadv.org;
- member and board member of the local Euromelanoma Committee;
- editorial board member of the *Journal of Dermato-Endocrinology, Landes Biosciences*;
- member of the Scientific Technical Committee *Cosmetics* of Lithuanian Department for Standardization.

Assoc. Prof. Dr J. Grigaitienė –

- member of the Lithuanian Society of Dermatovenereology, www.ldvd.lt;
- member of the European Academy of Dermatology and Venereology, www.eadv.org;
- member of Lithuanian Society of Allergology and Clinical Immunology, www.alergologudraugija.lt;
- member of the Lithuanian Society of Lasers;
- national representative and board member of the Dermato-Venerology Section of European Union of Medical Specialists (UEMS), www.uems.net.

Assist. Prof. B. Zablockienė –

- board member of the Lithuanian Society of Infectious Diseases, www.lid.lt;
- member of the European Society of Clinical Microbiology and Infectious Diseases, www.escmid.org;
- member of Lithuanian Society of Pulmonologists, <http://www.chest.lt/>;
- member of Lithuanian Ultrasound Association, <http://www.ultragarsas.lt>.

Teaching Assist. I. Kisielienė –

- member of the Lithuanian Society of Dermatovenereology, www.ldvd.lt.

Teaching Assist. T. Raudonis –

- board member of the Lithuanian Society of Dermatovenereology, www.ldvd.lt;
- member of the European Academy of Dermatology and Venereology, www.eadv.org;
- specialist in the EU project 761319 (partner – Vilnius University Hospital *Santaros Klinikos*) – Joint Action on integrating prevention, testing and link to care strategies across HIV, viral hepatitis, TB and STIs in Europe (INTEGRATE)

Teaching Assist. E. Matulytė –

- member of the Lithuanian Society of Infectious Diseases, www.lid.lt;
- member of the European Society of Clinical Microbiology and Infectious Diseases, www.escmid.org;
- member of the European AIDS Clinical Society, www.eacs.org;

- specialist in the EU project 761319 (partner – Vilnius University Hospital *Santaros Klinikos*) – Joint Action on integrating prevention, testing and link to care strategies across HIV, viral hepatitis, TB and STIs in Europe (INTEGRATE);
- national representative Trainee Association the European Society of Clinical Microbiology and Infectious Diseases.

Lect. A. Marcinkutė –

- member of the Lithuanian Society of Infectious Diseases, www.lid.lt;
- member of the European Society of Clinical Microbiology and Infectious Diseases, www.escmid.org.

Lect. M. Paulauskas –

- member of the Lithuanian Society of Infectious Diseases, www.lid.lt;
- member of the European Society of Clinical Microbiology and Infectious Diseases, www.escmid.org.

Lect. M. Macejevska –

- member of the Lithuanian Society of Dermatovenereology, www.ldvd.lt;
- member of the European Academy of Dermatology and Venereology, www.eadv.org.

Lect. L. Svetikas –

- member of the Lithuanian Society of Infectious Diseases, www.lid.lt;
- member of the European Society of Clinical Microbiology and Infectious Diseases, www.escmid.org.

Lect. O. Aliancevič –

- member of the Lithuanian Society of Infectious Diseases, www.lid.lt;
- member of the European Society of Clinical Microbiology and Infectious Diseases, www.escmid.org.

Lect. K. Žvirblytė - Skrebutėnienė –

- member of the Lithuanian Society of Infectious Diseases, www.lid.lt;

Investigator I. Kubiliūtė –

- member of the Lithuanian Society of Infectious Diseases, www.lid.lt;
- member of the European Society of Clinical Microbiology and Infectious Diseases, www.escmid.org
- member of the European AIDS Clinical Society, www.eacs.org.

Research Assist. S. Grubytė –

- member of the Lithuanian Society of Infectious Diseases, www.lid.lt.

Research Assist. E. Strumilienė –

- member of Lithuanian Society of Pulmonologists, <http://www.chest.lt/>
- member of Lithuanian Society of Pulmonologists, <http://www.chest.lt/>
- member of Lithuania Society of Pulmonologists and Allergologists, www.pulmoalerg.lt
- member of Society of Vilnius Region Allergologists and Immunologists, www.vaki.lt
- member of European Respiratory Society, <https://www.ersnet.org/>

BEST REPORTS DELIVERED AT CONFERENCES ABROAD

R. Ganceviciene “Skin care after interventional laser dermatology”. Webinar for Baltic dermatovenerologists, 2021-02-25.

Prof. Dr. L. Jančorienė. Oral presentation "Confrontation with COVID-19: Lithuanian experiences, everyday challenges and perspectives", on 2021.03.24, Riga Stradins University Research week 2021 (RSU RW 2021) 2021.03.22-2021.03.26. RW2021 Knowledge for Use in Practice, on medical and health research, and Society. Health. Welfare, a multidisciplinary conference, Riga, Latvia.

R. Ganceviciene „Recent trends in aesthetics and botulinum toxin usage in wrinkles minimization” Webinar of Estonian association of aesthetic medicine. 2021-04-17.

Prof. Dr. R. Matulionyte. Experience in innovative testing approaches for HIV, hepatitis, STIs and TB.

Hep/HIV 2021 Conference, 5-7 May, Lisbon & Virtual (7th biennial conference on optimal testing and earlier care hosted by the EuroTEST Initiative). Plenary session 3: Implementing integrated testing strategies. <https://www.eurotest.org/Conferences>

Prof. Dr. L. Jančorienė. Oral presentation „Challenges of COVID-19 vaccination“ 2021-10-15 International conference „The 6th Baltic Endocrinology Conference for Young Specialists“ (virtual edition).

E. Strumiliene, T. Zvirblis, L. Jancorienė. Oral presentation "Pulmonary function and quality of life recovery in COVID-19 pneumonia survivors". The Eight ESWI Influenza Conference, 2021, 4-7 December " (virtual edition).

MOST IMPORTANT PARTICIPATION CASES OF RESEARCHERS IN WORKING GROUPS OR COMMISSIONS SET UP BY STATE AUTHORITIES, STATE AND MUNICIPAL INSTITUTIONS AND ORGANISATIONS, AND BUSINESS ENTITIES

- Prof. Dr. L. Jančorienė, Assist. Prof. Dr. B. Zablockienė are members of Working Group in the Ministry of Health of the Republic of Lithuania, preparing a ministerial order according to the Description of Special Requirements for the Provision of Inpatient Health Care Services for Secondary and Tertiary Levels of Adult Infectious Diseases.
- Prof. Dr. L. Jančorienė officially participated in the activities of the expert group related to the management of COVID infection under the 17th Government of Lithuania;
- Prof. Dr. L. Jančorienė was appointed by the Prime Minister's Decree on 18 December 2020 to the Advisory Council of Independent Experts to consider and submit proposals on the management of COVID disease
- Prof. Dr. L. Jančorienė is a Member of Council of Health Experts initiated by the President of the Republic of Lithuania.
- Prof. Dr. L. Jančorienė is a member of National Health Board.

MOST IMPORTANT RESEARCH DISSEMINATION ACTIVITIES

Kubiliūtė I., Jancorienė L. Oral presentation “COVID-19 stebėsenos ir rizikos veiksių tyrimas on 2021-09-02 National conference „COVID-19 infection: challenges, experiences and future perspectives”, Vilnius, Lithuania.

M. Kunigonyte, K. Lubyte, **I. Kubiliūte, B. Zablockiene, L. Jancoriene.** Poster presentation "Risk factors and outcomes of hospitalized COVID-19 patients in Vilnius University Hospital Santaros Klinikos during the first pandemic wave" at International conference Life Science Baltics, 2021-09-20 - 2021-09-24, Vilnius, Lithuania.

E. Strumilienė. Oral presentation "COVID-19 pneumonia: acute lung injury and long-term sequelae", 2021-10-06 National conference „Up-to-date in infectious diseases diagnostics, treatment and prophylaxis “, Vilnius, Lithuania

L. Jančorienė. Oral presentation "Chronic hepatitis C: up-to-date in treatment and elimination", 2021-10-06 National conference „Up-to-date in infectious diseases diagnostics, treatment and prophylaxis“, Vilnius, Lithuania

B. Zablockienė. Oral presentation "Up-to-date in influenza during COVID-19 pandemia", 2021-10-06 National conference „Up-to-date in infectious diseases diagnostics, treatment and prophylaxis“, Vilnius, Lithuania

R. Matulionytė. Oral presentation "Up-to-date in HIV during COVID-19 pandemia", 2021-10-06 National conference „Up-to-date in infectious diseases diagnostics, treatment and prophylaxis“, Vilnius, Lithuania

L. Svetikas. Oral presentation "Post-exposure prophylaxis of infectious diseases", 2021-10-06 National conference „Up-to-date in infectious diseases diagnostics, treatment and prophylaxis“, Vilnius, Lithuania

D. Radzišauskienė. Oral presentation "Lyme boreliosis: when to suspect and how to correctly diagnose and treat", 2021-10-06 National conference „Up-to-date in infectious diseases diagnostics, treatment and prophylaxis“, Vilnius, Lithuania

A. Marcinkutė. Oral presentation "Arthropod-borne diseases: syndrom of lymphadenopathy, differential diagnostics", 2021-10-06 National conference „Up-to-date in infectious diseases diagnostics, treatment and prophylaxis“, Vilnius, Lithuania

Scientific popularization on TV, radio and Internet broadcasts (Prof. L. Jančorienė, Prof. R. Matulionytė, Prof. M. Bylaitė-Bučinskienė, Assoc. Prof. J. Grigaitienė, T. Raudonis, Assoc. Prof. R. Ganceviciene, Assoc. Prof. D. Radzišauskienė, Assist. Prof. B. Zablockienė, Assit. Prof. R. Valintėlienė, L. Svetikas, A. Marcinkutė)

Clinic of Chest Diseases, Immunology and Allergology

2 Santariškių, LT-08661 Vilnius

Tel. 250 1871

E-mail: edvardas.danila@mf.vu.lt; edvardas.danila@santa.lt

Head – Prof. Dr *Edvardas Danila*

STAFF

Professors: Dr E. Danila (part-time), Dr L. Malinauskienė (part-time).

Associate professors: Dr Habil. R. Janilionis (part-time), Dr R. Zablockis (part-time), Dr V. Gruslys (part-time), Dr A. Chomičienė (part-time), Dr Kęstutis Miškinis (part-time), Dr V. Šileikienė (part-time).

Assistant professors: Dr Ž. Jagelavičius (part-time).

Lecturers: G. Cincilevičiūtė (part-time), R. Gauronskaitė (part-time), I. Pocienė (part-time), K. Kėvelaitienė (part-time), E. Bagurskienė (part-time), G. Šlekytė (part-time), V. Kumpauskaitė (part-time).

Researchers: Dr Habil. R. Dubakienė (full-time), Dr V. Kvedarienė (part-time), Dr L. Malinauskienė (part-time).

Doctoral students: R. Aleksonienė, R. Gauronskaitė, E. Jurevičienė, K. Linauskienė, R. Vėbrienė.

Students' scientific groups:

Pulmonology: scientific leader – Prof. E. Danila, coordinator – student Š. Raudonis; 18 members of the group.

Allergy and Clinic Immunology: scientific leader – Dr V. Kvedarienė, coordinator – student G. Biliūtė; 42 members of the group.

Thoracic Surgery: scientific leader – Assist. Prof. Ž. Jagelavičius, coordinator – student R. Vitkauskas; 12 members of the group.

RESEARCH INTERESTS

Evaluation of the efficacy of the diagnostic and treatment methods in obstructive, interstitial, neoplastic and allergic lung diseases: diagnosis and management of interstitial lung diseases.

Diagnosis and management of COPD and bronchial asthma; sensitivity to various kinds of disinfectants among the medical staff.

Development of new technologies, methods of early cancer detection and treatment interventions
Improvement of the quality of life of cancer patients.

Pleural disease, diagnostic procedures, pleural biopsy; diagnosis, epidemiological and clinical research of drug hypersensitivity.

Allergen immunotherapy: selection of patients, efficacy of different methods and long term treatment results.

Drug hypersensitivity diagnostic peculiarities.

Contact allergy to cosmetics, textiles, and heavy metals.

Study of interactions between allergic rhinitis and bronchial asthma, application of new technologies in allergic and respiratory diseases.

Strategy and approaches of the surgical management of patients with different thoracic pathology.

Role of mobile technologies in diagnostic and management of allergic diseases.

RESEARCH PROJECTS CARRIED OUT IN 2021

Projects Supported by University Budget

Diagnosis and Treatment of Interstitial Lung Diseases. Prof. E.Danila. 2014–2021.

The aim of the study is to evaluate the significance of bronchoalveolar lavage fluid examination in sarcoid patients and patients with rare interstitial disorders (eosinophilic pneumonia, hypersensitivity pneumonitis). Clinical symptoms, cell differentials and distribution of lymphocyte subgroups in BALF, chest X-ray, spirometric indices, blood gases were evaluated.

Main publications:

Aleksonienė R, Besusparis J, Gruslys V, Jurgauskienė L, Laurinavičienė A, Laurinavičius A, Malickaitė R, Norkūnienė J, Zablockis R, Žurauskas E, Danila E. CD31⁺, CD38⁺, CD44⁺, and CD103⁺ lymphocytes in peripheral blood, bronchoalveolar lavage fluid and lung biopsy tissue in sarcoid patients and controls. *J Thorac Dis* 2021; 13: 2300–2318.

Risk factors for complicated community-acquired pneumonia course in patients treated with b-lactam monotherapy. Prof. E.Danila. 2014–2021.

Community-acquired pneumonia (CAP) is the deadliest communicable disease and a major cause of morbidity and mortality worldwide. The objective of the study is to investigate CAP treated with b-lactam monotherapy, 30-day mortality and risk factors predicting complicated CAP course. To sum up, the study has demonstrated that in the low *Streptococcus pneumoniae* resistance population, CAP treatment with b-lactam monotherapy results in relatively low mortality rate. Neuromuscular disease, multilobar opacities, and clinically unstable condition as evaluated using Halm's criteria predict a complicated CAP course.

Main publications:

Cincilevičiūtė G, Averjanovaitė V, Mereškevičienė R, Pliatkienė G, Zablockis R, Danila E. Risk factors for complicated community-acquired pneumonia course in patients treated with β-lactam monotherapy. *Adv Respir Med* 2021; 89(4): 359-368.

Obstructive sleep apnea phenotypes. Assoc. prof. R. Zablockis. 2017–2021.

Obstructive sleep apnea (OSA) is a heterogeneous chronic sleep associated disorder. A common apnea-hypopnea index (AHI)-focused approach to OSA severity evaluation is not sufficient enough to capture the extent of OSA related risks, it limits our understanding of disease pathogenesis and may contribute to a modest response to conventional treatment. In order to resolve the heterogeneity issue, OSA patients can be divided into more homogenous therapeutically and prognostically significant groups-phenotypes. An improved understanding of OSA phenotype relationship to treatment effectiveness is required. Thus, in this study several clinical OSA phenotypes are identified and compared by their treatment effectiveness.

Main publications:

Charčiūnaitė K, Gauronskaitė R, Šlekytė G, Danila E, Zablockis R. Evaluation of Obstructive Sleep Apnea Phenotypes Treatment Effectiveness. *Medicina (Kaunas)*. 2021; 57: 335.

Systemic inflammatory response to different sclerosing agents for pleurodesis. Assoc. prof. R. Zablockis, 2014–2021.

The objectives of this study were to evaluate systemic inflammation using different sclerosing agents and to estimate the prediction of systemic inflammation for the efficacy of pleurodesis.

Main publications:

Zablockis R, Danila E, Gruslys V, Cincilevičiūtė G. Systemic inflammatory response to different sclerosing agents as a predictor of pleurodesis outcome. *In Vivo* 2021; 35: 2391–2398.

Metal Contact Allergy. Prof. L. Malinauskienė. 2015–2021.

This year the analysis of nickel, cobalt, and chromium in vitro release to the artificial sweat from nails and wire made of different alloys, and testing of metal deposition on the fingers of metalworkers were performed. The metal release was determined by atomic absorption spectrometry and with an inductively coupled plasma mass spectrometer by collaborating with the Department for Nuclear Technologies (Center for Physical Sciences and Technology, Vilnius). The main finding is that these metals can be released in different concentrations from nails and wire to the amount which may elicit dermatitis in already sensitized patients. Cobalt can be extracted from alloys even if not mentioned on material safety data sheets. The finger immersion technique was successfully used for cobalt and chromium detection on fingers for the first time.

Main publications:

Linauskiene K, Dahlin J, Ezerinskas Z, Isaksson M, Sapolaite J, Malinauskiene L. Occupational exposure to nickel, cobalt, and chromium in the Lithuanian hard metal industry. *Contact Dermatitis* 2021; 84(4): 247–253.

Linauskiene K., Dahlin J, Ezerinskas Z. Isaksson M, Sapolaite J, Malinauskiene L. The penetration of chromium. *Dermatitis* 2021; doi: 10.1097/DER.0000000000000805/

Evaluation of Drug Hypersensitivity Reactions. Prof. L. Malinauskienė. 2015–2021.

The aim of the study was to describe a rare contact allergen – tribenoside and find the effective dose for testing.

Main publications:

Malinauskienė L, Černiauskas K, Griguola L, Chomičiene A. Contact allergy to tribenoside: A rare allergen. *Contact Dermatitis* 2021; 85(6): 718–719.

Contact allergy to cosmetics. Prof. L. Malinauskienė. 2017–2021.

This year identification of the most common cosmetic allergens that cause sensitization was performed by analyzing the results of skin patch tests, evaluation of the changes in the frequency of positive reactions over several years. The main findings were as follows. The incidence of cosmetic allergy in five years increased from 36,84% in 2014 to 46,21% 2018; peaking in 2016 (57,61%). Female and atopic patients had higher rates of cosmetic allergy, with atopic patients being more prone to allergic reactions to emulsifiers, emollients, solvents, surfactants and conditioning agents, $p < 0,5$. The most common cosmetic allergens in European baseline series were methylisothiazolinone (13,19%), its mix with methylchloroisothiazolinone (10,04%), formaldehyde (8,14%) and Balsam of Peru (6,95%).

Main publications:

Rudzikaitė-Fergizė G, Linauskienė K, Malinauskienė L. Kontaktinė alergija kosmetikos alergenams: penkerių metų analizė = Contact allergy to cosmetic allergens: a five-year study. *Medicinos mokslai = Journal of medical sciences. Kėdainiai: VšĮ Lietuvos sveikatos mokslinių tyrimų centras.* eISSN 2345-0592. 2021, vol. 9, iss. 1, p. 50–74.

Differences between Self-Reported Drug Hypersensitivity Reactions in Lithuanian Adults and Children. Dr V. Kvedarienė, 2014–2025.

The aim of study was to assess the prevalence of self-reported DHRs in adults and in children and to analyze the risk factors in both groups. Cross-sectional survey of a population was made. The

differences between children and adults will be evaluated. Role of provocation tests for evaluate true allergy to drugs were studied.

Main publications:

Kvedarienė V, Orvydaitė M, Petraitytė P, Rudytė J, Tamošiūnas AE. Inherent clinical properties of non-immediate hypersensitivity to iodinated contrast media. *Int J Clin Pract* 2021; 75: e14766.

Allergen Immunotherapy: Patients' Selection, Efficacy of Different Methods and Treatment Results. Dr V. Kvedarienė, 2014–2025.

The aim of the study was to evaluate the clinical efficacy and adverse reactions in adults with allergic rhinoconjunctivitis with or without asthma. The clinical effect and the differences between methods of immunotherapy will be evaluated. We conclude that treatment with ASIT (allergen-specific immunotherapy) is effective and safe.

Main publications:

Bousquet J, Pfaar O, Agache I, ... Kvedarienė V, ... Jutel M. ARIA-EAACI care pathways for allergen immunotherapy in respiratory allergy. *Clin Transl Allerg* 2021; 11: e12014.

National Research Projects

Improvement of Tuberculosis Prevention, Diagnostics, Treatment and Improvement of Practical Skills (J02-CPVA-V-04-0002). Prof. E. Danila, Assoc. Prof. R. Zablockis, Assoc. Prof. V. Gruslys. 2018–2021.

Several scientific publications prepared and published.

Main publications:

Koirala S, Borisov S, Danila E, ..., Davidavičienė E, ..., Gruslys V, ..., Nakčerienė B, ..., Zablockis R, Outcome of treatment of MDR-TB or drug-resistant patients treated with bedaquiline and delamanid: Results from a large global cohort. *Pulmonology* 2021; 27(5): 403-412.

Casco N, Jorge AL, Palmero D, ..., Danila E, TB and COVID-19 co-infection: rationale and aims of a global study. *Int J Tuberc Lung Dis* 2021; 25(1): 78-80.

Migliori GB, Thong PM, Alffenaar JW, ..., Danila E, Gauging the impact of the COVID-19 pandemic on tuberculosis services: a global study. *Eur Respir J* 2021; 58: 2101786.

Seasonal Peculiarities of Indoor Air Pollution and Its Impact on Respiratory Morbidity and Allergy of Primary School Children (LMT, P-MIP-20-404). Dr V. Kvedarienė. 2020–2025.

The air pollution levels of aerosol particles in school environment were assessed and the main pollution sources were determined. The diagnostic of allergic diseases in primary school children was started.

International Research Projects

Patch Testing with Propolis of Different Origin in Different Countries in collaboration with Gothenburg University, Sahlgrenska University Hospital, Department of Dermatology, Gothenburg, Sweden. Assoc. Prof. Dr. L. Malinauskienė. 2017–2021.

The aim is to compare the frequencies of contact allergy to propolis in the participating countries, and to investigate if there is a difference in frequencies of contact allergy to propolis of different origins. Propolis from China, Lithuania, North America, Sweden, and the baseline series were patch-tested in 1470 consecutive dermatitis patients in Denmark, Lithuania, and Spain. Patch test reactions to any type of propolis ranged from 1.3–5.8%, and to the most frequent type 1.1–2.4%. There were no statistically significant differences in frequency of positive reactions between the four types of propolis in the respective countries. Concomitant positive patch test reactions to plant and

fragrance substances in the baseline series, *Myroxylon pereirae* resin, colophonium and Fragrance mix I ranged between 12.5% and 50.0%.

Main publications:

Nyman GSA, Giménez-Arnau AM, Grigaitiene J, Malinauskiene L, Paulsen E, Hagvall L. Patch Testing with Propolis of Different Geographical Origins in a Baseline Series. *Acta Derm Venereol* 2021; 101(11): adv00591.

Therapeutic Success of Tiotropium/Olodaterol, Measured Using the Clinical COPD Questionnaire (CCQ), in Routine Clinical Practice: A Multinational Non-Interventional Study. Assoc. prof. V. Šileikienė, 2020–2021.

People with COPD may benefit from treatment with a combination of two inhaled medications, tiotropium and olodaterol, that help to open the airways. We carried out this study to find out if treatment with tiotropium/olodaterol for 6 weeks would improve disease control (“clinical control of COPD”) for people with COPD. We measured this using a questionnaire called the Clinical COPD Questionnaire (CCQ). The CCQ was filled in by 4700 patients with COPD from Bulgaria, Czech Republic, Hungary, Israel, Lithuania, Poland, Romania, Russia, Slovenia, Switzerland and Ukraine at the start and end of the study.

After 6 weeks of treatment with tiotropium/olodaterol, over 80% of the patients we surveyed had better clinical control of COPD, defined as a decrease in CCQ score of 0.4 points, compared with at the start of the study. Patients in the study also needed less rescue medication (use of short-acting drugs such as salbutamol). Tiotropium/olodaterol had a good safety profile, similar to previous clinical studies.

Main publications:

Valipour A, Avdeev S, Barczyk A, Bayer V, Fridlender Z, Georgieva M, Kudela O, Medvedchikov A, Miron R, Sanzharovskaya M, Šileikienė V, Šorli J, Spielmanns M, Szalai Z. Therapeutic success of tiotropium/olodaterol, measured using the Clinical COPD Questionnaire (CCQ), in routine clinical practice: a multinational non-interventional study *Int J Chron Obstruct Pulmon Dis* 2021; 16: 615–628.

Allergic Rhinitis and Its Impact on Asthma (ARIA) in collaboration with the leading French scientists: Prof. Pascal Demoly (Montpellier University, France) and Prof. J. Bousquet (INSERM 1168, France) and cooperation with 70 science centers worldwide. Prof. R. Dubakienė, Dr V. Kvedarienė, 2002–2025.

The aim to provide an active and healthy life to rhinitis sufferers and to those with asthma multimorbidity across the life cycle, whatever their gender or socio-economic status, in order to reduce health and social inequities incurred by the disease and to improve the digital transformation of health and care.

During the year 2020–2021, experience of digital health in 23 countries was summarized. The panel of experts EAACI-ARIA adapted diagnostic and treatment roles on COVID-19 situation.

Main publications:

Pfaar O, Klimek L, Jutel M,...Kvedarienė V,... Agache, I. COVID-19 pandemic: Practical considerations on the organization of an allergy clinic - an EAACI/ARIA position paper. *Allergy* 2021; 76: 648–676.

Bousquet J, Jutel M, Pfaar O, ... Kvedarienė V,... Zuberbier T. The role of mobile health technologies in stratifying patients for AIT and its cessation. The ARIA-EAACI perspective. *J Allergy Clin Immunol Pract* 2021; 9: 1805–1812.

Hagemann J, Onorato GL, Jutel M, ... Kvedarienė V, Klimek L. Differentiation of COVID-19 signs and symptoms from allergic rhinitis and common cold: an ARIA-EAACI-GA2 LEN consensus. *Allergy* 2021; 76: 2354–2366.

Integrated Care Pathways for Airway Diseases (AIRWAYS-ICPs). Dr V. Kvedarienė.

AIRWAYS ICPs was initiated 2014, in collaboration with the leading French scientists: Prof. Pascal Demoly (Montpellier University, France) and Prof. Jean Bousquet (INSERM 1168, France) and 23 collaborating centres, 2014–2025.

The practical consideration on organization allergy department on COVID-19 was created by panel of international experts.

European Innovation Partnership on Active and Healthy Ageing (EIP on AHA) in collaboration with the leading French scientists: Prof. P. Demoly (Montpellier University, France) and Prof. J. Bousquet (INSERM 1168, France) and 74 collaborating centers. Dr V. Kvedarienė, 2014–2025.

An innovative patient-centered approach for ICPs has been proposed by the ARIA expert group for rhinitis and asthma multimorbidity to be scaled up to chronic diseases.

Main publications:

Bousquet J, Agache I, Blain H, ... Kvedarienė V, ... Klimek L. Management of anaphylaxis due to COVID-19 vaccines in the elderly. *Allergy* 2021; 76: 2952–2964.

Study of Interactions between Allergic Rhinitis and Bronchial Asthma, Application of New Technologies in the Program (MASK-air/MASK: MACVIA-ARIA Sentinel Network) in collaboration with the leading French scientists: Prof. P. Demoly (Montpellier University, France) and Prof. J. Bousquet (INSERM 1168, France) and cooperation – 23 science centers worldwide. Dr V. Kvedarienė, 2014–2025.

The aim of the projects is to improve the diagnosis of allergic diseases, to increase life expectancy in the case of quality healthy aging.

The performance of the work VAS work was assessed by comparing VAS work with other VAS measurements and symptom-medication scores obtained concurrently in Lithuanian MASK-air Apps users. The data summarize with the data of patients of 23 countries.

Main publications:

Sousa-Pinto B, Eklund P, Pfaar O, ... Kvedarienė V, João A. Validity, reliability, and responsiveness of daily monitoring visual analog scales in MASK-air®. *Clin Transl Allerg* 2021; 11: e12062.

Sousa-Pinto B, Sá-Sousa A, Amaral R,... Kvedarienė V, ... Zidarn M. Assessment of the Control of Allergic Rhinitis and Asthma Test (CARAT) using MASK-air. *J Allergy Clin Immunol Pract* 2021; DOI: 10.1016/j.jaip.2021.09.012.

TWINNING (Transfer of Innovation) Research Project. Since 2014 in collaboration with the leading French Prof. J. Bousquet (INSERM 1168, France) and cooperation – 23 science centers worldwide. Dr V. Kvedarienė, 2014–2025.

The aim of this study was to transfer innovation from an app developed by the MACVIA-France EIP on AHA reference site (Allergy Diary) to other reference sites. The reaserch data of few years was summarized and the article was written.

Main publications:

Bousquet J, Anto JM, Czarlewski W, ... Kvedarienė V, ... Zuberbier T. Cabbage and fermented vegetables: from death rate heterogeneity in countries to candidates for mitigation strategies of severe COVID-19. *Allergy* 2021; 76: 735–750.

MAIN R&D&I (RESEARCH, DEVELOPMENT AND INNOVATION) PARTNERS

Department of Occupational and Environmental Dermatology, Skåne University Hospital, Lund University (Sweden)

Department of Dermatology, Gothenburg University Sahlgrenska University Hospital, Gothenburg (Sweden)

Prof. Pascal Demoly (Montpellier University, France) and Prof. Jean Bousquet (INSERM 1168, France), Prof. Annick Barbaud (Hopital universitaire Est Parisien site Tenon) Paris (France)

OTHER RESEARCH ACTIVITIES

Prof. E. Danila –

- member of European Respiratory Society (ERS), <http://www.ersnet.org/>;
- vice-chairman member of Lithuanian Society of Pulmonologists, <http://www.chest.lt/>;
- editorial board member of the journal *Vaikų pulmonologija ir alergologija (Children's Pulmonology and Allergology)*.
- editorial board member of the journal *Pulmonology News*, <http://www.chest.lt>

Prof. R. Dubakienė –

- member of the Lithuanian Academy of Sciences;
- chairman of Allergology Commission of Lithuanian Academy of Sciences;
- expert of the Research Council of Lithuania;
- expert of MITA;
- editor-in-Chief of the journal *Alergologija ir klinikinė imunologija (Allergology and Clinical Immunology)*;
- editor-in-Chief of the on-line journal *Alergologija ir klinikinė imunologija (Allergology and Clinical Immunology)*;
- editorial board member of the journals: *Acta Medica Lithuania*, <http://www.lmaleidykla.lt/ojs/index.php/actamedicalituanica>; *Revue of Allergology and Clinical Immunology*; *Medicinos teorija ir praktika (Theory and Practice in Medicine)*;
- member of the Lithuanian Immunology Society;
- member of the European Academy of Allergy and Clinical Immunology;
- head of online websites: www.alergo.lt, www.rutadubakiene.com.

Prof. L. Malinauskienė –

- member of the European Academy of Allergy and Clinical Immunology (www.eaaci.org);
- board member of the Lithuanian society of Allergology and Clinical Immunology;
- president of the Vilnius Regional Society of Allergologists and Clinical Immunologists;
- national representative of the International Hereditary Angioedema Organization (<https://paelietuva.haei.org/>);
- editor-in-chief of the journal *Alergija, astma, imunologija (Allergy Asthma Immunology)* (<https://www.medpraktika.lt/leidiniai/zurnalai/internisto-priedai/>) and editorial board member of the journal *Pulmonologija ir alergologija (Pulmonology and Allergology)* (https://www.pulmoalerg.lt/wp-admin/admin-post.php?action=preview_document&post_id=2096).

Assoc. Prof. R. Zablockis –

- chairman of Lithuanian Society of Pulmonologists, <http://www.chest.lt/>;

- member of European Respiratory Society (ERS), <http://www.ersnet.org/>;
- editor-in-chief of the journal *Pulmonology News*, <http://www.chest.lt/>;
- editorial board member of the journal *Pulmonology and Allergology*, <http://www.pulmoalerg.lt/>.

Assoc. Prof. Dr Habil. R. Janilionis –

- board member of the Lithuanian Society of Cardiothoracic Surgery, www.lkscd.lt;
- board member of Vilnius Surgical Society;
- member of European Respiratory Society (ERS), www.ersnet.org;
- member of the European Association for Cardio-Thoracic Surgery, www.eacts.org;
- editorial board member of the journal *Medicina*, www.medicina.kmu.lt;
- editorial board member of the journal *Lithuanian Surgery*, <http://www.chirurgija.lt>.

Assoc. Prof. V. Gruslys –

- member of Lithuanian Society of Thoracic and Cardiac Surgeons, www.lkscd.lt;
- member of European Respiratory Society (ERS), www.ersnet.org;
- board member of Lithuanian Society of Minimal Invasive Surgery, <http://www.mic.lt>;
- member of Lithuanian Respiratory Society, <http://www.chest.lt>.

Assoc. Prof. A. Chomičienė –

- member of the European Academy of Allergy and Clinical Immunology, <http://www.eaaci.org/>;
- member of Lithuanian society of Allergology and Clinical Immunology, <http://www.aai.mf.vu.lt/alerimun/draugija.htm>;
- editorial board member of the journal *Alergija, astma, imunologija (Allergy Asthma Immunology)*;
- board member of Vilnius Regional Society of Allergologists and Clinical Immunologists <http://vaki.lt>.

Senior Researcher V. Kvedarienė –

- editorial board member of the journal *Pulmonologija, imunologija ir alergologija (Pulmonology, Immunology and Allergology)*;
- vice-chairman of reviewer board of the journal *Vaikų pulmonologija ir alergologija (Children's Pulmonology and Allergology)*;
- chairman of Lithuanian Allergy and Asthma Association;
- member of Allergology Commission of Lithuanian Academy of Sciences;
- member of the European Academy of Allergy and Clinical Immunology;
- member of UCB Institute of Allergy, <http://www.theucbinstituteofallergy.com/Home>;
- member of Lithuanian Society of Allergology and Clinical Immunology;
- member of Allergic Rhinitis and its Impact on Asthma (ARIA);
- member of European Network on Drug Allergy (ENDA);
- member of Integrated Care Pathways for Airways Diseases (AIRWAYS-ICPs);
- medical advisor of Lithuanian Asthma Patients Association.

Assoc. Prof. V. Šileikienė, Assist. Prof. Kęstutis Miškinis, Lect. I. Pocienė, Lect. G. Cincilevičiūtė, Lect. E. Jurevičienė, Lect. V. Kumpauskaitė, G. Šlekytė, E. Bagurskienė –

- members of European Respiratory Society (ERS), <http://www.ersnet.org/>;
- members of Lithuanian Society of Pulmonologists, <http://www.chest.lt/>.

Assist. Prof. Ž. Jagelavičius –

- member of Lithuanian Society of Thoracic and Cardiac Surgeons, www.lkscd.lt;
- member of European Society of Thoracic Surgeons (ESTS), www.ests.org;
- member of European Respiratory Society (ERS), www.ersnet.org.

Lect. K. Kėvelaitienė –

- member of European Respiratory Society (ERS);
- member of Lithuanian Society of Pulmonologists.

Lect. R. Gauronskaitė –

- member of European Respiratory Society (ERS), <http://www.ersnet.org/>;
- member of Lithuanian Society of Pulmonologists, <http://www.chest.lt/>;
- member of World Sleep Society, <http://worldsleepsociety.org/>.

Lect. K. Linauskienė –

- member of Lithuanian society of Allergology and Clinical Immunology (LAKID);
- member of the European Academy of Allergy and Clinical Immunology (EAACI);
- member of European Society for Immunodeficiencies (ESID);
- ESID junior country representative.

PhD stud. R. Vėbrienė –

- member of the European Academy of Allergy and Clinical Immunology;
- member of Lithuanian Society of Allergology and Clinical Immunology.

BEST REPORTS DELIVERED AT CONFERENCES ABROAD

Matulytė E, Davidavičienė E, Kančiauskienė Ž, Diktanas S, Kaušas A, Vėlyvytė D, Lipnickienė V, Laurenčikaitė M, Danila E, Costagliola D, Matulionytė R. The socio-demographic, clinical characteristics and outcomes of tuberculosis among HIV-infected adults in Lithuania: a twelve-year analysis. 31st European Congress of Clinical Microbiology and Infectious Diseases (ECCMID 2021), Vienna, Austria, 9–12 July 2021: online. Vienna: ECCMID. 2021, abstract no 02214, p. [1-3].

Matulytė E, Kančiauskienė Z, Kaušas A, Barkus A, Lipnickienė V, Razmienė I, Kopeikiniene J, Gudaitis T, Raudonis S, Danila E, Costagliola D, Matulionytė R. Prevalence of latent tuberculosis infection and associated risk factors in people living with HIV in Lithuania. HIV medicine. Hoboken: Wiley. ISSN 1464-2662. eISSN 1468-1293. 2021, vol. 22, iss. S3, abstract no. PE3/59, p. 178-180. Prieiga per internetą: <<https://onlinelibrary.wiley.com/doi/epdf/10.1111/hiv.13183>>.

Orvydaitė M, Kvedariene V. The role of skin testing in iodinated contrast media induced hypersensitivity. The 21st International Congress of Young Medical Scientists, 27-29. 05.2021 Poznan, Poland.

MOST IMPORTANT PARTICIPATION CASES OF RESEARCHERS IN WORKING GROUPS OR COMMISSIONS SET UP BY STATE AUTHORITIES, STATE AND MUNICIPAL INSTITUTIONS AND ORGANISATIONS, AND BUSINESS ENTITIES

- R. Dubakienė prepared *Lithuanian names of food allergens* for the Bank of Terms of the Lithuanian State Commission.
- E. Danila participated in the Bronchial asthma diagnosis and treatment national task force of the Ministry of Health of the Republic of Lithuania; COPD diagnosis and treatment national task force of the Ministry of Health of the Republic of Lithuania.
- E. Danila is member of the Lithuanian Group of Independent Experts (Advisers, Consultants) at National Immunoprophylaxis Programme.
- L. Malinauskienė participated in the working group for revising allergology and clinical immunology speciality medical standart, Bronchial asthma diagnosis and treatment national task force of the Ministry of Health of the Republic of Lithuania.

CONSULTATIONS PROVIDED BY THE UNIT TO THE PUBLIC OR ECONOMIC ENTITIES

- E. Danila – regular consultations for Lithuanian State Ministry of Health.
- E. Danila, R. Zablockis, L. Malinauskiene, V. Šileikienė, V.Kvedarienė – advisory board for several pharmaceutical companies.
- R. Zablockis - regular consultations for Lithuanian State Ministry of Health.

MOST IMPORTANT RESEARCH DISSEMINATION ACTIVITIES

Edvardas Danila – Participation in radio and TV interviews about lung diseases for the public. Press publications on lung diseases for the general public.

Laura Malinauskienė – Interviews on national TV, Facebook about allergic diseases.

Rolandas Zablockis – Press publications on lung diseases for the general public (www.delfi.lt/sveikata).

Violeta Kvedarienė - Participation in radio and TV interviews about allergic diseases for the public. Press publications on allergy for the general public. Allergy school medical advisor and lector for allergic patients. 2021.06.15 open air event “Stop anaphylaxis” together with Vilnius Municipality for public for anaphylaxis preventing.

Anželika Chomičienė – Interviews on national TV, radio about allergic diseases.

Clinic of Neurology and Neurosurgery

2 Santariškių, LT-08661 Vilnius

Tel. 868862744

E-mail: dalius.jatuzis@mf.vu.lt

Head – Prof. Dr *Dalius Jatuzis*

Centre of Neurology

2 Santariškių, LT-08661 Vilnius

Tel. 236 5095

E-mail: gintaras.kaubrys@mf.vu.lt; gintaras.kaubrys@santa.lt

Head – Prof. Dr *Gintaras Kaubrys*

Centre of Neurosurgery

2 Santariškių, LT-08661 Vilnius

Tel. 869771394, 868743480

E-mail: saulius.rocka@mf.vu.lt

Head – Prof. Dr *Saulius Ročka*

STAFF

Professors: Dr. D.Jatuzis, Dr. G. Kaubrys, Dr. R. Mameniškienė, Dr. S. Ročka.

Associate professors: Dr. R. Kizlaitienė, Dr. J. Valaikienė, Dr. K. Ryliškienė, Dr. A. Vilionskis, Dr. N. Giedraitienė.

Assistant professors: Dr. R. Kaladytė Lokominienė, Dr. A. Klimašauskienė, Dr. A. Vaitkevičius, Dr. R. Kvaščevičius, Dr. G. Terbetas, Dr. I. Slautaitė, Dr. A. Preikšaitis, Dr. I. Sereikė.

Teaching assistants: E. Audronytė, A. Jasionis, R. Masiliūnas, A. Ekkert, J. Guk, V. Taluntienė, V. Sutnikienė, Ž. Chomanskis.

