

## **FACULTY OF MEDICINE**

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**Dean** – Prof. Habil. Dr. *Algirdas Utkus*

### **STAFF**

713 teachers (328 holding research degree), 71 research fellows (21 holding research degree), 151 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

#### **Institute of Clinical Medicine:**

Clinic of Obstetrics and Gynecology  
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, Orthopaedic and 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

#### **Institute of Odontology**

#### **Institute of Health Sciences:**

Department of Rehabilitation, Physical and Sports Medicine  
Department of Nursing  
Department of Public Health

### **RESEARCH AREAS**

Human Genome Diversity, its Origin and Phenotypic Realization  
Human and Public Health, Quality of Life and Environment

**DOCTORAL DISSERTATIONS MAINTAINED IN 2018**

I. Slivovskaja. The effectiveness of individual aerobic training in subjects with metabolic syndrome.

Ž. Juodeikis. Adjustable gastric banding: a randomized clinical trial comparing 5-year results of two different bands.

A. Beiša. Significance of BRAF V600E mutation and cytomorphological features for the optimization of papillary thyroid cancer diagnostics.

A. Strumila. Evaluation of treatment effectiveness and prognosis of infantile hemangioma by infrared thermography.

E. Nedzinskienė. Peculiarities of ultrastructure of tooth root canals treated with resorcinol formaldehyde resin, evaluation of influence of endodontic retreatment procedures and resistance to fracture. Study in vitro.

E. Vindašiūtė-Narbutė. Factors associated with removal of the cement excess in implant-supported restorations.

A. Rimkevičius. The study of patients with oral lichen planus: clinical indices, risk factors and quality of life.

H. M. A. Aliahmed. Comparison of results of aortic valve replacement through median sternotomy and ministernotomy.

J. Berūkštis. Evaluation of the efficacy of catheter-based renal sympathetic denervation for treating resistant arterial hypertension.

V. Paliulytė. Ultrasound evaluation of postpartum uterus morphological parameters in their relationship with maternal and newborn health indicators.

G. Račkauskas. Sub threshold high frequency electrical field stimulation effect for angiogenesis and vegf expression in cardiomyocytes and heart tissue. Remodelling in the heart: impact of mechanical stretch, threshold and sub-threshold electrical stimulation on cultivated cardiomyocytes and sympathetic neurons.

E. Lycholip. Telemonitoring technologies for heart failure patients: opinions of professionals, patient-reported outcomes and measurements of lung impedance.

A. Laučytė-Cibulskienė. Arterial stiffness and other biomarkers as vascular remodeling and cardiovascular risk predictors in patients on renal replacement therapy.

A. Zorinas. Incidence and risk factors of the mitral paravalvular leak and comparison of the treatment modalities.

A. Amšiejienė. Multivariate analysis of Lithuanian infertile women's biological factors.

D. Palionis. The importance and clinical application of magnetic resonance tomography contrast unenhanced sequences in diagnostics of aorta pathology.

J. Besusparis. The Assessment of the Breast Cancer Proliferation Rate and Its Intratumor Heterogeneity Using Digital Immunohistochemistry Methods.

B. Burnytė. Evaluation of genetic and phenotype heterogeneity in hereditary neuropathies.

A. Urnikytė. Evaluation of genetic structure and evolutionary forces of the Lithuanian population according to the high-density genotyping data: past and the future.

S. Kutkienė. Assessment and modification of dyslipidemias: effect on etiopathogenesis and prevention of cardiovascular diseases and relationship with other atherosclerotic risk factors.

B. Buckus. Adipose tissue composition and distribution differences in predicting metabolic disorders in obese patients.

A. Mulevičienė. The relationship between nutritional anemia and changes of health indicators and fecal microbiota in infancy and early childhood.

R. Strupaitė. The Evaluation of Inherited Retinal Dystrophies Clinical and Genetic Characteristics.

## **MAIN CONFERENCES ORGANIZED IN 2018**

### **Institute of Biomedical Sciences:**

21 st European Congress of Physical & Rehabilitation Medicine;

14th Baltic Congress of Laboratory Medicine;

4th International Conference of Evolution Medicine;

International scientific practical conference „Dysmorphology Summer 2018“;

International scientific practical conference „Innovative Pathology“.

### **Institute of Clinical Medicine:**

International conference „9th Baltic Congress of Neurology (BALCONE 2018)“;

International conference and workshops „Hysteroscopy and actual problems of infertility“;

International practical conference „Baltic Sea Summer School of Epilepsy“;

6th International Meeting on Acute Cardiac Care and Emergency Medicine;

2nd Baltic and 3rd Lithuanian Pulmonary Hypertension Conference;

International conference „Dermatovenereology update 2018“;

1st Northern – Eastern Postgraduate course „Arterial Stiffness and Vascular Aging“;

IXth International scientific conference „Innovations in the Management of Rare Diseases“;

Small Group – Endless Space. Personal therapy in group analytic training;

ECPCP (European Confederation of Primary Care Paediatricians) annual meeting.

### **Institute of Odontology:**

International conference „Typicality in periodontology“;

International conference „Endodontology 2018“;

23rd international conference „(R)Evolution in prosthodontics“;

International annual meeting of Lithuanian Society of Prosthodontics;

1st international scientific food conference for students and residents.

### **Institute of Health Sciences:**

21 st European Congress of Physical & Rehabilitation Medicine;  
9th Congress of Baltic Association of Surgeon, section „Surgical Nursing“;  
International conference „Nursing Education and Research in Baltic Countries“.

## **THE LIST OF THE BEST REPORTS DELIVERED AT CONFERENCES ABROAD**

### **Institute of Biomedical Sciences:**

Trečiokienė, Indrė; Gulbinovic, Jolanta; Ragažinskienė, Ona; Taxis, Katja. Patients' knowledge and beliefs of high blood pressure: questionnaire for health care professionals. *FIP 2018: World congress of pharmacy and pharmaceutical sciences: 78th annual congress of FIP*, 2-6 September, 2018, Glasgow, Scotland.

Kliokyte, Rūta; Vajauskas, Donatas; Jankauskienė, Augustina. 1DMSA scan abnormalities in infants with sterile high grade vesicoureteral reflux. C-1156. *European congress of radiology*, 28 Feb – 04 Mar 2018, Vienna, Austria.

Tutkus, Vytautas; Šilovė, Simona; Tutkuvienė, Janina. Thickness of hamstring tendons for anterior cruciate ligament surgery in relation to body size. & Tutkuvienė, Janina; Tutkus, Vytautas. Gender differences in body image of young Lithuanian adults in relation to biopsychosocial factors. *21 Congress of the European Anthropological Association*, 22-25 August, 2018, Odense, Denmark.

Vitkus, Dalius; Beinoras, Evaldas; Pelanti, Jonna. Integrated External Quality Assessment Schemes: First Experience. *5th Joint EFLM-UEMS Congress*, 10-13 October, 2018, Antalya, Turkey.

Besusparis, Justinas. Automated Ki67 “Pareto Hotspot” is an independent prognostic factor in breast cancer patients. & Laurinavicius, Arvydas. Getting pathology pixels to work. *14th European Congress on Digital Pathology and 5th Nordic Symposium on Digital Pathology*, May 29 - June 1, 2018 Helsinki, Finland.

Vitkus, Dalius; Pelanti, Jonna. EQA Scheme With Metrological Traceability: What Can We Learn From Continuous Performance Evaluation of Participating Laboratories? *XXXVI Nordic Congress in Clinical Chemistry “Information beyond numbers”*, 12-15 June, 2018, Helsinki, Finland.

Karčiauskaitė, Dovilė; Burokienė, Neringa; Matuzevičienė, Reda; Mažeikienė, Asta; Kučinskienė, Zita Aušrelė. Impact of chronic stress on atherosclerosis process. & Bikulčienė, Inga; Golubevaitė, Orianta; Karčiauskaitė, Dovilė; Hendrixson, Vaiva; Kaminskas Arvydas; Kučinskienė, Zita Aušrelė. The relationship between fatty acid composition of platelet membrane, blood serum malondialdehyde and body mass index in healthy men. *7th Baltic Atherosclerosis Congress*, 6-7 April, 2018, Tallinn, Estonia.

Suchomlinov, Andrej; Tutkuvienė, Janina. Changes in growth of Lithuanian children from 1990. *Countries in socioeconomic transition: evidences from auxology and allied disciplines : international symposium*, 21st-24st November, 2018, Kolkata, India.

Zentelytė, Aistė; Treigyte, Gražina; Baronaitė, Sandra; Krasovskaja, Natalija; Savickienė, Jūratė; Borutinskaitė, Veronika Viktorija; Navakauskienė, Rūta. Epigenetics of adipogenic and osteogenic differentiation of MSCs isolated from amniotic fluid of healthy and fetus-

affected pregnancies. *Cambridge international stem cell symposium*, 19th-21st September, 2018, Cambridge, England.

<<https://www.stemcells.cam.ac.uk/documents/SymposiumBooklet2018Final.pdf>>

Matuzeviciene, Reda; Janiulioniene, Ausra; Radzevicius, Mantas; Janeliuniene, Migle. T follicular helper cells in health and disease. *European society for clinical cell analysis (ESCCA) 2018*, 12-15 September, 2018, Valencia, Spain.

### **Institute of Clinical Medicine:**

Vinikovas, Artūras; Žeimaitė, Rasa; Navardauskaitė, Kamilė Evelina; Verikas, Dovydas; Kablučko, Denis; Stašaitis, Kęstutis; Mebazaa, Alexandre; Kavoliūnienė, Aušra; Čelutkienė, Jelena. Ischemic origin of heart failure is associated with worse prognosis in 3 and 12 months after acute episode. & Vinikovas, Artūras; Zeimaite, Rasa; Navardauskaite, Kamile Evelina; Ziubryte, Greta; Tribusauskaite, Sarune; Vaiciuliene, Dovile; Kablucko, Denis; Stasaitis, Kestutis; Mebazaa, Alexandre; Kavoliuniene, Aušra; Celutkiene, Jelena. Abnormal potassium level predicts long-term outcomes in patients with acute dyspnea. *The Heart Failure 2018 and the World Congress on Acute Heart Failure*, 26-29 May 2018, Vienna, Austria.

Gedvilaite, Vaida; Danila, Edvardas; Cicenas, Saulius; Smailyte, Giedrė. P1.15-09 Trends in Lung Cancer Survival in Lithuania. *19th World Conference on Lung Cancer 2018*, September 23-26, Toronto, Canada.

Kuliese, Monika; Jancoriene, Ligita; Grimalauskaite, Rita; Zablockiene, Birute; Damuleviciene, Gyte; Lesauskaite, Vita; Velyvyte, Daiva; Krupeckaite, Kotryna; Bagdonas, Alfredas; Ambrozaitis, Arvydas; Mickiene, Aukse; Gefenaite, Giedre. Seasonal influenza vaccine effectiveness among hospitalized elderly patients against laboratory-confirmed influenza in 2015-2017 in Lithuania. *28th European Congress of Clinical Microbiology and Infectious Diseases (ECCMID 2018)*, 21-24 April 2018: Madrid, Spain.

Maldžiūtė, Diana; Bumbulienė, Žana. Ovarian adult granulosa cell tumor in one of identical adolescence twin with uterus didelphys and kidney agenesis. *26th European Congress of the European Board & College of Obstetrics and Gynaecology*, 8-10 March, 2018, Paris, France.

Kubilius, Darius; Bradūnaitė, Rasa; Zacharevskij, Ernest; Brimas, Gintautas. The significant outcome of controlled intervention of well-established burns treatment plan: reduced hospital stay and rate of complications. *8th Central European Burn Congress* : 31st May-1st June 2018 Bratislava, Slovakia.

Burokiene, Sigita; Pilkiene Aistė. Health literacy study of parents in pediatric emergency department. *EAPS 2018, the 7th Congress of the European Academy of Paediatric Societies*. 30 October – 3 November, 2018, Paris, France.

Dlugauskas, Edgaras; Lengvenytė, Aistė; Strumila, Robertas; Utkus, Algirdas. Lithuanian CYP2D6 polymorphism analysis (pilot study). *Psychiatry – shaping the future : 32nd Nordic Congress of Psychiatry*, 13-16 June, 2018, Reykjavik, Iceland.

Hamarat, Yasin; Deimantavicius, Mantas; Zakelis, Rolandas; Bartusis, Laimonas; Preikšaitis, Aidanas; Ragauskas, Arminas. A pilot study of non-invasive intracranial pressure monitoring. *Bioelectrics 2018: 15th International Bioelectrics Symposium*, 23-26 September, 2018, Prague, Czech Republic.

Šalčiūtė, Erika; Liučvaikytė, Julita; Klimašauskas, Andrius; Kėkštas, Gintautas; Šipylaitė, Jūratė. Energy expenditure measured by indirect calorimetry and provision of energy and protein for patients with acute severe pancreatitis & Šalčiūtė, Erika; Liučvaikytė, Julita; Klimašauskas, Andrius; Kėkštas, Gintautas; Šipylaitė, Jūratė. Energy requirements in patients

with acute severe pancreatitis: comparison between indirect calorimetry and validated equations. *Critical care: 38th International Symposium on Intensive Care and Emergency Medicine*, 20-23 March 2018, Brussels, Belgium.

Samalavicius, Narimantas Evaldas. Local rectal cancer treatment. *International Congress to the 25th Anniversary of the Central and Eastern European Club of Coloproctology*, April 27-28, 2018, Brno, Check Republic.

~~Burokiene, Sigita; Čekauskiene, Rita. Psychosocial care for children with chronic diseases. *International conference The art of clowning*. 4-6 April, 2018, Viena, Austria.~~

### **Institute of Odontology:**

Vasciunaite-Tyliene, Julija; Brukiene, Vilma; Rizgelyte Deligoz, Jolita; Tanboga, Ilknur. Oral health status of children with Cerebral Palsy in Istanbul (Turkey) and Vilnius (Lithuania). *24th International Association for Disability and Oral Health Congress*, 31 August – 2 September 2018. Dubai, JAE.

Drukteinis, Saulius; Buzytė, Ieva; Pečiulienė, Vytautė. Micro-CT evaluation of dentinal microcrack formation after using rotary, hybrid and reciprocating NiTi instruments. *The 11th IFEA World endodontic congress*, 4-7 October, 2018, Seoul, Korea.

Drukteinis, Saulius. Flowable bioceramic materials in endodontics. Clinical application and 3D reality. *The 11th IFEA World endodontic congress*, October 4-7 2018, Seoul, Korea.

Linkevicius, Tomas. Tissue thickness and platform switching. Science and practice. *Lecture in Global DentalXP symposium*, 6-9 February, 2018. Miami, USA.

Linkevicius, Tomas. Zero bone loss concepts. *Lecture in Australian Osseointegration Society*, 15 October 2018, Brisbane, Australia.

### **Institute of Health Science:**

Alekna, Vidmantas; Cernovas, Andrejus; Stukas, Rimantas; Mastaviciute, Asta; Tamulaitiene Marija. The associations between handgrip strength, BMD and fracture probability in elderly women. Poster presentation. & Cernovas, Andrejus; Stukas, Rimantas; Grigaite, Jurate; Tamulaitiene, Marija; Surkiene, Gene; Alekna, Vidmantas. The associations between quality of life and psychoemotional state in elderly women. Poster presentation. & Cernovas, Andrejus; Fabijonavicius, Mantas; Sadauskaite, Grazina; Tamulaitiene, Marija; Alekna Vidmantas; Stukas Rimantas. The relationships between satisfaction and emotional state in elderly women. Poster presentation. *World Congress on Osteoporosis, Osteoarthritis and Musculoskeletal Diseases*. 19-22 April 2018, Krakow, Poland.

Juocevičius, Alvydas; Gulbinaitė, Laura; Adomavičienė, Aušra; Narutyte, Evelina; Dadelienė, Rūta. Effectiveness of rehabilitation for patients with spinal cord injury in C4 – C8 segments based on the international classification of functioning, disability and health. & Mickutė, Gabrielė; Bunevičiūtė, Ramunė; Lukšys, Donatas; Kučinskas, Martynas; Kaladytė Lokominienė, Rūta; Jatužis, Dalius; Juocevičius, Alvydas; Griškevičius, Julius. The influence of Lindy Hop dance therapy on motor function and quality of life for patients with Parkinson's disease. *21st European Congress of Physical and Rehabilitation Medicine*, 1-6 May 2018, Vilnius, Lithuania.

Apsėga, Andrius; Mastaviciute, Asta; Tamulaitiene, Marija; Alekna, Vidmantas. Relations between frailty, multimorbidity and disability in specific activities in daily living in

community-dwelling women: a cross-sectional study. *14th International Congress of the European Geriatric Medicine Society*. 10–12 October 2018, Berlin, Germany.

Dadelienė, Rūta; Nekriošius, Ričardas; Milašius, Kazys. Peculiarities of muscle oxygenation in world-class kayakers. *23rd annual congress of the European college of sport science*, 4th-7th July 2018, Dublin, Ireland. <[http://ecss-congress.eu/2018/18/index.php?option=com\\_sppagebuilder&view=page&id=21&Itemid=650](http://ecss-congress.eu/2018/18/index.php?option=com_sppagebuilder&view=page&id=21&Itemid=650)>.

Skruibis, Paulius; Germanavičius, Arūnas. Inverse relationship between suicide rates and undetermined, ill-defined and unknown causes of death in Lithuania, but not in Latvia and Estonia. *17th European symposium on suicide and suicidal behaviour*, 5-8 September, 2018, Ghent, Belgium.

Raistenskis, Juozas; Aukstikalnis Tomas. Vibroacoustic therapy as an option to treat adolescent's low back pain. *International multidisciplinary conference „Rehabilitation yesterday – today- tomorrow“*. 19-20 October 2018, Olsztyn, Poland.

Jokubauskienė, Marija. Mental health during the life course: use of registry data. & Donatas Austys. Smoking and distribution of adipose tissue. & Valerij Dobrovolskij. The Factors Determining Students' Physical Activeness. *11th European Public Health Conference. Winds of Change: towards new ways of improving public health in Europe*, 28 November-1 December, 2018, Liubliana, Slovenia.

Gedrimė, Lina; Fatkulina, Natalja. Patients information needs about surgery. *Lietuvos chirurgija: 9-asis Baltijos šalių chirurgų asociacijos kongresas/ Lithuanian surgery: 9th Congress of Baltic Association of Surgeons*, 10-12 May, 2018, Klaipėda, Lithuania.

Žagminas, Kęstutis. ŽIV, HBV, HCV paplitimas ir rizika Lietuvoje / HIV, HBV, HCV Prevalence and Risk in Lithuania. *5-oji tarptautinė mokslinės-praktinė konferencija “Šiuolaikinė kraujo komponentų transfuzija – nuo donoro iki recipiento”/ Modern Blood Component Transfusion – from Donor to Recipient*. 10 October, 2018, Vilnius, Lithuania.

# INSTITUTE OF BIOMEDICAL SCIENCES

## Department of Anatomy, Histology and Anthropology

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**Head** – Prof. Dr. *Janina Tutkuvienė*

### STAFF

**Professors:** Dr. (HP) R. Jankauskas, Dr. R. Šimkūnaitė-Rizgelienė, Dr. (HP) J. Tutkuvienė, 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:** D. Bandzevičienė (part-time), K. Kuolienė (part-time), dr. M. Leonavičiūtė-Klimantavičienė (part-time), V. Lukošaitis (part-time), R. Mackevičienė, R. Morkūnienė.

**Lecturers:** A. Audickaitė (part-time), dr. V. Bartuškienė (part-time), L. Bračkutė (part-time), R. Jacevičiūtė (part-time), J. Janavičius (part-time), J. Jarašūnas (part-time), M. Minsevičius (part-time), K. Popov (part-time).

**Research fellows:** senior researcher Dr. D. Piombino-Mascali, junior researcher S. Šilovė

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

**Students' scientific group of Human biology and evolutionary medicine:** scientific leader – Prof. J. Tutkuvienė; coordinator – student J. Petkevičiūtė; in total – 37 members of students.

### RESEARCH INTERESTS

#### Human Genome Diversity, Its Origin and Phenotypic Realization

Skeletal and dental health indicators in Lithuanian paleopopulations and potential ecological, social, demographic factors of their variability.

The peculiarities and factors of prenatal development, growth programming and postnatal development in both humans and experimental animals (chicken embryos, rats).

The physical status of contemporary inhabitants, the internal and external factors of phenotypic variation, the relationship between indices of physical and general health status, the analysis of secular trend and prognosis of future tendencies.

### RESEARCH PROJECTS CARRIED OUT IN 2018

#### *Projects Supported by University Budget*

**Bioarcheological investigations.**



Relations between morphometric indices as proxy for health status, childhood life conditions and demographic indicators were examined. Systemic analysis of traumatism in medieval populations was performed. As a summary of these studies, two PhD dissertations were defended. Paleopathological and paleoradiological investigations of mummified human remains were continued. Analysis of growth and health of children in postmedieval Lithuania was performed. Data of porotic hyperostosis and antemortem tooth loss from selected 16-17 c. populations, and dental status of 19th c. inhabitants of Panevėžys were summarised.

#### Main publications:

Jatautis, Š., Suchomlinov, A., Jankauskas, R. 2018. An association between adult lifespan and stature in preindustrial Lithuanian populations: analysis of skeletons. *HOMO: journal of comparative human biology*, vol. 69, no 4, p. 167-175; doi: 10.1016/j.jchb.2018.07.001.

Kozakaitė, J., Piombino Mascali, D., Miliauskienė, Ž., Girčius, R., Dementavičienė, J., Jankauskas, R. 2018. A rare case of child abuse from early modern Lithuania. *International Journal of Paleopathology*, vol. 22, p. 189-197; doi: 10.1016/j.ijpp.2018.06.008

Panzer, S., Augat, P., Zink, A.R., Piombino-Mascali, D. 2018. CT checklist and scoring system for the assessment of soft tissue preservation in human mummies: application to catacomb mummies from Palermo, Sicily. *International Journal of Paleopathology*, vol. 20, p. 50-59; doi: 10.1016/j.ijpp.2018.01.003

Piombino-Mascali D., Jankauskas R., Kozakaitė J., Sutherland L. Paleoimaging of a modern mummy from Lithuania (circa 19th–20th century). *Medicina*, 2017, vol. 53, p. 410-419.

#### **Experimental (growth programming) investigations.**

Further collecting and analysis of data from the experimental study on the influence of maternal nutrition prior to pregnancy and during pregnancy was carried out: the behavioural video record data of two rat offspring generations coded with Noldus software were analysed. The histomorphological profile of the rat offspring eyes was determined with an analysis of photoreceptors, Müller cells, ganglion cells layer and retinal microglia. The results were presented at international conference. Further analysis of data from the experimental study on the influence of the drinking water was carried out: influence of ionized water on the embryo development and the effects of boron and fluorine on the rat embryo mass, skeleton formation and teeth structure were analyzed, the results were presented at international conference and the scientific article was prepared.

#### Main publication:

Zalgevičienė, V., Kulvietis, V., Bulotienė, D., Zurauskas, E., Laurinavičienė, A., Skripka, A., Rotomskis, R. 2017. Quantum dots mediated embryotoxicity via placental damage. *Reproductive toxicology*, vol. 73, p. 222-231; doi: 10.1016/j.reprotox.2017.08.016.

#### **Investigations of physical status of contemporary inhabitants.**

Using the data from the period 1995-2015, the analysis of newborns whose mothers were addicted to alcohol and drugs during pregnancy was performed; materials on birth anomalies during the 1997-2013, also materials on newborns head circumference comparison with INTERGROWTH study were prepared for publication. The longitudinal growth data were collected for 120 preterm newborns. The study on physical status (according to wide programme) of 19–20 years old Lithuanians was continued (50 medical students were investigated). The comparative study on menarcheal age in relation to social, economic, food consumption and geographic factors in more than 50 countries was fulfilled. The results on

changes of body image (BI) during the pregnancy have been published. The analysis on face recognition in preschool children were finalised. The results of study on breast changes in females during the pregnancy were submitted for publication. The study on physical status, health, body image and psychological status of incarcerated women was continued. The analysis on handedness of 200 individuals was finished. The study on the relationship between the alignment of joints, the lower limb function and physical status of young adults was continued: all length X-rays of both lower extremities were performed (N=30) and compared with the results of physical examination. The patellar cartilage status (chondromalacia) was analysed in the knees of more than 2000 individuals. The preparation for the study on anatomical variants of cerebral arteries in relation to cerebral vascular pathologies was finished.

#### Main publication:

Tutkuvienė, J., Juškaitė, A., Katinaite, J., Šilovė, S., Drąsutis, J., Sargautytė, R., Ramašauskaitė, D., Drąsutienė, G. 2018. Body image issues in Lithuanian females before and during pregnancy. *Anthropologischer Anzeiger*, vol. 75, no. 1, p. 9-17; doi: 10.1127/anthranz/2018/0779.

Tutkus, V., Tutkus, J., Jablonskiene, V., Abaravicius, J.A., Silove, S., Tutkuvienė, J. 2018. Tibial Part of Anterior Cruciate Ligament: A Host for Silent Foreign Body in the Knee. *Chinese Medical Journal*, vol. 131, no 15, p. 1884-1886. doi: 10.4103/0366-6999.237410.

Kozziel, S., Scheffler, C., Tutkuvienė, J., Jakimaviciene, E.M., Mumm, R., Barbieri, D., Godina, E., El-Shabrawi, M., Elhousseini, M., Musalek, M., et al. 2018. Growth and Social Environment. *Pediatric Endocrinology Reviews Per*, vol. 15, iss. 4, p. 319-329; doi: 10.17458/per.vol15.2018.ksh.mr.GrowthSocialEnvironment.

Tutkus, V., Kluonaitis, K., Silove, S., Tutkuvienė, J. 2018. ACL reconstruction using 5- or 6-strand hamstring autograft provides graft's diameter bigger than 8 mm. *Knee Surgery Sports Traumatology Arthroscopy*. ISSN: 0942-2056; doi: 10.1007/s00167-017-4668-6.: 1349-1356.

Obertova, Z., Ratnayake, M., Poppa, P., Tutkuvienė, J., Ritz-Timme, S., Cattaneo, C. 2018. Metric approach for age assessment of children: an alternative to radiographs? *Australian Journal of Forensic Sciences*, vol. 50, iss. 1, p. 57-67; doi: 10.1080/00450618.2016.1195876.

#### **National Research Projects**

Granted by Research Council of Lithuania. **Osteological Material as the Source for Lithuanistic Research: Knowledge, Systemization and Access.** (No. S-LIP-18-50 / LSS-150000-1175). Assoc. Prof. Ž. Miliauskienė (leading scientist), Dr. J. Kozakaitė (researcher) 2018–2020.

Preliminary account of human osteological collection was performed. All cremated remains in the collection were reanalyzed and reinventorized. Trial version of digital osteological data base was created.

Granted by National Museum of Lithuania, and the Genocide and Resistance Research Centre of Lithuania: **Anthropological Investigation of Skeletal Remains of the January Uprising (1863-1864) at the Gediminas Hill in Vilnius.** Prof. R. Jankauskas (leading scientist); Assoc. Prof. Ž. Miliauskienė (researcher), Dr. J. Kozakaitė (researcher) 2017–2018.

Skeletal remains of 20 participants of The January Uprising (1863–1864) were discovered on the Gediminas Hill. Identity of several individuals was confirmed by anthropological, forensic and genetic analysis, archeological findings. Investigation is proceeded.

Granted by The Genocide and Resistance Research Centre of Lithuania: **Anthropological Investigations of Orphan's Cemetery of the 19th c. in Vilnius**. Prof. R. Jankauskas (leading scientist); Assoc. Prof. Ž. Miliauskienė (researcher), Dr. J. Kozakaitė (researcher) 2017–2018.

Historical, archaeological and anthropological investigations of Orphan's Cemetery of the 19th c. in Vilnius lead to the discovery of 16 remains of victims of Soviet repressions (1956–1969). Remains of one of the prominent leaders of the Lithuanian partisans' movement Adolfas Ramanauskas-Vanagas (1918–1957) and some other individuals was established by complex anthropological and forensic analysis. Investigation is continued.

### ***International Research Projects***

International project (44 countries) coordinated by Prof. Viren Swami (Anglia Ruskin University and Perdana University). **The Breast Size Satisfaction Survey (BSSS) (2017-2019)**. Prof. J. Tutkuvienė (leading scientists of Lithuanian partner).

In total 135 females from Lithuania (aged 18-38 years) were investigated with respect to their actual body size, body image and breast satisfaction, the statistical analysis of interrelationship between real body dimensions, self-perception and attractiveness scoring was performed on Lithuanian sample.

HORIZON-2020 project coordinated by CEITEC Masaryk University in Brno, Czech Republic: **EU-13 countries "Alliance for Life: Closing Research and Innovation Divide in the European Union" (2017-2019)**. Prof. J. Tutkuvienė (Strategy Board member from Lithuanian partner – Vilnius University, Faculty of Medicine).

Three meetings were organized, the materials with regard to organisation and management of research activities, research evaluation criteria and research infrastructure were cumulated from 13 EU countries (all partners of the project). Declarations with respect to research policy development in EU, closer collaboration, sharing experience, supporting creative and most novel research for an overall increase in scientific developments in Central and Eastern Europe were conducted. It was concluded that one of the main weaknesses is underdevelopment of career system in Central and Eastern Europe for investigators, and it is necessary to examine human resources policies and practices at the partner institutions of the project.

### ***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)

Loughborough University, Leicestershire (UK)

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)

Institute of Anatomy and Anthropology, Riga Stradins University (Latvia)  
Cranfield University (UK)  
University of Tartu (Estonia)  
McMaster University (Canada)  
University of Catania (Italy)  
State Forensic Medicine Service (Lithuania)

### ***OTHER SCIENTIFIC ACTIVITIES***

#### **Prof. J. Tutkuvienė –**

- vice-dean for Research and PhD studies of the Faculty of Medicine;
- member of the Council of the Faculty of Medicine;
- chair of the Scientific Committee of the Faculty of Medicine;
- chair of the Doctoral Committee of the Faculty of Medicine;
- member of the European Anthropological Association;
- member of the Council of the European Anthropological Association;
- member of the Commission for Human Ecology of International Union of Anthropological and Ethnological Sciences (IUAES);
- member of the International Association of Human Biologists;
- member of the Society for Studies of Human Biology;
- member of the International Auxological Society;
- member of the Lithuanian Morphological Society;
- member of the Lithuanian Society of Obstetricians and Gynaecologists (Section of Gynaecology of Children and Adolescents);
- editorial board member of the *Journal of Human Ecology*;
- editorial board member of the journal *Acta Medica Lituanica*;
- editorial board member of the journal *Visuomenės Sveikata (Public health)*;
- editorial board member of the journal *Anthropologischer Anzeiger*;
- editorial board member of the journal *Вестник Московского университета. Серия 23. Антропология*.

#### **Prof. R. Jankauskas –**

- editorial boards member of the journals: *Papers on Anthropology* (Tartu University, Estonia); *Anthropologischer Anzeiger*; *Lietuvos archeologija*; *Archaeologia Baltica*;
- 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 Lithuanian Academy of Sciences (<http://lma.lt/old/intranetas>);
- member of Paleopathology Association.

#### **Prof. R. Šimkūnaitė-Rizgeliene –**

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

#### **Prof. V. Žalgevičienė –**

- vice-chairperson of the Commission of Appeal at the Faculty of Medicine;
- member of the Lithuanian Morphological Society;
- member of Baltic Laboratory Animal Association (Balt-LASA).

**Senior Research Fellow D. Piombino-Mascali –**

- member of Paleopathology Association;
- honorary membership at American Society of Embalmers.

**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.

**Junior Assist., PhD student V. Lukošaitis –**

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

**Junior Assist. R. Mackevičienė –**

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

**Junior Assist., PhD student R. Morkūnienė –**

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

**Assist. D. Bandzevičienė –**

- member of the Lithuanian Morphological Society.

**Assist., 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.

**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.

**Lect. A. Audickaitė –**

- member of the Lithuanian Dermatovenereology Society;
- member of the European Academy of Dermatology and Venereology.

**Lect. V. Bartuškienė –**

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

**Lect. R. Jacevičiūtė –**

- 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.

**Lect. J. Jarašūnas –**

- member of European Society of Radiology;
- member of Lithuanian Association of Radiologists.

**Lect. K. Popov –**

- member of Lithuanian Society of Orthopaedics and Traumatology.

**PhD student G. Laurinavičiūtė –**

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

**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.

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

**R. Jankauskas.** Working group on identification of remains of leaders of 1863-1864 uprisal.

**R. Jankauskas.** Working Group on identification of remains of Soviet regime victims inhumed in Antakalnis cemetery.

**THE LIST OF CONSULTATIONS PROVIDED BY THE UNIT TO THE PUBLIC OR ECONOMIC ENTITIES**

**J. Tutkuvienė.** Regular consultations provided to public with regard growth and development of children.

**THE LIST OF THE MOST IMPORTANT RESULTS OF SCIENCE POPULARISATION ACTIVITIES**

**Information about changes (trends, factors, consequences, perspectives) in body image** (in the newspaper “Lietuvos Zinios”, the 21<sup>st</sup> of November, 2018): <https://www.lzinios.lt/lzinios/Mokslas-ir-svietimas/nesibaigianti-kuno-ivaizdzio-revoliucija/276409>.

**Information about evolutionary factors of nutrition and food consumption** (in the magazine “Edita”, November, 2018, pages 16-21).

**Information about bioarchaeology in largest information portal in Lithuania:**  
<https://www.delfi.lt/mokslas/mokslas/bioarcheologe-pries-kelis-simtus-metu-lietuviai-gyvendavo-tik-iki-40-m-ir-mirdavo-nuo-baisiu-ligu.d?id=79605673>

**Information about investigations of prominent historical personalities in largest information portal in Lithuania:**  
<https://www.delfi.lt/video/transliacijos/konferencijos/istorijos-laboratorija-nesvyziaus-kriptuslepiniai-radvilos-mumijos-ir-vistos-galva.d?id=1147>

**Information on paleogenetics, the same portal:** <https://www.delfi.lt/video/laidos/mokslo-ekspresas/mokslo-ekspresas-tukstantmeciai-kapai-atskleidzia-lietuvos-priesistores-paslaptis.d?id=77886901>

**Information on the study of the mummies in Ferentillo in Italian news:**  
[http://www.ansa.it/sito/notizie/cultura/arte/2018/06/19/studio-su-mummie-conservate-a-ferentillo\\_be0e1869-e59d-4b1e-867c-12b4faac50e7.html](http://www.ansa.it/sito/notizie/cultura/arte/2018/06/19/studio-su-mummie-conservate-a-ferentillo_be0e1869-e59d-4b1e-867c-12b4faac50e7.html)



## Department of Human and Medical Genetics

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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).

**Associate professors:** Dr. L. Ambrozaitytė (part-time), Dr. E. Benušienė (part-time), Dr. J. Kasnauskienė (part-time), Dr. A. Molytė (part-time).

**Assistant professors:** Dr. A. Bankauskienė (part-time), Dr. N. Bratčikovienė (part-time), Dr. V. Šliužas (part-time), Dr. A. Morkūnienė (part-time), Dr. A. Matulevičienė (part-time), Dr. B. Tumienė (part-time).

**Senior researchers:** Dr. E. Pranckevičienė (part-time), Dr. E. Preikšaitienė (part-time).

**Researchers:** Dr. Ž. Maldžienė (part-time), Dr. I. Domarkienė (part-time), Dr. V. Ginevičienė (part-time), Dr. J. Sušinskas (part-time), Dr. I. Kavaliauskienė (part-time), Dr. V. Mikštienė (part-time).

**Research assistants:** Dr. J. Songailienė (part-time), Dr. T. Petrėnas (part-time),

Dr. T. Rančelis (part-time), J. Arasimavičius (part-time), I. Baškurova (part-time), R. Meškienė, E. Siavrienė (part-time), B. Aleksišūnienė (part-time), A. Urnikytė.

**Teaching assistant:** B. Burnytė (part-time).

**Lecturers:** K. Baronas, (part-time), G. Žukauskaitė (part-time), N. Krasovskaja (part-time), D. Vansevičiūtė (part-time).

**Doctoral students:** B. Aleksišūnienė, B. Burnytė, A. Urnikytė, L. Pranckėnienė, E. Siavrienė, R. Laukienė, E. Dagytė, G. Žukauskaitė.

**Genetic scientific group of students:** scientific leader – Dr. E. Preikšaitienė, coordinator – student Kamilė Šiaurytė; 18 members of students.

### RESEARCH INTERESTS

Genetic variation inter- and intra- population of Lithuania.

Genomics of Intellectual Disability.

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

### RESEARCH PROJECTS CARRIED OUT IN 2018

#### Projects Supported by University Budget

**Diversity of Human Genome, Its Origin and Phenotypical Realization.** Prof. (HP) Dr. A.Utkus. 2014–2018.

The research of the specific genetic loci for neurodevelopmental disorders and intellectual disability, severe dysmorphic phenotypes, and other challenging hereditary phenotypes were performed investigating physical mapping and possible DNA variants function. Genetic variation analysis of the Lithuanian population considering genomic factors within the population groups was carried out and compared to the other European and world populations.

Main publications:

Pranckėnienė, L., Jakaitienė, A., Ambrozaitytė, L., Kavaliauskienė, I., Kučinskas, V. 2018. Insights into de novo mutation variation in Lithuanian exome. *Frontiers in genetics*, vol. 9, no 315, p. 1-8; doi: 10.3389/fgene.2018.00315.

Aleksiūnienė, B., Preikšaitienė, E., Morkūnienė, A., Ambrozaitytė, L., Utkus, A. 2018. A de novo 1q22q23.1 interstitial microdeletion in a girl with intellectual disability and multiple congenital anomalies including congenital heart defect. *Cytogenetic and genome research*, vol. 154, no 1, 1-6; doi: 10.1159/000486947.

Gueneau, L., Fish, R. J., Shamseldi, H. E., et al. [From VU Faculty of Medicine Preiksaitiene, E., Ambrozaityte, L., Cimbalistienė, L., Kučinskas, V.]. 2018. KIAA1109 variants are associated with a severe disorder of brain development and arthrogryposis. *American journal of human genetics*, vol. 102, iss. 1, p. 116–132; doi: 10.1016/j.ajhg.2017.12.002.

## **National Research Projects**

**Deciphering the genetic architecture of intellectual disability and congenital anomalies (INGENES).** Dr. E. Preikšaitienė. 2017-2020.

Clinical data of the project INGENES participants have been collected with focus to family history and pedigree, personal history, physical examination, imaging and laboratory diagnostics performed before enrolment. Venous blood samples have been collected for DNA and RNA extraction. Samples of skin biopsy have been obtained and fibroblasts have been cultivated. Whole exome sequencing was performed for affected individuals and their I degree relatives in cases of unknown etiology ID/CA. Gene expression was evaluated using quantitative RT-PCR. Sanger sequencing was used for confirmation of pathogenicity of novel splicing variants. The obtained results have been disseminated during national and international conferences. Three articles have been submitted for publication.

**Prevalence of prenatal alcohol exposure in Lithuania and the effect of prenatal alcohol exposure on metabolism of newborns (ALKOMET LT).** Prof. Dr. A. Utkus. 2017-2018.

The aim of the project was to determine the total prevalence of alcohol consumption among pregnant women in Lithuania. The performed investigation has revealed that 3 % of pregnant women consumed alcohol during last weeks of pregnancy, while 0,15 % women consumed alcohol in large amounts, as PEth concentration in these newborn DBS was as high, as reported in adults after alcohol abuse. It was found that 92 % of abstinent pregnant woman and 72 % of non-abstinent gave birth to full-term babies. In the non-abstinent group more babies (14 %) having body mass less than 2500 g were born compared to abstinent group (2 %).

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

Thermo Fisher Scientific Baltics (Lithuania);  
Lithuanian Olympic Sports Center (Lithuania);  
University of Lausanne (Swiss Confederation);  
Department of Medical Research Kaohsiung Chang-Gung Memorial Hospital, Taiwan (China);  
Division of Medical Genetics Department of Pediatrics, Keio University School of Medicine, Tokyo (Japan);  
Department of Molecular and Human Genetics, Baylor College of Medicine, Houston, TX (USA).

## OTHER SCIENTIFIC ACTIVITIES

### Prof. (HP) Dr. A. Utkus –

- member of the Executive Committee of The Association of Medical Schools in Europe (AMSE)
- member 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)*
- member of the European Society of Human Genetics, [www.eshg.org](http://www.eshg.org)
- member of the American Society of Human Genetics, [www.ashg.org](http://www.ashg.org)
- dean of the Faculty of Medicine, Vilnius University, [www.mf.vu.lt](http://www.mf.vu.lt)
- member of the Rectorate of Vilnius University
- board member of Ministry of Health of the Republic of Lithuania
- 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/>
- Full 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](http://www.eshg.org)
- member of the American Society of Human Genetics, [www.ashg.org](http://www.ashg.org)
- member of Human Genome Organization (HUGO)
- chairman of the committee of Master study programme Medical Genetics at Vilnius University

**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>
- member of International Epidemiological Association

**Dr. E. Benušienė –**

- member of the Lithuanian Society of Human Genetics (chairperson of Committee of Professional Competence and Ethics), <http://www.geneticahumana.lt/LZGD/organizacija.htm>
- member of the European Society of Human Genetics, [www.eshg.org](http://www.eshg.org)
- Lithuanian Society of Doctors

**Dr. J. Kasnauskienė –**

- 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](http://www.eshg.org)
- board member of Lithuanian Society of Laboratory Medicine

**Dr. E. Pranckevičienė –**

- 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](http://www.eshg.org)

**Dr. L. Ambrozaitytė –**

- member of the Lithuanian Society of Human Genetics (board member), <http://www.geneticahumana.lt/LZGD/organizacija.htm>
- member of the European Society of Human Genetics, [www.eshg.org](http://www.eshg.org)
- member of the American Society of Human Genetics, [www.ashg.org](http://www.ashg.org)

**Dr. I. Domarkienė –**

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

**Dr. V. Ginevičienė –**

- member 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](http://www.leu.lt/download/6594/bsss_sutartis.pdf)
- member of the Lithuanian *Federation* of Sports Medicine, <http://www.lsmf.lt/>

**Dr. I. Kavaliauskienė –**

- 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](http://www.eshg.org)

**Dr. Ž. Maldžienė –**

- 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](http://www.eshg.org)
- National scholarship program of the World Federation of Scientists

**Dr. A. Matulevičienė –**

- member of the European Society of Human Genetics, [www.eshg.org](http://www.eshg.org)
- member of the Committee for Orphan Medicinal Products (COMP)
- 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)

**Dr. A. Morkūnienė –**

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

**Dr. A. Molytė –**

- member of the Lithuanian Computer Society

**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](http://www.eshg.org)

**Dr. E. Preikšaitienė –**

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

**Dr. J. Sušinskas –**

- member of the Lithuanian Mathematical Society

**Dr. A. Bankauskienė –**

- member 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](http://www.eshg.org)

**Dr. B. Tumienė –**

- board member of the European Society of Human Genetics, [www.eshg.org](http://www.eshg.org)
- European Reference Network Board of Member States, Lithuanian representative
- 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 Operating Committee member, Encyclopedia Editor

**B. Aleksišiūnienė –**

- 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](http://www.eshg.org)

**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](http://www.eshg.org)
- member of the American Society of Human Genetics, [www.ashg.org](http://www.ashg.org)
- member of the Society for Studies of Inborn Errors of Metabolism, SSIEM
- Orphanet information scientist

**A. Urnikytė –**

- member of the European Society of Human Genetics, [www.eshg.org](http://www.eshg.org)
- member of the American Society of Human Genetics, [www.ashg.org](http://www.ashg.org)

**R. Meškienė –**

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

**E. Siavrienė –**

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

**L. Pranckėnienė –**

- member of the European Society of Human Genetics, [www.eshg.org](http://www.eshg.org)

**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>
- member of European Nail Society, <http://www.euronailsociety.eu/index-en.aspx>

**THE LIST OF THE MOST IMPORTANT RECEIVED NATIONAL AND INTERNATIONAL AWARDS FOR R&D ACTIVITIES**

**Dr. E. Preikšaitienė** – Lithuanian Academy of Sciences scholarship for young researcher, 2018-2019.

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

**Dr. L. Ambrozaitytė** – nominated representative to the Working Group on the White Paper on good genomic practice “Towards access to at least 1 million sequenced genomes in the European Union by 2022”.

