

Focus on —
the Future



Our Competence to Your Business



„Open R&D Lithuania“



„Open R&D Lithuania“ represents the biggest excellence network of innovation infrastructure, services and competence in the Baltic countries

Modern, operating R&D facilities, equipment, services and high-level R&D intellectual potential is easily accessible and concentrated in the laboratories of five integrated science, studies and business valleys that work like **Open Access Centres (OAC)**.

SANTARA SANTAKA SAULĖTEKIS NEMUNAS MARINE
V A L L E Y V A L L E Y V A L L E Y V A L L E Y V A L L E Y



Science 2 Business

Open Access Centres



Open Access Centres – centres of excellence with modern equipment, advanced technologies and world-class scientific potential.

- Do you want to create a new advanced research-based product?
- Do you need experimental research or various measurements?
- Do you want to construct a prototype?
- Is it necessary to create new or improve the existing technology?
- Do you need professional assistance in research, technology and innovation issues?

Researchers and qualified technology transfer professionals working in open access centers are ready to help you in realizing your business ideas and becoming an innovative market leader.

Areas of Open R&D Lithuania

MARINE VALLEY

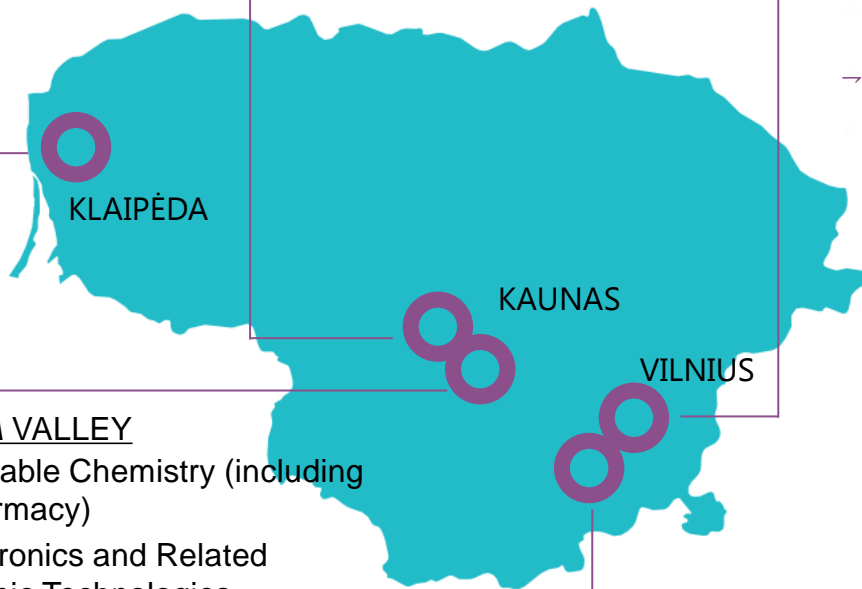
- Marine environment
- Marine technologies

NEMUNAS VALLEY

- Agrobiotechnology, Bioenergy and Forestry
- Food technology, safety and health

SANTARA VALLEY

- Biotechnology;
- Innovative Medical Technologies, Molecular Medicine and Biopharmacy;
- Ecosystems and Sustainable Development;
- Informatics and Communication Technologies



SANTAKA VALLEY

- Sustainable Chemistry (including Biopharmacy)
- Mechatronics and Related Electronic Technologies
- Future Energy and (including Environmental Engineering)
- Information and Telecommunication Technologies

SAULĖTEKIS VALLEY

- Laser and Light Technologies
- Materials Science and Nanotechnologies
- Semiconductor Physics and Electronics
- Civil Engineering

Why use services of Open Access Centres?

- The opportunity to work with highly qualified professionals
- Clear and simple service procedures
- New, modern equipment and services designed to meet business requirements
- Services covering specific areas of research activities
- Competitive price and service speed
- Reliability and international recognition
- Complex services
- Possible to rent equipment
- Highly qualified professionals are being prepared

Open Access Centres located in 5 Valleys



MARINE VALLEY

- National Open Access Centre of Marine Sciences and Technologies



NEMUNAS VALLEY

- Animal Health and Material of Animal Origin Quality Open Access Centre
- Food Science and Technology Competence Centre
- Open Access Joint Research Centre of Agriculture and Forestry



SANTAKA VALLEY

- Centre for the Latest Pharmaceutical and Health Technologies
- National Open Access Scientific Centre for Future Energy Technologies
- National Open Access R&D Centre within Kaunas University of Technology