Lecturers: G. Lukšys, G. Sudarytė, A. Visockytė.

Research professors: Dr. D. Jatuzis, Dr. R. Mameniškienė.

Researchers: Dr. A.Preikšaitis, Dr. K.Ryliškienė, Dr. S.Ročka.

Research assistants: Dr. E. Sakalauskaitė-Juodeikienė.

Doctoral students: J. Ščerbak, A. Daškevičiūtė.

Students' scientific groups of:

Neurology: scientific leader – Dr. K. Ryliškienė, coordinator – K. Puteikis; 84 members of the group.

Neurosurgery: scientific leader – Dr. G. Terbetas, coordinator – M. Orvydaitė; 24 members of the group.

RESEARCH INTERESTS

Cognitive disorders in neurodegenerative, cerebrovascular, demyelinating diseases and epilepsy.

Diagnostic evaluation and treatment of cerebrovascular disorders, headache, dizziness, traumatic brain injuries degenerative spinal diseases and cerebral neoplasms.

Historical research on the prevalence, diagnosis and treatment of nervous diseases in the Grand Duchy of Lithuania, 19th century and interwar Lithuania.

RESEARCH PROJECTS CARRIED OUT IN 2021

Projects Supported by University Budget

Cognitive Disorders in Neurodegenerative, Cerebrovascular, Demyelinating Diseases and Epilepsy. Prof. G.Kaubrys. 2014–2021.

Research in the field of Alzheimer's disease has been continued to evaluate the potential of computerized cognitive tests to predict early response to treatment and to search for new markers of very early Alzheimer's disease (study of cognitive, olfactory and visuoperceptive functions). The cognitive features of multiple sclerosis were investigated; neurofilament light chain and optical coherence tomography have been studied as differential markers for various clinical forms of multiple sclerosis.

Main publications:

Giedraitiene N, Drukteinienė E, Kizlaitienė R, Cimbalas A, Asoklis R, Kaubrys G. Cognitive Decline in Multiple Sclerosis Is Related to the Progression of Retinal Atrophy and Presence of Oligoclonal Bands: A 5-Year Follow-Up Study. *Front Neurol.* 2021; 12:678735. doi: 10.3389/fneur.2021.678735.

Jasionis A, Puteikis K, Mameniškienė R. The Impact of Social Cognition on the Real-Life of People with Epilepsy. *Brain Sci.* 2021; 11(7): 877. doi: 10.3390/brainsci11070877.

Puteikis K, Wolf P, Mameniškienė R. Accelerated Long-term Forgetting in Adult Patients with Genetic Generalized Epilepsy. *Epilepsia.* 2021 Dec 10. doi: 10.1111/epi.17144. Online ahead of print.

Diagnostic Evaluation and Treatment of Cerebrovascular Disorders, Neurodegenerative and Metabolic Brain Disorders, Epilepsy, Headache, Dizziness, Traumatic Brain Injuries Degenerative Spinal Diseases and Cerebral Neoplasms. Prof. D. Jatužis. 2014–2021.

Clinical research focussed on epidemiological findings, clinical characteristics, diagnostics, treatment and prognostic factors of different neurological and neurosurgical disorders (stroke, migraine, dizziness and vertigo, multiple sclerosis, Parkinson's disease, epilepsy, traumatic brain injury, cerebral neoplasms) has been continued. New methods of endovascular treatment of cerebrovascular disorders, innovative monitoring devices for traumatic brain injury, new modalities in minimally invasive degenerative spinal diseases management were investigated.

Main publications:

Melaika K, Sveikata L, Wiśniewski A, Jaxybayeva A, Ekkert A, Jatužis D, Masiliūnas R. Changes in Prehospital Stroke Care and Stroke Mimic Patterns during the COVID-19 Lockdown. *International Journal of Environmental Research and Public Health.* 2021; 18(4):2150. doi:10.3390/ijerph18042150.

Jasionis A, Jasionytė G, Mameniškienė R. Tolerability of antiseizure medicines using Lithuanian version of the Liverpool Adverse Events Profile. *Epilepsy Behav.* 2021; 124: 108371. doi: 10.1016/j.yebeh.2021.108371.

Valadkeviciene D, Jatuzis D, Kizlaitienė R, Zukauskaitė I, Venceviciene L. Working Capacity Level of Patients with Multiple Sclerosis in Lithuania: Its Dynamics and Relationship with the Employment and Lethal Outcomes. *Mult Scler Relat Disord.* 2021; 49: 102784. doi: 10.1016/j.msard.2021.102784.

Historical research on the prevalence, diagnosis and treatment of nervous system diseases in the Grand Duchy of Lithuania, 19th century and interwar Lithuania. Prof. D. Jatužis and E. Sakalauskaitė-Juodeikienė. Prof. D. Jatužis and E. Sakalauskaitė-Juodeikienė. 2020–2023.

The study aims to reveal the origins of neurology in Grand Duchy of Lithuania, the first half of the 19th century in Vilnius, and interwar Lithuania: to show how the basic medical systems influenced the perception of nervous system diseases and treatment options, to evaluate the perception of aetiology, pathogenesis, symptoms, prophylaxis and treatment methods of nervous system diseases, to discover the origins of neurosurgery, to reveal the principles of the human cognition research.

Main publications:

Sakalauskaitė-Juodeikienė E, Eling P. Hildegard of Bingen (c. 1098-1179) on sleep and dreams in her *Causae et curae* and *Physica*: a historical perspective. *Sleep Med.* 2021; 88: 7-12. doi: 10.1016/j.sleep.2021.09.018.

Sakalauskaitė-Juodeikienė E, Eling P, Finger S. Stephanus Bisius (1724-1790) on mania and melancholy, and the disorder called *plica polonica*. *J Hist Neurosci.* 2021; 30(1): 77-93. doi: 10.1080/0964704X.2020.1770957.

National Research Projects

Cognitive functions in patients with generalized epilepsy and their relationship with demographic and clinical characteristics (No 09.3.3-LMT-K-712-24-0199). Mameniskiė R., Puteikis K., 2021.

Analysis of data from a two-point cross-section study was performed, cognitive functions of patients with generalised epilepsy and their links to demographic and clinical characteristics described, the difference in cognitive functions that occurred over several years of the disease assessed.

Risk of suicidal ideation in patients with epilepsy (No. 09.3.3-LMT-K-712-25-0202) Mameniskiė R., Puteikis K, 2021-2022.

Desk research performed, the database of patients with epilepsy created, questionnaire developed.

Mortality and causes of death in people with epilepsy (No 09.3.3-LMT-K-712-22-0097). Mameniskiė R., Puteikis K., 2020-2021.

Tendency in mortality of persons with epilepsy in Lithuania and the most common causes of death was analysed.

International Research Projects

Implementation Research Network in Stroke Care Quality – IRENE COST ACTION. Participants: Assoc. Prof. A. Vilionskis, R. Masiliūnas, Prof. D. Jatužis. 2018–2023.

Collaborative project with other stroke centres from Eastern, North and Central Europe: prospective international database of all acute stroke patients.

Safe Implementation of Treatment of Stroke (SITS) - EAST Project. Participants: Assoc. Prof. A. Vilionskis, Prof. D. Jatužis, R. Masiliūnas. 2009-ongoing.

Collaborative project with other stroke centers from Eastern and Central Europe: prospective international database of all acute stroke patients treated with reperfusion treatment. The aim of project to collect demographic, clinical, radiological, treatment details of all acute ischemic stroke patients, treated with reperfusion treatment as 3 months follow up as well.

Main publications:

Wiśniewski A, Sikora J, Karczmariska-Wódzka A, Sobczak P, Lemanowicz A, Zawada E, Masiliūnas R, Jatužis D. Unfavorable Changes of Platelet Reactivity on Clopidogrel Therapy

Assessed by Impedance Aggregometry Affect a Larger Volume of Acute Ischemic Lesions in Stroke. *Diagnostics (Basel)*. 2021; 11(3): 405. doi: 10.3390/diagnostics11030405.

Grigonyte M, Kraujelyte A, Januskeviciute E, Semys G, Kriukelyte O, Kontrimaviciute E, Valeviciene NR, Jatuzis D. The Impact of the Pandemic on Acute Ischaemic Stroke Endovascular Treatment from a Multidisciplinary Perspective: A Nonsystematic Review. *Int J Environ Res Public Health*. 2021; 18(18): 9464. doi: 10.3390/ijerph18189464.

Collaborative European NeuroTrauma Effectiveness research in TBI: a prospective longitudinal observational study (CENTER-TBI), funded by 7BP; www.center-tbi.eu. Participants: Prof. S. Ročka, A. Preikšaitis, 2015-2021.

The aim of the project is to collect high quality clinical, epidemiological, radiological and genetic database of traumatic brain injured patients. CENTER-TBI aims to advance the care for apatients with traumatic brain injury by better characterization trauma as a disease and indentifying the most effective clinical interventions for managing TBI.

Main publications:

Wiegers EJA, Lingsma HF, Huijben JA, Cooper DJ, Citerio G, Frisvold S, Helbok R, Maas AIR, Menon DK, Moore EM, Stocchetti N, Dippel DW, Steyerberg EW, van der Jagt M; CENTER-TBI; OzENTER-TBI Collaboration Groups [Ročka S]. Fluid Balance and Outcome in Critically Ill Patients with Traumatic Brain Injury (CENTER-TBI and OzENTER-TBI): a prospective, multicentre, comparative effectiveness study. *Lancet Neurol*. 2021; 20(8): 627-638. doi: 10.1016/S1474-4422(21)00162-9.

Dijkland SA, Helmrich IRAR, Nieboer D, van der Jagt M, Dippel DWJ, Menon DK, Stocchetti N, Maas AIR, Lingsma HF, Steyerberg EW; CENTER-TBI Participants and Investigators [Ročka S]. Outcome Prediction after Moderate and Severe Traumatic Brain Injury: External Validation of Two Established Prognostic Models in 1742 European Patients. *J Neurotrauma*. 2021; 38(10): 1377-1388. doi: 10.1089/neu.2020.7300.

Zeiler FA, Mathieu F, Monteiro M, Glocker B, Ercole A, Cabeleira M, Stocchetti N, Smielewski P, Czosnyka M, Newcombe V, Menon DK; Collaborative European Neurotrauma Effectiveness Research in Traumatic Brain Injury (CENTER-TBI) High-Resolution ICU (HR ICU) Sub-Study Participants and Investigators [Ročka S]. Systemic Markers of Injury and Injury Response Are Not Associated with Impaired Cerebrovascular Reactivity in Adult Traumatic Brain Injury: A Collaborative European Neurotrauma Effectiveness Research in Traumatic Brain Injury (CENTER-TBI) Study. *J Neurotrauma*. 2021; 38(7): 870-878. doi: 10.1089/neu.2020.7304.

International Multicenter Register: European Register of Antiepileptic Drugs and Pregnancy (EURAP) - a prospective observational study of pregnancies with antiepileptic drugs. Lithuanian involved in the project. Leader – Prof. R. Mameniskiene. 2005-ongoing.

The aim was to collect data on the risk of antiepileptic drugs during pregnancy and share it in an international registry. At present, physicians from 42 countries in Europe, Oceania, Asia, Latin America and Africa are actively collaborating, and more than 23,000 pregnancies were registered. The primary goal is to compare the risk of major congenital malformations following maternal intake of different antiepileptic drugs (AEDs) and their combinations. Secondary objectives include the evaluation of any specific pattern of foetal abnormalities, dose-effect relationships, and other risk factors.

European Stroke Organisation: Enhancing and Accelerating Stroke. National representative – Assoc. Prof. A. Vilionskis. 2015–2022.

ESO-EAST (European Stroke Organisation: Enhancing and Accelerating Stroke Treatment) is the first comprehensive programme of improving stroke care in Europe. ESO-EAST Programme is

initiated by the European Stroke Organisation and implemented in Eastern European countries through participation of stroke professionals, professional organisations and local authorities.

Main publications:

Roaldsen MB, Lindekleiv H, Eltoft A, Jusufovic M, Søyland MH, Petersson J, Indredavik B, Tveiten A, Putaala J, Christensen H, Kõrv J, Jatužis D, Engelter ST, Marco De Marchis G, Wilsgaard T, Werring DJ, Robinson T, Mathiesen EB, Berge E. Tenecteplase in wake-up ischemic stroke trial: Protocol for a randomized-controlled trial. *Int J Stroke*. 2021; 16(8): 990-994. doi: 10.1177/1747493020984073.

Kelly P, Weimar C, Lemmens R, Murphy S, Purroy F, Arsovska A, Bornstein NM, Czlonkowska A, Fischer U, Fonseca AC, Forbes J, Hill MD, Jatuzis D, Kõrv J, Kruuse C, Mikulik R, J Nederkoorn P, O'Donnell M, Sandercock P, Tanne D, Tsivgoulis G, Walsh C, Williams D, Zedde M, Price CI. Colchicine for prevention of vascular inflammation in Non-CardioEmbolic stroke (CONVINCE) - study protocol for a randomised controlled trial. *Eur Stroke J*. 2021; 6(2): 222-228. doi: 10.1177/2396987320972566.

MAIN R&D&I (RESEARCH, DEVELOPMENT AND INNOVATION) PARTNERS

Kaunas University of Technology (Lithuania)

National Cancer Institute (Lithuania)

Vilnius Gediminas Technical University (Lithuania)

Lithuanian University of Health Sciences (Lithuania)

Nicolaus Copernicus University in Toruń (Poland)

OTHER RESEARCH ACTIVITIES

Prof. D. Jatužis –

- president of Lithuanian Stroke Association and Lithuanian Neurological Association;
- executive editor of the journal *Neurologijos seminarai (Seminars in Neurology)*, www.neuroseminarai.lt;
- editorial board member of the journals *European Stroke Journal*, <https://journals.sagepub.com/home/eso>, *Acta Medica Lithuania*, <https://www.journals.vu.lt/AML>
- fellow member of European Stroke Organization (FESO);
- national representative and member of Subspecialty Scientific Panel *Stroke* of the European Academy of Neurology (EAN);
- national educational co-ordinator and member of the World Federation of Neurology;
- national co-ordinator of international investigator-driven clinical trials (TWIST, CONVINCE).

Prof. S. Ročka –

- president of Lithuanian Neurosurgical Society;
- member of Lithuanian Society for Epileptology;
- member of European Association of Neurosurgical Societies;
- member of World Federation of Neurosurgical Societies;
- member of Lithuanian Neuroscience Association;
- editorial board member of the journal *Neurologijos seminarai (Seminars in Neurology)*, www.neuroseminarai.lt.

Prof. G. Kaubrys –

- member of the Council of the Lithuanian Neurological Association;
- member of Subspecialty Scientific Panel *Dementia and Cognitive Disorders* of the European Academy of Neurology (EAN);
- voting member of the Association for the Scientific Study of Consciousness (ASSC);
- editorial board member of the journal *Neurologijos seminarai (Seminars in neurology)*, www.neuroseminarai.lt;
- member of the World Federation of Neurology.

Prof. R. Mameniškienė –

- president of Lithuanian Society for Epileptology;
- member of Subspecialty Scientific Panels *Epilepsy* and *Neurooncology* of the European Academy of Neurology (EAN);
- member of the Council of the Lithuanian Neurological Association;
- cover art editor of the journal *Seizure - European Journal of Epilepsy*, <https://www.seizure-journal.com/>;
- editor-in-chief of the journals *Neurologijos seminarai (Seminars in neurology)*, www.neuroseminarai.lt;
- national coordinator in European Register of Antiepileptic Drugs and Pregnancy (EURAP) and in the international registry of the treatment of refractory status epilepticus;
- member of the Lithuanian Stroke Association;
- member of board of Lithuanian Bioethics Committee, www.bioetika.sam.lt;
- member of the World Federation of Neurology.

Assoc. prof. J. Valaikienė –

- national coordinator of Tenecteplase in Central Retinal Artery Occlusion study (TenCRAOS)
- member of the Council of the Lithuanian Society of Clinical Neurophysiology and Neurosonology;
- member of Subspecialty Scientific Panels *Neurosonology* and *Infectious Diseases* of the European Academy of Neurology (EAN);
- Core Group member of the EAN Coordinating Panel on Rare Neurological Diseases;
- member of the Lithuanian Neurological Association and Lithuanian Stroke Association;
- editorial board member of the journal *Neurologijos seminarai (Seminars in Neurology)*, www.neuroseminarai.lt;
- member of European Stroke Organization;
- member of the World Federation of Neurology.

Assoc. prof. R. Kizlaitienė –

- member of the Council of the Lithuanian Neurological Association;
- member of Subspecialty Scientific Panel *Multiple Sclerosis and Demyelinated Diseases* of the European Academy of Neurology (EAN);
- member of the Lithuanian Stroke Association;
- head of the Medical Advisory Board of Lithuanian Multiple Sclerosis Association;
- editorial board member of the journal *Neurologijos seminarai (Seminars in Neurology)*, www.neuroseminarai.lt;
- member of the World Federation of Neurology.

Assoc. prof. K. Ryliškienė –

- member of Subspecialty Scientific Panels *Headache* and *Neuro-ophthalmology and Neuro-otology* of the European Academy of Neurology (EAN);
- member of European Board of Neurology in European Union of Medical Specialists;

- Head of Neurology Panel of Students' Research Network of Vilnius University Faculty of Medicine;
- member of World Stroke Organization;
- editorial board member of the journal *Neurologijos seminarai (Seminars in Neurology)*, www.neuroseminarai.lt;
- member of Lithuanian Association of Headache Specialists, Lithuanian Stroke Association, Lithuanian Neurological Association.

Assoc. prof. A. Vilionskis –

- editorial board member of the *International Journal of Neurologic Physical Therapy*, www.sciencepublishinggroup.com/journal/index?journalid=391;
- member of Council of Lithuanian Stroke Association;
- fellow member of European Stroke Organization;
- member of management committee IRENE COST ACTION;
- representative of Lithuania in ESO-EAST project;
- national coordinator of SITS project;
- member of Lithuanian Neurological Association;
- member of World Stroke Organization;
- member of World Federation of Neurology.

Assoc. prof. N. Giedraitienė –

- member of Subspecialty Scientific Panel *Neuroimmunology* of the European Academy of Neurology (EAN);
- member of Lithuanian Neurological Association.

Research assist. E. Sakalauskaitė-Juodeikienė –

- member of International Society for the History of the Neurosciences (ISHN);
- member of Subspecialty Scientific Panel *Sleep-wake disorders* of the European Academy of Neurology (EAN);
- editorial board member of the *Journal of the History of the Neurosciences (JHN)*, <https://www.tandfonline.com/journals/njhn20>.

Assist. prof. R. Kvaščevičius –

- editorial board member of the journal *Neurologijos seminarai (Seminars in Neurology)*, www.neuroseminarai.lt;
- member of Lithuanian Neurosurgical Society;
- member of Baltic Neurosurgical Association;
- member of European Association of Neurosurgical Societies;
- member of World Federation of Neurosurgical Societies;
- member of Lithuanian Society of Vertebratology.

Assist. prof. G. Terbetas –

- member of Lithuanian Neurosurgical Society;
- member of Lithuanian Society of Vertebratology;
- AOSpine member.

Assist. prof. R. Kaladytė-Lokominienė –

- editorial board member of the journal *Neurologijos seminarai (Seminars in Neurology)*, www.neuroseminarai.lt;
- member of the Council of Lithuanian Neurological Association;

- member of Subspecialty Scientific Panel *Movement Disorders* of the European Academy of Neurology (EAN);
- member of International Parkinson's Disease and Movement Disorders Society;
- member of Cochrane Collaboration Neurological Network;
- coordinator of Huntington's Disease Coordination Centre.

Assist. prof. I. Slautaitė –

- member of Council of Lithuanian Stroke Association;
- member of European Stroke Organization;
- member of Lithuanian Neurological Association.

Assist. prof. A. Vaitkevičius –

- member of Lithuanian Neurological Association;
- Member of the EAN Scientific Panel *Higher cortical functions*.

Teaching assist. R. Masiliūnas –

- member of the Nordic Stroke Society;
- member of Subspecialty Scientific Panel *Stroke* of the European Academy of Neurology (EAN);
- member of the European Stroke Organization (ESO).

Teaching assist. A. Ekkert –

- executive board member of the Nordic Stroke Society;
- member of Subspecialty Scientific Panel *Stroke* of the European Academy of Neurology (EAN).

BEST REPORTS DELIVERED AT CONFERENCES ABROAD

Dalius Jatužis. Current approach for the diagnosis and management of central nervous system vasculitis (oral). XXI Nordic Stroke Society Congress (virtual), August 26-27, 2021.

Aleksandras Vilionskis. Angels Initiative in Lithuania (oral). XXI Nordic Stroke Society Congress (virtual), August 26-27, 2021.

Rytis Masiliūnas. Changes in prehospital stroke care and stroke mimic patterns during the COVID-19 lockdown. XXI Nordic Stroke Society Congress (virtual), August 26-27, 2021.

Kazimieras Melaika, Aleksandras Vilionskis, Lukas Sveikata, Dalius Jatužis, Rytis Masiliūnas. A paramedic survey on prehospital stroke care, training needs, and current attitude toward Lithuanian stroke network. 7th Congress of the European Academy of Neurology (virtual), June 19 – 22, 2021.

Jurgita Valaikienė. Acute stroke: is there a large vessel occlusions? Is there a >50% carotid stenosis? Target clinical question, target Neuro-POCUS answer. 7th Congress of the European Academy of Neurology (virtual), June 19-22, 2021.

MOST IMPORTANT NATIONAL AND INTERNATIONAL AWARDS RECEIVED FOR R&D ACTIVITIES

Prof. Dalius Jatužis – Nordic Stroke Award 2021

MOST IMPORTANT PARTICIPATION CASES OF RESEARCHERS IN WORKING GROUPS OR COMMISSIONS SET UP BY STATE AUTHORITIES, STATE AND MUNICIPAL INSTITUTIONS AND ORGANISATIONS, AND BUSINESS ENTITIES

Participation in working groups and committees established by the Ministry of Health of the Republic of Lithuania:

- Prof. D. Jatužis, Assoc. prof. A. Vilionskis. Stroke Integrated Healthcare Management Committee;
- Prof. R. Mameniškienė. Working Group on Epilepsy Treatment;
- Assoc. prof. R. Kizlaitienė, assoc. prof. N. Giedraitienė. Working Group on Multiple Sclerosis Treatment.

CONSULTATIONS PROVIDED BY THE UNIT TO THE PUBLIC OR ECONOMIC ENTITIES

- D. Jatužis. Expertise for State Health Care Accreditation Agency under the Ministry of Health of the Republic of Lithuania.
- Ekkert, D. Jatužis. Expert opinion and consultations for UAB “Zive” (development of portable device for long-term ECG monitoring).
- Vilionskis. Expertise for Commission for the Determination of Harm to Patients under the Ministry of Health of the Republic of Lithuania.
- I.Slautaite. Expertise for Commission for the Determination of Harm to Patients under the Ministry of Health of the Republic of Lithuania.

MOST IMPORTANT RESEARCH DISSEMINATION ACTIVITIES

- Scientific popularization of TV, radio and Internet broadcasts (Prof. Dalius Jatužis; Prof. Rūta Mameniškienė, Assoc. prof. Kristina Ryliškienė, Assoc. prof. Aleksandras Vilionskis, Teaching assist. Rytis Masiliūnas, Research assist. Eglė Sakalauskaitė-Juodeikienė).
- Epilepsy, Parkinson’s disease, Multiple Sclerosis, Stroke, Migraine, Alzheimer’s Day - informative events for the public.
- Lectures on stroke for academic community of Vilnius University and Medard Čobotas University of the Third Age (Prof. Dalius Jatužis).
- Participation in interdisciplinary conferences and dissemination of medical knowledge (e.g. „Theatrum libri: The Press, Reading and Dissemination in Early Modern Europe“, International Conference, December 1-3, 2021, Vilnius, Lithuania, dr. Eglė Sakalauskaitė-Juodeikienė)
- “Stroke club” – organisation for stroke victims and those who want to know more about stroke. Information in the social media: Facebook group (Insulto klubas), Instagram account (@doctor_ekkert), internet website (www.insultoklubas.lt) (A. Ekkert)
- Promotion event of neurosciences and medical studies at Vilnius University “Student for one day”.

Clinic of Psychiatry

29a Geležinio vilko, LT-03101 Vilnius

Tel. 239 8754

E-mail: sigita.lesinskiene@mf.vu.lt

Head – Prof. Dr *Sigita Lesinskiene*

STAFF

Professors: Dr S. Lesinskiene, Dr A. Navickas, Dr D. Pūras, Dr A. Germanavičius (part-time).

Associate professors: Dr R. Viliūnienė, Dr. G. Bulotienė (part-time).

Assistant professors: Dr E. Długauskas, Dr A. Dervinytė-Bongarzoni, Dr. T. Jasiukevičiūtė-Zelenko, Dr. A. Brazauskaitė, Dr. B. Jakubkaitė (part-time).

Lecturers (part-time): V. Rutkauskas, V. Andrejauskienė, L. Bukelskis, I. Treigienė, A. Šapranauskienė, A. Zalubienė, M. Karnickas, G. Narmontas, A. Senkuvienė, A. Žemaitis, E. Petrauskaitė, V. Adomaitienė.

Doctoral students: M. Misevičė, V. Andrejauskienė, A. Lengvenytė, R. Strumila.

Students' scientific groups of:

Child and adolescent psychiatry: scientific leader – Prof. S. Lesinskiene, coordinator – student G. Stonkutė; 8 members of the group.

Psychiatry: scientific leader – Prof. A. Navickas, coordinators – students K. Vickutė and M. Gataveskaitė; 114 members of the group.

Psychotherapy: scientific leader – Assoc. Prof. R. Viliūnienė, coordinator – student G. Gogelytė; 39 members of the group.

RESEARCH INTERESTS

Evaluation of functioning and quality of life of patients with psychiatric disorders

Analysis of outcome variables of the treatment of developmental, neurotic, affective and psychotic in children and adults

Transition processes in young people, medical students

Different approaches on psychosocial rehabilitation and assertive outreach for comprehensive integrated community care for people with mental disorders in the community settings

Evaluation of services for people with mental illness and their families

Suicidal behaviour and psychiatric and somatic disorders.

RESEARCH PROJECTS CARRIED OUT IN 2021

Projects Supported by University Budget

Mental, Behavioural, Developmental and Dependency Disorders: Clinical Features, Possibilities of Prevention and Treatment during the Life Span. Assist. Dr E. Długauskas. 2019–2023.

The importance of patient pharmacogenetics in the choice of individualized treatment has been investigated and scientific articles published. The influence of mental illness on cognitive functions and the association of somatic diseases with mental disorders were investigated.

Main publications:

Strumila, Robertas; Lengvenytė, Aistė; Ambrozaitytė, Laima; Balkelienė, Danutė; Utkus, Algirdas; **Długauskas, Edgaras**. CYP2C19 polymorphisms are associated with severity of depression at initial evaluation and after the treatment independently of the prescribed medications: 4 weeks prospective study // *Psychiatric genetics* : Wolters Kluwer Health. ISSN 0955-8829. 2021, vol. 31, no. 5, p. 177-185. DOI: 10.1097/YPG.000000000000287. [DB: MEDLINE, PsycInfo, Scopus, Science Citation Index Expanded (Web of Science)]

Butėnaitė, Adelė; Strumila, Robertas; Lengvenytė, Aistė; Pakutkaitė, Indrė Kotryna; Morkūnienė, Aušra; Matulevičienė, Aušra; **Długauskas, Edgaras**; Utkus, Algirdas. Significant association between huntingtin gene mutation and prevalence of hopelessness, depression and anxiety symptoms = Ar yra hantingtino geno mutacijos ir dažnesnio depresijos, nevilties ir nerimo simptomų raiškos ryšys? // *Acta medica Lituanica*. Vilnius : Vilniaus universiteto leidykla. ISSN 1392-0138. eISSN 2029-4174. 2021, vol. 28, no. 1, p. 43-51. DOI: 10.15388/Amed.2020.28.1.4. [DB: MEDLINE, Index Copernicus]

Aiste Lengvenyte, Robertas Strumila et al. A specific association between laxative misuse and suicidal behaviours in patients with anorexia nervosa and bulimia nervosa. Eating and weight disorders. 2021. DOI: [10.1007/s40519-021-01180-x](https://doi.org/10.1007/s40519-021-01180-x). (Q1; IF: 3.597).

Valiulienė, Giedrė; Valiulis, Vladas; Dapšys, Kastytis; Vitkevičienė, Aida; Gerulskis, Giedrius; Navakauskienė, Rūta; **Germanavičius, Arūnas**. Brain stimulation effects on serum BDNF, VEGF and TNF α in treatment resistant psychiatric disorders // *European journal of neuroscience*. Hoboken : John Wiley & Sons. ISSN 0953-816X. eISSN 1460-9568. 2021, vol. 53, no. 11, p. 3791-3802. DOI: 10.1111/ejn.15232. [DB: MEDLINE; Scopus; Expanded (Web of Science)] [Indėlis: 0,142] [Citav. rod.: 3.386 (2020, SCIE)] [M.kr.: M 001]

Analysis of Self Harmful and Suicidal Behaviour and of Effective Current Treatments.
Assoc. Prof. A. Navickas. 2019–2023.

In 2021, the main research was conducted: the research material obtained in 2019-2020 was analyzed, and an international article was published; - Preparation of a new protocol in the International Multicentre project “The WPA / CINP study on Tool Development for Psychosis (WPA / CINP TOP study”) initiated; articles prepared and published; research on suicidal behavior and bipolar affective and metabolic and cognitive disorders in collaboration with the University Clinic of Montpellier (France) conducted; Three articles have been published in international journals and the work has been presented at an international congress.

Main publications:

Konstantinos N. Fountoulakis, Grigorios Karakatsoulis, Seri Abraham, Kristina Adorjan, Helal Uddin Ahmed, Renato D. Alarcon, Kiyomi Arai, Sani Salihu Auwal, Michael Berk, Sarah Bjedov, Julio Bobes, Teresa Bobes-Bascaran, Julie Bourgin-Duchesnay, Cristina Ana Bredicean, Laurynas Bukelskis, Akaki Burkadze, Indira Indiana Cabrera Abud, Ruby Castilla-Puentes, Marcelo Cetkovich, Hector Colon-Rivera, Ricardo Corral, Carla Cortez-Vergara, Piirika Crepin, Domenico De Berardis, Sergio Zamora Delgado, David De Lucena, Avinash De Sousa, Ramona Di Stefano, Seetal Dodd, Livia Priyanka Elek, Anna Elissa, Berta Erdelyi-Hamza, Gamze Erzin, Martin J. Etchevers, Peter Falkai, Adriana Farcas, Ilya Fedotov, Viktoriia Filatova, Nikolaos K. Fountoulakis, Iryna Frankova, Francesco Franza, Pedro Frias, Tatiana Galako, Cristian J. Garay, Leticia Garcia-Alvarez, Maria Paz Garc'ia-Portilla, Xenia Gonda, Tomasz M. Gondek, Daniela Morera Gonzalez, Hilary Gould, Paolo Grandinetti, Arturo Grau, Violeta Groudeva, Michal Hagin, Takayuki Harada, Tasdik M. Hasan, Nurul Azreen Hashim, Jan Hilbig, Sahadat Hossain, Rossitza Iakimova, Mona Ibrahim, Felicia Iftene, Yulia Ignatenko, Matias Irrarrazaval, Zaliha Ismail, Jamila Ismayilova, Asaf Jakobs, Miro Jakovljevic, Nenad Jak'sić, Afzal Javed, Helin Yilmaz Kafali, Sagar Karia, Olga Kazakova, Doaa Khalifa, Olena Khaustova, Steve Koh, Svetlana Kopishinskaia, Korneliia Kosenko, Sotirios A. Koupidis, Illes Kovacs, Barbara Kulig, Alisha Lalljee, Justine

Liewig, Abdul Majid, Evgeniia Malashonkova, Khamelia Malik, Najma Iqbal Malik, Gulay Mammadzada, Bilvesh Mandalia, Donatella Marazziti, Darko Marcinko, Stephanie Martinez, Eimantas Matiekus, Gabriela Mejia, Roha Saeed Memon, Xarah Elenne Meza Martinez, Dalia Mickeviciute, Roumen Milev, Muftau Mohammed, Alejandro Molina-Lopez, Petr Morozov, Nuru Suleiman Muhammad, Filip Mustac, Mika S. Naor, Amira Nassieb, Alvydas Navickas, Tarek Okasha, Milena Pandova, Anca-Livia Panfil, Liliya Panteleeva, Ion Papava, Mikaella E. Patsali, Alexey Pavlichenko, Bojana Pejuskovic, Mariana Pinto Da Costa, Mikhail Popkov, Dina Popovic, Nor Jannah Nasution Raduan, Francisca Vargas Ramirez, Elmars Rancans, Salmi Razali, Federico Rebok, Anna Rewekant, Elena Ninoska Reyes Flores, Maria Teresa Rivera-Encinas, Pilar Saiz, Manuel Sanchez de Carmona, David Saucedo Martinez, Jo Anne Saw, Gorkem Saygili, Patricia Schneidereit, Bhumika Shah, Tomohiro Shirasaka, Ketevan Silagadze, Satti Sitanggang, Oleg Skugarevsky, Anna Spikina, Sridevi Sira Mahalingappa, Maria Stoyanova, Anna Szczegielniak, Simona Claudia Tamasan, Giuseppe Tavormina, Maurilio Giuseppe Maria Tavormina, Pavlos N. Theodorakis, Mauricio Tohen, Eva Maria Tsapakis, Dina Tukhvatullina, Irfan Ullah, Ratnaraj Vaidya, Johann M. Vega-Dienstmaier, Jelena Vrublevska, Olivera Vukovic, Olga Vysotska, Natalia Widiasih, Anna Yashikhina, Panagiotis E. Prezerakos, Daria Smirnova. Results of the COVID-19 mental health international for the general population (COMET-G) study. *European neuropsychopharmacology: the journal of the European College of Neuropsychopharmacology*. 2021. DOI: 10.1016/j.euroneuro.2021.10.004 (Q1; IF: 4.6).

Konstantinos N Fountoulakis, Elena Dragioti, Antonis T Theofilidis, Tobias Wiklund, Xenofon Atmatzidis, Ioannis Nimatoudis, Erik Thys, Martien Wampers, Luchezar Hranov, Trayana Hristova, Daniil Aptalidis, Roumen Milev, Felicia Iftene, Filip Spaniel, Pavel Knytl, Petra Furstova, Tiina From, Henry Karlsson, Maija Walta, Raimo K R Salokangas, Jean-Michel Azorin, Justine Bouniard, Julie Montant, Georg Juckel, Ida S Haussleiter, Athanasios Douzenis, Ioannis Michopoulos, Panagiotis Ferentinos, Nikolaos Smyrnis, Leonidas Mantonakis, Zsófia Nemes, Xenia Gonda, Dora Vajda, Anita Juhász, Amresh Shrivastava, John Waddington, Maurizio Pompili, Anna Comparelli, Valentina Corigliano, Elmars Rancans, Alvydas Navickas, Jan Hilbig, Laurynas Bukelskis, Lidija I Stevovic, Sanja Vodopic, Oluyomi Esan, Oluremi Oladele, Christopher Osunbote, Janusz K Rybakowski, Pawel Wojciak, Klaudia Domowicz, Maria L Figueira, Ludgero Linhares, Joana Crawford, Anca-Livia Panfil, Daria Smirnova, Olga Izmailova, Dusica Lecic-Tosevski, Henk Temmingh, Fleur Howells, Julio Bobes, Maria P Garcia-Portilla, Leticia García-Alvarez, Gamze Erzin, Hasan Karadağ, Avinash De Sousa, Anuja Bendre, Cyril Hoschl, Cristina Bredicean, Ion Papava, Olivera Vukovic, Bojana Pejuskovic, Vincent Russell, Loukas Athanasiadis, Anastasia Konsta, Dan Stein, Michael Berk, Olivia Dean, Rajiv Tandon, Siegfried Kasper, Marc De Hert. Gender, age at onset and duration of being ill as predictors for the long-term course and outcome of Schizophrenia: An international multi-center study. *CNS Spectrum*. 2021 Aug 9:1-8. doi: 10.1017/S1092852921000742. Online ahead of print. PMID: 34369340. (Q1; IF: 1,6).

Aiste Lengvenyte, Emilie Olié, Robertas Strumila, Alvydas Navickas, Ana Gonzalez Pinto & Philippe Courtet. Immediate and short-term efficacy of suicidetargeted interventions in suicidal individuals: A systematic review. *The World Journal of Biological Psychiatry*, 2021, 22:9, 670-685, DOI: 10.1080/15622975.2021.1907712 (Q1; IF: 4.132).

Aiste Lengvenyte et al. Violent suicide attempt history in elderly patients with bipolar disorder: The role of sex, abdominal obesity, and verbal memory: Results from the FACE-BD cohort (FondaMental Advanced center of Expertise for Bipolar Disorders). *Journal of Affective Disorder*. 2021. DOI: 10.1016/j.jad.2021.09.097 (Q1; IF: 4.839).

Survey of Burning out Syndrome and Mental Health of Medical Specialists. Project leader: Prof. S. Lesinskienė. 2019–2023.

Active involvement of lecturers and medical students in the research and actuality of the topic. Main aim was to prepare methodological concept and instruments to investigate mental health of

medical specialists and risk of burning out syndrome. Preparation and implementation of the Transitions projects in cooperation with prof. Andre Sourandr and his team in Turku University (Finland). Survey and Transitions program was successfully implemented to the 1st year medical and odontology students.

Main publications:

Robertas Strumila; Aiste Lengvenyte; Emilie Olie; Philippe Courtet; Sebastien Guillaume. Null effect of vortioxetine augmentation with celecoxib should not be generalized to other antidepressants. *European neuropsychopharmacology : the journal of the European College of Neuropsychopharmacology*, 2021, vol 55, eISSN 1873-7862, p. 84-85. DOI:<https://doi.org/10.1016/j.euroneuro.2021.11.001>

Lesinskienė, Sigita; Pociūtė, Kamilė; Dervinytė-Bongarzoni, Asta; Kinčienė, Odeta. Onychophagia as a clinical symptom: a pilot study of physicians and literature review // *Science progress*. London : SAGE Publications. ISSN 0036-8504. eISSN 2047-7163. 2021, vol. 104, no. 4, p. [1-11]. DOI: 10.1177/00368504211050288. [DB: Scopus; Science Citation Index Expanded (Web of Science)] [Indėlis: 0,500] [Citav. rod.: 2.774 (2020, SCIE)] [M.kr.: M 001]

Montvidas, Jonas; Basevičiūtė, Milda; Burokaitė, Kamilė; Adomaitienė, Virginija; Lesinskienė, Sigita. COVID-19 vaccine hesitancy and psychosocial effects of the COVID-19 pandemic among health-science students of Lithuania – a national cross-sectional online survey // *International journal of environmental research and public health*. Basel : MDPI. ISSN 1660-4601. eISSN 1660-4601. 2021, vol. 18, no. 24, art. no.12870, p. 1-9. DOI: 10.3390/ijerph182412870. [DB:MEDLINE; Scopus; Science Citation Index Expanded (Web of Science)] [Indėlis: 0,200] [Citav. rod.: 3.390 (2020,SCIE); 3.390 (2020, SSCI)] [M.kr.: M 001]

Mörkl, Sabrina; Stell, Linda; V. Buhai, Diana; Schweinzer, Melanie; Wagner-Skacel, Jolana; Vajda, Christian; Lackner, Sonja; Bengesser, Susanne A.; Lahousen, Theresa; Painold, Annamaria; Oberascher, Andreas; Tatschl, Josef M.;Fellinger, Matthäus; Müller-Stierlin, Annabel; Serban, Ana C.; Ben-Sheetrit, Joseph; Vejnovic, Ana-Marija; Butler, Mary I.; Balanzá-Martínez, Vicent; Zaja, Nikola; Rus-Prelog, Polona; Strumila, Robertas; Teasdale, Scott B.; Reininghaus, Eva Z.; Holasek, Sandra J. ‘An apple a day’?: psychiatrists, psychologists and psychotherapists report poor literacy for nutritional medicine: international survey spanning 52 countries // *Nutrients*. Basel : MDPI. eISSN 2072-6643. 2021, vol. 13, art. no. 822, p. [1-26]. DOI: 10.3390/nu13030822. [DB: MEDLINE; Scopus; Science Citation Index Expanded (Web of Science)] [Indėlis: 0,020] [Citav. rod.: 5.719 (2020, SCIE)] [M.kr.: M 001]

Moro, Maria Francesca; Pathare, Soumitra; Zinkler, Martin; Osei, Akwasi; Pūras, Dainius; Paccial, Rodelen C.; Carta, Mauro Giovanni. The WHO QualityRights initiative: building partnerships among psychiatrists, people with livedexperience and other key stakeholders to improve the quality of mental healthcare // *British Journal of Psychiatry*. Cambridge : Cambridge University Press. ISSN 0007-1250. eISSN 1472-1465. 2021, first published online, p. [1-3]. DOI: 10.1192/bjp.2021.147. [DB: Embase; Scopus; Social Sciences Citation Index (Web of Science); Science Citation Index Expanded (Web of Science)] [Indėlis: 0,071] [Citav. rod.: 9.319 (2020, SCIE); 9.319 (2020, SSCI)] [M.kr.: M 001]

Attachment, Emotional and Behavioural Disorders in Children: Investigation of the Impact of the Therapeutical Interventions. Prof. S. Lesinskienė. 2019–2023.