**THE LIST OF CONSULTATIONS PROVIDED BY THE UNIT TO THE PUBLIC OR ECONOMIC ENTITIES**

**Dr. I. Domarkienė** – the consultation to the publisher “BALTO leidybos namai UAB” on the interpretation of the Andrew Mayne book “Naturalist”.

**THE LIST OF THE MOST IMPORTANT RESULTS OF SCIENCE POPULARISATION ACTIVITIES**

*Project „Prevalence of prenatal alcohol exposure in Lithuania and the effect of prenatal alcohol exposure on metabolism of newborns (ALKOMET LT)“ popularisation activities:*

Vilnius University science promotion journal „Spectrum“: Tyrimas atskleidė – savo kūdikio sveikata Lietuvoje rizikuoja 3 proc. nėščiujų (The research study identified that 3% of pregnant women risk the health of their child in Lithuania). *Spectrum* 2(28), 2018.

Monthly journal for young families „Mamos žurnalas“: Nėštumas+alkoholis =nesuderinama (Pregnancy+alcohol=incompatible). *Mamos žurnalas*, no. 12, 2018.

Monthly journal for young parents „Tavo vaikas“: Lašas po lašo (Drop by drop). *Tavo vaikas*, no.1, 2019.



## Department of Pathology, Forensic Medicine and Pharmacology

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E-mails: [Arvydas.Laurinavicius@mf.vu.lt](mailto:Arvydas.Laurinavicius@mf.vu.lt)

**Head** – Prof. Dr. *Arvydas Laurinavicius*

### STAFF

**Professors:** Dr. Dainius Characiejus, Dr. Virginija Grabauskienė, Dr. Jolanta Gulbinovič, Dr. Arvydas Laurinavičius, Dr. Aurelija Žvirblienė.

**Associate professors:** Dr. Aušrinė Barakauskienė, Dr. Edita Kazėnaitė, Dr. Violeta Kvedarienė, Dr. Aida Laurinavičienė, Dr. Jurgita Stasiūnienė, Dr. Edvardas Žurauskas.

**Junior assistants:** Tomas Baltrūnas, Vaida Baltrūnienė, Dr. Justinas Besusparis, Jaroslav Bublevič, Sigitas Chmieliauskas, Elena Jurevičienė, Dovilė Stravinskienė, Rokas Šimakauskas.

**Lecturers:** Artūras Barkus, Augustinas Baušys, Snežana Budrikienė, Ignė Bunevičiūtė, Agnė Čerkauskaitė, Julius Drachneris, Rita Dzetaveckienė, Aušra Garnelytė, Armantas Gintautas, Rūta Barbora Grinevičiūtė, Skirmantė Jokubauskienė, Rimgaudas Katkus, Donata Linkevičiūtė-Ulinskienė, Margarita Lėckienė, Eglė Majauskienė, Justė Maneikytė, Ugnius Mickys, Viktorija Nariūnaitė, Donatas Petroška, Ignė Vencevičiūtė, Dovilė Ramanauskaitė, Simona Stankevičiūtė.

**Assistants:** Dr. Sigitas Laima, Dr. Ingrida Lissauskienė.

**Senior Researcher:** Dr. Allan Rasmuson.

**Researcher:** Dr. Daiva Bironaitė

**Doctoral students:** Tomas Baltrūnas, Vaida Baltrūnienė, Jaroslav Bublevič, Sigitas Chmieliauskas, Agnė Čerkauskaitė, Ieva Drejerienė, Daiva Dudutienė, Ieva Kažukauskienė, Donata Linkevičiūtė-Ulinskienė, Sandra Mažeikienė, Rokas Šimakauskas, Dovilė Žilėnaitė.

### RESEARCH AREAS

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.

Development of the predictive, preventive, personalized and prognostic biomarkers of the diseases.

Genesis and gnoseology of violence.

Changes in cardiovascular medicines utilization and morbidity and mortality from cardiovascular disease in Lithuania

### RESEARCH INTERESTS

Inflammatory cardiomyopathy: prognostic biomarkers of heart failure.

### RESEARCH PROJECTS CARRIED OUT IN 2018

## **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

Digital image analysis-based evaluation of breast cancer proliferative activity was validated in the international Ki67 working group study. The results were published in the modern pathology and presented at San Antonio Breast Cancer symposium 2018 (the data is prepared for publication).

#### Main publications:

Rimm, D.L., Leung, S.C.Y., McShane, L.M., Bai, Y., Bane, A.L., Bartlett, J.M.S., Bayani, J., Chang, M.C., Dean, M., Denkert, C., Enwere, E.K., Galderisi, C., Gholap, A., Hugh, J.C., Jadhav, A., Kornaga, E.N., Laurinavicius, A., Levenson, R., Lima, J., Miller, K., Pantanowitz L., Piper T., Ruan, J., Srinivasan, M., Virk, S., Wu, Y., Yang, H., Hayes, D.F., Nielsen, T.O., Dowsett, M. 2018. An international multicenter study to evaluate reproducibility of automated scoring for assessment of Ki67 in breast cancer. *Modern Pathology*, vol. 32, no 1, 59-69; doi: 10.1038/s41379-018-0109-4.

Balazs, A.C.S., Leung, S. C. Y., Pelekanou, V., Bai, Y., Martinez-Morilla, S., Toki, M., Chang, M.C., Gholap, A., Jadhav, A., Hugh, J.C., Bigras, G., Laurinavicius, A., Augulis, R., Levenson, R., Todd, A., Piper, T., Virk, S., Van der Vegt, B., Hayes D.F., Dowsett, M., Nielsen, T. O. and Rimm, D.L. 2018. Analytical validation of an automated digital scoring protocol for Ki67: international multicenter collaboration study. *San Antonio Breast Cancer symposium 2018*.

New opportunities of cancer tissue segmentation and glomerular detection, enabled by deep learning techniques, were explored and published.

Morkunas, M., Treigys, P., Bernataviciene, J., Laurinavicius, A., Korvel, G. 2018. Machine Learning Based Classification of Colorectal Cancer Tumour Tissue in Whole-Slide Images. *Informatica*, vol. 29, no 1, 75-90 4.

Gallego, J., Pedraza, A., Lopez, S., Steiner, G., Gonzalez, L., Laurinavicius, A., Bueno, G. 2018. Glomerulus Classification and Detection Based on Convolutional Neural Networks. *Journal of Imaging*, vol. 4, iss 1; doi: 10.3390/jimaging4010020.

### **Development of the predictive, preventive, personalized and prognostic biomarkers of the diseases.** Prof. V. Grabauskienė.

We evaluated whether circulating adiponectin (APN) level can be an independent predictors of composite outcome: death, left ventricle assist device implantation and heart transplantation in patients with non-ischemic dilated cardiomyopathy (DCM). We found that an increased level of circulating APN was associated with higher mortality and may be prognostic marker in the DCM with advanced heart failure (HF) patients. Combination of several sera (APN, BNP) and echocardiographic (average global strain) markers may increase the HF predicting power for the DCM patients.

#### Main publications:

Baltruniene, V., Bironaite, D., Kazukauskienė, I., Bogomolovas, J., Vitkus, D., Rucinskas, K., Zurauskas, E., Augulis, R., Grabauskiene, V. 2017. The Role of Serum Adiponectin for Outcome Prediction in Patients with Dilated Cardiomyopathy and Advanced Heart Failure. *Biomed Res Int*, vol. 2017 [p. 1-13]; article ID 3818292; doi: 10.1155/2017/3818292.

### Poster Presentations:

Serum Adiponectin level as an independent predictor of mortality in patients with inflammatory cardiomyopathy and advanced heart failure. *Baltic Conference Series 2017* Sweden 2017 10 08-11. 2017. DOI: 10.5185/bcs17winter

Left ventricle global longitudinal strain value is an independent predictor of poor outcome in patients with non-ischemic dilated cardiomyopathy. Kazukauskienė I., Balciunaite G., Baltruniene V., Maneikiene V., Rucinskas K., Grabauskienė V. *Euro Echo*, 2018.

**Genesis and gnoseology of violence.** Assoc. Prof. Dr. J. Stasiūnienė. 2014–2018.

Even though the majority of preventative programs are intended to decrease homicide rate, in dynamics, the numbers decrease insignificantly and remain high. It is clear that several preventative programs are needed aiming at diminishing alcohol consumption and population groups regarding their social background.

### Main publications:

Chmieliauskas, S., Laima, S., Andriuškevičiūtė, G., Jurolaica, E., Jasulaitis, A. 2018. Homicide rates in Lithuania. *Journal of forensic sciences*, vol. 63, no 3, p. 724-727; doi: 10.1111/1556-4029.13618

Chmieliauskas, S., Anužytė Jogintė, S., Liucvaikytė, J., Laima, S., Jurolaica, E., Ročka, S., Fomin, D., Stasiūnienė, J., Jasulaitis, A. 2018. Importance of effusion of blood under the dura mater in forensic medicine: A STROBE – compliant retrospective study. *Medicine*, vol. 97, no 39, e12567, 1-7; doi: 10.1097/md.00000000000012567.

Fomin, D., Baranauskaitė, V., Usavičienė, E., Šumkovskaja, A., Laima, S., Jasulaitis, A., Minkuvienė, Z.N., Chmieliauskas, S., Stasiūnienė, J. 2018. Human deaths from drug overdoses with carfentanyl involvement—new rising problem in forensic medicine A STROBE-compliant retrospective study. *Medicine*, vol. 97, no 48, art. no e13449, p. 1-4; doi: 10.1097/md.00000000000013449.

### **National Research Projects**

Research Council of Lithuania. **Novel biomarkers for individualized therapy of colon cancer: proteomics, microRNomics and clinics.** Prof. Dr. A. Laurinavičius, Dr. J. Besusparis

Focused studies on potential chemotherapy resistance factors in colorectal cancer patients with carried out based on previously identified candidate biomarkers. In particular, significance of Notch and Wnt signaling for chemoresistance of colorectal cancer cells was explored and published. Clinical validation studies in the patient cohort collected are being performed and prepared for publication.

### Main publications:

Kukcinaviciute, E., Jonusiene, V., Sasnauskiene, A., Dabkeviciene, D., Eidenaitė, E., Laurinavičius, A. 2018. Significance of Notch and Wnt signaling for chemoresistance of colorectal cancer cells hct116. *Journal of cellular biochemistry*, vol.119, no7, 5913-5920; doi: 10.1002/jcb.26783.

Tomkuvienė, M., Mickutė, M., Vilkaitis, G., Klimašauskas, S. 2019. Repurposing enzymatic transferase reactions for targeted labeling and analysis of DNA and RNA. *Current opinion in biotechnology*, vol. 55, 114-123; doi: 10.1016/j.copbio.2018.09.008.

### Submitted publication:

Grigaitis, P., Jonusiene, V., Zitkute, V., Dapkunas, J., Dabkeviciene, D., Sasnauskiene, A. 2019. Exogenous Interleukin-1 $\alpha$  Signaling Negatively Impacts Acquired Chemoresistance and Alters Cell Adhesion Molecule Expression Pattern in Colorectal Carcinoma Cells HCT116. *Cytokine*, vol. 114, p. 38-46; DOI: 10.1016/j.cyto.2018.11.031.

**Research Council of Lithuania (*submitted*). Simultaneous in vivo imaging of lymphocytes and tumor cells.** Prof. Dr. D. Characiejus

Using in vivo bioluminescence imaging, the interaction between T lymphocytes and tumor cells will be analyzed. In particular, research is aimed at elucidating the role of T lymphocytes in control of tumor cell kinetics.

#### Publication:

Juršėnaitė, J., Girkontaitė, I., Šiaurys, A., Mauricas, M., Characiejus, D. 2018. Intratumoral Accumulation and Clonal Expansion May Not Be Decisive for Rejection of Allogeneic Tumors by CD8<sup>+</sup> T-Lymphocytes. *Anticancer Res*, vol. 38, no. 8, 4481-4484; doi: 10.21873/anticancer.12751.

### **International Research Projects**

**EU SF Development of competences of scientists through world class level scientific research. Deep-Context Tissue Analytics for Integrated Pathology Modeling in Tumors and Kidney Allografts.** Prof. dr. A. Laurinavičius, Dr. A. Laurinavičienė, Dr. A. Rasmusson, Dr. B. Plancoulaine, Dr. R. Levenson, Dr. M. Shribak, Dr. KY. Jen.

The Aim of the study is to develop novel tissue-based analytical assays for integrated modelling of tumor and kidney allograft pathology. Objective 1. Explore tissue processing/data extraction approaches to discover unique digital signatures of tissue components and integrated pathology indicators. Objective 2. Design and validate the “deep-context” tissue assays for selected analytical and clinical tasks to enable robust and affordable multidimensional modeling of tissue pathology.

### **MAIN R&D&I (RESEARCH, DEVELOPMENT AND INOVATION) 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 SCIENTIFIC ACTIVITIES**

**Prof. Dr. A. Laurinavičius –**

- member, Clinical Nephrology Committee, Lithuanian Association of Nephrology, Dialysis, and Transplantation
- member, European Society of Pathology

- vice-chairman of 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 European Association for Cancer Research (EACR)
- member of the European Society of Cancer Immunology and Immunotherapy (ESCI)
- member of the Council of the Lithuanian Society of Immunology
- member of International Scientific Advisory Board

**Assoc. Prof. Dr. E. Žurauskas –**

- member of the Lithuanian Society of Pathology

**Assoc. Prof. 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

**THE LIST OF THE MOST IMPORTANT RESULTS OF SCIENCE  
POPULARISATION ACTIVITIES**

Science Popularisation Article. Jonusiene, V, Kukcinaviciute, E. 2018. Vaistams atsparios vėžinės ląstelės – galvosūkis mokslininkams. *Literatūra ir menas*, no. 19.

## **Department of Physiology, Biochemistry, Microbiology and Laboratory Medicine**

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Tel. 239 8720  
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**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

**Assistant professors:** Dr. Asta Mažeikienė, Dr. Agnė Kirkliauskienė, Dr. Povilas Kalesinskas, Dr. Marius Baranauskas, Dr. Valdas Banys

**Junior assistants:** Mantas Radzevičius, Žilvinas Chomanskis, Vytautas Žėkas, Eglė Mazgelytė

**Lecturers:** Dr. Dalia Paškevičienė, Inga Bikulčienė, Robertas Petraitis, Laima Vasiliauskaitė, Elvyra Ostonevičiūtė

**Researcher:** Dr. Maxim Bratčikoc, Dr. Aušra Linkevičiūtė, Dr. Žydrūnas Daunoravičius

**Doctoral students:** Mantas Radzevičius, Vytautas Žėkas, Eglė Mazgelytė

### **RESEARCH AREAS**

Research and investigation of ethiopathogenetic mechanisms of atherosclerosis.

Research and investigation of new methods in laboratory diagnostics of diseases.

Investigation of nutrition and evaluation of new high quality food products with increased biological value to human health.

Development of new antimicrobials for control of the medically important bacterial biofilms.

Design of new molecular biology techniques for identification of the pathogenic and commensal microorganisms, genotyping, antimicrobial resistance and epidemiology.

### **RESEARCH PROJECTS CARRIED OUT IN 2018**

#### **Projects Supported by University Budget**

**Investigation of Environmental and Metabolic Factors in the Pathogenesis of Atherosclerosis.** Prof. Z. A. Kučinskienė. 2014–2018.

The aim was to evaluate the etiopathogenetic relationship between different clinical manifestations of atherosclerosis: coronary heart disease and metabolic syndrome. Different diagnostic biomarkers in healthy individuals and patients with coronary heart disease and metabolic syndrome were investigated, including routine and new parameters.

Main publications:

Sakalauskaitė-Juodeikienė, E., Armalienė, G., Kizlaitienė, R., Bagdonaitė, L., Giedraitienė, N., Mickevičienė, D., Rastenytė, D., Kaubrys, G. F., Jatužis, D. 2018. Detection of aquaporin-4 antibodies for patients with CNS inflammatory demyelinating diseases other than typical MS in Lithuania. *Brain and Behavior*, vol. 8, no. 11, e01129, p. 1-7. DOI: 10.1002/brb3.1129.

Jassam N., Lake J., Dambrowska M., Queralto J., Rizos D., Vitkus D., et al. The European Federation of Clinical Chemistry and Laboratory Medicine syllabus for postgraduate education and training for Specialists in Laboratory Medicine: version 5 – 2018. *Clin Chem Lab Med*, 2018; 56(11): 1846-1863.

Simundic A.M., Filipi P., Vratric A., Miler M., Gabal N.N., Vitkus D., et al. Patient's knowledge and awareness about the effect of the over-the-counter (OTC) drugs and dietary supplements on laboratory test results: a survey in 18 European countries. *Clin Chem Lab Med*, 2018, <https://doi.org/10.1515/cclm-2018-0579>.

**Human Cytoomics: Research of Diagnostic, Predictive and Treatment Monitoring Markers and Analysis Methods for Cellular Diseases.** Prof. Z. A. Kučinskienė, Assoc. Prof. R. Matuzevičienė. 2014–2018.

Optimisation of flow cytometry for the diagnostics and minimal residual disease detection of haematological disorders and research of the new methods for leukemic cell phenotyping.

Main publications:

Tesi, B., Rascon, J., Chiang, S.C.C., Burnyte, B., Löfstedt, A., Fasth, A., Heizmann, M., Juozapaite, S., Kiudeliene, R., Kvedaraite, E., Miseviciene, V., Muleviciene, A., Müller, M.L., Nordenskjöld, M., Matuzeviciene, R., Samaitiene, R., Speckmann, C., Stankeviciene, S., Zekas, V., Voss, M., Ehl S., Vaiciene-Magistris, N., Henter, J.I., Meeths, M., Bryceson, Y.T. 2018. A RAB27A 5'UTR structural variant associated with late-onset hemophagocytic lymphohistiocytosis and normal pigmentation. *J Allergy Clin Immunol*, vol. 142, no. 1, p. 317-321; doi: 10.1016/j.jaci.2018.02.031.

Janeliūnienė, M., Janiulionienė, A., Barzinskienė, A., Taškūnaitė, D., Radzevičius, M., Montrimaitė, M., Matuzevičienė, R., Karčiauskaitė, D. 2018. Applicability of flow cytometry for the diagnostics of myelodysplastic syndromes. *Laboratorinė medicina*, t. 20, nr. 3, p. 183-188.

**Fundamental, Clinical and Epidemiological Studies on Pathogenic and Opportunistic Microorganisms Involved in the Pathogenesis of Human Diseases.** Assoc. Prof. Dr. T. Kačergius, Dr. S. Kiverytė. 2014–2018.

Aim of this study was to investigate whether influenza neuraminidase inhibitor – zanamivir reduces pulmonary inflammation through inhibition of nitric oxide (NO) production in mice infected with influenza A virus. Results revealed that mice undergoing zanamivir treatment had less weight loss, viral replication, and lung damage, as well as significant reductions of local NO and inducible nitric oxide synthase mRNA synthesis ( $p < 0.05$ ). Thus, zanamivir is associated with an anti-inflammatory effect.

Main publications:

Zablockienė, B., Kačergius, T., Ambrozaitis, A., Žurauskas E., Bratchikov M., Jurgauskienė L., Zablockis R., Gravenstein S. 2018. Zanamivir diminishes lung damage in influenza A virus-infected mice by inhibiting nitric oxide production. *In Vivo*, vol. 32, no 3, 473-478. DOI: 10.21873/invivo.11263.

V. Mathys, E. Roycroft, P. Raftery, R. Groenheit, D. B. Folksvarnsen, D. Homorodean, E. Vasiliauskiene, L. Vasiliauskaite, C. Kodmon, M. J. van der Werf, F. Drobniowski, V.



Nikolayevskyy. Time-and-motion tool for the assessment of working time in tuberculosis laboratories: a multicentre study. *The International Journal of Tuberculosis and Lung Disease*, 2018, vol. 22, iss. 4, 444-451. DOI: 10.5588/ijtld.17.0564.

Jagielski, T., Bakula, Z., Brzostek, A., Minias, A., Stachowiak, R., Kalita, J., Napiórkowska, A., Augustynowicz-Kopeć, E., Żaczek, A., Vasiliauskiene, E., Bielecki, J., Dziadek, J. 2018. Characterization of Mutations Conferring Resistance to Rifampin in Mycobacterium tuberculosis Clinical Strains. *Antimicrob Agents Chemother*, vol. 62, no 10, art. no e01093-18, [p. 1-18]. DOI: 10.1128/AAC.01093-18.

### **National Research Projects:**

**Research Council of Lithuania. Impact of Chronic Stress on Atherosclerosis Process: Search and Investigation of New Biomarkers (No. MIP-050/2015).** Prof. Z. Kučinskienė, 2015–2018.

Atherosclerotic cardiovascular diseases remain the major cause of deaths worldwide. In our work we are planning a complex investigation of effects of chronic psychological stress that are associated with atherosclerosis pathogenesis – dysfunction of hypothalamus-pituitary-adrenal (HPA) axis, activation of platelets, oxidative stress and inflammation. The evaluation of chronic stress will be evaluated not only using specific questionnaires, but also by accumulated amount of cortisol in hair and compared with the baseline secretion of cortisol determined by its concentration in saliva in the morning.

**Diagnostic and Prognostic Value of Biomarkers for Patients Hospitalised Due to Acute Heart Failure: Prospective Observational Multicenter Cohort Study (MIP 049/2015). 2015–2018.** Leader – Prof. Dr. J. Čelutkienė, Investigator – Assoc. Prof. Dr. L. Bagdonaitė.

Project is carried out in conjunction with a research protocol of international GREAT consortium (Global Research on Acute Conditions Team). The aim was to evaluate the diagnostic and regional differences of novel biomarkers, their predictive value for risk of death and rehospitalisation in acute heart failure (AHF) patients. The first aggregated larger scale observational and biomarkers database of AHF patients in Lithuania will provide demographic data and trends of morbidity and mortality, as well as analysis of diagnostic and prognostic value of novel biomarkers in our region.

### **International Research Projects**

**Treatment Protocol for Children (1.0–17.9 years of age) and Young Adults (18–45 years of age) with Acute Lymphoblastic Leukemia NOPHO (Nordic Pediatric Hemato-Oncology) group,** <http://www.nopho.org/welcome/frame.htm>. Flow Cytometry Coordinator of the Project in Lithuania: Assoc. Prof. R. Matuzevičienė.

Vilnius University Children's Hospital, Organizer of the Project – Nordic Society of Paediatric Haematology and Oncology (NOPHO), [www.nopho.org](http://www.nopho.org). Countries involved in the Project: Denmark, Sweden, Finland, Iceland, Norway, Lithuania, Estonia, Latvia. 6-year accrual period.

**International Joint Project with AL-Qasemi Research Center, Israel: Effect of Rhus Plant Extract and Its Active Fractions on Biofilm Formation in Bacterial Systems.** Assoc. Prof. Dr. T. Kačergius, Prof. Dr. A. Rayan (Israel).

The aim of this study was to investigate whether the methanolic extract of *Rhus coriaria* L. fruits and its active fraction – methyl gallate inhibit *Streptococcus mutans* biofilm formation and acidogenicity. Results revealed that both – the extract of *Rhus coriaria* L. and the isolated methyl gallate significantly suppressed *S. mutans* biofilm formation and acidogenicity in comparison with the untreated bacteria. It is noteworthy that the bioactivities of *Rhus coriaria* L. extract and the isolated methyl gallate occurred in a dose-dependent manner. These findings are important for the development of new antibacterial agents.

#### **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 SCIENTIFIC 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. 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);
- Honorary Professor of the Karaganda State Medical University.

**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**

- editorial board member of the journal *Laboratorinė medicina* (Laboratory Medicine);
- executive editor 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.

**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;
- National Representative at the International Federation of Clinical Chemistry and Laboratory Medicine (IFCC);
- National Representative at the European Federation of Clinical Chemistry and Laboratory Medicine (EFLM);
- National Representative at the Registration Commission of the European Society of Clinical Chemistry and Laboratory Medicine (EFLM);
- member at large of the Board of Baltic Association of Laboratory Medicine;
- member of the American Association for Clinical Chemistry;
- corresponding Member of the Committee of Nomenclature for Properties and Units of Scientific Division of the International Federation of Clinical Chemistry and Laboratory Medicine (IFCC);
- corresponding Member of the Committee of Reference Systems of Enzymes of Scientific Division of the IFCC;
- corresponding Member of the Committee of Traceability in Laboratory Medicine of Scientific Division of the IFCC;
- member of the ISTD;
- corresponding member of the IFCC Task Force on Proficiency Testing;
- 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;
- editorial board member of the journal Laboratory Medicine.

**Assoc. Prof. D. Karčiauskaitė –**

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

**Assit. Prof. A. Kirkliauskienė –**

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

**Assit. Prof. S. Kiverytė –**

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

**Assit. 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);
- IFCC (International Federation of Clinical Chemistry and Laboratory Medicine) corresponding member of):
- 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 on Ethics (TF-E)
- IFCC Task Force for Young Scientists (TF-YS).

**Assit. Prof. A. Mažeikienė –**

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

## Department of Radiology, Nuclear Medicine and Medical Physics

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**Head** – Prof. Dr. *Algirdas Edvardas Tamošiūnas*

### STAFF

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

**Associate professors:** Dr. J. Dementavičienė, Dr. S. Letautienė.

**Assistants:** Dr. A. Samuilis, Dr. B. Gricienė, Dr. M. Matačiūnas, Dr. R. Briedienė, Dr. R. Grigienė, D. Valančienė.

**Lecturers:** J. Vaičiulienė.

**Doctoral students:** A. Neverauskienė, K. Kristinaitytė, A. Bajorinaitė, D. Jocius.

**Students' scientific groups of Radiology:** scientific leader – Assistant Prof. N. R. Valevičienė, Student Dž. Jagminas; 33 members of the group.

### RESEARCH AREAS

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

Estimation of iron overload in liver and heart on 3T MRI.

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

AI and deep learning applications in diagnostic imaging.

### RESEARCH PROJECTS CARRIED OUT IN 2018

#### Projects Supported by University Budget

**New Functional and Anatomical Imaging Techniques in Cardiovascular and Oncology Diagnostics.** Dr. A. E. Tamošiūnas, Dr. N. R. Valevičienė, Dr. J. Dementavičienė, Dr. R. Briedienė, Dr. S. Letautienė, Dr. A. Samuilis, Dr. B. Gricienė, Dr. M. Matačiūnas, Prof. G. Kalinauskas, Dr. J. Valaikeinė, Dr. J. Dementavičienė. 2014–2018.

The aim is to develop and evaluate new functional and anatomical imaging techniques in cardiovascular and oncology cancer diagnostics. Evaluation of the role of intracranial arterial stenosis and general atherosclerosis process for the patients undergoing surgery for coronary artery disease. The patients, who are undergoing surgery for coronary artery disease, are investigated before and after the surgery. The project includes questionnaire for the patients, general clinical, ultrasound examination of the brachiocephalic arteries and MRI/MRA without and with i/v contrast material of the brain, extracranial and intracranial arteries.

#### Main publications:

Cekauskas, A., Jakubauskas, M., Bielinis, A., Vajauskas, D., Zelvys, A. 2018. Prognostic factors of laparoscopic Anderson-Hynes pyeloplasty in treatment of ureteropelvic junction obstruction: A pilot study. *European Urology Supplements*, vol. 17, Iss. 5, e2206.

Neverauskiene, A., Maciusovic, M., Burkanas, M., Gričienė, B., Petkevičius, L., Zaleckas, L., Tamosiunas, A., Venius, J. 2018. Image based simulation of the low dose computed tomography images suggests 13 mAs 120 kV suitability for non-syndromic craniosynostosis diagnosis without iterative reconstruction algorithms. *Eur J Radiol*, vol. 105, p. 168-174. DOI: 10.1016/j.ejrad.2018.06.005.

Glaveckaitė S., Uzdavinytė-Gateliene E., Petruilionienė Z., Palionis D., Valevičienė N., Kalinauskas G., Serpytis P., Laucevičius A. Predictors of ischaemic mitral regurgitation recurrence in patients undergoing combined surgery: additional value of cardiovascular magnetic resonance imaging. *Interact Cardiovasc Thorac Surg*. 2018 Aug 1;27(2):222-228. doi: 10.1093/icvts/ivy054. PubMed PMID: 29534177

Kristinaitytė, K., Maršalka, A.N., Dagys, L., Aidas, K., Doroshenko, I., Vaskivskyi, Y., Chernolevska, Y., Pogorelov, V., Valevičienė, N.R., Balevičius, V. 2018. NMR, Raman, and DFT Study of Lyotropic Chromonic Liquid Crystals of Biomedical Interest: Tautomeric Equilibrium and Slow Self-Assembling in Sunset Yellow Aqueous Solutions. *Journal of physical chemistry B. Washington*, vol. 122, iss. 12, p. 3047-3055. DOI: 10.1021/acs.jpcc.8b00350.

### National Research Projects

Research project **Multi-Parametric MRI For Glial and Metastatic Brain Tumors**. Assoc. Prof. S. Letautienė. 2013–2019.

Value of multi-parametric MRI biomarkers for glial brain tumors morphology and physiology. Assessment of glial brain tumors morphology and physiology by multi-parametric MRI biomarkers. The purpose of this study is to compare MRI perfusion, spectroscopy and tractography findings with tumour histological and molecular biology examination. We want to find if there are any specific MRI markers which can help determine histological tumor type and grade and predict its behaviour. Trial aim is to evaluate accuracy and applicability of multiparametric MRI biomarkers for diagnosis of brain tumours histological type, differential grade and neovascularisation assessment.

International Research Project. **Euro CMR registry project**. Prof. N.R. Valevičienė.

The European Cardiovascular Magnetic Resonance (EuroCMR) Registry is an initiative of the ESC Working Group *Cardiovascular Magnetic Resonance*. Enrolment of patients on a European level started in March 2009, resulting in the largest database on the clinical use, the impact on patient management, image quality and safety of cardiovascular MR (CMR) available so far. Including the German pilot phase (2007–2009) 31.500 patients from 58 centers in 15 countries all over Europe have been collected. In addition to the questionnaire of the pilot phase, dedicated scientific issues will be addressed by individual additional protocols.

Joint Vilnius University and CERN cooperation project: **Optimization of Ionizing Radiation Exposure in Radiology and Nuclear Medicine**. Prof. A. E. Tamošiūnas. 2016–2018.

Objectives of the project are to create new diagnostic guidelines and optimize CT and Nuclear medicine imaging techniques. In 2017 we collected ionizing radiation exposure data from one CT scanner, analysed exposure profiles, preliminary data were presented in Baltic Congress of Radiology 2016. At the end of 2017–18 collected data should be published.

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

SATT LUTECH & Université Pierre et Marie Curie (France)

## OTHER SCIENTIFIC ACTIVITIES

### **Prof. A. E. Tamosiunas –**

- 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*.

### **Assist. Prof. R. Grigienė –**

- editorial board member of the journal *World Journal of Surgical Oncology*.

# INSTITUTE OF CLINICAL MEDICINE

## Clinic of Obstetrics And Gynecology

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**Head** – Prof. Dr. *Diana Ramašauskaitė*

### **STAFF**

**Professors:** Dr. D. Ramašauskaitė, **Dr.** HP G. S. *Drąsutienė*, Dr. N. Drazdienė, Dr. Ž. Bumbulienė, K. Mačiulienė (prof of partnership)

**Associate professors:** Dr. A. Arlauskienė, Dr. D. Bartkevičienė, Dr. D. Laužikienė, Dr. M. Šilkūnas, Dr. J. Zakarevičienė

**Assistants:** Dr. D. Bužinskienė, Dr. V. Rudaitis, A. Amšiejienė, V. Paliulytė

**Junior assistants:** K. Norvilaitė

**Lecturers:** I. Daunoravičienė, Dr. G. Domža

**Doctoral students:** Ž. Sabonytė-Balšaitienė, G. Balčiūnienė, K. Norvilaitė

### **RESEARCH INTERESTS**

Health of mother and fetus: physiology and pathology.

### **RESEARCH PROJECTS CARRIED OUT IN 2018**

#### **Project Supported by University Budget**

**Health of mother and fetus: physiology and pathology.** Prof. **Dr.** HP G. S. *Drąsutienė*, 2014-2018

Female age is the main and most important predictor of IVF outcome. Increasing female age decreases pregnancy and delivery rates after ART. The best results are achieved in women under 36 years of age. Obesity, especially central type, has a negative impact on pregnancy and delivery rates after ART. Increasing BMI and WHR increases miscarriage rate after ART. Increasing female height increases pregnancy and delivery rates after ART. Physiological indices of the uterine size over a period of two months after childbirth vary according to the number of childbirths in the past and last for more than six weeks.

#### *Main publications*

Einikytė, R., Dapkevičiūtė, A., Dženkevičiūtė, V., Kasnauskienė S., Šapoka, V., Ramašauskaitė, D. 2018. The importance of angiogenic and antiangiogenic biomarkers in pathogenesis and early diagnosis of preeclampsia. *Clinical and experimental obstetrics & gynecology*, vol. 45, iss. 4, 485-492.

Tutkuvienė, J., Juškaitė, A., Katinaitė, J., Šilovė, S., Drąsutis, J., Sargautytė, R., Ramašauskaitė, D., Drąsutienė, G., S. 2018. Body image issues in Lithuanian females before



and during pregnancy. *Anthropologischer Anzeiger*, vol. 75, no. 1, 9-17; doi: 10.1127/anthranz/2018/0779.

Žulpaitė, R., Bumbulienė Ž. 2018. Reproductive health of female childhood cancer survivors. *Ginekologia Polska*, vol. 89, iss. 5, p. 280-286; doi: 10.5603/GP.a2018.0048.

## **MAIN R&D&I (RESEARCH, DEVELOPMENT AND INOVATION) PARTNERS**

Zurich University (Switzerland)  
University of Gdansk (Poland)  
Warsaw Medical University (Poland)

## ***OTHER SCIENTIFIC ACTIVITIES***

### **Prof. HP G. S. Drašutienė –**

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

### **Prof. N. Drazdienė –**

- editorial board member of the journal *Lietuvos akušerija ir ginekologija (Lithuanian Obstetrics & Gynecology)*;
- board member of Lithuanian Pediatric Society and Vilnius Pediatric Society;
- head of Lithuanian section of German-Baltic Physician Society.

### **Prof. D. Ramašauskaitė –**

- president of Lithuanian Society of Obstetricians Gynecologists, (<http://www.lagd.lt/apie-mus/valdybos-nariai/28>);
- editorial board member of the journal *Lietuvos akušerija ir ginekologija (Lithuanian Obstetrics & Gynecology)*;
- board member of organizing committee national conference: „Aesthetic and reconstructive gynecology: the present and perspective“, 2018 03 08  
<http://www.lagd.lt/renginiai/tarptautine-mokslines-praktines-konferencija-estetine-ir-rekonstrukcine-ginekologija-dabartis-ir-perspektyvos/60>;
- board member of organizing committee of international conference and workshops: “Tendency of caesarian section in XXI century”, 2018 04 30,  
<http://www.lagd.lt/renginiai/mokslines-konferencija-vezarinio-pjuvio-operacijos-tendencijos-xxi-amziuje/76>;
- board member of organizing committee of international conference and workshops: “Hysteroscopy and actual problems of infertility”, 2018 06 07-08,  
<http://www.lagd.lt/renginiai/tarptautine-konferencija-histeroskopija-ir-aktualios-nevaisingumo-problemos-2018-06-7-8-vilnius/78>;
- board member of organizing committee national conference „Diagnostic and treatment of hyperandrogenism leading diseases“, 2018 08 21,  
<http://www.lagd.lt/renginiai/tarptautine-mokslines-konferencija-hiperandrogenizmo-lydimu-ligu-diagnostika-ir-gydymas-2018-08-21-vilnius/81>;

- board member of organizing committee national conference „Diagnostic and treatment of deep endometriosis“, 2018 10 25, <http://www.lagd.lt/renginiai/mokslines-konferencija-giliosios-infiltracines-endometriozes-diagnostikos-ir-gydymo-klausimai/82>.

**Prof. Ž. Bumbulienė –**

- head of section of Lithuanian Society of Obstetricians Gynecologists;
- board member of Vilnius Medical Society;
- president-elect of EURAPAG, European Association of Paediatric and Adolescent Gynaecology, <http://www.eurapag.com/association/ec/>;
- board member of organizing committee of international conference 11th Athens Congress on Women’s Health & Disease “Preconception to Menopause“ Athen, Greece, 2018.09.06-08;
- international Editorial Board Member of the journal *Wiadomości Lekarskie*;
- international Advisory Board Member of the journal *Pediatric and adolescent Reproductive Health*, <http://rzdop.geotar.ru/>;
- editorial board member of the journal *Lietuvos akušerija ir ginekologija (Lithuanian Obstetrics & Gynecology)*;
- head of editorial board of the journal *Ginekologijos aktualijos*.

**Assoc.prof. A. Arlauskienė –**

- board member and treasurer of Lithuanian Society of Obstetricians Gynecologists;
- editorial board member of the journal *Lietuvos akušerija ir ginekologija (Lithuanian Obstetrics & Gynecology)*;
- member of International Society of Ultrasound in Obstetrics and Gynecology, [www.isuog.com](http://www.isuog.com);
- director of Ian Donald School of Medical Ultrasound branch for Lithuania, [www.iandonaldschools.com](http://www.iandonaldschools.com).

**Assoc. Prof. M. Šilkūnas –**

- head of Vilnius region Society of Obstetrics and Gynecology;
- board member of Lithuanian Society of Obstetricians Gynecologists;
- board member of organizing committee of national conference “European week of cervical cancer prophylaxis“ 2018-01-25, <http://www.lagd.lt/renginiai/mokslines-konferencija-europos-gimdos-kaklelio-vezio-profilaktikos-savaite/50>;
- board member of organizing committee of national conference “Infections in obstetrics and gynecology: news and rare clinical cases“ 2018-03-16, <http://www.lagd.lt/renginiai/mokslines-konferencijainfekcija-akuserijoje-ir-ginekologijoje-naujienos-ir-reti-klinikiniai-atvejai/64>;
- board member of organizing committee of international conference and workshops: “Hysteroscopy and actual problems of infertility“. 2018 06 07-08, <http://www.lagd.lt/renginiai/tarptautine-konferencija-histeroskopija-ir-aktualios-nevaisingumo-problemos-2018-06-7-8-vilnius/78>.

**Assoc. Prof. D. Bartkevičienė –**

- board member of organizing committee of international conference and workshops: “Hysteroscopy and actual problems of infertility”,  
<http://www.lagd.lt/renginiai/tarptautine-konferencija-histeroskopija-ir-aktualios-nevaisingumo-problemos-2018-06-7-8-vilnius/78>.

**Dr. V. Paliulytė –**

- board member of Vilnius region Society of Obstetricians Gynecologists.

**THE LIST OF THE MOST IMPORTANT RECEIVED NATIONAL AND INTERNATIONAL AWARDS FOR R&D ACTIVITIES**

Prof. N. Drazdienė. Awarded with St. Christopher statuette for Merits for Health Care. 2018 01 25

Assoc. Prof. A. Arlauskienė. FIGO (International Federation of Gynecology and Obstetrics) Award in recognition of Women Obstetrician/Gynecologists. 14 Oct.2018. [www.figo.org](http://www.figo.org)

Dr. V. Paliulytė. 1st place in contest “The best scientific work introduced in clinical practice in 2018” organized by Vilnius Medicine Society.

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

Prof. D. Ramašauskaitė Expert obstetrician gynecologist of the Ministry of Health, Republic of Lithuania;

Prof. D. Ramašauskaitė member of Integrated Health Care Management Committee of Perinatology, Ministry of Health, Republic of Lithuania;

Prof. D. Ramašauskaitė member of Lithuania Bioethical Committee biomedical research experts group;

Prof. D. Ramašauskaitė – 2017-2018 – member of work group of the Ministry of Health, Republic of Lithuania, for revision of order “ Health care management of pregnant women, parturients and newborns”;

Prof. D. Ramašauskaitė – 2017-2018 – member of work group of the Ministry of Health, Republic of Lithuania, for Project „Provision of obstetrical daily in-patient services and payment of these services from the budget of the compulsory health insurance fund“.

**THE LIST OF THE MOST IMPORTANT RESULTS OF SCIENCE POPULARISATION ACTIVITIES**

Prof. Ž. Bumbulienė. LITEXPO 23-24 November 2018 exhibition „School 2018“. Lecture „Peculiarities and challenges of the adolescence period“. Organizer: Ministry of Education and Science.

Asist. D. Bužinskienė. Publication in [www.endometriozė.lt](http://www.endometriozė.lt) “Endometriosis, its causes, prevalence, progress, diagnostic and treatment tactics”. December 2018.

Prof. Nijolė Drazdienė. Prevention of premature newborns respiratory syncytial virus infection. *Recommendations for Prevention of Premature Newborns Respiratory Syncytial Virus Infection for Parents*. 2018. P. 15. Vilnius.

Publication in <http://www.santaroszinios.lt>: Assoc. prof. D. Laužikienė, 2018-08-30 "Carrying and delivering a baby was never easy"; 2018-08-30 "Ovarian cancer"; Assoc. prof. A. Arlauskienė 2018-03-30 "Possibilities of fetal surgery".

Prof. D. Ramašauskaitė. Article „Vaginal dryness“ *Lietuvos sveikata* (journal *Lithuanian health*) 2018-03-08.

## Clinic of Anaesthesiology and Reanimatology

2 Santariškių, LT-08661, Vilnius

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**Head** – Prof. Dr. *Jūratė Šipylaitė*

### STAFF

**Professors:** Dr. J. Šipylaitė, Dr. S. Vosylius,

**Senior researcher** Dr. A. Andrijauskas.

**Associate professors:** Dr. E. Kontrimavičiūtė, Dr. M. Šerpytis, Dr. D. Činčikas, Dr. A. Klimašauskas, Dr. I. Norkienė.

**Assistant professors:** Dr. S. Švedienė, Dr. R. Badaras (part-time), Dr. D. Ringaitienė (part-time),

**Lecturers:** A. Vaitkus (part-time), E. Gaižauskas (part-time), Š. Judickas (part-time), V. Kuzminskaitė (part-time), L. Balčiūnas (part-time), D. Šileikis (part-time).

**Doctoral students:** A. Vaitkus, M. Svetikienė, Š. Judickas, D. Gaižauskaitė.

**Students' scientific group of Anaesthesiology and reanimatology:** scientific leader – Prof. S. Vosylius, coordinator – **student** G. Sakalauskaitė, **39 members** of the group.