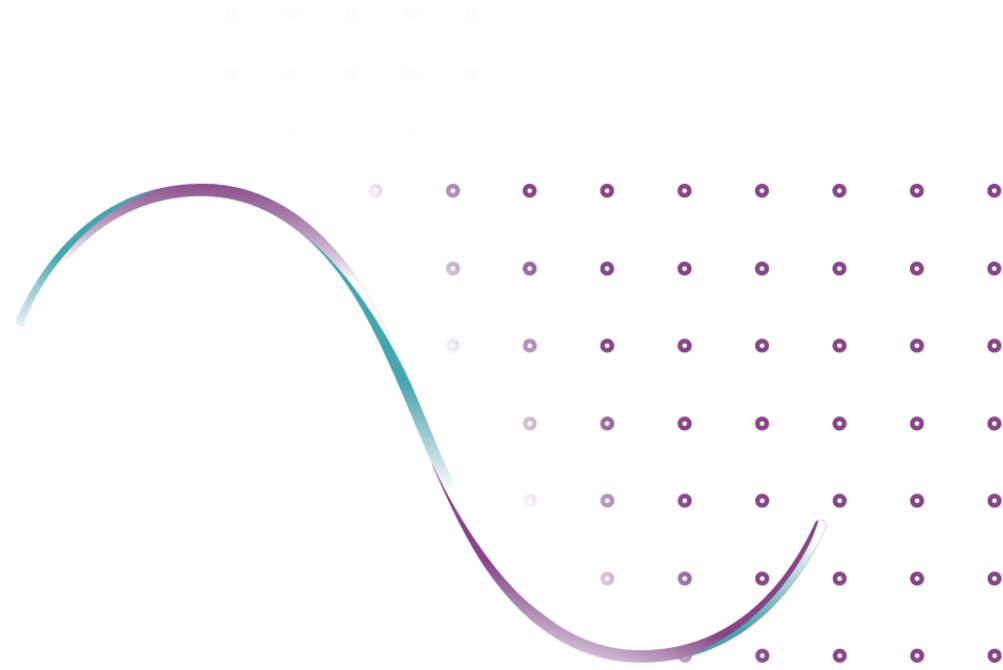
SAULĖTEKIS VALLEY

- Centre for Physical Sciences and Technology
- Multi-functional laser facility "NAGLIS"
- Civil Engineering Research Centre



SANTARA VALLEY

- Joint Life Science Centre
- Information Technology Open Access Centre
- Open Access Centre of Nature Research
- Joint Centre of Innovative Medicine



Joint Life Science Centre

Contact information:

Mr. Rokas Abraitis Rokas.Abraitis@bti.vu.lt

Ms. Odeta Vaitkuvienė odeta.vaitkuviene@bti.vu.lt

Joint Life Science Open Access Centre covers modern laboratories, services and top level researchers.

Main fields of research:

- Structure and functional research of biomolecules
- Human, plant and microbial genome research
- Antigenicity studies of recombinant viral proteins and development of monoclonal antibodies
- Proteomic analysis
- Structural biology and bioinformatics

Our services:

- Services are performed by the top level researchers
- Procedure of provision of services is clearly described and regulated
- Clear pricing
- Provision of complex services
- Possibilities of rent the equipment

Success story

Sequencing center:

Sequence of the analyzed DNA is determined by an automatic 16 capillar genetic analyzer 3130xl (Applied Bio systems), which performs electrophoresis of fluorescently labelled DNA fragments, their detection with a laser and computational analysis.

Services:

- Preparation of DNA sequencing reaction by using the kit provided the SC, electrophoresis and sequence analysis
- Preparation of DNA sequencing reaction by using client's kit, electrophoresis and sequence analysis