Background and methodology investigating attachment and behavioural, emotional aspects have been elaborated. Divorce, family situation and mental health of children were analyzed and published. Breastfeeding and psychotropic medication aspects were reviewed and published.

Various aspects of academic achievements, bullying, birth rank, gender etc. were analyzed and published continuing cooperation from the participating in the large international epidemiological study of primary school children (CAMHEE).

Main publications:

Chudal, Roshan; Tiiri, Elina; Brunstein Klomek, Anat; Ong, Say How; Fossum, Sturla; Kaneko, Hitoshi; Kolaitis, Gerasimos; Lesinskienė, Sigita; Li, Liping; Huong, Mai Nguyen; Prahara, Samir Kumar; Sillanmäki, Lauri; Slobodskaya, Helena R; Srabstein, Jorge C; Wiguna, Tjhin; Zamani, Zahra; Sourander, Andre; Akhondzadeh, Shahin (tyrēj.); Fung, Daniel S S (tyrēj.); Giannakopoulos, George (tyrēj.); Grimland, Meytal (tyrēj.); Hamada, Shoko (tyrēj.);

Heinonen, Emmi (tyrēj.); Ismail, Raden Irawati (tyrēj.); Jain, Praveen A (tyrēj.); Kamath, Avinash G (tyrēj.); Khong, Jerrine Z N (tyrēj.); Kyrrestad, Henriette (tyrēj.); Lempinen, Lotta (tyrēj.); Limawan, Albert Prabowo (tyrēj.); Mohseni, Maryam (tyrēj.); Najafi, Ali (tyrēj.); Ngoc, Minh Thanh (tyrēj.); Ogura, Masayoshi (tyrēj.); Peng, Zhekuan (tyrēj.); Rippinen, Tatiana O (tyrēj.); Sekartini, Rini (tyrēj.); Semenova, Nadezhda B (tyrēj.); Skokauskas, Norbert (tyrēj.); Tan, Yi Ren (tyrēj.); Triantafyllou, Kalliopi (tyrēj.); Zaravinos-Tsakos, Phevous (tyrēj.). Victimization by traditional bullying and cyberbullying and the combination of these among adolescents in 13 European and Asian countries // *European child & adolescent psychiatry*. New York : Springer. ISSN 1018-8827. eISSN 1435-165X. 2021, first on line, p. [1-14]. DOI:10.1007/s00787-021-01779-6. [DB: Scopus; Science Citation Index Expanded (Web of Science)] [Indėlis: 0,023] [Citav.rod.: 4.785 (2020, SCIE); 4.785 (2020, SSCI)] [M.kr.: M 001]

Lesinskienė, Sigita. An exploration of the possibilities of current mental health services to tackle transgenerational effects of parental mental illnesses on offspring adjustment in Lithuania // *Frontiers in psychiatry*. Lausanne : Frontiers media SA. ISSN 1664-0640. 2021, vol. 12, art. no. 764394, p. [1-6]. DOI: 10.3389/fpsy.2021.764394. [DB: PsycInfo; Embase; Scopus; Social Sciences Citation Index (Web of Science); Science Citation Index Expanded (Web of Science)] [Indėlis: 1,000] [Citav. rod.: 4.157 (2020, SCIE); 4.157 (2020, SSCI)] [M.kr.: M 001]

Masfety, Viviane Kovess; Woodward, Miriam J; Keyes, Katherine; Bitfoi, Adina; Carta, Mauro Giovanni; Koç, Ceren; Lesinskienė, Sigita; Mihova, Zlatka; Otten, Roy; Husky, Mathilde. Gender, the gender gap, and their interaction; analysis of relationships with children's mental health problems // *Social psychiatry and psychiatric epidemiology*. Heidelberg : Springer. ISSN 0933-7954. eISSN 1433-9285. 2021, vol. 56, no. 6, p. 1049-1057. DOI: 10.1007/s00127-020-01950-5. [DB: MEDLINE; Scopus; Science Citation Index Expanded (Web of Science)] [Indėlis: 0,100] [Citav. rod.: 4.328 (2020, SCIE); 4.328 (2020, SSCI)] [M.kr.: M 001]

Robertas Strumila; Bėnėdickė Nobile; Laura Korsakova; Aiste Lengvenyte; Emilie Olie; Jorge Lopez-Castroman; Sėbastien Guillaume; Philippe Courtet. Psilocybin, a Naturally Occurring Indoleamine Compound, Could Be Useful to Prevent Suicidal Behaviors. *Pharmaceuticals*, 2021, vol 14(12), eISSN 1424-8247, p. 391-410. DOI: <https://doi.org/10.3390/ph14121213>

Kinėinienė, Odeta; Lesinskaitė, Augė; Šambaras, Rokas; Vankeviėienė, Ramunė; Dervinytė-Bongarzoni, Asta; Lesinskienė, Sigita. Clinical and social characteristics of deliberately intoxicated minors treated in pediatric intensive care // *Clinical medicine insights. Pediatrics*. London : Sage Publications Ltd. ISSN 1179-5565. 2021, vol. 15, p. 1-6. DOI: 10.1177/11795565211029258. [DB: PubMed Central; Scopus; Emerging Sources Citation Index (Web of Science)] [Indėlis: 0,332] [M.kr.: M 001]

MAIN R&D&I (RESEARCH, DEVELOPMENT AND INNOVATION) PARTNERS

Institute of Psychiatry Kings College, London (UK)

Viena S. Freud Private University (Austria)

Department of Child and Adolescent Psychiatry of Heidelberg University (Germany)

Vilnius University, Faculty of Philosophy (Lithuania)

Lithuanian Academy of Music and Theatre, Faculty of Music (Lithuania)

Turku University (Finland)

OTHER RESEARCH ACTIVITIES

Prof. S. Lesinskienė –

- President of Lithuanian Society for Child and Adolescent Psychiatrists;
- editorial board member of the journal *Pediatrics (Paediatrics)*, www.medpraktika.lt/leidiniai/leidinys/2/Pediatrics.
- Editorial board member of the journal *Visuomenės sveikata (Public Health)*, http://www.hi.lt/content/D2_redkolegija.html

Prof. D. Pūras –

- UN Special rapporteur on the right to physical and mental health, <https://www.ohchr.org/en/issues/health/pages/srrighthealthindex.aspx>;
- Chair of the Coordination committee of the Special procedures of the United Nations;
- visiting professor of the University of Essex (UK);
- distinguished visitor of Georgetown University (USA);
- editorial board member of the journal *Visuomenės sveikata (Public Health)*, http://www.hi.lt/content/D2_redkolegija.html;
- editorial board member of the journal *Medicina*;
- member of International Advisory Board of the *Archives of Psychiatry and Psychotherapy*, <http://www.archivespp.pl/International-Advisory-Board.html>.

Prof. A. Germanavičius –

- editorial board member of the journals: *Nordic Journal of Psychiatry, Medicina (Medicine), Visuomenės sveikata (Public Health), Biologinė psichiatrija ir psichofarmakologija (Biological Psychiatry and Psychopharmacology)*;
- scientific board member of the Neuroscience Institute at Lithuanian University of Health Sciences (Kaunas);
- Executive Board member of ENMESH (European Network for Mental Health Service Evaluation: www.enmesh.eu);
- member of European network on Training, Evaluation and Research (ENTER: www.entermentalhealth.net);
- Representative for Lithuanian Association of Psychiatrist for Nordic Board of World Psychiatric association (WPA).

Prof. A. Navickas –

- WPA Honorary Membership for excellence in service to the World Psychiatric Association;
- President of the Lithuanian Association of Suicidology;
- member of International Association of Suicide Prevention;
- editorial board member of the journal *Biologinė psichiatrija ir psichofarmakologija (Biological Psychiatry and Psychopharmacology)*, <http://www.pri.kmu.lt/biological-psychiatry.ht>;
- editorial board member of the journal *Sveikatos mokslai (Health Science)*, <http://sm-hs.eu/lt/>;
- editorial board member of the journal *Visuomenės sveikata (Public Health)*, <https://www.hi.lt/redkolegija.html>.
- Editor of Mental health section of the journal *Internistas (Internist)*.

Assoc. Prof. R. Viliūnienė –

- president of Lithuanian Society of Psychoanalysis (LPaD), <http://psichoterapija.org>;
- member of Lithuanian Psychiatric Association (LPA).

Assoc. Prof. G. Bulotienė –

- member of Lithuanian Psychiatric Association (LPA);
- member of the International Psycho-Oncology Society (IPOS) Federation Task Force;
- *member of IPOS Palliative Care Standing Committee & Special Interest Group (SIG)*;
- member of Lithuanian Society of Oncologists (LOD);
- individual member of the International Association for Analytical Psychology (IAAP);
- member of Lithuanian Society of Psychoanalysis (LPaD).

Assist. Dr E. Dlugauskas –

- member of the Lithuanian Psychiatric Association (LPA);
- member of Lithuanian Society of Psychoanalysis (LPaD).

Assist. Dr A. Dervinyte-Bongarzoni –

- member of Lithuanian Psychiatry Association;
- member of Children and Adolescents Psychiatry Association.

MOST IMPORTANT RESEARCH DISSEMINATION ACTIVITIES

Prof. S. Lesinskiene: Participation in LRT radio in the project “Syndrome”, presented by Ignal Klėjus, interview about Tourette syndrome.

<https://www.lrt.lt/mediateka/irasas/2000187110/sindromas-tureto-sindromas-kam-budingi-keiksmazodziu-ir-judesiu-tikai>

Prof. S. Lesinskiene: Participation in LRT television project on ADHD:

<https://www.lrt.lt/mediateka/irasas/2000145154/spalvos-tema-kurios-nesirenka-psichiatrai-demesio-sutrikimai-suaugusiems-ir-kodel-atejo-laikas-juos-gydyti>

Prof. S. Lesinskiene: Presentation in the seminar “Fetal alcohol syndrome is the responsibility not only of the woman but of us all”: Alcohol and the Psychosocial Development of the Human Personality: Opportunities and Challenges, 2021.09.15, Panevėžys

Assist. Dr. E. Dlugauskas: Peculiarities of healthy aging in the field of mental health. Improving the competencies and qualifications of Vilnius University doctors. EU Course. Main lecturer.

Clinic of Rheumatology, Orthopaedics Traumatology and Reconstructive Surgery

2 Santariškių, LT-08661 Vilnius-21

Tel. 236 5302

E-mail: irena.butrimiene@mf.vu.lt

Head - Prof. Dr *Irena Butrimienė*

STAFF

Professors: Prof. Dr I. Butrimienė, Prof. Dr Habil. N. Porvaneckas, Prof. V. Uvarovas.

Associate professors: Dr I. Šatkauskas, Dr R. Rugienė, Dr S. Stropuvienė, Dr L. Zabulienė, Dr S. Ryliškis, Dr G. Kvederas.

Assistant professors: Dr D. Miltinienė, Dr I. Arštikytė, Dr N. Jakutis, Dr T. Sveikata, Dr J. Kurtinaitis.

Lecturer: I. Sakalauskaitė,

Senior researcher: Dr R. Rugienė.

Researchers: Dr D. Miltinienė.

Teaching assistant: G. Šeškutė.

Doctoral students: R. Šakalytė, E. Pucevičienė, G. Šeškutė, A. Grinčuk

Students' scientific groups:

Rheumatology: scientific leader- Researcher G. Šeškutė, coordinator – student D. Roličiūtė, 12 members of the group.

RESEARCH INTERESTS

Outcomes of early undifferentiated arthritis

Associations between genetic, epigenetic factors, rheumatoid arthritis ethiopathogenesis and clinical course

Outcomes of systemic sclerosis

Musculoskeletal ultrasound

The role of nailfold videocapillaroscopy in diagnosing other systemic diseases

Epidemiology of rheumatic diseases

Clinical applications of free and pedicled flaps, results

Autologous breast reconstruction – key methods, clinical results

Implant-based breast reconstruction – clinical analysis of complications

Breast reduction: methods, clinical results, factors contributing in choosing the best technique

Pelvic trauma, hip and knee arthroplasty, foot surgery, wrist surgery

RESEARCH PROJECTS CARRIED OUT IN 2021

Projects Supported by University Budget

Associations between Genetic, Epigenetic Factors and Rheumatoid Arthritis Ethopathogenesis and Clinical Course. Prof. I. Butrimienė, PhD Student E. Pucevičienė. 2015–2021.

Aim of the study is to investigate the association between genetic, epigenetic factors in pathogenesis of rheumatoid arthritis, disease activity and clinical course. According to the study

results a publication on VDR gene polymorphisms and vitamin D association with rheumatoid arthritis was published in journal having impact factor (IF) in the Clarivate Analytics Web of Science databases.

Main publications:

Punceviciene E, Gaizevska J, Sabaliauskaite R, Venceviciene L, Puriene A, Vitkus D, Jarmalaite S, Butrimiene I. Vitamin D and VDR Gene Polymorphisms' Association with Rheumatoid Arthritis in Lithuanian Population. *Medicina (Kaunas)*. 2021 Apr 3;57(4):346. doi: 10.3390/medicina57040346.

Punceviciene E, Rovas A, Puriene A, Stuopelyte K, Vitkus D, Jarmalaite S, Butrimiene I. Investigating the relationship between the severity of periodontitis and rheumatoid arthritis: a cross-sectional study. *Clin Rheumatol*. 2021 Aug;40(8):3153-3160. doi: 10.1007/s10067-021-05661-3.

Punceviciene E, Gaizevska J, Sabaliauskaite R, Snipaitiene K, Venceviciene L, Vitkus D, Jarmalaite S, Butrimiene I. Analysis of Epigenetic Changes in Vitamin D Pathway Genes in Rheumatoid Arthritis Patients. *Acta Medica Lituanica*.

Diagnostics of Rheumatological Diseases and Morphological Evaluation of the Effectiveness of the Treatment Using High-Performance Ultrasound Research. Prof. I. Butrimienė, PhD Student G. Šeškutė. 2019–2023.

The aim is to check the benefits of superb microvascular imaging in diagnosing arthritis, to evaluate effect of the treatment. Another point is to understand the scoring system and its applicability in daily practice. These years of the study are dedicated for collecting data.

Main publications:

Seskute G, Dapkute A, Kausaite D, Strainiene S, Talijunas A, Butrimiene I. Multidisciplinary diagnostic dilemma in differentiating Madelung's disease - the value of superb microvascular imaging technique: A case report. *World J Clin Cases*. 2021;9(21):6145-6154. doi:10.12998/wjcc.v9.i21.6145

Jasionyte G, Seskute G, Ruginė R, Butrimiene I. The Promising Role of a Superb Microvascular Imaging Technique in the Evaluation of Raynaud's Syndrome in Systemic Sclerosis: Theory and Practical Challenges. *Diagnostics (Basel)*. 2021;11(10):1743. Published 2021 Sep 22. doi:10.3390/diagnostics11101743

Research on Early Arthritis and its Outcomes. PhD student R. Sakalyte, Assoc. Prof. S. Stropuviene, Prof. A. Venalis. 2019–2021.

The aim of this study is to analyse certain gene expression dynamics in pathogenesis of chronic inflammatory arthritis. In 2020, DNA has been extracted from collected samples. Now all data is being processed, and after statistical analysis will be performed, a manuscript will be prepared.

TRAM and DIEP Flap Based Autologous Breast Reconstruction after Mastectomy: Analysis of the Clinical Experience in the Vilnius University Hospital *Santaros klinikos*. Dr. N. Jakutis, K. Baužys. 2019–2023.

Analysis of clinical experience of the centre. Analysis of the data – in process.

Perineal Reconstruction: Clinical Evaluation of Methods. Dr N. Jakutis, K. Baužys. 2020–2024.

Main publications:

Mačiulaitis T., Jakutis N., Baužys K. A rare case of idiopathic fournier's gangrene: scrotal reconstruction via anterolateral thigh flap. *Plastic surgery case studies*. SAGE. 2021;7:1-8. Open access. eISSN: 2513-826X ; DOI: 10.1177/2513826X211028933

Vaiciulenaite J., Mikalauskas S., Jakutis N. Gracilis muscle flaps combined with bilateral V-Y advancement gluteal flaps for reconstruction of large sacral defect after abdominoperineal resection". *Kuwait medical journal*. 2021. Manuscript No .KMI-092-020 accepted.

Common Methods of Breast Reduction: Evaluation of Patient Self-esteem and Objective Postoperative Results. Dr G. Stundžaitė-Baršauskienė, Dr N. Jakutis, I. Kastytė. 2019–2023.

Validation of Breast-Q questionnaire (by the University of British Columbia) done, papers for the Bioethics have been prepared.

Common Methods of Breast Reduction: Evaluation of Patient Self-esteem and Objective Postoperative Results. Dr G. Stundžaitė-Baršauskienė, Dr N. Jakutis, I. Kastytė. 2019–2023.

Validation of Breast-Q questionnaire (by the University of British Columbia) done, papers for the Bioethics have been prepared.

Analysis of Implant Associated Infection after Mastectomy and Implant-Based Reconstruction. Dr N. Jakutis, K. Baužys. 2019–2023.

A Protocol for Treating Implant Associated Infection Using VAC System. A Case Report. K. Baužys, N. Jakutis.

National Research Projects

Research Council of Lithuania. **Analysis of Immunological, Genetic and Epigenetic Factors in Pathogenesis of Autoimmune Arthritis** (No. S-MIP-17-12.) Project leader prof. I. Butrimienė, 2017–2021.

Results of the project published in journal having impact factor (IF) in the Clarivate Analytics Web of Science databases. Scientific paper submitted to journal having impact factor (IF) in the Clarivate Analytics Web of Science databases journal.

Main publications:

Punceviciene E, Gaizevska J, Sabaliauskaite R, Venceviciene L, Puriene A, Vitkus D, Jarmalaite S, Butrimiene I. Vitamin D and VDR Gene Polymorphisms' Association with Rheumatoid Arthritis in Lithuanian Population. *Medicina (Kaunas)*. 2021 Apr 3;57(4):346. doi: 10.3390/medicina57040346.

Regina Sakalyte, Jaroslav Denkovskij, Eiva Bernotiene, Sigita Stropuviene, Silvija Ona Mikulėnaitė, Giedrius Kvederas, Narunas Porvaneckas, Vytautas Tutkus, Algirdas Venalis, Irena Butrimiene. The Expression of Inflammasomes NLRP1 and NLRP3, Toll-like Receptors and Vitamin D Receptor in Synovial Fibroblasts from Patients with Different Types of Knee Arthritis. *Frontiers in Immunology* (submitted for publishing).

International Research Projects

From undifferentiated arthritis to rheumatoid arthritis: the need for a precision medicine approach to treatment. PhD student R. Šakalytė, Assoc. Prof. S. Stropuvienė, Prof. A. Venalis. 2019–2021.

The project is developed in partnership with Children's Hospital Oakland Research Institute (CHORI). Funded by National Institutes of Health (NIH), USA.

The aim of this study is to analyze certain gene expression dynamics in pathogenesis of chronic inflammatory arthritis. In 2020, DNA has been extracted from collected samples. In 2021 all data was processed, statistical analysis performed, a manuscript prepared.

MAIN R&D&I (RESEARCH, DEVELOPMENT AND INNOVATION) PARTNERS

Department of Clinical Science and Education, Karolinska Institutet Södersjukhuset Section of Anaesthesiology and Intensive Care, Stockholm (Sweden)

State Research Institute Centre for Innovative Medicine (Lithuania)

The EULAR Scleroderma Trials and Research group (Italy)

The European League against Rheumatism (Switzerland)

Children's Hospital Okland Research Institute, San Francisco (USA)

Hospital Carlo Urbani, Rheumatology department (Italy)

OTHER RESEARCH ACTIVITIES

Prof. I. Butrimienė –

- board member of Opinion Leaders for Biological Therapy, Europe;
- president of Lithuanian Arthritis Foundation;
- member of the Lithuanian Rheumatology Association;
- editorial board member of the journals *Reumatologijos seminarai (Seminars in Rheumatology)* and *Skausmo medicina (Pain Medicine)*;
- co-president of the organizing committee of annual conference Vilnius Rheumatology Seminars.

Prof. N. Porvaneckas –

- editorial board member of the journal *Medicina*;
- editorial board member of the journal *Medicinos teorija ir praktika (Theory and Practice in Medicine)*;
- board member of the Lithuanian Orthopaedic and Trauma Society;
- member of EFFORT, European Hip Society and AO.

Prof. V. Uvarovas –

- board member of the Lithuanian Orthopaedic and Trauma Society;
- board member of AO
- member of EFFORT

Assoc. Prof. S. Stropuvienė -

- board member of the Lithuanian Rheumatology Association;
- acting secretary of the Lithuanian Rheumatology Association;
- organizing committee member of the annual conference *Vilnius Rheumatology Seminars*;
- editorial board member of the journal *Reumatologijos seminarai (Seminars in Rheumatology)*.

Assoc. Prof. R. Rugienė –

- editorial board member of the journal *Reumatologijos seminarai (Seminars in Rheumatology)*;
- organizing committee member of the annual conference *Vilnius Rheumatology Seminars*;
- member of The EULAR Scleroderma Trials and Research Group (EUSTAR);
- member of the Lithuanian Rheumatology Association.

Assist. Prof. I. Arštikytė –

- member of Emerging Eular Network (EMEUNET) - The European League Against Rheumatism (EULAR) working group of young clinicians and researchers in rheumatology;

- organizing committee member of the annual conference *Vilnius Rheumatology Seminars*;
- member of the Lithuanian Rheumatology Association.

Assist. Prof. N. Jakutis –

- board member of Lithuanian Society of Plastic and Reconstructive Surgery.
- board member of Lithuanian Society of Hand surgery and rehabilitation “Manus Lituanica”.

Assist. Prof. T. Sveikata –

- member of AO;
- member of EFFORT.

Assist. prof. Dr J. Kurtinaitis –

- member of AO –
- member of EFFORT.

Clinic of Cardiovascular Diseases

2 Santariškių, LT-08661 Vilnius

Tel. +370 5 236 5307

E-mail cardio@santa.lt

Head – Prof. Habil. Dr., Full Member of the Lithuanian Academy of Sciences Aleksandras Laucevičius

STAFF

Professors: Dr. (HP) A. Aidietis, Dr. S. Aidietienė, Dr. J. Čelutkienė, Dr. G. Davidavičius, Dr. S. Glaveckaitė, Dr. (HP) G. Marinskis, Dr. (HP) Ž. Petrulionienė, Dr. L. Ryliškytė (part-time), Dr. (HP) K. Ručinskas, Dr. P. Šerpytis, Dr. V. Tarutis, Dr. D. Zakarkaitė (part-time).

Associate professors: Dr. J. Barysienė, Dr. J. Badarienė, Dr. L. Gumbienė (part-time), Dr. G. Kalinauskas, Dr. B. Petrauskienė.

Lecturers: V. Abraitis (part-time), N. Bileišienė (part-time), A. Karužas (part-time), Dr. J. Misiūra, G. Navickas (part-time), Dr. R. Sipavičius (part-time), G. Vaitėnas (part-time), Dr. B. Vaišnytė.

Teaching assistants: R. Šerpytis (part-time)

Assistant professors: Dr. I. Ašakienė (part-time), Dr. A. Baranauskas (part-time), Dr. A. Berūkštis, Dr. G. Burneikaitė (part-time), Dr. A. Drąsutienė (part-time), Dr. Vilius Janušauskas, V. Juknevičius (part-time), Dr. R. Kūgienė (part-time), Dr. V. V. Maneikienė (part-time), Dr. N. Misonis, Dr. R. Navickas (part-time), G. Radauskaitė (part-time), Dr. G. Račkauskas, Dr. E. Sadauskienė (part-time), Dr. D. Sudavičienė (part-time), Dr. R. Sudikienė (part-time), Dr. A. Skrėbūnas (part-time), Dr. R. Vaitkevičius (part-time), Dr. G. L. Vilkevičius (part-time), Dr. A. Zorinas (part-time), Dr. G. Zuožienė (part-time).

Research assistants: J. Balsytė-Zupkauskienė (part-time), M. Budra (part-time), E. Gaižauskas (part-time), E. Palevičiūtė (part-time), R. Purnaitė (part-time), A. Podkopajev (part-time), K. Jonas (part-time).

Researchers: Dr. A. Baranauskas (part-time), Dr. A. Berūkštis, Dr. L. Bezuška, Dr. G. Burneikaitė (part-time), Dr. I. Butkuvienė, Dr. R. Čypienė, Dr. A. Drąsutienė, Dr. A. Laučytė-Cibulskienė (part-time), Dr. V. Lebetkevičius, Dr. D. Liekienė, Dr. A. Lipnevičius (part-time), E. Lycholip, Dr. V. V. Maneikienė, Dr. G. Račkauskas, Dr. V. Rudienė (part-time), Dr. P. Semėnienė, Dr. R. Sudikienė, Dr. A. Valaika, Dr. A. Zorinas, Dr. G. Zuožienė.

Senior researchers: Dr. A. Čypienė, Dr. V. Grabauskienė, Dr. L. Gumbienė, Dr. Vilius Janušauskas, Dr. L. Jurgauskienė, Dr. R. Malickaitė, Dr. Rokas Navickas, Dr. E. Rinkūnienė.

Research professors: Dr. (HP) A. Aidietis, Dr. J. Čelutkienė, habil. Dr. A. Laucevičius, Dr. (HP) Ž. Petrulionienė, Dr. L. Ryliškytė, Dr. D. Zakarkaitė.

Doctoral students: J. Bacevičius, G. Balčiūnaitė, G. Bieliauskienė, N. Bileišienė, P. Budrys, S. Čėsna, U. Gargalskaitė - Aliošaitienė, E. Čiburienė, D. Fomin, K. Jonas, A. Jucevičienė, P. Navickas, R. Ruseckaitė-Juknevičienė, A. Šatrauskienė, R. Šerpytis, V. Šileikienė, J. Balsytė-Zupkauskienė, E. Palevičiūtė, A. Podkopajev, G. Radauskaitė.

Scientific groups of students:

Cardiology: scientific leader – prof. P. Šerpytis, coordinator – student S. Loginovaitė 117 members of students.

Vascular surgery: scientific leader – A. Mackevičius, coordinator – M. Mikutavičius, 35 members of students.

RESEARCH INTERESTS

Investigation of arterial wall functional and structural disorders in atherosclerosis and metabolic syndrome.

Primary and secondary prevention of cardiovascular diseases. Development of high risk strategy in prevention of cardiovascular diseases.

Studies of the multidisciplinary heart failure care, novel biomarkers, telemonitoring and physical training.

Rare cardiovascular diseases: searching for mechanisms and new methods of diagnostics and treatment technologies.

Fundamental and clinical research in cardiac arrhythmias. Improvement of methods of complex treatment of atrial and ventricular tachyarrhythmia.

Complex multi imaging assessment of left and right ventricular function in coronary artery disease, hypertension and heart failure.

Congenital heart disease cardiac surgery in infants.

New possibilities of hybrid (interventional and surgical) and minimally invasive technologies in cardiovascular medicine.

RESEARCH PROJECTS CARRIED OUT IN 2021

Projects Supported by University Budget

Prevention of Atherosclerosis, Diagnosis and Treatment of Induced Diseases. Prof. A.Laucevičius. 2019–2023.

In 2021, we practically evaluated the telemonitoring system, including the first version of the mobile application for home-based training, an interactive cardio exercise website with a workout diary and a cardiometabolic risk calculator, taking into account the comments provided by the main group participants. In collaboration with IT specialists, the main disadvantages of the first version of the mobile application have been identified and an improved second version of the mobile application for home-based training has been developed. During the 2021, we tested the second version of the mobile application with additionally included participants, continued the data processing and database management. In 2021 a very important paper has been published in “The Lancet” which aimed to characterise the adult population with heterozygous FH and described how it is detected and managed globally according to data from The European Atherosclerosis Society Familial Hypercholesterolaemia Studies Collaboration (FHSC) global registry platform. Lithuania, being a part of this study, continued to screen and investigate patients with FH in 2021. We have already included over 200 patients (both children and adults) in the registry, continued to perform cascade screening of affected families. We have initiated genetic testing, as a part of Biometabol study, and already received over 60 genetic testing results, where we can detect most common genetic mutations in Lithuania. In 2021 we have prepared 8 poster presentations for 89th EAS Congress.

Main publications:

Juknevičius, Vytautas; Berūkštis, Andrius; Juknevičienė, Renata; Jasiūnas, Eugenijus; Šerpytis, Pranas; Laucevičius, Aleksandras. Long-term effects of renal artery denervation // *Medicina*. Basel : MDPI. ISSN 1010-660X. eISSN 1648-9144. 2021, vol. 57, iss. 7, art. no. 662, p. [1-13]. DOI: [10.3390/medicina57070662](https://doi.org/10.3390/medicina57070662). [DB: Embase, MEDLINE, Scopus, Science Citation Index Expanded (Web of Science)]

Rinkūnienė, Egidija; Dženkevičiūtė, Vilma; Petrulionienė, Žaneta; Majauskienė, Eglė; Ryliškytė, Ligita; Puronaitė, Roma; Badarienė, Jolita; Navickas, Rokas; Laucevičius, Aleksandras. Hypertriglyceridemia impact on arterial parameters in patients with metabolic syndrome // *BMC*

cardiovascular disorders. London : BioMed Central. eISSN 1471-2261. 2021, vol. 21, no. 1, art. no. 393, p. [1-6]. DOI: [10.1186/s12872-021-02202-3](https://doi.org/10.1186/s12872-021-02202-3). [DB: MEDLINE, Scopus, Science Citation Index Expanded (Web of Science)]

Šatrauskienė, Agnė; Navickas, Rokas; Laucevičius, Aleksandras; Krilavičius, Tomas; Užupytė, Rūta; Zdanytė, Monika; Ryliskytė, Ligita; Jucevičienė, Agnė; Holvoet, Paul. Mir-1, miR-122, miR-132, and miR-133 are related to subclinical aortic atherosclerosis associated with metabolic syndrome // International journal of environmental research and public health. Basel : MDPI. eISSN 1660-4601. 2021, vol. 18, iss. 4, art. no. 1483, p. [1-14]. DOI: [10.3390/ijerph18041483](https://doi.org/10.3390/ijerph18041483). [DB: Embase, Current Contents, MEDLINE, Scopus, Science Citation Index Expanded (Web of Science)]

New technologies for management of structural heart diseases. Leaders: prof. dr. (HP) A. Aidietis, prof. dr. (HP) K. Ručinskas, 2019-2023.

In 2021 the use of NeoChord device has been further expanded in our centre. Transventricular off-pump MV repair has been performed in 6 high-risk patients in a setting of acute The study report has been published in a highly-ranked peer-reviewed Journal of Thoracic and Cardiovascular Surgery. We have reported 3 cases of rescue transventricular off-pump mitral valve (MV) repair in high-risk patients with acute mitral regurgitation (MR) due to post-myocardial infarction (MI) papillary muscle rupture (PMR). <https://doi.org/10.1016/j.xjtc.2021.09.047>.

In 2021 5 patients with end-stage heart failure were treated with a continuous-flow left ventricular assist device implantation (HeartMate III, Abbott Cardiovascular, Plymouth, MN). Operations were performed through median sternotomy, surgically inserting inflow cannula (pump) to the heart apex and outflow cannula to ascending aorta, thus supporting left ventricle. Operation is performed with heart-lung machine support on a still heart, or, more recently, is usually done on the beating heart, with no need for cardioplegia). Based on the collected data a doctoral dissertation is being prepared. Some data is used in an international multicenter (12 European countries) registry (PCHF-VAD registry) and continuously added. In 2021 we continued the trial introducing new technic of treatment functional tricuspid valve insufficiency in our hospital prospective - Non-randomized safety and performance study of Micro Interventional Devices` MIA Minimally Invasive Annuloplasty devices for the treatment of chronic functional tricuspid regurgitation. In 2021 we reported results after Mitral valve repair with a device for artificial chordal implantation at 2 years in JTCVS. <https://doi.org/10.1016/j.xjon.2021.08.041>. In 2021 we started planing to install a new hybrid operating theatre. The completion of this project is expected in 2022.

Main publications:

Thourani, Vinod H; George, Isaac; Ručinskas, Kęstutis; Kalinauskas, Gintaras; Janušauskas, Vilius; Zakarkaitė, Diana; Ailawadi, Gorav; Smith, Robert; Mack, Michael J. **First in human experience with an epicardial beating heart device for secondary mitral regurgitation** // The journal of thoracic and cardiovascular surgery. New York : Elsevier. ISSN 0022-5223. eISSN 1097-685X. 2021, vol. 161, no. 3, 949-958, p. 949-958. DOI: [10.1016/j.jtcvs.2020.11.169](https://doi.org/10.1016/j.jtcvs.2020.11.169). [DB: MEDLINE, Scopus, Science Citation Index Expanded (Web of Science)]

Budra, Mindaugas; Janušauskas, Vilius; Drąsutienė, Agnė; Zorinas, Aleksejus; Zakarkaitė, Diana; Lipnevičius, Artūras; Ručinskas, Kęstutis; Aidietis, Audrius; Samalavičius, Robertas Stasys; Aidietienė, Sigita; Bleizgytė, Viktorija; Puronaitė, Roma. **Midterm results of transventricular mitral valve repair: Single-center experience** // Journal of thoracic and cardiovascular surgery. New York : Mosby-Elsevier. ISSN 0022-5223. 2021, first on line, p. [1-10]. DOI: [10.1016/j.jtcvs.2020.12.142](https://doi.org/10.1016/j.jtcvs.2020.12.142). [DB: MEDLINE, Scopus, Science Citation Index Expanded (Web of Science)]

Improvement and Evaluation of Congenital Heart Disease Surgery. Prof. Dr V. Tarutis. 2019–2023.

In the year 2021 we have continued our research in two major directions: pulmonary arterial hypertension and critical congenital heart defects. Researchers evaluated the prevalence, prognosis, and treatment of pulmonary arterial hypertension associated with congenital heart disease. The research aims were to identify factors determining the occurrence of residual pulmonary arterial hypertension following surgery of anatomical congenital heart disease, and to evaluate disease rates and survival in the study population; to evaluate survival rates in inoperable patients diagnosed with Eisenmenger's syndrome, to identify the causes of death, to determine predictors of adverse prognosis, and to evaluate effects of advanced therapies for pulmonary arterial hypertension on survival of such patients.

The main focus of the second direction – critical congenital heart defects was to evaluate the prevalence, prognosis, and treatment of critical congenital heart defects. Here the research is directed towards transposition of the great arteries.

Main publications:

Jonas K, Jakutis V, Sudikienė R, Lebetkevičius V, Tarutis V. Interventions after Arterial Switch: A Single Low Case-Volume Center Experience. *Medicina. Multidisciplinary Digital Publishing Institute*; 2021 m.;57:401.

Jonas K, Jakutis V, Sudikienė R, Lebetkevičius V, Baliulis G, Tarutis V. Early and Late Outcomes after Arterial Switch Operation: A 40-Year Journey in a Single Low Case Volume Center. *Medicina. Multidisciplinary Digital Publishing Institute*; 2021 m.;57:906.

Sendžikaitė, Skaistė; Sudikienė, Rita; Lubaua, Inguna; Silis, Pauls; Rybak, Agata; Brzezinska-Rajszyś, Grazyna; Obrycki, Łukasz; Jankauskienė, Augustina; Litwin, Mieczysław. Multi-centre cross-sectional study on vascular remodelling in children following successful coarctation correction // *Journal of human hypertension*. London : Springer Nature. ISSN 0950-9240. eISSN 1476-5527. 2021, p. 1-7. DOI: [10.1038/s41371-021-00585-6](https://doi.org/10.1038/s41371-021-00585-6).

Cardio-Oncology Services: Organization and Implementation. Prof. S. Aidietienė. 2019–2023.

During 2021 327 patients were consulted (145 initial and 182 re-consultations). Patients were referred from medical oncologists, primary care and other cardiologists. Most common reasons for referrals to cardio-oncology clinic were baseline cardiovascular risk assessment before cardiotoxic cancer therapy; assessment and treatment of left ventricular dysfunction and HF; hypertension induced by cancer treatment and chemotherapy-induced vasospasm.

For the research purposes, we collected data of 447 consulted cancer patients and evaluated the association of patient survival with such variables as age, gender, reasons for referral, cancer location and stage, cardiovascular risk factors, rates and stage of cardiotoxicity and treatment strategies. The article “Development of a Cardio-Oncology Service in Lithuania: prediction, prevention and treatment of cancer treatment-induced cardiotoxicity” was prepared (planned papers). 41 patients were enrolled in the prospective randomized, open-label trial “Ivabradine to Prevent Anthracycline-induced Cardiotoxicity” (Eudra CT No 2019-000661-20).

National Research Projects

EU Structural Funds. **Assessment of Myocardial Structural Changes and Their Prognostic Significance in Patients with Severe Degenerative Aortic Stenosis** (No 09.3.3-LMT-K-712). Assoc. Prof. S. Glaveckaite. 2018–2022.

The ongoing scientific project is a prospective, open, case-driven, multicentre study (Lithuania, Denmark). Primary hypothesis of the research: severe structural changes in the myocardium are related to immediate (in hospital) or long-term complications (MACE and all-cause mortality). The main goal of the project is to improve qualification of researchers by mastering new imaging technologies for assessing myocardial structural changes. The objective of the project is to identify

reliable parameters and biomarkers of non-invasive imaging modalities (two-dimensional (2D) and three-dimensional (3D) transthoracic echocardiography with an extended myocardial deformation analysis, 1.5 T CMR with T1 parametric map and the (99m) Tc-DPD scintigraphy) to assess structural myocardial changes and to evaluate the prognostic significance of myocardial structural changes in patients with severe degenerative AS. The project has been extended in order to complete follow up of all included patients at both sites.

Main publications:

Glaveckaitė, Sigita; Palionis, Darius; Zaremba, Tomas; Balčiūnaitė, Giedrė; Valevičienė, Nomeda Rima; Aidietis, Audrius; Ručinskas, Kęstutis; Šerpytis, Pranas; Sogaard, Peter. Cardiovascular magnetic resonance parametric mapping: methodological recommendations. Vilnius : Vilniaus universiteto leidykla, 2021. 64 p. ISBN 9786090705629. eISBN 9786090705636. [M.kr.: M 001]

Banovic, Marko; Putnik, Svetozar; Penicka, Martin; Doros, Gheorghe; Deja, Marek A; Kockova, Radka; Kotrc, Martin; Glaveckaitė, Sigita; Gasparovic, Hrvoje; Pavlovic, Nikola; Velicki, Lazar; Salizzoni, Stefano; Wojakowski, Wojtek; Van Camp, Guy; Nikolic, Serge D; Iung, Bernard; Bartunek, Jozef. Aortic Valve replAcemenT versus conservative treatment in Asymptomatic seveRe aortic stenosis: the AVATAR trial // Circulation. Philadelphia : Lippincott Williams & Wilkins. ISSN 0009-7322. eISSN 1524-4539. 2021, first published online, p. [1-30]. DOI: [10.1161/CIRCULATIONAHA.121.057639](https://doi.org/10.1161/CIRCULATIONAHA.121.057639). [DB: Scopus, Science Citation Index Expanded (Web of Science)]

EU Structural Funds. **Optimization of Diagnosis and the Creation of Treatment Strategy for Type 2 Myocardial Infarction** (No 09.3.3-LMT-K-712-01-0148). Prof. P. Šerpytis. 2018–2022.