### RESEARCH INTERESTS

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

Influence of malnutrition on rate of complications and duration of hospital stay in patients after cardiac surgery.

Optimization of low back pain diagnosis and treatment.

Early changes in cognitive functioning in patients undergoing general anesthesia.

Optimal cerebral perfusion pressure target treatment for traumatic brain injury patients.

### RESEARCH PROJECTS CARRIED OUT IN 2018

#### Project Supported by University Budget

**Perioperative Patient Optimization and Management of Critical States.** Prof. Dr. J. Šipylaitė. 2014–2018.

Retrospective analysis of prospectively gathered data in scientific study „The relationship between malnutrition, rate of complications and duration of hospital stay in patients after cardiac surgery“ was performed. In order to determine the relationship between the pre-operative bioelectric impedance phase angle (malnutrition criteria) and late mortality and blood transfusions after cardiac surgery. The effect of blood transfusions during the perioperative period on late mortality was also studied.

Main publications:

Ringaitiene, D, Puodziukaite, L, Vicka, V, Gineityte, D, Serpytis, M, Sipylaite, J.2018. Bioelectrical impedance phase angle-predictor of blood transfusion in cardiac surgery. *Journal of cardiothoracic and vascular anesthesia*, first on line, 1-7. DOI: 10.1053/j.jvca.2018.07.007.

Petkus, V., Preiksaitis, A., Krakauskaite, S., Bartusis, L., Chomskis, R., Hamarat, Y., Zubaviciute, E., Vosylius, S., Rocka, S., Ragauskas, A. 2018. Non-Invasive Cerebrovascular Autoregulation Assessment using the Volumetric Pressure Reactivity Index: Prospective Study. *Neurocritical Care*. 30 Issue: 1 Pages: 42-50 2018, pp 1–9. First Online. <https://doi.org/10.1007/s12028-018-0569-x>.

## **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).

## **OTHER SCIENTIFIC 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 the Board of Anaesthesiology of Medical Specialists of the European Union, <http://www.eba-uems.eu/>;
- editorial board member of the journal *Acta medica Lituanica*, <https://www.lmaleidykla.lt/ojs/public/journals/1/Redkolegija.pdf>;
- chairman of Committee of Medical Studies Programme Vilniaus University Faculty of Medicine (until June), [www.mf.vu.lt](http://www.mf.vu.lt).

### **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>.

### **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.

### **Assoc. Prof. M. Šerpytis –**

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

**Assoc. Prof. I. Norkienė –**

- 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/>.

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

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

**Assoc. Prof. A. Klimašauskas –**

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

**Assist. Prof. S. Švedienė –**

- member of Lithuanian Society of Anaesthesiology and Intensive Care, <http://anest-rean.lt/>;
- ESRA member and Baltic ESRA Council member, <https://esraeurope.org/>.

**Asisst. Prof. D. Ringaitienė –**

- member of congress committee of „9th International Baltic Congress of Anaesthesiology, Intensive Care and Pain Management“, [http://www.baltanest2018.com/user/\\_files/549/programa%2010.27.pdf](http://www.baltanest2018.com/user/_files/549/programa%2010.27.pdf);
- 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/>.

**Lect. Š. Judickas, Lect. E. Gaižauskas, lect. L. Balčiūnas**

- 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/>.

## Clinic of Ear, Nose, Throat and Eye Diseases

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

**Head** – Prof. Dr. *Eugenijus Lesinskas*

### STAFF

**Professor:** Dr. E. Lesinskas.

**Associate profesors:** Dr. M. Petrulionis, Dr. R. Ašoklis, Dr. A. Cimbalas, Dr. S. Galgauskas.

**Assistants:** Dr. D. Aukštikalnis, Dr. V. Beleskienė, Dr. D. Rauba, Dr. J. Ivaška.

**Lecturers:** A. Morozas, A. Matulevičius, K. Malyško.

### Students' scientific groups of:

**Ophthalmology:** scientific leader – assoc. prof. S. Galgauskas, coordinator – student A. Rakšytė; 61 members of the group.

**Otorhinolaryngology:** scientific leader – prof. E. Lesinskas, coordinator – student R. Kernagytė; 20 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 2018

#### Projects Supported by University Budget

**An Influence of Morphology and Clinical Peculiarities of Otorhinolaryngological and Ophthalmological Diseases to Results of Application of Novel Diagnostic Methods and Treatment.** Prof. E. Lesinskas. 2014–2018.

Clinical assessment and evaluation of the functional results developing of etiologic profile. Cochlear implantation for children, analysis of radiologic, genetic, systemic prognostic factors. Evaluation of peripheral vestibular system in diagnostic and treatment of Meniere's disease: correlation of the data of videonystagmometry, posturography and temporal bone radiology, analysis of the results.

Ocular posterior pole changes in glaucomatous eyes. Prevalence of retinal dystrophies and degenerations in Lithuania. Evaluation of intraocular pressure, choroidal and retinal thickness measurements using optical coherence tomography in non-diabetic haemodialysis patients. Evaluation of lamina cribrosa changes in glaucoma patients. Choroidal thickness measurements in diabetic patients with macular edema treated with VEGF inhibitors. Correlation of macular degeneration autofluorescence findings with functional impairment. The use of autofluorescence findings for differential diagnosis of uveal melanomas. Evaluation of the anterior chamber changes after laser iridotomies by optical coherence tomography and the retinal nerve fiber layer thickness and its relation to visual evoked potentials in multiple sclerosis.



### Main publications:

Kadziauskienė, A., Jašinskienė, E., Ašoklis, R., Lesinskas, E., Rekašius, T., Chua, J., Cheng, C.Y., Mari, J.M., Girard, M.J.A., Schmetterer, L. 2018. Long-Term Shape, Curvature, and Depth Changes of the Lamina Cribrosa after Trabeculectomy. *Ophthalmology*, vol. 125, no. 11, p. 1729-1740; doi: 10.1016/j.optha.2018.05.011.

Kadziauskienė, A., Strelkauskaitė, E., Mockevičiūtė, E., Ašoklis, R., Lesinskas, E., Schmetterer, L. 2017. Changes in macular thickness after trabeculectomy with or without adjunctive 5-fluorouracil. *Acta Med Litu*, vol. 24(2), p. 93–100; doi: 10.6001/actamedica.v24i2.3489.

Strumila, R., Lengvenytė, A., Vainutienė, V., Lesinskas, E. 2017. The role of questioning environment, personality traits, depressive and anxiety symptoms in tinnitus severity perception. *Psychiatr Q*, vol. 88(4), p. 865–877; doi: 10.1007/s11126-017-9502-2.

### **National Research Projects**

**Social Integration Challenges of Children with Cochlear Implants in Lithuania.** Prof. Eugenijus Lesinskas

The main goal of this project is to evaluate macro- and micro-level determinants of social integration of children with cochlear implants in Lithuania. As the result of this study recommendations for the social integration program of children with cochlear implants are being prepared. Methods of sociology, social policy and public health are used in this project. The social integration problems of children with cochlear implants is being analysed by using bio-psycho-social theoretical approach and combining different research methods. These new and comprehensive findings of interdisciplinary project expand scientific knowledge of social and health sciences. Furthermore the results of the projects will create preconditions to optimize social integration of children with hearing loss. The empirical part of the project is based on few databases: public health statistics, health policy documents and legislation, children's with cochlear implants audiological research data, survey and semi-structured interview data.

### **OTHER SCIENTIFIC ACTIVITIES**

**Prof. E. Lesinskas –**

- senior otorhinolaryngologist of the Ministry of Health Care of the Republic of Lithuania;
- president of the Lithuanian Society of Otorhinolaryngologists;
- member of the Council of the Faculty of Medicine;
- 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.

## **Clinic of Gastroenterology, Nephrourology and Surgery**

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**Head** – Prof. Habil. Dr. *Kęstutis Strupas*

### **STAFF**

**Professors:** Habil. Dr. K. Strupas, Dr. (HP) V. Beiša, Dr. E. Poškus, Dr. T. Poškus, Dr. G. Simutis, Dr. A. Šileikis, Dr. (HP) G. Brimas, Dr. (HP) F. Jankevičius, Dr. M. Miglinas, Habil. Dr. J. Valantinas.

**Associate professor:** Dr. V. Jotautas, Dr. V. Sokolovas, Dr. K. Saniukas, Dr. G. Verkauskas, Dr. A. Želvys, Dr. A. Černiauskienė, Dr. G. Denapienė, Dr. A. Stašinskas, Dr. S. Mikalauskas, Dr. H. Ramonas (till 2018-09).

**Assistant professor:** Dr. E. Gavelienė, Dr. R. Adomaitis, A. Čekauskas, Dr. A. Gradauskas, D. Kubilius, Dr. I. Savlan, Dr. Ž. Juodeikis, Dr. K. Trainavičius, Dr. I. Stundienė, Dr. L. Rimševičius

**Teaching assistant:** B. Buckus, A. Bakavičius, E. Mačionienė.

**Lecturers:** P. Gradauskas, G. Pošiūnas, Dr. L. Mašalaitė, R. Vaicekauskas.

**Research fellows:** Dr. V. Liakina, M. Petrulionis

**Doctoral students:** B. Buckus, A. Rybakovas, A. Mickevičius, E. Mačionienė, M. Barisienė, A. Bakavičius, J. Tumas, D. Danys, A. Aleknaitė, J. Makevičius, G. Tauginienė – Valeikaitė, B. Vincel, Aistė Gulla, B. Kurlinkus, R. Vaicekauskas, D. Sukackienė, P. Bosas, R. Baušys, R. Lukšaitė, R. Račkauskas, M. Kryžauskas, V. Kazlauskasa, M. Snicorius.

### **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.

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.

## **RESEARCH PROJECTS CARRIED OUT IN 2018**

### **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. 2014-2018.

Possibilities and results of minimally invasive surgery in patients with liver, adrenal gland, thyroid and parathyroid glands, pancreas and colorectal pathology were collected and evaluated. Results of the research were presented in international meetings. The successful organ-tissues transplantations-program in Vilnius University *Santaros Hospital* is the best fact to take Vilnius University Hospital as the leader Transplantation Center in the Baltic States.

The research. **Influence of pancreatic and periampullary cancer, immunomodulation and surgery on patient metabolism and treatment outcomes.** Prof. A. Šileikis, Prof. K. Strupas, J. Tumas. 2016-2019.

Has been started in 2016, the time schedule for our research is 2016-2019, number of subjects is 95. The research focuses on effects of pancreatic cancer and immunonutrition on the metabolism and immune system and the use of metabolomic analyses for stratification of patients for nutritional management with the aim to improve postoperative outcomes. Amino acids comprise a small, but significant part of metabolome. Amino acid analyses improve evaluation of nutritional status and treatment of malnutrition in cancer. Besides, these analyses can be of high importance for metabolic cancer phenotyping, differential diagnostics and prognostication. We introduced supplementary radiological methods for lumbar skeletal muscle index measurements, bioelectrical impedance analysis in our patients for better evaluation of nutritional status.

#### Presentations:

Tumas J., Navickas G., Valančienė D., Šileikis. 2018. Poster presentation: A Nutritional evaluation and surgical outcome measures in patients scheduled for pancreatoduodenal resection (radiological view). *7th Baltic Congress of Radiology 2018*.

Tumas J, Šileikis A. 2018. Lecture: Nutritional Evaluation and Surgical Outcome Measures in Patients Scheduled for Pancreatoduodenal Resection, Critically ill surgical patients session. *9th Congress of Baltic Association of Surgeons 2018*.

The prospective clinical study. **BRAFV600E Mutation and Other Molecular Markers for Diagnosis of Thyroid Malignancies.** Prof. V. Beiša, Dr. A. Beiša. 2018.

The research was ended in June 2018. This clinical study contained the data collected of 288 patients. Unique PTC risk calculator based on the BRAF V600 mutation testing combined with the analysis of the cytomorphological features was created. An online version of the calculator for clinical applications was developed and can be found at <http://ptc-calc.we2host.lt/>. In total three papers were published in journals indexed by Thomson Reuters Web of Science, data was presented in eight international conferences, and the dissertation entitled “The significance of the BRAF V600E mutation and the cytomorphological features for the optimization of papillary thyroid cancer diagnostics” was defended.

Main publication:

Beiša, A., Kvietkauskas, M., Beiša, V., Stoškus, M., Ostanevičiūtė, E., Jasiūnas, E., Griškevičius, L., Šeinin, D., Šileikytė, A., Strupas, K. Significance of BRAF V600E Mutation and Cytomorphological Features for the Optimization of Papillary Thyroid Cancer Diagnostics in Cytologically Indeterminate Thyroid Nodules. *Experimental and clinical endocrinology & diabetes*, 1-8; doi: 10.1055/a-0588-4885.

The study. **The role of intraoperative neurostimulation with laryngeal palpation and intraoperative laryngeal ultrasound in optimizing the safety of a thyroidectomy.** Prof. K. Strupas, A. Rybakovas, Prof. V. Beiša. 2014-2018

In 2018 is finished. The objective of the prospective cohort study The Role of intraoperative Neurostimulation using Laryngeal Palpation and Intraoperative Laryngeal Ultrasound in Optimizing the Safety of Thyroidectomy was to determine the reliability of LP and intraoperative LU methods for evaluating the RLN functional status during thyroid surgery

Main publication:

Rybakovas, A., Bausys, A., Matulevicius A., Zaldokas, G., Kvietkauskas, M., Tamulevicius, G., Beisa V., Strupas K. 2018. Recurrent laryngeal nerve injury assessment by intraoperative laryngeal ultrasonography: a prospective diagnostic test accuracy study. *Wideochir Inne Tech Maloinwazyjne*, vol. 14, no. 1, 38–45; doi: 10.5114/wiitm.2018.80066.

Rybakovas, A., Matulevičius, A., Belogorceva, V., Beiša, V., Strupas, K. 2018. Laringinė palpacija skydliaukės chirurgijoje: praktinės rekomendacijos, remiantis išsamia literatūros apžvalga ir perspektyviojo kohortinio tyrimo rezultatais /Laryngeal palpation in thyroid surgery: practical recommendations for method integration into daily clinical practice according to comprehensive literature review and prospective cohort study results. *Lietuvos chirurgija*, vol. 17, no 3-4, 238-250; doi: 10.15388/LietChirur.2018.3-4.12048.

The study. **Choledocholithiasis Management Based on Individual Risk and Multidisciplinary Approach for Patients with Cholecystolithiasis and Scheduled Cholecystectomy.** Prof. G. Simutis, A. Aleknaite. 2016–2018.

Based on the results of retrospective study performed in 2017, a randomized prospective trial protocol on the best management strategy for patients before laparoscopic cholecystectomy with intermediate risk of choledocholithiasis was prepared. It was approved by Vilnius Regional Bioethics Committee. The trial protocol was registered at an international registry of clinical studies ClinicalTrials.gov (Identifier: NCT03658863). Patients for the randomized prospective trial are being recruited and managed according to the study protocol. The results of the study were presented at three scientific conferences.

Main publication:

Aleknaite, A., Simutis, G., Stanaitis, J., Valantinas, J., Strupas, K. 2018. Risk assessment of choledocholithiasis prior to laparoscopic cholecystectomy and its management options. *United European Gastroenterology Journal*, vol. 6, no 3, 428-438; doi: 10.1177/2050640617731262.

Randomized prospective trial. **Laser hemorrhoidoplasty, hemorrhoidopexy and hemorrhoidectomy.** D. Danys, Prof. T. Poškus. 2015-2019

Was finished, and analysis is being performed and publications prepared. The aim of the study is to compare early and one-year outcomes of two new surgical techniques of treatment of haemorrhoids with traditional excisional hemorrhoidectomy. The study is finished including patients, completed 6 weeks follow-up (early results), by including 120 patients. Initial results were presented at the World Congress of Phlebology in Melbourne, Australia, Korean Society of Coloproctology research meeting in Seoul, Korea, European Society of Coloproctology meeting in Nice, France. Publication is planned for 2019.

The study. **Distant results of the quality of life of patients operated on for colorectal cancer.** Was started in 2016. G.Valeikaite Tauginiene, Prof. T. Poškus.

Distant results of the quality of life of patients, operated on for colorectal cancer is a continuation of the prospective study, which was started in 2012 as part of the National Science Foundation grant „Colorectal cancer in Lithuania: study of mortality, morbidity and quality of life, LIG01/11“. It will try to identify the factors, reducing long-term quality of life in colorectal cancer patients. The study is performed in collaboration with National Cancer Institute and Lithuanian University of Health Sciences. The patients, operated on with the curative intent for colorectal cancer are currently being followed-up 5 years after initial operation the final follow-up will be available by late December, 2017. Final publication is planned for 2019.

Two papers were published looking at the distant results of Transanal endoscopic microsurgery long-term outcomes.

Jakubauskas, M., Jotautas, V., Poskus, E., Mikalauskas, S., Valeikaite-Tauginiene, G., Strupas, K., Poskus, T. 2018. Fecal incontinence after transanal endoscopic microsurgery. *International journal of colorectal disease*, vol. 33, no., 467-472; doi: 10.1007/s00384-018-2983-0.

Jakubauskas, M., Jotautas, V., Poskus, E., Mikalauskas, S., Valeikaite-Tauginiene G., Strupas K., Poskus, T. 2018. Management of colorectal anastomotic stricture with transanal endoscopic microsurgery (TEM). *Techniques in coloproctology*, vol. 22, iss. 9, p. 727-729; doi: 10.1007/s10151-018-1858-2.

The study. **Diagnosis of acute appendicitis.** Was started in 2019.

It is a randomized trial within prospective cohort of patients with suspected acute appendicitis, randomized for CT or observation in cases when ultrasound examination is inconclusive. 250 patients are set to be included in the trial. Inclusion is planned for two years. Publication of the results is expected in 2022.

**The Value of Spectroscopy and Molecular Markers in Diagnosis and Prognosis of Urological Cancer. Prof. F. Jankevičius. 2014–2018.**

The rates of PCa upgrading and upstaging were analyzed in 1056 PCa patients, where upgrading was observed in 27.2% and upstaging in 20.3 % of patients. Combination of PSA

with our 3-gene test (RARB, RASSF1, and GSTP1) in urine was predictive for PCa upstaging and upgrading, so resulted in an accurate predicting model. A novel technique to analyze air-dried kidney tissue impression smears by means of attenuated total reflection infrared (ATR-IR) spectroscopy has been developed. Combination of this method with optical fiber ATR probes may be already transformed to the clinics for rapid real-time intra-operative tissue analysis. Accuracy of classification is 92 % for the normal tissues and 94 % for the cancerous ones.

The article submitted for publication: Bakavicius A., Daniunaite K., Zukauskaite K., Barisiene M., Jarmalaite S., Jankevicius F. DNA methylation changes in urine predicts Gleason score upgrading after radical prostatectomy.

Main publications:

Pucetaite, M, Velicka, M, Urboniene, V, Ceponkus, J, Bandzeviciute, R, Jankevicius, F, Zelvys, A, Sablinskas, V, Steiner, G. 2018. Rapid intra-operative diagnosis of kidney cancer by attenuated total reflection infrared spectroscopy of tissue smears. *Journal of biophotonics*, vol. 11, iss. 5, art. no. e201700260, [23]; doi: 10.1002/jbio.

**The study. The value of clinical and molecular markers in preoperative diagnosis of prostate cancer.** Was started in 2015. A. Bakavičius, Prof (HP) F. Jankevičius.

In total 1056 patients included in the study entitled „The value of clinical and molecular markers in preoperative diagnosis of prostate cancer“ with 514 urine samples available for molecular analysis. During 2018 data of the study presented at: „The COINS 2018“; 28 February, 2018, Vilnius, Lithuania; „XV<sup>th</sup> International Conference of the Lithuanian Biochemical Society“; June 26, 2018, Dubingiai, Lithuania; „5<sup>th</sup> EAU Baltic meeting 2018“, May 25, 2018, Riga, Latvia; and 4. „38<sup>th</sup> Congress of the Société Internationale d'Urologie (SIU)“, October, 2018, Seoul, Korea. Also accepted at: „34<sup>th</sup> Annual EAU Congress 2019, 15 March, 2019, Barcelona, Spain. Final manuscript ready to be submitted at “Journal of Urology”.

**Pathogenetic Relationships of Chronic Liver Disease with Disorders of Other Abdominal Organs, Improvement of Therapeutic and Surgical Treatment.** Prof. J. Valantinas. 2014–2018.

We have found that UCKL-1 expression in combination with IL28B rs8099917 TT and rs12979860 CC SNPs is strongly associated with increased chances of hepatocellular carcinoma (HCC) development in HCV-positive cirrhotic patients. The presence of rs8099917 TT single-nucleotide polymorphism (SNP) elevated the chances of HCC manifestation more than sevenfold (OR = 7.3, p = 0.0273). The presence of rs12979860 CC SNP also heightened HCC chances more than sevenfold (OR = 7.5, p = 0.0765). Moreover, in the HCC group, a combination of IL28B rs12979860 non-TT and rs8099917 TT genotypes was observed more often, compared with the non-HCC group. Other combinations of IL28B rs12979860 and rs8099917 SNIPs were associated with a reduced risk of HCC development, approximately at the same extent.

Main publication:

Buivydiene, A, Liakina, V, Kashuba, E, Norkuniene, J, Jokubauskiene, S, Gineikiene, E, Valantinas, J. 2018. Impact of the Uridine Cytidine Kinase Like-1 Protein and IL28B rs12979860 and rs8099917 SNPs on the Development of Hepatocellular Carcinoma in Cirrhotic Chronic Hepatitis C Patients-A Pilot Study. *Medicina*, Vol. 54, Iss. 5; doi: 10.3390/medicina54050067.

## National Research Projects

Research project. **New multifunctional nanobiosensor for early pancreatic cancer diagnostics**“, (SEN-16041), started in 2016.11 is a consistent continuity of previous project, entitled „**Identification of early diagnostic and prognostic biomarkers of pancreatic intraductal adenocarcinoma using protein mass spectrometry analysis**“.

Project leader: Prof. K. Strupas. Project group: Prof. A. Šileikis, M. Valius, A. Kaupinis, M. Ger, M. Petrulionis, B. Kurlinkus.

In year 2018, the biobank was extended up to 175 samples of histological material, 112 samples of blood serum and more than 50 samples of urine. Additional deep proteomic analysis of 20 samples was performed. Totally 9 potential pancreatic cancer biomarkers were identified in tumor tissues. Evaluation of 2 years patients' survival has identified prognostic value of FLT3 and PCBP3 after radical surgery for pancreatic cancer. Prototype system for concentration and visualisation of biomarkers was created. With this system presence of CEACAM6 marker was confirmed in blood serum. 1 manuscript was published this year (web of science), 4 presentations were presented in international conferences and 2 more manuscripts are under preparation.

### Main publications:

Petrulionis, M., Kurlinkus, B., Šileikis, A., Strupas, K. 2017. Trends of Molecular Research for Pancreatic Cancer Diagnostics: Insights of Clinician. *Clinics in Oncology*, vol. 2; Article 1223.

Ger, M., Kaupinis, A., Petrulionis, M., Kurlinkus, B., Cicenias, J., Šileikis, A., Valius, M., Strupas, K. 2018. Proteomic Identification of FLT3 and PCBP3 as Potential Prognostic Biomarkers for Pancreatic Cancer. *Anticancer Research*, vol. 38, iss. 10, 5759-5765; doi: 10.21873/anticancer.12914.

### **Non-invasive approach to early diagnosis and prognosis of acute severe pancreatitis.**

(01.2.2-LMT-K-718-01-0025) Started in November, 2017. Project leader: J. Razumienė. Project group: Prof. K. Strupas; Prof. A. Šileikis; Assoc. Prof. D. Vitkus; Assoc. Prof. M. Šerpytis, Assoc. Prof. A. Klimašauskas, A. Karpavičius; A. Samuilis; A. Kielaitė-Gulla; R. Budvytytė; T. Ragaliauskas; M. Jankunec; T. Penkauskas; I. Šakinytė; M. Dagys; A. Laurynėnas; V. Gurevičienė; D. Ratautas.

The project started in January, 2018. The biomedical ethics approval was received and clinical database was initiated of acute pancreatitis. We started our first experiments with construction and characterization of immobilized membranes on the surface. The use of the effect of dielectric damage of membranes by the EIS, will also be applied for investigation of specific proteins (HSP and CRP) in acute pancreatitis disease. In order to use these proteins as biomarkers for the development of non-invasive methods for acute pancreatitis diagnosis;

Parallel design and optimization of non-invasive sensors for detection of urea, glucose, creatinine, bilirubine, cortisol and calcium ions was initiated. Creation of electrochemical sensor for lipase activity assessment. Performing of tasks on sensors surfaces functionalisation and selectivity achievement.

Manuscript in progress: *"The use of Biosensor technology based on changeable enzymatic membranes to non-invasive early diagnosis and prognosis induced acute pancreatitis: preliminary results"*.



Patent application (investigators: Prof. K. Strupas, PhD candidate A. Gulla) "Non-invasive approach to early diagnosis and prognosis of acute severe pancreatitis based on heat shock proteins mechanism of action".

### **MAIN R&D&I (RESEARCH, DEVELOPMENT AND INOVATION) PARTNERS**

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)

### **OTHER SCIENTIFIC ACTIVITIES**

#### **Prof. habil. dr. K. Strupas –**

- past President of Lithuanian Surgical Oncology society;
- board member of the European Academy of Surgical Sciences (EAcss);
- member of International Hepato-Pancreato-Biliary Association;
- member of the Scientific Committee of Vilnius University;
- 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>.

#### **Prof. (HP) dr.V. Beiša –**

- chairman of Vilnius Association of Surgeons;
- member of the European Society of Endocrine Surgeons (ESES);
- member of the International Society of Surgery (ISS).

#### **Prof. 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 Association for Endoscopic Surgery (EAES).

#### **Prof. 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. A. Šileikis –**

- chairman of Vilnius Association of Surgeons;
- chairman 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. 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;
- member of European Association for Endoscopic Surgery (EAES).

**Assoc. prof. 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. habil. dr. J. Valantinas –**

- editor of the journal *Internistas* supplement *Gastroenterology*;
- editorial board member of the journal *World Journal of Gastroenterology*;
- editor 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. E. Gavelienė –**

- member of the Lithuanian Society of Gastroenterology;
- member of the European Association of Enteral and Parenteral Nutrition.

**Assoc. prof. G. Denapienė –**

- member 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.

**Assistant prof. I. Stundienė –**

- member of the Lithuanian Society of Gastroenterology.

**Lect. L. Mašalaitė –**

- member of the Lithuanian Society of Gastroenterology.

**Assist. prof. I. Savlan –**

- member of the Lithuanian Society of Gastroenterology.

**Lect. R. Vaicekauskas –**

- member of the Lithuanian Society of Gastroenterology.

**Prof. (HP) dr. G. Brimas –**

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

**Assoc. prof. A. Stašinskas –**

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

**Teach. asist. B. Buckus –**

- Vilnius Society of Surgeons.

**Assoc. prof. K. Saniukas –**

- president of the Baltic Spinal Cord Injury Scientific Society;

- president of Lithuanian Scientific Society of Paediatric Orthopaedics and Traumatology.

**Assit. prof. K. Trainavičius –**

- member of the Baltic Association of Pediatric Surgeons (BAOPS);
- member of the Council of Lithuanian Society of Pediatric Surgery;
- editorial board member of the journal *Pediatrica* (*Paediatrics*), [www.idejugrupe.lt](http://www.idejugrupe.lt);
- member of the European Paediatric Surgeons Association.

**Assoc. prof. G. Verkauskas–**

- member of the European Paediatric Surgeons' Association;
- member of the European Society for Paediatric Urology.

**Prof. (HP) 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. A. Želvys –**

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

**Assoc. prof. A. Černiauskienė –**

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

**Assist. prof. 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. 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).

**Teach. assist. Arnas Bakavičius –**

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

**Prof. 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.

**Assit. prof. 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. prof. 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).

**THE LIST OF THE MOST IMPORTANT RECEIVED NATIONAL AND INTERNATIONAL AWARDS FOR R&D ACTIVITIES**

Prof. Habil. Dr. Kęstutis Strupas Vilnius University Rector's Research award.

Prof. (HP) Dr. Feliksas Jankevicius for his research on new generation of cancer markers was awarded with medal of SAPIENTI SAT of the Jędrzej Śniadecki, Karol Olszewski and Zygmunt Wróblewski Association.

Prof. M. Miglinas. Cross of the Knight of the Order of the Lithuanian Grand Duke Gediminas.

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

L. Rimsevicius. Peritoneal dialysis reimbursement, working group (State Patient Fund).

L. Rimsevicius. Predialysis education, educational seminars (National Patients' Organization 'Gyvastis').

Prof. A. Šileikis. Member of the Health Care Council of Vilnius City Municipality.

### **THE LIST OF CONSULTATIONS PROVIDED BY THE UNIT TO THE PUBLIC OR ECONOMIC ENTITIES**

Consultations to R&D and Innovation Priority Execution Working Group of Ministry of Economy have been provided by prof. Feliksas Jankevicius.

Laurynas Rimsevicius. Consultation on kidney health. TV project.

Laurynas Rimsevicius. Painkillers and kidneys. TV project.

### **THE LIST OF THE MOST IMPORTANT RESULTS OF SCIENCE POPULARISATION ACTIVITIES**

Feliksas Jankevicius. To raise the awareness of science and its role in the development of the society, four guided tours in VU Life Science Centre and National Cancer Centre have been conducted in 2018 for students of Vilnius Zirmunu gymnasium.

Laurynas Rimsevicius. Renal replacement therapy modalities. Popularisation in national wide media.

Prof. K. Strupas, Aiste Kielaitė-Gulla. Signed Academic Excellence Exchange agreement with Kansai Medical University, Osaka, Japan.

## Clinic of Infectious Diseases and Dermatovenereology

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Tel. 272 4657; fax. 275 8885  
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**Head** – Prof. Dr. *Ligita Jančorienė*

### Centre of Infectious Diseases

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**Head** – Prof. Dr. *Ligita Jančorienė*

### Centre of Dermatovenereology

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Tel. +370 5 272 0385, fax +370 5 272 0256  
E-mail: [jurate.grigaitiene@santa.lt](mailto:jurate.grigaitiene@santa.lt)

**Head** – Dr. *Jūratė Grigaitienė*

### STAFF

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

**Associate professors:** Dr. R. Gancevičienė (part-time).

**Assistants:** Dr. J. Grigaitienė (part-time), Dr. D. Radzišauskienė (part-time), B. Zablockienė (part-time).

**Lecturers:** A. Marcinkutė (part-time), E. Matulytė (part-time), K. Žvirblytė Skrebutėnienė (part-time), T. Karmazienė (part-time), I. Kisielienė (part-time), T. Raudonis (part-time).

**Research fellows:** A. Stiklerytė.

**Doctoral students:** R. Jurčiukonytė, B. Zablockienė, E. Matulytė, I. Kisielienė.

### Students' scientific groups of:

**Infectious diseases:** scientific leader – prof. L. Jančorienė, coordinator – student R. Vaikutytė; 38 members of the group.

**Dermatovenereology:** scientific leader – Assoc. Prof. R. Gancevičienė, coordinator – student A. Timinskaitė; 58 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, rosacea, psoriasis, dermatitis, eczema, vitiligo): basic and clinical research, implementation of innovative technologies.

Dermatooncology in Lithuania: epidemiology, pathogenesis, diagnostics, treatment and prevention of epithelial skin cancers and melanoma.

## **RESEARCH PROJECTS CARRIED OUT IN 2018**

### **Projects Supported by University Budget**

**Pathogenesis, Diagnostics, Treatment and Prevention of Infectious Diseases.** Prof. A. Ambrozaitis, Prof. L. Jančorienė, Prof. R. Matulionytė, Prof. K. Žagminas, Dr. D. Radzišauskienė, B. Zablockienė, A. Marcinkutė, A. Stiklerytė. 2014–2018.

Tick-borne encephalitis in Lithuania in 2005–2018: epidemiology and clinical features. The aim of this retrospective study was to describe the epidemiological patterns and clinical features of tick-borne encephalitis (TBE) in Lithuania during 2005–2014. The retrospective study included 712 patients hospitalized with TBE in Vilnius district. Study will be continued adding data from the years 2018.

#### Main publication:

Radzišauskienė D., Žagminas K., Ašoklienė L., Jasionis A., Mameniškienė R., Ambrozaitis A., Jančorienė L., Jatužis D., Petraitytė I., Mockienė E. 2018. Epidemiological patterns of tick-borne encephalitis in Lithuania and clinical features in adults in the light of the high incidence in recent years: a retrospective study. *European journal of neurology*, vol. 25, iss. 2, 268-274; doi: 10.1111/ene.13486.

### **Prevalence of viral hepatitis A, B and C serological markers in the first time non-remunerated blood donor's population in Lithuania.** 2012-2019.

The objective of this cross-sectional study was to estimate the prevalence viral hepatitis serologic and virologic markers, such as anti-HAV, HBsAg, HBV-DNR, anti-HBc, anti-HBs, anti-HCV, HCV-RNA among the first-time non-remunerated blood donors in Lithuania. The study is in progress.

### **Prevention of influenza viral pneumonia using zanamivir and antisense oligonucleotide against inducible nitric oxide synthase.** 2013-2019.

The aim of the study was to evaluate how zanamivir and iNOS antisense suppress the pulmonary inflammation during influenza infection using mouse model. The weight variations and means of lung histologic scores were compared between the mouse groups. The levels of iNOS RNR, IFN- $\gamma$ , TNF- $\alpha$  and influenza virus were determined using reverse transcriptase - polymerase chain reaction.

#### Main publication:

Zablockienė B., Kačergius T., Ambrozaitis A., Žurauskas E., Bratchikov M., Jurgauskienė L., Zablockis R., Gravenstein S. 2018. Zanamivir Diminishes Lung Damage in Influenza A Virus-infected Mice by Inhibiting Nitric Oxide Production. *In Vivo*, vol. 32, iss. 3, 473–478; doi: 10.21873/invivo.11263.



## **Implication of routine HIV testing program in Infectious diseases centre of Vilnius University Hospital Santaros Klinikos.**

The goal of the study was to evaluate the feasibility and clinical effectiveness of fully integrated nontargeted opt-out rapid HIV screening program. Obtained results showed that routine HIV testing in infectious disease admissions as a policy is acceptable, feasible, and sustainable, also can be cost-effective. The study is in progress.

## **Direct-acting antivirals Ombitasvir/Paritaprevir/Ritonavir plus Dasabuvir with or without Ribavirin in HCV genotype 1-infected treatment-naïve or treatment-experienced patients: real-life experience in Lithuania and Latvia.**

The aim of the study was to evaluate the efficacy and safety of OBV/PTV/r+DSV±RBV therapy in treatment-naïve and treatment-experienced GT1-infected patients. The sustained virologic response at 12 weeks following the end of treatment was achieved in 96.8% non-transplanted and in all transplanted patients. This real-life study demonstrated the effectiveness and safety of OBV/PTV/r+DSV±RBV in HCV GT1 patients, including patients with cirrhosis, liver transplants and those who failed previous antiviral therapy.

### Main publication:

Jancoriene L., Polubenko K., Kazenaite E., Buivydiene A., Jakutiene J., Tolmane I., Jeruma A., Radzisauskiene D., Mockiene E., Ambrozaitis A. Direct-acting antivirals Ombitasvir/Paritaprevir/Ritonavir + Dasabuvir with or without Ribavirin in HCV genotype 1-infected treatment-naïve or treatment experienced patients with or without cirrhosis: real-life experience in Lithuania and Latvia. *Hepatitis monthly*, vol. 18, no 1, Art. no e62105, Art no e62105 [1-10]; doi: 10.5812/hepatmon.62105.

## **Etiopathogenesis, Diagnosis and Treatment of Infectious, Inflammatory and Autoimmune Skin Diseases, as Well as Cutaneous Cancerous Lesions: Basic and Clinical Investigations, Implementation of Innovative Technologies.** Prof. Dr. M. Bylaitė-Bučinskienė. 2014–2018.

The aim of the psoriasis study is to evaluate the function of adhesive molecules and cytokines in chronic inflammation in psoriasis, to observe their correlation with inflammatory activity of the disease and find the possibility to use it as active markers for the severity of psoriasis inflammation. The doctorant student took an academical break, the study is suspended.

We aim to evaluate the incidence, epidemiological and clinical correlation of basal cell carcinomas (BCC) in Lithuania, to compare the most common clinical-morphological forms in different localization of the body with the immunohistochemical data, and to analyze the correlation of biomarkers with the subtypes of BCC. The study in the field of dermatooncology is suspended, as a doctorant is in an academical break.

### Main publications:

Kandolf Sekulovic L., Guo J., Agarwala S., Hauschild A., McArthur G., Cinat G., Wainstein A., Caglevic C., Lorigan P., Gogas H., Alvarez M., Duncombe R., Lebbe C., Peris K., Rutkowski P., Stratigos A., Forsea A.M., De La Cruz Merino L., Kukushkina M., Dummer R., Hoeller C., Gorry C., Bastholt L., Herceg D., Neyns B., Vieira R., Arenberger P., Bylaite-Bucinskiene M., Babovic N., Banjin M., Putnik K., Todorovic V., Kirov K., Ocvirk J., Zhukavets A., Ymeri A., Stojkovski I., Garbe C. 2018. Access to innovative medicines for metastatic melanoma worldwide: Melanoma World Society and European Association of

Dermato-oncology survey in 34 countries. *Eur J Cancer*, vol. 104, 201-209; doi: 10.1016/j.ejca.2018.09.013.

Staseviciene D., Chomiciene A., Malinauskiene L., Grigaitiene J. 2018. Allergic contact dermatitis caused by laurel fruit oil. *Journal of the European Academy of dermatology and venereology*, vol. 32, iss. 11, e428-e429. doi: 10.1111/jdv.15031.

Tamulyte G., Lauraitis J., Ganceviciene R., Grigaitiene J., Zouboulis C.C. 2018. Cowpox virus infection in two brothers with possible human-to-human transmission. *Journal of the European Academy of dermatology and venereology*, vol. 33, no 1, e8-e10. doi: 10.1111/jdv.15103.

## **National Research Projects**

Research Council of Lithuania. **Seasonal Influenza Vaccine Effectiveness in preventing from Hospitalization due to influenza: case-control study 2015-2018** (No. SEN-03/2015). Prof. A. Ambrozaitis, Prof. L. Jančorienė, B. Zablockienė. 2015–2018.

The objective was to measure seasonal influenza vaccine effectiveness (SIVE) against influenza illness in patients admitted to hospital during the 2015–2018 influenza seasons. A test-negative case-control study was being performed in two university hospitals of Lithuania. Influenza and other respiratory pathogens were confirmed by multiplex RT-PCR. In collaboration with the European hospital influenza vaccine effectiveness network a multicentre test negative case control study was initiated in the hospitals of 11 European countries to measure influenza vaccine effectiveness against laboratory confirmed hospitalised influenza among people aged  $\geq 65$  years.

Poster presentation was presented at ECCMID conference 2018.

Publication is submitted: Ten years of I-MOVE: a European network measuring seasonal influenza vaccine effectiveness

## **International Research Projects**

**Patch Testing With Propolis of Different Origin in Different Countries** (since 2017). In collaboration with Gothenburg University, Sahlgrenska University Hospital, Department of Dermatology, Gothenburg, Sweden. Assoc. Prof. Dr. Laura Malinauskienė, Dr. Jūratė Grigaitienė.

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.

## **International Network on Hepatitis in Substance Users (INHSU).**

The objective of INHSU is to create a global network that works with local partners to support health care workers, policy makers, researchers and people who use drugs to increase hepatitis C prevention and care. All-oral direct-acting antiviral drugs (DAAs) for hepatitis C virus, which have response rates of 95% or more, represent a major clinical advance. However, the high list price of DAAs has led many governments to restrict their reimbursement. We reviewed the availability of, and national criteria for, interferon-free

DAA reimbursement among countries in the European Union and European Economic Area, and Switzerland. Reimbursement documentation was reviewed between Nov 18, 2016, and Aug 1, 2017.

Main publication:

Marshall A.D., Cunningham E.B., Nielsen S., Aghemo A., Alho H., et al. [From VU Faculty of Medicine Jancorienè, L.]. 2018. International Network on Hepatitis in Substance Users (INHSU). Restrictions for reimbursement of interferon-free direct-acting antiviral drugs for HCV infection in Europe. *Lancet Gastroenterol Hepatol*. Vol. 3, no 2, 125-133; doi: 10.1016/S2468-1253(17)30284-4.

## **Contractual Research**

### **Clinical and Virological Outcome of European Patients Infected With HIV.** Prof. R. Matulionytė.

This multi-national, multi-center study aims to determine and evaluate the clinical virological outcomes of European patients infected with HIV within the frame of Copenhagen HIV Programme, initiated by University of Copenhagen, Faculty of Health Sciences. In total 120 patients were enrolled into the novel EuroSIDA cohort of HIV and HCV co-infected patients. The study is in process.

Main publications:

Peters L., Laut K., Resnati C., Leen C., Falconer K., Trofimova T., Paduta D., Gatell J., Rauch A., Lacombe K., Domingo P., Chkhartishvili N., Zangerle R., Matulionyte R., Mitsura, V., Benfield T., Khromova I., Lundgren J., Rockstroh J., Mocroft A. 2018. Uptake of hepatitis C virus treatment in HIV/hepatitis C virus-coinfected patients across Europe in the era of direct-acting antivirals. *AIDS*; doi: 10.1097/QAD.0000000000001928.

Shepherd L., Borges Á.H., Harvey R., Bower M., Grulich A., Silverberg M., et al.; EuroSIDA in EuroCOORD (From VU Faculty of Medicine R. Matulionyte). 2018. The extent of B-cell activation and dysfunction preceding lymphoma development in HIV-positive people. *HIV Med*. 2018; 19 vol., iss. 2, 90-101; doi: 10.1111/hiv.12546.

Cozzi-Lepri A., Zangerle R., Machala L., Zilmer K., Ristola M., Pradier C., et al.; EuroSIDA Study Group (From VU Faculty of Medicine R. Matulionyte). 2018. Incidence of cancer and overall risk of mortality in individuals treated with raltegravir-based and non-raltegravir-based combination antiretroviral therapy regimens. *HIV Med*. 19 vol., iss. 2, 102-117; doi: 10.1111/hiv.12557.

Roén A, Laut K, Pelchen-Matthews A, Borodulina E, Caldeira L, Clarke A, Clotet B, et al.; EuroSIDA study (From VU Faculty of Medicine R. Matulionyte). 2018. Abacavir usage patterns and hypersensitivity reactions in the EuroSIDA cohort. *HIV Med*. 19 vol., iss. 4, 252-260; 10.1111/hiv.12573.

Santos JR, Cozzi-Lepri A, Phillips A, De Wit S, Pedersen C, Reiss P, Blaxhult A, et al.; EuroSIDA study group (From VU Faculty of Medicine R. Matulionyte). 2018. Long-term effectiveness of recommended boosted protease inhibitor-based antiretroviral therapy in Europe. *HIV Med*. 19 vol., iss. 5, 324-338; doi: 10.1111/hiv.12581.

### **A Phase 3, Randomized, Double-Blind, Placebo-Controlled Study Investigating the Efficacy and Safety of Multiple Dupilumab Dose Regimens Administered as**

**Monotherapy for Maintaining Treatment Response in Patients with Atopic Dermatitis.** Prof. M. Bylaitė-Bučinskienė, Dr. J. Grigaitienė, Dr. E. Aukštuolienė. 2015–2019. 2018 the study is in finished.