Information Technology Open Access Centre

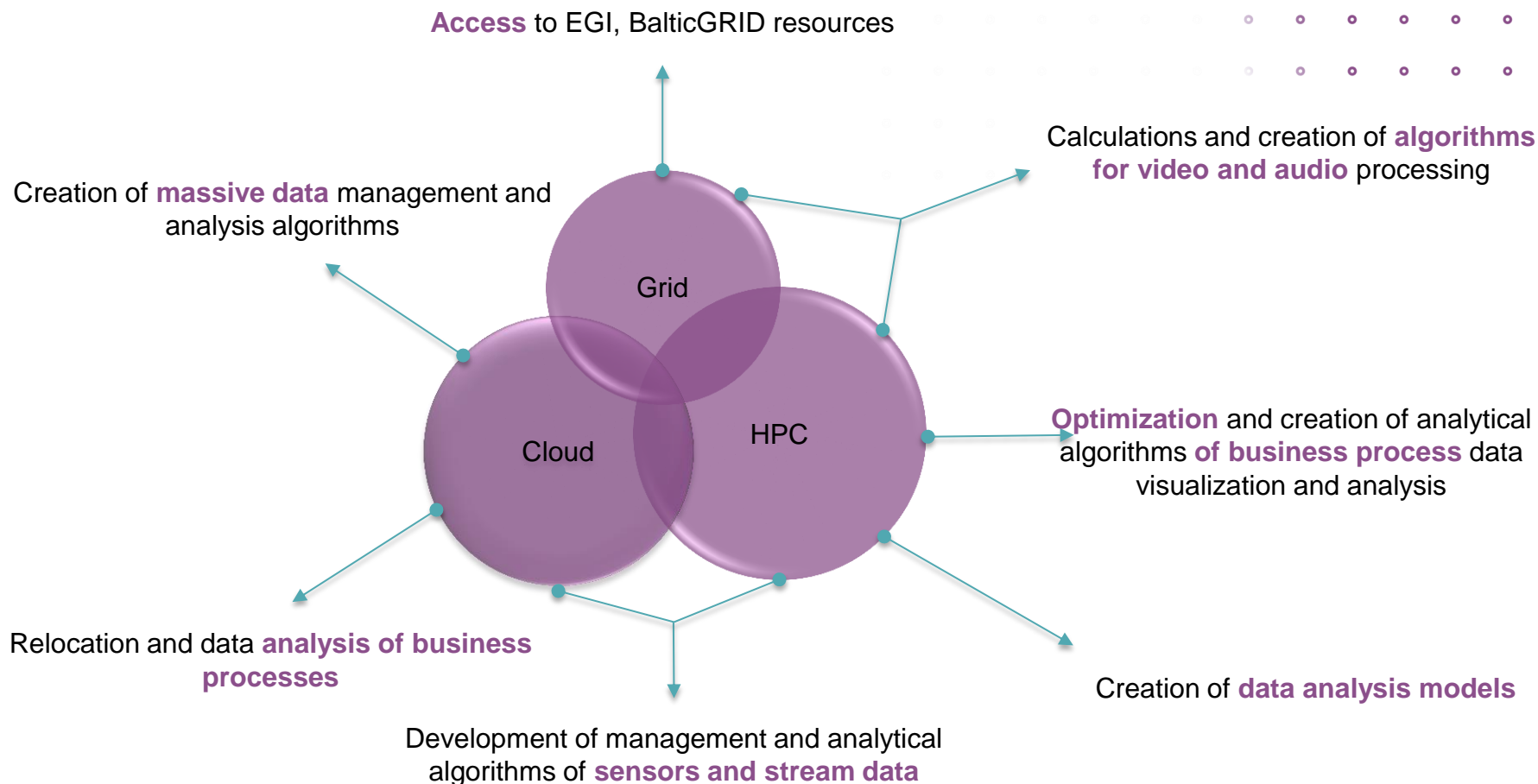
Contact information:

Mr. Linas Bukauskas linas.bukauskas@mif.vu.lt

Ms. Elona Šalnaitė elona.salnaite@mif.vu.lt

Website: <http://www.supercomputing.vu.lt/en/vu-mif/>

We can cooperate in the following areas



We offer these tools

Supercomputer – it is a powerful computer to handle extremely large amounts of data and perform a variety of calculations that simulate the complex processes (eg., nuclear reactions, biochemical processes, etc.). This computer helps to get results faster and more accurately.

Software: **OpenMPI** (task parallelization), **R*** (open-source statistical SPSS package analog), **Gaussian** (quantum chemical modeling), **GAMESS-US** (atomic and molecular structure modeling), **Dalton** (molecular structure simulation), **BC-GENE and LiveScope** (genetic research instruments), **Hadoop** (large-scale data management), **LAPACK** (linear Algebra instrument), **SCIP** (experimental and analytical tools), **Octave** (open source MatLab analog) and others.