Research paper was accepted and published at American Journal of Medicine. Patient screening and randomization to the study is continued. Type 2 myocardial infarction diagnosis and treatment guidelines have been prepared and reviewed.

Oral presentation „Microcirculation and MINOCA. Searching for the holy grail of final diagnosis” was presented at international conference „ 7th Meeting on Intensive Cardiology and Emergency Medicine“ on 2021-09-10. A database has been prepared for a meta-analysis of patients risk factors for MINOCA vs. Type 1 MI.

Oral presentation “Type 2 myocardial infarction : incidence, risk and prognosis” at Lithuanian Society of Cardiology conference “Original cardiovascular trials – a breakthrough for young researchers” on 2021-11-11.

Main publications:

Šerpytis, Rokas; Majauskienė, Eglė; Navickas, Petras; Lizaitis, Mindaugas; Glaveckaitė, Sigita; Ručinskas, Kęstutis; Petrulionienė, Žaneta; Valevičienė, Nomeda Rima; Samalavičius, Robertas Stasys; Berūkštis, Andrius; Baranauskas, Arvydas; Gargalskaitė, Urtė; Laucevičius, Aleksandras; Chen, Qin M; Alpert, Joseph S; Šerpytis, Pranas. Randomized pilot trial on optimal treatment strategy, myocardial changes, and prognosis of patients with myocardial infarction with non-obstructive coronary arteries (MINOCA) // American journal of medicine. New York : Elsevier. ISSN 0002-9343. eISSN 1555-7162. 2021, first published online, p. [1-18]. DOI:

[10.1161/JAHA.120.021150](https://doi.org/10.1161/JAHA.120.021150). [DB: Embase, MEDLINE, Scopus, Science Citation Index Expanded (Web of Science)]; Schrage, Benedikt; Zeymer, Uwe; Montalescot, Gilles; Windecker, Stephan; Šerpytis, Pranas; Vrints, Christiaan; Stepinska, Janina; Savonitto, Stefano; Oldroyd, Keith G; Desch, Steffen; Fuernau, Georg; Huber, Kurt; Noc, Marko; Schneider, Steffen; Ouarrak, Taoufik; Blankenberg, Stefan; Thiele, Holger; Clemmensen, Peter. Impact of center volume on outcomes in myocardial infarction complicated by cardiogenic shock: a CULPRIT-SHOCK substudy // Journal of the American Heart Association. Hoboken : Wiley. eISSN 2047-9980. 2021, vol. 10, art. no. e021150, p. [1-10]. DOI: [10.1161/JAHA.120.021150](https://doi.org/10.1161/JAHA.120.021150). [DB: Embase, MEDLINE, Scopus, Science Citation Index Expanded (Web of Science)];

Serpytis, R. et al. Randomized pilot trial on optimal treatment strategy, myocardial changes, and prognosis of patients with myocardial infarction with non-obstructive coronary arteries (MINOCA). *Am J Medicine* (2021) doi:10.1016/j.amjmed.2021.08.023

Personalized Identification and Management of Paroxysmal Atrial Fibrillation Triggers Using Wearable Technology – TriggersAF (01.2.2-LMT-K-718 -03-0027). Leader Prof. V. Marozas (KTU), main investigator from VU: Prof. A. Aidietis. 2020–2023.

Since the start of the project and acquiring of bioethics approval a significant progress has been made. Currently a multi-profile system of health parameters, including long-term blood pressure, electrocardiogram, monitoring of sleep disturbances, subjective triggers and others, has been created and is ready to be implemented. A database of 22 patients with extended recordings of 7 days has been collected. From the experience of latest tracings researchers estimate that atrial fibrillation occurred in 30 % of monitored patients. In order to reach the statistical power the aim is to include a total of at least 100 patients.

A part of the system was presented in a national conference, organised by Lithuanian Academy of Sciences. The oral presentation by Justinas Bacevičius received a 3rd place award in the section of “Medicine and Health Sciences”. Currently the team is writing the manuscript of scientific article named “A high specificity wearable device with photoplethysmography and six-lead electrocardiography for atrial fibrillation detection performs accurately when challenged by frequent premature contractions (DoubleCheckAF)”. It will be submitted to a peer-reviewed journal in the following months.

Multiscale Mathematical and Computer Modelling for Flows in Networks: Application to Treatment of Cardiovascular Diseases (No 09.3.3-LMT-K-712-17-0003). Principal research members from VU: Prof. Audrius Aidietis, Prof. Sigita Aidietienė. 2020–2023.

It is an interdisciplinary project between applied mathematics and medicine. The idea of the research project is to provide new fast and effective mathematically justified numerical strategy for multiscale modelling of the bloodstream in the network of vessels and for cardiac valves. In 2021 derivation and analysis of nonlinear for macroscopic pressure on the graph of a network of vessels in the case of non - Newtonian rheology was performed, as well as numerical modelling of the problem on the graph and development of numerical strategy of partial asymptotic dimension reduction for Newtonian and non-Newtonian flows in a network of vessels. The weak formulations for the hybrid dimension models of flows in networks were analysed.

Research project: “**Heart Rate Variability and Metabolic Syndrome.**” Head researcher: prof. A. Laucevičius. The duration of the study: 2019–2022.

In collaboration with the researchers at the State Research Institute Centre for Innovative Medicine, the study is conducted as a cross-sectional study, carried out among subjects included in the Lithuanian High Risk (LitHiR) cohort. The study includes the assessment of 24-hour blood pressure monitoring, electrocardiogram, and actigraphy profiles. A subgroup of metabolic syndrome subjects also undergoes an aerobic exercise intervention study, which includes a comprehensive baseline and follow-up evaluation of cardiovascular risk factors and psychological status.

Main publications:

Slušnienė, Anžela; Navickas, Petras; Stankus, Albinas; Laucevičienė, Ieva; Ryliškytė, Ligita; Laucevičius, Aleksandras. Defining the nocturnal period in 24-h ambulatory blood pressure monitoring: a comparison of three methods // *Blood pressure monitoring*. Philadelphia: Lippincott Williams & Wilkins. ISSN 1359-5237. eISSN1473-5725. 2021, vol. 26, iss. 3, p. 207-214. DOI: 10.1097/MBP.0000000000000509. [Science Citation Index Expanded (Web of Science); Scopus; MEDLINE] [IF: 1,444; AIF: 5,237; IF/AIF: 0,275; Q4 (2020, InCites JCR SCIE)] [CiteScore: 2,30; SNIP: 0,570; SJR: 0,446; Q1 (2020, Scopus Sources)] [M.kr.: M 001] [Indėlis: 0,166];

Jurate Zupkauskiene, Ieva Lauceviciene, Petras Navickas, Ligita Ryliskyte, RomaPuronaite, Jolita Badariene, Aleksandras Laucevicius. The Influence of Heart Rate Targeted Supervised Aerobic Exercise Training on Health-Related Quality of Life, Motivation for Physical Activity, the Levels of Anxiety and Depression in People with Metabolic Syndrome (in progress).

International Research Project

COST Action No. CA18216. **Network for Research in Vascular Ageing**. Leader: Prof. A. Laucevičius. 2019–2023.

Arterial stiffness is an important component of vascular ageing and a potent CVD risk predictor, and as such is emerging as an appealing therapeutic target.

The tasks performed of Lithuanian scientists participating in this project:

- Active participation in educational online meetings and workinggroups;
- Participation in CARTESIAN - COVID-19 effects on ARTERial Stiffness and vascular AgiNg project, Lithuanian group, aiming to analysed COVID19 influence on vascular ageing;
- Educational video “Why do some people display early vascular ageing?”, Agne Laucyte-Cibulskiene, MD, PhD; <https://www.youtube.com/watch?v=hN09SedgOIM&feature=youtu.be>
- Participating in writing guidelines for vascular ageing determining and paper on vascular ageing.

Main publications:

Agne Laucyte-Cibulskiene, Petras Navickas, Ignas Vasaras, Ligita Ryliskyte, Jolita Badariene, Aleksandras Laucevičius. "Arterial stiffness in regards of kidney function in middle-aged subjects with metabolic syndrome. Lithuanian High Risk cohort." Accepted to Blood Pressure Monitoring, ISI 1,08. BPMJ-20-114R1.

Covid-19 Effects on ARTERial Stiffness and Vascular AgiNg (CARTESIAN) Study, COST Action 18216. Network for Research in Vascular Ageing. Coordinator of Lithuanian research group: researcher Dr A. Laucyte-Cibulskiene. The start date: September 2020; primary completion date: 2022; completion date: 2032.

The project was aimed to evaluate whether an accelerated vascular ageing is associated with COVID-19 and whether vascular ageing is further accelerated as a function of COVID-19 severity and of pre-existing cardiometabolic disease and background treatments, whether psychosocial factors play a role in COVID-19-induced accelerated vascular ageing process. The Rationale and Protocol of CARTESIAN were published in Artery Research Journal. The first report on primary study results is planned for 2022.

Lithuania has already enrolled 50 patients and submitted initial measurements in a RedCap database.

Main publications:

Bruno RM, Spronck B, Hametner B, Hughes A, Lacolley P, Mayer CC, Muiesan ML, Rajkumar C, Terentes-Printzios D, Weber T, Hansen TW, Boutouyrie P, on behalf of the ARTERY Society [“Covid-19 Effects on ARTERial Stiffness and Vascular AgeiNg: CARTESIAN Study Rationale and Protocol”](#) Artery Research, 2021;27(2):59-68.

MAIN R&D&I (RESEARCH, DEVELOPMENT AND INNOVATION) PARTNERS

Ghent University Hospital, Ghent, Belgium

Cardiovascular Research Institute Maastricht (CARIM), Maastricht University Medical Centre, Maastricht, the Netherlands
Southampton University Hospital, Wessex Cardiothoracic Centre, England
The Department of Cardiothoracic Surgery, University of Pittsburgh Physicians, Pittsburgh
Medical University of Gdansk, Gdansk, Poland
The Katholieke Universiteit Leuven, Leuven, Belgium
Poznan University of Medical Sciences, Poznan, Poland
The National Scientific Medical Center, Nur-Sultan, Kazakhstan
Riga Stradins University, Riga, Latvia

OTHER RESEARCH ACTIVITIES

Prof. habil. dr. A. Laucevičius

- member of American College of Cardiology (FACC)
- fellow of the European Society of Cardiology (FESC)
- member and fellow of North American Society of Pacing and Electrophysiology (NASPE)
- member of the Lithuanian Academy of Sciences (full member)
- member of the Lithuanian Society of Cardiology
- editorial board member of the Journal *Medicina (Lithuania)*
- managing editor of the journal *Seminars in Cardiovascular Medicine*
- editorial board member of the Journal *Internistas (Internist)*
- editorial board member of the Journal *Mediterranean Journal of Pacing and Electrophysiology (MESPE)*
- editorial board member of the *Journal of Human Hypertension*
- international editorial board member of the Journal *Europace (ESC)*
- editorial board member of the Journal *Blood pressure*
- editorial board member of the Journal *Cardiology Management*, editorial board member of the journal *Cardiology Journal (Folia Cardiologica)*

Prof. dr (HP) A. Aidietis

- member of Lithuanian Society of Thoracic and Cardiac Surgeons
- member of Scandinavian Association for Thoracic Surgery
- editorial board member of the Journal *Seminars in Cardiovascular Medicine*
- editorial board member of the Journal *Acta Medica Lituanica*
- fellow of the European Society of Cardiology (FESC)

Prof. dr. J. Čelutkienė

- president of Lithuanian Society of Cardiology
- member of Lithuanian Heart Association
- member of European Society of Cardiology
- member of Heart Failure Association of the ESC
- member of European Association of Echocardiography
- member of American College of Cardiology (FACC)
- fellow of the European Society of Cardiology (FESC)

Prof. dr. G. Davidavičius

- member National Interventional Cardiology Association
- member Lithuanian Society of Cardiology
- member European Society of Cardiology

Prof. dr. V. Grabauskienė

- national coordinator of Euro Heart Survey Programme (ESC)
- fellow of the European Society of Cardiology (FESC)
- member of the European Association of Echocardiography (EAE) of the ESC
- member of the Heart Failure Association (HFA) of the ESC
- member of the American Society of Echocardiography
- UEMS (European Union of Medical Specialist) Diploma of European Cardiologist Nr.52546
- member of the European Association for Predictive, Preventive and Personalized Medicine (EPMA)
- member of Lithuanian Society of Thoracic and Cardiac Surgeons

Prof. dr. (HP) G. Marinskis

- editor-in-Chief of the journal *Seminars in Cardiovascular Medicine*
- member of the Credentials committee
- member European Society of Cardiology - member of Fellowship Committee
- European Heart Rhythm Association - member of Nomination Committee
- board member of Lithuanian Heart Association
- chairman of Heart Rhythm workgroup at Lithuanian Society of Cardiology

Prof. dr. (HP) Ž. Petrulionienė

- nucleus member of the Primary Care and Risk Factor Management Section of the European Association of Preventive Cardiology (EAPC) for the 2020-2022 Mandate
- board member of International Atherosclerosis Society (IAS) 2019-2021
- president Elect of Baltic Society of Atherosclerosis (BAS); board member of BAS
- fellow of European Society of Cardiology (FESC)
- member of International Lipid expert Panel (ILEP)
- member of European Society of Atherosclerosis (EAS)
- member of International Atherosclerosis Society (IAS)
- Ivory member of European Association of Preventive Cardiology (EAPC)
- professional Associate of American Heart Association and American Stroke Association
- editorial board member of the journal *Seminars in Cardiovascular Medicine*
- editor of chapter *Cardiologic Seminars* of the journal *Internistas (Internist)*
- national Co-ordinator of global registry EAS-FHSC
- national Co-ordinator of international project ScreenPro FH
- member of MetaBERN
- head of Lithuanian Heart Association Vilnius Branch, past President of Lithuanian Heart Association

Prof. dr. (HP) K. Ručinskis

- member of European Association for Cardio-Thoracic Surgery

- member of CTS Net (Cardiothoracic Surgery Network)
- member of Scandinavian Association for Thoracic Surgery
- board member of Lithuanian Society of Thoracic and Cardiac Surgeons
- board member of Lithuanian Association of Intensive Care Cardiology and Emergency Medicine.

Prof. dr. P. Šerpytis

- fellow of the European Society of Cardiology
- chairman of Intensive Cardiac Care workgroup at Lithuanian Society of Cardiology
- member of Lithuanian Heart Association
- member of Lithuanian Society of Cardiology
- expert of Lithuanian Research Council
- editorial board member of the journal “Sveikatos mokslai”
- scientific board member of the journal “Emergency Medicine Service”
- editorial board member of the journal “International Heart and Vascular Disease Journal”

Prof. dr. V. Tarutis

- Board member of Lithuanian Society of Thoracic and Cardiac Surgeons
- Member of European Association of Cardiac-Thoracic Surgery

Prof. dr. A. Aidietienė

- member of the European Society of Cardiology
- board member of Lithuanian Heart Association
- member of Lithuanian Society of Cardiology

Prof. dr. S. Glaveckaitė

- president of Lithuanian Heart Association
- member of the Board of the Lithuanian Association of Intensive Cardiology and Emergency Medicine
- member of the Board and vice-president of the Baltic Cardiovascular Magnetic Resonance Society
- professional member of the European Society of Cardiology (ESC), member of the ESC Council on Valvular Heart Disease, member of the ESC Working Group on Myocardial and Pericardial diseases, member of the European Association of Cardiovascular Imaging
- head of the Cardiac Imaging Working Group at the Lithuanian Society of Cardiology board member of the Lithuanian Society of Cardiology
- member of the Council of the Faculty of Medicine of Vilnius University

Associate professor dr. G. Kalinauskas

- member of European Association for Cardio-Thoracic Surgery
- board member of Lithuanian Society of Thoracic and Cardiac Surgeons
- chairman of Cardiac Surgery workgroup at Lithuanian Society of Cardiology

Senior researcher Dr. L. Gumbienė

- board member and chair of Pulmonary Artery Hypertension and Adult Congenital Heart Disease working group of Lithuanian Society of Cardiology
- member of European Society of Cardiology and working group on adult congenital heart disease
- member of Lithuanian Heart Association

Senior researcher Dr. L. Jurgauskienė

- member of European Respiratory Society
- member of European Federation for Immunogenetics
- member of Baltic Sea Society for Immunology
- member of Lithuanian Society for Immunology
- member of Lithuanian Society of Laboratory Medicine
- member of Lithuanian Respiratory Society
- member of Lithuanian Rheumatology Association

Researcher Dr. D. Liekienė

- member of the Lithuanian Society of Paediatric Cardiology
- member of Lithuanian Society of Thoracic and Cardiac Surgeons

Senior researcher Dr. R. Maliclaitytė

- member of European Federation for Immunogenetics
- member of Baltic Sea Society for Immunology
- board member of Lithuanian Society for Immunology
- member of Lithuanian Society for Allergy and Clinical Immunology
- member of the Lithuanian Society of Laboratory Medicine

Lecturer Dr. J. Misiūra

- member of Lithuanian Society of Thoracic and Cardiac Surgeons
- member of the ESC Working Group of Heart Failure

Lecturer Dr. B. Vaišnytė

- member of Lithuanian Society for Vascular Surgery
- member of German-Baltic Medical Association
- member of Lithuanian Society of Surgeons

Researcher Dr. A. Valaika

- board member of Lithuanian Society of Thoracic and Cardiac Surgeons

Assistant professor Dr. R. Vaitkevičius

- member of Lithuanian Society of Vascular Surgery
- member of the Council of Lithuanian Society of Vascular Surgery
- member of The Baltic Society of Phlebology

Assistant professor Dr. G. Vilkevičius

- editorial board member of the Journal Lithuanian Society of Phlebologists “Flebologija“

- member of European Federation of Societies for Ultrasound in Medicine and Biology
- member of Lithuanian Society for Vascular Surgery
- vice-president of Lithuanian Society for Phlebology
- member of Lithuanian Association of Ultrasound Diagnostics

Assistant professor Dr. G. Račkauskas

- member of American College of Cardiology (FACC)
- fellow of the European Society of Cardiology (FESC)
- member of Lithuanian Heart Association
- member of Lithuanian Society of Cardiology

Assistant professor Dr. A.Skrebūnas, Lecturer G. Vaitėnas

- members of Lithuanian Society for Vascular Surgery

Prof. Dr. (HP) A. Aidietis, Prof. Dr. V. Grabauskienė, Prof. Dr (HP) G. Marinskis, Prof. Dr. G. Davidavičius, Associate professor Dr. B. Petrauskienė, Associate professor Dr. J.Badarienė, Associate professor Dr. J.Barysienė, Assistant professor Dr. G.Burneikaitė, Researcher Dr. I.Butkuvienė, Senior Researcher Dr. A. Čypienė, Researcher Dr. R. Čypienė, Assistant professor Dr. R.Kūgienė, Researcher Dr. D. Liekienė, Researcher Dr. V.Maneikienė, Lecturer Dr. J. Misiūra, Research professor Dr. L. Ryliškytė, Senior researcher Dr. E.Rinkūnienė, researcher Dr. P. Semėnienė, Senior researcher Dr. R. Navickas –

- members of European Society of Cardiology;
- members of Lithuanian Heart Association;
- members of Lithuanian Society of Cardiology.

Dr. R. Čypienė, M. Budra, Dr. I.Butkuvienė, E.Gaižauskas, Dr. L.Gumbienė, Dr. V. Lebetkevičius, A.Lipnevičius, Dr. D. Liekienė, Dr. V.Maneikienė, , Dr. P. Semėnienė, Dr. R.Sipavičius, A. Zorinas –

- members of Lithuanian Society of Thoracic and Cardiac Surgeons.

BEST REPORTS DELIVERED AT CONFERENCES ABROAD in 2021

Prof. G. Davidavicius. “COVID-19 and Cardiovascular Mortality at Home: Lithuanian perspective”. 7th International Meeting on Acute Cardiac Care and Emergency Medicine. September 10th, 2021, Vilnius.

Prof. J. Celutkienė. “Stress Echocardiography: Key Imaging Test in clinical Practice”, 27 August, 2021 ESC Online Congress 2021.

Prof. J. Celutkiene. “Imaging in Heart Failure”, 29 June, Heart Failure Online Congress.

Prof. J. Celutkiene. “Advances in Supporting patients with Chronic herat Failure”, 19 June, 2021 EuroHeart Care – ACNAP Online Congress 2021.

Prof. J. Celutkiene. The Practicalities of Drug Treatment in Herat Failure, 27 August, 2021, ESC Online Congress 2021.

MOST IMPORTANT PARTICIPATION CASES OF RESEARCHERS IN WORKING GROUPS OR COMMISSIONS SET UP BY STATE AUTHORITIES, STATE AND MUNICIPAL INSTITUTIONS AND ORGANISATIONS, AND BUSINESS ENTITIES

Dr. Prof. J. Čelutkienė

- member of Scientific Advisory Group Cardiovascular of European Medicines Agency;
- member ESC Clinical Practice Guidelines Committee
- member ESC Research Grants Committee member
- member HFA of the ESC Palliative Care Committee
- member of the Editorial Board of European Journal of Cardiovascular Nursing

Dr. Prof. P. Šerpytis

- Working groups of the Lithuanian Ministry of Health:
- Lithuanian Health Ministry working group of law number V-208 (dated April 8th, 2004) “For ratification of the emergency medicine care and emergency medicine service provision order and extent”;
- Working group of Emergency medicine service for traumas and other external conditioned injuries (Trauma cluster);
- Working group of “Formation health supervision administrative committee for integrated pathologies in health supervision control council for cardiology, oncology, stroke and perinatology” (Cardiology cluster).
- Working group for use of ECMO system in emergency medicine service.

Dr. Prof. Ž. Petrulionienė

- National Leader of world-wide International Familial Hypercholesterolemia Project EAS FHSC (Global EAS FH Studies Collaboration, Project leader prof. Kausik Ray).
- National Leader of International Familial Hypercholesterolemia Project ScreenPro FH (Screening Project for Familial Hypercholesterolemia in Central, Southern and Eastern Europe, Project leader Prof. Richard Ceska).
- National Expert of European Society of Cardiology (ESC) for the preparation of Cardiovascular Prevention Guidelines and Guidelines on CVD in Diabetes in 2016 -2018.
- Independent External Expert appointed by European Commission for the project evaluations.

MOST IMPORTANT RESEARCH DISSEMINATION ACTIVITIES

World Heart Day (celebration and awareness campaign) – September 29, 2021; Vilnius, Kaunas, Panevėžys, Klaipėda.

Awareness campaign on atrial fibrillation „What you should know about atrial fibrillation? (January – February 2021).

World Hypertension Day (celebration and awareness campaign) – May 17-21, 2021.

Myocardial infarction awareness campaign – December 8-15, 2021.

Heart Failure Awareness Days – May 2021.

Clinic of Children's Diseases

4 Santariškių, LT- 08406 Vilnius

Tel. 272 0427

E-mail: augustina.jankauskiene@mf.vu.lt

Head – Prof. Dr *Augustina Jankauskienė*

STAFF

Professors: Dr R. Čerkauskienė, Dr R. Ėmužytė, Dr A. Jankauskienė, Dr O. Rudzevičienė, Dr V. Urbonas, Dr Habil. V. Usonis, Dr Habil. A. Valiulis.

Associate professors: Dr S. Burokienė, Dr J. Grikinienė, Dr A. Liubšys, Dr G. Kleinotienė, Dr V. V. Panavienė, Dr S. Petraitenė, Dr J. Rascon, Dr G. E. Vaitkevičienė.

Assistant professors: Dr. K. Ažukaitis, Dr I. Ivaškevičienė, Dr R. Ivaškevičius, Dr M. Leonavičiūtė Klimantavičienė, Dr O. Kinčinienė, Dr. I. J. Paulavičienė, Dr I. Pilypienė, Dr R. Praninskienė, Dr S. Rusonienė, Dr R. Samaitienė, Dr I. Stacevičienė, Dr S. Šaulytė Trakymienė, Dr R. Vankevičienė, Dr V. Žilinskaitė.

Teaching assistants: I. Adomaitė, E. Poluziorovienė, S. Sendžikaitė.

Research assistants: K. Ažukaitis, D. Ruzgienė, N. Propokčiuk.

Lecturers: R. Adomaitienė, S. Dauengauer Kirlienė, V. Gulbinienė, Dr R. Kemežys, L. Kilaitė, Ž. Makselienė, H. Prunskienė, V. Radžiūnienė, D. Vaičiūnienė.

Doctoral students: I. Adomaitė, A. Janulionis, I. Juškienė, I. Kairienė, P. Kalibatas, D. Kalibatienė, R. Kunigėlienė, J. Navikienė, E. Poluziorovienė, S. Sendžikaitė, E. Viršilas.

Students' scientific group of Pediatrics: scientific leader – Dr S. Burokienė, coordinator – student J. Jankauskaitė, 47 members.

RESEARCH INTERESTS

Air pollution and child health

Allergic rhinitis and its impact on bronchial asthma in children

Health care of mother and child: physiological and social aspects and research of natural development of the child

Studies of functional development of organs and systems of newborns and children

Studies of neonatal pathology and perinatal mortality in Lithuania

Non-invasive analysis of immunological markers in amniotic fluid to predict fetal inflammatory response syndrome and outcomes of preterm neonate.

Investigations of the significance of genetic factors for adaptive suitability in the group of preterm infants in Lithuania

Studies of the effects of gestational diabetes on neonatal health.

Studies of peculiarities of chronic inflammation as diagnostic markers and targets for early therapeutical intervention in children with asthma and cystic fibrosis

Peculiarities of central and peripheral hemodynamics in premature and sick newborn babies

Studies of electric impedance tomography as new diagnostic tool in neonatal pulmonology

Development of the methods of diagnostics, treatment and prophylaxis of acute, and chronic and new emerging infectious, immune, allergic, metabolic diseases

Progression and outcomes of pediatric renal disorders

Studies of immunoprophylaxis and vaccination

Diagnostics and treatment of inherited metabolic diseases

Diagnostics, treatment and prophylaxis of children's abuse and trauma

Gut microbiota and gut brain axis

Studies on childhood cancer etiology and predisposition, identification of new therapeutical targets and criteria for treatment risk-group stratification to further improve treatment individualization and reduce the treatment burden and long-term side effects

Research in childhood acute leukemias, including research in leukemia etiology, PK/PD studies for chemotherapy drugs, investigations in acute and late toxicities;

Studies on antimicrobial stewardship in paediatrics

Studies for improving the quality of care for children and young adolescents in health facilities

Etiology and long-term outcomes of pediatric inherited and acquired pediatric kidney diseases (cystic kidney diseases, glomerulopathies, chronic kidney disease, vesicoureteral reflux)

Early vascular aging, left ventricular abnormalities and neurocognition in hypertensive children

Cardiovascular disease and kidney function impairment in children with solitary functioning kidney

Health, shared decision making and other modern technologies for the management of chronic noncommunicable disease (CNDs)

Healthy ageing through the early diagnostics and prevention of CNDs

Human ecology

Development of the methods of diagnostics, treatment and prophylaxis of acute and chronic pediatric neurological and developmental disorders, research on immune, genetic, metabolic and other factors as well as the application of digital technologies, research on the distance education of children during the COVID-19 pandemic

Studies on the long-term impact of exposure to screens on children's physical and mental health

Studies on the diagnostic accuracy of allergological tests and optimal management of pediatric patients with allergic conditions

RESEARCH PROJECTS CARRIED OUT IN 2021

Projects Supported by University Budget

Significance of Biochemical and Immunological Markers in Amniotic Fluid in Predicting Intrauterine Infection. Dr I. Pilypiene, V. Gulbiniene. 2017–2021.

Immunological markers were investigated in this project by non-invasive method, collecting amniotic fluid transvaginally. Amniotic fluid was obtained vaginally before delivery from 147 women with preterm premature rupture of membranes at 22–34 weeks of gestation. Amniotic fluid soluble Toll-like receptor 2 and 4, TNF- α , MMP-8, cord blood IL-6 concentrations were determined. The results of the study showed that the non-invasively obtained amniotic fluid immunological markers seem to be good predictors for fetal inflammatory response with higher rate of major neonatal outcomes in preterm infants. The study showed that the non-invasive amniotic fluid analysis could be an alternative method to invasive amniocentesis.

Main publications:

Balciuniene G, **Gulbiniene V**, Kvederaite-Budre G, Dumalakiene I, Viliene R, **Pilypiene I**, Drasutiene GS, Ramasauskaite D. A value of soluble Toll-like receptor 2 and 4 in vaginally obtained amniotic fluid for the prediction of histological chorioamnionitis. *Acta Obstet Gynecol Scand.* 2021;00:1–7. DOI: 10.1111/aogs.14228.

Balciuniene G, **Gulbiniene V**, Dumalakiene I, Viliene R, Bartkeviciene D, **Pilypiene I**, Drasutiene GS, Ramasauskaite D. Prognostic markers for chorioamnionitis: IL-6, TNF- α and MMP-8 in vaginally obtained amniotic fluid. *J. Clin. Med.* 2021, 10, 1136. doi.org/10.3390/jcm10051136.

Balciuniene G, Kvederaite-Budre G, **Gulbiniene V**, Dumalakiene I, Viliene R, **Pilypiene I**, Drasutiene GS, Ramasauskaite D. Neutrophil–lymphocyte ratio for the prediction of histological chorioamnionitis in cases of preterm premature rupture of membranes: a case-control study. *BMC Pregnancy and Childbirth* (2021) 21:656. doi.org/10.1186/s12884-021-04101-z.

Evaluation of cerebral and renal hemodynamics using Near Infrared Spectroscopy (NIRS) in very low birth weight (<1500g) infants with open ductus arteriosus. J.Navikienė, A.Liubšys, A.Jankauskienė 2018-2021

Patient enrollement and investigations have been completed and data analysis is finished.

Main publications:

Navikiene J, Virsilas E, Vankeviciene R, Liubšys A, Jankauskiene A Brain and renal oxygenation measured by NIRS related to patent ductus arteriosus in preterm infants: a prospective observational study *BMC Pediatrics* (accepted for publication);

Navikiene J, Liubšys A, Virsilas E, Zvirblis T, Jankauskiene A Impact of medical treatment of hemodynamically significant patent ductus arteriosus on cerebral and renal tissue oxygenation measured by Near infrared spectroscopy in very low birth weight infants *Medicina* (submitted for publication)

Evaluation of lung dynamic function using Electrical Impedance Tomography (EIT) in very low birth weight (<1500 g) infants who need respiratory support. E.Viršilas, A.Liubšys, A.Valiulis 2020-2023

Electric Impedance Tomography (EIT) is a lung monitoring technique based on the injection of small currents and voltage measurements using electrodes on the skin surface generating cross-sectional images representing impedance change in a slice of the thorax. It is a real time, radiation free, non-invasive and portable. Neonatal respiratory distress syndrome (RDS) is a respiratory disorder resulting from immaturity of the lung structure and lack of surfactant. The goal of the study is to investigate the dynamic changes in pulmonary aeration during assisted breathing in very low birthweight preterm infants using pulmonary electrical impedance tomography. Patient recruitment and data collection was started at 2020 September. Interim results were presented in 2021 in the international conferences; one publication has been accepted for publication.

Main publications:

Virsilas E, Liubšys A, Janulionis A, Valiulis A Electrical impedance tomography in pulmonary edema and hemorrhage *Pediatrics & Neonatology* (accepted for publication)

Timely Diagnosis of Food Allergies and Optimal Monitoring of Allergic Child Nutrition Status. Prof. Dr O. Rudzevičienė, PhD student I. Adomaite. 2017–2028.

The prospective analysis of nutrition, quality of life in food allergic – children, parental self-efficacy and patient enrollment is continuing. The analysis of retrospective data on oral food challenge outcomes and diagnostic value of in vivo and in vitro allergy tests is finalized, the publication of the main results is pending.

Analysis and Associations of Clinical, Laboratory, Neurophysiological, Imaging and Neuropsychologic Data in Children with Neurologic Diseases. Assoc. Prof. J. Grikinienė, Dr R. Samaitienė, Dr R. Praninskiene. 2015–2025.

The multicenter study (EpExMo cooperation, an open international research initiative for the study of epilepsies with external modulation) of perceptions of Modulatory Factors in Migraine resulted in publication.

EpExMo cooperation finished the study of Cognitive tasks as provocation methods in routine EEG: a multicenter field study. Findings were summarized in article.

Main publications:

Ozcelik, EU; Lin, K; Mameniskiėne, R; Dalbem, JS; Siqueira, HH; Samaitienė, R; Zeissig, LEV; Fonseca, AF; Alves, JM; Lunardi, MD; de Queiroz, LP; Zubaviciute, E; Wolf, P; Baykan, B. Perceptions of Modulatory Factors in Migraine and Epilepsy: A Multicenter Study. *Frontiers in Neurology*. Volume: 12 Article Number: 672860 Published: JUN 3 2021

Braga, P; Mameniskiėne, R; Guaranha, M; Zeissig, EV; Samaitienė, R; Ozcelik, EU; Bogacz, A; Lin, K; Gardella, E; Yacubian, EM; Baykan, B; Legnani, M; Beniczky, S; Navickienė, E; Jasionis, A; Lunardi, M; Falco, G; Wolf, P. Cognitive tasks as provocation methods in routine EEG: a multicentre field study. *Epileptic Disorders*. Volume: 23 Issue: 1 Pages: 123-132 Published: FEB 2021

National Research Projects

Research Council of Lithuania Project (No. P-MIP-20-404) **School AQR Seasonal Peculiarities of In-door Air Pollution and Its Impact on Respiratory Morbidity and Allergy of Primary School Children.** Prof. A. Valiulis, Assoc. Prof. V. Kvedarienė, Dr. Nina Prokopčiuk, I. Juškienė. 2019–2022.

During the study, over 250 school's air pollution measurements were performed, along with more than 1200 pollen / microscopic fungal samples were taken in 2021. We measured gaseous (volatile organic compounds - VOC, nitrogen oxides - NO_x, carbon dioxide - CO₂) and aerosol (particle number and mass concentrations) air pollution, pollen and microscopic fungal spore composition and concentrations during spring and autumn (2021) seasons in 11 Vilnius city schools. 4 questionnaires were distributed through school e-diaries: the general children's health questionnaire, the children's cough and respiratory sensitivity questionnaire, the health-dependent quality of life questionnaire and the fatigue questionnaire. New article on school air pollution and the incidence of bronchial asthma in primary school children was written and submitted to the WoSCC journal.

Main publications:

Bousquet J, Anto JM, Bachert C, (...) Valiulis A, (...) Zidarn M. ARIA digital anamorphosis: Digital transformation of health and care in airway diseases from research to practice // *Allergy*, 2021 Jan, 76 (1): 168-90; WoSS Impact factor 13.146 (Q1), DOI:10.1111/all.

Bush A, Lintowska A, Mazur A, (...) Valiulis A. E-cigarettes as a growing threat for children and adolescents: Position statement from the European Academy of Paediatrics // *Frontiers in Pediatrics* WoSCC Impact factor 3.03 (Q1), published on Sept 16, 2021; DOI: 10.3389/fped.2021.698613

Juskiene I, Prokopciuk N, Franck U, (...) Valiulis A. Indoor air pollution effects on pediatric asthma are submicron aerosol particles dependent // *European Journal of Pediatrics*, WoSCC Impact factor 3.183 (Q1), submitted on October, 2021, *in press*

Research Council of Lithuania. **Ancient and new alleles in Lithuanian's genome: mutations, selection and adaptation.** Dr I. Pilypiene, S. Dauengauer-Kirliene 2020–2022.

The main objective of the study is to analyse microevolutionary forces: mutations and signatures of adaptive positive selection of the Lithuanian population from whole genome sequencing data. Main question to answer is how commonly are mutations under selection in modern human and how human evolve generation after generation. During year 2021 data analysis has been completed.

Research Council of Lithuania. **Electrical impedance tomography for evaluation of lung function and selection of optimal respiratory support in late preterm infants.** A. Janulionis, A. Liubšys, A. Valiulis 2020-2023

Late preterm babies, born at 34-36 weeks of GA, often have respiratory difficulties and need respiratory support during transitional period from intrauterine to extrauterine life. The data and clinical research are missing on the peculiarities of lung expansion in this particular group of babies. Electrical impedance tomography is the only non-invasive method allowing to evaluate lung aeration changes in real time during transitional period. The lung aeration changes will be evaluated during the first 24 hours of life in preterm and term babies born by vaginal delivery and Cesarean section.

In the year 2021 100 electrical impedance tomography measurements of neonatal lungs in early transitional period were performed, representing 50 newborns of the control group (term neonates) and 50 babies of the study group (late preterm neonates). After processing and analysis of the data the first publication will be submitted to the international journal.

Research Council of Lithuania (P-MIP-21-127). **Cardiovascular and neurocognitive profile in children and young people with hypertension.** Lead investigator: prof. dr. A. Jankauskiene; Investigators: prof. L. Ryliskyte, prof. R. Mameniskiene, dr. K. Simanaukas, dr. K. Azukaitis, dr. O. Kinciniene. 2021-2023

Children and young people with hypertension exhibit signs of early vascular aging, including increased central arterial stiffness that may have adverse effects brain microcirculation leading to microvascular injury and impaired executive functioning. The project aims to unravel the early effects of hypertension on neurocognitive functioning in children and young people and to study the interrelationships between central hemodynamics, cardiovascular injury and cognition. Patient enrolment has been started.

International Research Projects

An open-label study to evaluate the single-dose pharmacokinetics and safety of ceftabiprole in neonate and infant subjects aged up to 3 months undergoing treatment with systemic antibiotics (international multicenter study). Assoc. prof. A. Liubšys 2018-2021

Multicenter, open-label, single-dose, phase 1 study conducted to evaluate the PK and safety of ceftobiprole in neonates and infants up to 3 months of age undergoing treatment with systemic antibiotics. The study was conducted during the period of 2017-2020. 2 newborn babies have been recruited from our center. Arunas Liubšys, Rima Snariene Medical Faculty of Vilnius University, Neonatal Center of Vilnius University Hospital Santaros Klinikos, Vilnius, Lithuania;

Main publications:

Rubino C, Polak M, Schröpf S, Münch H, Smits A, Cossey V, Tomasik T, Kwinta P, Snariene R, Liubšys A, Gardovska D, Hornik C, Bosheva M, Ruehle C, Litherland K, Hamed K
Pharmacokinetics and Safety of Ceftobiprole in Pediatric Patients The Pediatric Infectious Disease Journal [2021; 40 \(11\): 997-1003](#); doi: 10.1097/INF.0000000000003296

Mortality from gastrointestinal congenital anomalies at 264 hospitals in 74 low-income, middle-income, and high-income countries: a multicentre, international, prospective cohort study. Rūta Dagilytė, Pranas Gurskas, Arunas Liubsys, Arunas Strumila, Gilvydas Verkauskas (Children’s Hospital, Affiliate of Vilnius University Hospital SK), 2018-2021.

Global, multicentre, international, prospective cohort study of patients presenting to hospital for surgical care with seven gastrointestinal congenital anomalies (oesophageal atresia, congenital diaphragmatic hernia, intestinal atresia, gastroschisis, exomphalos [also known as omphalocele], anorectal malformation, and Hirschsprung’s disease). Recruitment was of consecutive patients between October, 2018, and April, 2019. The primary outcome was all-cause, in-hospital mortality for all conditions combined and each condition individually, stratified by country income status. 7 patients with congenital anomalies have been recruited from our center.

Main publications:

Mortality from gastrointestinal congenital anomalies at 264 hospitals in 74 low-income, middle-income, and high-income countries: a multicentre, international, prospective cohort study. *Global PaedSurg Research Collaboration* (collaborator: Assoc. prof. A. Liubsys) *Lancet* 2021; 398: 325–39. [https://doi.org/10.1016/S0140-6736\(21\)00767-4](https://doi.org/10.1016/S0140-6736(21)00767-4)

Pan European Paediatric Health Care Worker SARS-CoV-2 Antibody Prevalence.

Investigator: Assist. Prof. I. Ivaškevičienė. Study initiator: Great Ormond Street Institute of Child Health, UK. 2020-2021.

This multi-centre study was conducted in 2020-2021. In total 300 healthcare workers were recruited. Staff who consented to join the study provided a single 2-mL blood sample and completed a questionnaire focused on documenting the symptoms of COVID19 since the onset of the pandemic, prior known exposure, and the outcome if a viral swab for SARS-CoV-2 RNA polymerase chain reaction (PCR) had been obtained. Overall seroprevalence amongst paediatric HCWs was determined. All detailed results and their analysis are present in the publication.