The aim of this phase 3 study was to evaluate the safety and efficacy of multiple dupilumab dose regimens administered as monotherapy for maintaining treatment response in patients with atopic dermatitis patients. In total 4 patients are in continuation phase. No adverse events or serious drug-related adverse events, and no treatment discontinuations. The study is in process.

**Long Term Clear Skin Maintenance Treatment Optimization in Patients with Moderate to Severe Chronic Plaque Psoriasis: A Randomized, Multicenter, Open-Label with Blinded-Assessment, Comparative, 52 Weeks Study to Evaluate the Efficacy, Safety and Tolerability of Secukinumab 300 Mg.** Prof. M. Bylaitė-Bučinskienė, T. Karmazienė, M. Krivickaitė. 2016–2019. 2018 the study is in finished.

The aim of the study was to evaluate the safety, efficacy and tolerability of secukinumab 300 mg in patients with moderate to severe chronic plaque psoriasis. Two patients are already involved. No adverse events or serious drug-related adverse events, and no treatment discontinuations.

**A Multicenter, Double-Blind, Randomized Parallel, Vehicle-Controlled Study to Evaluate the Efficacy and Safety of P-3058 10 % Nail Solution in the Treatment of Onychomycosis.** Prof. M. Bylaitė-Bučinskienė, Assoc. Prof. I. Marčiukaitienė, Dr. J. Grigaitienė, Dr. E. Aukštuolienė, J. Barauskienė, M. Krivickaitė. 2016–2018.

The aim of this multicentre observational study was to evaluate the safety and effectiveness of P-3058 10 % nail solution in the treatment of onychomycosis. All patients who met study inclusion criteria were included into study. The study is in finished.

**A Long Term Follow-up Study to Evaluate the Durability of Virologic Response and/or Viral Resistance of Subjects With Chronic Hepatitis C Who Have Been Previously Treated With Investigational Drugs.** Prof. L. Jančorienė.

The aim of this multicentre observational study was to evaluate the long term durability of virologic response and/or viral resistance of subjects with CHC who have been previously treated with investigational drugs. Study is in progress.

**RESPOND C Study. Retrospective Cross Sectional Epidemiological Study on Chronic HCV Infection in the Baltic States and Ukraine: Basic Virus, Patient and Disease Characteristics in Diagnosed HCV Patients under Care.** Prof. L. Jančorienė.

The aim of the study was to assess the current patterns of hepatitis C virus (HCV) genotype (GT) and subtype distribution in CHC patients. This study included 1451 CHC patients. Distribution of HCV GT among patients with chronic HCV infection was as follows: GT1, 66.4%; GT3, 28.1; and GT2, 4.1%. The GT1b subtype was the most prevalent (79.4%) among GT1 patients. There were 69.6% treatment-naïve and 30.4% treatment-experienced patients. The majority of patients (85.9%) underwent treatment with a PEG-IFN regimen. The study is completed.

Publication is prepared but not yet submitted.

**RELY study 2017-2018. Multi-center cross-sectional study to evaluate basic demographic, disease characteristics and referral pathway pattern in patients with chronic HCV infection and either HIV co-infection, CKD or status post-transplant in routine clinical settings in the Baltic States.** Prof. A.Ambrozaitis, prof. R.Matulionytė, prof. L. Jančorienė.

A total of 396 patients with chronic HCV infection were enrolled into the study. Of them, 296 (74.7%) subjects had HIV co-infection, 68 (17.2%) subjects had CKD, and 46 (11.6%) subjects had transplanted liver and/or kidney.

Of 396 enrolled patients with chronic HCV infection, 296 (74.7%) subjects had HIV co-infection, 68 (17.2%) subjects had CKD, and 46 (11.6%) subjects had transplanted liver and/or kidney. All 396 subjects were diagnosed with CHC (mean time since the diagnosis of CHC - 6.5 years). The predominant HCV genotypes were genotype 1 (GT1a, 21.0%; GT1b, 39.6%) followed by genotype 3 (30.3%). There were 254 (64.2%) subjects with liver fibrosis stages F0-F2, 58 (14.6%) subjects with fibrosis stage F3, and 40 (10.1%) subjects with fibrosis stage F4 (cirrhosis). The most common reasons for HCV testing included HIV infection and intravenous drug use. Injecting drug use was the most common assumed HCV transmission route.

Publication is in preparation.

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

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

Ludwig – Maximilians University, Munich (Germany)

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

Malmö University (Sweden)

## **OTHER SCIENTIFIC ACTIVITIES**

### **Prof. L. Jančorienė –**

- member of the European Association of the Study of the Liver, [www.easl.ch](http://www.easl.ch);
- member of the International Society of Travel Medicine, [www.istm.org](http://www.istm.org);
- member of the Central European Vaccination Awareness Group;
- member of the European Society of Clinical Microbiology and Infectious Diseases, [www.escmid.org](http://www.escmid.org);
- board member of the Lithuanian Society of Infectious Diseases, [www.lid.lt](http://www.lid.lt);
- member of the Lithuanian Society of Gastroenterology, [www.gastroenterologija.lt](http://www.gastroenterologija.lt).

### **Prof. A. Ambrozaitis –**

- Board member of the Lithuanian Society of Infectious Diseases, [www.lid.lt](http://www.lid.lt);
- country representative and member of the European Society of Clinical Microbiology and Infectious Diseases (ESCMID), [www.escmid.org](http://www.escmid.org);
- national representative and board member of the Infectious Diseases Section of European Union of Medical Specialists (UEMS), [www.uems.net](http://www.uems.net);
- editor –in-chief of the journal *Infekcinės ligos (Infectious Diseases)*, [www.lid.lt](http://www.lid.lt);

- editorial board member of the journal; *HIV&AIDS Review: International Journal of HIV-related Problems*, [www.journals.elsevier.com/hiv-and-aids-review](http://www.journals.elsevier.com/hiv-and-aids-review); *Sveikatos mokslai (Health Sciences)*, [www.sam.lt/lt/sam/moksliniai/straipsniai/](http://www.sam.lt/lt/sam/moksliniai/straipsniai/); *Internistas (Internist)*, [www.medpraktika.lt](http://www.medpraktika.lt); *Acta medica Lituanica*, [www.lmaleidykla.lt](http://www.lmaleidykla.lt);

**Prof. R. Matulionytė –**

- chair of the Vilnius Society of Infectious Diseases, [www.lid.lt](http://www.lid.lt);
- board member of the Lithuanian Society of Infectious Diseases, [www.lid.lt](http://www.lid.lt);
- member of the European Society of Clinical Microbiology and Infectious Diseases, [www.escmid.org](http://www.escmid.org);
- ESCMID Study Group for Antimicrobial Stewardship (ESGAP). A European consensus: ESCMID generic competencies in antimicrobial prescribing and stewardship. Panel member, country coordinator; [www.esgap.escmid.org](http://www.esgap.escmid.org)
- member of the European AIDS Clinical Society, [www.eacs.ws](http://www.eacs.ws);
- steering committee member for 2017–2022 of the multi-centre 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 the Action plan for HIV/AIDS and STI Prevention and Control 2018-2020, Lithuania

**Prof. M. Bylaitė-Bučinskienė –**

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

**Assoc. Prof. R. Gancevičienė –**

- board member of the Lithuanian Society of Dermatovenereology, [www.ldvd.lt](http://www.ldvd.lt);
- member of the European Academy of Dermatology and Venereology, [www.eadv.org](http://www.eadv.org);
- member and board member of the local Euromelanoma Committee
- member of Editorial Board of the Journal of Dermato-Endocrinology, Landes Biosciences Member of the Scientific Technical Committee “Cosmetics” of Lithuanian Department for Standardization

**Reaserch fell. A. Stiklerytė –**

- member of the European Society of Clinical Virology, [www.escv.org](http://www.escv.org);

- member of the Lithuanian Society of Infectious Diseases, [www.lid.lt](http://www.lid.lt).

**Assist. Dr. J. Grigaitienė –**

- member of the Lithuanian Society of Dermatovenereology, [www.ldvd.lt](http://www.ldvd.lt);
- member of Lithuanian society of Allergology and clinical immunology, [www.alergologudraugija.lt](http://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](http://www.uems.net).

**Assist. and doctoral stud. B. Zablockienė –**

- member of the Lithuanian Society of Infectious Diseases, [www.lid.lt](http://www.lid.lt);
- member of the European Society of Clinical Microbiology and Infectious Diseases, [www.escmid.org](http://www.escmid.org);
- member of Lithuanian Society of Pulmonologists, <http://www.chest.lt/>.

**Lect. T. Karmazienė –**

- member of the Lithuanian Society of Dermatovenereology, [www.ldvd.lt](http://www.ldvd.lt);
- member of the European Academy of Dermatology and Venereology, [www.eadv.org](http://www.eadv.org).

**Lect. and doctoral stud. I. Kisielienė –**

- member of the Lithuanian Society of Dermatovenereology, [www.ldvd.lt](http://www.ldvd.lt).

**Lect. T. Raudonis –**

- member of the Lithuanian Society of Dermatovenereology, [www.ldvd.lt](http://www.ldvd.lt);
- member of the European Academy of Dermatology and Venereology, [www.eadv.org](http://www.eadv.org).

**Lect. A. Marcinkutė –**

- member of the Lithuanian Society of Infectious Diseases, [www.lid.lt](http://www.lid.lt);
- member of the European Society of Clinical Microbiology and Infectious Diseases, [www.escmid.org](http://www.escmid.org);

**Lect. and doctoral stud. E. Matulytė –**

- member of the Lithuanian Society of Infectious Diseases, [www.lid.lt](http://www.lid.lt);
- member of the European Society of Clinical Microbiology and Infectious Diseases, [www.escmid.org](http://www.escmid.org);
- member of the European AIDS Clinical Society, [www.eacs.org](http://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. K. Žvirblytė - Skrebutėnienė –

- member of the Lithuanian Society of Infectious Diseases, [www.lid.lt](http://www.lid.lt);

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

**Raimonda Matulionytė, Arvydas Ambrozaitis, Ligita Jančorienė, from 2016 till 2018**, appointed as working group members by the order of Ministry of Health of the Republic of Lithuania in relation with amendment of Order No V-384 by the Minister of Health of the Republic of Lithuania of 3 May 2010 „Regarding approval of arrangements for diagnostics and treatment of the human immunodeficiency virus disease compensated from the resources of the compulsory health insurance fund budget”.

**Arvydas Ambrozaitis, Ligita Jančorienė, Raimonda Matulionytė, from 2015 till now**, National Immunoprophylaxis programme 2014-2018 and Programme for 2019-2023, Members of Independent Experts (advisors, consultants) group.

**Raimonda Matulionytė during periods 2015-2017 and 2018-2020**. Member of Coordinating Board for National Action Plan (AP) on HIV/AIDS and STI Prevention and Control, (SAM įsakymas / Order of Ministry of Health of the Republic of Lithuania Nr./No V-1191, 2015-10-26; Nr. V-451, 2017-04-19).

**Raimonda Matulionytė from 2018**, Member of Experts group under Lithuanian Ministry of Health Expert group on addressing the issues related with the emergence and spread of antimicrobial resistant micro-organisms.

**Ligita Jančorienė, Raimonda Matulionytė** from 2018 Members 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.

**Raimonda Matulionytė, Elžbieta Matulytė** scientific members of 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).

#### **THE LIST OF THE MOST IMPORTANT RESULTS OF SCIENCE POPULARISATION ACTIVITIES**

Egzemos mokykla / School of egzema



## **Clinic of Chest Diseases, Immunology and Allergology**

2 Santariškių, LT-08661 Vilnius

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**Head** – Prof. Dr. (HP) *Edvardas Danila*

### **Department of Thoracic surgery of Center of Heart and Thoracic surgery**

2 Santariškių, LT-08661 Vilnius

Tel./fax +370 5 2 611 636

E-mail: [krutines.chirurgija@mf.vu.lt](mailto:krutines.chirurgija@mf.vu.lt)

**Head** – *Vytautas Jovaišas*

### **STAFF**

**Professors:** Dr. E. Danila (part-time)

**Associate professors:** Habil.Dr. R.Janilionis (part-time), Dr. A. Blažienė (part-time), Dr. R. Zablockis (part-time), Dr. V. Gruslys (part-time), Dr. L. Malinauskienė (part-time).

**Assistants:** Dr. V. Šileikienė (part-time), Dr. Ž. Jagelavičius (part-time), Dr. A.Chomičienė (part-time).

**Lecturers:** G. Cincelevičiūtė (part-time), R. Gauronskaitė (part-time), I. Pocienė (part-time), K. Laužikaitė (part-time).

**Research fellows:** Habil. Dr. R. Dubakienė (part-time), Dr. V. Kvedarienė (part-time), Dr. L. Malinauskienė (part-time), J.Račkauskienė (part-time).

**Doctoral students:** R. Aleksonienė, E. Jurevičienė, R. Stankevičiūtė, K. Linauskienė.

### **Students' scientific groups of:**

**Pulmonology:** scientific leader – prof. E. Danila, coordinator – student J. Kogan; 18 members of the group.

**Allergy and clinic immunology:** scientific leader – Dr. V. Kvedarienė, coordinator – student G. Rudzikaitė; 15 members of the group.

**Thoracic surgery:** scientific leader – Dr. Ž. Jagelavičius, coordinator – student A. Piščikaitė; 38 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;

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

## RESEARCH PROJECTS CARRIED OUT IN 2018

### Projects Supported by University Budget

**Evaluation of Epidemiology and Efficacy of the Diagnostic and Treatment Methods in Lung and Allergic Diseases and Disorders.** Prof. E. Danila, Prof. R. Dubakienė, Assoc. Prof. Habil. Dr. R. Janilionis, Assoc. Prof. A. Blažienė, Assoc. Prof. R. Zablockis, Assoc. Prof. V. Gruslys, Assoc. Prof. L. Malinauskienė, Dr. V. Kvedarienė, Dr. V. Šileikienė, Dr. Ž. Jagelavičius, J. Račkauskienė, G. Cincilevičiūtė, R. Gauronskaitė, I. Pocienė, K. Laužikaitė, R. Aleksonienė, E. Jurevičienė, R. Stankevičiūtė, K. Linauskienė. 2014–2018.

#### Main publications:

Kačėnienė A., Danila E., Cicėnas S., Smailytė G. 2018. Suicide risk among lung cancer patients in Lithuania. *Clin Respir J*, no 12, 2455–2456.

Diktanas S., Vasiliauskienė E., Polubenko K., Danila E., Čeledinaitė I., Boreikaitė E., Misiūnas K. 2018 Factors Associated with Persistent Sputum Positivity at the End of the Second Month of Tuberculosis Treatment in Lithuania. *Tuberc Respir Dis*, no 81, 233–240.

Rich A., Baldwin D., Alfageme I., Beckett P., Berghmans T, Brincat S., Burghuber O., Corlateanu A., Cufer T., Damhuis R., Danila E., Domagala-Kulawik J., Elia S., Gaga M., Goksel T., Grigoriu B., Hillerdal G., Huber R.M., Jakobsen E., Jonsson S., Jovanovic D., Kavcova E., Konsoulova A., Laisaar T., Makitaro R., Mehic B., Milroy R., Moldvay J., Morgan R., Nanushi M., Paesmans M., Putora P.M., Samarzija M., Scherpereel A., Schlessler M., Sculier J.-P., Skrickova J., Sotto-Mayor R., Strand T.-E., Schil P.V., Blum T.-G. Achieving thoracic oncology data collection in Europe: a precursor study in 35 countries. *BMC Cancer* 2018, no 18, 1144 (1–12).

#### ***Diagnosis and treatment of interstitial lung diseases.***

The aim of the study was 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.

#### ***Assessment of pulmonary function of patients with lung diseases.***

Comparison of different methods for evaluation of bronchial obstruction. Evaluation of lung ventilation reserve with different methods of lung ventilation reserve evaluation.

#### Main publications:

Ariel A., Altraja A., Belevskiy A., Boros P.W., Danila E., Fležar M., Koblizek V., Fridlender Z.G., Kostov K., Krams A., Milenkovic B., Somfay A., Tkacova R., Tudoric N., Ulmeanu R., Valipour A. 2018. Inhaled therapies in patients with moderate COPD in clinical practice: current thinking. *Int J COPD*, no 13, 45–56.

#### ***D-dimer levels in pleural fluid.***

Significance of pleural fluid D-dimer concentration is evaluated in patients with pleural effusion. Pleural D-dimer levels are measured and compared with D-dimer concentrations in plasma. Pleural fluid LDH, protein, pH, and glucose levels are assessed as well. The study is in process.

Main publications:

Zablockis R., Žurauskas E., Danila E., Gruslys V. 2018. Prognostic value of Thyroid Transcription Factor-1 expression in patients with advanced lung adenocarcinoma. *In Vivo*, no 32, 1571–1579.

Zablockienė B., Kačergius T., Ambrozaitis A., Žurauskas E., Bratchikov M., Jurgauskienė L., Zablockis R., Gravenstein S. 2018. Zanamivir Diminishes Lung Damage in Influenza A Virus-infected Mice by Inhibiting Nitric Oxide Production. *In Vivo*, no. 32, vol. 3, 473-478.

***Evaluation of pulmonary embolism risk in lung cancer patients.***

The aim of the study was to assess the prevalence and risk factors of pulmonary embolism in advanced lung cancer patients. The study is in the process.

***Evaluation of hypersensitivity reactions to cytostatic drugs in patients with lung cancer.***

The aim of the study was to evaluate type of adverse reactions to different type of cytostatic drugs in patients with lung cancer.

***Differences between self-reported drug hypersensitivity reactions in Lithuanian adults and children.***

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.

Main publications:

Courbis A.L., Murray R.B., Arnavielhe S., Caimmi D. Bedbrook A., et al. [From VU Faculty of Medicine V. Kvedarienė, A. Valiulis]. 2018. Electronic Clinical Decision Support System for allergic rhinitis management: MASK e-CDSS. *Clin Exp Allergy*, vol. 48, iss. 12, p. 1640-1653. DOI: 10.1111/cea.13230.

Bousquet J., Hellings P.W., Agache I., Agache I., Amat F., et al. Mobile Airways Sentinel Network (MASK) Study Group [From VU Faculty of Medicine V. Kvedarienė V.] 2019. Change management in allergic rhinitis and asthma multimorbidity using mobile technology. *J Allergy Clin Immunol*. Epub ahead of print.

Datema M.R., van Ree R., Asero R., Barreales L., Belohlavkova S., .., et al. [From VU Faculty of Medicine R. Dubakienė]. 2017. Component-resolved diagnosis and beyond: Multivariable regression models to predict severity of hazelnut allergy. *Allergy*, no 73, vol. 3, 549–559.

***Allergen immunotherapy: patients' selection, efficacy of different methods and treatment results.***

The aim of the study was to evaluate the clinical efficacy and adverse reactions in adults with allergic rhinoconjunctivitis with or without asthma. We conclude that treatment with ASIT (allergen-specific immunotherapy) is effective and safe.

Main publications:

Bousquet J., Agache I., Aliberti M.R., Angles R., Annesi-Maesano I., et al. [From VU Faculty of Medicine R. Dubakienė, R. Ėmužytė, V. Kvedarienė, R. Stukas, A. Valiulis]. 2018. Transfer of innovation on allergic rhinitis and asthma multimorbidity in the elderly

(MACVIA-ARIA) - EIP on AHA Twinning Reference Site (GARD research demonstration project). *Allergy*, vol. 73, iss. 1, 77-92.

Bousquet J., Devillier P., Arnavielhe S., Bedbrook A., Alexis-Alexandre G., et al. [From VU Faculty of Medicine V. Kvedarienė, A. Valiulis]. 2018. Treatment of allergic rhinitis using mobile technology with real-world data: The MASK observational pilot study. *Allergy*, vol. 73, iss. 9, 1763–1774.

Bousquet J., Devillier P., Anto J.M., et al. [From VU Faculty of Medicine V. Kvedarienė, A. Valiulis]. 2018. Daily allergic multimorbidity in rhinitis using mobile technology: A novel concept of the MASK study. *Allergy*, vol.73, no 8, 1622–1631.

### ***Metal contact allergy.***

The aims of the study are to detect the most common contact allergens in the metal workers, to detect the depth of the penetration of the metals' (nickel, cobalt and chrome) ions in the skin using pig skin as a human skin model and to evaluate pathophysiological reactions occurring during acute contact reaction to these metals by investigating various inflammatory cytokines. Data was obtained and analyzed from questionnaires of 185 metal workers. Results were presented as a poster in the annual Congress of the European society of Contact dermatitis in Manchester, UK.

#### Main publications:

Malinauskiene L. Contact allergy to a meteorite: An interesting consequence of nickel allergy. *Contact Derm*, vol. 79, iss. 1, p. 36-37.

### ***Strategy and tactics of the surgical management of patients with different thoracic pathology.***

New surgical methods using ultrasound intraoperatively and VATS were elaborated for the surgical management of the patients with pleuropulmonary suppurations. The value of videomediastinoscopy and videoassisted thoracoscopic surgery in diagnostics and management of the patients was assessed.

## **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.

The goal of the project is to increase the qualifications of healthcare professionals in improving the epidemiological surveillance, prevention and control of tuberculosis, to improve knowledge of tuberculosis diagnostics, treatment management and to improve practical skills.

## **International Research Projects**

**Patch Testing With Propolis of Different Origin in Different Countries** (since 2017). In collaboration with Gothenburg University, Sahlgrenska University Hospital, Department of Dermatology, Gothenburg, Sweden. Assoc. Prof. Dr. Laura Malinauskienė.

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. The study is in process.

#### Main publications:

Grabhenrich L.B., Reich A., McBride D., Sprikkelman A., Roberts G. et al. [From VU Faculty of Medicine R. Dubakienė]. 2018. Physician's appraisal vs documented signs and symptoms in the interpretation of food challenge tests: The EuroPrevall birth cohort. *Pediatr Allergy Immunol*, vol. 29, 58–65.

**Presence of Unlabeled Formaldehyde in Cosmetic and Medications** (Since 2016) In collaboration with Lund University, Skåne university hospital, Department of occupational and environmental dermatology (Sweden), Assoc. prof. Dr. Laura Malinauskienė. The aim of the study to analyse various topical medicines and cosmetic products for the presence of free formaldehyde especially if it is not labelled. We already analysed around 30 products using chromotropic acid and HPLC. The study is in process.

Main publications:

Linauskienė K., Isaksson M. 2018. Allergic contact dermatitis from formaldehyde mimicking impetigo and initiating rosacea. *Contact Derm*, vol. 78, no 5, 359–361.

Tiplica G.S., Boralevi F., Konno P., Malinauskienė L., Kaszuba A., Laurens C., Saint-Aroman M., Delarue A. 2018. The regular use of an emollient improves symptoms of atopic dermatitis in children: a randomized controlled study. *J Eur Acad Dermatol Venereol*, vol. 32, no 7, 1180–1187.

Kvedarienė V., Sitkauskienė B., Tamasauskienė L., Rudzeviciene O., Kasiulevicius V., Nekrosyte G., Gomes E.R., Demoly P. 2019. Prevalence of self-reported drug hypersensitivity reactions among Lithuanian children and adults. *Allergol Immunopathol (Madr)*. Epub ahead of print.

**Textile Dye Allergy and Allergic Contact Dermatitis.** Since 2012. In collaboration with Lund University, Skåne university hospital, Department of occupational and environmental dermatology (Sweden). Assoc. prof. Dr. Laura Malinauskienė. The aim of the study is to detect which dyes used today for textile dyeing can be inducers of the contact allergy and contact allergic dermatitis. Extracts from over 100 textile items are made to test patients already shown to be allergic to the textile dye mix allergen. Another aim is to detect which method of extraction from the textile items is the best retrieving the highest concentration of the dye. We compared three methods (extraction in ultrasonic bath, in acetone, in ethanol and artificial sweat) and analysed the samples with HPLC. The study is in process.

Main publications:

Linauskienė K., Zimerson E., Antelmi A., Bruze M., Hagvall L., Hamnerius N., Hauksson I., Ryberg K., Isaksson M. 2018. Solvent Orange 60 is a potent contact sensitizer in occupational and everyday life. *Contact Dermatitis*, vol. 79, no 3, 13022, p. 123-126.

Stasevičienė D., Chomičienė A., Malinauskienė L., Grigaitienė J. 2018. Allergic contact dermatitis caused by laurel fruit oil. *J Eur Acad Dermatol Venereol*, vol. 32, iss. 11, p. e428-e429.

Selby A., Munro A., Grimshaw K.E., Cornelius V., Keil T. et al. [From VU Faculty of Medicine R. Dubakienė]. 2018. Prevalence estimates and risk factors for early childhood wheeze across Europe: the EuroPrevall birth cohort. *Thorax*, vol. 73, no 11, 1049–1061.

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

Skåne university hospital, Lund University, Department of occupational and environmental dermatology (Sweden), Gothenburg University, Sahlgrenska University Hospital, Department of Dermatology, Gothenburg, Sweden.

## **OTHER SCIENTIFIC ACTIVITIES**

### **Prof. E. Danila –**

- member of European Respiratory Society (ERS); <http://www.ersnet.org/>;
- 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)*.

### **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](http://www.alergo.lt), [www.rutadubakiene.com](http://www.rutadubakiene.com).

### **Assoc. Prof. A. Blažienė –**

- editorial board member of the journal *Medicinos teorija ir praktika (Theory and Practice in Medicine)*, <http://www.mtp.lt/>;
- editor-in-chief of the journal *Alergija, astma, imunologija (Allergy Asthma Immunology)*;
- member of the European Respiratory Society (ERS), <http://www.ersnet.org/>;
- member of the European Academy of Allergy and Clinical Immunology, <http://www.eaaci.org/>;
- member of the American Academy of Allergy, Asthma and Immunology, <http://www.aaaai.org/home.aspx>;
- member of American College of Allergy, Asthma and Immunology, <http://www.acaai.org/Pages/default.aspx>;
- member of European Society of Immunodeficiency, <http://www.esid.org/>;
- member of Lithuanian Society of Immunology, [www.imcentras.lt/lid/](http://www.imcentras.lt/lid/);
- member of Lithuanian Society of Pulmonologists, <http://www.chest.lt/>.

### **Assoc. Prof. L. Malinauskienė –**

- member of the European Academy of Allergy and Clinical Immunology;
- member of Lithuanian society of Allergology and clinical immunology;
- member of European Society for Pigment research;
- editorial board member of the journal *Alergija, astma, imunologija (Allergy Asthma Immunology)*.

**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. Habil. Dr. R. Janilionis –**

- board member of the Lithuanian Society of Cardiothoracic Surgery, [www.lkscd.lt](http://www.lkscd.lt/);
- board member of Vilnius Surgical Society;
- member of European Respiratory Society (ERS), [www.ersnet.org](http://www.ersnet.org/);
- member of the European Association for Cardio-Thoracic Surgery, [www.eacts.org](http://www.eacts.org/);
- editorial board member of the journal *Medicina*, [www.medicina.kmu.lt](http://www.medicina.kmu.lt/);
- editorial board member of the journal *Lithuanian Surgery*, <http://www.chirurgija.lt0>.

**Assoc. Prof. V. Gruslys –**

- member of Lithuanian Society of Thoracic and Cardiac Surgeons, [www.lkscd.lt](http://www.lkscd.lt/);
- member of European Respiratory Society (ERS), [www.ersnet.org](http://www.ersnet.org/);
- board member of Lithuanian Society of Minimal Invasive Surgery, [http://www.mic.lt](http://www.mic.lt/);
- member of Lithuanian Respiratory Society, [http://www.chest.lt](http://www.chest.lt/).

**Research fellow. 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)*;
- 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 Lithuania Asthma Patient Association.

**Assist. 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)”.

**Assist. V. Šileikienė –**

- member of European Respiratory Society (ERS), <http://www.ersnet.org/>;
- member of Lithuanian Society of Pulmonologists, <http://www.chest.lt/>.

**Assist. Ž. Jagelavičius –**

- member of Lithuanian Society of Thoracic and Cardiac Surgeons, [www.lkscd.lt](http://www.lkscd.lt);
- member of European Society of Thoracic Surgeons (ESTS), [www.ests.org](http://www.ests.org);
- member of European Respiratory Society (ERS), [www.ersnet.org](http://www.ersnet.org).

**Lect. Research fellow. J. Račkauskienė –**

- member of European Respiratory Society (ERS);
- member of Lithuanian Society of Pulmonologists.

**Lect. I. Pocienė –**

- member of European Respiratory Society (ERS);
- member of Lithuanian Society of Pulmonologists.

**Lect. G. Cincilevičiūtė –**

- member of European Respiratory Society (ERS);
- member of Lithuanian Society of Pulmonologists.

**Lect. K. Laužikaitė –**

- 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/>.

**Doctoral stud. R. Aleksonienė –**

- member of European Respiratory Society (ERS);
- member of Lithuanian Society of Pulmonologists.

**Doctoral stud. R. Stankevičiūtė –**

- member of the European Academy of Allergy and Clinical Immunology;



- member of Lithuanian Society of Allergology and Clinical Immunology.

**Doctoral stud. 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.

**Doctoral stud. E. Jurevičienė –**

- member of European Respiratory Society (ERS);
- member of Lithuanian Society of Pulmonologists.

**THE LIST OF THE MOST IMPORTANT RECEIVED NATIONAL AND INTERNATIONAL AWARDS FOR R&D ACTIVITIES**

**Kotryna Linauskienė** – Lithuanian Research Council award for academic achievements.

**Rūta Dubakienė** – The State Commission of Lithuania Award (sculpture "Sraigė") for the nurturance of the Lithuanian language.

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

**Rūta Dubakienė** – prepared „Lithuanian names of food allergens“ for the Termin Bank of the Lithuanian State Commission.

**Edvardas Danila** – participation in the Lithuanian State Ministry of Health Tuberculosis Task Force.

**THE LIST OF CONSULTATIONS PROVIDED BY THE UNIT TO THE PUBLIC OR ECONOMIC ENTITIES**

**Edvardas Danila** – regular consultations for Lithuanian State Ministry of Health.

**Edvardas Danila** – advisory board for several pharmaceutical companies.

**Rolandas Zablockis** - regular consultations for Lithuanian State Ministry of Health.

**Rolandas Zablockis** – advisory board for several pharmaceutical companies.

**THE LIST OF THE MOST IMPORTANT RESULTS OF SCIENCE POPULARISATION ACTIVITIES**

**Rūta Dubakienė** – lecture for students about allergies in Vilnius gymnasium "Šaltinėlis".

**Rūta Dubakienė** – lecture for public on the problems of allergy in M. Martinaitis name library of Raseiniai.

**Edvardas Danila** – lecture for students of Vilnius gymnasiums about interstitial lung diseases in Vilnius University.

**Edvardas Danila** – seminar for students of Vilnius gymnasiums about lung diseases in Vilnius University.

## **Clinic of Neurology and Neurosurgery**

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Tel. +370 688 62744, fax. +370 688 62728  
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**Head** – Prof. Dr. *Dalius Jatuzis*

## **Centre of Neurology**

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**Head** – Prof. Dr. *Gintaras Kaubrys*

## **Centre of Neurosurgery**

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**Head** – Prof. Dr. *Saulius Ročka*

### **STAFF**

**Professors:** Dr. G. Kaubrys, Dr. R. Mameniškienė, Dr. S. Ročka.

**Associate professors:** Dr. R. Kizlaitienė, Dr. J. Valaikienė.

**Assistants:** E. Audronytė, Dr. N. Giedraitienė, A. Jasionis, Dr. R. Kaladytė Lokominienė, Dr. A. Klimašauskienė, R. Masiliūnas, Dr. K. Ryliškienė, Dr. A. Vaitkevičius, Dr. A. Vilionskis, Dr. R. Kvaščevičius

**Lecturers:**, Dr. G. Terbetas, Dr. K. Laurikėnas.

**Junior research fellows:** Ž. Chomanskis, A. Preikšaitis.

**Doctoral students:** E. Audronytė, A. Jasionis, M. Kurminas, J. Kuzmickienė, R. Masiliūnas, E. Sakalauskaitė-Juodeikienė, D. Valadkevičienė, A. Gavrilova, Ž. Chomanskis.

### **Students' scientific groups of:**

**Neurology:** scientific leader – Dr. K. Ryliškienė, coordinator – student A. Dapkutė; 40 members of the group.

**Neurosurgery:** scientific leader – Dr. G. Terbetas, coordinator – L. Šalaševičius; 32 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: nervous system diseases in the first half of the nineteenth-century Vilnius.

## **RESEARCH PROJECTS CARRIED OUT IN 2018**

### **Projects Supported by University Budget**

**Assessment of New Diagnostic and Treatment Methods in Neurology and Neurosurgery (Cerebrovascular, Neurodegenerative, Oncological, Demyelinating Diseases, Epilepsy, Traumatic Injury, Degenerative Spinal Diseases).** Prof. D. Jatužis. 2014–2018.

Center of Neurology continued clinical research focussed on clinical and cognitive characteristics of different neurological disorders (Alzheimer's disease, multiple sclerosis, Parkinson's disease, epilepsy); assessment and practical application of new diagnostic and treatment methods in cerebrovascular, demyelinating, neurodegenerative diseases, epilepsy, headache and dizziness; evaluation of neurophysiological and clinical peculiarities of patients with critical illness; description of artworks related to neurology and artists with neurological disorders.

### **Main publications:**

Sakalauskaitė-Juodeikienė E., Armalienė G., Kizlaitienė R., Bagdonaitė L., Giedraitienė N., Mickevičienė D., Rastenytė D., Kaubrys G., Jatužis D. 2018. Detection of aquaporin-4 antibodies for patients with CNS inflammatory demyelinating diseases other than typical MS in Lithuania. *Brain Behav*, vol 8, no 11, e01129.

Giedraitienė N., Kaubrys G., Kizlaitienė R. 2018. Cognition during and after multiple sclerosis relapse as assessed with the brief international cognitive assessment for multiple sclerosis. *Sci Rep*, vol. 8, no. 1, 8169.

Mameniškienė R., Wolf P. 2018. Precipitation and inhibition of seizures in focal epilepsies. *Expert Rev Neurother*, vol. 18, no. 4, 275-287.

Serpytis R., Navickaite A., Serpytiene E., Barysiene J. Marinskis G., Jatuzis D, Petrulioniene Z., Laucevicius A., Serpytis P. 2018. Impact of atrial fibrillation on cognitive function, psychological distress, quality of life, and impulsiveness. *Am J Med*, vol. 131, iss. 6: 703.e1-703.e5.

**Diagnostic Evaluation and Treatment of Cerebrovascular Disorders, Traumatic Brain Injuries Degenerative Spinal Diseases and Cerebral Neoplasms.** Prof. S. Ročka. 2017–2018.

Center of Neuroangiography is establishing new methods of endovascular treatment of cerebrovascular disorders. Research in traumatic brain injury is concentrated to epidemiology and prognostic factors, as well as clinical evaluation of new monitoring devices. New modalities in minimally invasive degenerative spinal diseases management are being

evaluated. Research in cerebral neoplasms is based on epidemiological studies and evaluation of new strategies of surgical treatment.

Main publications:

Petkus V., Preiksaitis A., Krakauskaitė S., Bartusis L., Chomskis R., Hamarat Y., Zubaviciute E., Vosylius S., Rocka S., Ragauskas A. 2019. Non-invasive Cerebrovascular Autoregulation Assessment Using the Volumetric Reactivity Index: Prospective Study. *Neurocrit Care*, vol. 30, 42-50.

Kwon, C.S., Awar, O.A., Ripa, V., Said, G., Rocka, S. 2018. Basal cell carcinoma of the scalp with destruction and invasion into the calvarium and dura mater: Report of 7 cases and review of literature. *J Clin Neurosci*, vol. 47, 190-197.

Chmieliauskas S., Anuzyte J.S., Liucvaikyte J., Laima S., Jurolaie E., Rocka S., Fomin D., Stasiuniene J., Jasulaitis A. 2018. Importance of effusion of blood under the dura mater in forensic medicine. *Medicine*, vol. 97, no 39, 97:39 (e12567), <http://dx.doi.org/10.1097/MD.00000000000012567>

**Nervous system diseases in the first half of the nineteenth-century Vilnius.** Prof. D. Jatužis and E. Sakalauskaitė-Juodeikienė, 2015–2019.

The aim of this study is to reveal the origins of neurology in the first half of the 19th century in Vilnius: 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., Jatužis, D. 2017. Descriptions of Apoplexy by Joseph Frank in the Beginning of the Nineteenth Century in Vilnius. *European Neurology*, vol. 78, no 1-2, 8-14; doi: 10.1159/000477136.

Sakalauskaitė-Juodeikienė, E., Eling, P., Finger, S. 2017. The reception of Gall's organology in early nineteenth-century Vilnius. *Journal of the History of the Neurosciences*, vol. 26, No. 4, p. 385-405; doi: 10.1080/0964704X.2017.1332561

Sakalauskaitė-Juodeikienė, E., Jatužis, D., Kaubrys, S. 2018. Plica Polonica: From National Plague to Death of the Disease in the Nineteenth – Century Vilnius. *Indian journal of dermatology, venereology and leprology: Wolters Kluwer*, vol. 84, no 4, 510-514; doi: 10.4103/ijdv.IJDVL\_673\_17.

**Projects Supported by the Research Council of Lithuania**

**Virtual Reality Technologies to Facilitate Epley Maneuver for Healthy Volunteers.** Teaching assist. R. Masiliūnas. 2017–2018.

Benign Paroxysmal Positional Vertigo (BPPV) is one of the most common vestibular pathologies. Correct application of positional maneuvers is an effective and inexpensive way to diagnose and treat BPPV. However, the particle-repositioning maneuvers are currently underused due to physicians' lack of knowledge how to apply them and the lack of time in ambulatory setting. The primary goal of this project is to evaluate the therapeutic benefit of a virtual reality device and a mobile application developed specifically to facilitate the performance of Epley maneuver for healthy volunteers.

## National Research Projects

National Science Program *Healthy Ageing*. Project: SEN-05/2015 **Research on Synthesis Regulation of Proteins, Associated with the Development of Alzheimer's Disease** in cooperation with the Vilnius University Institute of Biotechnology. Principal Investigator at Vilnius University IBT (VU Life Sciences Center) - Prof. K. Sasnauskas, Principal Investigator at VUH SK - Prof. G. Kaubrys. 01. Jan. 2016–31. Dec. 2019.

In 2018, research and data analysis were continued. The goal of the project is to create an immunochemical ELISA-based method, which could allow testing of all potential polypeptides, encoded by the small open reading frames of the genes related to Alzheimer's disease. These new methods may help to determine the role of synthesized small polypeptides in the fundamental changes of the protein synthesis in ageing and Alzheimer's disease. The results of the project may provide new knowledge about the AD-related regulation of protein synthesis and new opportunities for the prevention and early diagnosis of Alzheimer's disease.

Clinical research **Impact of Modified Lindy-Hop Dance Therapy on Motor Condition and Quality of Life in Early Parkinson's Disease** in collaboration with Vilnius Gediminas Technical University. Assist. R. Kaladytė Lokominienė. 2015–2019.

In 2018 further analysis of data was performed. Quantitative assessment of dance therapy influence on upper limb biomechanics and gait for patients with Parkinson's disease was continued. Presentation in 2018 International Conference BIOMDLORE: Lukšys D, Jatužis D, Kaladytė-Lokominienė R, Bunevičiūtė R, Sawicki A, Griskevičius J. [Differentiation of Gait Using Principal Component Analysis and Application for Parkinson's Disease Monitoring](#)

Clinical research **Ataxia and Gait Impairment in Multiple Sclerosis Patients** in collaboration with Vilnius Gediminas Technical University. Assoc. prof. R. Kizlaitienė. 2015-ongoing.

In 2018, data was collected and analysed. Objective quantitative parameters for more accurate evaluation of coordination in patients with multiple sclerosis were searched by instrumented biomechanical analysis of upper extremity movements. Results were presented in paper.

### Main publications:

Daunoravičienė K., Žižienė J., Griškevičius J., Pauk J., Ovčnikova A., Kizlaitienė R., Kaubrys G.F. 2018. Quantitative assessment of upper extremities motor function in multiple sclerosis. *Technology and health care*, vol. 26, iss. S2, p. 647-653; doi: 10.3233/THC-182511.

**Analysis of Brain Tumors Prognostic Factors and Early Response with Visual Biomarkers** in cooperation with National Cancer Institute (No. MIP-015/2014; KT2014-27). Dr. E. Aleknavičius. 2014–2019.

In 2018, follow-up of the patients, research and data analysis were continued. The results of the project may provide new insights and knowledge about prognostic factors of brain tumors and response to treatment.

## **International Research Projects**

### **Collaborative European NeuroTrauma Effectiveness research in TBI: a prospective longitudinal observational study (CENTER-TBI), funded by 7BP; [www.center-tbi.eu](http://www.center-tbi.eu).**

Participants: Prof. Dr. S. Ročka, A. Preikšaitis.

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 patients with traumatic brain injury by better characterization of trauma as a disease and identifying the most effective clinical interventions for managing TBI.

#### Main publication:

Maas A.I.R., Menon D.K., Adelson P.D., Andelic N., Bell M.J., et al., for the InTBIR Participants and Investigators [S.Rocka, A. Preiksaitis]. 2017. Traumatic brain injury: integrated approaches to improve prevention, clinical care, and research. *The Lancet Neurology Commission*; [http://dx.doi.org/10.1016/S1474-4422\(17\)30371-X](http://dx.doi.org/10.1016/S1474-4422(17)30371-X)

Cnossen M.C., Huijben J.A., van der Jagt M., Volovici V., van Essen T., Suzanne Polinder S., Nelson D., Ercole A., Stocchetti N., Citerio G., Peul W.C., Maas A.I.R., Menon D., Steyerberg E.W., Lingsma on behalf of the CENTER-TBI investigators [S.Rocka, A.Preiksaitis]. 2017. Variation in monitoring and treatment policies for intracranial hypertension in traumatic brain injury: a survey in 66 neurotrauma centers participating in the CENTER-TBI study. *Critical Care*, vol. 21, 233 DOI 10.1186/s13054-017-1816-9

Chmieliauskas, S., Anuzyte, J.S., Liucvaikyte, J., Laima, S., Jurolaie E., Rocka, S., Fomin, D., Stasiuniene, J., Jasulaitis, A. 2018. Importance of effusion of blood under the dura mater in forensic medicine: A STROBE - compliant retrospective study. *Medicine (Baltimore)* 2018; vol. 97, no 39, e12567, [1-7]; doi: 10.1097/MD.00000000000012567.

### **Safe Implementation of Treatment of Stroke (SITS) - EAST Project.** Participants: Dr. A. Vilionskis, R. Masiliunas, Prof. Dr. D. Jatuzis.

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:

Tsivgoulis G., Katsanos A.H., Kadlecova P., Czlonkowska A., Kobayashi A., Brozman M., Švigelj V., Csiba L., Fekete K., Korv J., Demarin V., Vilionskis A., Jatuzis D., Krespy Y., Karapanayiotides T, Giannopoulos S., Mikulik R. 2017. Intravenous thrombolysis for patients with in-hospital stroke onset: propensity-matched analysis from the Safe Implementation of Treatments in Stroke-East registry. *Eur J Neurol*, vol. 24, no 12, 1493-1498; doi: 10.1111/ene.13450

Vaclavik D., Vilionskis A., Jatuzis D., Karlinski M.A., Gdovinova Z., Kõrv J., Tsivgoulis G., Mikulik R. 2018. Clinical outcome of cardioembolic stroke treated by intravenous thrombolysis. *Acta Neurol Scand*, vol. 137, no. 3, 347-355; doi: 10.1111/ane.12880.