Main publications:

Goldblatt D, Johnson M, Falup-Pecurariu O, Ivaskeviciene I et al. [Cross Sectional Prevalence of SARS-CoV-2 antibodies in Health Care Workers in Paediatric Facilities in Eight Countries.](#) *J Hosp Infect.* 2021 Jan 7:S0195-6701(21)00004-9.

NOPHO ALL2008 Treatment Protocol for Children and young adults with Acute

Lymphoblastic Leukemia. Investigators: Assoc. prof. G. Vaitkevičienė, assoc. prof. J. Rascon, dr. S. Trakymienė, assoc. prof. G. Kleinotienė, 2008-2021.

Results on outcome data, data on treatment caused toxicities, as well as pharmacokinetic/ pharmacodynamic processes of antileukemic drugs and their metabolites are published. Effect of increased doses of 6-mercaptopurine regimen was compared with low dose 6MP in a randomized study R1. Low dose 6MP became standard of care. Different asparaginase regimens were tested in randomized study R2. Intermittent asparaginase regimen became the standard of care.

Main publications:

Gottschalk Højfeldt S, Grell K, Abrahamsson J, Lund B, Vettenranta K, Jónsson ÓG, Frandsen TL, Wolthers BO, Marquart HV, Vaitkeviciene G, Lepik K, Heyman M, Schmiegelow K, Albertsen BK Relapse risk following truncation of pegylated asparaginase in childhood acute lymphoblastic leukemia. *Blood.* 2021 Apr 29;137(17):2373-2382. doi: 10.1182/blood.2020006583.

Nielsen SN, Toksvang LN, Grell K, Nersting J, Abrahamsson J, Lund B, Kanerva J, Jónsson ÓG, Vaitkeviciene G, Pruunsild K, Appell ML, Hjalgrim LL, Schmiegelow K. No association between relapse hazard and thiopurine methyltransferase geno- or phenotypes in non-high risk acute

lymphoblastic leukemia: a NOPHO ALL2008 sub-study. *Cancer Chemother Pharmacol.* 2021 Aug;88(2):271-279. doi: 10.1007/s00280-021-04281-7.

Dreisig K, Br nner ED, Marquart HV, Helt LR, Nersting J, Frandsen TL, Jonsson OG, Taskinen M, Vaitkeviciene G, Lund B, Abrahamsson J, Lepik K, Schmiegelow K. TPMT polymorphisms and minimal residual disease after 6-mercaptopurine post-remission consolidation therapy of childhood acute lymphoblastic leukaemia. *Pediatr Hematol Oncol.* 2021 Apr;38(3):227-238. doi: 10.1080/08880018.2020.1842570.

ALLTogether - A Treatment Study Protocol of the ALLTogether Consortium for Children with Newly Diagnosed Acute Lymphoblastic Leukaemia (ALL). Assoc. prof. G. Vaitkevicienė, assoc. prof. J. Rascon, dr. S. Trakymienė, assoc. prof. G. Kleinotienė, 2021-2031.

The primary objective is to improve survival and quality of survival in children and young adults with acute lymphoblastic leukaemia (ALL) by a number of interventions that will be tested in a randomised fashion, compared with well-defined control-populations within the protocol or explored in a non-randomised fashion to obtain baseline information regarding characteristics, leukaemia-specific outcomes and toxicity. A sub-group of patients will be identified that may benefit from novel immunotherapy.

Recruitment of the patients is ongoing. Recruitment is planned before 2026 with 5 years follow-up period from end of induction treatment. No interim results yet.

Acute Lymphoblastic Leukemia Survivor Toxicity And Rehabilitation (ALL-STAR) study: Late effects among survivors, treated according to the NOPHO ALL2008 protocol for childhood and young adult acute lymphoblastic leukemia. Assoc. prof. G. Vaitkevicienė, 2020-2025.

Prospective study to establish acute lymphoblastic leukemia survivor cohort to facilitate evaluation of physical, psychosocial and socioeconomic outcome longitudinally. Addressing distinct research questions regarding prevalence, impact and risk factors for the following themes: 1) self-reported adverse health outcome, 2) metabolic syndrome, 3) reduced physical activity, 4) bone morbidity, 5) impaired immune recovery, 6) nephrotoxicity, and 7) psychosocial challenges and QoL.

Recruitment into the cross-sectional part of the study is planned until 2024. The study will be continued by the second longitudinal part which will continue life-long.

Main publications:

Egnell C, Heyman M, J nsson  G, Raja RA, Niinim ki R, Albertsen BK, Schmiegelow K, Stabell N, Vaitkeviciene G, Lepik K, Harila-Saari A, Ranta Obesity as a predictor of treatment-related toxicity in children with acute lymphoblastic leukaemia. *S.Br J Haematol.* 2021 Nov 2. doi: 10.1111/bjh.17936.

E. RA-EDTA, German Federal Ministry of Education and Research. **4C Study Cardiovascular Comorbidity in Children with Chronic Kidney Disease.** Prof. A. Jankauskienė, Prof. R.  erkauskienė, K. A ukaitis. 2014-ongoing.

Patient recruitment and data collection has been completed. Data analysis is continued, focusing on cardiovascular risk burden in children with chronic kidney disease.

Main publications:

Sugianto RI, Memaran N, Schmidt BMW, Doyon A, Thurn-Valsassina D, Alpay H, Anarat A, Arbeiter K, Azukaitis K, Bayazit AK, Bulut IK, Caliskan S, Canpolat N, Duzova A, Gellerman J, Harambat J, Homeyer D, Litwin M, Mencarelli F, Obrycki L, Paripovic D, Ranchin B, Shroff R, Tegbur U, Born JV, Yilmaz E, Querfeld U, W hl E, Schaefer F, Melk A. Insights from the 4C-T Study suggest increased cardiovascular burden in girls with end stage kidney disease before and

after kidney transplantation. *Kidney Int.* 2021 Dec 21:S0085-2538(21)01163-7. doi: 10.1016/j.kint.2021.11.032. Epub ahead of print.

Schön A, Leifheit-Nestler M, Deppe J, Fischer DC, Bayazit AK, Obrycki L, Canpolat N, Bulut IK, Azukaitis K, Yilmaz A, Mir S, Yalcinkaya F, Soylemezoglu O, Melk A, Stangl GI, Behnisch R, Shroff R, Bacchetta J, Querfeld U, Schaefer F, Haffner D; 4C and Study Consortium and the ESPN CKD-MBD Working Group. Active vitamin D is cardioprotective in experimental uraemia but not in children with CKD Stages 3-5. *Nephrol Dial Transplant.* 2021 Feb 20;36(3):442-451. doi: 10.1093/ndt/gfaa227.

International registry study. **ARegPKD Registry Study on Autosomal Recessive Polycystic Kidney Disease.** Investigators: Prof. A. Jankauskiene, dr. K. Azukaitis, D. Ruzgiene, 2020-2021.

The study is analysing a long-term clinical courses of ARPKD patients and taking bio samples. One new patient from our centre was recruited in the study during 2021. The recruitment is ongoing. A kidney volume in early childhood was analysed and publication released. The bio samples of urine and blood were collected from the patients.

Main publications:

Burgmaier K, Kilian S, Arbeiter K, Atmis B, Büscher A, Derichs U, Dursun I, Duzova A, Eid LA, Galiano M, Gessner M, Gokce I, Haeffner K, Hooman N, Jankauskiene A, Körber F, Longo G, Massella L, Mekahli D, Miloševski-Lomić G, Nalcacioglu H, Rus R, Shroff R, Stabouli S, Weber LT, Wygoda S, Yilmaz A, Zachwieja K, Zagozdzon I, Dötsch J, Schaefer F, Liebau MC; ARegPKD Consortium. Early childhood height-adjusted total kidney volume as a risk marker of kidney survival in ARPKD. *Sci Rep.* 2021 Nov 4;11(1):21677. doi: 10.1038/s41598-021-00523-z. PMID: 34737334; PMCID: PMC8568977.

Multicenter randomized clinical trial. **Antibiotic Prophylaxis and RENal Damage In Congenital Abnormalities of the Kidney and Urinary Tract.** Investigators: prof. A. Jankauskiene, D. Ruzgiene, 2020-2021.

The purpose of the study is to evaluate the efficacy of antibiotic prophylaxis in reducing the number of urinary tract infections when initiated before the onset of the first symptomatic urinary tract infection in infants with vesicoureteral reflux Grade III to V. The recruitment of the patients in the study was terminated in 2021, annual follow up visits are still ongoing. 21 patients were included in the study from our centre. After analysis of stool bio samples, a publication on gut microbiota in infants with vesicoureteral reflux was published in 2021.

Main publications:

Morello W, D'Amico F, Serafinelli J, Turrone S, Abati I, Fiori J, Baskin E, Yalcinkaya F, Jankauskiene A, Pennesi M, Zurowska A, Becherucci F, Drozd D, Mekahli D, Krzemien G, La Scola C, Taranta-Janusz K, Mehls O, Schaefer F, Candela M, Montini G. Low-Dose Antibiotic Prophylaxis Induces Rapid Modifications of the Gut Microbiota in Infants With Vesicoureteral Reflux. *Front Pediatr.* 2021 Jun 17;9:674716. doi: 10.3389/fped.2021.674716. PMID: 34222145; PMCID: PMC8247656.

Multicenter prospective cohort study. **The HDF, Hearts and Heights (3H) Study.** Investigator: dr. K. Azukaitis, 2019-2021.

The study has been completed in 2019 but data analysis is still continued, including the effects of hemodiafiltration vs hemodialysis on bone health, blood pressure and nutritional chemokines in children with end-stage kidney disease.

Main publications:

Fischer DC, Smith C, De Zan F, Bacchetta J, Bakkaloglu SA, Agbas A, Anarat A, Aoun B, Askiti V, Azukaitis K, Bayazit A, Bulut IK, Canpolat N, Borzych-Dużałka D, Duzova A, Habbig S, Krid S, Licht C, Litwin M, Obrycki L, Paglialonga F, Rahn A, Ranchin B, Samaille C, Shenoy M, Sinha MD, Spasojevic B, Stefanidis CJ, Vidal E, Yilmaz A, Fischbach M, Schaefer F, Schmitt CP, Shroff R. Hemodiafiltration Is Associated With Reduced Inflammation and Increased Bone Formation Compared With Conventional Hemodialysis in Children: The HDF, Hearts and Heights (3H) Study. *Kidney Int Rep.* 2021 Jul 6;6(9):2358-2370. doi: 10.1016/j.ekir.2021.06.025

De Zan F, Smith C, Duzova A, Bayazit A, Stefanidis CJ, Askiti V, Azukaitis K, Canpolat N, Agbas A, Anarat A, Aoun B, Bakkaloglu SA, Borzych-Dużałka D, Bulut IK, Habbig S, Krid S, Licht C, Litwin M, Obrycki L, Paglialonga F, Ranchin B, Samaille C, Shenoy M, Sinha MD, Spasojevic B, Yilmaz A, Fischbach M, Schmitt CP, Schaefer F, Vidal E, Shroff R. Hemodiafiltration maintains a sustained improvement in blood pressure compared to conventional hemodialysis in children-the HDF, heart and height (3H) study. *Pediatr Nephrol.* 2021 Aug;36(8):2393-2403. doi: 10.1007/s00467-021-04930-2. Epub 2021 Feb 24

Multicenter cross-sectional study. **Kidney length normative values in children aged 0-19 years.** Investigators: prof. A. Jankauskiene, dr. K. Ažukaitis, 2020-2021.

Data collection has been completed in 2020 and data analysis was carried out in 2021 resulting in the production of the most novel kidney length normative data in European children which has been published.

Main publications:

Obrycki Ł, Sarnecki J, Lichosik M, Sopińska M, Placzyńska M, Stańczyk M, Mirecka J, Wasilewska A, Michalski M, Lewandowska W, Dereziński T, Pac M, Szwarc N, Annusewicz K, Rekuta V, Ažukaitis K, Čekuolis A, Wierzbicka-Rucińska A, Jankauskiene A, Kalicki B, Jobs K, Tkaczyk M, Feber J, Litwin M. Kidney length normative values in children aged 0-19 years - a multicenter study. *Pediatr Nephrol.* 2021 Oct 16. doi: 10.1007/s00467-021-05303-5. Epub ahead of print. PMID: 34657197.

MAIN R&D&I (RESEARCH, DEVELOPMENT AND INNOVATION) PARTNERS

University of Heidelberg (Germany)

University of Cologne (Germany)

University of Bologna (Italy)

Bambino Gesù Hospital, Rome (Italy)

Karolinska Institutet and Karolinska University Hospital (Sweden)

Universitätsklinikum Hamburg-Eppendorf (UKE), Hamburg (Germany)

Instytut "Pomnik - Centrum Zdrowia Dziecka", Warsaw (Poland)

PENTA Foundation (Italy)

Harvard University, Harvard Medical School and Boston Children's Hospital (USA)

Riga Children's Hospital and Riga Stradins University (Latvia)

Children's Hospital of Philadelphia (USA)

Poltava State Medical University (Ukraine)

International European University (Ukraine)

Kyiv Medical University (Ukraine)

Montpellier University (France)
Aberdeen University (UK)
London Imperial College (UK)
Great Ormond Street Hospital (UK)
Leuven University (Belgium)
Columbia University (USA)
Zurich University (Switzerland)
Copenhagen University Hospital Rikshospitalet (DK)
Helsinki University Hospital (FI)
Oslo University Hospital (NO)

OTHER RESEARCH ACTIVITIES

Prof. A. Jankauskienė –

- member of European Pediatric Nephrology Society Council;
- leader of Vilnius Reference Centre for European Rare Kidney Disease;
- member of ESCAPE Pediatric Nephrology Research Consortium;
- president of Lithuanian Society for Paediatric Nephrology;
- member of Lithuanian Nephrology, Dialysis and Transplantation Association;
- member of International Paediatric Nephrology Association;
- member of Dialysis working group of the European Society for Paediatric Nephrology;
- member of International Paediatric Hypertension Association;
- member of Lithuanian Paediatric Society;
- member of Regional Bioethical Committee;
- member of organising committee of international conference “BHK2020”;
- editorial board member of the journals *Pediatrics. Acta Medica Lituanica*.

Prof. Dr Habil. V. Usonis –

- member of Central European Vaccination Advisory Group (CEVAG);
- expert on vaccine-related issues at the European Disease Control Centre (ECDC);
- expert of the Research Council of Lithuania;
- member of the European Society of Paediatric Infectious Diseases (ESPID);
- board member of the Lithuanian Paediatric Society;
- chairman of Lithuanian Committee for Poliomyelitis Eradication Certification;
- editorial board member of the *Paediatric Infectious Disease Journal*;
- editorial board member of the journal *Vaikų pulmonologija ir alergologija (Paediatric Pulmonology and Allergology)*;
- editorial board member of the journal *Pediatrics (Paediatrics)*.

Prof. R. Čerkauskienė –

- vice-president of Lithuanian Society for Paediatric Nephrology;
- member of Lithuanian Nephrology, Dialysis and Transplantation Association;
- member of European Society Pediatric Nephrology (ESPN)
- member of International Paediatric Nephrology Association (IPNA);
- member of International society of nephrology (ISN)
- member of Vilnius Paediatric Society;
- member of International Pediatric PD Biobank;
- member of Oxaleurope;

- member of International Alport Mutation Collaborative Group;
- member of Workgroup Metabolic Nephropathies & Stone Disorders, (ERKNet, The European Rare Kidney Disease Reference Network), <https://www.erknet.org>;
- editorial board member of the journal *Pediatrics* (Paediatrics);
- organising committee member of the international conference “BHK2020”;
- organising committee member of the Virtual 2nd Baltics Fabry expert meeting, 30 October 2020.

Prof. R. Ėmužytė –

- editorial board member of the journals: *Vaikų pulmonologija ir alergologija (Paediatric Pulmonology and Allergology)*; *Alergologija ir klinikinė imunologija (Allergology and Clinical Immunology)*; *Medinfo*; *Pediatrics* (Paediatrics);
- international editorial board member of the journal *Alergia astma immunologia (Allergy Asthma Immunology)* (Poland);
- Lithuanian representative in European Training Committee of Paediatric Allergology;
- national representative of European ARIA (Allergic Rhinitis and Its Impact on Asthma) Committee;
- member of the Lithuanian Society of Allergology and Clinical Immunology.

Prof. O. Rudzevičienė –

- board member of the Lithuanian Paediatric Society;
- Lithuanian representative in European Training Committee of Paediatric Allergology;
- member of the European Academy of Allergology and Clinical Immunology;
- member of Lithuanian Society of Paediatric Allergology;
- member of the Lithuanian Society of Allergology and Clinical Immunology;
- editorial board member of the journal *Vaikų pulmonologija ir alergologija (Paediatric Pulmonology and Allergology)*;
- editorial board member of the journal *Pediatrics* (Paediatrics);
- INUNIMAI (International Network of Universities for Molecular Allergology and Immunology) coordinator for Lithuania.

Prof. Dr Habil. A. Valiulis –

- Editor-in-Chief of the journal *Vaikų pulmonologija ir alergologija (Paediatric Pulmonology and Allergology)*;
- Editorial Board Member of the WosCC Journals: *Paediatric Respiratory Reviews*, *Polish Journal of Paediatrics*, *Advances in Respiratory Medicine*;
- Planning Committee member of WHO project Global Alliance against Chronic Respiratory Diseases (WHO-GARD);
- Member of International Pediatric Association (IPA) Strategic Advisory Group on Non-Communicable Disease representing the Europe region for the period of 2021-2023;
- Executive Committee member and Treasurer of European Academy of Paediatrics (EAP/UEMS-SP);
- President of the Lithuanian Paediatric Respiratory Society;
- Vice-president and Board Member of the Lithuanian Paediatric Society;
- National Coordinator and Representative of Lithuania in International Guidelines of Allergic Rhinitis and Its Impact on Asthma (ARIA Lithuania);
- Site Coordinator of International Networking Projects MASK-air, e-QoL ASTHMA, Alfa-1-Qual CHILD.

Prof. V. Urbonas –

- president of the Lithuanian Paediatric Society;
- president of the Lithuanian Society for Paediatric Gastroenterology and Nutrition;

- board member of Lithuanian Society for Parenteral and Enteral Nutrition;
- member of the European Society for Paediatric Gastroenterology, Hepatology and Nutrition (ESPGHAN);
- member of the European Society for Parenteral and Enteral Nutrition (ESPEN);
- member of the Commission of Mother and Child of the Lithuanian Academy of Sciences;
- editorial board member of the journal *Gastroenterologija ir hepatologija*;
- editorial board member of the journal *Pediatrics*.

Assoc. Prof. S. Burokienė –

- member of Scientific Paediatric Committee (PDCO) at European Medicines Agency;
- member of the Lithuanian Paediatric Society;
- vice-president of Vilnius Paediatric Society;
- member of the European Society of Paediatric Infectious Diseases (ESPID);
- member of the European Academy of Paediatrics (EAP);
- member of the the Harvard Alumni Association.

Assoc. Prof. J. Grikinienė –

- member of Lithuanian Association of Neurology;
- member of Lithuanian Paediatric Neurology Society;
- member of Lithuanian Society of Epileptology;
- member of Lithuanian Paediatric Society.

Assoc. Prof. V. V. Panavienė –

- member of Paediatric Rheumatology European Society (PRES);
- national representative in the PRES Training and Education Committee;
- member of Paediatric Rheumatology International Trial Organisation (PRINTO);
- member of the Council of Lithuanian Rheumatology Association;
- editorial board member of the journal *Pediatrics (Paediatrics)*;
- editorial board member of the journal *Reumatologija (Rheumatology)*.

Assoc. Prof. S. Petraitiienė –

- editorial board member of the journal *Paediatric Pulmonology and Allergology*, <http://www.pediatrics.org>;
- board member of Lithuanian Children's Pulmonologist Society.

Assoc. Prof. V. Žilinskaitė –

- board member of the Lithuanian Paediatric Intensive Care Society;
- member of the European Society of Intensive Care Medicine;
- editorial board member of the journal *Pediatrics (Paediatrics)*.

Assoc. Prof. J. Rascon –

- member of the Mission Assembly for Cancer of the Horizon Europe programme 2021–2027;
- board member of the European Reference of Paediatric Oncology (ENR-PaedCan);
- board member of the Lithuanian Society of Haematology (LHD);
- member of the Lithuanian Society of Pediatric Oncology and Hematology (LVOHD);
- member of the National Cancer Prevention and Control Programme 2015–2025 of the Lithuanian Ministry of Health;
- member of the Nordic Society of Pediatric Oncology and Hematology (NOPHO);
- member of the European Society for Blood and Marrow Transplantation (EBMT);
- member of the European Society of Pediatric Oncology (SIOPE);
- member of the European Society for Immune Deficiency (ESID).

Assoc. Prof. G. E. Vaitkevičienė –

- board member of the Nordic Society of Pediatric Oncology and Hematology (NOPHO);
- board member of the Lithuanian Society for Pediatric Oncology and Hematology (LVOHD)
- member of the Nordic Society of Pediatric Oncology and Hematology (NOPHO) Pharmacology group;
- member of the Lithuanian Society of Hematology (LHD);
- member of the European Society for Blood and Marrow Transplantation (EBMT);
- member of the European Society of Pediatric Oncology (SIOPE).

Lect. R. Kemežys –

- editorial board member of the journal *Baltic Endocrinology*;
- member of Lithuanian Paediatric Endocrinology Association;
- member of the International Growth Hormone Research Society (GRS);
- member of the European Society of Endocrinology (ESE);
- member of International Society for Paediatric and Adolescent Diabetes (ISPAD).

Lect V. Radžiūnienė –

- member of the European Respiratory Society;
- member of the European Cystic Fibrosis Association;
- member of Vilnius Paediatric Society.

Assist. Prof. I. Ivaškevičienė –

- member of the Lithuanian Paediatric Society;
- member of the European Society of Paediatric Infectious Diseases (ESPID);
- member of Central European Vaccination Advisory Group (CEVAG);
- member of Paediatric tuberculosis network (PTBNET);
- member of Lithuanian Committee for Poliomyelitis Eradication Certification;
- member of the Board of the Faculty of Medicine

Assist. Prof. O. Kinčiniene –

- president of the Lithuanian Paediatric Cardiology Society;
- deputy editor of the journal *Pediatrics (Paediatrics)*;
- member of the Council of Lithuanian Paediatric Society;
- member of the Council of Vilnius Paediatric Society.

Assist. Prof. I. Pilypienė –

- member of Vilnius Paediatric Society;
- member of the Lithuanian Neonatology Association.

Assist. Prof. R. Samaitienė-Aleknienė –

- member of Baltic Child Neurology Association;
- member of Lithuanian Paediatric Neurology Society;
- board member of Lithuanian Society of Epileptology.
- member of Lithuanian Sleep Medicine Society

Assist. Prof. R. Vankevičienė –

- president of Vilnius Paediatric Society;
- member of the Council of Lithuanian Paediatric Society;
- member of Lithuanian Paediatric Cardiology Society;
- member of Lithuanian Cardiology Society.

Assist. Prof. S. Šaulytė Trakymienė –

- Chair of the Lithuanian Society of Pediatric Hematology and Oncology (LVOHD);
- board member of the NOPHO Scientific Committee;
- member of the Lithuanian Society of Hematology (LHD);

- member of the Nordic Society of Pediatric Oncology and Hematology (NOPHO);
- member of of the Nordic Society of Pediatric Oncology and Hematology (NOPHO) Thrombosis and Haemostasis working group;
- member of the European Society of Pediatric Oncology (SIOPE).

Assist. Prof. R. Praninskiė –

- board member of Lithuanian Paediatric Neurology Society;
- member of Lithuanian Society of Epileptology;
- member of Baltic Child Neurology Association;
- member of European Paediatric Neurology Society;
- member of International Pediatric Sleep Association.

Assist. prof. K. Ažukaitis –

- member of the Lithuanian Pediatric Nephrology Society;
- member of the European Society for Pediatric Nephrology;
- member of the International Pediatric Nephrology Association;
- member of the ESCAPE Pediatric Nephrology Research Consortium.

Research Assist. D. Ruzgienė –

- member of the Lithuanian Paediatric Society;
- member of the Lithuanian Pediatric Nephrology Society.
- member of the European Society for Pediatric Nephrology;
- member of the International Pediatric Nephrology Association.

Teaching assistant, doctoral student I. Adomaitė –

- member of the European academy of allergy and clinical immunology;
- member of the Lithuanian society of pediatric allergists;
- member of the European society for immunodeficiencies;
- member of of the Lithuanian paediatric society.

VU Educational Initiative Grant „Strengthening analytical research competences of paediatric fellows through evidence-based teaching in pediatrics teaching” (dr. K. Azukaitis, assoc. prof. J. Rascon, assoc. prof. S. Burokiene)

BEST REPORTS DELIVERED AT CONFERENCES ABROAD

40 Years of Experience in Pediatric Hematology and Oncology in Lithuania. Virtual Congress 2021 Baltic Conference of Hematology: 20 years: Sharing The Experience, September 30 – October 2, 2021, Vilnius. Oral presentation

Assist. Prof. Ivaškevičienė I. COVID-19: impact on epidemiology and VCR of paediatric infectious diseases. 20th Baltic States Conference „Vaccination day“. Tallinn, 2021 September 10.

Vaitkevičienė G. Achievements in reducing early toxicity for pediatric acute lymphoblastic leukemia patients in Lithuania during time periods. Baltic Congress of Hematology (T), 30 September – 02 October, 2021

Valiulis. Community acquired pneumonia in children: Past, present and future. International Congress of UAP-SMS with official participation of paediatric societies of Lithuania, Poland and Georgia Child Health Care and Wellbeing 2020. 2–3 October 2020. Lviv, Ukraine

MOST IMPORTANT PARTICIPATION CASES OF RESEARCHERS IN WORKING GROUPS OR COMMISSIONS SET UP BY STATE AUTHORITIES, STATE AND MUNICIPAL INSTITUTIONS AND ORGANISATIONS, AND BUSINESS ENTITIES

- Commission of Mother and Child of the Lithuanian Academy of Sciences (Chairman Prof. Arūnas Valiulis);

- Commission of Experts of National Programme of Immunoprophylaxis of Lithuanian Ministry of Health (Chairman Prof. Arūnas Valiulis).
- Participation at Commission of Experts of National Programme of Immunoprophylaxis of Lithuanian Ministry of Health (Prof. Arunas Valiulis – chairman, members: Prof. V. Urbonas, Assist. Prof. I. Ivaskeviciene)
- Group of Experts of COVID-19 Diagnostics and Treatment of Lithuanian Ministry of Health (Assist. Prof. I. Ivaskeviciene)
- Group of Experts for Secondary and Tertiary Pediatric Oncohematology Health Services in Lithuania at Lithuanian Ministry of Health (Assoc. prof. J. Rascon)

MOST IMPORTANT RESEARCH DISSEMINATION ACTIVITIES

Lecture “The connection of the intestine and brain and influence on health” for the event “Student for one day”, lecturer professor V. Urbonas.

Lecture “Why doctors need research and why research needs doctors?” for the event “Student for one day”, lecturer assistant professor K. Ažukaitis.

Clinic of Internal Medicine, Family Practice and Oncology

2 Santariškių, LT-08661 Vilnius
Tel. 236 5075
E-mail: virginijus.sapoka@mf.vu.lt

Head – Prof. Dr *Virginijus Šapoka*

STAFF

Professors: Dr V. Šapoka, Dr V. Kasiulevičius, Dr V. Alekna, Dr L. Griškevičius, Dr N. Samalavičius, Dr Habil. V. Gaigalaitė.

Associate professors: Dr V. Urbanavičius, Dr V. Dženkevičiūtė, Dr Ž. Visockienė, Dr V. Ožeraitienė, Dr L. Vencevičienė, Dr V. Pečeliūnas, Dr N. Burokienė (part-time), Dr J. Pečeliūnienė.

Assistant professors: Dr A. Abraitienė, Dr A. Marcijonienė (part-time), Dr K. Simanauskas, Dr V. Andrejevaitė (part-time), Dr S. Varvuolytė, Dr R. Staigis (part-time), Dr V. Karpavičienė (part-time), Dr R. Kavalnienė (part-time), Dr. A. Mastavičiūtė

Teaching assistants: R. Laukienė (part-time), K. Švaikevičienė (part-time), A. Žučenka (part time), T. Maselienė (part-time)

Lecturers: A. Slobinas (part-time), S. Tulytė (part-time), L. Vaitkevičiūtė (part-time), D. Diglys (part-time), A. Galkinė (part-time), M. Buitkus (part-time), E. Gruodytė (part-time), (part-time), A. Chalkovskaja (part-time), R. Rinkšalytė (part-time), D. Jaroslavskaja (part-time), I. Skalskis (part-time), T. Adomavičius, M. Riauka, G. Matiekutė, A. Juozapavičiūtė, G. Naskauskienė, L. Šiaulienė.

Doctoral students: I. Fomčenko, J. Bublevič, A. Bliūdžius, S. Tulytė, K. Švaikevičienė, A. Žučenka, T. Maselienė, J. Kuliavas, J. Kilaitė.

Scientific groups of students:

Endocrinology: scientific leader – Dr A. Abraitienė, coordinator – student G. Kazlauskaitė; 84 members of students.

Family medicine: scientific leader – Dr V. Andrejevaitė, coordinator – student V. Everatt; 168 members of students.

Dr J. Pečeliūnienė – Head of the student scientific network of the Pharmacy center.

RESEARCH INTERESTS

Etiopathogenesis, diagnostics, treatment of diseases: fundamental and clinical research, innovative technologies

Early diagnostics and prevention of non-infection diseases in family practice and in gerontology

Biomarker research in hematology and oncology

Investigation of etiopathogenetic risk factors and quality of patients' life with internal diseases

RESEARCH PROJECTS CARRIED OUT IN 2021

Projects Supported by University Budget

Genetis, epigenetic factors and life style influence on the development of diabetes complications

– PhD project at the Center of Life Sciences, Vilnius University. PhD students – Laura Šiaulienė, supervisor – Prof. Juozas Lazutka, 2021.

Patients are screened and recruited at Vilnius University Hospital Santaros Klinikos Endocrinology Department. So far 140 patients with diabetes and healthy controls are involved into the study. Clinical, instrumental, biochemical and genetic analyses are performed as per protocol. Interim data analysis is under the progress.

Evaluation and FUP of multimorbid patients - PhD project at VU Faculty of Medicine. PhD student – Kristina Švaikevičienė, supervisors - Prof. V. Kasiulevičius. 2021.

Literature review was performed in the first part of the year. Currently, the project is paused due to maternity leave.

Psychoemotional state of the elderly in sarcopenia – supervisor prof. V. Alekna, consultant prof. M. Tamulaitienė, 2021.

The aim of this study was to explore associations between physical function, muscle mass and bone density in community-dwelling elderly men with sarcopenia. A total of 151 men, 60 years or older were included in this study. Mean age of the subjects was 72.9 ± 8.02 years. Sarcopenia was diagnosed in 45 (29.8%) men. In men with sarcopenia, low lean muscle mass was associated with low femoral neck BMD and low muscle strength. In sarcopenic men with osteoporosis, low muscle fiber area was associated with low scores in a balance test.

Main publications:

Mastavičiūtė A, Kilaitė J, Petroška D, Laurinavičius A, Tamulaitienė M, Alekna V. Associations between physical function, bone density, muscle mass and muscle morphology in older men with sarcopenia: a pilot study // *Medicina*. Basel : MDPI. ISSN 1010-660X. eISSN 1648-9144. 2021, vol. 57, no. 2, art. no. 156, p. [1-10]. Straipsnis DB Clarivate Analytics Web of Science.

The use of activity trackers to assess the effects of physical activity on the risk of developing type 2 diabetes mellitus in people with impaired glucose tolerance: a pilot study. Supervisor prof. V. Kasiulevičius, doctoral student Antanas Bliūdžius, 2021.

The aims of this study were to analyze the potential of patient physical activity monitoring using Fitbit physical activity trackers and find solutions for possible implementation in the health care routine.

30 patients with impaired fasting glycemia were randomly selected and participated for 6 months. Physical activity variability was evaluated, and parameters were calculated using data from Fitbit Inspire devices. Part of the research was published and presented in international conference BIOMDLORE2021.

Main publications:

Bliūdžius Antanas; Purnaitė Roma; Trinkūnas Justas; Jakaitienė Audronė; Kasiulevičius Vytautas. Research on physical activity variability and changes of metabolic profile in patients with prediabetes using Fitbit activity trackers data. DOI: 10.3233/THC-219006

Analysis of Biomarkers for Suicidal Tendencies and Depression, and Validation of the Prognostic Model in Lithuania. Investigator Assoc. Prof. Dr L. Vencevičienė. 2020–2026.

53 healthy control subjects, 35 major depressive disorder and 23 suicide attempts according to the Protocol were enrolled to the study from 01 August 2020. We investigate various objective biological factors associated with mental illnesses. Our goal is to link subjective experience of the patients to specific quantifiable biological, genetic and biochemical alterations, that can be then interfered on, and clinical outcomes and quality of life of those suffering from these diseases would

be improved. Primarily we study influence of genetics, enzyme polymorphisms, biochemical factors on clinical outcome of mental health disorders, including depression, suicidal behaviours, addictions, and other stress related pathologies. Main research group activities – pharmacogenomics, biomarkers in suicidal behaviour and depression, biological therapy in somatic health and it's outcomes on perceived mental distress, epigenetic influences on disease severity.

The Importance of Multimorbidity Patient's Healthcare Model and Innovative Diabetes Treatment and Monitoring for Patient Clinical Outcomes. Theme leader Prof. Dr V. Kasiulevicius. 2019–2023.

The aim of our research was to assess the frequency (percentage) of chronic conditions co-occurring with diabetes in multimorbid Lithuanian population. Data of 103367 patients with diabetes (63.0% female) were analyzed. In conclusion the most commonly associated conditions with diabetes were hypertensive heart disease and angina pectoris.

Physical Activity Evaluation Using Wearable for the Patient with Prediabetes to Prevent Type 2 Diabetes. Theme leader Prof. Dr V. Kasiulevicius, 2019–2022.

Our research aimed to analyze the potential of patient physical activity monitoring using Fitbit physical activity trackers and find solutions for possible implementation in the health care routine. Thirty patients with impaired fasting glycemia were randomly selected and participated for 6 months. Physical activity variability was evaluated and parameters were calculated using data from Fitbit Inspire devices. Changes in parameters were found and correlation between clinical data (HbA1c, lipids) and physical activity variability were assessed. Evaluation of physical activity variability is essential for patient health, and these methods used to calculate it is an effective way to analyze big data from wearable devices in future trials.

Detection of optimal diagnostic and treatment methods and early prevention of non-infectious diseases: atrial fibrillation and stroke outcome. Supervisor assoc. prof. V. Gaigalaitė, assoc.prof. V. Ožeraitienė, 2021.

Atrial fibrillation is a risk factor for stroke, although it may not always be directly responsible for the stroke. On the other hand, cardiac arrhythmias have been reported after ischemic stroke and numerous other intracranial pathologies. We tested the hypothesis that some patients with acute stroke may develop transient AF as a consequence of the stroke. Our study was based on 422 patients with first-ever stroke. AF discovered after an acute stroke, suggesting that it may have occurred as a consequence of the stroke.

Main publications:

Association Between Systolic Blood Pressure Parameters and Unexplained Early Neurological Deterioration (UnND) in Acute Ischemic Stroke Patients Treated With Mechanical Thrombectomy is submitted to Therapeutic Advances in Neurological Disorders (ISI Web of Science)

Characteristics and Outcomes of Ischemic Stroke in Patients with Known Atrial Fibrillation or Atrial Fibrillation Diagnosed After Stroke” is prepared and will be submitted to Frontiers in Neurology.

Biomarker based research of new treatment approaches to relapsed and refractory acute myeloid leukemia, Supervisor prof. L. Griškevičius, doctoral student A. Žučenka, 2021.

During the research we are analyzing efficacy and toxicity of different targeted therapies in patients with relapsed or refractory acute myeloid leukemia. Also we performed translational research using ex-vivo patient cells using single cell RNA sequencing in collaboration with the biotech company „Droplet Genomics“ to identify predictive factors for response to targeted therapy drugs. During the research we also aim to implement and standardize the drug synergy analysis using AML cell lines and ex-vivo cells.

Main publications:

Venetoclax, Actinomycin D and Low Dose Cytarabine for Relapsed or Refractory Acute Myeloid Leukemia in Clinical Practice Setting. *Blood* 2021; 138 (Supplement 1): 3422. doi: <https://doi.org/10.1182/blood-2021-144434>

National Research Projects

Improving Multidisciplinary Care of Colorectal Disorders“ (09.3.3-LMT-K-712-19-0108). Postdoctoral studies funded by the Lithuanian Science Council. Assoc. prof. A. Dulskas, 2020-2022.

We have included over 2000 patients. The first part was retrospective study which resulted in 2 accepted publications and 2 publications are submitted to the journals.

The results of our studies were reported at two international conferences (3 oral presentations).

Main publications:

Dulskas A, Grigoravičius D, Narusevičiute I. Pelvic MRI with water enema as a possible tool for diagnosing anastomotic leak. *Tech Coloproctol.* 2021 Aug;25(8):975-976.

Short and long-term outcomes of elderly patients undergoing left-sided colorectal resection with primary anastomosis for cancer. *BMC geriatrics* – accepted.

Next Generation Epigenetic Markers for Accelerated Ageing in Colorectal Cancer. Postdoctoral studies funded by the Lithuanian Science Council. Assoc. prof A. Dulskas, 2019– 2021.

During 2021 we have included 20 patients: 10 in experimental arm and 10 in control. Sequencing of the blood with epigenetical evaluation and comprehensive mapping of epigenetically oscillating cytosines in 10 cancer patients and 10 healthy controls is planned. Neutrophils will be isolated, and their DNA modification status will be interrogated at over 850,000 distinct cytosine positions across the genome.

Association between hair steroid hormone levels and cardiovascular disease risk in a group of middle-aged and elderly women. Investigator Assoc. prof. Dr N. Burokienė, 2020-2021.

The results showed statistically significant associations between hair cortisol concentration and waist circumference, systolic and diastolic blood pressure values, apolipoprotein E concentration in blood serum, as well as PSS and PSQI scores. Similarly, hair cortisone level correlated significantly with BMI, waist circumference, systolic and diastolic blood pressure values, glucose and high-density lipoprotein cholesterol concentrations in blood serum. DHEA was associated with systolic and diastolic blood pressure. Also, significant associations between SCORE2 index and hair cortisol, as well as cortisone levels were found. The results of this study suggested that hair steroid hormones might be useful biomarkers for the CVD risk assessment and prevention.

Main publications:

Mazgelytė, Eglė; Mažeikienė, Asta; **Burokienė, Neringa**; Matuzevičienė, Rėda; Linkevičiūtė, Aušra; Kučinskienė, Zita Aušrelė; Karčiauskaitė, Dovilė. Association between hair cortisol concentration and metabolic syndrome // *Open medicine.* Warszawa : Walter de Gruyter Poland. eISSN 2391-5463. 2021, vol. 16, p. 873-881. DOI: [10.1515/med-2021-0298](https://doi.org/10.1515/med-2021-0298). [Science Citation Index Expanded (Web of Science); Scopus; MEDLINE] [IF: 2,199; AIF: 5,182; IF/AIF: 0,424; Q3 (2020, InCites JCR SCIE)] [CiteScore: 2,30; SNIP: 0,904; SJR: 0,457; Q2 (2020, Scopus Sources)] [S.fld.: M 001] [Contribution: 0,142]

COVID-19 sero-epidemiological study of the adult population”. Funded by the state budget in accordance with the Minister of Health of the Republic of Lithuania. Investigator Prof. Dr Vytautas Kasiulevičius, 2020-2021.

Study was conducted in 6 municipalities of Lithuania. The sample comprised 3087 adult participants from the general population (mean age 53.7 years, 64% female). SARS-CoV-2 antibodies were assessed using AMP IgM/IgG Rapid Test, other data were based on self-report. Seroprevalence was assessed as a crude estimate and as adjusted by sensitivity-specificity of the test. Study results suggests more than 10 times higher prevalence of virus across the population than the official estimates. Study results was published 2021. <http://europepmc.org/article/MED/34393628>

Contractual Research

Scientific research and experimental development – expert consultancy service in the project „Scientific research, creation and experimental development of non invasive glucose sensor“ for JSC TELTONIKA TELEMEDIC.