Tsivgoulis G., Katsanos A.H., Giannopoulos G., Panagopoulou V., Jatuzis D., Lemmens R., Deftereos S., Kelly P.J. 2018. The Role of colchicine in the prevention of cerebrovascular ischemia. *Curr Pharm Des*, vol. 24, no 6, 668-674; doi: 10.2174/1381612824666180116100310.

**Project: The Standardized Computer-based Organized Reporting of EEG (SCORE)**  
Leader (coordinator) – Prof. R. Mameniškienė. Since 2009.

The aim of the project was to create a computer-based system for EEG assessment and reporting. The faculty was approved by the Commission on European Affairs of the ILAE. The working group produced a consensus proposal that went through a pan-European review process, organized by the European Chapter of the International Federation of Clinical Neurophysiology. SCORE software was constructed based on the terms and features of the Consensus statement and it was tested in the clinical practice.

**E-epilepsy is a Pan-European Project.** Leader (coordinator) – Prof. R. Mameniškienė. Since 2011. Finished

The primary aim of the project is to improve awareness and accessibility of surgery for epilepsy across different countries. Epilepsy surgery is an established treatment in the management of individuals with drug-resistant focal epilepsy. Epilepsy has established a consortium of 13 centres as associate partners, with a further 15 collaborating centres to drive this project. The primary expected outcome of the project is to increase the number and proportion of European children and adults cured of their refractory epilepsy by improving delivery of optimal epilepsy surgery throughout Europe. Aspects of Epilepsy include: improving accessibility of information; facilitation of referral for assessment; improving tools for assessment; improving analysis of investigations as well as the training across different sites of individuals to be involved in assessment for epilepsy surgery.

Main publication:

Baud, M.O., Perneger, T., Rácz, A., Pensel, M.C., Elger, C., Rydenhag, B., Malmgren, K., Cross, J.H., McKenna, G., Tisdall, M., Lamberink, H.J., Rheims, S., Ryvlin, P., Isnard, J., Mauguière, F., Arzimanoglou, A., Akkol, S., Deniz, K., Ozkara, C., Lossius, M., Rektor, I., Kälviäinen, R., Vanhatalo, L.M., Dimova, P., Minkin, K., Staack, A.M., Steinhoff, B.J., Kalina, A., Krsek, P., Marusic, P., Jordan, Z., Fabo, D., Carrette, E., Boon, P., Rocka, S., Mameniškienė, R., Vulliemoz, S., Pittau, F., Braun, K.P.J., Seeck, M. European trends in epilepsy surgery. *Neurology*, vol. 91, iss. 2, p. E96-E106; doi: 10.1212/WNL.0000000000005776.

**Current Status of Epilepsy Health Care for Adult Patients from Central and Eastern European Union Countries.** Leader (Coordinator) - Prof. R. Mameniskiė. Since 2015.

The aim of this survey was to review and compare the current approaches to epilepsy management in central and eastern EU countries. Experts from Bulgaria, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia, and Slovenia participated in the project, focused on the epilepsy treatment of adults. We concluded that the lack of unified procedures pertaining to the evaluation and therapy of epilepsy is reflected by marked differences in access to treatment modalities for patients from CEEU countries.

**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. Since 2005.

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 have been 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; other risk factors.

**International Project on the EEG Changes during the Olfactory Stimulation in Patients with Epilepsy.** Participant – Prof. R. Mameniskiene, 2013-ongoing.

The project aimed to investigate modulation (provocation or inhibition) of epileptiform discharges in mesial temporal lobe epilepsy versus idiopathic generalized epilepsy by olfactory stimulation compared with standard provocation methods. The underlying hypothesis was that any response would be more likely to occur in mesiotemporal epilepsy, considering the anatomical connections of the temporal lobe to the olfactory system.

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

Kaunas University of Technology (Lithuania)  
National Cancer Institute (Lithuania)  
Vilnius Gediminas Technical University (Lithuania)

## **OTHER SCIENTIFIC ACTIVITIES**

**Prof. D. Jatužis –**

- president of Lithuanian Stroke Association and Lithuanian Neurological Association;
- executive editor of the journal *Neurologijos seminarai (Seminars in Neurology)*;
- fellow member of European Stroke Organization (FESO);
- national coordinator of projects ESO-EAST (*Enhancing and Accelerating Stroke Treatment*; 5-year collaboration with selected physicians from Eastern countries to optimise stroke care in Eastern Europe) and SITS (*Safe Implementation of Treatments in Stroke*) and member of SITS-EAST;
- leading Investigator in EuroHYP-1 and TWIST acute stroke trials;
- 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

**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.



**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);
- member of the World Federation of Neurology.

**Prof. R. Mameniškienė –**

- president of Lithuanian Society for Epileptology;
- member of Subspecialty Scientific Panel *Epilepsy* 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*;
- editor-in-chief of the journals *Neurologijos seminarai* (Seminars in neurology) and *Nervų ir psichikos ligos*;
- national coordinator in European Register of Antiepileptic Drugs and Pregnancy (EURAP);
- national coordinator in the international registry of the treatment of refractory status epilepticus;
- member of the Lithuanian Stroke Association;
- member of the World Federation of Neurology.

**Assoc. prof. J. Valaikienė –**

- editorial board member of the journal *Neurologijos seminarai* (Seminars in neurology);
- member of the Council of the Lithuanian Society of Clinical Neurophysiology and Neurosonology;
- member of Subspecialty Scientific Panel *Neurosonology* of the European Academy of Neurology (EAN);
- member of Subspecialty Scientific Panel *Infectious Diseases* of the European Academy of Neurology (EAN);
- member of the Lithuanian Neurological Association;
- member of the Lithuanian Stroke Association;
- 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.

**Assoc. Prof. K. Laurikėnas –**

- editorial board member of the journal *Chirurgija (Surgery)*;
- member of the Lithuanian Society of Vascular Surgery.

**Lect. R. Kvaščevičius –**

- 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 Vertebrology.

**Lect. G. Terbetas –**

- member of Lithuanian Neurosurgical Society;
- member of Lithuanian Society of Vertebrology;
- AOSpine member.

**Assist. A. Vilionskis –**

- member of Council of Lithuanian Stroke Association;
- fellow member of European Stroke Organization;
- member of Lithuanian Neurological Association;
- member of World Stroke Organization;
- member of World Federation of Neurology.

**Assist. R. Kaladytė-Lokominienė -**

- 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. K. Ryliškienė –**

- member of Subspecialty Scientific Panel *Headache* of the European Academy of Neurology (EAN);
- member of Neuro-ophthalmology and Neuro-otology Scientific Panel of 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 Medical.

**Assist. R. Masiliūnas –**

- executive board member of the Nordic Stroke Society.

## **THE LIST OF THE MOST IMPORTANT CASES OF PARTICIPATION 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 set by Lithuanian Health Ministry:

- Stroke Integrated Healthcare Management Committee (prof. Dalius Jatužis; dr. Aleksandras Vilionskis)
- Working Group on Neurology Medicine Norm Update (prof. Dalius Jatužis; prof. Rūta Mameniškienė, dr. Aušra Klimašauskienė)

## **THE LIST OF CONSULTATIONS PROVIDED BY THE UNIT TO THE PUBLIC OR ECONOMIC ENTITIES**

Dalius Jatužis:

- expert of projects in Lithuanian Business Support Agency;
- expertise for State Health Care Accreditation Agency under the Ministry of Health;
- expertise for The State Forensic Medicine Service.

## **THE LIST OF THE MOST IMPORTANT RESULTS OF SCIENCE POPULARISATION ACTIVITIES**

- Scientific popularization of TV, radio and Internet broadcasts (prof. Dalius Jatužis; prof. Rūta Mameniškienė, dr. Kristina Ryliškienė, dr. Aleksandras Vilionskis, asist. Rytis Masiliūnas).
- Epilepsy, Parkinson's Disease, Multiple Sclerosis, Stroke, Migraine, Alzheimer's Day Informative Events for the Public.

## Clinic of Psychiatry

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**Head** – Prof. Dr. *Sigita Lesinskiene*

### STAFF

**Professors:** Dr. S. Lesinskiene, Dr. D. Pūras, Dr. A. Germanavičius (part-time).

**Associate professors:** Dr. A. Šiurkutė, Dr. A. Navickas, Dr. R. Viliūnienė, Dr. B. Diomšina (part-time).

**Assistant:** G. Bulotienė, Dr. A. Deksnytė, E. Długauskas (part-time).

**Lecturers (part-time):** Dr. A. Dervinytė-Bongarzoni, V. Rutkauskas, R. Balčiūnas, V. Andrejauskienė, M. Misevičė, L. Bukelskis, I. Treigienė, A. Šapranauskienė, R. Samušytė, M. Karnickas, D. Natkevičienė, J. Ulevičienė, S. Ašvydienė, E. Paužienė, E. Petkutė, J. Daškevičienė, V. Mickutė, B. Didžiokaitė, L. Andrikienė, R. Židonienė, A. Nemanienė.

**Doctoral students:** E. Długauskas, A. Šileikaitė.

### Students' scientific groups of:

**Child and adolescent psychiatry:** scientific leader – Prof. S. Lesinskiene, coordinator – student R. Šambaras; 9 members of the group.

**Psychiatry:** scientific leader – Assoc. Prof. A. Navickas, coordinator – student A. Valentukevičiūtė; 54 members of the group.

**Psychotherapy:** scientific leader – Assoc. Prof. R. Viliūnienė, coordinator – student D. Ragoža; 50 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 psychotic, affective and neurotic disorders.

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 carers.

### RESEARCH PROJECTS CARRIED OUT IN 2018

#### Projects Supported by University Budget

**Prevalence, Clinical Peculiarities of Psychotic, Affective and Neurotic Disorders; Relation of Treatment and Preventive Methods with Functioning of Patients and Quality of Their Life.** Project leader: Assoc. Prof. A. Navickas. 2014–2018.

During 2018, the clinic of psychiatry concentrated its research on: psychopathological structure of depressions, the associations of its structure with the course and prognosis of the disease; pathological imitative behavior and response preparation in schizophrenia; delirium in the cardiac intensive care unit; autoimmune damage relation to treatment resistance psychoses and the effectiveness of the ECT; changes of event-related potential P300 after ECT in patients with treatment-resistant psychiatric disorders; influence of 10 Hz rTMS treatment site selection on physiological and clinical outcome; CYP450 enzymes genetic polymorphism influence on treatment of affective disorders; Active participation at international conferences.

Main publications:

Serpytis, P., Navickas, P., Lukaviciute, L., Navickas, A., Aranauskas, R., Serpytis, R., Deksnyte, A., Glaveckaite, S., Petrulioniene, Z., Samalavicius, R. 2018. Gender-based differences in anxiety and depression following acute myocardial infarction. *Arquivos Brasileiros de cardiologia. Rio de Janeiro: Sociedade Brasileira De Cardiologia*, vol. 111, iss. 5, 676-682; doi: 10.5935/abc.20180161.

Gancevičienė, R., Lukavičiūtė, L., Navickas, P., Navickas, A., Grigaitienė, J., Zouboulis, C.C. 2018. Aknės įtaka emociniams sutrikimams. *Sveikatos mokslai = Health sciences in Eastern Europe*, vol. 28, nr. 3, p. 30–35. DOI: <https://doi.org/10.5200/sm-hs.2018.036>.

**Research on Suicide Behaviour and Implementation of the Suicide Prevention Methods in Lithuania.** Project leader: Assoc. Prof. A. Navickas. 2014–2018.

Further research of suicidal behavior in Lithuanian population, comparative analysis of suicides among EU countries. Active participation in international conferences.

Main publications:

Kiziela, A., Viliūnienė, R., Laurinaitis, E., Navickas, A. 2019. Distress and resilience associated with workload of medical students. *Journal of Mental Health*. First published online, [1-5]; doi: 10.1080/09638237.2018.1521922.

Kazlauskienė, J., Kacėnienė, A., Smailytė, G., Zagminas, K., Navickas, A., Bulotienė, G. 2018. The risk factors for depression in Lithuanian breast cancer patients. *Psycho-Oncology*, vol. 27, Issue 10; doi: 10.1002/pon.4820.

**Complex Care for Children with Mental and Developmental Disorders: Implementation of the Model and Evaluation of Need for Services.** Project Leader - Prof. D. Pūras. 2014–2018.

Research was carried out on the need of services for children and adolescents with mental, behavioral and developmental disorders. Results identified substantial gaps in the system of services and the need for increasing quantity and quality of mental health services for children and adolescents. It was identified that the priority is to invest in development in specialized outpatient and day care services with teams of professionals in regional centers which cover catchment area of 200.000 to 300.00 of population. Recommendations of this research are reflected in publications. These recommendations were used by the Ministry of Health in formulation of guidelines for further development of child and adolescent mental health services in the Republic of Lithuania.

Main publications:

Lesinskienė, S., Girdzijauskienė, S., Gintilienė, G., Butkienė, D., Pūras, D., Goodman, R., Heiervang, E. 2018. Epidemiological study of child and adolescent psychiatric disorders in Lithuania. *BMC Public Health*, vol. 18, no. 548, [8]; doi: 10.1186/s12889-018-5436-3.

Sourander, A., Chudal, R., Skokauskas, N., Al-Ansari, Ah.M., Brunstein Klomek, A., Pornnoppadol, Ch., Kolaitis, G., Maezono, J., Steinhausen, H.-C., Slobodskaya, H., Kaneko, H., Regmee, J., Li, L., Nguyen, M.H., Grimland, M., Osokina, O., Ong, S.H., Prahara, S.K., Lesinskienė, S., Fossum, S., Wiguna, T., Makasheva, V.A., Lehti, V. 2018. Unmet needs of child and adolescent psychiatrists among Asian and European countries: does the Human Development Index (HDI) count? *European Child and Adolescent Psychiatry*, Vol. 27, iss. 1, p. 5-8; doi: 10.1007/s00787-017-1095-7.

Cheng S., Keyes K.M., Bitfoi A., Carta M.G., Koc C., Goelitz D., Otten R., Lesinskiene S., Mihova Z., Pez O., Kovess-Masfety V. 2018. Understanding parent-teacher agreement of the Strengths and Difficulties Questionnaire (SDQ): Comparison across seven European countries. *International Journal of Methods in Psychiatric Research*, vol. 27, iss. 1; e1589; 1-10; doi: [10.1002/mpr.1589](https://doi.org/10.1002/mpr.1589).

### ***International Research Project***

#### **The observation of children in Lithuanian care homes in preparation for their trip and stay in Italian carers' families, cultural mediation and psychological support for children and carers.**

The project of the visits is delivered by the not-for-profit organization “Nuovo Cielo” (president Sara Bianci), and is carried out in collaboration with Paolo Sesti (University of Calabria, Italy). The project is ongoing.

### **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).

### **OTHER SCIENTIFIC ACTIVITIES**

#### **Prof. S. Lesinskienė –**

- vice-president of Lithuanian Psychiatric Association;
- board Member of Lithuanian Society for Art Therapy Application;
- vice president of IACAPAP: International Association for Child and Adolescent Psychiatry and Allied Professions;
- board member of NBO: Nordic Baltic Organisation;
- editorial board member of the journal *Pediatrics (Paediatrics)*, [www.medpraktika.lt/leidiniai/leidinys/2/Pediatrics](http://www.medpraktika.lt/leidiniai/leidinys/2/Pediatrics).

#### **Prof. D. Pūras –**

- UN Special rapporteur on the right to physical and mental health  
<https://www.ohchr.org/en/issues/health/pages/srrightthealthindex.aspx>
- Chair of the Coordination committee of the Special procedures of the United Nations;
- University of Essex (UK) visiting professor;
- Georgetown University (JAV) distinguished visitor;
- editorial board member of the national journal *Visuomenės sveikata (Public health)*,  
[http://www.hi.lt/content/D2\\_redkolegija.html](http://www.hi.lt/content/D2_redkolegija.html);
- editorial board member of the national 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](http://www.enmesh.eu));
- Member of European network on Training, Evaluation and Research (ENTER: [www.entermentalhealth.net](http://www.entermentalhealth.net));
- Representative for Lithuanian Association of Psychiatrists for Nordic Board of World Psychiatric Association (WPA).

**Assoc. Prof. A. Navickas –**

- president of the Lithuanian Association of Suicidology;
- president of the Lithuanian Psychiatric Association;
- member of International Association of Suicide Prevention;
- member of the Committee of Nordic Psychiatric Associations;
- member of the Steering Committee of the European Psychiatric Association;
- editorial board member of the journal *Biologinė psichiatrija ir psichofarmakologija (Biological Psychiatry and Psychopharmacology)*; <http://www.pri.kmu.lt/biological-psychiatry.ht>;
- editor-in-chief of the journal *Psichiatrijos žinios (News of Psychiatry)*;
- chair of Organizing Committee of the WPA Inter Zonal Congress in Vilnius;
- WPA Honorary Membership for excellence in service to the World Psychiatric Association .

**Assoc. Prof. A. Šiurkutė –**

- editorial board member of the journal *Psichiatrija*. Mental Health Research Centre Russian Acad.of Med.Sci;
- member of Lithuanian Psychiatric Association.

**Assoc. Prof. R.Viliūnienė –**

- president of Lithuanian Society of Psychoanalysis (LPaD), <http://psichoterapija.org>;

- member of Lithuanian Psychiatric Association (LPA).

**Research fellow Asta Dervinyte-Bongarzoni –**

- member of Lithuanian Psychiatry Association;
- member of Children and Adolescents Psychiatry Association.

**THE LIST OF THE MOST IMPORTANT RECEIVED NATIONAL AND INTERNATIONAL AWARDS FOR R&D ACTIVITIES**

Prof. D. Pūras - 2018 07 03 the Order for Merits to Lithuania.

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

S. Lesinskienė – Participation in the working group elaborating National suicide prevention strategy, set by Ministry of Health in Lithuania.

V. Karaliene – participation in working group improving child and adolescent mental health services and regulations, set by Ministry of Health in Lithuania

**THE LIST OF CONSULTATIONS PROVIDED BY THE UNIT TO THE PUBLIC OR ECONOMIC ENTITIES**

Clinic staff often participates in debates or opinion formation regarding mental health and psychiatry initiated by broad variety public media sources

**THE LIST OF THE MOST IMPORTANT RESULTS OF SCIENCE POPULARISATION ACTIVITIES**

Presentation in the conference held in Lithuanian Academy of Science and organized by Ministry of Education and Science and Ministry of Health, Vilnius university etc. made by S. Lesinskienė : “Mental health and related factors”

Periodically prof. S. Lesinskienė participates with presentations on child adolescent and family mental health issues in scientific-practical conferences for family doctors and pediatricians, seminars for specialists and parents in preschool and school educational institutions.



## **Clinic of Rheumatology, Orthopedic Trauma and Reconstructive Surgery**

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**Head** - Prof. Dr. *Irena Butrimienė*

### **STAFF**

**Professors:** Prof. Dr. I. Butrimienė, Prof. Habil. Dr. A. Venalis, Prof. Habil. Dr. N. Porvaneckas, Prof. Habil. Dr. K. Vitkus, Prof. V. Uvarovas.

**Associate professors:** Dr. M. Kocius, Dr. I. Šatkauskas, Dr. R. Rugienė, Dr. S. Stropuvienė, Dr. L. Zabulienė.

**Assistant professor:** Dr. D. Miltinienė, Dr. S. Ryliskis, Dr. I. Arštikytė.

**Lecturers:** Dr. N. Jakutis.

**Research fellows:** Dr. R. Rugienė, Dr. D. Miltinienė, G. Stundžaitė – Baršauskienė, I. Sakalauskaitė.

**Doctoral students:** R. Šakalytė, E. Puncevičienė, E. Tertelienė, A. Makulavičius, G. Stundžaitė-Baršauskienė, A. Petrulionienė, G. Petryla.

### **Students' scientific groups of:**

**Rheumatology:** scientific leader – Dr. D. Povilėnaitė, coordinator – student J. Mironova, 15 members of the group.

**Orthopaedics and traumatology:** scientific leader – Dr. S. Prof. N. Porvaneckas, coordinator – student R. Bradūnaitė; 57 members of the group.

### **RESEARCH INTERESTS**

Peculiarities of applying biological therapy to rheumatic patients in Lithuania.

Immunogenicity in rheumatic patients with anti-TNF treatment.

Outcomes of early undifferentiated arthritis.

Effects of light emitting diodes (LED) in systemic sclerosis patients.

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

### **RESEARCH PROJECTS CARRIED OUT IN 2018**

#### **Projects Supported by University Budget**

**Phototherapy in the Animal Models of Systemic Sclerosis.** Prof. A. Venalis, PhD student D. Karpec. 2014–2018.

The special-purpose medical device “IMC-Light” has been constructed during the doctoral studies. The equipment consists of ultraviolet (UVA1) light emitting diodes, which emit the

ultraviolet rays with a peak wavelength of  $365 \pm 5$  nm. Animal models are essential tools in investigating in-depth the search of new therapeutic modalities.

The main objective of the project is to define the efficacy and safety of narrowband ultraviolet (UVA1) for the treatment of dermal fibrosis in bleomycin-induced mouse scleroderma. The results of the study have revealed that narrowband UVA1 phototherapy reduces the dermal thickness, stops the progression of dermal fibrosis, induces the regression of already existing fibrotic changes in the established, bleomycin-induced mouse model of scleroderma. Further experiments concerning the mechanisms of action and safety of narrowband UVA1 phototherapy will be performed.

#### Main publications:

Karpec, D., Rudys, R., Leonaviciene L., Mackiewicz, Z., Bradunaite, R., Kirdaite, G., Venalis, A. 2017. The impact of high-dose narrowband ultraviolet A1 on dermal thickness, collagen and matrix-metalloproteinases in animal model of scleroderma. *Journal of Photochemistry and Photobiology B: Biology*, vol. 173, 448–455; doi: [10.1016/j.jphotobiol.2017.06.021](https://doi.org/10.1016/j.jphotobiol.2017.06.021).

Karpec, D., Rudys, R., Leonavičienė, L., Mackiewicz, Z., Bradūnaitė, R., Kirdaitė, G., Venalis, A. 2017. The impact of narrowband ultraviolet A1 on active caspase-3 expression in scleroderma animal model. *Laboratory Medicine*, t. 19, no. 3, p. 151–157.

Karpec, D., Rudys R., Leonaviciene L., Mackiewicz Z., Bradunaite R., Kirdaite G., Venalis A. 2018. [The safety and efficacy of light emitting diodes-based ultraviolet A1 phototherapy in bleomycin-induced scleroderma in mice](#). *Advances in Medical Sciences*, vol. 63, iss. 1, 152-159; DOI: [10.1016/j.advms.2017.09.001](https://doi.org/10.1016/j.advms.2017.09.001)

**Associations Between Genetic, Epigenetic Factors and Rheumatoid Arthritis Ethiopathogenesis and Clinical Course.** Prof. I. Butrimienė, Phd Student E. Pucevičienė. Ongoing since 2015.

Aim of study is to investigate the association between genetic, epigenetic factors in pathogenesis of rheumatoid arthritis, disease activity and clinical course. Special attention will be kept on vitamin D concentration and oral health as external risk factors in higher susceptibility for rheumatic diseases and influence in ethiopathogenesis by causing changes in gene function. Accordingly, research of laboratory data of epigenetics (DNA methylation, ect.) and genetics (vitamin D receptor gene polymorphism) that potentially mediates genetic risk for rheumatoid arthritis will be done. This study is approved by Lithuanian Bioethics Committee.

#### Main publications:

Vojinovic, J., Tincani, A., Sulli, A., Soldano, S., Andreoli, L., Dall'Ara, F., Butrimiene, I., Puceviciene, E., et al. 2017. European multicentre pilot survey to assess vitamin D status in rheumatoid arthritis patients and early development of a new Patient Reported Outcome questionnaire (D-PRO). *Autoimmunity Reviews*, vol. 16, p. 548–554; doi: [10.1016/j.autrev.2017.03.002](https://doi.org/10.1016/j.autrev.2017.03.002).

Salaffi, F., Di Carlo, M., Vojinovic, J., Tincani, A., Sulli, A., Soldano, S., Andreoli, L., Dall'Ara, F., Ionescu, R., Butrimienė, I., Puceviciene, E., et al. 2017. Validity of the rheumatoid arthritis impact of disease (RAID) score and definition of cut-off points for disease activity states in a population-based European cohort of patients with rheumatoid

arthritis. *Joint Bone Spine*, 2017 May 24; pii: S1297-319X(17)30111-2; doi: 10.1016/j.jbspin.2017.05.020.

**Significance of Sociodemographic, Clinical, and Laboratory Parameters Significance for Early Undifferentiated Arthritis Outcomes:** Prof. A. Venalis, PhD Student R. Šakalytė. 2014–2018.

The main objective of this project is to evaluate the significance of certain clinical, laboratory and sociodemographic parameters, alone or in combination, for the outcomes of early undifferentiated arthritis. The aim of this study is to find a method that will diagnose chronic inflammatory joint disease as soon as possible, before irreversible joint damage is present and to determine when to start treatment with antirheumatic disease modifying drugs. With partner we plan to evaluate certain single nucleotide polymorphisms (SNPs) influence in pathogenesis of chronic inflammatory arthritis, to see if any of these SNPs are associated with early joint structural damage seen on ultrasound. We will also measure the activity of certain genes, which are responsible in development of autoimmune joint disease during the course of early undifferentiated arthritis.

Main publications:

Naciute, M., Mieliauskaite, D., Ruginė, R., Maciunaite, G., Mauricas, M., Murovska, M., Girkontaite, I. 2017. Parvovirus B19 infection modulates the levels of cytokines in the plasma of rheumatoid arthritis patients. *Cytokine*, vol. 96, p. 41–48; doi: 10.1016/j.cyto.2017.03.002.

Naciute, M., Maciunaite, G., Mieliauskaite, D., Ruginė, R., Zinkeviciene, A., Mauricas, M., Murovska, M., Girkontaite, I. 2017. Increased numbers of CD4+CD25+ and CD8+CD25+ T-Cells in peripheral blood of patients with rheumatoid arthritis with parvovirus B19 infection. *In Vivo*, vol. 31, iss. 2, p. 181–185.

Stropuvienė, S., Baranauskaitė, A., Bukauskienė, L., Zaikauskienė, J. 2018. The impact of anti-cyclic citrullinated peptide antibody status on the management of patients with early rheumatoid arthritis: observational study results from Lithuania. *Acta Med Litu*, vol. 25, no 2, 112-123; doi: [10.6001/actamedica.v25i2.3765](https://doi.org/10.6001/actamedica.v25i2.3765)

**The Long Term Prognosis of Rheumatoid Arthritis Patients After Knee Arthroplasty in Lithuania.** Prof. A. Venalis, PhD student E. Tertelienė. Ongoing since 2015.

Aim of study is to identify factors that influence the patients functional outcome and quality of life after total knee arthroplasty in Lithuania.

The main objectives of this study are: to evaluate the results of total knee replacement in rheumatic patients 2 years after surgery; to identify factors that influence implant survival, complications rate and risk factors for revision surgery; to validate Lithuanian Arthroplasty database with respect to revisions recorded and to identify conservatively treated or untreated infected patients. This study is approved by Lithuanian Bioethics Committee.

Main publication:

Salaffi, F., Di Carlo, M., Vojinovic, J., Tincani, A., Sulli, A., Soldano, S., Andreoli, L., Dall'Ara, F., Ionescu, R., Simić Pašalić, K., Balčune, I., Ferraz-Amaro, I., Tlustochowicz, M., Butrimienė, I., Punceviciene, E., Toroptsova, N., Grazio, S., Morović-Vergles, J., Masaryk, P., Otsa, K., Bernardes, M., Boyadzhieva, V., Cutolo, M. 2017. Validity of the rheumatoid arthritis impact of disease (RAID) score and definition of cut-off points for disease activity states in a population-based European cohort of patients with rheumatoid arthritis. *Joint Bone Spine*, 2017 May 24, pii: S1297-319X(17)30111-2; doi: 10.1016/j.jbspin.2017.05.020.

**Lyme Disease and Rheumatic Symptoms: Epidemiological and Clinical Interface with a Transmitter of Disease and Biological Characteristics of the Pathogen.** Prof. A. Venalis, PhD student A. Petrulionienė. Since 2016, ongoing.

The main objective of the project is to determine correlations between infected ticks with different genotypes of *Borrelia burgdorferi* (B.b.) in different regions of Lithuania, Lyme's disease, immunoglobulin and clinical course in order to forecast the clinical way of disease according to B.b. genotype. This study is approved by Vilnius Regional Bioethics Committee, and by State Data Protections Inspectorate. Co-working with Center for Communicable Diseases and AIDS the database of patients who had Lyme disease in 2014–2016 years in Lithuania was created. A retrospective analysis of the data of patients who were treated in the Infectious disease center (Vilnius University, Santaros clinics) because of Lyme disease was performed.

**Biologic therapy in patients with autoimmune arthritis in Lithuania.** Prof. I. Butrimienė, Dr. I. Arštikytė. 2007–2018.

By December 2018 information was collected and recorded from 947 patients with rheumatoid arthritis, ankylosing spondylitis, psoriatic arthritis and juvenile idiopathic arthritis treated with biologics; over 6600 questionnaires in total. The peculiarities of applying biological therapy to rheumatic patients in Lithuania concerning lower drugs dosages, treatment efficacy and adverse event profile are analyzed. Patients treated with anti-TNF blockers are investigated for the concentration of medication and antibodies to the drug (total 240 patients).

**EMerging EUlar NETwork (EMEUNET).** Coordinator – PhD student Goda Šeškutė, since 2013.

Goda Šeškutė is a working group member and country liaison of EMEUNET (a working group of young clinicians and researchers in rheumatology). The objectives of the organization are to promote education, perform research, widen collaborations and integrate with EULAR activities. Goda Šeškutė as country liaison is responsible for disseminating and promoting information amongst young clinicians and scientists within the country. G. Šeškutė collected data from Lithuania rheumatology trainees.

**Access to Social Security Benefits in Case of Work Disability Due to RA. Coordinator: Polina Putrik. Prof. I. Butrimienė.** The Research team at Maastricht University initiated the project since 2016.

The aim of this study is to compare the differences in access to social security benefits in case of sick leave and work disability and to compare the level on income substitution and lower economic status for patients with rheumatoid arthritis in different countries across Europe. 43 countries take part in the project.

**Clinical, Psychosomatic and Radiologic Peri- And Postoperative Evaluation of Axial Skeleton and Joint Degenerative Diseases.** Prof. N. Porvaneckas. 2014–2018.

Total knee arthroplasty – the influence of preoperative patient factors on pain, function and quality of life. A prospective randomized study of minimally invasive treatment of acute Achilles tendon rupture. A prospective study of functional outcomes after pelvic ring ant acetabulum fracture treatment. Comparison of three tourniquet application methods in

primary total knee arthroplasty surgery. The protocol was approved by the Regional Ethical Committee and registered at Clinicaltrials.gov (identifier: NCT01355900).

#### Main publications:

Sveikata, T., Porvaneckas, N., Kanopa, P., Molyte, A., Klimas, D., Uvarovas, V., Venalis, A. 2017. Age, sex, body mass index, education, and social support influence functional results after total knee arthroplasty. *Geriatr Orthop Surg Rehabil.*, vol. 8(2), p. 71–77; doi: 10.1177/2151458516687809.

Masionis, P., Šatkauskas, I., Mikelevičius, V., Ryliškis, S., Bučinskas, V., Griškevičius, J., Martin Oliva, X., Monzó Planella, M., Porvaneckas, N., Uvarovas, V. 2017. Biomechanical evaluation of native acromioclavicular joint ligaments and two reconstruction techniques in the presence of the sternoclavicular joint: A cadaver study. *J Orthop Surg (Hong Kong)*, vol. 25(3):2309499017730424; doi: 10.1177/2309499017730424.

Dambrauskas, Ž., Aukštakalnis, V., Karbonskienė, A., Kačiurinas, D., Vokietienė, J., Lapka, R., Pamerneckas, A., Porvaneckas, N., Stašaitis, K., Jasinskas, N., Dobožinskas, P., Vaitkaitis, D., Lunevičius, R. 2017. How the changes in the system affect trauma care provision: The assessment of and implications for Lithuanian trauma service performance in 2007–2012. *Medicina*, vol. 53(1), p. 50–57; doi: 10.1016/j.medici.2016.12.002.

#### **A prospective randomized study of minimally invasive treatment of acute Achilles tendon rupture.** January 2015–December 2019.

The protocol was approved by the Regional Ethical Committee. A prospective study of functional outcomes after pelvic ring and acetabulum fracture treatment is ongoing.

#### **National Research Projects**

National Research Projects Research Council of Lithuania. **Analysis of immunological, genetic, and epigenetic factors in pathogenesis of autoimmune arthritis.** (No. S-MIP-17-12). Prof. I. Butrimienė. 2017–2020.

The aim of this study is to determine correlation of immunologic, genetic, and epigenetic factors (expression of Toll-like receptors, vitamin D response metabolism genes DNA sequence methylation changes, vitamin D receptors genes polymorphisms) on ethiopathogenesis of autoimmune arthritis.

It is planned to investigate approximately 220 patients with autoimmune arthritis and approximately 180 healthy controls, will carry out genetic and approximately for 100 subjects (50 patients/50 control group) epigenetic vitamin D metabolism genes analysis. Later we will examine synovial tissues and vitamin D levels in blood sera in 30 patients. These patients will consist of three groups: early arthritis, rheumatoid arthritis, and osteoarthritis patients (10 from each group). In each group we will measure the level of Toll-like receptors and their ligands expression. These molecular mechanisms will be linked with autoimmune disease severity, vitamin D level, and its metabolisms efficiency.

#### **International Research Projects**

The EULAR Scleroderma Trials and Research group (EUSTAR) initiated multicentral online study **Minimum Essential Data Set**. Since 2011. Coordinator: Walker, Ulrich A. University Basel, Dr. Rugelienė.

Minimal essential data set (MEDS) Online is an international registry established by the European League against Rheumatism scleroderma trial and research (EUSTAR), which collects data from over 8000 patients from 92 centres worldwide, including 21 European centres and 9 centres outside Europe. Center contribution: clinical patient data input online, updated on an annual basis.

Main publication:

Vojinovic, J., Tincani, A., Sulli, A., Soldano, S., Andreoli, L., Dall'Ara, F., Ionescu, R., Pasalic, K. S., Balcune, I., Ferraz-Amaro, I., Tlustochowicz, M., Butrimiene, I., Punceviciene, E., Toroptsova, N., Grazio, S., Morovic-Vergles, J., Masaryk, P., Otsa, K., Bernardes, M., Boyadzhieva, V., Salaffi, F., Cutolo, M. 2017. European multicentre pilot survey to assess vitamin D status in rheumatoid arthritis patients and early development of a new Patient Reported Outcome questionnaire (D-PRO). *Autoimmun Rev.*, vol. 16, no. 5, 548–554; [doi: 10.1016/j.autrev.2017.03.002](https://doi.org/10.1016/j.autrev.2017.03.002).

**Genetic analysis of early undifferentiated arthritis patients (single nucleotide polymorphism profile) association with disease outcome and early radiological and ultrasound damage** Partner Children's Hospital Oakland Research Institute, California, USA, PhD Damini Jawaheer. 2016 – 2019. R. Sakalyte

The aim of this study is to evaluate if any single nucleotide polymorphism (SNP) alone or in combination can help to predict the outcomes comes of early undifferentiated arthritis. Moreover, we want to see if any of SNP we analyse are related with early joints damage (erosions) that can be detected on ultrasound. All this could help to determine which early undifferentiated arthritis patients should be treated more aggressively to prevent debilitating outcomes of arthritis.

## **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)

Department of Quantum Electronics of the Faculty of Physics of Vilnius University (Lithuania)

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 Oakland Research Institute, San Francisco (USA)

## **OTHER SCIENTIFIC ACTIVITIES**

### **Prof. I. Butrimienė –**

- board member of Opinion Leaders for Biological Therapy, Europe;
- member of executive committee for clinical trials in European League against Rheumatism;
- 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. A. Venalis –**

- board member of European League against Rheumatis
- member of executive committee for clinical trials in European League against Rheumatism;
- member of the Lithuanian Rheumatology Association;
- editorial board member of the journals *Reumatologijos seminarai* (Seminars in Rhumatology);
- co-president of the organizing committee of annual conference Vilnius Rheumatology Seminars;
- editorial board member of the journal *Rheumatology* (Poland).

**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.

**Assoc. Prof. S. Stropuvienė –**

- delegate member of EULAR Standing Committee on Education and Training (ESCET);
- editorial board member of the journal *Reumatologijos seminarai (Seminars in Rheumatology)*;
- acting secretary of the Lithuanian Rheumatology Association.

**Assoc. Prof. R. Rugienė –**

- editorial board member of the journals *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.

**Assoc. Prof. M. Kocius –**

- editorial board member of the journal *Medicinos teorija ir praktika (Theory and Practice in Medicine)*;
- member of EFFORT.

**Assistant professor I. Arštikytė –**

- member of Emerging Euler 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.

## **THE LIST OF THE MOST IMPORTANT RESULTS OF SCIENCE POPULARISATION ACTIVITIES**

Participation in patient's organisation "Lietuvos Artrito Asociacija" ("Lithuanian Arthritis Association"), "LUPUS", and "Judesys" activities.

Articles presented to journals "Internistas", "Medicinos teorija ir praktika", patients journal "Artritas", participation in TV and radio programs.

## **RESEARCH AREAS**

Randomized prospective comparison of Achilles tendon open and minimally invasive surgical treatment methods. Biomechanical and anatomical evaluation of tendon stitches.

Assessment of quality of life and functional outcomes after pelvic bone trauma.



## Clinic of Cardiovascular Diseases

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**Head** – Prof. Habil. Dr., Full Member of the Lithuanian Academy of Sciences *Aleksandras Laucevičius*

### STAFF

**Professors:** Dr. (HP) A.Aidietis, Dr. J.Čelutkienė, Dr. G.Davidavičius (part-time), Dr. A.Kibarskis, Dr. (HP) G. Marinskis, Dr. (HP) Ž.Petrulionienė, Dr. (HP) K.Ručinskas, Dr. P.Šerpytis, Dr. V.Tarutis, Dr. D. Zakarkaitė (part-time).

**Associate professors:** Dr. S.Aidietienė, Dr. J.Barysienė, Dr. S.Glaveckaitė, Dr. G.Kalinauskas, Dr. R.Karalius, Dr. B.Petrauskienė, Dr. A.Rudys, Dr. J.Badarienė.

**Lecturers:** Dr. J.Misiūra, Dr. R.S.Samalavičius, Dr. R.Vaitkevičius (part-time), D.Sudavičienė (part-time), Dr. G.L.Vilkevičius, Dr. R.Kūgienė (part-time), Dr. B.Vaišnytė.

**Assistants:** Dr. R.Steponėnienė, Dr., Dr. N.Misonis (part-time), Dr. V.Janušauskas, Dr. R.Sipavičius.

**Research fellows:** J. Balsytė (part-time), Dr. A. Baranauskas, Dr. A. Berūkštis, Dr. L.Bezuška, Dr. G.Burneikaitė (part-time), Dr. I.Butkuvienė, Dr. A.Čypienė (part-time), Dr. R.Čypienė, Dr. V.Grabauskienė, Dr. L.Gumbienė, Dr. V.Janušauskas, Dr. L.Jurgauskienė, Dr. V.Lebetkevičius, Dr. D.Liekienė, Dr. A. Lipnevičius, E. Lycholip (part-time), Dr. R.Malickaitė, Dr. V.V.Maneikienė (part-time), Dr. N.Misonis (part-time), Dr. R.Navickas (part-time), E. Palevičiūtė (part-time), R. Purnaitė (part-time), Dr. G. Račkauskas (part-time), Dr. E.Rinkūnienė (part-time), Dr. L.Ryliškytė, Dr. P.Semėnienė, Dr. R. Sudikienė, (part-time), Dr. E.Uždavinytė-Gateliene (part-time), Dr. A.Valaika, A. Zorinas (part-time), Dr. G.Zuozienė (part-time).

**Doctoral students:** G.Balčiūnaitė, T.Baltrūnas, G.Bieliauskienė, M.Budra, E.Čiburienė, A.Drašutienė, D.Fomin, E.Gaižauskas, J.Jarašūnas, K.Jonas, V.Juknevičius, V.Rudienė, R.Ruseckaitė, A.Skrebūnas, E.Stanevičiūtė, R.Šerpytis, V.Šileikienė, J. Balsytė, E. Palevičiūtė, A. Podkopajev, G. Radauskaitė.

### Scientific groups of students:

Cardiology: scientific leader – prof. P. Šerpytis, coordinator – student M. Kazlauskaitė; 87 members of students.

Cardiac surgery: scientific leader – prof. V. Tarutis, coordinator – student J. Šniaukšta; 12 members of students.

Emergency medicine: scientific leader – dr. R. Samalavičius, coordinator – student D. Petrušytė; 80 members of students.

Vascular surgery: scientific leader – A.Skrebūnas, coordinator – student K.E. Navardauskaitė; 22 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.  
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.  
Myocardial regeneration therapy by cardiac pulse wave therapy in coronary heart disease.  
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 2016**

### **Projects Supported by University Budget**

**Prevention of atherosclerosis, diagnosis and treatment of induced diseases.** Prof. A.Laucevičius 2014-2019.

During the 2018, we aimed to investigate the possibility to uncover the early phase of HFpEF (heart failure with preserved ejection fraction) by means of exercise capacity evaluation and biomarker testing in metabolic syndrome population using a combination of B type Natriuretic Peptide (BNP) and peak VO<sub>2</sub>. Enrolled individuals with MetS demonstrated reduced exercise capacity and/or elevated BNP consistent with the early signs of HFpEF. The analysis of arterial markers in the prospective group revealed statistically significant association of AIxHR75 with early phase of HFpEF. We referred patients with resistant hypertension who can't achieve normal blood pressure values after medical treatment correction for renal artery denervation. We also perform follow-up after procedure and investigated predictive biomarkers for the long-term effect and quality of the procedure. Also we evaluated cardiovascular risk profile in dyslipidemic middle-aged men and women over the period 2009-2016. We investigate the importance of LDL-C and TG levels assessment for FH screening in the middle-aged Lithuanian adults.

#### Main publications:

Kutkienė S., Petrulionienė Ž., Laucevičius A., Čerkauskienė R., Staigyte J., Šaulytė A., Petrulionytė E., Gargalskaitė U., Skiauterytė E., Matuzevičienė G., Kovaitė M., Rinkūnienė E. Lipid profile evaluation and severe hypercholesterolaemia screening in the middle-aged population according to nationwide primary prevention programme in Lithuania. *Atherosclerosis* 2018;277:267-272. IF 4.467

Petrulionienė Ž., Gargalskaitė U., Kutkienė S., Staigyte J., Čerkauskienė R., Laucevičius A. Establishing a national screening programme for familial hypercholesterolaemia in Lithuania. *Atherosclerosis* 2018;277:407-412. IF 4.467

De Bacquer D., De Smedt D., Kotseva K., Jennings C., Wood D., Rydén L., Gyberg V., Shahim B., Amouyel P., Bruthans J., Castro Conde A., Cífková R., Deckers J.W., De Sutter J., Dilic M., Dolzhenko M., Erglis A., Fras Z., Gaita D., Gotcheva N., Goudevenos J., Heuschmann P., Laucevičius A., Lehto S., Lovic D., Miličić D., Moore D., Nicolaides E., Oganov R., Pajak A., Pogosova N., Reiner Z., Stagmo M., Störk S., Tokgözoğlu L., Vulic D., Wagner M., De Backer G.; EUROASPIRE Investigators. Incidence of cardiovascular events in patients with stabilized coronary heart disease: the EUROASPIRE IV follow-up study. *European Journal of Epidemiology* 2018 Oct 23. doi: 10.1007/s10654-018-0454-0. IF 7.023.