MAIN R&D&I (RESEARCH, DEVELOPMENT AND INNOVATION) PARTNERS

Dramemen Hospital (Norway)

Oslo University Hospital (Norway)

Norwegian University of Science and Technology, Department of Cancer Research and Molecular Medicine (Norway)

The Oncoplastic Breast Consortium, Switzerland Academic Clinical Study Scientific Group (SAKK), Senologic International Society /International School of Senology

Hemato-Oncologie voor Volwassenen Nederland (HOVON) foundation

European Organisation for Research and Treatment of Cancer (EORTC)

Nordic Society for Pediatric Hematology and Oncology (NOPHO)

OTHER RESEARCH ACTIVITIES

Prof. V. Šapoka –

- board member of International and European Society of Internal Medicine and president of Lithuanian Society of Internal Medicine;
- editor-in-Chief of the journal *Internistas (Internist)*;
- president of Lithuanian Evidence-Based Medicine Society;
- board member of journals *Medicinos teorija ir praktika (Theory and Practice in Medicine)*, *Geriatrėja (Geriatrics)* and *Lietuvos bendrosios praktikos gydytojas (General Practitioner of Lithuania)*.

Assoc. Prof. V. Urbanavičius –

- member of Eurodiabetes index 2015 committee;
- editorial board member of journals *Lietuvos endokrinologija (Endocrinology of Lithuania)*, *Medicinos teorija ir praktika (Theory and Practice in Medicine)*, *Diabetes Review* and *Internistas (Internist)*;
- member of the organizing committees of endocrinological conferences;
- member of European Association of the Study of Diabetes.

Prof. V. Alekna –

- president of Lithuanian Osteoporosis Foundation;
- editor-in-Chief of journal *Gerontologija (Lithuania)*;
- president Lithuanian Association of Gerontology and Geriatrics;
- board member of European Geriatric Medicine Society;
- board member of European Union of Medical Specialists, Geriatric Medicine Section.

Prof. Dr. V. Kasiulevičius –

- member of Lithuanian Society of General Practitioners; <http://gydytojas.blogspot.com/>;
- member of Lithuanian Trade Union of Family Physicians; <http://www.lsgps.lt/>.

Assoc. Prof. Dr Žydrūnė Visockienė –

- President of Vilnius Society of Endocrinology;
- member of Lithuanian Society of Endocrinology;
- board member of Lithuanian Bioethics Committee;
- member of European Association for the Study of Diabetes;
- editorial board member of the journal *Lietuvos endokrinologija*.

Prof. V. Gaigalaitė –

- member of Lithuanian Society of Neurology;
- member of Lithuanian Society of Stroke;
- editorial board member of the journal *Slauga. Mokslas ir praktika*, <http://www.sdtsc.lt/index.php?id=285>.

Assoc. Prof. Dr V. Ožeraitienė –

- member of the world Society of Gastroenterology;
- member of the Lithuanian Society of Gastroenterology, <http://www.gastroenterologija.lt/>;
- member of the Lithuanian Society of General Practitioners, <http://gydytojas.blogspot.com/>;
- editorial board member of the journal *Slauga. Mokslas ir praktika*, <http://www.sdtsc.lt/index.php?id=285>.

Assist. Prof. Dr S. Varvuolytė –

- president of Lithuanian Society of General Practitioners;
- country delegate of UEMO (European Union of General Practitioners/Family Physicians);
- board member and country delegate of EURACT (European Academy of Teachers in GP/FM);
- member of BARN (Baltic Antibiotic Resistance Collaborative Network);
- independent expert consultant of The National Immunoprophylaxis Programme 2014–2018;
- expert consultant family physician of the Ministry of Health of the Republic of Lithuania;
- expert consultant of Experts Group for Prevention of Microorganisms Resistance for Antimicrobial Treatment Development and Prevalence;
- expert of Vilnius region's Antimicrobial Resistance Inter Institutional Management Group;
- expert consultant family physician of European Medical Agency;
- member of Medications Reimbursement Commission.

Assoc. Prof. Audrius Dulskas –

- Board member of Annals of Coloproctology journal <https://www.coloproctol.org/about/editorial.php>
- Board member of Lithuanian surgery <https://www.zurnalai.vu.lt/lietuvos-chirurgija/about/editorialTeam>
- Member of Cohort studies and Research committees at European Society of Coloproctology <https://www.escp.eu.com/research/research-committee#dulskas>
- Secretary of International Society of University of Colon and Rectal Surgeons <https://www.isucrs.org/>
- Secretary of Lithuanian society of coloproctologists <http://koloproktologai.lt/lt/struktura/sekretorius>

Assoc. Prof. Dr L. Vencevičienė –

- member of Lithuanian Society of General Practitioners.

Assoc. Prof. Dr N. Burokienė –

- member of Lithuanian Society of General Practitioners

BEST REPORTS DELIVERED AT CONFERENCES ABROAD

Ž. Visockienė. The Challenges of Multimorbidity: Building Bridges Between Diabetes and Comorbidities. 6th Baltic Endocrinology Conference for Young Specialists. Oct 15, 2021. Virtual.

Audrius Dulskas, Povilas Kavaliauskas, Edgaras Kulikauskas, Edgaras Smolskas, Kornelija Ruzgaite, Narimantas Samalavicius, Joseph Nunoo-Mensah. Low Anterior Resection Syndrome. What Have We Learned Assessing A Large “Healthy” Population? 10th Congress of the Baltic Association of Surgeons, June 3-4, 2021, Latvia.

Audrius Dulskas, Tomas Poskus, Inga Kildusiene, Ausvydas Patasius, Rokas Stulpinas, Arvydas Laurinavicius, Kestutis Strupas, Narimantas Samalavicius, Giedre Smailyte. National Colorectal Cancer Screening Program in Lithuania: Description of the 5-Year Performance on Population Level. 10th Congress of the Baltic Association of Surgeons, June 3-4, 2021, Latvia.

Andrius Zucenka, Vilmantė Vaitekėnaitė, Kazimieras Maneikis, Regina Pileckytė, Igoris Trociukas, Valdas Pečeliūnas, Laimonas Griškevičius; Venetoclax, Actinomycin D and Low Dose Cytarabine for Relapsed or Refractory Acute Myeloid Leukemia in Clinical Practice Setting. Blood 2021; 138 (Supplement 1): 3422. 63rd American Society of Hematology (ASH) Annual Meeting And Exposition, December 8-17, 2021. doi: <https://doi.org/10.1182/blood-2021-144434>

Andrius Zucenka, Kazimieras Maneikis, Ugnė Ringeleviciute, Birute Pugaciute, Linas Davainis, Paulina Burzdikaite, Guoda Daukelaite, Laimonas Griskevicius. Glasdegib in Combination with Low Dose Cytarabine for Elderly Acute Myeloid Leukemia Patients Failing Hypomethylating Agents. EHA Library. Zucenka A. 06/09/21; 325246; EP486. European Hematology Association (EHA) Congress, 2021.

Beatričė Raščiūtė, Renata Juknevičienė, Aleksandras Laucevičius, Pranas Šerpytis, Mindaugas Matačiūnas. Coronary Computed Tomography Angiography as a Rule-Out Tool for Chest Pain Patients in the Emergency Department: Safety and Long-Term Prognosis - Oral presentation at the European Emergency Medicine Congress, EUSEM 2021, Lisbon, Portugal. October 27, 2021.

MOST IMPORTANT NATIONAL AND INTERNATIONAL AWARDS RECEIVED FOR R&D ACTIVITIES

Teaching assistant Andrius Žučenka: Laureate of Rector’s Science Award 2021.

PARTICIPATION CASES OF RESEARCHERS IN WORKING GROUPS OR COMMISSIONS SET UP BY STATE AUTHORITIES, STATE AND MUNICIPAL INSTITUTIONS AND ORGANISATIONS, AND BUSINESS ENTITIES

Žydrūnė Visockienė:

- Member of the Lithuanian Ministry of Health Working Group “Diabetes Prevention, Diagnosis and Treatment Monitoring Council”.
- Member of the working group of the Lithuanian Ministry of Health for the compilation of the description
- of the procedure for reimbursable medicines for the treatment of diabetes mellitus.
- Member of the Board of the Lithuanian Bioethics Committee.

Romėna Laukienė:

- Member of the working group of the Lithuanian Ministry of Health for the compilation of the description of special requirements for the provision of inpatient personal health care services in adult endocrinology.

Prof. Dr. V. Kasiulevičius:

- Member of working group by the Ministry of Health of Lithuania to assess the need to purchase Covid-19 medicines.

- Member of the State Order Committee by the Ministry of Health of Lithuania.

Assoc. Prof. Dr L. Vencevičienė:

- Member of the working group by the Ministry of Health of Lithuania in the Family Medicine Policy Group.

CONSULTATIONS PROVIDED BY THE UNIT TO THE PUBLIC OR ECONOMIC ENTITIES

Prof. Dr. V. Kasiulevičius - advising government of Lithuania on the introduction of quarantine measures in January 2021.

MOST IMPORTANT RESEARCH DISSEMINATION ACTIVITIES

Virtual Hematology Academy organized by Lithuanian Society of Hematology: „Academy of Hematologists ", "Ask a hematologist".

Prof. Dr. V. Kasiulevičius. 10 interviews with Lithuania media journalists:

1. <https://www.ziniuradijas.lt/laidos/atviras-pokalbis/tvindemijos-gresme-verslui-ir-visuomenei-kokia-yra-skiepu-ir-ligu-kaina>
2. <https://www.lrt.lt/naujienos/sveikata/682/1438396/kasiulevicius-apie-pandemija-salyje-vasara-lietuvoje-gali-pasikartoti-jungtines-karalystes-scenarijus>
3. <https://www.lrt.lt/mediateka/irasas/2000152903/kasiulevicius-isitikines-kad-covid-19-situacija-gereja-svarbu-toliau-skiepyti-ir-leisti-testuotis-patiems>
4. <https://www.lrt.lt/mediateka/irasas/2000146322/svarbus-pokalbis-kasiulevicius-visuomene-nusigrezia-nuo-karantino-nes-draudimu-galiojimo-laikas-baigesi>
5. <https://www.lrt.lt/naujienos/lietuvoje/2/1311516/ekspertai-pateike-savo-pasiulymus-vyriausybei-del-koronaviruso-valdymo-salyje-siulo-pasitelkti-5-testavimo-kryptis>

Project "Tuk tuk širdele - būk sveika!" – a set of lectures about basic life support and workshop at various schools for 8-12th graders, Vilnius city, 2021.

Clinic of Emergency Medicine

2 Santariškių, LT-08661 Vilnius

Tel. 236 5204

E-mail: rasel.seraite@mf.vu.lt; pranas.serpytis@santa.lt

Head – Prof. Dr *Pranas Šerpytis*

STAFF

Professors: Dr P. Šerpytis, Dr R. S. Samalavičius.

Visiting professors: Dr T. Jovaiša, Dr A. Khoury, Dr R. Jalali.

Associate professors: Dr I. Norkienė, Dr R. Badaras, S. Burokienė.

Teaching assistants: Dr V. Žilinskaitė, P. Uksas, R. Juknevičienė, A. Briedis.

Senior researcher: Dr R. Samalavičius.

Lecturers: A. Černauskas, Š. Maciulevičius, A. Vilimas, M. Gedminas, I. Vėgelytė, J. Jaramavičius.

Doctoral students: P. Uksas, A. Briedis, K. Urbonas, N. Ščupakova, J. Skruodytė.

RESEARCH INTERESTS

Emergency medicine

Acute cardiac care

Resuscitation

Polytrauma

Triage

Acute coronary syndromes

Sudden death

Acute heart failure

ECMO

Biomarkers in Emergency Department

RESEARCH PROJECTS CARRIED OUT IN 2021

Projects Supported by University Budget

Eye Injuries after Chemical Burns in Emergency Department, Secondary Glaukoma, Characteristics and Future Perspectives, PhD student Justina Skruodytė, prof. Pranas Šerpytis, 2021-2025.

Review and analysis of the literature dissertation topic according to the research objectives has been carried out in 2021.

National Research Projects

Research Council of Lithuania. **Application of Extraordinary Membrane Oxygenation (ecmo) for the Treatment of Cardiogenic Shock in Elderly Patients**. Prof. R. S. Samalavičius, Assoc. Prof. I. Jovaišienė, PhD student K. Urbonas. 2020–2024.

During the year 2021 the following tasks have been accomplished: review of studies evaluating patients treated with ECM during cardiogenic shock published in foreign literature; development

of research methodology; review and supplement of the existing biomedical research protocol; development of a research and treatment plan.

MAIN R&D&I (RESEARCH, DEVELOPMENT AND INNOVATION) PARTNERS

Heart Center Leipzig- University Hospital Cardiology Department of Internal Medicine/
Cardiology (Germany)

San Filippo Neri Hospital, Rome (Italy)

Olsztyn University Clinic of Emergency Medicine (Poland)

Tel- Aviv University Hospital (Israel)

Department of Medicine, University of Arizona Medical School, Tucson (USA)

National Research Center of Preventive Medicine, Moscow (Russia)

OTHER RESEARCH ACTIVITIES

Prof. P. Šerpytis –

- member of the Research Council Committee of Natural and Technical Sciences, <https://www.lmt.lt/lt/apie-taryba/gantos-ir-technikos-mokslu-komitetas/prof.-pranas-serpytis/2813>;
- editorial board member of the journals *Sveikatos mokslai*; *Santara*; *International Heart and Vascular Disease Journal*; *Annals of Medical Case Reports*; *Emergency Medicine and Critical care Journal*;
- scientific board member of the journal *Emergency Medicine Service*;

MOST IMPORTANT PARTICIPATION CASES OF RESEARCHERS IN WORKING GROUPS OR COMMISSIONS SET UP BY STATE AUTHORITIES, STATE AND MUNICIPAL INSTITUTIONS AND ORGANISATIONS, AND BUSINESS ENTITIES

P. Šerpytis. Working groups of the Ministry of Health of the Republic of Lithuania:

- Lithuanian Health Ministry working group of law number V-208 (dated April 8th, 2004) “For ratification of the emergency medicine care and emergency medicine service provision order and extent”; Working group of Emergency medicine service for traumas and other external conditioned injuries (Trauma cluster); Working group for use of ECMO system in emergency medicine service.
- Member of the Health Council; member of the Research Council of Lithuania;
- A working group to coordinate and address issues related to improving access to innovative medicines and innovative treatments.
- Project "Tuk tuk heart - be healthy!" lectures about „Prevention of heart diseases. Clinical death. Primary resuscitation”.

MOST IMPORTANT RESEARCH DISSEMINATION ACTIVITIES

- „Does the heart attack only affect the elderly?“ P. Šerpytis, Nida, Summer 2021.
- „What factors influence the incidence of cardiovascular disease? How to prevent myocardial infarction?“ Prof. P. Šerpytis. 2021 October 14 Vilnius, 3rd Century University.
Project “Student for one day” lectures online to Secondary School pupils of Lithuania:
- April 19, 2021- „Emergency medicine in Lithuania“. R. Juknevičienė.
- April 20, 2021 – „What factors affect the incidence of cardiovascular disease? How to prevent myocardial infarction?“ P. Šerpytis.
- November 25, 2021 – „What achievements in cardiology have influenced the development of cardiology in the world and in Europe?“ P. Šerpytis.

- Project „Tuk tuk heart - be healthy!“ lectures about „Prevention of heart diseases. Clinical death. Primary resuscitation“. Lectures held to 738 pupils in secondary schools of Vilnius during the year of 2021. P. Šerpytis.
- Interviews for Lithuanian National Radio, National media websites and TV shows. Topics: Emergency Medicine, Cardiology, Preventive Medicine, Covid-19. P. Šerpytis, 2021.

Centre for Visceral Medicine and Translational Research

2 Santariškių, LT-08661 Vilnius
Tel. 236 5250
E-mail: aiste.kielaitė-gulla@mf.vu.lt

Head – Prof. Dr Habil. *Kęstutis Strupas*

STAFF

Professor: Kęstutis Strupas.

Senior researcher: Prof. Tomas Poškus

Researcher : Assistant Prof. Aistė Kielaitė-Gulla

Research assistant- Dr. Augustinas Bausys

RESEARCH INTERESTS

Single cell diagnostics
Intraoperative liver and pancreas tumor visualization
Non-invasive biomarkers
"Organ-On-A-Chip" models
Microbiome impact
Artificial intelligence
Genetics and proteomics
Single cell diagnostics
Individualized cancer treatment
2D/3D Organoids
Pressurized intraperitoneal aerosol chemotherapy (PIPAC)

RESEARCH PROJECTS CARRIED OUT IN 2021

National Research Projects

Single-cell Transcriptomics and Genomics Parallel Computational Biology Laboratories.

Funded under Measure 01.2.2-LMT-K-718 ‘Targeted Research in Smart Specialisation Areas’ (Funding instrument - European Regional Development Fund). Prof. K. Strupas, Prof. L. Mazutis, Research Assist. Dr A. Gulla. 2020–2023.

Early diagnosis of liver cancer remains a challenge. In 2021, the research team focused on single cell identification protocol in tumorous and healthy liver tissue while applying microfluidics technology. In addition, liver cell genomics and data analytics were explored.

CAIX and hypoxia marker detection and intraoperative application in solid tumors visualization. Funded by Lithuanian Research Council. Prof. D. Matulis, Prof. K. Strupas, Research Assist. Dr A. Gulla, Senior Researcher Dr J. Matuliene. 2020–2022.

CA IX inhibitors successfully were applied in liver and pancreas primary tumors. The IR fluorescent technique was used for intraoperative tumor visualization *in vivo*. The data is being analyzed.

Non-invasive Approach to Early Diagnosis and Prognosis of Acute Severe Pancreatitis Based on Heat Shock Protein Mechanism of Action. Funded under Measure 01.2.2-LMT-K-718 ‘Targeted Research in Smart Specialisation Areas’ (Funding instrument - European Regional Development Fund). Prof. K. Strupas, Dr A. Gulla, Prof. J. Razumiene. 2018–2021.

A non-invasive platform will be established for early diagnosis and prognosis of acute pancreatitis. In 2021, the methods on tethered lipid membranes as a platform towards non-invasive electrochemical analysis of Acute Pancreatitis were established. The results were presented in international conferences and published.

Main publications:

Budvytytė, Rima; Milašiūtė, Akvilė; Vitkus, Dalius; Strupas, Kęstutis; Kielaitė-Gulla, Aistė; Šakinytė, Ieva; Razumienė, Julija. Tethered lipid membranes as a nanoscale arrangement towards non-invasive analysis of acute pancreatitis // *Biomedicines*. Basel : MDPI. eISSN 2227-9059. 2021, vol. 9, art. no. 755, p. [1-15]. DOI: [10.3390/biomedicines9070755](https://doi.org/10.3390/biomedicines9070755). [DB: Scopus, Science Citation Index Expanded (Web of Science)]

Lithuanian Research Council. **3D Matrices: Engineered Growth Factors and Morphogens for the Induction of Endothelial-like Cell Signalling in Liver Regeneration.** Prof. K. Strupas, Assoc.Prof. V. Sokolovas, Dr A. Gulla, Dr R. Rackauskas, Dr A. Ziogas. 2019–2021.

Hepatocyte regeneration and successful transplantation as alternative to operation have shown promise in treating metabolic liver disorders, but low engraftment efficiency and poor long-term efficacy are precluding broader clinical application. In 2021, we successfully developed 3D organoids *in vivo* and proved cell-to-extracellular matrix (ECM) interactions in liver tumors.

Main publications:

Gulla A, Rackauskas R. Strupas K. Ziogas A. et al. “Establishing an In Vitro 3D Model of functional human liver organoids”, *Transplant International*, Vol 34, Issue S1. Special Issue: Abstracts of the 20th Biennial European Society for Organ Transplantation (ESOT) Congress, Milan, Italy, 29 August-1 September, 2021.

National Pathology center **The value of “preoperative therapy” before the surgery of stomach cancer.** Prof. K. Strupas, Dr. A. Bausys, 2021-2022.

In 2021 the study focuses on the value of preoperative nutrition and adequate preparation of the patient. The goal of the project is to better understand the mechanism of stomach cancer development and factors influencing the outcomes of surgery.

Main publications:

Bausys A, Ümarik T, Luksta M, Reinsoo A, Rackauskas R, Anglickiene G, Kryzauskas M, Tõnismäe K, Senina V, Seinina D, Bausys R, Strupas K. Impact of the Interval Between Neoadjuvant Chemotherapy and Gastrectomy on Short- and Long-Term Outcomes for Patients with Advanced Gastric Cancer. *Ann Surg Oncol*. 2021 Aug;28(8):4444-4455. doi: [10.1245/s10434-020-09507-1](https://doi.org/10.1245/s10434-020-09507-1). Epub 2021 Jan 8. Erratum in: *Ann Surg Oncol*. 2021 Jul 15;: PMID: 33417120.

Reinsoo A, Bausys A, Ümarik T, Strupas K. ASO Author Reflections: Gastrectomy Within 30 Days After Neoadjuvant Chemotherapy is Associated with the Highest Rate of Major Pathologic Response in Advanced Gastric Cancer. *Ann Surg Oncol*. 2021 Aug;28(8):4456-4457. Doi: [10.1245/s10434-020-09537-9](https://doi.org/10.1245/s10434-020-09537-9). Epub 2021 Jan 8. PMID: 33417117.

Bausys A, Senina V, Luksta M, Anglickiene G, Molnikaite G, Bausys B, Rybakovas A, Baltruskeviciene E, Laurinavicius A, Poskus T, Bausys R, Seinina D, Strupas K. Histologic Lymph Nodes Regression after Preoperative Chemotherapy as Prognostic Factor in Non-metastatic Advanced Gastric Adenocarcinoma. *J Cancer*. 2021 Jan 16;12(6):1669-1677. doi: [10.7150/jca.49673](https://doi.org/10.7150/jca.49673). PMID: 33613754; PMCID: PMC7890304

International Research Projects

Eureka- Establishing Liver-On-A- Chip Platform for Improved Diagnosis of Liver Function.

Endorsed as high-level research project. Partners: Graz University, Austria, “Femtika”, Lithuania. Prof. K. Strupas, Prof. P. Schemmer, Dr. A. Gulla. 2021-2023

The project was implemented with Department of Surgery, University of Graz. In 2021, *In vivo* testing with human liver cancer and healthy tissue was established with different scaffold materials and coatings.

Main publications:

Ezerskyte E, Vengris M, Mikoliunaite L, Merkininkaite G, Niaura G, Leber B, Stiegler P, Schemmer P, Sakirzanovas S, Gulla A, Strupas K, Jonusauskas L. “Qualitative Comparison Between Different Biopolymers for Usage in Two-Photon Polymerization Towards Liver Regeneration” (submitted).

CovidSurg - International Initiative - Lithuanian National Coordination Center.

Funding: voluntary basis. Prof. K. Strupas, Prof. T. Poskus, Assoc. Prof. A. Zelvys. Researcher A. Čekauskas, Research Assist. Dr A. Gulla. 2020-2022.

A collaborative international project on establishing guidelines and framework for optimal timing of elective surgeries during Covid-19 pandemic. In 2021, the international guidelines were established in regards of vaccination, timing, effects of pre-operative isolation and elective surgery settings.

Main publications:

COVIDSurg Collaborative, GlobalSurg Collaborative SARS-CoV-2 vaccination modelling for safe surgery to save lives: data from an international prospective cohort study. *Br J Surg.* 2021 Sep 27;108(9):1056-1063. doi: 10.1093/bjs/znab101.

COVIDSurg Collaborative. GlobalSurg Collaborative. Timing of surgery following SARS-CoV-2 infection: an international prospective cohort study. *Anaesthesia.* 2021 Jun; 76 (6): 748-758. doi: 10.1111/anae.15458. Epub 2021 Mar 9.

COVIDSurg Collaborative GlobalSurg Collaborative. Effects of pre-operative isolation on postoperative pulmonary complications after elective surgery: an international prospective cohort study. *Anaesthesia.* 2021 Nov;76(11):1454-1464. doi: 10.1111/anae.15560. Epub 2021 Aug 9.

OTHER RESEARCH ACTIVITIES

Prof. Dr Habil. K. Strupas –

- board member of the European Academy of Surgical Sciences (EAeSS);
- member of International Hepato-Pancreato-Biliary Association;
- elected president of the Association of Lithuanian Surgeons;
- member of European Association for Endoscopic Surgery (EAES);
- editorial board member of the international journal *Viszeralmedizin*, <http://content.karger.com/Journal/EditorialBoard/223970>;
- editorial board member of the journal *Medicinos teorija ir praktika (Theory and Practice in Medicine)*, <http://www.mtp.lt/lt/redaktoriu-kolegija-8/>;
- editorial board member of the journal *Lietuvos chirurgija (Lithuanian Surgery)* <http://www.chirurgija.lt>;
- editorial board member of the journal *Medicina (Lithuania, ISI)*, <http://medicina.kmu.lt>.

Researcher Dr. Aiste Kielaitė- Gulla-

- full member, Association for Academic Surgery

- member, European Society of Surgical Oncology for Young Surgeons
- member, Pancreas Club
- member, Association of Women Surgeons
- member, European Pancreas Club

BEST REPORTS DELIVERED AT CONFERENCES ABROAD

Gulla A et al. “Heat Shock Protein 90: Potential Target Structure in Acute Pancreatitis”, 52 nd Annual Scientific Meeting, American Pancreatic Association, November 3-6, 2021, Miami, FL

Gulla A et al. “Establishing an in Vitro 3 D Model of Functional Human Liver Organoids”, European Society of Organ Transplantation, 2021 Milan

Gulla A et al. “Feasibility of CEUS and AI Detecting The Severity of Acute Pancreatitis”, European Pancreatic Club, June 9-11, Verona, Italy

MOST IMPORTANT NATIONAL AND INTERNATIONAL AWARDS RECEIVED FOR R&D ACTIVITIES

2021 Kenneth Warren Hepeto-Pancreato-Biliary Surgery award, International HPB association

Inventions, Patents, Copyrights

- 2021 EU and USA patent application expansion (LT 2018548, PCT/ISA220) “Non-invasive approach to early diagnosis and prognosis of acute severe pancreatitis based on the mechanism of heat shock proteins”
- 2021 EU patent application expansion- collaboration with Kaunas University of Technology (LT 2020538) “Usage of automated Ultrasound and Contrast-enhanced ultrasound images and database system for early diagnosis of pancreas diseases”.

INSTITUTE OF DENTISTRY

117 Žalgirio, LT-08217 Vilnius
Tel. 272 7589
E-mail: vilma.brukiene@mf.vu.lt

Head – Prof. Dr. *Vilma Brukiene*

STAFF

Professors: Dr. V. Peciulienė, Dr. A. Pūrienė, Dr. T. Linkevicius, Dr. V. Rutkūnas, Dr. L. Linkevičienė

Associate professors: Dr. R. Manelienė, Dr. L. Zaleckas, Dr. S. Drukteinis, Dr. R. Bendinskaitė.

Assistant professors: Dr. V. Berlin (part-time), Dr. E. Nedzinskienė (part-time), Dr. A. Rimkevičius (part-time), Dr. R. Žaliūnienė (part-time), Dr. E. Vindašiūtė-Narbutė (part-time). Dr. A. Gedrimienė (part-time), Dr. R. Trumpaitė-Vanagienė (part-time), Dr. V. Zaleckiene (part-time), Dr. S.K. Žukauskas (part-time), Dr. E. Miliūnienė (part-time), Dr. D. Ivanauskaitė (part-time), Dr. R. Almonaitienė (part-time), Dr. L. Džiaugytė- Eyeberdiyev, Dr. R. Rasteniene (part-time)

Lecturers: V. Almonaitis (part-time), R. Pletkus (part-time), D. Janavičiene (part-time), G. Krukonis (part-time), D. Matkevicius (part-time), J. Žekonienė (part-time), G. Naujokaitytė (part-time), P. Andrijauskas (part-time), J. Pletkus (part-time), G. Aidukaite (part-time), M. Domeikaite (part-time), J. Zubaite-Maliuk (part-time)

Doctoral students: I. Gendvilienė, R. Borusevičius, A. Rovas, P. Tušas, I. Stankevičienė, J. Pletkus

Students' scientific group of Odontology: scientific leader – Prof. Dr. V. Brukiene, Coordinator – student M. Ralytė; 61 Members of the group.

RESEARCH INTERESTS

Etiopathogenesis, diagnostics, treatment, rehabilitation and prevention of stomatognathic system disease: fundamental and clinical research.

RESEARCH PROJECTS CARRIED OUT IN 2021

Projects Supported by University Budget

Xerostomia, Autoimmune and Non-Autoimmune Sicca Syndrome Epidemiology, Epigenetics and Neuroimmune Axis Relation with Oral Health. Prof. A. Puriene, PhD St. Indre Stankeviciene, 2019–2023.

This aim of the project is to understand xerostomia, autoimmune and non-autoimmune sicca syndrome epidemiology, epigenetics and neuroimmune axis relation with oral health. Obtained bioethics committee approval. Data collection in progress.

Main publications:

I. Stankeviciene, A. Puriene, D. Mieliauskaite, L. Stangvaltaite-Mouhat, and J. Aleksejuniene. Detection of xerostomia, Sicca, and Sjogren's syndromes in a national sample of adults. *BMC.Oral Health* 21 (1):552, 2021.

Xerostomia and dental conditions in Lithuanian adults / Indre Stankeviciene, Alina Puriene, Jolanta Aleksejuniene, Lina Stangvaltaite-Mouhat, Ruta Bendinskaite, Diana Mieliauskaite // EADPH conference abstracts 2021. – Abstract 8. Group B – Oral health promotion. Online-only supplement to Community Dental Health.

Could Dental Clinicians Improve the Detection of Sjogren's Syndrome? Indre Stankeviciene, Alina Puriene, Lina Stangvaltaite-Mouhat, Diana Mieliauskaite, Jolanta Aleksejuniene. The Continental European Division (CED-IADR) together with the Scandinavian Division (NOF) of the International Association for Dental Research, Oral health research congress 15-18 September 2021, Brussels, Belgium. P152

Theory-Based Interventions for Improving Oral Self-Care of 15–16 Years Old Schoolchildren. Prof. V. Pečiulienė, Prof. V. Brukienė, PhD st. L. Džiaugytė-Eyberdiyev. 2016–2021.

Targeting adolescent cohorts for health promotion is important due to the fact that adults who maintained their oral health lifestyle from adolescence through adulthood presented with better oral health than the ones who had a poorer health-related lifestyle in their adolescence. Main hypothesis of research done so far is the theory-guided interventions are superior to a one-time conventional dental instruction for improving and sustaining oral self-care in adolescents. Doctoral thesis: Lina Džiaugytė-Eyberdiyev “Impact of Theory-Based Interventions to Oral Self-Care Behavior of 15-16 Years Old Adolescents” was defended.

Main publications:

Motivational Methods to Improve Oral Health in Adolescents - Presentation at the Congress of Lithuanian Association of Pediatric Dentistry 2021. Minimal-invasive pediatric dentistry.

Salivary Factors and Caries in Family Members. Preparation of Patients with Childhood Autism for Dental Procedures: Assessment of Possibilities. Oral Health and Dental Treatment Needs of Children with Cerebral Palsy. Prof. V. Brukiene. 2018–2022.

Evaluation of the possibilities to prepare patients diagnosed with childhood autism for dental procedures is important. The research has been made to reveal and to assess the prognostic criteria for possibilities of the child with autism to cooperate during dental procedures according to clinics of autism, evaluating patient developmental abilities and skills and the effectiveness of behavioural management methods based on accomplishment of repeated tasks. Study data were collected, statistical analyses performed and data prepared for publishing.

Epidemiological Oral Health Survey in Lithuania. Prof. A. Pūrienė, doct., Indrė Stankevičienė, Assoc. Prof. R. Bendinskaitė, 2015–2021.

Epidemiological oral health survey aims to collect data regarding the distribution of different oral conditions and their determinants in key age groups in different regions of Lithuania and to compare present findings with the results of the adult Lithuanian survey done in 1997/1998. National oral health survey is a cross-sectional study, which take place in 15 geographic locations. Preparation of the manuscript, presentations.

Main publications:

L. Stangvaltaite-Mouhat, A. Puriene, J. Aleksejuniene, I. Stankeviciene, B. Tommeras, and M. Al Haroni. Amylase Alpha 1 Gene (AMY1) Copy Number Variation and Dental Caries Experience: A

Pilot Study among Adults in Lithuania. *Caries Res.* 55 (3):174-182, 2021.

L. Stangvaltaite-Mouhat, A. Puriene, I. Stankeviciene, and J. Aleksejuniene. Fluoride in the drinking water and dental caries experience by tooth surface susceptibility among adults. *BMC.Oral Health* 21 (1):234, 2021

Xerostomia and dental conditions in Lithuanian adults / Indre Stankeviciene, Alina Puriene, Jolanta Aleksejuniene, Lina Stangvaltaite-Mouhat, Ruta Bendinskaite, Diana Mieliauskaite //

EADPH conference abstracts 2021. – Abstract 8. Group B – Oral health promotion. Online-only supplement to Community Dental Health.

Web-based intervention for solving the diet related oral health problems. PhD student Indre Stankevičienė, prof. Alina Pūrienė, Assoc. prof. Rūta Bendinskaitė. Health foundation, 2021.

The study aims to explore the effectiveness of interactive training in addressing dietary and oral health problems among different dental risk groups, to explore the effectiveness of interactive training in solving oral health problems among high-risk dental populations. Data were collected on the effectiveness of web intervention for oral health-related knowledge in various groups of the population. Data in adult groups of pregnant women, physically disabled people, elderly and community members without special needs collected. Sample collection were conducted according to the plan. Preparation of the manuscript, presentations.

Main publications:

Associations Between Sociodemographic Characteristics and Improvement in Oral Health-Related Knowledge Austeja Pauliukaite, Lina Stangvaltaite-Mouhat, Jolanta Aleksejuniene, Indre Stankeviciene, Ruta Bendinskaite, Alina Puriene. The Continental European Division (*CED-IADR*) together with the Scandinavian Division (NOF) of the International Association for Dental Research, Oral health research congress 15-18 September 2021, Brussels, Belgium, P 71.

New Technology for Dental Pulp-dentin Complex Regeneration. Characterization and Sealing Ability of the Flowable Bioceramic Materials. Shaping and Centering Ability, Cyclic Fatigue Resistance and Fractographic Analysis of Conventional and Thermally Treated Nickel Titanium Endodontic Instruments. Assoc. Prof. S. Drukteinis, Prof. Dr V. Peciuliene, PhD student P. Tusas, Prof. J. Camillieri. 2019–2023.

The aim was to assess MTA Flow, MTA Flow White, using scanning electron microscopy, energy dispersive spectroscopy and x-ray diffractometry; to evaluate the root canal sealing quality by MTA Flow and BioRoot RCS/single-cone obturation technique in artificially perforated roots and to evaluate the effect of ultrasound agitation on the porosity of the flowable bioceramic materials. Furthermore, the shaping and centering ability as well as cyclic fatigue resistance of conventional and thermally treated nickel-titanium endodontic instrument systems were evaluated, using SEM and μ CT.

Main publications:

Drukteinis, Saulius; Bilvinaitė, Goda; Shemesh, Hagay; Tušas, Paulius; Pečiulienė, Vytautė. The effect of ultrasonic agitation on the porosity distribution in apically perforated root canals filled with different bioceramic materials and techniques: a micro-CT assessment // Journal of clinical medicine. Basel : MDPI. eISSN 2077-0383. 2021, vol. 10, iss. 21, art. no. 4977, p. [1-11]. DOI: [10.3390/jcm10214977](https://doi.org/10.3390/jcm10214977). [DB: PubMed, Embase, Scopus, Science Citation Index Expanded (Web of Science)]

Drukteinis, Saulius; Bilvinaitė, Goda; Tušas, Paulius; Shemesh, Hagay; Pečiulienė, Vytautė. Microcomputed tomographic assessment of the single cone root canal fillings performed by undergraduate student, postgraduate student and specialist endodontist // Journal of clinical medicine. Basel : MDPI. eISSN 2077-0383. 2021, vol. 10, no. 5, art. no. 1080, p. [1-11]. DOI: [10.3390/jcm10051080](https://doi.org/10.3390/jcm10051080). [DB: MEDLINE, Scopus, Science Citation Index Expanded (Web of Science)]

Drukteinis, Saulius; Bilvinaitė, Goda; Tušas, Paulius; Hagay Shemesh, Shemesh; Pečiulienė, Vytautė. Porosity distribution in single cone root canal fillings performed by operators with different clinical experience: a microCT assessment // Journal of clinical medicine. Basel : MDPI. eISSN 2077-0383. 2021, vol. 10, no. 12, art. no. 2569, p. [1-9]. DOI: [10.3390/jcm10122569](https://doi.org/10.3390/jcm10122569). [DB: MEDLINE, Scopus, Science Citation Index Expanded (Web of Science)]

Biocompatibility of Flowable Hydraulic Calcium Silicate-Based Cements MTA Flow „Thick“ Consistency on Human Dental Pulp Stem Cells *In Vitro*. Paulius Tušas, Milda Alksnė, Josette Camilleri, Saulius Drukteinis, Eglė Marija Jonaitytė, Virginija Bukelskienė, Vygandas Rutkūnas, Vytautė Pečiulienė, 2019-2023.

The aim was to evaluate biological properties of flowable hydraulic tricalcium-silicate based cements (*MTA Flow Grey* and *White „Thick“ consistency, Ultradent*) *in vitro* on human dental pulp stem cells (hDPSC). hDPSCs were thawed, *MTA Flow* eluates were prepared and pH measurements, cytotoxicity and cell proliferation, cell morphology were analysed.

Main publications:

Cytotoxicity of Flowable Hydraulic Calcium Silicate-Based Cement Leachates. Paulius Tušas, Milda Alksnė, Josette Camilleri, Saulius Drukteinis, Eglė Marija Jonaitytė, Virginija Bukelskienė, Vygandas Rutkūnas, Vytautė Pečiulienė. 2021 CED-IADR/NOF Oral Health Research Congress Abstract Book. September 16-18, 2021

Evaluation of Procedural Errors Frequency during Endodontic Treatment and Their Influence on Tooth Prognosis. Prof. Dr V. Pečiulienė, Assoc. Prof. S. Drukteinis, Lect. G. Naujokaitytė. 2017–2023.

Successful root canal treatment is determined by many factors. Inappropriate root canal treatment procedures result in endodontic treatment errors. It is precisely they that become the main thrills that can determine not only the course of the treatment, but also the further prediction of the treatment. The aim of this study is to evaluate the incidence of endodontic treatment errors, the impact of endodontic treatment outcomes, the prognosis and the possibility of correcting these procedural errors. Two year follow-up of 150 retreated teeth are done and statistical analysis of data is done. Data is being prepared for the publication.

Dental Trauma Experience, Attitudes and Trauma Prevention in 11 to 13 Year-Old Lithuanian Schoolchildren. Teaching Assist. V. Zaleckienė, Prof. V. Pečiulienė. 2014–2021.

The aim of this study was to identify the prevalence and determinants of dental trauma in permanent anterior teeth among 11- to 13-year-old schoolchildren, to compare self-reported dental trauma rates with clinical examination trauma rates, and to examine mouth guard use among children engaged in contact sports. A probability sampling scheme was used to recruit schools, with all sixth grade children in the selected schools invited to participate. Final draft of thesis is prepared and defended.

***In Vivo* and *in Vitro* Accuracy Evaluation of Digitally Made Impressions and Restorations on Dental Implants.** Assoc. Prof. V. Rutkūnas, PhD st. A. Gečiauskaitė. 2016–2021.

We aimed to improve the accuracy of digital workflow and to achieve aesthetic and functional restorations with minimal effort. Due to constant changes in intraoral scanners hardware and software, reliable methodology and clinical guidelines will be provided. Finalization of *in vitro* experiment, data collection and analysis. Preparation and submission of 3 papers to peer-review journals with IF. Finalization of the dissertation work, reviewing procedures and formation of PhD defense committee.

Main publications:

Rutkūnas V, Gedrimiene A, Jacobs R, Malinauskas M. Comparison of conventional and digital workflows for implant-supported screw-retained zirconia FPD bars: Fit and cement gap evaluation using SEM analysis. *Int J Oral Implantol (Berl)*. 2021 May 12;14(2):199-210.

Rutkūnas V, Gedrimiene A, Akulauskas M, Fehmer V, Sailer I, Jegelevicius D. *In vitro* and *in vivo* accuracy of full-arch digital implant impressions. *Clin Oral Implants Res*. 2021 Sep 20. doi: 10.1111/clr.13844.

Comprehensive Evaluation of Factors Influencing the Accuracy of Digital Workflow. Prof. V. Rutkūnas. 2019–2024, PhD st. J. Pletkus, L. Auškalnis, postgraduate students J. Dirse and V. Bilius. 2016–2023.

The separate steps of the digital workflow have been analysed trying to identify the steps most susceptible to the errors. This will help to identify better the clinical indications of fully digital and combined digital/analogue workflows. Based on the findings, the solutions helping to increase potential of digital technologies in prosthodontics will be offered. Set up of the experiments. Clinical and laboratory study initiation. Data collection, analysis and preparation for the publication.

Main publications:

Rutkunas V. Fusion of digital implantology and prosthodontics. Practical guidelines. September 30 – October 2, 2021. EPA annual meeting Athens, Greece.

Rutkunas V. Digital workflow accuracy of implant-supported restorations October 9-11 SEPES meeting, Madrid, Spain. <https://congresosepes.org/2021madrid/en/programme/> October 9-11, 2021

Rutkunas V. Optimized workflows in digital implant prosthodontics . DDS Global Conference November 4-6, 2021 in Cernobbio, Italy.

Effect of Different Prosthetic Materials on Human Fibroblast Cell Cultures. Prof. V. Rutkūnas. 2017–2022.

Completion of the experiments and collection and analysis of the data.

Influence of Implant Placement Depth and Soft Tissue Thickness on Crestal Bone Stability around Implants with and without Platform Switching. A comparative Clinical Trial. Prof. Dr. Tomas Linkevicius, PhD student Saulius Zukauskas. 2016–2021.

The aim of our study was to investigate if implant placement depth in relation with soft tissue thickness has influence on crestal bone stability around dental implants. The research hypothesis was that bone level implants with platform switching, placed subcrestally when surrounding gingiva is thin would have similar bone resorption with bone level implants without platform switching, placed in thick soft tissue supracrestally.

Main publications:

Zukauskas S, Puisys A, Andrijauskas P, Zaleckas L, Vindasiute-Narbutė E, Linkevicius T. Influence of implant placement depth and soft tissue thickness on crestal bone stability around implants with and without platform switching: A comparative clinical trial. *Int J Periodontics Restorative Dent.* 2021 May-June; 41 (3): 338-345

Andrijauskas P, Zukauskas S, Alkimavicius J, Peciuliene V, Linkevicius T. Comparing effectiveness of rubber dam and gingival displacement cord with copy abutment in reducing residual cement in cement-retained implant crowns: A crossover RCT. *Clin Oral Implants Res* 2021 May;32(5):549-558.

Linkevicius T, Linkevicius R, Gineviciute E, Alkimavicius J, Mazeikiene A, Linkeviciene L. The influence of new immediate tissue level abutment on crestal bone stability of subcrestally placed implants: A 1-year randomized controlled clinical trial. *Clin Implant Dent Relat Res.* 2021 Apr;23(2):259-269.

Prospective Randomised Long Term Three Centre Study of the Baltic Cleft Network (Rostock, Germany; Ryga, Latvia and Vilnius, Lithuania): Appearance of Lip and Nose in Patients with Unilateral Clefts of Lip, Alveolus, and Palate. Assoc. Prof. L. Zaleckas, 2016–2021.

The aim of this study was to compare long-term results of three different cleft treatment protocols treating patients with unilateral complete clefts of lip, alveolus and palate. Photographies were taken before surgery and at the age of 5 and 10 years. The evaluation of function and aesthetics of the lip as well as of symmetry and harmony was done. The manuscript “Lips and noses in 10-year-old patients with repaired complete unilateral clefts of lip, alveolus, and palate. First results from a prospective three centre study of the Baltic Cleft Network. (accepted for publication in Journal of Cranio-Maxillo-Facial Surgery).

Practice Characteristics and Views of Dental Hygienists in Lithuania. Prof. Alina Puriene, V. Berlin, asist. Greta Aidukaitė, 2019–2022.

The study analyzed practice characteristics and views and employment possibilities of Lithuanian dental hygienists. The questionnaire asked about the demographics of dental hygienists, characteristics of practice, patient load, career intentions, opinion about dental hygienists workforce and the need of governmental workforce regulation. In 2021 the data was analyzed. Finalization of the dissertation work.

Main publications:

G. Rederiene, Y. Buunk-Werkhoven, G. Aidukaite, and A. Puriene. Relationship Between Job Satisfaction and Health of Hygienists in Lithuania. *Int.Dent.J.*, 2021.

Self-perceived work-related physical, psychological disorders and job satisfaction among Lithuanian dental hygienists / Gitana Rederiene, G. Aidukaite, A. Puriene // EADPH conference abstracts 2021. – Abstract 17. Group A – Education oral epidemiology. Online-only supplement to Community Dental Health. P.S7.

***In vitro* and *in vivo* Research about Influence of the Cement Type on Its Removal Quality from the Zirconium Oxide Implant-supported Restorations.** Assist. Prof. E.Vindasiute-Narbute. 2018–2023.

First stage was to implement an *in vitro* study. Idea was to compare two different cements (resin cement and glass ionomer resin modified cement) and their excess removal quality after cementation on implant supported zirconia restorations. Second stage: to organize an *in vivo* study with the same cements to check if results of *in vitro* and *in vivo* studies coincide.

During the period 2020-2021 the study design and data collection was performed. Results of the following study were presented in International conference European prosthodontic association in Athens, Greece. 2021.09.30-10.02

Main publications:

Vindasiute-Narbute E, Puisys A, Andrijauskas R, Pileicikiene G, Malinauskaite D, Linkevicius T. Influence of the cement type on its removal quality from the zirconium oxide implant-supported restorations. *Int J Prosthodont.* 2021 Feb 23. doi: 10.11607/ijp.7088. Online ahead of print. PMID: 33625403

Research about Implant and Restorative Treatment Options in Edentulous Patients. Assist. prof. E.Vindasiute-Narbute, 2018-2023

Crestal bone stability after flapless placement of sloped implants. The purpose of this study was to evaluate crestal bone stability around sloped implants using the flapless procedure and compare it with conventional implants placed axially. Soft tissue augmentation stability in edentulous patients. It was shown, that Connective Tissue Grafts (CTG) retrieved from the tuberosity tends to determine hyperplastic responses and may induce a beneficial over-keratinization of non-keratinized mucosa. Clinically evaluate and compare CTG from tuberosity ability to increase soft tissue thickness and

the keratinization potential after recipient area is either prepared using split or full thickness flap in edentulous mandible. 2021 data collection, analysis and publications.

Main publications:

Puisys A, Auzbikaviciute V, Vindasiute-Narbutė E, Zukauskas S, Vaicekauskas K, Razukevicius D. Crestal bone stability after flapless placement of sloped implants with immediate temporization in edentulous mandible. A prospective comparative clinical trial. Clin Exp Dent Res. 2021 Apr;7(2):131-136. doi: 10.1002/cre2.352. Epub 2020 Nov 30. PMID: 33283487

Puisys A, Auzbikaviciute V, Vindasiute-Narbutė E, Zukauskas S, Razukevicius D, Dard MM. Full versus partial thickness flap to determine differentiation and over keratinization of non-keratinized mucosa. A 3-year split mouth randomized pilot study. Clin Exp Dent Res. 2021 Dec;7(6):1061-1068. doi: 10.1002/cre2.468. Epub 2021 Jul 10. PMID: 34245136

Odontogenic Maxillofacial Infections. Dr. Rūta Rasteniene, postgraduate students M. Vitosytė and D. Jankauskaitė. (2020-2021)

The aim of the study is to evaluate treatment outcomes in patients with severe maxillofacial infections requiring hospital care during a 17-year period.

Main publications:

Rasteniene R, Vitosyte M, Jankauskaite D, Aleksejuniene J. Predictors of longer hospitalization of maxillofacial infections-a 17-year retrospective study. Oral Dis. 2021 Apr 29. doi: 10.1111/odi.13894. Epub ahead of print. PMID: 33915000.

Tongue Function Characteristics in Infants Experiencing Breastfeeding Difficulties and Changes in Breastfeeding after Frenotomy Procedures. Dr. Rūta Rasteniene, prof. Alina Pūrienė, 2016-2021.

The aims of the study are to describe tongue function in infants experiencing breastfeeding difficulties and to examine changes in breastfeeding after frenotomy procedures.

Main publications:

Rasteniene R, Puriene A, Aleksejuniene J. Tongue function characteristics in infants experiencing breastfeeding difficulties and changes in breastfeeding after frenotomy procedures. Clin Oral Investig. 2021 Aug;25(8):4871-4877. doi: 10.1007/s00784-021-03793-z. Epub 2021 Jan 18. PMID: 33459889.

Rapid Diagnosis of Covid-19 Virus and Other Infectious Agent Using CRISPR Technology. Prof. Alina Pūrienė, Adomas Rovas, 2021.

Idea of the project is to improve the quality of personal health care services by creating fast and accurate COVID-19 virus and other infectious agents using CRISPR nucleases, which is appropriate for daily practice of medical institutions. Bioethics committee approval was obtained. Clinical examination and sample collection were conducted according to the plan. Clinical and laboratory tests are being analyzed. Preparation of the manuscript.

AI-CE1 Model Development Project Based on Artificial Intelligence Technology. Science promotion fund, Vilnius university. Indre Stankevičienė, Alina Pūrienė, 2021.

The aim of the project is to use an artificial intelligence for automatic determination of DMFT index in orthopantomograms. The developed technology is expected to carry out epidemiological research in an innovative way, assess the need for and impact of prevention programs in population, identify individuals at high risk of dental and general health diseases. In 2021 was created a database of cases and analysed of large data (1000) for the extraction of digital phenotypes using AI solutions,

integrating information flows, and performing data visualization. Started analysis of associative relations.

Main publications:

Reliability of Orthopantomograms for Detecting Tooth Status in Adults. Lukas Naktinis, Paulius Raškevičius, Indre Stankeviciene, Alina Puriene, Lina Stangvaltaite-Mouhat. The Continental European Division (*CED-IADR*) together with the Scandinavian Division (NOF) of the International Association for Dental Research, Oral health research congress 15-18 September 2021, Brussels, Belgium, P19.

Communication Sources Used by Patients. Alina Pūrienė, Linas Zaleckas, 2021.

The aim of the study is to find out where the patient is before teeth extraction looking for reliable information about surgical procedure. Data collection and analysis.

Main publications:

Communication Sources Used by Patients Before Teeth Extraction Modesta Ralyte, Milda Vitosyte, Linas Zaleckas, Alina Puriene The Continental European Division (*CED-IADR*) together with the Scandinavian Division (NOF) of the International Association for Dental Research, Oral health research congress 15-18 September 2021, Brussels, Belgium.

National Research Projects

Accuracy of Digitally Planned Implant Placement and Cad/Cam Immediate Prosthesis. Project No KD-16137. Assoc. Prof. V. Rutkūnas, PhD St. R. Borusevičius, 2017–2022.

The aim of this doctoral thesis is to evaluate the accuracy as well as biological, technical and clinical aspects of digitally planned dental implantation and immediate prosthodontics rehabilitation. Creation of the experimental models, implementation of the experiments and data collection.

Main publications (submitted):

The effect of partial edentulous arch type and implant design on the accuracy of dynamic dental implant navigation: an *in vitro* study using novel X-ray free methodology. Journal of Dentistry.

The Association of Epigenetic Factors with the Etiopathogenesis and Clinical Status of Periodontal Diseases and Rheumatoid Arthritis. Funded by Research Council of Lithuania. Nr. 01.2.2-LMT-K-718-01-0023. Prof. A. Puriene, PhD St. A. Rovas, 2017–2021.

Clinical examination and sample collection was completed for all 240 participants according to the plan. Clinical and laboratory tests are being conducted, analyzed, prepared 5 publications. Finalization of the dissertation work.

Main publications:

A.Rovas, A. Puriene, K. Snipaitiene, E. Punceviciene, B. Buragaite-Staponkiene, R. Matuleviciute, I. Butrimiene, and S. Jarmalaite. Gingival crevicular fluid microRNA associations with periodontitis. *J.Oral Sci.*, 2021.

A. Rovas, A. Puriene, E. Punceviciene, I. Butrimiene, K. Stuopelyte, and S. Jarmalaite. Associations of periodontal status in periodontitis and rheumatoid arthritis patients. *J.Periodontal Implant.Sci.* 51 (2):124-134, 2021.

A. Rovas, A. Puriene, K. Snipaitiene, E. Punceviciene, B. Buragaite-Staponkiene, R. Matuleviciute, I. Butrimiene, and S. Jarmalaite. Analysis of periodontitis-associated miRNAs in gingival tissue, gingival crevicular fluid, saliva and blood plasma. *Arch.Oral Biol.* 126:105125, 2021.

MAIN R&D&I (RESEARCH, DEVELOPMENT AND INNOVATION) PARTNERS

ACTA (The Netherlands)
 University of Birmingham (England)
 Center for Physical Sciences and Technology (Lithuania)
 University of British Columbia, Vancouver (Canada)
 Institute of Biotechnology, Vilnius University (Lithuania)
 Institute of Biochemistry, Vilnius University (Lithuania)
 Laser Research Center, Vilnius University (Lithuania)
 UiT The Arctic University of Norway (Norway)
 University College London and University of Kent (United Kingdom)
 SPOH ARTS – International Oral Health Psychology, Amsterdam (the Netherlands)
 Medical University of Lublin (Poland)
 University of Medicine (Albania)
 Medical University (Bulgaria)
 University of Medicine and Pharmacy (Romania)
 Leuven University (Belgium)
 Graz University (Austria)
 Malmo University (Sweden)
 Zurich University (Switzerland)
 University of Medicine (Albania)
 Medical University (Bulgaria)
 University Ss. Cyril and Methodius, Faculty of Dental Medicine, University of Sts Cyril and Methodius (Macedonia)
 Faculty of Dentistry, State University of Medicine and Pharmacy “Nicolae Testemițanu” (Republic of Moldova)
 Dental Faculty, Belarussian State Medical University (Belarus)
 Centre for Innovative Medicine (Lithuania)

OTHER RESEARCH ACTIVITIES

Prof. V. Pečiulienė –

- member of study committee of European Society of Endodontists;
- editorial board member of the journal *Stomatologija (Dentistry)*;
- editorial board member of the *European Journal of General Dentistry*;
- editorial board member of the journal *Acta Medica Lituanica*;
- editorial board member of the journal *Health Sciences*.

Prof. A. Pūrienė –

- member of EAHM (European Association of Hospital Managers) 2015-2021, member of EAHM Scientific committee 2019-2021. <https://eahm.eu.org/the-advisory-bodies-2/>
- honorary member of LAHM (Lithuanian Association of Hospital Managers) from 2020
- editorial board member of the journal *Stomatologija (Dentistry)*; <https://sbdmj.com/editors.html>
- editorial board member of the journal *Health Sciences (Lithuania)*; <https://sm-hs.eu/lt/apie-zurnala/redakcine-kolegija/>
- board member of the *Stomatology Edu Journal(Romania)*; <https://www.stomaeduj.com/editorial-board-members/>
- president of Lithuanian society of Ergonomics;

- honorary member of Lithuanian society of Periodontology;
- honorary member of the Lithuanian Endodontic Society;
- member of EADPH European Association of Dental Public Health;

Prof. V. Rutkūnas –

- president of Lithuanian Society of Prosthodontics;
- council member and president elect of European Prosthodontic Association;
- council member of Digital Dentistry Society;
- editorial board member of Journal of Dentistry;
- editorial board member European Journal of Prosthodontics and Restorative Dentistry
- editorial board member Stomatology Edu Journal
- editorial board member of Stomatologija, Baltic Maxillofacial and Dental Journal;
- participation of the organizing committees of international meetings: DDS, EPA, LSP

Prof. T. Linkevičius –

- editorial board member of the journal *Stomatologija (Dentistry)*;
- visiting Professor in Ghent University, Belgium.

Assoc. Prof. R. Bendinskaitė –

- member of Vilnius Regional Bioethics Committee;
- expert in working groups of the Ministry of Health of the Republic of Lithuania.

Prof. V. Brukienė –

- vice-president and president elect of the International Association of Dental Research, Scandinavian division;
- member of the Association of Dental Education in Europe;
- editorial board member of the journals *Stomatologija (Dentistry)*, *Baltic Dental and Maxillofacial Journal*, <http://www.sbdmj.com/editors.html>;
- editorial board member of the journal *Slauga. Mokslas ir praktika (Nursing. Science and Practice)*;
- President of the Lithuanian Dental Chamber.

Assoc. Prof. L. Zaleckas –

- member of Association of Oral and Maxillofacial surgeons of Lithuania, member of council;
- member of Baltic Association of Maxillofacial and Plastic Surgeons;
- member of European Association for Cranio-Maxillo-Facial Surgery;
- editorial board member of the *Baltic Dental and Maxillofacial Journal*.

Assoc. Prof. S. Drukteinis –

- member of the Research Committee of the European Society of Endodontology;
- president of the Lithuanian Endodontic Society.
- Editorial board member of the Materials Journal (Basel)

Prof. L. Linkevičienė –

- editorial board member of the journals *Stomatologija (Dentistry)*, *Baltic Dental and Maxillofacial Journal*, <http://www.sbdmj.com/editors.html>;
- member of Lithuanian Dental Chamber;
- member of Lithuanian Orthodontics Association, member of council;
- member of European Cleft organization.

Assist. Prof. L. Džiaugytė-Eyberdiyev –

- member of council of Lithuanian Association of Pediatric Dentistry
<https://www.lvod.lt/apie-lvod/valdyba/>

Assist.prof.Eglė Vindašiūtė-Narbutė

- Board member of Lithuanian Society of Prosthodontics

Assist. prof. Dr. R. Rasteniė

- member of Lithuanian Dental Chamber
- member of Association of Oral and Maxillofacial surgeons of Lithuania
- member of EADPH European Association of Dental Public Health

BEST REPORTS DELIVERED AT CONFERENCES ABROAD

Rutkūnas V. Digital workflow accuracy of implant-supported restorations October 9-11 SEPES meeting, Madrid, Spain.

MOST IMPORTANT NATIONAL AND INTERNATIONAL AWARDS RECEIVED FOR R&D ACTIVITIES

Relationship between tooth loss and mandibular bone mineral density / Daniel Kules, Alina Puriene // EADPH conference abstracts 2021. – Abstract 28. Group D – COVID and other topics. Online-only supplement to Community Dental Health. P.S12. GSK Research Prize for Undergraduates.

Lip morphometry and morphologic pattern variation by ethnicity, Milda Vitosyte, Mantas Fabijonavicius, Alina Puriene. Oral presentation. Congress Science for Health, Peoples' Friendship University of Russia (RUDN), 05-21 May 2021, Moscow, Russia

MOST IMPORTANT PARTICIPATION CASES OF RESEARCHERS IN WORKING GROUPS OR COMMISSIONS SET UP BY STATE AUTHORITIES, STATE AND MUNICIPAL INSTITUTIONS, ORGANISATIONS, BUSINESS ENTITIES

- Prof. V.Brukiene Member of Lithuanian Health Ministry working group to prepare a draft amendment to the National Oral Health Program
- Prof. V.Brukiene Member of Lithuanian Health Ministry National Politics in Dentistry group.
- Assoc. Prof. S.Drukteinis. Member of Lithuanian Health Ministry working group to establish the endodontologist qualification
- Assoc. Prof. R. Bendinskaitė Member of Lithuanian Health Ministry working group to prepare a draft amendment to the National Oral Health Program
- Prof. V. Rutkunas. Member of Lithuanian Health Ministry working group to establish the prosthodontist qualification

CONSULTATIONS PROVIDED BY THE UNIT TO THE PUBLIC OR ECONOMIC ENTITIES

Prof. A.Pūrienė. Member of 2014-2021 Monitoring committee of the EU funds Investments programme.

MOST IMPORTANT RESEARCH DISSEMINATION ACTIVITIES

L. Zaleckas - Short interview: LRT Žinios

I.Gendviliene “How to print a bone?” National Science festival “Spaceship Earth”
https://www.mokslofestivalis.eu/kaip-spausdinami-kaulai/?fbclid=IwAR02uixfHoQ_CBeuZskU3ZOeUfrDEhJhJ76Z8cOt9gHCSEqkG3oemmCvfLs

I.Gendviliene National radio and television <https://www.lrt.lt/naujienos/mokslas-ir-it/11/1491787/organizmui-reikalingus-kaulus-jau-galima-atspausdinti-pasitarnaus-dantugydymui?fbclid=IwAR0HREmjXM1XJBTBidHEp1BbTGBmDrJM-Rx7ixewQweeu6a5R-us0bIE-k>

INSTITUTE OF HEALTH SCIENCES

Department of Rehabilitation, Physical and Sports Medicine

2 Santariškių, LT-08661 Vilnius, Lithuania

Tel.: 868222817

E-mail: ruta.dadelene@mf.vu.lt

Head – Prof. Dr *Rūta Dadelienė*

STAFF

Professors: Dr. J. Raistenskis, Dr. R. Dadelienė, Dr. J. Griškevičius, Dr. A. Skurvydas, Dr. N. Masiulis.

Associate professors: Dr. A. Adomavičienė, Dr. L. Samsonienė, Dr. A. Šidlauskienė, Dr. R. Žilinskienė, Dr. J. Armonienė.

Assistant professors: Dr. J. Indriūnienė, Dr. I. E. Jamontaitė, Dr. A. Mastavičiūtė, Dr. I. Muntianaitė, Dr. J. Petrulytė, Dr. S. Lenickienė, Dr. I. Laucevičienė, Dr. J. Andrejeva.

Research assistants: J. Blaževičius, A. Černovas.

Lecturers: L. Aučnyienė, A. Budėjienė, L. Budrienė, A. Cirtautas, J. Kesienė, R. Petraitienė, L. Mikulėnaitė, T. Palšytė, M. Grybauskaitė, A. Juodytė, V. Strukčinskaitė, T. Gritėnienė, S. Buklienė, D. Šatkutė, R. Venskaitis, L. Uščinas, R. Ramanauskas, D. Mikučionytė, A. Juodytė, R. Jonaitienė, S. Buklienė, L. Vilkinaitė.

Doctoral students: T. Aukštikalnis, R. Sinkevičius.

Students' scientific group of Rehabilitation, physical and sports medicine: scientific leader – lect. T. Palšytė, coordinators – Student R. Gerdaitytė, student M. Gaušytė; 19 members of the group.

RESEARCH INTERESTS

Biopsychosocial model

Effectiveness of rehabilitation, physical and sport medicine

Components of physical capacity

Prevention of disease and injury

RESEARCH PROJECTS CARRIED OUT IN 2021

National Research Projects

Development and Introduction of Effective Models to Promote Physical Activity in The Workplace. R. Žilinskienė; R. Dadelienė, 2020-2023.

In 2021 were developed assessment tools and a questionnaire package. The companies to be affected will be identified and selected, study groups will be formed and an impact plan will be planned. Fully prepared for the experimental study will start in 2022 February.

Main publications:

Skurvydas, A.; Lisinskiene, A.; Lochbaum, M.; Majauskiene, D.; Valanciene, D.; Dadeliene, R.; Fatkulina, N.; Sarkauskiene, A. (2021) Physical Activity, Stress, Depression, Emotional Intelligence, Logical Thinking, and Overall Health in a Large Lithuanian from October 2019 to June

2020: Age and Gender Differences Adult Sample. *Int. J. Environ. Res. Public Health*, 18, 12809
<https://doi.org/10.3390/ijerph182312809>

Skurvydas, A. Lisinskiene, M. Lochbaum, D. Majauskiene, D. Valančienė, R. Dadelienė, N. Fatkulina, A. Sarkauskiene (2021) Did the First Wave of the COVID-19 Pandemic Change People's Physical Activity Distribution, Eating, and Alcohol Consumption Habits as Well as Body Mass Index? *Int. J. Environ. Res. Public Health*, 18(23), 12405; <https://doi.org/10.3390/ijerph182312405>

Kristina Daunoraviciene, Jurgita Ziziene, Jolanta Pauk, Giedre Juskeniene, Juozas Raistenskis. EMG based analysis of gait symmetry in healthy children. *Sensors* 2021, 21(17), 5983; <https://doi.org/10.3390/s21175983>

MAIN RESEARCH, DEVELOPMENT AND INNOVATION PARTNERS

Rīga Stradiņš University, Faculty of Rehabilitation (Latvia)

Haapsalu Neurological Rehabilitation Centre (Estonia)

Karolinska Institute (Sweden)

Notwill Rehabilitation Centre (Switzerland)

Hannover medical school (Germany)

OTHER RESEARCH ACTIVITIES

Prof. J. Raistenskis –

- Editorial board member of the journals *Gerontologija (Gerontology)*, *Polish Annals of Medicine*;
- Board member of Association of Physical Medicine and Rehabilitation Physicians;
- Member of the Association of Acupuncture, Manual and Traditional Medicine Physicians.

Prof. A. Skurvydas –

- Member of The Baltic Sports Science Society;
- Member of the Physiology Society;
- Member of the Society of the European College of Sports Science;
- Member of the editorial board of the *Journal of Sports Science*;
- Member of the editorial board of the *Acta Kinesiologiae Universitatis Tartuensis* (Estonia, Tartu)
- Member of the editorial board of the *Antropomotoryka Journal of Kinesiology and Exercise Sciences (JKES, Poland)*
- Member of the editorial board of the *Journal of the Rehabilitation Science*.
- Member of the editorial board of *Education, Physical education, Sport*.

Prof. N. Masiulis –

- Member of the International Organisation EGREPA (European Group for Research into Elderly and Physical Activity)

Prof. R. Dadelienė –

- Editorial boards member of the journals: *Biology of Exercises; Journal of Physical Education and Human Movement; Sporto mokslas (Sport Science)*;
- Member of European Sport Science College;
- Member of Lithuanian Olympic Academy;
- Member of LNOC group (scientist, consultant) for preparation sportsmen for 2020.

Prof. J. Griškevičius –

- editorial board member of the journal *Technology & Health Care*, the Netherlands;

- member of study committee, coordinator of the Biomechanics and Biomedical Engineering study programs at VGTU;
- scientific council member of the Faculty of Mechanics, VGTU;
- member of European Society of Biomechanics;
- president of Lithuanian Society of Biomechanics;
- general secretary of non-profit association Educating Students in Engineering and Medicine, www.esem.eu;
- chairman of organizing committee of international conference BIOMDLORE, <http://biomdlore.vgtu.lt>.

Assoc. Prof. A. Adomavičienė –

- member of ENOTHE;
- member of Lithuanian Occupational Therapy Association.

Assoc. Prof. A. Šidlauskienė –

- board member of Lithuanian Physiotherapy Association.

Assoc. Prof. R. Žilinskienė –

- co-opted member of Executive Committee of European Network of Academic Sport, www.enas-sport.net;
- member of the Executive Committee of Lithuanian Student Sport Association.

Assoc. Prof. L. Samsonienė –

- member of the Team Publons: Public Health and Health Services;
- member of International Council for Physical Activity and Fitness Research (ICPA);
- member of Lithuanian Association for Adapted Physical Activity.

Assoc. Prof. J. Armonienė –

- member of Lithuanian Athletic Federation;
- member of Lithuanian Physical Education Teachers' Association.

Assist. I. E. Jamontaitė –

- board member of Lithuanian Physiotherapy Association.

Assist. A. Mastavičiūtė –

- member of the board of Lithuanian Gerontologists and Geriatrics Association;
- member of European Academy for Medicine of Ageing;
- editorial board member and managing editor of the journal *Gerontologija*, <http://www.gerontologija.lt>.

Assist. J. Petrulytė –

- chairman of Society of Social Pediatrics of Lithuania.

Department of Public Health

21/27 M. K. Čiurlionio, LT-03101 Vilnius, Lithuania

Tel. 239 8732, 239 8738

E-mail: rimantas.stukas@mf.vu.lt

Head – Prof. Dr *Rimantas Stukas*

STAFF

Professors: Dr. R. Stukas, Dr. J. Dadonienė, Dr. L. Murauskienė.

Associate professors: Dr. M. Jakubauskienė, Dr. R. Buckus (part-time), Dr. O. Katakiniene (part-time), Dr. G. Smailytė (part-time).

Assistant professors: Dr. J. Stanislavovienė, Dr. M. Butikis, Dr. S. Vainauskas, Dr. J. Kairys (part-time), Dr. L. Ašoklienė (part-time), Dr. R. Bartkevičiūtė (part-time), A. Barzda (part-time), Dr. A. Beržanskytė, Dr R. Sketerskienė (part-time), Dr. A. Juodaitė–Račkauskienė (part-time), Dr. V. Taminskienė, Dr. V. Dobrovolskij , Dr. D. Austys, R. Maceinaitė-Žandarė (part-time), J. Račaitė (part-time), I. Tamulaitytė-Morozovienė (part-time), Dr. A. Astrauskienė (part-time), Dr. R. Jankauskas (part-time), Dr. Aušvydas Patašius (part-time), Rokas Arlauskas (part-time).

Researchers: Dr. A. Valiulis, Dr. R. Zuoza.

Lecturers: Dr. D. Brogienė (part-time), Dr. R. Vaitkienė (part-time), M. Pauliukas (part-time), V. Jaeck (part-time),

Doctoral students: I. Tamulaitytė-Morozovienė, A. Černovas, O. Ubartienė, J. Račaitė, J. Lekstutienė, G. Valinčiūtė, J. Blaževičius, R. Perminienė, J. Šuminienė, A. Gaupšienė, V. Rutkauskas, P. Kavaliauskas, Rokas Arlauskas, Rolanda Lingienė.

Public health scientific group of students: scientific leader – Dr. V. Dobrovolskij, coordinator – student L. Kacėnaitė, 30 members of the group.

RESEARCH INTERESTS

Environmental and social factors and public health

History of medicine

Epidemiology of non-infectious and infectious diseases

Scientific basis of health care management

Assessment of health care activities and biostatistics

Health and quality of life

Medical ethics

Public mental health, social determinants of population health, health services research

RESEARCH PROJECTS CARRIED OUT IN 2021

Projects Supported by University Budget

Assessment of Health Risk Factors and Sense of Coherence of Elderly People. Prof. R. Stukas. 2014–2024

Dissertation “Peculiarities of Lifestyle, Health-Based Quality of Life and Subjective Well-Being of the Elderly” preparation. An evaluation of the use of nutritional factors (sugars and other sweeteners) that pose a risk to the health of the elderly has been carried out.

Main publications:

Karolis Ažukaitis, Andrejus Černovas, Augustina Jankauskienė, Roma Purnaitė, Justas Trinkūnas, Goda Elizabeta Vaitkevičienė, Danguolė Jankauskienė. Patient-reported measures to improve healthcare quality: a literature review. *Visuomenės sveikata*. Vilnius : Higienos institutas. 2021, Nr. 1, p. 21-34.

International Research Projects

International multicenter study **CoMix** (Measuring Behavioral Change during Covid-19 Epidemic) which is a part of **H2020 EpiPose project - Epidemic Intelligence to Minimize 2019-nCoV's Public Health, Economic and Social Impact in Europe**. Principal investigator in Lithuania – Assoc. Prof. Dr M. Jakubauskienė, 2020–2023.

During 2021 year, 8 waves of data collection have been performed. Preparation of data for analysis was conducted, now is the process of statistical data analysis, writing of research articles and dissemination policy papers.

International multicenter study **COPER** (Pandemic and its impact on mental health of men and women in the European Region). Principal investigator in Lithuania – Assoc. Prof. Dr M. Jakubauskienė, 2020–2022.

An international longitudinal research instrument has been prepared and validated, it has been validated also in Lithuania. A representative study of the mental health of the Lithuanian population under the influence of the first wave of coronavirus pandemic was conducted. Management of the database and its preparation for the analysis. Initiated preparations for the second research.

During the 2021, the second wave of data collection has been performed. Data cleaning and preparation for analysis is conducted. Dissemination of the COPER research study results is in the process by writing research articles and presenting research results in the scientific conferences:

Main publications:

Backhaus I, Sisenop F, Begotaraj E, Cachia J, Capolongo S, Carta MG, **Jakubauskiene M**, Jevtic M, Nakov V, Pirlog MC, Grbic DS, Vinko M, Kusturica MP, Morganti A and Lindert J (2021). Resilience and Coping With COVID-19: The COPERS Study. *Int J Public Health* 66:1604007. <https://doi.org/10.3389/ijph.2021.1604007>

MAIN R&D&I (RESEARCH, DEVELOPMENT AND INNOVATION) PARTNERS

Lancaster University (UK)
Universidad de Deusto (Spain)
University of Verona (Italy)
Corvinus University of Budapest (Hungary)
Ministry of Health of the Republic of Lithuania (Lithuania)
University of Hasselt (Belgium)
London School of Hygiene and Tropical Medicine (UK)
University of Applied Sciences Emden/Leer (Germany)

OTHER RESEARCH ACTIVITIES

Prof. R. Stukas –

- editorial college member of the journal *Visuomenės sveikata* (*Public Health*);
- editorial board member of the journal *Sveikatos mokslai* (*Health Sciences*);
- board member of the Lithuanian Society of Hygienists and Epidemiologists.

Prof. J. Dadonienė –

- President of Lithuanian Rheumatologist Association;
- board member of Lithuanian Arthritis Association (patient organization);
- member of European Network for Vasculitis Research (EUVAS);
- organizing committee member for the annual conference *Vilnius Seminars in Rheumatology*.

Assoc. Prof. Dr. M. Jakubauskienė –

- President of the Public Mental Health Section of the European Public Health Association (EUPHA);
- member of the International Scientific Committee of the European Public Health Association (EUPHA);
- member of the review board of the International Society for Traumatic Stress Studies (USA)'
- member of the Lithuanian Association for Trauma Psychology;
- member of the Lithuanian Bioethics Society;
- member of the Board of Federation Global Initiative on Psychiatry;
- co-leader of the International Research in Public Mental Health Course.

Prof. A. Valiulis –

- president of Lithuanian Paediatric Respiratory Society;
- vice-president of Lithuanian Paediatric Society;
- chairman of Lithuanian Alliance Against Chronic Lung Diseases (WHO-GARD Lithuania);
- vice chairman of Mother and Child Health Commission of Lithuanian Academy of Sciences;
- national coordinator in Strategic Pediatric Alliance for the Child Health in Europe;
- national delegate at Global Asthma Initiative (GINA) and Global Allergic Rhinitis Initiative (ARIA);
- chairman of Advisory Board of Lithuanian Council of Asthma Clubs;
- chief executive of IPOKRaTES Lithuania Fund;
- editor-in-Chief of the journal *Paediatric Pulmonology and Allergology* (Index Copernicus);
- editor-in-Chief of the journal *Lithuanian Paediatric Chronicle*;
- editorial boards member of the journals *Paediatric Respiratory Reviews*, *Pneumonologia i Alergologia Polska*, *Pediatrics Polska*, *Russian Paediatric Journal*;
- chairman of Vilnius International Paediatric Pulmonology Conference – School (20th annual international conferences of Paediatric Asthma, Pneumonia, CF, TB and Orphan Lung Diseases; more than 8000 trained doctors);
- honorary fellow of British Royal College of Paediatrics and Child Health;
- member of Commissions of Rare Diseases, TB, Immunoprophylaxis, Mother & Child, Suckling, Human Resources, Accessibility of Health Service of the Ministry of Health of the Republic of Lithuania;
- chief Vilnius Paediatrician of the Ministry of Health of the Republic of Lithuania.

Assoc. Prof. J. Kairys –

- editorial board member of the journal *Sveikatos mokslai (Health Sciences)*.

Assoc. Prof. L. Murauskienė –

- associate editor for *BMC Health Services Research*;
- member of the *Health Systems and Policies Monitoring Network*, European Observatory on Health Systems and Policies.

Assist. Jelena Stanislavovienė –

- Editorial board member of the journal *Visuomenės sveikata (Public Health)*;
- Methodological commission member of Institute of Hygiene;
- Member of Occupation health specialists' society.

Assist. R. Vaitkienė –

- deputy member of the Administrative Commission for the Coordination of Social Security Systems, European Commission, since 2009, Brussels, Belgium;
- member of the intersectoral working party on implementation of United Nations 2030 Agenda for Sustainable Development in Lithuania.

Assist. R. Jankauskas –

- editorial board chair of the journal *Visuomenės sveikata (Public Health)*.

Assist. R. Bartkevičiūtė –

- member of Lithuanian Breastfeeding Committee;
- alternate representative of European Food Safety Authority Food Consumption Data Network.

Assist. R. Barzda –

- representative of Republic of Lithuania in Codex Alimentarius Commission;
- representative of European Food Safety Authority Food Consumption Data Network.

Assist. D. Brogienė –

- executive director of the Foundation for Patient Safety, Innovations and Quality;
- member of Lithuanian Society of Obstetricians and Gynecologists. Chair of Legal, Ethics and Competence Evaluation Commission;
- member of the Board of Lithuanian Doctors Association. Chair of the Legal Commission;
- board member of Lithuanian Bioethics Committee under the Ministry of Health;
- Vice-president of CPME (The Standing Committee of European Doctors).

Assist. A. Juodaitė-Račkauskienė –

- member of *European Palliative Care Association*, Belgium.

Assist. D. Austys –

- member of Commission for Attestation of Lecturers Aiming the Right to Train in Radiation Safety and Security.

MOST IMPORTANT NATIONAL AND INTERNATIONAL AWARDS RECEIVED FOR R&D ACTIVITIES

Assoc. Prof. M. Jakubauskienė. Lithuanian Research Council fellowship award for Public Mental Health Surveillance Model (No. 09.3.3-LMT-K-712-21-0094).

MOST IMPORTANT PARTICIPATION CASES OF RESEARCHERS IN WORKING GROUPS OR COMMISSIONS SET UP BY STATE AUTHORITIES, STATE AND MUNICIPAL INSTITUTIONS AND ORGANISATIONS, AND BUSINESS ENTITIES

L. Murauskiene. Leading a Working Group for Setting Priorities for Health-related Activities Financing for 2021–2028. Commissioned by Consulting Company ESTEP and the Ministry of Finance.

R. Vaitkienė. A member of the working group for the amendments for Lithuanian Health Strategy for 2014–2025 approved by the Resolution of the Parliament of the Republic of Lithuania No XII-964, 2014.

J. Dadoniene. Research council expert since 2014 with focus on doctoral studies activities; research group projects evaluation; research and experimental activities of state research institutions.

J. Dadoniene. Board member of national programme on *Healthy Ageing* 2017–2021.

J. Dadoniene. Board member of national programme on *Healthy Ageing* 2017–2021.

MOST IMPORTANT RESEARCH DISSEMINATION ACTIVITIES

Dr. J. Stanislavovienė. Šiaulių naujienos. Triukšmas darbe kenkia ne tik klausai. <http://www.snaujienos.lt/sveikatos-kodas/42652-triukšmas-darbe-kenkia-ne-tik-klausai>

Dr. J. Stanislavovienė. Pandemija padėjo suvokti darbo aplinkos ir psichosocialinės rizikos įvertinimo reikšmę. Lietuvos pramonės profesinių sąjungų konfederacijos tinkalapis. <https://pramprof.lt/index.php/news/848-pandemija-padejo-suvokti-darbo-aplinkos-ir-psichosocialines-rizikos-ivertinimo-reiksme>

Dr. Jelena Stanislavovienė. Pranešimas ir dalyvavimas diskusijoje apie psichosocialinę darbo aplinką SDG forume „Sauga ir sveikata 2021“

Prof. Rimantas Stukas. Delfi Portal Interview on Healthy Eating (12 issues)

Prof. Rimantas Stukas. LRTV, Consumer Control Interview about Healthy Eating (4 issues)

Prof. Rimantas Stukas. TV 3 News Interview about Healthy Eating (5 issues)

BEST REPORTS DELIVERED AT CONFERENCES ABROAD

Jakubauskiene M. Pranešimas “COPERS Lithuania: Coping and resilience during the COVID-19 pandemic” skaitytas 14-toje Europos Visuomenės sveikatos konferencijoje, vykusioje 2021 m. lapkričio 10-12 d. Dubline (nuotoliniu būdu). European Journal of Public Health, Volume 31, Issue Supplement_3, October 2021, ckab164.805, <https://doi.org/10.1093/eurpub/ckab164.805>

G. Charukevič, D. Miltinienė, J. Dadonienė Mortality in Patients with Rheumatoid Arthritis: A Retrospective Cohort Study and Systematic Review. The 1st International Electronic Conference on Medicine 20–30 June 2021, iecm2021.sciforum.net, online

Department of Nursing

21 Čiurlionio, LT-03101 Vilnius, Lithuania

Tel. 239 8755

E-mail: Natalja.fatkulina@mf.vu.lt

Head – Prof. Dr *Natalja Fatkulina*

STAFF

Professor: Dr. N. Fatkulina.