**New technologies for management of structural heart diseases and arrhythmias.** Prof. Dr. (HP) A. Aidietis, Prof. Dr. (HP) K.Ručinskas, 2014-2019.

Since 2011 at VUHSK 98 patients with degenerative mitral valve regurgitant pathology were treated in the transapical off-pump fashion with NeoChord Implantation using NeoChord DS1000 system (NeoChord, Inc., Eden Prairie, MN). In 2018, nine patients underwent this procedure. On the basis of the collected data doctoral dissertation is being prepared. Since 2005 at VUHSK 94 patients were treated for mitral valve paravalvular leak. Forty-nine patients underwent conventional redo surgery, while 40 patients underwent surgical transapical catheter based mitral paravalvular leak closure with a closure device. In 2018, there were 6 patients who underwent this procedure. The international paravalvular leak Registry has been joined. On the basis of the collected data doctoral dissertation was defended.

#### Main publications:

Colli A., Manzan E., Aidietis A., Rucinskas K., Bizzotto E., Besola L., Pradegan N., Pittarello D., Janusauskas V., Zakarkaite D., Drąsutiene A., Lipnevicius A., Danner B.C., Sievert H., Vaskelyte L., Schnelle N., Salizzoni S., Marro M., Rinaldi M., Kurnicka K., Wrobel K., Ceffarelli M., Savini C., Pacini D., Gerosa G. An early European experience with transapical off-pump mitral valve repair with NeoChord implantation. *European Journal of cardio-thoracic surgery* 2018, vol. 54, no 3, 460-466; doi 10.1093/ejcts/ezy064 IF 3,759

Zorinas A., Janusauskas V., Davidavicius G., Simakauskas R., Puodziukaite L., Zakarkaite D., Bilkis V., Cypiene R., Samalavicius R., Onorato E., Aidietis A., Rucinskas K. Retrospective analysis of a single centre early and midterm results of the transapical catheter-based mitral paravalvular leak closure with a purpose specific device. *Postepy w Kardiologii Interwencyjnej (Advances in Interventional Cardiology)* 2018, vol. 14, no 2, 167-175; doi: <https://doi.org/10.5114/aic.2018.76408>

Samalavičius, R.S., Norkiene, I., Drąsutiene, A., Lipnevicius, A., Janusauskas, V., Urbonas, K., Zakaraite, D., Aidietis, A., Rucinskas, K. 2018. Aesthetic Management and Procedural Outcomes of Patients Undergoing Off-Pump Transapical Implantation of Artificial Chordae to Correct Mitral Regurgitation: Case Series of 76 Patients. *Anesthesia and Analgesia*, , vol. 126, no 3, p. 776-784; doi: 10.1213/ANE.0000000000002767.

**Improvement and evaluation of congenital heart disease surgery.** Prof. Dr. V. Tarutis. 2014-2019.

A review of the heart transplantation in children in Lithuania has been presented in a „30 years for Heart Transplantation in Lithuania” congress of the Lithuanian Society of Thoracic and Heart surgery. Presentation „39 years of experience of treating transposition of the great arteries in a single low-volume center“ was made at the 7th World Congress of Pediatric Cardiology and Cardiac Surgery in Barcelona. An article “30-year experience of Fontan surgery: single-centre’s data” has been published in *Journal of Cardiothoracic Surgery*. Our experience in a surgical treatment of pulmonary artery valve endocarditis has been summarized and article prepared.

#### Main publications:

Rudienė, V., Glaveckaitė, S., Zakarkaitė, D., Gumbienė, L., Aidietis, A. 2018. Cor triatriatum sinistrum with obstruction: a rare presentation in an adult. *Acta medica Lituanica*, vol. 25, suppl., 75.

Jonas, K., Jakutis, V., Sudikienė, R., Lebetkevičius, V., Tarutis, V. 2018. Transposition of the great arteries: the evolution of treatment in a single low-case. *Acta medica Lituanica*, vol. 25, suppl., 32.

Hjortshoj, C.M.S., Kempny A.S., Jensen, A.S., Sorensen, K., Nagy, E., Dellborg, M., Johansson, B., Rudiene, V., Hong, G., Opotowsky, A.R., Buts, W., Mulder, B.J., Tomkiewicz-Pajak, L., D'Alto, M., Prokšeli, K., Diller, D.P., Dimopoulos, K., Estensen, M.E., Holmstrom, H., Turanlahti, M., Thilen, U., Gatzoulis, M.A., Sondergaard, L. 2017. Past and current cause-specific mortality in Eisenmenger syndrome. *European Heart Journal* 2017, 38(26):2060-7. vol. 38, iss. 26, 2060-2067; doi: 10.1093/eurheartj/ehx201

### **Optimization of diagnosis and the creation of treatment strategy for type 2 myocardial infarction.** Prof. P. Šerpytis.

The aim of this study is to improve the diagnosis of type 2 MI, to evaluate the benefits of new laboratory and instrumental investigations and to evaluate different patient treatment strategies. Based on our data, this randomized study will be analyzing a wide range of diagnostic tests and treatment strategies. It is the first randomized study of its kind in Lithuania and in the world.

### **Efficacy of extracorporeal shockwave myocardial revascularization in patients with stable angina.** Prof. A. Laucevičius, prof. J. Čelutkienė, dr. G. Zuozienė, dr. G. Burneikaitė, dr. I. Butkuvienė.

A multicentre randomized triple-blind sham-procedure controlled study of cardiac shock wave therapy was performed. The study size – 72 patients, endpoints – exercise capacity assessed by the total treadmill test duration, time until the occurrence of ECG changes, angina class, consumption of antianginal medications. The endpoints of the imaging substudy were peak wall motion score during dobutamine stress echocardiography and summed difference score of myocardial perfusion scintigraphy.

#### Main publications:

Shkolnik E., Burneikaitė G., Čelutkienė J., Scherbak M., Zuozienė G., Petrauskienė B., Trush E., Laucevičius A., Vasyuk Y. 2018. Efficacy of cardiac shock wave therapy in patients with stable angina: The design of randomized, triple blind, sham-procedure controlled study. *Anatolian Journal of Cardiology*, vol. 19, iss. 2, 100-109; doi: 10.14744/AnatolJCardiol.2017.8023.

Shkolnik E., Burneikaitė G., Jakutis G., Scherbak M., Zuozienė G., Petrauskienė B., Trush E., Vasyuk Y., Laucevičius A., Čelutkienė J. A randomized, triple-blind trial of cardiac shock-wave therapy on exercise tolerance and symptoms in patients with stable angina pectoris. *Coronary Artery Disease*, vol. 29, no 7, p. 579-586; doi: 10.1097/MCA.0000000000000648.

### **National Research Projects**

#### **Research Council of Lithuania Project**

**The National Lithuanian studies development programme for 2016-2024 „Healthy ageing“. Cardiometabolic early vascular aging determinants (SEN – 03/2016).** Prof. A. Laucevičius, 2016-2018.

One of the most important task of the modern preventative medicine is to highlight people having high cardiovascular (CV) risk prior to an event and apply the wright measures to

avoid or considerably postpone it. Therefore, the aim of our study was to examine the dynamics of early cardiovascular aging and metabolic syndrome factors, and their interaction. After analysis of all the data we collected we arrived to a conclusion, that none of currently widely used risk assessment tools (Reynolds, FRS, FRS2, ATP-III, IAS-AGLA, PROCAM and SCORE) are suited for assessing risk for ever increasing metabolic syndrome patient group. We have also analysed additional data regarding arterial stiffness defined by aortic pulse wave velocity (PWV). Analysis shows that PWV ability to predict CV diseases is valid, thus PWV measures should be included in CV risk assessment tools, and not used in isolation.

#### Main publications:

Slivovskaja, I., Ryliškytė, L., Šerpytis, P., Navickas, R., Badarienė, J., Čelutkienė, J., Purnaitė, R., Ryliškienė, K., Čypienė, A., Rinkūnienė, E., Šileikienė, V., Petrauskienė, B., Juocevičius, A., Laucevičius, A. 2018. Aerobic Training Effect on Arterial Stiffness in Metabolic Syndrome. *The American Journal of Medicine*, Vol. 131, no 2, p. 148-155; doi: 10.1016/j.amjmed.2017.07.038.

Jakutis G., Juknevičius V., Barysienė J., Matačiūnienė D., Petrauskienė B., Petrulionienė Ž., Laucevičius A. 2018. A rare case of REM sleep-related bradyarrhythmia syndrome with concomitant severe hypertension: a case report and a review of literature. *Acta Medica Lituanica*, vol. 25, no 1, p. 1-6; doi: 10.6001/actamedica.v25i1.3697

**Diagnostic and prognostic value of biomarkers for patients hospitalised due to acute heart failure: prospective observational multicenter cohort study (MIP 049/2015).** 2015–2018. Project leader – prof. Dr. J. Čelutkienė.

The association of the readmissions during first 6 months after discharge with 1-year mortality was analyzed. Next ongoing analyses are the prognostic value of novel biomarker GDF-15 for hard outcomes of acute dyspnea patients and the significance of right ventricular deformation indices for morbidity and mortality of acute heart failure and non- acute heart failure patients.

#### Main publications:

Doehner W., Ural D., Haeusler K.G., Čelutkienė J., Bestetti R., Cavusoglu Y., Peña-Duque M.A., Glavas D., Iacoviello M., Laufs U., Alvear R.M., Mbakwem A., Piepoli M.F., Rosen S.D., Tsivgoulis G., Vitale C., Yilmaz M.B., Anker S.D., Filippatos G., Seferovic P., Coats A.J.S., Ruschitzka F. 2018. Heart and brain interaction in patients with heart failure: overview and proposal for a taxonomy. A position paper from the Study Group on Heart and Brain Interaction of the Heart Failure Association. *European Journal of Heart Failure*, vol. 20, iss. 2, p. 199-215. DOI: 10.1002/ejhf.1100.

Slivovskaja I., Ryliškytė L., Šerpytis P., Navickas R., Badarienė J., Čelutkienė J., Purnaitė R., Ryliškienė K., Čypienė A., Rinkūnienė E., Šileikienė V., Petrauskienė B., Juocevičius A., Laucevičius A. 2018. Aerobic Training Effect on Arterial Stiffness in Metabolic Syndrome. *The American Journal of Medicine*, vol. 131, no 2, p. 148-155. doi: 10.1016/j.amjmed.2017.07.038.

Akiyama E., Van Aelst L.N.L, Arrigo M., Lassus J., Miró Ò., Čelutkienė J., Choi D.J., Cohen-Solal A., Ishihara S., Kajimoto K., Laribi S., Maggioni A.P., Motiejūnaitė J., Mueller C., Parenica J., Park J.J., Sato N., Spinar J., Zhang J., Zhang Y., Kimura K., Tamura K., Gayat E., Mebazaa A; GREAT (Global Research on Acute Conditions Team) Network. 2018. East Asia may have a better 1-year survival following an acute heart failure episode

compared with Europe: results from an international observational cohort. *European Journal of Heart Failure*, vol. 20, no. 6, p. 1071-1075; doi: 10.1002/ejhf.1152.

Harjola V.P., Parissis J., Brunner-La Rocca H.P., Čelutkienė J., Chioncel O., Collins S.P., De Backer D., Filippatos G.S., Gayat E., Hill L., Lainscak M., Lassus J., Masip J., Mebazaa A., Miró Ò., Mortara A., Mueller C., Mullens W., Nieminen M.S., Rudiger A., Ruschitzka F., Seferovic P.M., Sionis A., Vieillard-Baron A., Weinstein J.M., de Boer R.A., Crespo Leiro M.G., Piepoli M., Riley J.P. 2018. Comprehensive in-hospital monitoring in acute heart failure: applications for clinical practice and future directions for research. A statement from the Acute Heart Failure Committee of the Heart Failure Association (HFA) of the European Society of Cardiology (ESC). *Eur J Heart Fail*, vol. 20, no 7, p. 1081-1099; doi: 10.1002/ejhf.1204.

### **International Research Project**

Research project “**User driven innovation: Symptom monitoring after hospitalization in patients with advanced heart failure: a NordicBaltic study**” (Project No.: 76015). Leader of national group prof. J.Čelutkienė.

Non-invasive lung impedance monitors and Actigraph devices (registering physical activity) are acquired from Cardioset company. Feasibility study of home measurements performed in two centers (Lithuania and Norway), 10 patients after discharge are recruited. Data on everyday symptoms, lung impedance and physical activity during 30 days are collected for analysis.

#### Main publications:

Lycholip E., Aamodt I.T., Lie I., Šimbelytė T., Puronaitė R., Hillege H., de Vries A., Kraai I., Stromberg A., Jaarsma T., Čelutkienė J. The dynamics of self-care in the course of heart failure management: data from the INTOUCHstudy. *Patient Preference and Adherence*, vol. 12, no 2, 1113-1122.

Grigaliūnas G., Lycholip E., Burneikaite G., Grigaliuniene A., Kaklauskaitė G., Romualdas Maciūnas R., Balciūnas M., Steponienė R., Kavoliuniene A., Čelutkienė J., Störk S. 2018. Heart Failure Awareness: A Cross-Sectional Study on Misconceptions and Educational Opportunities. *Seminars in Cardiovascular Medicine*, vol 24, 9–15; doi: <https://doi.org/10.2478/semcard-2018-0002>.

Thon Aamodt I., Lycholip E., Čelutkienė J., Strömberg A., Dan Atar, Sorem Falk R, Von lueder T, Hellesø R, Jaarsma T, Lie I. Health care professionals' perception of home telemonitoring in heart failure care, cross sectional survey. *J M Internet Res* (in press).

CULPRIT-SHOCK ClinicalTrials. Gov number NCT01927549. Funded by the European Union 7th Framework Program and others. **Multivessel versus culprit lesion only percutaneous revascularization in patients with acute myocardial infarction complicated by cardiogenic shock**” (2014-2018), leader of national group prof. P.Šerpytis.

The CULPRIT-SHOCK trial is the largest randomized clinical trial in cardiogenic shock complicating myocardial infarction (62% STEMI) to date comparing IRA-only PCI with immediate PCI of all severe lesions. The CULPRIT-SHOCK trial addressed a contemporary, very high-risk patient population.

From April 2013 through April 2017, a total of 1075 patients with cardiogenic shock were screened at 83 European centers, and 706 of those patients (65.6%) were randomly assigned

to the culprit-lesion-only PCI group (351 patients) or the multivessel PCI group (355 patients).

Main publications:

Thiele H., Akin I., Sandri M., Fuernau G., de Waha S., Meyer-Saraei R., Nordbeck P., Geisler T., Landmesser U., Skurk C., Fach A., Lapp H., Piek J.J., Noc M., Goslar T., Felix S.B., Maier L.S., Stepinska J., Oldroyd K., Šerpytis P., Montalescot G., Barthelemy O., Huber K., Windecker S., Savonitto S., Torremante P., Vrints C., Schneider S., Desch S., Zeymer U. 2018. One-Year Outcomes after PCI Strategies in Cardiogenic Shock. *New England Journal of Medicine*, vol. 379, no. 18, p. 1699-1710. DOI: 10.1056/NEJMoa1808788.

**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 (Pennsylvania)

**OTHER SCIENTIFIC 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 Council of the Faculty of Medicine of Vilnius University;
- 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 *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)*;
- chair of the Doctoral Committee of the Faculty of Medicine.

**Prof. Dr (HP) A. Aidietis –**

- board member of Lithuanian Heart Association;
- chairman of Heart Rhythm workgroup at Lithuanian Society of Cardiology;
- 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*.

**Prof. Dr. J. Čelutkienė –**

- member of Lithuanian Society of Cardiology;
- Elect 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;
- Head of Heart Failure working group of Lithuanian Society of Cardiology;
- Fellow of the European Society of Cardiology;
- Board member of the Heart Failure Association of the ESC;
- member of American College of Cardiology (FACC).

**Prof. Dr. G. Davidavičius –**

- member of Lithuanian association for interventional cardiology;
- European Society of Cardiology TransCatheter Valve treatment (TCVT) Registry Steering Committee member.

**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. A. Kibarskis –**

- vice-president of Baltic Association of Interventional Cardiology
- editorial board member of the journal *Gydymo menas (Art of Treatment)*
- editorial board member of the journal *Medicinos teorija ir praktika (Theory and Practice in Medicine)*

**Prof. Dr. (HP) G. Marinskis –**

- editor-in-Chief of the journal *Seminars in Cardiovascular Medicine*;
- member of the Credentials committee;
- 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 –**



- editorial board member of the journal *Seminars in Cardiovascular Medicine*;
- editor of chapter *Cardiologic Seminars* of the journal *Internistas (Internist)*;
- member of the European Society of Cardiology;
- Chairman of Prevention and Rehabilitation workgroup at Lithuanian Society of Cardiology.

**Prof. Dr. (HP) K. Ručinskas –**

- member of European Association for Cardio-Thoracic Surgery;
- member of Scandinavian Association for Thoracic Surgery;
- board member of Lithuanian Society of Thoracic and Cardiac Surgeons
- editorial board member of the journal *Lietuvos chirurgija (Lithuanian Surgery)*.

**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 –**

- member of Scandinavian Association for Thoracic Surgery;
- board member of Lithuanian Society of Thoracic and Cardiac Surgeons;
- editorial board member of the journal *Lietuvos chirurgija (Lithuanian Surgery)*.

**Associate Professor Dr. A. Aidietienė –**

- member of the European Society of Cardiology;
- board member of Lithuanian Heart Association;
- member of Lithuanian Society of Cardiology.

**Associate Professor Dr. S. Glaveckaitė –**

- Member of European Society of Cardiology for Valvular Heart Diseases and Cardiovascular Magnetic Resonance working groups;
- Chairman of imaging workgroup at Lithuanian Society of Cardiology;
- members of Lithuanian Heart Association.

**Associate Professor Dr. G. Kalinauskas –**

- member of European Association for Cardio-Thoracic Surgery;
- member of Scandinavian Association for Thoracic Surgery;
- President of Lithuanian Society of Thoracic and Cardiac Surgeons;
- Chairman of Cardiac Surgery workgroup at Lithuanian Society of Cardiology.

**Associate Professor Dr. R. Karalius –**

- member of the European Society for Cardiovascular Surgery;
- member of Scandinavian Association for Thoracic Surgery;
- member of Lithuanian Society of Thoracic and Cardiac Surgeons;
- member of the Society of Lithuanian Surgeons;
- member of the Society of Cardiology of Lithuania.

**Dr. L. Gumbienė –**

- board member of the Lithuanian Society of Paediatric Cardiology;
- chairman of Pulmonary Artery Hypertension and Congenital Heart Disease for Adults workgroup at Lithuanian Society of Cardiology;
- member of European Society of Cardiology;
- member of Lithuanian Heart Association.

**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.

**Dr. D. Liekienė –**

- member of the Lithuanian Society of Paediatric Cardiology.

**Dr. R. Malickaitė –**

- member of European Federation for Immunogenetics;
- member of International Society for Heart and Lung Transplantation;
- board member of Lithuanian Society for Immunology;
- board member of Lithuanian Society for Alergology and Clinical Immunology;
- members of Lithuanian Society of Thoracic and Cardiac Surgeons;
- member of the Lithuanian Society of Laboratory Medicine;
- member of Lithuanian Association of Transplantology.

**Dr. J. Misiūra –**

- member of Lithuanian Society of Thoracic and Cardiac Surgeons;
- member of the ESC Working Group of Heart Failure.

**Dr. R.S.Samalavičius –**

- board member of European Association of Cardiothoracic Anesthesiologists;
- board member of Lithuanian Society of Thoracic and Cardiac Surgeons;
- member of Lithuanian Society of Anaesthesiology and Intensive Care;
- editorial board member of the journal *Lietuvos chirurgija (Lithuanian Surgery)*.

**Dr. B. Vaišnytė –**

- members of Lithuanian Society of Vascular Surgery;
- members of Society of Vilnius surgeons;
- members of Lithuanian Society of Surgeons.

**Dr. A. Valaika –**

- board member of Lithuanian Society of Thoracic and Cardiac Surgeons.

**Dr. G. Vilkevičius –**

- editorial board member of the journal “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.

**Prof. Dr. (HP) A. Aidietis, Prof. Dr. V. Grabauskienė, Prof. Dr. A. Kibarskis, Prof. Dr (HP) G. Marinskis, Prof. Dr. G. Davidavičius, Associate professor Dr. B. Petrauskienė, Associate professor Dr. A. Rudys, Dr. J. Badarienė, Associate professor Dr. J. Barysienė, Dr. G. Burnekaitė, Dr. I. Butkuvienė, Dr. A. Čypienė, Dr. R. Čypienė, Dr. R. Kūgienė, Dr. D. Liekienė, Dr. V. Maneikienė, Dr. J. Misiūra, Dr. L. Ryliškytė, Dr. E. Rinkūnienė, Dr. P. Semėnienė, Dr. R. Steponėnienė, Dr. R. Navickas, Dr. G. Račkauskas –**

- 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. Ž. Katliorienė, Dr. V. Lebetkevičius, A. Lipnevičius, Dr. D. Liekienė, Dr. V. Maneikienė, Dr. G. Norkūnas, Dr. P. Semėnienė, Dr. R. Sipavičius, A. Zorinas –**

- members of Lithuanian Society of Thoracic and Cardiac Surgeons.

**THE LIST OF THE MOST IMPORTANT RECEIVED NATIONAL AND INTERNATIONAL AWARDS FOR R&D ACTIVITIES**

- Dr. assoc. Prof. J. Barysienė – Order of the Lithuanian Grand Duke Gediminas;
- Dr. prof. J. Čelutkienė – Winner Prize for HF Awareness Day (HFA).

**THE LIST OF THE MOST IMPORTANT CASES OF PARTICIPATION 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 –**

- The Heart Failure Association of the ESC (HFA of the ESC)] Board member;
- ESC Congress Program Committee member;
- ESC Membership Committee member.

**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. Jolita Badariene –**

- Working group for Medicines Compensation of the Lithuanian Ministry of Health.

**THE LIST OF THE MOST IMPORTANT RESULTS OF SCIENCE  
POPULARISATION ACTIVITIES**

- Heart Failure Awareness Days – May 2018
- The World Heart Day – September 29, 2018
- Familial hypercholesterolemia Awareness Days - September 24, 2018

## **Clinic of Children's Diseases**

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**Head** – Prof. Habil. Dr. *Vytautas Usonis*

### **STAFF**

Professors: Dr. R. Čerkauskienė, Dr. N. Drazdienė, Dr. R. Ėmužytė, Dr. A. Jankauskienė, Dr. O. Rudzevičienė, habil. Dr. V. Usonis, habil. Dr. A. Valiulis.

Associate professors: Dr. S. Dumčius, Dr. J. Grikinienė, Dr. O. Kinčinienė, Dr. G. Kleinotienė, Dr. V. Panavienė, Dr. S. Petraitenė, Dr. V. Urbonas, Dr. R. Vankevičienė, Dr. V. Žilinskaitė.

Assistants: Dr. S. Burokienė, Dr. I. Ivaškevičienė, Dr. A. Liubšys, Dr. J. Rascon, Dr. I. Stacevičienė.

Dr. R. Samaitienė, Dr. R. Praninskienė, Dr. G. Vaitkevičienė, Dr. S. Šaulytė Trakymienė, Dr. S. Rusonienė, Dr. I. Pilypienė.

Junior assistants and scientific workers: D. Kalibatienė S. Sendžikaitė, D. Ruzgienė.

Lecturers: Dr. R. Kemežys, V. Radžiūnienė, D. Vaičiūnienė, L. Kilaitė.

Doctoral students: T. Alasevičius, K. Ažukaitis, J. Navikienė, I. Paulavičienė, A. Pliauckienė, I. Polianskytė, R. Selvestravičius, S. Sendžikaitė, N. Stirbienė, D. Kalibatienė, I. Juškienė.

Students' scientific groups of: Pediatrics: scientific leader – Dr. S. Burokienė, coordinator – student J. Karlonaitė, 50 members of the group.

### **RESEARCH AREAS**

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.

Studies of chronic inflammation in paediatric pulmonology (asthma, cystic fibrosis, COPD) and elaboration of markers of early diagnostics of chronic diseases in children.

Development of the methods of diagnostics, treatment and prophylaxis of acute and chronic infectious, immune, allergic, metabolic, haematologic and oncohaematologic 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.

### **RESEARCH PROJECTS CARRIED OUT IN 2018**

#### **Projects Supported by University Budget**

## **Studies of Development of the Methods of Diagnostics, Treatment and Prophylaxis of Acute and Chronic Infectious Diseases.** Project Leader – Prof. V. Usonis.

A standardized antimicrobial point prevalence surveys (PPS) method was employed to determine the feasibility of developing similar quality indicators of improved antimicrobial prescribing focusing specifically on hospitalized neonates and children. The use of antibiotics among hospitalised children at two tertiary paediatric centres (Riga and Vilnius) was compared, further investigations are needed because sharing audit data and antimicrobial stewardship initiatives may encourage further changes in practice at both institutions. Sepsis epidemiology and outcome in the paediatric ICU of Vilnius University Children's Hospital was investigated; it was shown that the majority of lethal cases of sepsis occur in patients suffering from chronic co-morbidities, such as oncologic, hematologic, neurologic, and others.

### Main publications:

Falup-Pecurariu, O. G., Diez-Domingo, J., Esposito, S., Finn, A., Rodrigues, F., Spoulou, V., Syrogiannopoulos, G.A., Usonis, V., Greenberg, D. 2018. Clinical and laboratory features of children with community-acquired pneumonia are associated with distinct radiographic presentations. *European journal of pediatrics*, vol. 177, iss. 7, 1111-1120; doi: 10.1007/s00431-018-3165-3.

Versporten, A., Zarb, P., Caniaux, I., Gros, M.-F., Drapier, N., Miller, M., Jarlier, V., Nathwani, D., Goossens, H., Usonis V., Burokiene S., Ivaskeviciene I. 2018. Antimicrobial consumption and resistance in adult hospital inpatients in 53 countries: results of an internet-based global point prevalence survey. *The Lancet Global Health*, vol. 6, Iss. 6, E619-e629; doi: 10.1016/S2214-109X(18)30186-4.

Sviestina, I., Usonis, V., Gurksniene, V., Burokiene, S., Ivaskeviciene, I., Mozgis, D. 2018. Prescription of antibiotics in Riga and Vilnius tertiary children's hospitals. *European Journal of Hospital Pharmacy*, vol. 25, 189-194.

## **Studies of Chronic Inflammation in Paediatric Pulmonology (Asthma, Cystic Fibrosis, COPD) and Elaboration of Markers of Early Diagnostics of Chronic Diseases in Children.** Project leader – Prof. A. Valiulis .

Studies showed the importance of further research for better translation of wheezing phenotypes into clinical practice. The study which was aimed to evaluate the quality of life (QoL) of Lithuanian children aged 5–11 years with asthma concluded that the overall level and major determinants of QoL in them are comparable with Western populations; the pilot study on alpha-1 antitrypsin (AAT) and wheezing in early childhood showed no association between AAT concentration and respiratory distress severity nor with the time of the first wheezing episode and concluded that further research is needed to better understand the effects of AAT genotype not related to its concentration; participation in the development of a targeted update of the ARIA guidelines was taken.

### **Main publications:**

Courbis, A.-L., Murray, R. B., Arnavielhe, S., Caimmi, D., Bedbrook, A., Van Eerd, M., De Vries, G., Dray, G., Agache, I., Morais-Almeida, M., Bachert, C., Bergmann, K.Ch., Bosnic-Anticevich, S., Brozek, J., Bucca, C., Camargos, P., Canonica, G., Walter, C., Warner, C., T., Fonseca, J. A., Haahtela, T., Kalayci, O., Klimek, L., Kuna, P., Kvedariene, V., Larenas Linnemann, D., Lieberman, P., Mullol, J., Ohehir, R., Papadopoulos, N., Price, D., Ryan, D., Samolinski, B., Simons, F. E., Tomazic, P., Triggiani, M., Valiulis, A., Valovirta,

E., Wagenmann, M., Wickman, M., Yorgancioglu, A., Bousquet, J. 2018. Electronic Clinical Decision Support System for allergic rhinitis management: MASK e-CDSS. *Clinical and experimental allergy*, vol. 48, iss. 12, p. 1640-1653; doi: 10.1111/cea.13230.

Bousquet, J., Agache, I., Aliberti, M.R., Angles, R., Annesi-Maesano, I., et al. [From Vilnius University Faculty of Medicine Dubakienė, R., Ėmužytė, R., Kvedarienė, V., Stukas, R., Valiulis, A.] 2018. Transfer of innovation on allergic rhinitis and asthma multimorbidity in the elderly (MACVIA-ARIA) - EIP on AHA Twinning Reference Site (GARD research demonstration project). *Allergy*, vol. 73, iss. 1, 77-92; doi: 10.1111/all.13218.

**Studies on Diagnostics, Treatment and Prophylaxis of Immune, Inflammatory, Metabolic, and Oncohaematologic Diseases in children.** Project leader – Prof. A.Jankauskiene.

Studies showed experience in the better outcome of childhood acute and chronic diseases such as nephrological, rheumatologic, gastroenterologic and, oncohematologic. Recent interest is being developed in rare diseases. Wide collaboration was established and continues. Multidisciplinary team allows wider research possibilities stressing on primary immunodeficiency, inborn metabolic defects, renal diseases...

#### Main publications:

Burgmaier, K., Kunzmann, K., Ariceta, G., Bergmann, C., Buescher, A. K., Burgmaier, M., Dursun, I., Duzova, A., Eid, L., Erger, F., Feldkoetter, M., Galiano, M., Geßner, M., Goebel, H., Gokce, I., Haffner, D., Hooman, N., Hoppe, B., Jankauskiene, A., Klaus, G., König, J., Litwin, M., Massella, L., Mekahli, D., Melek, E., Mir, S., Pape, L., Prikhodina, L., Ranchin, B., Schild, R., Seeman, T., Sever, L., Shroff, R., Soliman, N. A., Stabouli, S., Stanczyk, M., Tabel, Y., Taranta-Janusz, K., Testa, S., Thumfart, J., Topaloglu, R., Weber, L.Th., Wicher, D., Wühl, E., Wygoda, S., Yilmaz, A., Zachwieja, K., Zagozdzon, I., Zerres, K., Dötsch, J., Schaefer, F., Liebau, M.C. 2018. Risk Factors for Early Dialysis Dependency in Autosomal Recessive Polycystic Kidney Disease. *The Journal of pediatrics*, vol. 199, p. 22-28.e6; doi: 10.1016/j.jpeds.2018.03.052.

Brunner, H.I., Ruperto, N., Tzaribachev, N., Horneff, G., Chasnyk, V.G., Panaviene, V. et al. 2018. Subcutaneous golimumab for children with active polyarticular-course juvenile idiopathic arthritis: results of a multicentre, double-blind, randomised-withdrawal trial. *Annals of the rheumatic diseases*, vol. 77, iss. 1, 21-29; doi: 10.1136/annrheumdis-2016-210456.

Tesi, B., Rascon, J., Chiang, S.C.C., Burnyte, B., Lofstedt, A. et al. 2018. A RAB27A 5' untranslated region structural variant associated with late-onset hemophagocytic lymphohistiocytosis and normal pigmentation. *Journal of allergy and clinical immunology*, vol. 142, Iss. 1, 317-321 Q1, if 13,528

## **INTERNATIONAL RESEARCH PROJECTS**

**PED-MERMAIDS (Multi-centre EuROpean study of MAjor Infectious Disease Syndromes)- part of the EU project [PREPARE](#) (Platform for European Preparedness Against (Re-) emerging Epidemics), funded by the European Commission's FP7 Programme under grant number 602525.**

Leader for Lithuania –prof.habil.dr. Vytautas Usonis  
International study conducted since 2016.

Multi-centre European study of Major Infectious Disease Syndromes– Community acquired Sepsis-like syndrome and Acute respiratory tract infection in childhood (PED-MERMAIDS)  
Children can get really poorly from nasty bugs, which cause blood infections (known to doctors as sepsis) and chest infections. Often these children are so unwell they have to go to hospital. Rarely, long-term problems and even death can result from the infection.

In the past bacteria were the main causes for many severe infections; however, due to successful vaccine programmes, viruses are now mostly to blame. These bugs are worrying as they have the potential to cause a large-scale outbreak affecting the health of many people, as was the case in the recent world-wide Swine ‘flu outbreak.

A better understanding of the role of viruses will help us to diagnose and manage affected children and work out how to better respond to outbreaks.

The European Commission is concerned about these infections and is funding a number of studies. Through this study we will look at the causes, symptoms, clinical management, impact and outcomes at lots of different sites across Europe.

The study will recruit:

- 1) Hospitalised infants (< 6 months old) with signs of blood infections
- 2) Hospitalised children (< 6 years old) with signs of chest infections
- 3) ‘Healthy’ children without disease as a control group

We will collect one-off samples on the day of admission, including nose swabs, urine, blood and stool samples, as well as any left-over cerebrospinal fluid (CSF), if taken as part of routine treatment, along with other information from the child’s medical notes. Only very few children with blood infections will have follow-up in one year. Excluding these children, the maximum duration children will be involved in the study will be 30 days, with the overall study running for up to 3 years.

## **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 (Swedish)

## **OTHER SCIENTIFIC ACTIVITIES**

**Prof. Habil. Dr. V. Usonis –**

- member of Central European Vaccination Advisory Group (CEVAG);
- expert on vaccine-related issues at the European Disease Control Centre (ECDC);
- board member of the Lithuanian Paediatric Society;
- chairman of the Baltic Immunoprophylaxis Association (BALTIPIA);
- chairman of Lithuanian Committee for Poliomyelitis Eradication Certification;
- editorial board member of the Paediatric Infectious Disease Journal;
- editorial board member of the journal Medicinos teorija ir praktika (Theory and Practice in Medicine);
- editorial board member of the journal Vaikų pulmonologija ir alergologija (Paediatric Pulmonology and Allergology);
- editorial board member of the journal Pediatrija (Paediatrics);
- chairman of the international conference Vilnius Course 2017.



**Prof. R. Čerkauskienė –**

- vice-president of Lithuanian Society for Paediatric Nephrology;
- member of Lithuanian Nephrology, Dialysis and Transplantation Association;
- member of International Paediatric Nephrology Association;
- member of Vilnius Paediatric Society;
- editorial board member of the journal *Medicinos teorija ir praktika* (Theory and Practice in Medicine).

**Prof. N. Drazdienė –**

- editor-in-chief of the journal *Lietuvos akušerija ir ginekologija* (Lithuanian Obstetrics and Gynaecology);
- editorial board member of the journal *Pediatrija* (Paediatrics);
- board member of Lithuanian Paediatric Society and Vilnius Pediatric Society;
- member of the European Association on Perinatal Medicine;
- vicepresident of Lithuanian section of German-Baltic Physicians Society (Deutsch-Baltische Arztegesellschaft).

**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*; *Pediatrija* (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. A. Jankauskienė –**

- member of European Pediatric Nephrology society council
- lead of Vilnius reference center for European rare kidney disease
- 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.

**Prof. Habil. A. Valiulis –**

- executive Committee member and Treasurer of European Academy of Paediatrics (EAP/UEMS-SP);
- chairman of the Commission of Mother and Child of the Lithuanian Academy of Sciences;

- chairman of Commission of Experts of National Programme of Immunoprophylaxis of Lithuanian Ministry of Health;
- president of the Lithuanian Paediatric Respiratory Society;
- vicepresident of the Lithuanian Paediatric Society;
- chairman of Vilnius International Paediatric Pulmonology and Allergology; Conference-School (21 annual postgraduate courses since 1996);
- editor-in-Chief of the *journal Vaikų pulmonologija ir alergologija (Paediatric Pulmonology and Allergology)*;
- national Coordinator and Planning Committee member of WHO project Global Alliance Against Chronic Respiratory Diseases (WHO-GARD Lithuania);
- national Coordinator and Representative of Lithuania in International Guidelines of Allergic Rhinitis and its Impact on Asthma (ARIA Lithuania);
- site Coordinator in international research projects MACVIA MASK, AIRWAYS ICP, RareBestPractice;
- member of Strategic Paediatric Alliance for the Future Health of Children in Europe (EAP-EPA-ECPCP).

**Assoc. Prof. S. Dumčius –**

- member of the European Respiratory Society;
- member of the European Cystic Fibrosis Association;
- editorial board member of *the journal Pediatrija (Paediatrics)*.
- 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. O. Kinčinienė –**

- president of the Lithuanian Paediatric Cardiology Society;
- deputy editor of the *journal Pediatrija (Paediatrics)*.

**Assoc. Prof. 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 Pediatrija (Paediatrics)*;
- editorial board member of *the journal Reumatologija (Rheumatology)*.

**Assoc. Prof. S. Petraitiienė –**

- member of Scientific Committee of Vilnius International Course 2017 (VICO-2017) Update on Paediatric Infectious Diseases, <https://www.vilniuscourse.com>;
- editorial board member of *the journal Paediatric Pulmonology and Allergology*, <http://www.pediatrija.org>.

**Assoc. Prof. V. Urbonas –**

- president of the Lithuanian Paediatric Society;
- president of the Lithuanian Society for Paediatric Gastroenterology and Nutrition;
- consultant as paediatric gastroenterologist at the Ministry of Health of the Republic of Lithuania;
- 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).
  
- editorial board member of the journal *Gastroenterologija ir hepatologija*
- editorial board member of the journal *Pediatrics*

**Assoc. Prof. R. Vankevičienė –**

- president of Vilnius Paediatric Society;
- member of the Council of Lithuanian Paediatric Society;
- member of Lithuanian Paediatric Cardiology Society;
- editorial board member of *the journal Pediatrics*.

**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).
- Senior research fellow. R. Firantienė –
- member of the Lithuanian Society of Allergology and Clinical Immunology.

**Assoc. prof.. J. Rascon –**

- board member of Nordic Society of Pediatric Oncology and Hematology;
- member of European Society for Blood and Marrow Transplantation;
- member of European Society of Pediatric Oncology.

**Assist. S. Burokienė –**

- Member of Scientific Paediatric Committee (PDCO) at European Medicines Agency.

**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).
- Assist. I. Ivaškevičienė –
- member of the Lithuanian Paediatric Society;
- executive secretary of Baltic Immunoprophylaxis Association;
- member of the European Society of Paediatric Infectious Diseases (ESPID);

- member of the Young ESPID (European Society of Paediatric Infectious Diseases) Society;
- member of Central European Vaccination Advisory Group (CEVAG);

## **THE LIST OF THE MOST IMPORTANT RECEIVED NATIONAL AND INTERNATIONAL AWARDS FOR R&D ACTIVITIES**

**Vaidotas Urbonas.** Gedimino ordino Riterio kryžius

**Karolis Ažukaitis.** Vilnius University Faculty of Medicine “Sophie Valentina Ambroza Research Award”

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

**S. Burokiene:**

- Lithuanian Health Ministry. The member of the working group: “Paediatric work standart” (requirements and competence for pediatrician’s specialty).
- Lithuanian Health Ministry. The member of the working group: “Optimisation of children’s health in Lithuania”.
- Lithuanian Health Ministry. The member of the working group: “Improvement of emergency

**Vaidotas Urbonas:**

- Lithuanian Health Ministry. The member of the working group: “Paediatric work standart”.
- Lithuanian Health Ministry. The member of the working group: “Optimisation of children’s health in Lithuania”.

## **THE LIST OF THE MOST IMPORTANT RESULTS OF SCIENCE POPULARISATION ACTIVITIES**

**V. Usonis.** Participation at television broadcasts (topics: children diseases, children infectins, vaccination) on national (LTV) and private televisions (LNK, TV3, Lietuvos ryto, TV8).

**S. Burokiene.** Interview in media - Delfi, 15 min, TV3, LTV (topics: How to prepare child for the hospital; Emergency assistance to child in case of acute illness)

**V. Urbonas.** Participation at television broadcasts (topics: children diseases, children diet, vegetarian diet) on national (LTV) and private televisions (LNK, TV3, Lietuvos ryto, TV8). Participation at the national radio broadcasts (Topics: children diseases, children diet, vegetarian diet, health care organization. LRT, Žinių radijas).

## Clinic of Internal Medicine, Family Practice and Oncology

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**Head** – Prof. Dr. *Virginijus Šapoka*

### STAFF

**Professors:** Dr. V. Šapoka, Dr. V. Kasiulevičius, Dr. V. Alekna, Dr. L. Griškevičius, Dr. N. Samalavičius, Habil. Dr. D. Kalibaitienė, Habil. Dr. V. Gaigalaitė, Dr. V. Ostapenko (part-time)

**Associate professors:** Dr. V. Urbanavičius, Dr. (HP) E. Mišeikytė Kaubrienė, Dr. V. Dženkevičiūtė, Dr. Ž. Visockienė, Dr. V. Ožeraitienė, Dr. L. Vencevičienė (part-time)

**Chief researcher:** Dr. S. Cicėnas

**Assistants professors:** Dr. A. Abraitienė, Dr. V. Pečeliūnas, Dr. A. Marcijonienė (part-time), Dr. K. Simanauškas (part-time), N. Burokienė (part-time), V. Andrejevaitė (part-time), Dr. S. Varvuolytė, Dr. R. Staigis (part-time), Dr. V. Karpavičienė (part-time), Dr. O. Nečajauskaitė (part-time).

**Teaching assistant:** R. Laukienė (part-time), K. Švaikevičienė (part-time).

**Lecturers:** A. Slobinas (part-time), S. Tulytė (part-time), L. Vaitkevičiūtė (part-time), D. Diglys (part-time), A. Galkinė (part-time), E. Vitkauskaitė (part-time), G. Jonuškienė (part-time), A. Degulys (part-time), I. Fomčenko (part-time), D. Jakučionis (part-time), M. Buitkus (part-time), E. Gruodytė (part-time), E. Bagurskienė (part-time), dr. A. Mastavičiūtė (part-time), T. Maselienė (part-time).

**Doctoral students:** R. Aškinis, A. Krasauskas, A. Galkinė, R. Kavalnienė, N. Lachej, R. Pileckytė, V. Dirsė, J. Mozūraitienė, I. Aleknaitė, J. Bublevič, A. Bliūdžius, A. Černovas..

Scientific groups of students:

Internal medicine: scientific leader – doc. V. Dženkevičiūtė, coordinator – student J. Šimkūnienė; 19 members of students.

Gerontology: scientific leader – prof. V. Alekna, coordinator – student G. Sadauskaitė; 23 members of students.

Oncohematology: scientific leader – dr. Ž. Gudlevičienė, coordinator – student I. Ališauskaitė; 59 members of students.

Endocrinology: scientific leader – dr. A. Abraitienė, coordinator – student G. Kazakevičiūtė; 46 members of students.

Family medicine: scientific leader – dr. V. Andrejevaitė, coordinator – student A. Vyšniauskaitė; 84 members of students.