Associate professor: Dr. A. Gradauskas, Dr. A. Mikaliūkštienė, Dr. J. Kutkauskienė, Dr. L. Vencevičienė.

Assistant professors: Dr. R. Stundžienė (part-time), Dr. Z. Gierasimovič, Dr. A. Kurienė (part-time), Dr. R. Šturienė (part-time), Dr. S. Sabaliauskas, Dr. L. Paškevičius (part-time), Dr. A. Jakavonytė-Akstinienė (part-time), Dr. Aušra Bilotienė-Motėjūnienė (part-time).

Researcher: Dr. A. Emeljanovas, Dr. Jūratė Grubliauskienė, Dr. D. Šukytė, M. Makutienė

Teaching assistants: V. Kielė, J. Stirblienė (part-time), J. Šuminienė (part-time), A. Gaupšienė (part-time), M. Čiurlionis (part-time).

Lecturers: V. Šilinskaitė-Legenzova, O. Misiūnienė (part-time), M. Skvarčevskaja (part-time), R. Urbanavičė (part-time), J. Žalalienė (part-time), N. Surgunt (part-time), R. Steikūnienė (part-time), V. Nomeikienė (part-time), A. Mečėjienė (part-time), R. Jankauskas (part-time), D. Guobužienė (part-time), B. Dautarienė (part-time), R. Darginavičienė (part-time), Ž. Ramanauskienė (part-time), L. Gedrimė (part-time), L. Baranauskienė (part-time), I. Basevičiūtė (part-time), M. Bracuk (part-time), I. Chlevickaitė (part-time), D. Družinina (part-time), N. Dzygalienė (part-time), R. Giliun (part-time), J. Gimžauskienė (part-time), J. Gruzinskienė (part-time), L. Marcinkevičienė (part-time), R. Rozenbergaitė (part-time), J. Rutenbergė-Galumbauskienė (part-time), A. Semionovienė (part-time), I. Subatovič (part-time), S. Vaikšnorienė (part-time), D. Venslauskaitė (part-time), D. Virvytienė (part-time), A. Galdikas (part-time).

Doctoral students: V. Kielė, J. Stirblienė, M. Čiurlionis, A. Gaupšienė, J. Šuminienė.

RESEARCH INTERESTS

Innovation in nursing science, research and studies

Nursing and midwifery policy making

Quality of nursing care

Nurse professional competence

Nursing and patient education

Research of nurses' working environment

Needs and features of perioperative nursing care

Patient safety and the role of nurse

Physical activity and nursing care

Advanced nursing practice

RESEARCH PROJECTS CARRIED OUT IN 2021

Projects Supported by University Budget

Analysis of Biomarkers for Suicidal Tendencies and Depression, and Validation of the Prognostic Model in Lithuania. Investigator: Assoc. Prof. Dr. L. Venceviciene, 2020-2026.

In 2021, patients' subjective experiences were linked to biological, genetic and biochemical changes - the genetics, enzyme polymorphism, the influence of biochemical factors on mental health disorders, including depression, suicidal behavior, and dependence on clinical outcome were studied.

Health and Disease Research: Nurses' Competence and Education, Patients Teaching, Nursing Requirement and Quality. Prof. N. Fatkulina, 2019–2023.

Analysis of innovation and applicability of nursing research, with emphasis on nurse educational capabilities and competencies, patient education, nursing need and quality aspects.

Main publications:

Petrauskaitė E, Mikaliūkštienė A. Analysis of patient's safety cultural factors in the departments of anesthesia and intensive care. Health Sciences. 2021; 31(2): 120-123. ISSN 1392-6373. DOI: <https://doi.org/10.35988/sm-hs.2021.050>

Gedrimė, Lina; Dugalienė, Jovita; Skarbalienė, Aelita; Kutkauskienė, Jelena; Kurienė, Almeda; Fatkulina, Natalja. Pacientų griuvimo riziką lemiantys veiksniai = Factors influencing the risk of patients fall // Sveikatos mokslai = Health sciences in Eastern Europe. Vilnius : Sveikatos mokslai. ISSN 1392-6373. eISSN 2335-867X. 2021, t. 31, Nr. 2, p. 46-50. DOI: [10.35988/sm-hs.2021.034](https://doi.org/10.35988/sm-hs.2021.034). [DB: Index Copernicus]

Grinčenko A., Gierasimovič Z., Stirblienė J., Fatkulina N. Prevalence and prevention of signs of work-related hand contact dermatitis in anesthesia and intensive care nurses. Health Sciences. 2021; 31(5): 129-135. ISSN 1392-6373. DOI: [10.35988/sm-hs.2021.184](https://doi.org/10.35988/sm-hs.2021.184)

Sakalauskaitė, Dovilė; Kielė, Viktorija. Medikamentų administravimo klaidos ir jas lemiantys veiksniai slaugytojų darbe: literatūros apžvalga = Medication administration errors and contributing factors at nurses workplace: literature review // Slauga. Mokslas ir praktika. Vilnius : Sveikatos priežiūros ir farmacijos specialistų kompetencijų centras. ISSN 1648-0570. eISSN 2669-1760. 2021, t. 2, Nr. 10, p. [1-10]. DOI: [10.47458/Slauga.2021.2.18](https://doi.org/10.47458/Slauga.2021.2.18).

Complex Assessment of Nurses' Professional Competence. Prof. N. Fatkulina, 2019–2023.

Investigation of the professional competence of nurses and identification of clinical, educational and social controlled and uncontrollable factors influencing the competence of nurses.

Main publications:

Fatkulina, Natalja. The role of advances practice nurse in the multiprofessional team in operating theatre = Vloga medicinske sestre s specialnimi znanji v multiprofesionalnem timu v operacijski dvorani // Celostna obravnava pacienta: mednarodna znanstvena konferenca: zbornik povzetkov = Holistic approach to the patient: international scientific conference : book of abstracts, Novo mesto, 18 november 2021. Novo mesto : Univerza v Novem mestu, 2021. eISBN 9789619498590. p. 19. Prieiga per internetą: https://fzv.uni-nm.si/uploads/_custom/FZV_pripone/Simpozij/2021/unmfzv_zbornik_povzetkov_2021_www.pdf

Tkačenko I, Mikaliūkštienė A, Fatkulina N. The most common factors determining the motivation of anesthesia and intensive care nurses to work. Health Sciences. 2021; 31(2): 124-128. ISSN 1392-6373. DOI: <https://doi.org/10.35988/sm-hs.2021.051>

Danilevičius, Adomas; Kielė, Viktorija (vadov.); Urbanavičė, Rita (vadov.). Komandinio darbo iššūkiai atliekant akių ligų operacijas // Studentų mokslinės veiklos LXXIII konferencija Vilnius, 2021 m. gegužės 17–20 d.: pranešimų tezės; leidinį sudarė Simona Kildienė. Vilnius: Vilniaus

universiteto leidykla, 2021. eISBN 9786090706244. p. 102-103. (Vilnius University Proceedings, eISSN 2669-0233 ; vol. 15). DOI: 10.15388/Proceedings.2021.1.

Danilevičius, Adomas; Urbanavičė, Rita; Kielė, Viktorija. Teamwork challenges in the ophthalmology operating room // IHSC Conference: abstract book 2021. Kaunas: LSMU. 2021, p. 190-194. Prieiga per internetą: <<https://smd.lt/uploads/publications/2021-international-health-sciences-conference.pdf>>.

Improving Health Care and Education. Prof. N. Fatkulina, 2019–2023.

The investigation of the quality of life and nursing needs of patients with chronic somatic (therapeutic, surgical, pediatric, neurological) diseases has been initiated. One of the aims is to prepare basic guidelines for improving long-term care and nursing by examining the psychosocial risk factors of nurses in the work environment and the social reflections of teamwork and to evaluate future perspectives and organization of practical training process in health care institutions.

Main publications:

Kaihlanen, Anu- Marja; Gluschkoff, Kia; Koskinen, Sanna; Salminen, Leena; Strandell-Laine, Camilla; Fuster Linares, Pilar; Sveinsdóttir, Herdís; Fatkulina, Natalja; Ní Chianáin, Linda; Stubner, Juliane; Leino-Kilpi, Helena. Final clinical practicum shapes the transition experience and occupational commitment of newly graduated nurses in Europe—A longitudinal study // Journal of advanced nursing. Hoboken : Wiley. ISSN 0309-2402. eISSN 1365-2648. 2021, vol. 77, iss. 12, p. 4782-4792. DOI: 10.1111/jan.15060. [DB: Embase, MEDLINE, Scopus, Social Sciences Citation Index (Web of Science), Science Citation Index Expanded (Web of Science)]

Skurvydas, Albertas; Lisinskiene, Ausra; Lochbaum, Marc; Majauskiene, Daiva; Valanciene, Dovile; Dadelienė, Ruta; Fatkulina, Natalja; Sarkauskiene, Asta. Did COVID-19 pandemic change people's physical activity distribution, eating, and alcohol consumption habits as well as body mass index? // International journal of environmental research and public health. Basel : MDPI AG. ISSN 1661-7827. eISSN 1660-4601. 2021, vol. 18, iss. 23, art. no. 12405, p. 1-10. DOI: 10.3390/ijerph182312405. [DB: Scopus, Social Sciences Citation Index (Web of Science), Science Citation Index Expanded (Web of Science), DOAJ, Embase, MEDLINE]

Skurvydas, Albertas; Lisinskienė, Aušra; Lochbaum, Marc Robert; Majauskienė, Daiva; Valančienė, Dovilė; Dadelienė, Rūta; Fatkulina, Natalja; Šarkauskienė, Asta. Physical activity, stress, depression, emotional intelligence, logical thinking, and overall health in a large Lithuanian from October 2019 to June 2020: age and gender differences adult sample // International journal of environmental research and public health. Basel : MDPI AG. eISSN 1660-4601. 2021, vol. 18, iss. 23, art. no. 12809, p. [1-16]. DOI: 10.3390/ijerph182312809. [DB: MEDLINE, Scopus, Science Citation Index Expanded (Web of Science)]

Staševičienė, Ana; Fatkulina, Natalja. Sveikatos priežiūros paslaugų prieinamumo, taikant universalaus dizaino principus, neįgaliems asmenims nustatymas Lietuvoje = Determination of the health care services accessibility for people with disabilities by applying universal design principles in Lithuania // Visuomenės sveikata. Vilnius : Higienos institutas. ISSN 1392-2696. eISSN 2538-6832. 2021, t. 94, Nr. 3, p. 51-60. Prieiga per internetą: <<https://www.hi.lt/lt/visuomenes-sveikata-2021-nr-3-94.html>>. [DB: Index Copernicus]

Perminienė, Rožė; Fatkulina, Natalja; Dapšienė, Snieguolė. Žalos mažinimo intervencinių priemonių efektyvumas: žemo slenksčio kabinetų klientų elgsenos pokyčiai // Į sveiką gyvenimą ir skaidrią būrį Vydūno keliu: XXI-oji nacionalinė mokslinė konferencija : konferencijos pranešimų medžiaga. Klaipėda : Klaipėdos universiteto leidykla, 2021. ISBN 9786094811005. p. 120. Prieiga per internetą: <<https://www.ku.lt/svmf/wp-content/uploads/sites/7/2021/04/XXI-konferencija-2021NAUJAS.pdf>>.

Ethics and Quality Assessment of Outpatient Palliative Care Services for Adults. Prof. N. Fatkulina, 2019–2023.

Literature related to the topic was identified. Search process was completed by using Pubmed database. Search words were ethics, quality and palliative. Gathered literatures is being analyzed - the analysis process is in the final stage.

Assessment of Communication between Health Professionals. Prof. N. Fatkulina. 2019–2023.

In 2021 author's permission to use the questionnaire has been obtained. The questionnaire was translated and validated. Survey conducted: physicians and patients. Data integration into SPSS is currently underway.

Read presentations on the topic of communication.

Main publications:

Zimmer, Gerd; Kowalczyk, Justyna; Borowska, Dorota; Merz, Lukáš; Sobotková, Hana; Krčméryová, Terezia; Kafková, Zuzana; Skarbaliene, Aelita; Čėsniene, Žaneta; Skarbalius, Egidijus; Gedrimė, Lina; Pop, Anișoara; Năznea, Năznea; Doykova, Iliana; Merdzhanov, Ivan; Dourado, Marília; Dourado, Nicole; Costa Pau, Maria. HELP 2 : Healthcare language learning programme 2 : English modules / Gerd Zimmer ... [et al.]. Olomouc : Palacký University Olomouc, 2021. 290 p. ISBN 9788024459998. eISBN 9788024460000.

Skarbaliene, Aelita; Razbadauskas, Arturas; Gedrimė, Lina; Skarbalius, Egidijus. Towards the sustainable health system: transformations of Lithuanian nurses' attitudes towards the care for patients with disability // Health in the multidisciplinary discourse : 2nd International scientific and practical conference : April 14-16, 2021 : conference materials. Lviv : Ukrainian Catholic University. 2021, p. 19.

Zybartaitė, Aurelija; Gedrimė, Lina. Operacinės komandos narių požiūris į muzikos įtaką darbo našumui atliekant sąnarių endoprotezavimo operaciją = Influence of music on work performance during joint replacement surgery, attitudes of surgical team members // Slauga. Mokslas ir praktika. Vilnius : Slaugos darbuotojų tobulinimosi ir specializacijos centras. ISSN 1648-0570. eISSN 2669-1760. 2021, t. 2, Nr. 2 (290), p. 1-10. DOI: 10.47458/Slauga.2021.2.2.

Gedrimė, Lina; Zybartaitė, Aurelija; Skarbaliene, Aelita; Skarbalius, Egidijus. Muzika operacinėje – darbo našumas ir efektyvi komunikacija // XXI-oji nacionalinė mokslinė konferencija „Į sveiką gyvenimą ir skaidrią būitį Vydūno keliu“ : konferencijos pranešimų medžiaga. Klaipėda : Klaipėdos universiteto leidykla, 2021. ISBN 9786094811005. p. 47.

International Research Projects

Professional Competence in Nursing (PROCOMPnurse), funded by Turku University, Finland. Prof. N. Fatkulina, 2017–2021.

In 2021, the data obtained were further analyzed. Articles published together with project partners. The poster "The level of competence of graduating nursing students in Lithuania" was presented at the European Academy of Nursing Science (EANS) summer conference on 08.07.2021. Project activities and meetings continued.

Main publications:

Kajander-Unkuri, Satu; Koskinen, Sanna; Brugnolli, Anna; Torre, M Angeles Cerezuela; Elonen, Imane; Kielė, Viktorija; Lehwaldt, Daniela; Löyttyniemi, Eliisa; Nemcová, Jana; Oliveira, Célia Simão de; Palese, Alvisa; Rua, Marília; Salminen, Leena; Šateková, Lenka; Stubner, Juliane; Sveinsdóttir, Herdís; Visiers-Jiménez, Laura; Leino-Kilpi, Helena. The level of competence of graduating nursing students in 10 European countries - Comparison between countries // Nursing

open. Hoboken: Wiley. ISSN 2054-1058. 2021, vol. 8, no. 3, p. 1048-1062. DOI: 10.1002/nop2.712. [DB: Scopus, Science Citation Index Expanded (Web of Science)]

Salminen, Leena; Tuukkanen, Minna; Clever, Katharina; Fuster, Pilar; Kelly, Mary; Kielè, Viktorija; Koskinen, Sanna; Sveinsdóttir, Herdis; Löyttyniemi, Eliisa. The competence of nurse educators and graduating nurse students // Nurse education today. Edinburgh: Elsevier. ISSN 0260-6917. eISSN 1532-2793. 2021, vol. 98, art. no. 104769, p. [1-6]. DOI: 10.1016/j.nedt.2021.104769. [DB: Embase, MEDLINE, Social Sciences Citation Index (Web of Science), Scopus, Science Citation Index Expanded (Web of Science)]

Supporting Teachers to Maximize Enjoyable MVPA Minutes in Children and Youth: Project Enjoyable MVPA. Funded under European Commission Erasmus+ Programme: Sport. Prof. Dr A. Emeljanovas, 2019–2022.

In 2021, the creation of apps was recorded and sounded, and begin testing of the developed apps in schools.

Main publications:

Mieziene, Brigita; Emeljanovas, Arūnas; Trinkūnienė, Laima; Kuzmarskienė, Gerda; Fatkulina, Natalja. The distribution of physical fitness indicators among genders and age // Mokslas ir praktika: aktualijos ir perspektyvos: tarptautinės mokslinės-praktinės konferencijos tezių rinkinys, Kaunas, 2021 m. birž. 3-4 d. = Theory and practice: problems and prospects: international scientific-practical conference, Kaunas, Lithuania, 2021 June 3rd–4th: book of abstracts. Kaunas: Lietuvos sporto universitetas, 2021. ISBN 9786098200379. p. 29-30. Prieiga per internetą: <<http://dspace.lsu.lt/handle/123456789/86>> [žiūrėta 2021-06-04].

Mieziene, Brigita; Emeljanovas, Arunas. Health and well-being in Lithuanian youth: the interaction effect of health-related behavior, psychological distress and social capital // Active living through exercise and sport science: future trends for global creativity and sustainability: the 6th international conference physical education and sport science (ICPESS), Jakarta, Indonesia, 13 June 2021 : program book and book of abstract. Jakarta: Universitas Negeri Jakarta. 2021, p. 43-44. Prieiga per internetą: <<https://drive.google.com/file/d/1oVkJMYQQLCQulvKYrJonNSNi2o8rgiZ4/view>> [žiūrėta 2021-10-14].

Erasmus+ Project **Virtual Advice, Nurture and Guidance in Undergraduate Research and Development (VANGUARD)**. Prof. N. Fatkulina, 2020–2023.

In 2021 the VANGUARD project material has been integrated into four lectures of the module: “General Nursing and Practice” of Nursing study program and medical study program of the 1st year in the compulsory “General Health Basics” module, in the subject “Personal Health Education” (1 ECTS). The subject was taught to both: Lithuanian and foreign students. The proposal of project partners to place the lecture in the electronic sharing space of Vilnius University was considered, thus increasing the promotion of information. For these students, questions from the promotion of physical activity were included in the exam. It was decided to prepare a questionnaire for students who participated in the project lectures, with the help of questionnaire answers it would be possible to record the feedback in the institutions of all project partners (Lithuanian University of Health Sciences, Klaipėda University, Šiauliai State College, Utena College, Vilnius College). The lecture based on the VANGUARD project material will be included in the Master's Degree Program in Advanced Practice Nursing. Discussions for 2022 study year are currently underway on the possibility of integrating the project material into the study programs of medical students.

Main publications:

Wide range project information via local social media, seminar and conference publications were taken part from the side of the Ministry of Health of the Republic of Lithuania. [Go here](#)

Developing Multi-professional Higher Education for Promoting Mental Health and Well-being at Schools (Well@School), Erasmus + programme. Prof. N. Fatkulina, 2020–2023.

Literature review was done and published. The interview in the school in five countries was done. Lithuania team has done 3 focus group interviews in 3 primary schools in Vilnius and Klaipeda. The manuscript based on the result is ready.

Main publications:

Sakellari, Evanthia; Notara, Venetia; Lagiou, Areti; Fatkulina, Natalja; Ivanova, Svetla; Korhonen, Joonas; Velikonja, Nevenka Kregar; Lalova, Valentina; Laaksonen, Camilla; Petrova, Gergana; Lahti, Mari. Mental health and wellbeing at schools: health promotion in primary schools with the use of digital methods // Children. Basel: MDPI. eISSN 2227-9067. 2021, vol. 8, iss. 5, art. no. 345, p. [1-13]. DOI: 10.3390/children8050345. [DB: Current Contents, Academic OneFile, PubMed, Science Citation Index Expanded (Web of Science)]

MAIN R&D&I (RESEARCH, DEVELOPMENT AND INNOVATION) PARTNERS

Klaipėda University (Lithuania)

University of Turku, Department of Nursing Science, Turku (Finland)

Health Science Research Centre, University College Lillebaelt and Southern Denmark University (Denmark)

Karolinska Institutet, Department of Neurobiology, Care Sciences and Society, Stockholm (Sweden)

University of Utrecht, Utrecht (Netherlands)

University of Island, Reykjavik (Island)

Stavropol State Medical University (Russia)

Karaganda State Medical University (Kazakhstan)

Astana Medical University (Kazakhstan)

International University of Catalonia (Spain)

University Hospital of Barcelona (Spain)

OTHER RESEARCH ACTIVITIES

Prof. N. Fatkulina –

- elected member of Board of European Academy of Nursing Science, <https://european-academy-of-nursing-science.com/>;
- board member of the European Academy of Nursing Science;
- member of Anesthesia and Intensive Care Nurses' Society;
- member of Association Institute of Bute;
- editorial board member of the journal *Sveikatos mokslai (Health Sciences)*;
- editorial board member of the journal *Slauga: mokslas ir praktika (Nursing. Science and Practice)*;
- member of Lithuanian Educational Research Association <http://www.lera.lt/>

Assoc. Prof. A. Gradauskas –

- vice-president of Vilnius Association of Surgeons;

- board member of the Lithuanian Association of Minimally Invasive Surgery, <http://www.mich.lt>.

Assoc. Prof. A. Mikaliūkštienė –

- chair of the Lithuanian University Education Nursing Society Board, <http://www.lusd.lt/>;
- member of the Lithuanian Society of Palliative Medicine, <http://www.paliatyvipagalba.lt/>;
- editorial board member of the journal *Sveikatos mokslai (Health Sciences)*;
- editorial board member of the journal *Slauga: mokslas ir praktika (Nursing. Science and Practice)*.

Assoc. Prof. L. Vencevičienė –

- member of Lithuanian Society of General Practitioners;
- member of the working group by the Ministry of Health of Lithuania in the Family Medicine Policy Group.

Assist. R. Stundžienė –

- member of the Lithuanian Society of Palliative Medicine, <http://www.paliatyvipagalba.lt/>;
- member of the Lithuanian University Education Nursing Society Board, <http://www.lusd.lt/>;
- member of Lithuanian Nursing Specialists Organization, <http://www.lssso.lt/>.

Assist. Z. Gierasimovič –

- member of the Lithuanian Society of Palliative Medicine, <http://www.paliatyvipagalba.lt/>;
- member of the Lithuanian University Education Nursing Society Board, <http://www.lusd.lt/>;
- editorial board member of the journal *Slauga: mokslas ir praktika (Nursing. Science and Practice)*.

Assist. A. Jakavonytė-Akstinienė –

- member of the Lithuanian University Education Nursing Society Board, <http://www.lusd.lt/>.

Assist. S. Sabaliauskas –

- member of Lithuanian Educational Research Association <http://www.lera.lt/>;
- member of School of Social Researcher www.stmokykla.lt.

Assist. L. Paškevičius –

- president of the Lithuanian Medical Tourism Association “Medicinos Lietuva”;
- president and chairman of the Board of the Lithuanian Association of Private Health Care Institutions;
- of the Board of the Lithuanian Medical Tourism Cluster LitCare;
- president of the Lithuanian Medical Tourism Cluster Association;
- member of the Council of the Lithuanian Medical Executives’ Union;
- member of the Presidium of the Lithuanian Chamber of Tourism;
- Lithuanian Confederation of Business Employers member of the presidium;
- Health matters chairman of the commission;
- member of the Presidium of the Lithuanian Business Confederation;
- vice-chairman of the Board of the Patient Safety, Innovation and Quality Foundation.

Researcher Dr A. Emeljanovas –

- member of FIEP (International Federation of Physical Education) National delegate;
- member of FIEP World Directorial Board;
- national delegate of International Network of Sport and Health Science (INSHS);
- member of NSSEE (European Network of Sport Science, Education & Employment), section of Physical Education;
- member of CEREPS European Council for Research in Physical Education and School Sports);
- national delegate of „Active Healthy Kids Global Alliance“, “Canada PA card“;
- member of Delegate Global Community Health (GCH).

Teaching Assist. V. Kielė –

- member of the Lithuanian University Education Nursing Society Board, <http://www.lusd.lt/>.

Teaching Assist J. Stirbliėnė –

- member of Lithuanian Nursing Specialists Organization, <http://www.lssso.lt/>;
- member of Bioethics Board (Lithuanian Bioethics Committee), <http://bioetika.sam.lt>.

Teaching Assist. M. Čiurlionis –

- board member of the Lithuanian Society of Palliative Medicine, <http://www.paliatyvipagalba.lt/>;
- chair of the Baltic Palliative Care association <https://balticpca.com/>;
- steering committee board member of the Last Aid International. <https://www.letztehilfe.info/>;
- mentor of European Palliative Care Academy Mentoring Program <https://www.eupca.eu/>.

Lect. R. Steikūnienė –

- member of Lithuanian Nursing Specialists Organization, <http://www.lssso.lt/>

Lect. N. Surgut –

- vice-president of Lithuanian Society of Operating Nurses <http://www.losdraugija.eu;>

Lect. L. Gedrimė –

- Member of Anesthesia and Intensive Care Nurses' Society;

Lect. J. Gimžauskienė

- member of Anesthesia and Intensive Care Nurses' Society; <http://www.laitsd.lt;>
- member of the Lithuanian University Education Nursing Society Board, <http://www.lusd.lt/>;
- member of Lithuanian Nursing Specialists Organization, <http://www.lssso.lt/>.

BEST REPORTS DELIVERED AT CONFERENCES ABROAD

Novikova A, Mikaliūkštienė A. Type 2 diabetes and quality of life. 79th International Scientific Conference on Medicine of the University of Latvia, 2021. University of Latvia, Faculty of Medicine. Medicina (Kaunas) 2021;57(Supplement 1):135. ISSN 1648-9233.

Mikaliūkštienė A, Tijūnelienė I, Gierasimovič Z. Evaluation of patients' quality of life aspects after cardiac pacemaker implantation. 79th International Scientific Conference on Medicine of the University of Latvia, 2021. Medicina (Kaunas) 2021;57(Supplement 1):134. ISSN 1648-9233.

Mikaliūkštienė A, Jerdiakova N, Rabkovskaja J. Patients' opinion on the most frequent factors affecting quality of primary care. 79th International Scientific Conference on Medicine of the University of Latvia, 2021. Medicina (Kaunas) 2021;57(Supplement 1):136. ISSN 1648-9233.

Petrauskaitė E, Mikaliūkštienė A. Evaluation of opinions on patient safety culture of workers in reanimation and intensive care departments. 7th meeting on acute cardiac care and emergency medicine, September 10-11th, 2021, 15-16 p.

Tkačenko I, Mikaliūkštienė A. The most common factors motivating the work of anesthesia and intensive care nurses. 7th meeting on acute cardiac care and emergency medicine, September 10-11th, 2021, 20-21 p.

Petrauskaitė E, Mikaliūkštienė A. Patient Safety Culture of Intensive Care Unit from the Perspective of Team Members. International Baltic Congress of Anaesthesiology, Intensive Care and Pain Management. 7-8 October, 2021. 10-th BALTANEST 2021. Jūrmala, Latvia.

MOST IMPORTANT RESEARCH DISSEMINATION ACTIVITIES

Puncevičienė, Eglė; Gaiževska, Justina; Sabaliauskaitė, Rasa; **Vencevičienė, Lina**; Pūrienė, Alina; Vitkus, Dalius; Jarmalaitė, Sonata; Butrimienė, Irena. Vitamin D and VDR Gene Polymorphisms'

Association with rheumatoid arthritis in Lithuanian population // *Medicina*. Basel : MDPI. ISSN 1010-660X. eISSN 1648-9144. 2021, vol. 57, iss. 4, art. no. 346, p. [1-12]. DOI: 10.3390/medicina57040346. [Science Citation Index Expanded (Web of Science); Scopus; Embase] [IF: 2,430; AIF: 5,182; IF/AIF: 0,468; Q2 (2020, InCites JCR SCIE)] [CiteScore: 1,70; SNIP: 0,796; SJR: 0,530; Q2 (2020, Scopus Sources)] [S.fld.: M 001] [Contribution: 0,250]

Valadkevičienė, Daiva; Jatužis, Dalius; Kizlaitienė, Rasa; Žukauskaitė, Irena; **Vencevičienė, Lina**. Working capacity level of patients with multiple sclerosis in Lithuania: Its dynamics and relationship with the employment and lethal outcomes // *Multiple sclerosis and related disorders*. Oxford : Elsevier. ISSN 2211-0348. eISSN 2211-0356. 2021, vol. 49, art. no. 102784, p. [1-6]. DOI: 10.1016/j.msard.2021.102784. [Science Citation Index Expanded (Web of Science); Scopus; MEDLINE] [IF: 4,339; AIF: 4,299; IF/AIF: 1,009; Q2 (2020, InCites JCR SCIE)] [CiteScore: 3,70; SNIP: 1,110; SJR: 0,870; Q2 (2020, Scopus Sources)] [S.fld.: M 001] [Contribution: 0,200];

Vencevičienė, Lina. Osteoporozė ir jos gydymas: šiuolaikinis požiūris // *Lietuvos gydytojo žurnalas*. Kaunas : Medicinos spaudos namai. ISSN 1648-3154. 2021, Nr. 5, p. 1-7. [S.fld.: M 001]

Center for Health Ethics, Law and History

21/27 M. K. Čiurlionio, LT-03101 Vilnius

Tel.: 219 3283, 239 8743

E-mail: eugenijus.gefenas@mf.vu.lt

Head – Prof. Dr *Eugenijus Gefenas*

STAFF

Professors: Dr. E. Gefenas.

Assistant Professor: Dr. A. Bartkienė (part-time), Dr. A. Čekanauskaitė (part-time), Dr. D. Milinkevičiūtė (part-time), Dr. M. Poškutė (part-time), Dr. A. Žalnora.

Lecturers: V. Aliukonis (part-time), R. Baranauskienė, N. Kancevičienė (part-time), V. Lukaševičienė (part-time), M. Ramonaitė (part-time).

RESEARCH INTERESTS

History of medicine

History of public health

Medical ethics

RESEARCH PROJECTS CARRIED OUT IN 2021

Legal and Institutional Aspects of Biomedical Research with Humans. Prof. E. Gefenas. 2019–2021.

Researchers of the Centre for Health Ethics, Law and History collected and analyzed data on Research Integrity and Research Ethics training programmes and their efficiency. The team of the Centre has analyzed ethical and legal issues emerging in research on human biological material, biobanks and “Big Data“.

Main publications:

Lekstutienė, Jūratė; Holm, Soren; Gefenas, Eugenijus. Biobanks and individual health related findings: from an obstacle to an incentive // *Science and engineering ethics*. Dordrecht : Springer. ISSN 1353-3452. eISSN 1471-5546. 2021, vol. 27, iss. 4, art. no. 55, p. [1-16]. DOI: [10.1007/s11948-021-00330-9](https://doi.org/10.1007/s11948-021-00330-9). [DB: MEDLINE, Scopus, Social Sciences Citation Index (Web of Science), Science Citation Index Expanded (Web of Science)]

Čekanauskaitė, Asta; Peičius, Eimantas; Urbonas, Gvidas; Lukaševičienė, Vilma. Nebiomedicininių mokslinių tyrimų, kurių objektas yra žmogaus sveikata, etiniai principai : Lietuvos bioetikos komiteto kolegijos rekomendacijos // *Visuomenės sveikata*. Vilnius : Higienos institutas. ISSN 1392-2696. 2021, Nr. 2, p. 71-76. Prieiga per internetą: [https://hi.lt/uploads/pdf/visuomenes%20sveikata/2021.2\(93\)/VS%202021%20\(93\)%20METOD%20Etiniai%20principai.pdf](https://hi.lt/uploads/pdf/visuomenes%20sveikata/2021.2(93)/VS%202021%20(93)%20METOD%20Etiniai%20principai.pdf). [DB: Index Copernicus]

Kersnauskaitė, Džiugilė; Krotova, Jelizaveta; Čekanauskaitė, Asta. Pilot study of surgeons' attitude towards patients' right to refuse treatment // *Medicina: Abstracts accepted for the International Scientific Conference on Medicine organized within the frame of the 79th International Scientific Conference of the University of Latvia, Riga, Latvia*. Kaunas : Lietuvos sveikatos mokslų universitetas. ISSN 1648-9233. 2021, vol. 57, suppl. 1, p. 66. Prieiga per internetą: <https://medicina.lsmuni.lt/abstracts-accepted-for-the-international-scientific-conference-on-medicine-organized-within-the-frame-of-the-79th-international-scientific-conference-of-the->

university-of-latvia-riga-latvia/?fbclid=IwAR07ng3DjTjNjEU6VkSfjW_s_drwFGUEl8XfZiIgUN9qrFcu4mmAtkuU9rs>.

Gefenas, Eugenijus. Agreements and disagreements about the placebo rule // Ethical research: the Declaration of Helsinki, and the past, present, and future of human experimentation / edited by Ulf Schmidt, Andreas Frewer, and Dominique Sprumont. Oxford : Oxford University Press, 2020. ISBN 9780190224172. p. 227-240. Prieiga per internetą: <https://global.oup.com/academic/product/ethical-research-9780190224172?cc=lt&lang=en#>.

Studies and Students at the Faculty of Medicine of the Vilnius Stephen Batory University. Assist. Prof. Dr. A. Žalnora, 2019–2021.

In 2021, archival materials were collected and systemized. Data on hygiene education at the Stephen Batory University as well as Kaunas Vytautas Magnus University was analysed and compared. A publication based on the collected data was prepared.

Main publications:

Kušeliauskaitė, Irma; Žalnora, Aistis. The museum of the history of medicine of Vilnius University // Papers on anthropology. Tartu : University of Tartu. ISSN 1406-0140. eISSN 1736-7646. 2021, vol. 30, no. 1, p. 53-61. DOI: [10.12697/poa.2021.30.1.04](https://doi.org/10.12697/poa.2021.30.1.04). [DB: Central & Eastern European Academic Source (CEEAS), Academic Search Premier, BIOSIS Previews, Biological Abstracts]

Žalnora, Aistis. Stepono Batoro universiteto Medicinos fakulteto veikla sprendžiant Vilniaus krašto visuomenės sveikatos problemas : mokomoji knyga studentams. Vilnius : Vilniaus universitetas, 2021. 68 p. ISBN 9786090706510. eISBN 9786090706527. Prieiga per internetą: <https://www.knygynas.vu.lt/stepono-batoro-universiteto-medicinos-fakulteto-veikla-sprendziant-vilniaus-krasto-visuomenes-sveikatos-problemas-mokomoji-knyga-studentams>.

Žalnora, Aistis. Higienos disciplinos dėstymas Vilniaus Stepono Batoro ir Kauno Vytauto Didžiojo universitetuose 1919-1939 = Teaching of hygiene discipline in Vilnius Stephen Bathory and Kaunas Vytautas Magnus Universities in 1919-1939 // Sveikatos mokslai. Vilnius : Sveikatos mokslai. ISSN 1392-6373. eISSN 2335-867X. 2021, t. 31, Nr. 2, p. 195-198. DOI: [10.35988/sm-hs.2021.062](https://doi.org/10.35988/sm-hs.2021.062). [DB: Index Copernicus]

International Research Projects

INTEGRITY: Empowering Students through Evidence-based, Scaffolded Learning of Responsible Conduct in Research (RCR). Prof. E. Gefenas. 2019–2021.

In 2021, using the data from the 2020 survey of 3 cohorts of students representing different educational levels (high school, BA and PhD students), Vilnius University team together with other project partners co-authored two manuscripts submitted to relevant journals. In addition, VU representatives took part in organizing European Student Convent 2021 and Diner Pensant for senior researchers from the universities representing of the partners of the INTEGRITY project.

EU-STANDS4PM: A European Standardization Framework for Data Integration and Data-driven *in silico* Models for Personalized Medicine. Prof. E. Gefenas. 2019–2021.

In 2021, the team of Vilnius University contributed to the second year report “Harmonization and integration of big data of relevance for personalized medicine into *in silico* modelling? – Recommendations for technically feasible, and ethico-legal sustainable avenues“ <https://www.eu-stands4pm.eu/publications> .

Main publications:

Gefenas, Eugenijus; Lekstutienė, Jūratė; Lukaševičienė, Vilma; Hartlev, Mette; Mourby, Miranda; Ó Cathaoir, Katharina. Controversies between regulations of research ethics and protection of

personal data: informed consent at a cross-road // Medicine, health care and philosophy. Dordrecht : Springer. ISSN 1386-7423. eISSN 1572-8633. 2021, first published online, p. [1-8]. DOI: [10.1007/s11019-021-10060-1](https://doi.org/10.1007/s11019-021-10060-1). [DB: MEDLINE, Scopus, Arts & Humanities Citation Index (Web of Science), Social Sciences Citation Index (Web of Science)]

OTHER RESEARCH ACTIVITIES

Dr. Prof. E. Gefenas –

- member of European Group on Ethics in Science and New Technologies (EGE);
- vice chair of European Network of Research Ethics Committees (EUREC);
- member of the bureau of the European Society for Philosophy of Medicine and Health Care (ESPMH);
- board member of ethics committee of European Academy of Allergy and Clinical Immunology (EAACI);
- member of the advisory editorial board of the journals *Medicine, Health Care and Philosophy: A European Journal*.

Dr. A. Bartkienė –

- member of Lithuanian Association of the History and Philosophy of Science

Dr. A. Čekanauskaitė –

- member of the Council of Europe Steering Committee on Bioethics (CDBI);
- member of the Board of the Foundation for Patient Safety, Innovations and Quality.

Dr. A. Žalnora –

- member of Council of Vilnius Medical Society;
- member of Lithuanian Morphological Society;
- member of Lithuanian Association of the History and Philosophy of Science;
- editorial board member of the *Acta medico-historica Rigensia*.

M. Ramonaitė –

- member of Universeum: European Academic Heritage Network;
- member of Association of Lithuanian Museums;
- member of International Council of Museums.

BEST REPORTS DELIVERED AT CONFERENCES ABROAD

Žalnora A. Issues of anthropology, racial ideology and medicine in a book „Siegfried Immerselbe atsinaujina” (1934) by Ignas Šeinius. 47th Congress of International Society for the History of Medicine (ISHM), 23-27 August, 2021, Riga (Latvia).

Gefenas E. Impact of the new EU clinical trial regulation on RECs. Symposium “Challenges in Research Ethics Assessment: Experiences from Africa and Europe”, 25 May, 2021.

Kalisz L., Žalnora A. Vilnius Charitable Society „House of the Heart of Jesus“ out of concern for the dignity of the child“. International conference „Children in history – dignity and restrictions“, 24-25 May, 2021, Białystok, Poland.

Gefenas E. Participation in working group for development of the World Health Organization tool for benchmarking of research ethics oversight, 11 March – 13 May, 2021, the WHO.

Kersnauskaitė D., Krotova J., Čekanauskaitė A. „Pilot study of surgeons’ attitude towards patients’ right to refuse treatment“. International Scientific Conference on Medicine which is part of the 79th International Scientific Conference of the University of Latvia, 23-24 April, 2021

MOST IMPORTANT RESEARCH DISSEMINATION ACTIVITIES

Milinkevičiūtė D., Žalnora A., Sakalauskaitė-Juodeikienė E. Comments on the history of the vaccination in Lithuania in the article “The beginning of the history of vaccination in Lithuania: we started vaccinating not later than in England, although the Church opposed”, portal www.15min.lt, 9 May, 2021.

Gefenas E. Comments on biomedical research, TV show “Kosmoso departamentas” (LRT), 16/30 April, 2021.

Poškutė M. Comments on the creation of human-monkey hybrid, radio show “Ryto garsai”, 23 April, 2021.

Žalnora A. Participation in TV show “Praeitis ateičiai” (LRT) about barbers-surgeons, pharmacists and hospices in Vilnius, 15 September, 2021.

Žalnora A. An interview about the history of the treatment of mental disorders, portal www.lrt.lt, 19 November, 2021.