### 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 2018**

### **Projects Supported by University Budget**

**Early Diagnostics and Prevention of Non-Infection Diseases in Family Practice. Prof. V. Šapoka, prof. V. Kasiulevičius. 2013 - 2018.**

*To assess leptin, adiponectin and insulin resistance changes after laparoscopic adjustable gastric banding (LAGB) in diabetic and non-diabetic morbidly obese patients.*

Materials & Methods: 103 patients (37 with and 66 without type 2 diabetes) underwent LAGB from January 2009 to January 2010. Glycated hemoglobin, insulin, adipokine levels and insulin resistance were evaluated preoperatively, 1 and 4-years after LAGB.

Conclusions: The most significant metabolic changes occurred within 1 year after LAGB. Subsequent 4 years of follow-up revealed stabilization in metabolic indices rather than significant improvement.

#### Main publications:

Urbanavicius, V., Juodeikis Z., Dzenkeviciute, V., Galkine, A., Petrulioniene, Z., Sapoka, V., Brimieni, V., Vitkus, D., Brimas G. 2018. A prospective 4-year study of insulin resistance and adipokines in morbidly obese diabetic and non-diabetic patients after gastric banding. *Videosurgery Miniinv*; doi: <https://doi.org/10.5114/wiitm.2017.67207Abstract>.

V. Urbanavičius. 2017. Akromegalijos klinika, diagnostika ir gydymas. Mokomoji knyga. ISBN 978-609-8078-40-4.

Holman, R.R.; Bethel, M. A., Mentz, R.J., et al. Group Author(s): EXSCEL Study Grp. Effects of Once-Weekly Exenatide on Cardiovascular Outcomes in Type 2 Diabetes. *New England Journal Of Medicine*, vol. 377, iss. 13, 1228-1239; doi: 10.1056/NEJMoa1612917.

*The influence of social and demographic factors, depression and anxiety on patient satisfaction with primary care.*

The review of scientific literature about patients' satisfaction with primary health care in Lithuania and other countries, also about the impact of biosocial factors and patients' mental health on satisfaction with primary health care was continued. The study has already surveyed 889 patients, who visited their primary health care institutions in Vilnius. Data are prepared for statistical analysis.

#### Presented:

"Pain in the Baltic States in 2017", 2017.04.28-29 in Kaunas, Lithuania; "WPA Inter Zonal Congress" 2017.05.03-06 in Vilnius, Lithuania;

"22nd WONCA Europe Conference" 2017.06.28-07.01 in Prague, Czech Republic.

**Values of oncological diseases and blood biological markers. Prof. L. Griškevičius, prof. J. Didžiapetrienė. 2013-2018**

Analyzing the clinical trials already performed, when the ERCC1 and RRM1 genes were included and the treatment chosen for their expression and obtaining favorable results, and also in light of controversial authors' data, it is expedient to carry out additional molecular studies to determine the gene expression of the DNA repair system. Thus, a molecular diagnosis of a tumor is planned, an individual postoperative treatment of patients by choosing the optimal treatment regimen after progression of the disease through chemotherapy in order to obtain the best treatment results and predicting the possible further course of the disease. Conclusions: low levels of ERCC1 and RRM1 gene expression in the bloodstream are directly related to better disease prediction and better response to postoperative treatment. Only the RRM1 (-524C → T) gene polymorphism in the blood is associated with the progression of the disease after treatment.

Main publications:

Schveigert, D., Cicenias, S., Bublevic, J., Askinis, R., Sapoka, V., Didziapetriene, J. 2014. The role of genetic and other biomarkers in NSCLC prognosis. *Central European Journal of Medicine*, vol. 9, no. 3, 382-390; doi: 10.2478/s11536-013-0290-2.

Aškinis, R., Krasauskas, A., Zaremba, S., Cicėnas, S. 2016. Ankstyvųjų stadijų nesmulkiąstelio plaučių vėžio chirurginio gydymo rezultatai. *Lietuvos chirurgija*, vol. 15(2-3), p. 84-89; ISSN 1392-0995.

**A Population-Based Single Nucleotide Polymorphism Array Analysis of Genomic Aberrations in Younger Adult Acute Lymphoblastic Leukemia Patients**

Single nucleotide polymorphism (SNP) array analysis was performed for Lithuanian adult ALL patients diagnosed between 2013 and 2018. Recurrent chromosomal aberrations were detected in double expressor and non-double expressor immunohistochemical subtypes of DLBCL. Combined FISH and SNP array analysis indicated MYC aberrations to be initiating events and possibly responsible for generating secondary genomic abnormalities.

The extended analysis for the detection of recurrent genomic aberrations and clonal evolution (in relapsed cases) in adult ALL was performed in year 2018. Using SNP array a rare microduplication 22q11.2 was detected in patient with acute B lymphoblastic leukemia and severe intellectual disability, facial dysmorphism, heart defects.

Main publications:

Dirse, V., Norvilas, R., Gineikiene, E., Matuzevičienė, R., Griskevicius, L., Preiksaitiene, E. 2017. ETV6 and NOTCH1 germline variants in adult acute leukemia. *Leuk Lymphoma*, vol. 59, iss. 4, p. 1022-1024; doi: 10.1080/10428194.2017.1359742.

Vaisvilas, M., Dirse, V., Aleksuniene, B., Tamuliene, I., Cimbalištie, L., Utkus, A., Rascon, J. 2018. Acute Pre-B Lymphoblastic Leukemia and Congenital Anomalies in a Child with a de Novo 22q11.1q11.22 Duplication. *Balkan J Med Genet*, vol. 21(1), 87-91.

***Chronic B lymphocytic leukemia (CLL): report of the results for 2018 year***

Progression free survival (PFS), overall survival (OS) evaluated for relapsed high risk and elderly patients with comorbidities, treated with high dose methylprednisolone (HDMP) and rituximab (R). Time to next treatment calculated for both patients groups. Given salvage treatment described and OS difference between two patients groups evaluated. Compared results between two cohorts of the patients and described treatment recommendations for high risk patients and elderly patients with comorbidities.

HDMP and Rtx combination may be applied in some relapsed high risk patients, using 5-day HDMP regimen and 3-day in elderly or unfit CLL patients with shorter HDMP duration for 4 treatment courses in combination with Rtx of total 3375 mg/m<sup>2</sup> dose without the significant risk of concomitant diseases exacerbation if new targeted therapies are contraindicated, have limited availability or taking into mind patients preference for short therapy duration

### ***E3 ubiquitin ligase inhibitors (RITA and Nutlin-3) in human metastatic melanoma cell lines.***

The aim of study was to establish effect of FBW7 activator oridonin (new potential agent for melanoma cell killing) and MDM2 inhibitors nutlin-3/RITA and their combination to viability of melanoma cell lines FM-94 and FM-3 (cell lines was selected according to primary results of experiments).

Conclusions: The most effective inhibitory effect was on 30 µM oridonin concentrations for both FM-94 and FM-3 cell lines.

### ***mRNA expression of FBW7, MDM2 and their substrates – NUMB, NOTCH, TP53, CCNE, BBC3, C-MYC after effect of metastatic melanoma cells with oridonin and nutlin-3/RITA.***

To establish mRNA expression of FBW7, MDM2 and their substrates – *NUMB, NOTCH, TP53, CCNE, BBC3, C-MYC* after effect of metastatic melanoma cells with oridonin and nutlin-3/RITA.

After the effect of the FM-94 cell line with nutlin-3 it was showed that the MDM2 gene expression was the most pronounced: compared to HPRT1 („housekeeping gene“), it was almost 8 times, compared with the TBP („housekeeping gene“) - 6 times.

Conclusions: After the effect of the FM-94 cell line with RITA and oridonin, there was activation of genes associated with apoptosis (BBC3) and cell cycle-inducing genes (c-MYC) were inhibited.

### ***The expression of Hes1, Notch1, Notch4 proteins and β-catenin in endometrial cancer patients.***

About 50 paired samples of endometrial cancer and adjacent nontumor endometrial tissue samples were analyzed by quantitative Western blot method. The analysis of the all data (N=100) from clinical point of view, analysis of progression free and overall survival period was started. The review of the literature was prepared.

#### **Main publications:**

Lachej, N. 2017. The association between the notch signaling pathway and gynaecological malignancies. *Acta Medica Lituanica*, vol.24, no.1, 35-54.

Zabuliene, L., Jasilionis, D., Miseikyte-Kaubriene, E., Stukas, R., Kaceniene, A., Smailyte, G. 2017. Parity and Risk of Thyroid Cancer: a Population-Based Study in Lithuania. *Horm Cancer*, vol. 8, no. 5-6, 325-329: doi: 10.1007/s12672-017-0308-3.

Kraško, J.A., Žilionytė, K., Darinskas, A., Strioga, M., Rjabceva, S., Zalutsky, I., Derevyanko, M., Kulchitsky, V., Lubitz, W., Kudela, P., Miseikyte-Kaubriene, E., Karaman, O., Didenko, H., Potebnya, H., Chekhun, V., Pašukonienė, V. 2017. Bacterial ghosts as adjuvants in syngeneic tumour cell lysate-based anticancer vaccination in a murine lung carcinoma model. *Oncol Rep*. 2017; 37(1):171-178. doi: 10.3892/or.2016.5252.



### **Investigation of Quality of life of patients with diabetes aiming to validate disease specific questionnaire**

We aimed to develop a Lithuanian version of a widely-used individualised instrument - the Audit of Diabetes Dependent Quality of Life questionnaire (ADDQOL-19) and assess the validity and reliability in patients with type 1 and type 2 diabetes mellitus (DM).

Conclusions: We developed the Lithuanian version of ADDQOL-19 which is a valid and reliable instrument to measure impact of diabetes on QOL. It could be further used by clinicians and researchers for comprehensive assessment of QOL in adults with diabetes.

#### Main publications:

Visockiene, Z., Narkauskaite-Nedzinskiene, L., Purnaite, R., Mikaliukstiene, A. 2018. Validation of the Lithuanian version of the 19-item audit of diabetes depended quality of life (ADDQoL) questionnaire in patients with diabetes. *Health Qual Life Outcomes*, vol. 16, no. 1, 206; doi: 10.1186/s12955-018-1033-5.

### **Project „Joint Action on Chronic Diseases and Promoting Healthy Aging Across the Life Cycle“, (JA-CHRODIS)**

Chronic diseases account for 85 per cent of the disease burden and pose a great challenge on health systems. Especially, among elderly the chronic diseases are responsible for a loss of quality of life, reduced independence, and decreased functionality. JA-CHRODIS has received funding from the European Union, in the framework of the Health Programme. We have analysed data of almost 500.000 patients with at least one chronic condition from Lithuanian National Health Insurance.

Conclusions: The risk of acquiring an additional chronic condition rises exponentially from the age of 29 years and platos between the age of 51 and 57. Patients with multimorbidity require increasing amounts of primary healthcare resources, where patients with single chronic condition require decreasing primary care usage, possibly attributed to successful patient empowerment.

#### Main publications:

Jurevičienė, E., Onder, G., Visockienė, Ž., Purnaitė, R., Petrikonytė, D., Gargalskaitė, U., Kasiulevičius, V., Navickas, R. 2018. Does multimorbidity still remain a matter of the elderly: Lithuanian national data analysis. *Health Policy*, vol. 122, no 6, 681-686; doi: 10.1016/j.healthpol.2018.03.003.

### **Early Diagnostics and Prevention of Non-infection Diseases in Gerontology. Prof. V. Alekna. 2013-2018**

#### ***Vitamin D Level and Activities of Daily Living in Octogenarians: Cross-Sectional Study.***

The study was performed on 153 octogenarians.

Conclusions: Majority of investigated octogenarians had vitamin D deficiency. The level of vitamin D was associated with the ADL score. There was no association between the vitamin D level and the IADL score, although a weak correlation was found between vitamin D level and category of food preparation.

#### Main publications:

Alekna, V., Kilaite, J., Mastaviciute, A., Tamulaitiene, M. 2018. Vitamin D Level and Activities of Daily Living in Octogenarians: Cross-Sectional Study. *Frontiers in Endocrinology*, vol. 9, art. no 326, [1-5]; doi: 10.3389/fendo.2018.00326

***Association of Vitamin D Receptor Gene Variation With Osteoporosis Risk in Belarusian and Lithuanian Postmenopausal Women.***

Vitamin D receptor (VDR) is one of the main mediators of vitamin D biological activity. VDR dysfunction might substantially contribute to development of postmenopausal osteoporosis (PMO). Numerous studies have revealed the effects of several *VDR* gene variants on osteoporosis risk, although significant variation in different ethnicities have been suggested. The main purpose of this work was to assess the frequency of distribution of *VDR* genetic variants with established effect and evaluate their haplotype association with the risk of PMO in a cohort of Belarusian and Lithuanian women. Complex screening of these genetic markers can be used to implement personalized clinical approach for prevention, treatment, and rehabilitation programs.

Main publications:

Marozik, P.M., Tamulaitiene, M., Rudenka, E., Alekna, V., Mosse, I., Rudenka, A., et al. 2018. Association of Vitamin D Receptor Gene Variation With Osteoporosis Risk in Belarusian and Lithuanian Postmenopausal Women. *Front Endocrinol*, vol. 9, 305–305; doi:10.3389/fendo.2018.00305

***The relationships of vitamin D level and sarcopenia in elderly people.***

The study was performed on 74 subjects. Mean vitamin D concentration in sarcopenic subjects was statistically significantly lower when compared to mean level of in non-sarcopenic subjects. After adjusting for confounders (age, gender, height, weight) the association between sarcopenia and low vitamin D concentration was still statistically significant.

Conclusions: Low level of vitamin D is associated with sarcopenia in older adults.

*WCO-IOF-ESCEO Conference 2018*, April 19–22, Krakow, Poland. <https://www.wco-iof-esceo.org/sites/all/files/wco18/WCO18-AbstractBook.pdf>

***Relations between Frailty, Multimorbidity and Disability in Specific Activities in Daily Living in Community-Dwelling Women: a Cross-Sectional Study.***

The purpose of this sub-study was to investigate relations between frailty, multimorbidity and disability in elderly women. Methods: A cross-sectional study in community-dwelling women aged 60 years and more was conducted. Frailty was defined using the frailty phenotype according to Fried et al. criteria. Multimorbidity was defined as the presence of two or more self-reported chronic diseases. Disability in specific activities of daily living (ADL) was defined as needing help or being unable to perform one or more basic or instrumental ADL assessed using Katz and Lawton scales. Conclusions: Higher rates of multimorbidity and IADL disability were found in frail women compared to prefrail and robust women.

Presented:

*14th International Congress of the EuGMS*, 2018.10.10-10.12 in Berlin, Germany.

***Relationship between falls, medication usage and chronic diseases in elderly women.***

The purpose of this sub-study was to investigate the association between falls, usage of medication and presence of chronic diseases. Methods: Community-dwelling ambulatory women aged 65 years and older who had fallen in previous 12 months were included in this study. Data on fall history, medication and chronic diseases were collected.

Conclusions: There was very weak correlation between amount of medication used and number of falls.

Presented:

*14th International Congress of the EuGMS, 2018.10.10-10.12 in Berlin, Germany.*

**Research of the Etiopathogenesis of Internal Diseases, Detection of Optimal Diagnostic and Treatment Methods.** Prof. D. Kalibatiene. 2014–2018. Project Supported by University Budget.

**Research interests.** Investigation and Scientific Evaluation of Etiopathogenesis of Cardiovascular, Digestive Diseases, Lung Cancer and Diabetes Mellitus. Development of Optimal Methods of Diagnosis and Treatment of Internal Diseases. Investigation of Quality of Life of Patients with Internal Diseases. Survey of Nursing Care Needs of Patients with Cardiovascular, Respiratory and Digestive Diseases.

**Chronic heart failure patient's health-related quality of life and self-care level.** Prof. D. Kalibatiene. 2014–2018.

209 respondents had participated in the research. Minnesota Living with Heart Failure questionnaire (MLHFQ) was used for the evaluation of life quality relevant to health. Statistical data analysis was performed with statistical analysis "SPSS 15.0".

Conclusions: Life quality of 29 percent of studied respondents was bad and very bad. Life quality was defined as significantly better in case of men in compare to women, also in case of younger respondents in compare to older, in case of married in compare to singles and widows/widowers, in case of respondents with job in compare to unemployed and retired, with higher education.

***Health care quality assessment in cardiology center: viewpoint of patients.*** Prof. D. Kalibatiene. 2014–2018.

A total of 200 patients was interviewed at the Cardiology Center of Vilnius hospital. The patients' expectations and impressions about the health care were evaluated.

Conclusions: The patients assessed their expectations in relation with the hospital concerned in high scores. Higher education of the patients was associated with lower expectations towards the hospital tangible assets, its reliability and staff sensitivity. The patients interviewed had higher expectations than their final feedback. The significant correlation between the patients' expectations with regard to the hospital and their feedback was identified.

Main publications:

Kalibatiene, D., Rusecka, B., Markevičius, N. 2018. Chronic heart failure patient's health-related quality of life and self-care level. *Health Sciences*, vol. 28, no. 5, 6-12. Index Copernicus.

Mikaliūkštienė, A., Baltokaitė, L., Kalibatienė, D., Jerdiakova, N. 2018. Health care quality assessment in cardiology center: viewpoint of patients. *Health Sciences*, vol. 28, no 5, 32-40. Index Copernicus.

### **The Evaluation of Nursing Needs, Quality of Life, and Perfection of Health Care and Education of Patients.**

***Nurses' role in using non-pharmacological methods of postoperative pain management in children.*** Prof. D. Kalibatienė. 2014–2018.

The research involved 89 nurses. The questionnaire, created by Dr Tarja Pölkki (Finland), was adjusted and translated from Finnish to Lithuanian.

Conclusions: The most frequent non-pharmacological methods of postoperative pain relief used by nurses were the information giving, positioning patients in bed, helping them with daily needs and comforting worried children. The nurses aged from 45 to 59 years old, with a higher academic degree, having a longer work experience, more actively participated in the management of postoperative pain relief in children and in their parents' teaching.

***The Relationship between Stress Coping Strategies and Personality Traits of the Nurses.*** Assoc. prof. V. Ožeraitienė. 2014–2018.

Almost of half of the nurses (43%) working in the therapy and surgery units' deal with stress using solution-oriented, active coping strategies. A significant relationship between problem solving and social support strategies of the subjects working in surgery and intensive care departments indicated that mostly teamwork and assistance could help them to cope with stressful situations accordingly. Strong relationship between psychological avoidance and of emotional discharge the subjects working in surgery and intensive care departments showed that emotional discharge and distraction from a certain issue could naturally reduce negative emotions.

#### Main publications:

Stundžienė, R., Turlinskienė, G., Kalibatienė, D., Gimžauskienė, J., Gimžauskaitė, S. 2018. Nurses' role in using non-pharmacological methods of postoperative pain management in children. *Health Sciences*, vol. 28, nr. 5, 71-81. Index Copernicus

Ožeraitienė, V., Kislūtė, Ž., Gaigalaitė, V. 2018. The Relationship between Stress Management Strategies and Aspects of the Nurses' Personality Traits. *Health Sciences*, vol. 28, no. 5, 82-88. Index Copernicus.

***A possible causal link between VA hypoplasia (VAH) and the incidence of posterior circulation stroke (PCS) or TIA depending on the degree of VAH, collateral circulation and vascular risk factors.***

The impact of the vertebral artery hypoplasia on PCS/TIA and its pathogenic mechanism was significantly influenced by age. In our population VA diameter 2.5 mm was cutoff point for PCS/TIA and VA diameter 2.2 mm was cutoff point for VA distal occlusion/stenosis. The cut-off point of VA diameter, affecting the occurrence of PCS in different populations may vary because VA diameter depends on gender and anthropometric parameters (especially height). Arterial hypertension, contralateral VA variation or lesions and male sex increase the PCS/TIA risk in patients with VAH.

### ***The evaluation of non-pulmonary cancer risk following tuberculosis.***

Lithuania remains one of the highest tuberculosis burden countries in Europe. Epidemiological studies have long pointed to infections as important factors of cancer aetiology, but the association between tuberculosis and the risk of non-pulmonary cancers has rarely been tested and results have been inconsistent. The aim of this population-based cohort study was to examine the risk of cancer among patients diagnosed with tuberculosis using data from Lithuanian Tuberculosis, Cancer and Resident's Registries. According to this cohort study the recommendation for the awareness of this association among physicians is warranted. Analysis suggests a reduction in risk of hormone-related cancers and melanoma.

The main research is published in ISI database (ISI Web of Science):

Everatt, R., Kuzmickiene, I., Davidaviciene, E., Cicenias, S. 2017. Non-pulmonary cancer risk following tuberculosis: a nationwide retrospective cohort study in Lithuania. *Infectious Agents and Cancer* . vol. 12, No 33.

Gaigalaitė, V. 2017. Association between vertebral artery hypoplasia and stroke, oral presentation. *In European Stroke Conference 2017*, May 24-26, Berlin.

### ***Health-related quality of life in patients with atrial fibrillation.***

229 in-hospital patients with atrial fibrillation (AF) of 50-70 age participated, quality of life (QoL) in relation to sociodemographic, clinical and individual indicators was evaluated. QoL was evaluated according to generic questionnaire SF-36 and disease specific questionnaire AF-QoL. The main statistically significant sociodemographic indicators that worsen QoL were defined as female gender, lower education, low income, unemployment. The following clinical factors influencing on quality of life were defined: as longer AF duration, more severe heart failure functional class, concomitant diseases.

The article is accepted in ISI database (ISI Web of Science):

Kalibatiene, D., Gaigalaite, V., Karpaviciene, V., Varvuolyte S. Health-related quality of life in patients with atrial fibrillation. *Medicina* (in press)

### ***The Evaluation of Nursing Needs and Quality of Life and Perfection of Health Care and Education of Patients.***

The aim of the first research was to analyze and assess links between psychosocial risk factors and social reflection of nurses and nursing assistants. The European Union prevention and good practice guide questionnaire (2013) was used for this survey. Psychosocial risk factor indicators (stress, burnout, violence, mobbing, inappropriate work time organization) and indicators of social reflection were explored. Conclusions: Who worked in the internal medicine and surgery departments had a risk of stress, burnout, violence and inappropriate working time arrangements. Stress risk was significantly associated with lower education, shorter duration of service and respondents' sickness rate. Burnout risk was significantly associated with work in surgery/intensive care team, marital status and shift/night work. Risk of mobbing was associated with shorter (up to 5 years) and longer (26 years and more) duration of service. Comparing the surgery and internal medicine nursing care team links between social reflection and psychosocial risk factors, stress risk was found to be significantly higher in the surgery team, however, burnout and inappropriate working time arrangement risks were significantly higher in the internal medicine departments.

### ***The relationship between stress coping strategies and personality traits of the nurses.***

Almost of half of the nurses (43%) working in the therapy and surgery units' deal with stress using solution-oriented, active coping strategies. A significant relationship between problem solving and social support strategies of the subjects working in surgery and intensive care departments indicated that mostly team work and assistance could help them to cope with stressful situations accordingly. Strong relationship between psychological avoidance and of emotional discharge the subjects working in surgery and intensive care departments showed that emotional discharge and distraction from a certain issue could naturally reduce negative emotions.

## **National Research Projects**

### **COST BM1201 “Developmental origins of chronic lung disease“. *S. Cicénas – project manager***

Chronic Lung Diseases (CLD) are a major cause of death in the Western world according to the World Health Organization (WHO), but curative therapies do not exist and a highly cross-disciplinary approach involving scientists from basic and clinical research was required. COST Action allowed the creation of a coordinated and highly translational research program. This brought forward a novel understanding of CLD pathogenesis and built the prerequisites for the successful development of early interventions and/or innovative therapies. COST Action identifies potential causes of disease, using human clinical, genetic and environmental epidemiological cohort studies. This allows identifying and characterizing vulnerable populations, and clarify how specific exposures impinge on genetic predisposition.

### **Predictive values of ERCC1 and RRM1 for clinical outcome in non-small cell lung cancer. *S. Cicénas – project principal.***

A study was conducted to understand the genetic effect of ERCC1 and RRM1 on the chemotherapy response and clinical outcome of Non-Small Cell Lung Cancer (NSCLC). Methods: The relative cDNA quantification for ERCC1 and RRM1 was conducted using a fluorescence-based real-time detection method among 294 NSCLC patients.

First results: can be found at <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3858946/>  
Conclusion: This observation could be used in personalized chemotherapy, increase the response rate and prolonged survival time, and could encourage to explore the predictive value of other genes.

### **Quality Improvement using IT Technologies in Lung and Skin Diseases Diagnostic Services. *S.Cicénas – project manager.***

Collaboration among primary care practices, practice facilitators, IT developers, and decisionmakers to increase the use of health IT for QI in primary care. Main objectives: share examples of exemplary uses and best practices to inspire and guide primary care practices seeking to create a culture that embraces using health IT for QI, Continue to develop and refine technology to produce high-functioning, interoperable health IT tools. Empower primary care providers and staff with the necessary knowledge and skills to maximize the use of health IT for QI. Provide guidance and tools to help primary care practices redesign processes and workflows to accommodate the effective use of health IT for QI. Expand the availability of financial and other transformation incentives and supports.

"EuLuCA": European Initiative for Quality Management in Lung Cancer Care EIQMLCC.  
*S. Cicénas – project principal.*

The main objective was to assess whether prospective collection of demographic and clinical data of patients with lung cancer is feasible in a Pan-European context. Identify problems with this process: linguistic, related to information technology, related to data security, clinical management, or cost.

The Lithuanian-French cooperation Program in the field of research and experimental development „**Žiliberas**“: **Developing BioBank Infrastructure for Oncological Patients for Future Research**. S.Cicėnas – project manager.

Objectives of the study were: develop and promote mutual cooperation in the field in scientific research and experimental expansion. Active participation in creating common space of European Scientific Research and Scientific Exchange.

### **MAIN SCIENTIFIC ACHIEVEMENTS IN 2018 Paskirstyti po S. Cicėno projektais**

Individual and combined effect of TP53, MDM2, MDM4, MTHFR, CCR5, and CASP8 gene polymorphisms in lung cancer. Stumbrytė Aušra, Gudlevičienė Živilė, Kundrotas Gabrielis, Dabkevičienė Daiva, Kunickaitė Agnė, Cicėnas Saulius. *Oncotarget. New York : Impact Journals* : LLC. 2018, Vol. 9, Nr. 3. p. 3214-3229. ISSN: 1949-2553 ; DOI: 10.18632/oncotarget.22756

Atezolizumab for First-Line Treatment of Metastatic Nonsquamous NSCLC. Socinski MA , Jotte RM , Cappuzzo F et al. Collaborator S. Cicėnas. *N Engl J Med*. 2018 Jun 14;378(24):2288-2301. *Epub 2018 Jun 4*. doi: 10.1056/NEJMoa1716948.

Suicide risk among lung cancer patients in Lithuania. A. Kaceniene, E.Danila, S.Cicėnas et al. Hoboken : John Wiley & Sons Ltd: *Clinical Respiratory Journal*, vol. 12, iss. 9, 2455-2456. Published: SEP 2018.

Lung cancer survival in Lithuania: changes by histology, age and sex from 2003-2007 to 2008-2012. V.Gedvilaitė, S.Cicėnas, E.Danila, G.Smalytė. *Accepted for publication in Cancer Control manuscript ID CCX-18-0066.R2*.

Rapid drop in blood platelet count and increase in creatinine in non-small cell lung cancer (NSCLC) patients treated with osimertinib. I.J.Z.Eide, A.Helland, S.Ekman, Saulius Cicėnas et al. *Journal of Clinical Oncology*, vol. 36, iss.15 Supplement: S Meeting Abstract: e21026. Published: MAY 20 2018

2015 European Society of Coloproctology collaborating group. The impact of stapling technique and surgeon specialism on anastomotic failure after right-sided colorectal resection: An international multi-centre, prospective audit. *Colorectal Dis*. 2018 Jun 19. doi: 10.1111/codi.14308. [Epub ahead of print]

Poskus E, Kryzauskas M, Poskus T, Mikalauskas S, Samalavicius NE, Aliosin O, Dailidenas S, Tamelis A, Saladzinskas Z, Lizdenis P, Jakaitiene A, Smailyte G, Strupas K. Improved perioperative care is associated with improved long-term survival in colorectal cancer. *Int J Colorectal Dis*. 2018 Jun;33(6):779-785. doi: 10.1007/s00384-018-3021-y. *Epub 2018 Mar 12*.

GlobalSurg Collaborative. Surgical site infection after gastrointestinal surgery in high-income, middle-income, and low-income countries: a prospective, international, multicentre cohort study. *Lancet Infect Dis*. 2018 May;18(5):516-525. doi: 10.1016/S1473-3099(18)30101-4.

Dulskas A, Smolskas E, Kildusiene I, Samalavicius NE. Treatment possibilities for low anterior resection syndrome: a review of the literature. *Int J Colorectal Dis*. 2018 Mar;33(3):251-260. doi: 10.1007/s00384-017-2954-x. Epub 2018 Jan 8. Review.

Samalavicius NE, Dulskas A, Uselis S, Smolskas E, Smailyte G, Lunevicius R. High vascular ligation in left-sided colon cancer surgery is safe and adequate. *Eur Surg* 2018;50:221-7

The impact of stapling technique and surgeon specialism on anastomotic failure after right-sided colorectal resection: an international multicentre, prospective audit. 2015 European Society of Coloproctology Collaborating Group. *Colorectal Dis*. 2018 Jun 19. doi: 0.1111/codi.14308. [Epub ahead of print]

Safety of primary anastomosis following emergency left sided colorectal resection: an international, multi-centre prospective audit. 2017 European Society of Coloproctology (ESCP) collaborating group. *Colorectal Dis*. 2018 Sep; 20 Suppl 6:47-57. doi: 10.1111/codi.14373]

Association of mechanical bowel preparation with oral antibiotics and anastomotic leak following left sided colorectal resection: an international, multi-centre, prospective audit. 2017 European Society of Coloproctology (ESCP) collaborating group. *Colorectal Dis*. 2018 Sep; 20 Suppl 6:15-32. doi: 10.1111/codi.14362.

The impact of conversion on the risk of major complication following laparoscopic colonic surgery: an international, multicentre prospective audit. 2017 and 2015 European Society of Coloproctology (ESCP) collaborating groups. *Colorectal Dis*. 2018 Sep; 20 Suppl 6:69-89. doi: 10.1111/codi.14371.

An international multicentre prospective audit of elective rectal cancer surgery; operative approach versus outcome, including transanal total mesorectal excision (TaTME). 2017 European Society of Coloproctology (ESCP) collaborating group. *Colorectal Dis*. 2018 Sep;20 Suppl 6:33-46. doi: 10.1111/codi.14376.

Evaluating the incidence of pathological complete response in current international rectal cancer practice: the barriers to widespread safe deferral of surgery. 2017 European Society of Coloproctology (ESCP) collaborating group. *Colorectal Dis*. 2018 Sep;20 Suppl 6:58-68. doi: 10.1111/codi.14361.

Surgical or endoscopic management of malignant colon polyps. Samuolis N, Samalavicius NE, Dulskas A, Markelis R, Lunevicius R, Mickys U, Ringeleviciute U. *ANZ J Surg*. 2018 Oct 22. doi: 10.1111/ans.14846. [Epub ahead of print] PMID: 30347496

Penile Metastasis from Rectal Carcinoma: Case Report and Review of the Literature. Kuliavas J, Dulskas A, Drachneris J, Miseikyte-Kaubriene E, Samalavicius NE. *Visc Med*. 2018 Oct;34(5):389-392. doi: 10.1159/000491594. Epub 2018 Jul 31.



## **THE LIST OF THE MOST IMPORTANT RECEIVED NATIONAL AND INTERNATIONAL AWARDS FOR R&D ACTIVITIES**

### **Prof. Saulius Cicenias:**

- was given Lithuanian Honoured doctor's name and sign by Lithuanian Minister of Health.
- got Prime Minister's gratitude for outstanding work.
- was awarded the Order of the Lithuanian Grand Duke Gediminas Knight's Cross for outstanding work - merits to Lithuania by Lithuanian President.

**Prof. Valerijus Ostapenko.** 2016 m. - Lithuanian Presidential award - the Order of the Lithuanian Grand Duke Gediminas.

Cross of the Knight of the Order of the Lithuanian Grand Duke Gediminas awarded **Gurskas Pranas Vytautas Kasiulevicius, Audrone Marcinkutė** by President of the Republic of Lithuania for merits to Lithuania and medicine on 15 February 2018.

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

Workshops at Health Ministry and Vilnius Municipality on the topics of family medicine, health care organization and prevention programmes.

UEMO - on a regular basis actively participated in the workshops, organized by European Union of General Practitioners/Family Physicians.

EURACT - on a regular basis actively participated in the workshops, organized by European Academy of Teachers in GP/FM.

BARN - on a regular basis actively participated in the workshops within the pale of Baltic Antibiotic Resistance Collaborative Network.

Council of National cardiovascular screening program

Council of National colorectal cancer screening program

Central european initiative against lung cancer – workshop/ expert forum

Oncology Virtual Interactive Advisory Board expert.

Expert in trial teams at Credevo.

Member of CELCC expert team.

As a reviewer-expert at World Journal of Surgical Oncology.

SIS (Senologic International Society) member of the Board of Directors 2016-2018

## **THE LIST OF THE MOST IMPORTANT RESULTS OF SCIENCE POPULARISATION ACTIVITIES**

Regularly (5-6 times in a year) lectures on Lung Cancer item at Lithuanian television, radio stations and local newspapers

Participation in TV, radio broadcasts, popularizing the achievements of medical science

## **OTHER SCIENTIFIC ACTIVITIES**

2 Breast cancer roundtable conferences 2016/2017 organized by International Centre for Parliamentary Studies

Accuracy of current diagnostic techniques – invitation – Breast Cancer Europe Roundtable 2017

### **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 journal Internistas (Internist),
- president of Lithuanian Evidence-Based Medicine Society
- board member of journals Medicinos teorija ir praktika (Theory and Practice in Medicine), Geriatrija (Geriatrics) and Lietuvos bendrosios praktikos gydytojas (General Practitioner of Lithuania)
- member of Vilnius University Senate

### **Associate professor. 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 study of the diabete

### **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

### **Associate professor Dr. Zydruone Visockiene**

- 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. D. Kalibatiėnė –**

- head of the Department of Internal Diseases at Vilnius Clinical Hospital;

- member of the Council of the Faculty of Medicine of Vilnius University;
- editorial board member of the journal *Slauga. Mokslas ir praktika*  
<http://www.sdtsc.lt/index.php?id=285>.
- member of the Lithuanian Society of Gastroenterology  
<http://www.gastroenterologija.lt/>
- member of the Lithuanian Society of Internists
- member of the Lithuanian Society of Palliative Medicine  
<http://www.paliatyvipagalba.lt/>
- board member of the Society of Lithuanian Nurses with university education  
<http://www.lusd.lt/>
- head of the self-assessment work group of Nursing Studies programmes.
- head of the Nursing Bachelor's degree final thesis Defending Committee.

**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>
- PLOS ONE (ISI Web of Science) reviewer

**Prof. S. Cicėnas –**

- member of the ESTS (European Society of Thoracic Surgeons)
- member of the IASLC (International Association for study of lung cancer)
- member of the Lung Cancer Study Group EORTC (European organization for research and treatment of cancer)
- board member of the Lithuanian Society of Cardiothoracic Surgeons.
- editorial board member and of the journal (*Lithuanian Surgery*)
- editorial board member of the journal *BSM (Biological Science Monitor)* expert of malignant pleural mesothelioma issues
- member of Lithuanian Society of Pulmonology and Allergy
- board member of Lithuanian Society of Oncology

**Prof. Narimantas Evaldas Samalavicius –**

- President of the Lithuanian Society of Coloiproctologists
- President-elect, International Society of University Colon and Rectal Surgeons
- Editor in chief, scientific journal „*Lithuanian Surgery*“
- Member of editorial board: „*World Journal of Coloproctology*“, „*Annal of Coloproctology*“
- Scientific program director of „29th biennial meeting of the International Society of Univesity Colon and Rectal Surgeons. London, UK, August 29 – September 1, 2018“. Co-chairman at the Health Ministry of Lithuania of the steering committe of the National Colorectal cancer Screening Porgram

**Associate professor dr. V. Ožeraitienė –**

- member of the Examination Appeals Board at Vilnius University Medical faculty ( until march, 2017)
- 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/>
- member of Nursing Bachelor's degree final thesis Defending Committee
- editorial board member of the journal Slauga. Mokslas ir praktika  
<http://www.sdtsc.lt/index.php?id=285>

**Assistant Professor 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 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

**Doctoral student Regina Pileckytė –**

- Member of Lithuanian Hematology association
- Member of European research initiative in CLL

## **Clinics of Emergency Medicine (from 2018-03-01)**

2 Santariškių, LT-08661 Vilnius

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E-mail: [julija.kurilova@mf.vu.lt](mailto:julija.kurilova@mf.vu.lt)

**Head – Dr. Prof. Pranas Šerpytis**

### **STAFF**

1 Professor-Residents Coordinator (prof. Pranas Šerpytis), 13 residents instructors (incl. 7 holding doctoral degree: prof. Pranas Šerpytis, assist. prof. Ieva Norkienė, assist. prof. Andrius Klimašauskas, assist. prof. Saulius Vosylius, dr. Robertas Badaras, dr. Robertas Samalavičius, dr. Virginija Žilinskaitė, Kęstutis Laurušonis, Paulius Uksas, Andrius Ignotas, Božena Markevič, Artūras Zubrickas, Audronė Tamošiūnienė), 2 doctoral students (Paulius Uksas and Aleksandras Briedis)

### **RESEARCH AREAS**

Emergency Medicine; Acute Cardiac Care; Resuscitation; Politraum; Triage.

### **RESEARCH PROJECTS CARRIED OUT IN 2018**

#### **Projects Supported by University Budget**

**Projects Supported by University Budget** will be carried out from 2019

### **OTHER SCIENTIFIC ACTIVITIES**

#### **Prof. P.Šerpytis**

- since 2015 member of Research Council Committee of Natural and Technical Sciences, <https://www.lmt.lt/lt/apie-taryba/gamtos-ir-technikos-mokslu-komitetas/prof.-pranas-serpytis/2813>
- from 2013, *journal Sveikatos mokslai*, editorial board member
- from 2015, *journal Emergency Medicine Service*, scientific board member
- from 2015, *journal International Heart and Vascular Disease Journal*, editorial board member
- from 2017, *journal Annals of Medical Case Reports*, editorial board member
- President of the Meeting: 6th International Meeting on Acute Cardiac Care and Emergency Medicine (was hold on 14 – 15 of September 2018)

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

#### **Pranas 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. R. Samalavičius:**

- working groups of the Lithuanian Ministry of Health: Working group for use of ECMO system in emergency medicine service.

## INSTITUTE OF ODONTOLOGY

115 Žalgirio, LT-08217 Vilnius  
Tel. 272 7589, fax 272 8569  
E-mail: vytaute.peciuliene@mf.vu.lt

**Head** – Prof. Dr. *Vytautė Pečiulienė*

### STAFF

**Professors:** Dr. V. Pečiulienė, Dr. A. Pūrienė, Dr. T. Linkevicius

**Associate professors:** Dr. R. Manelienė, Dr. L. Zaleckas (part-time), Dr. V. Rutkūnas, Dr. S. Drukteinis, Dr. V. Brukiene, Dr. L. Linkevičienė, Dr. R. Bendinskaitė.

**Assistants:** Dr. D. Ivanauskaitė (part-time), Dr. V. Janulyte (part-time), Dr. E. Miliūnienė, G. Naujokaityte (part-time), E. Nedzinskiene (part-time).

**Junior assistants:** L. Džiaugytė, A. Geciauskaite, I. Gendvilienė, A. Rimkevičius (part-time), R. Trumpaitė-Vanagienė (part-time), V. Zaleckiene (part-time).

**Lecturers:** Dr. R. Zaliuniene (part-time), Dr. R. Almonaitiene, V. Almonaitis (part-time), R. Pletkus (part-time), D. Janavičiene (part-time), G. Krukonis (part-time), D. Matkevicius (part-time), J. Žekonienė (part-time).

**Doctoral students:** L. Džiaugytė, I. Gendvilienė, S.K. Zukauskas, A. Geciauskaite, R. Borusevicius, A. Rovas.

**Students' scientific group of Odontology:** scientific leader – Assoc. Prof. Dr. V. Brukienė, Coordinator – Student G. Vitosytė; 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 2018

#### Projects Supported by University Budget

**Evaluation of Prevalence, Treatment Methods Modalities, Rehabilitation and Prevention of Patients with Congenital and Acquired Diseases of Stomatognathic System.** Prof. V. Pečiulienė, Prof. A. Puriene, Prof. T. Linkevicius, Assoc. Prof. V. Rutkunas, Assoc. Prof. V. Brukiene, Assoc. Prof. L. Linkeviciene, Assoc. Prof. S. Drukteinis 2014–2018.

The holistic aim of the project is to evaluate the prevalence of congenital and acquired stomatognathic system diseases and to select the most effective methods of treatment and prevention with novelty approach, to examine attitude of patients and dentists towards the quality of dental treatment procedures, to implement dental health behaviour modification in adolescents. Regeneration therapy could open new perspectives in dentistry therefore bone regeneration enhancement together with current advances in tissue engineering and developed synthesis methods to produce composite materials (CM) with applications for bone regeneration are goal of group of research projects performed in institute. Successful root canal treatment is determined by many factors. The canal filling may be complicated when procedural errors occur, resulting in voids and unsatisfactory three-dimensional seal therefore evaluation of behaviour of newest materials in such situations using micro-CT is performed.

## **Periodontology**

### **The association of epigenetic factors with the etiopathogenesis and clinical status of periodontal diseases and rheumatoid arthritis.** Prof. A. Puriene, Doct. St. A. Rovas.

Rheumatoid arthritis (RA) and chronic periodontitis (CP) are similar in terms of pathogenesis as both diseases involve chronic inflammation fuelled by pro-inflammatory cytokines, connective tissue breakdown and bone erosion. Multiple researches reveal associations between the diseases, including clinical, epidemiological and other aspects. The emerging importance of epigenetic regulation in the etiopathology of various diseases was the rationale for current research which aims to assess micro-RNA role in inflammation related to chronic periodontitis for patients diagnosed with CP and RA.

## **Preventive dentistry, cariology**

### **Theory-based interventions for improving oral self-care in 15-16 years old schoolchildren.** Prof. V. Peciuliene, Assoc. Prof. V. Brukiene, Doct. St. L. Dziaugyte.

Medical interventions guided by psychological theories have been effective in reducing risk behaviours and disease levels in different settings and population groups. 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 is the theory guided interventions are superior to a one-time conventional dental instruction for improving and sustaining oral self-care in adolescents.

#### Main publications:

Aleksejūnienė, J., Brukienė, V. 2018. A cluster randomized theory-guided oral hygiene trial in adolescents – a latent growth model. *International journal of dental hygiene*, vol. 16, no 2, e23-e30; doi: 10.1111/idh.12286.

### **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 in Vilnius city.** Assoc. V. Brukiene.

Evaluation of the possibilities to prepare patients diagnosed with childhood autism for dental procedures is important. The goals are 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, patient developmental abilities and skills; to evaluate the effectiveness of behavioural management methods based on accomplishment of repeated tasks.

#### Main publications:

Aleksejūnienė, Jolanta; Brukienė, Vilma. A cluster randomized theory-guided oral hygiene trial in adolescents - a latent growth model. *International journal of dental hygiene*. 2018, vol. 16, no 2, e23-e30; doi: 10.1111/idh.12286.

### **Epidemiological oral health survey in Lithuania.** Assoc. Prof. R. Bendinskaitė, Prof. A. Pūrienė.



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. Now we have data from 1300 children and adolescence and 1400 adults.

## **Endodontics**

**Characterization and sealing ability of the flowable bioceramic materials.** Assoc. Prof. S. Drukteinis, Prof. V. Pečiulienė.

The aims of the studies performed are to develop flowable bioceramic material mta flow, using scanning electron microscopy (sem), energy dispersive spectroscopy (eds) and x-ray diffractometry; to evaluate and compare the root canal sealing quality by mta flow and bioroot rcs/single-cone technique in artificially perforated roots of mandibular molars, using micro computed tomography ( $\mu$ ct) and to evaluate and compare the effect of ultrasound agitation on the porosity of the flowable bioceramic materials, using micro computed tomography ( $\mu$ ct).

**Evaluation of procedural errors frequency during endodontic treatment and their influence on tooth prognosis.** Prof. V. Peciuliene, Lect. G. Naujokaitytė, Assoc. Prof. S. Drukteinis.

The aim of this project 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. This study uses clinical microscope, that has become an integral part of the endodontic treatment and can affect both the endodontic treatment outcome and the tooth prognosis. The study should help to identify the most common errors in the preparation of endodontic cavity and mechanical root canal cleaning, the causes of their occurrence and how the number of these procedural errors could be reduced.

### Main publications:

Drukteinis, S., Pečiulienė, V., Dummer, P.M.H., Hupp, J. 2018. Shaping ability of BioRace, ProTaper NEXT and Genius nickel-titanium instruments in curved canals of mandibular molars: a MicroCT study. *International endodontic journal*, vol. 52, iss. 1, 86-93; doi: 10.1111/iej.12961.

**Dental trauma experience, attitudes and trauma prevention in 11 to 13 year-old Lithuanian schoolchildren.** J. Assist. V. Zaleckienė, Prof. V. Pečiulienė.

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.

### Main publications:

Zaleckienė, V., Pečiulienė, V., Brukienė, V., Jakaitienė, A., Aleksejūnienė, J., Zaleckas, L. 2018. Knowledge about traumatic dental injuries in the permanent dentition: a survey of Lithuanian dentists. *Dental traumatology*, vol. 34, no 2, 100-106; doi: 10.1111/edt.12388.3.

## **Prosthetic dentistry, biomaterials**

**Mechanical wear and bioavailability of prosthetic cement materials.** J. Assist. R. Trumpaitė-Vanagiene, Prof. A. Puriene.

The work objective is to study in vitro model the wear and tear of cementitious substances used in dentistry practice and their bioavailability with periodontium. To investigate the resistance of wearing teeth cementing materials to the wear and the effect of the edge precision of the protrusion on wear intensity. To carry out a quantitative analysis of the cytotoxicity of dental cementation agents in human gum fibroblasts. Carry out a qualitative analysis of the cytotoxicity of dental cementation in human gum fibroblasts. Determine the primary mechanism of cement cell death.

### Main publications:

Trumpaitė-Vanagienė, R., Čebatariūnienė, A., Tunaitis, V., Pūrienė, A., Pivoriūnas, A. 2018. Live cell imaging reveals different modes of cytotoxic action of extracts derived from commonly used luting cements. *Archives of oral biology*, vol. 86, 108-115; doi: 10.1016/j.archoralbio.2017.11.011.

**In vivo and in vitro accuracy evaluation of digitally made impressions and restorations on dental implants.** Doct. St. A. Gečiauskaitė, Assoc. Prof. V. Rutkūnas.

The aim: to evaluate factors influencing accuracy of digital implant impressions and restorations. Digital technologies have revolutionised clinical prosthodontics, extending diagnostic, treatment and follow – up possibilities. Digital workflow is still susceptible to errors, which can come from the digital impression and cad/cam software or production process, so one of the main goals is 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 should be provided.

**Comprehensive evaluation of factors influencing the accuracy of digital workflow.** Assoc. Prof. V. Rutkūnas.

The aim: to evaluate implant-supported restoration misfits occurring during the digital workflow and to investigate methods aimed at detection of the misfit. The separate steps of the digital workflow will be 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.

**Crestal bone stability around implants with platform switching, soft tissue thickening, titanium bases and zirconium oxide restorations.** Prof. T. Linkevicius, Doct. St. Zukauskas.

Vertical soft tissue thickness has been shown to be a critical factor in crestal bone stability. Several methods are proposed to increase soft tissue thickness. However, only implants with platform switching can be submerged below the bone. Alternately, implants without platform switching cannot be placed deep in the bone, as connection instability will cause bone loss. The purpose of the study is to evaluate, if subcrestal position of implant with platform

switching and later restoration with screw-retained zirconia based implant supported restorations, will reduce bone loss in thin tissue biotype patients.

Main publications:

Linkevičius, T., Linkevičius, R., Alkimavičius, J., Linkevičienė, L., Andrijauskas, P., Puišys, A. 2018. Influence of titanium base, lithium disilicate restoration and vertical soft tissue thickness on bone stability around triangular-shaped implants: A prospective clinical trial. *Clinical oral implants research*, vol. 29, no. 7, 716-724.; doi: 10.1111/clr.13263.

**Orthodontics**

**Enamel changes after removal of metal and ceramic braces.** Assoc. Prof. Laura Linkeviciene.

The aim of the study: to evaluate and compare emcs characteristics (severity, direction, location, length, and width) before and after removal metal and ceramic brackets from the teeth of the younger and older age groups. Extracted human maxillary premolars were included in the study. The teeth were extracted for orthodontic reasons or periodontal pathology from two groups of patients: younger age group (age range, 18-34 years), and older age group (age range, 35–54 years).

Main publications:

Dumbrytė, I., Vėbrienė, J., Linkevičienė, L., Malinauskas, M. 2018. Enamel microcracks in the form of tooth damage during orthodontic debonding: a systematic review and meta-analysis of in vitro studies. *European journal of orthodontics*, vol. 40, 1-13.. DOI: 10.1093/ejo/cjx102.

**Maxillo-facial surgery, oral surgery, oral pathology**

**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.

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. The standardized clinical photographs of patients had been taken according to one and the same protocol in that centre where the patient had been treated. The treatment protocols varied among these centres regarding techniques and timing. 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 of the nose in 5-year-old and 10 -years old onsecutive patients was done. Evaluation was done two times according to the protocol by experienced maxillofacial surgeons on two consecutive days. The results of this evaluation will analysed statistically for significant differences.

Main publications:

Neverauskienė, A., Maciusovič, M., Burkanas, M., Gricienė, B., Petkevičius, L., Zaleckas, L., Tamošiūnas, A. E., Venius, J. 2018. Image based simulation of the low dose computed tomography images suggests 13 mAs 120 kV suitability for non-syndromic craniosynostosis diagnosis without iterative reconstruction algorithms. *European journal of radiology*, vol. 105, 168-174; doi: 10.1016/j.ejrad.2018.06.005.

**Early cleft care training programme.** Assoc. Prof. L. Linkeviciene.

In Europe, one in 700 pregnancies is affected by orofacial cleft. The ultimate aim is that affected individuals in different European countries will receive equal access and quality of care. So the objective is to develop a training package for healthcare professionals that equips them with the knowledge and skills to make an accurate diagnosis, provide specialist early feeding advice and assessment, provide appropriate information and support to the family and establish a structured care pathway in the early months for the children with orofacial cleft.

### **National Research Projects**

Lithuanian Research Council. **Construction of Composite Bone Scaffold Material and in Vivo Evaluation of Biocompatibility and Osteopromotion.** Nr. NKPDOKT-15078. Assoc. Prof. V. Rutkūnas, Doct. St. I. Gendviliene

The aim: to evaluate effectiveness of innovative 3d printed composite scaffolds in in vitro and in vivo studies on bone regeneration. Bone regeneration is a complex, well-orchestrated physiological process of bone formation, which can be seen during normal fracture healing, and is involved in continuous remodelling throughout adult life. However, there are complex clinical conditions in which bone regeneration is required in large quantity, such as for skeletal reconstruction of large bone defects created by trauma, infection, tumour resection and skeletal abnormalities, or cases in which the regenerative process is compromised, including avascular necrosis, atrophic non-unions and osteoporosis. Biology, material science and regenerative medicine, searching for a new bone graft material to change the autogenous bone.

**Accuracy of digitally planned implant placement and cad/cam immediate prosthesis.** Nr. KD-16137. Assoc. Prof. V. Rutkūnas, doct. st. R. Borusevičius

The aim: to evaluate accuracy of guided implant placement and possibilities to produce digital immediate restorations. Digital treatment planing and 3 d technologies are becoming routine in dental practice. Cone beam computed tomography (cbct), intraoral scanners, computer aided design and manufacturing (cad/cam), 3d printing have changed dental practice/dentistry. Prosthetic and implant dentistry employs these innovations to improve treatment accuracy, outcomes and patient satisfaction. Novel dental implantation standards require evaluation of various aspects, such as hard and soft tissue condition, prosthesis position. All these aspects have to be taken into account when planning the position of dental implants. 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.

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

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)

### **OTHER SCIENTIFIC ACTIVITIES**

**Prof. V. Pečiulienė –**

- board member of the International Association of Dental Research, NOF section;

- member of the Association of Dental Education in Europe;
- member of the Council of the Faculty of Medicine;
- member of the Scientific Committee of the Faculty of Medicine;
- chair of the Doctoral Committee of Odontology the Faculty of Medicine;
- member of Study Committee in the Institute of Odontology, Faculty of Medicine, Vilnius University;
- 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*;
- reviewer for international journals: *International Journal of Endodontics, Dental Traumatology; Stomatologija. Baltic Dental and Maxillofacial Journal, Medicina, Acta Medica Lituanica; Journal Health Sciences*;
- participation of the organizing committees of international meetings: The annual meeting of Lithuanian Society of Endodontists 2018;
- expert of the Lithuanian Business Support Agency (LVPA).

**Prof. A. Pūrienė –**

- editorial board member of the journal *Stomatologija (Dentistry)*;
- editorial board member of the journal *Dental and Medical Problems*;
- editorial board member of the journal *Health Sciences*;
- member of Lithuanian society of Periodontology;
- president of Lithuanian society of Ergonomics;
- member of ESDE European Society of Dental Ergonomics;
- member of EADPH European association of dental public health;
- member of Academy of Osseointegration;
- member of the Doctoral Committee of Odontology of the Faculty of Medicine.

**Assoc. Prof. V. Rutkūnas –**

- president of Lithuanian Society of Prosthodontics;
- international relation committee member of European Prosthodontic Association;
- council member of European Prosthodontic Association;
- digital Dentistry Society, Ambassador to Lithuania;
- member of editorial board: *European Journal of Prosthodontics and Restorative Dentistry*;
- member of editorial board *Stomatologija, Baltic Maxillofacial and Dental Journal*;
- reviewer for international journals: *Journal of Prosthodontics, Journal of Oral Rehabilitation, Journal of Dental Materials, Journal of Biomaterials Applications, Journal of Advanced Prosthodontics, European Journal of Prosthodontics and Restorative Dentistry, Stomatologija. Baltic Dental and Maxillofacial Journal, Medicina, Acta Medica Lituanica*;
- expert of the Agency for Science, Innovation and Technology (MITA);
- member of Study Committee in the Institute of Odontology, Faculty of Medicine, Vilnius University;
- member of postgraduates Study Committee in the Institute of Odontology, Faculty of Medicine, Vilnius University;

- participation of the organizing committees of international meetings: The annual meeting of Lithuanian Society of Prosthodontics 2018; International students and residents conference REST 2018.

**Assoc. Prof. V. Brukienė –**

- editorial board member of the journal *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)*;
- Lithuanian Dental Chamber, Vice-president;
- chair of Study Committee in the Institute of Odontology, Faculty of Medicine, Vilnius University;
- member of postgraduates Study Committee in the Institute of Odontology, Faculty of Medicine, Vilnius University.

**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 journal *Baltic Dental and Maxillofacial Journal*;
- member of Study Committee in the Institute of Odontology, Faculty of Medicine, Vilnius University;
- member of postgraduates Study Committee in the Institute of Odontology, Faculty of Medicine, Vilnius University.

**Assoc. prof. Saulius Drukteinis**

- member of the Research Committee of the European Society of Endodontology;
- president of the Lithuanian Endodontic Society;
- member of Study Committee in the Institute of Odontology, Faculty of Medicine, Vilnius University;
- chair of postgraduates Study Committee in the Institute of Odontology, Faculty of Medicine, Vilnius University;
- agency for Science, Innovation and Technology (MITA);
- expert of research projects in dentistry;
- European Commission. The Research Executive Agency (REA). Expert of research projects in dentistry and medicine.

**THE LIST OF THE MOST IMPORTANT RECEIVED NATIONAL AND INTERNATIONAL AWARDS FOR R&D ACTIVITIES**

Officer Cross of the Lithuanian Grand Duke Gediminas Order awarded Professor Irena Balčiūnienė - Meritorious Lithuania doctor and Lithuania health worker, a former long-time leader VU Dental Clinic, VU Faculty of Medicine, Odontology Institute, 15 February 2018.

## INSTITUTE OF HEALTH SCIENCES

### Departement of Rehabilitation, Physical and Sports Medicine

Santariškių 2, LT-08661 Vilnius, Lithuania

Tel. 8697 71123

E-mail: [juozas.raistenskis@vuvl.lt](mailto:juozas.raistenskis@vuvl.lt)

Phone: (85)2501323

**Head** – Prof. Dr. *Juozas Raistenskis*

**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.

**Professors:** Dr. J. Raistenskis, Dr. V. Alekna, Dr. R. Dadelienė, Dr. M. Tamulaitienė, Dr. J. Griškevičius

**Associate professors:** Dr. A. Adomavičienė, Dr. L. Samsonienė, Dr. A. Šidlauskienė, Dr. R. Žilinskienė, Dr. J. Armonienė

**Assistants:** Dr. J. Indriūnienė, Dr. I. E. Jamontaitė, Dr. A. Mastavičiūtė, Dr. I. Muntianaitė, Dr. J. Petruolytė

**Research assistant:** A. Grigonytė, J. Blaževičius, R. Sinkevičius, A. Černovas

**Lecturers:** L. Aučnyienė, T. Balčius, D. Barzinskas, A. Budėjienė, L. Budrienė, A. Cirtautas, E. Jablonskytė, J. Kesienė, R. Kulikauskaitė, L. Mikulėnaitė, T. Palšytė, M. Grybauskaitė, A. Juodytė, V. Strukčinskaitė, J. Kupčiūnas, O. Rašimaitė, T. Gritėnienė, S. Buklienė, D. Šatkutė, A. R. Venskaitis, Dr. R. Gulbinas, Dr. A. Valiulis.

**Doctoral students:** T. Aukštikalnis, A. Grigonytė, G. Narmontaitė, I. Streikė, R. Sinkevičius.

### 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 2018

#### Projects Supported by University Budget

**Prognostication of Comprehensive Rehabilitation Effectiveness in Patients with Movement Dysfunction.** Prof. J. Raistenskis. 2014–2018.

The aim of this research is to search comprehensive rehabilitation effectiveness prognostication parameters; to prepare methodology of comprehensive rehabilitation prognosis in patients with movement disturbances; to perform comparable examination of comprehensive rehabilitation prognostication, using functional status evaluation. The staff of the Department continued performance of comparable examination and methodology development of comprehensive rehabilitation effectiveness prognostication. On the base of these data, six articles were published in *Clarivate Analytics database*, one doctor theses was defend, and research workers took part at international and in Lithuanian scientific meetings, total 66 presentations. Students participated in international students conferences.

Main publications:

Alekna, V., Kilaite, J., Mastaviciute, A., Tamulaitiene, M. 2018. Vitamin D Level and Activities of Daily Living in Octogenarians: Cross-Sectional Study. *Front Endocrinol*, vol. 9, art. no 326, [1-5]; doi: 10.3389/fendo.2018.00326.

Slivovskaja, I., Ryliskyte, L., Serpytis, P., Navickas, R., Badarienė, J., Celutkiene, J., Puronaite, R., Ryliskiene, K., Cypiene, A., Rinkuniene, E., Sileikiene, V., Petrauskiene, B., Juocevicius, A., Laucevicius, A. 2018. Aerobic training effect on arterial stiffness in metabolic syndrome. *The American journal of medicine*, vol. 131, no 2, 148-155; doi: 10.1016/j.amjmed.2017.07.038.

Daunoravičienė, K., Adomavičienė, A., Grigonytė, A., Griskevičius, J., Juocevičius, A. 2018. Effect of Robot-Assisted Training on Upper Limbs Functional Recovery during Rehabilitation of Post-Stroke Patients. *Technology & Health Care*, vol. 26, no. S2, 533-542; doi: 10.3233/THC-182500.

Daunoravičienė, K., Adomavičienė, A., Svirskis, D., Griskevičius, J., Juocevičius, A. 2018. Necessity of Early Stage Verticalization in Brain and Spinal Cord Injured Patients: a Preliminary Study. *Technology & Health Care*, vol. 26, no. S2, 613-623; doi: 10.3233/THC-182508.

## 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 SCIENTIFIC ACTIVITIES

### Prof. J. Raistenskis –

- head of the Rehabilitation studies programme committee at the Faculty of Medicine of Vilnius University;
- 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;
- Board Member of Scientific and Organizing committee 21st European Congress of Physical & Rehabilitation Medicine, 1-6 May 2018 Vilnius, Lithuania.

### Prof. V. Alekna –

- chief editor of the journal *Gerontologija (Gerontology)*;
- president of Lithuanian Association of Gerontology and Geriatrics;
- president of Lithuanian Osteoporosis Foundation;
- board member of UEMS Geriatric Section;
- board member of European Geriatric Medicine Society (EUGMS).

### Prof. M. Tamulaitienė –

- editorial board member of the journal *Gerontologija (Gerontology)*.



### **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 study comity, coordinator of the Rehabilitation study program;
- member of European Sport Science College;
- member of Lithuanian Olympic Academy;
- member of LNOC group (scientist, consultant) for preparation sportsmen for 2020 and 2022 Olympic games.

### **Prof. Julius 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;
- member of scientific council of 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](http://www.esem.eu));
- chairman of organizing committee of International conference BIOMDLORE (<http://biomdlore.vgtu.lt>).

### **Assoc. Prof. A. Adomavičienė –**

- chairman of the Occupational Therapy Undergraduate studies programme committee;
- member of ENOTHE;
- member of Lithuanian Occupational Therapy Association.

### **Assoc. Prof. A. Šidlauskienė –**

- the invited reviewer of the international, scientific journal “Polish Annals of Medicine”;
- board member of Lithuanian Physiotherapy Association.

### **Asocc. Prof. R. Žilinskienė –**

- co-opted member of Executive Committee of European Network of Academic Sport ([www.enas-sport.net](http://www.enas-sport.net));
- member of the Executive Committee of Lithuanian Student Sport Association;
- dean of Lithuanian Olympic Academy.

### **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;

- evaluation expert of teachers' qualification. (Physical Education).

**Assist. I. E. Jamontaitė –**

- chairman of the Physiotherapy Undergraduate studies programme committee;
- board member of Lithuanian Physiotherapy Association.

**Asist. 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>.

**Asist. J. Petrulytė –**

- chairman of Society of Social Pediatrics of Lithuania.

**Asist. I. Muntianaitė –**

- member of study programs committee.

**Asist. J. Indriūnienė –**

- member of study programs committee.

## **Department of Nursing**

21 Čiurlionio, LT-03101 Vilnius, Lithuania

Tel. 23 98755

E-mail: [natalja.fatkulina@mf.vu.lt](mailto:natalja.fatkulina@mf.vu.lt)

**Head** – Prof. Dr. *Natalja Fatkulina*

### **STAFF**

**Professor:** Dr. N. Fatkulina.

**Associate professor:** Dr. A. Gradauskas.

**Assistants:** Dr. A. Mikaliūkštienė, Dr. R. Stundžienė (part-time), Dr. Z. Gierasimovič (part-time).

**Junior assistant:** V. Kielaitė (part-time).

**Lecturers:** J. Gimžauskienė (part-time), N. Jerdiakova (part-time).

**Doctoral student:** V. Kielaitė.

**Specialist:** E. Kuzienė.

### **RESEARCH INTERESTS**

Quality of nursing care;

Nursing needs of patients with internal, surgical, mental, children's diseases Nurse

Competences;

Nursing education;

Empowered patient education.

### **RESEARCH PROJECTS CARRIED OUT IN 2018**

#### **Projects Supported by University Budget**

**The Evaluation of Nursing Needs and Quality of Life and Perfection of Health Care and Education of Patients.** Prof. D. Kalibatienė. 2014–2018.

Nursing specialty students' approach to learning and future prospects was evaluated and the nursing students' opinion about the organization of the practical training process assessed. 164 nursing students participated in the research. The role of nurses in the field of prevention of communicable diseases in health care institutions was evaluated; postoperative complications of neurosurgical with onco-hematological patients and nursing services. 30 patients after spinal neurosurgical operations and 36 onco-haematologic patients after stem cell transplantation were examined. Need of care of these patients after those operations was evaluated.

#### **National Research Projects**

**Health and Harmony for Every Student.** Ministry of Education and Science, Lithuanian Republic. Project Leader Prof. N. Fatkulina. 2017–2018.

The aim was to sustain and develop the health literacy of students and to improve their knowledge and skills of health, to improve the national and international identification of student by using informal methods in order to promote healthy life style.

#### Main publications:

Emeljanovas, A., Mieziene, B., Gruodyte-Raciene, R., Sukys, S., Rutkauskaite R., Trinkuniene, L., Fatkulina, N., Gerulskiene, I. 2018. Results from Lithuania's 2018 Report Card on Physical Activity for Children and Youth. *Journal of physical activity & health*, vol. 15, suppl. 2, S382-S383; doi: 10.1123/jpah.2018-0505.

Emeljanovas, A., Mieziene, B., ChingMok, M.M., Chin, M., Cesnaitiene, V.J., Fatkulina, N., Trinkuniene, L., Sanchez, G.F.L., Suarez, A.D. 2018. The effect of an interactive program during school breaks on attitudes toward physical activity in primary school children. *Anales de psicologia/Annals of psychology*, vol. 34, no. 3, 580-586; doi: 10.6018/analesps.34.3.326801.

Charalambous, A., Papastavrou, E., Valkeapää, K., Zabalegui, A., Ingadottir, B., Lemonidou, C., Fatkulina, N., Jouko, K., Leino-Kilpi, H. 2018. Content of Orthopedic Patient Education Provided by Nurses in Seven European Countries. *Clinical Nursing Research*, vol. 27, iss. 7, 770-789; doi: 10.1177/1054773817713178.

Gradauskas, A., Venckauskas, L., Pazuis, M., Karpavičius, A., Maleckas, A. 2018. Comparison of the Different Treatment Strategies for Patients with Rectus Sheath Haematoma. *Medicina*, vol. 54, no. 3, 38, 1-7; doi: 10.3390/medicina54030038.

### **International Research Projects**

**Professional Competence in Nursing (PROCOMPnurse).** Lead - partner University of Turku (UTU), Faculty of Medicine, Dpt of Nursing Science, Turku, Finland, project leader - Professor Helena Leino-Kilpi, In Lithuania – Prof. N. Fatkulina. 2017–2021.

Research project aim is to produce and evaluate instruments assessing competence and factors connected, both self-assessment and objective tests and to establish a cohort for follow-up studies in future, responding to the need for longitudinal studies.

**Nursing Leadership Educational Program for Doctoral and Postdoctoral Nurses (NURSE-LEAD), Erasmus + strategical partnership,** project leader – Thora B. Hafsteinsdóttir, University of Island, In Lithuania – Prof. N. Fatkulina. 2017–2019.

The project aims are directing doctoral nursing students and postdoctoral nurses into an academic career in nursing by providing them with opportunities to expand their educational, research and leadership competencies. By doing so the project will attune nursing education into emerging labor market's needs.

**Baltic Sea Region Network in Personalized Health Care, Interreg Baltic Sea Region project leader** (coordinationator – Professor Helena Leino-Kilpi, leading scientists in Lithuania – Prof. N. Fatkulina. 2017–2018, <http://www.utu.fi/en/units/med/units/hoitotiede/baltic-sea-region/Pages/home.aspx>

The aim is to offer doctoral students a systematically built, scientifically ambitious, and multidisciplinary research training which benefits from Baltic Sea Region contacts. It is expected the network to contribute to the further improvement of the scientific standard of personalized healthcare research and increase the number of internationally competitive experts in Baltic Sea Region. Combining data and knowledge from different areas and pooling resources will pave the way for designing novel more personalized healthcare interventions.

## **MAIN RESEARCH, DEVELOPMENT AND INNOVATION PARTNERS**

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 (the Netherlands)  
University of Island, Reykjavik (Island)

## **OTHER SCIENTIFIC ACTIVITIES**

### **Prof. N. Fatkulina –**

- member of European Academy of Nursing Science, <https://european-academy-of-nursing-science.com/>;
- member of Association *Institute of Bute*;
- member of the Nursing Bachelor's Degree Program;
- member of the Nursing Master's Degree Program;
- member of Nursing Bachelors' degree final thesis Defending Committee;
- editorial board member of the journal *Slauga: mokslas ir praktika (Nursing. Science and Practice)*.

### **Assoc. Prof. A. Gradauskas –**

- head of the Clinic of Surgery at Vilnius city Clinical Hospital;
- vice-president of Vilnius Association of Surgeons;
- board member of the Lithuanian Association of Minimally Invasive Surgery, <http://www.mich.lt/>.

### **Assist. 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/>;
- member of the Nursing Bachelor's Degree Program;
- member of the Nursing Master's Degree Program;
- member of Nursing Bachelors' degree final thesis Defending Committee;
- editorial board member of the journal *Sveikatos mokslai (Health Sciences)*;
- editorial board member of the journal *Slauga: mokslas ir praktika (Nursing. Science and Practice)*.

**Assist. R. Stundžienė –**

- member of the Lithuanian Society of Palliative Medicine, <http://www.paliatyvipagalba.lt/>;
- member of the Nursing Bachelor's Degree Program;
- member of the Lithuanian University Education Nursing Society Board, <http://www.lusd.lt/>;
- member of Lithuanian Nursing Specialists Organization, <http://www.lso.lt/> .

**Assist. Z. Gierasimovič –**

- member of the Lithuanian Society of Palliative Medicine, <http://www.paliatyvipagalba.lt/>;
- member of the Nursing Bachelor's Degree Program;
- 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)*;
- member of Nursing Bachelors' degree final thesis Defending Committee.

**Junior assist. V. Kielaitė –**

- member of the Lithuanian University Education Nursing Society Board, <http://www.lusd.lt/>.

**Lect. J. Gimžauskienė –**

- member of the Nursing Bachelor's Degree Program;
- member of the Lithuanian University Education Nursing Society Board, <http://www.lusd.lt/>;
- member of the Anaesthesia and Intensive Care Nurses Association;
- member of Lithuanian Nursing Specialists Organization, <http://www.lso.lt/>.

**Lect. N. Jerdiakova –**

- member of the Anaesthesia and Intensive Care Nurses Association;
- member of the Lithuanian University Education Nursing Society Board, <http://www.lusd.lt/>.

## Department of Public Health

21/27 M.K. Čiurlionio, LT-03101 Vilnius  
Tel. 239 8732, 239 8738, fax 239 8738

**Head** – Prof. Dr. *Rimantas Stukas*

### STAFF

**Professors:** Dr. R. Stukas, Dr. G. Šurkienė, Dr. J. Dadonienė, Dr. K. Žagminas, Dr. A. Germanavičius, Dr. E. Gefenas.

**Associate professors:** Dr. M. Jakubauskienė, Dr. L. Murauskienė, Dr. R. Buckus (part-time).

**Assistants:** Dr. S. Vainauskas, Dr. J. Kairys (part-time), Dr. A. Astrauskienė (part-time), Dr. L. Ašoklienė (part-time), Dr. R. Bartkevičiūtė (part-time), A. Barzda (part-time), Dr. A. Beržanskytė, Dr. Dr. A. Čekanauskaitė (part-time), N. Kuprevičienė (part-time), Dr. R. Sketerskienė (part-time), Dr. A. Juodaitė – Račkauskienė (part-time), Dr. R. Vaitkienė (part-time), Dr. R. Jančauskas (part-time), Dr. G. Smailytė (part-time), Dr. V. Taminskienė, Dr. V. Dobrovolskij (part-time), L. Paškevičius (part-time), Dr. A. Bartkienė (part-time), Dr. A. Žalnora, D. Austys, Rūta Maceinaitė (part-time), Justina Račaitė (part-time),

**Research fellows:** Dr. A. Valiulis, Dr. Rolandas Zuoza.

**Lecturers:** Dr. M. Poškutė (part-time) Dr. A. Bagdonavičius (part-time), Dr. D. Brogienė (part-time), Dr. M. Butikis, Dr. J. Stanislavovienė, I. Kušeliauskaitė (part-time), R. Baranauskienė, A. Čepas (part-time), N. Fiodorova (part-time), V. Jaeck (part-time), V. Lukaševičienė (part-time), Olga Veršilienė (part-time), Algirdas Čepas (part-time)

**Doctoral students:** V. Andreikėnaitė, I. Tamulaitytė – Morozovienė, I. Pačiauskaitė, A. Černovas, O. Ubartienė, D. Dudutienė, A. Bilotienė, A. Motiejūnienė, S. Grubytė, L. Steponavičienė, R. Maceinaitė, J. Račaitė, Ž. Žandaras, J. Lekstutienė, A. Patašius, Ginreta Valinčiūtė, Justinas Blaževičius.

**Public health scientific group of students:** scientific leader – Dr. V. Dobrovolskij, coordinator – student E. Jansonas; 31 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.

### RESEARCH PROJECTS CARRIED OUT IN 2018

#### Projects Supported by University Budget

**Assessment of Health Risk Factors and Sense of Coherence of Elderly People.** Prof. R. Stukas. 2014–2018.

Was analyze the collected data according to the dissertation theme and were prepare scientific publications from the obtained research data (two research articles were submitted and accepted).

### Main publications:

Černovas, A., Alekna, V., Tamulaitienė, M., Stukas, R. 2018. Reliability and validity of the Lithuanian version of CASP-19: a quality of life questionnaire for the elderly. *Medicina*, vol. 54, no. 6, 103, p. 1-9; doi: 10.3390/medicina54060103.

Černovas A, Alekna V, Tamulaitienė M, Kataviciūtė G, Stukas R. 2018. Physical activity, quality of life and subjective well-being peculiarities and associations in elderly women. *Health Sciences in Eastern Europe*, vol. 28, no 4, 18-24.

### Poster presentation:

Alekna, V., Cernovas, A., Stukas, R., Mastaviciute, A., Tamulaitiene, M. The associations between handgrip strength, BMD and fracture probability in elderly women. *Osteoporos Int.* 2018; 29 Suppl 1:P178 (poster presentation, World Congress on Osteoporosis, Osteoarthritis and Musculoskeletal Diseases. April 19-22, 2018. Krakow, Poland).

Cernovas, A., Stukas, R., Grigaite, J., Tamulaitiene, M., Surkiene, G., Alekna, V. The associations between quality of life and psychoemotional state in elderly women. *Osteoporos Int.* 2018; 29 Suppl 1:P474 (poster presentation, World Congress on Osteoporosis, Osteoarthritis and Musculoskeletal Diseases. April 19-22, 2018. Krakow, Poland).

Cernovas, A., Fabijonavicius, M., Sadauskaite, G., Tamulaitiene, M., Alekna, V., Stukas, R. The relationships between satisfaction and emotional state in elderly women. *Osteoporos Int.* 2018; 29 Suppl 1:P1024 (poster presentation, World Congress on Osteoporosis, Osteoarthritis and Musculoskeletal Diseases. April 19-22, 2018. Krakow, Poland).

### **Prevalence Study on Unintentional Domestic Injuries among Pre-School Children.** Prof. G. Šurkienė. 2014–2018.

In 2018 was finished statistical analysis of data about prevalence, risk and preventive factors of home related injuries among preschool children attending preschool education establishments. Prepared manuscript entitled „Prevalence, risk and preventive factors of home-related injuries among preschool children attending preschool education establishments“ to journal – *International Journal of Injury Control and Safety Promotion*. Manuscript has been reviewed and now is revising by authors of manuscript.

### **Ethical Aspects of Biomedical Research with Human.** Prof. E. Gefenas. 2014–2018.

The aim of the project was to assess and investigate implementing Regulation (EU) No 536/2014 of the European Parliament and of the Council of 16 April 2014 on clinical trials on medicinal products for human use. The database of Bioethics Bibliography which provides a brief information about articles published in Lithuanian and international journals as well as Lithuanian legislation dealing with ethical dilemmas in a number of fields was updated.

### Main publications:

Gefenas E., Cekanauškaite A., Lekstutiene J., Lukaseviciene V. Application challenges of the new EU Clinical Trials Regulation. *European journal of clinical pharmacology*, 2017, vol. 73, iss. 7, 795-798; doi: 10.1007/s00228-017-2267-6.

### ***International Science Programmes, Projects and Contracts***



**Advanced Certificate Program: Research Ethics in Central and Eastern Europe.** Prof. E. Gefenas. 2004 – 2018.

In 2018 our Department continued collaboration with Clarkson University Bioethics Program (USA) in implementation of the project: results of collaboration with Clarkson University Bioethics Program were assessed.

**ENERI – European Network of Research Ethics and Research Integrity.** Prof. E. Gefenas. 2015 – 2019.

The aim of the project is to strengthen activities of education and training in research ethics and research integrity, promote a culture of integrity, and foster the development of and compliance with joint rules and norms. In 2018 researchers of Vilnius University continued work with the main objective of the project – preparation of advanced training modules on research ethics and integrity for RECs and RIOs.

### **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 (Lithuania)

### **OTHER SCIENTIFIC ACTIVITIES**

#### **Prof. R. Stukas –**

- editorial college member of the journal *Visuomenės sveikata (Public Health)*;
- editorial board member of the journal *Sveikatos mokslai (Health Sciences)*;
- member of the Board of the Faculty of Medicine;
- head of study programmes Committee for Bachelor and Master degree and PhD in Public Health;
- board member of the Lithuanian Society of Hygienists and Epidemiologists;

#### **Prof. G. Šurkienė –**

- editorial board member of the journals *Visuomenės sveikata (Public Health)*; *Sveikatos mokslai (Health Sciences)*; *Vaikų pulmonologija ir alergologija (Paediatric Pulmonology and Allergology)*;
- member of the Lithuanian Society of Hygienists and Epidemiologists;
- chair of the Committee for Doctoral studies at Vilnius University in Public Health Areas;
- member of study programmes committee for Bachelor and Master degree of Public Health.

#### **Prof. K. Žagminas –**

- editorial board member of the journals *Visuomenės sveikata (Public Health)*; *Medicinos teorija ir praktika (Theory and Practice in Medicine)*;
- member of the Lithuanian Society of Hygienists and Epidemiologists;

- member of the Lithuanian Association for Infectious Diseases;
- member of Committee of Experts of Vaccination of Lithuanian Ministry of Health.

**Prof. J. Dadonienė –**

- President of Lithuanian Rheumatologist Association;
- board member of Lithuanian Arthritis Association (patient organization);
- member of European Network for Vasculitis Research (EUVAS);
- member of organizing committee for the annual conference *Vilnius Seminars in Rheumatology*;
- European Research programme H2020 expert for Health demographics and wellbeing committee.

**Prof. E. Gefenas –**

- co-director of the Advanced Certificate Program in Research Ethics in Central and Eastern Europe sponsored by Clarkson University Bioethics Program (Schenectady, New York);
- member of European Group on Ethics in Science and New Technologies (EGE);
- member of the Council of Europe Steering Committee on Bioethics (CDBI);
- member of the bureau of the European Society for Philosophy of Medicine and Health Care (ESPMH);
- member of the advisory editorial board of the journals *Medicine, Health Care and Philosophy: A European Journal*, (Springer);
- chairperson of the bureau of the Intergovernmental Bioethics Committee (IGBC).

**Prof. A. Germanavičius –**

- member of European Association of Psychiatrists;
- board member of the European Network for Mental Health Service Research and Evaluation (ENMESH);
- member of the Committee on History of Psychiatry, World Federation of Biological Psychiatry;
- member of the Working Group in the History of Medicine, Brook University, Oxford, UK;
- member of Lithuanian Psychiatric Association (LPA);
- president of Lithuanian Association for Psychosocial Rehabilitation;
- editorial board member of the journals *Nordic Journal of Psychiatry*; *Medicina (Medicine)*; *Sveikatos Mokslai (Health Sciences)*; *Biologinė psichiatrija ir psichofarmakologija (Biological Psychiatry and Psychopharmacology)*;
- member of committee for strategic planning of mental health care development in Lithuania 2008–2013 at the Ministry of Health.

**Assoc. Prof. Dr. M. Jakubauskienė –**

- vice 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;
- vicepresident of Lithuanian Paediatric Society;
- chairman of Lithuanian Alliance Against Chronic Lung Diseases (WHO-GARD Lithuania);
- vicechairman 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 board 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);
- chairman of 4 Lithuanian National Asthma Congresses;
- chairman of 3 Lithuanian Congresses on Paediatric Pulmonology;
- chairman of 2 international conferences on Human Ecology;
- 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 Lithuanian Ministry of Health;
- chairman of Committee of Experts of Vaccination of Lithuanian Ministry of Health;
- 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 –**

- member of Independent Expert Panel on Effective Ways of Investing in Health (European Commission, DG Health and Food Safety);
- associate editor for *BMC Health Services Research*;
- member of the *Health Systems and Policies Monitoring Network*, European Observatory on Health Systems and Policies;

- expert for *15th Baltic policy dialogue: Ensuring universal health coverage in the Baltics: exploring policy options to improve performance*, 8-9 November 2018, Riga, Latvia;
- expert for Health System Challenges in small European states. April 26, 2018; Brussels, Belgium.

**Assist. Dr. A. Čekanauskaitė –**

- member of the Lithuanian Bioethics Society;
- member of the Board of the Foundation for Patient Safety, Innovations and Quality.

**Assist. R. Vaitkienė –**

- member of the delegation of the Republic of Lithuania at the meeting of Health Committee Organization of Economic Cooperation and Development, 25–28 June 2017, Paris, France;
- member of the delegation of the Republic of Lithuania at the Baltic Policy Dialogue *Improving quality of care and ensuring patient safety: strategies, regulation, monitoring and incentives* organised by World Health Organization Region Office for European, Observatory for Health Systems and Policy and Ministry of Health of the Republic of Lithuania, 15–16 November 2017, Vilnius, Lithuania;
- 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 Gynaecologists. 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. Audrone Juodaitė-Račkauskienė –**

- Member of „European palliative care association“ Toekomststraat 36, 1800 Vilvoorde, Belgium
- Presentation: „Challenges Affecting Family Caregivers In Lithuania“, Brussels, Belgium, 25th October 2018; Conference: „Public Health Research in Palliative Care: Shifting the Paradigm“.
- "Improving patient waiting time- innovative approach to reduce the wait in homecare" Cascais, Portugal, 27th September 2018, Portuguese Journal of Public Health Vol. 36, Suppl. 1, 2018 „27th European Association of Hospital Managers (EAHM) Congress“.
- Shortening Waiting Times for Palliative Care Patients: Methods and Challenges“, Palliative Medicine Journal, Volume 32 Issue 1\_suppl, May 2018, Bern, Switzerland.

**Dr. A. Žalnora –**

- 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”.

**R. Baranauskienė –**

- member of European Health management association

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

The National Verification Committee on measles and rubella elimination (Chairperson, prof.dr. Kestutis Žagminas (Faculty of Medicine Institute of Health Sciences, Department of Public Health, Vilnius University).

National immunization programme 2014-2018 Advisory Group on Immunisation (member, prof.dr. Kestutis Žagminas (Faculty of Medicine Institute of Health Sciences, Department of Public Health, Vilnius University).

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.

Rima Vaitkienė. The member of the Compulsory Health Insurance Board (Resolution No 710 of the Government of the Republic of Lithuania, 2017) and chair person of Compulsory Health Insurance Board since 15 th of September 2017 till 11 of October 2018.

Rima Vaitkienė. Chair person of the group for the management improvement at the Ministry of Health of the Republic of Lithuania (Order of the Minister of Health of the Republic of Lithuania No V-880, 26 of July 2017) (till 11 of October 2018).

Rima Vaitkienė. The 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 (Order of the Minister of Health of the Republic of Lithuania No V-111, 14 of January 2018).

## **THE LIST OF CONSULTATIONS PROVIDED BY THE UNIT TO THE PUBLIC OR ECONOMIC ENTITIES**

Rima Vaitkienė. The presentation „Structural reforms in health system“ and participation in discussions in scientific practical conference for heads of health care institutions of Lithuania on 18 of May 2018.

Rima Vaitkienė. The presentation „Implementaion of strategic documents and recommendations of international organisations for Lithuanian health system“ in the meeting of National Health Board on 30 of May 2018.

Rima Vaitkienė. The presentation “Structural changes in health care institutions“ and participation in discussions in the meeting – conference of Council of representatives of Trade union of Lithuanian medical professionals on 8 of June 2018.

## ***THE LIST OF THE MOST IMPORTANT RESULTS OF SCIENCE POPULARISATION ACTIVITIES***

L. Murauskiene. Presentation of selected recent opinions delivered by the Expert Panel on Effective Ways of Investing in Health according to the mandates from the European Commission. Conference „Challenges and opportunities for health care managers“. Vilnius, 17 of May, 2018.

L. Murauskiene. Presentation of the main findings on vaccination in the EU based on the 2018 European Observatory on Health Systems and Policies report „The organization and delivery of vaccination services in the European Union“ and the Expert Panel on Effective Ways of Investing in Health 2018 opinion Vaccination Programmes and Health Systems in the EU. VI National Conference on Infectious Diseases. Vilnius, 30 of November, 2018.

Žalnora Aistis. Interview for radio station „Polskie Radio dla zagranicy“ about physicians of the Stefan Batory University in interwar Vilnius, 1 December, 2018.

Žalnora Aistis. Interview for TV show “Lietuvos kolumbai” (“Lithuanian Columbs, TV station LRT) about Vilnius physicians J. P. Frank and J. Frank, 14 May, 2018. <https://www.lrt.lt/mediateka/irasas/1013691592/dokumentine-istorine-laida-lietuvos-kolumbai>

Žalnora Aistis. Interview for radio show “Skonio iššūkis” (“Challenge of taste”, radio station “Žinių radijas”) about problems of nutrition in interwar Vilnius, 19 April, 2018. <https://www.ziniuradijas.lt/laidos/skonio-issukis/tarpukario-lietuvos-realijos-alkoholi-gere-net-vaikai?video=1>

Žalnora Aistis. Interview about nutrition habits in interwar Lithuania, “Lietuvos sveikata”, 15 February, 2018. <http://lsveikata.lt/sveika-visuomene/mityba-tarpukariu-kam-cepelinai-kam-duonos-kriauksle-8024>

Žalnora Aistis. Lithuanian physicians 100 years ago. Media ekspresas, 12 February, 2018.

## **MAIN SCIENTIFIC ACHIEVEMENTS IN 2018**

Dr. Daiva Brogiene. Vice-president of CPME (The Standing Committee of European Doctors).