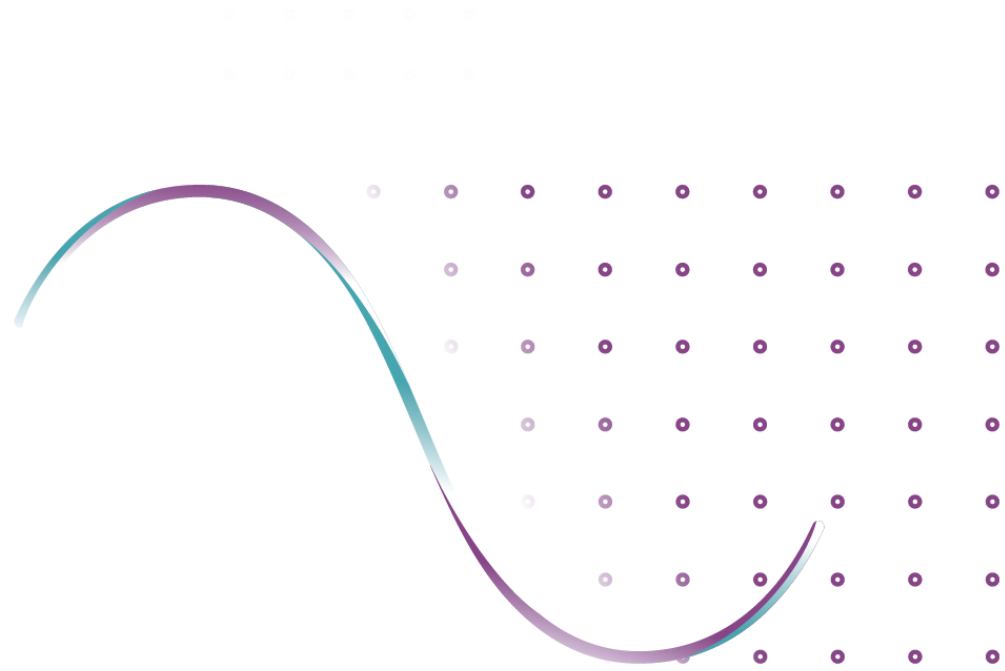
Professional and experienced staff will always give you consultation and help you choose the best services and tools to achieve your goals.

Information Technology Open Access Centre



They trust us





Joint Centre of Innovative Medicine

Contact information:

Ms. Aistė Litvinaitė a.litvinaite@imcentras.lt

Top-level research, laboratory services, professional training and practice.

- Development and research of technologies of stem and higher differentiation cells, recombinant molecules
- Research of molecular and cellular immunity in biological models in vitro and in vivo
- Research of health monitoring and innovative diagnostic as well as treatment methods and disease prevention

Particular emphasis on services provided in: bio-pharmacy process
research laboratory and bio-models and pre-clinical research laboratory

Our services:

- Development, optimization and selection of parameters for the biosynthesis process for the microbe/mammal producers, producing recombinant protein
- Development and initial characterization of stable recombinant lines
- Recombinant proteins laboratory purification technology, protein dissolution refolding, purification and analysis methods study
- Cytokines and antibodies production research
- Identification of the amount of immunoglobulins, enzymes and cholesterol in the blood serum
- Surgeries and other manipulations with laboratory animals

Open Access Centre of Nature Research

Contact information:

Mr. Sigitas Šulčius sigitas.sulcius@gamtostyrimai.lt

Website: <http://www.gamtostyrimai.lt/en/>

Our services

Bio taxonomy, Ecology and Molecular Research

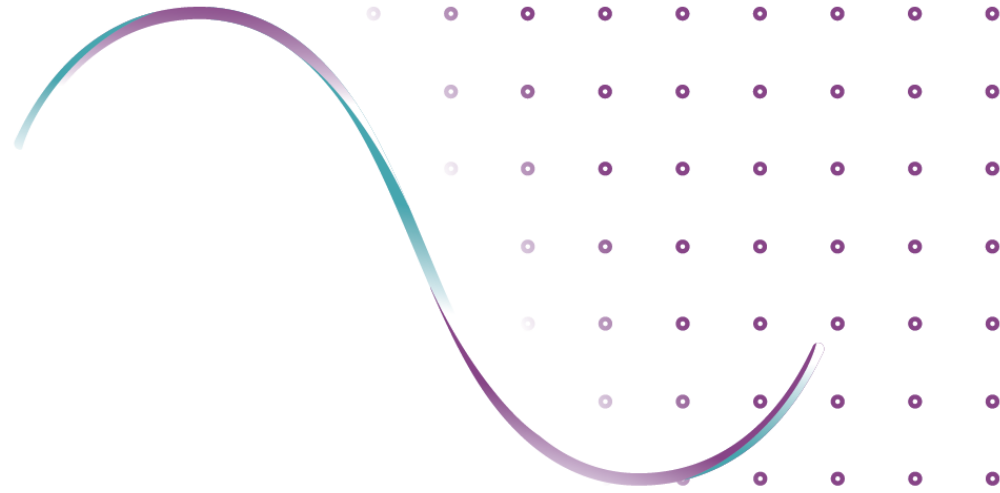
Research into ecosystems and identification of plants, animals and microorganisms

GeoResearch

- Environmental radioactivity, radioecology
- Nuclear geophysics
- Microscopic and chemical composition of minerals, rocks etc.
- Paleomagnetic, magnetic and environmental investigations
- Ground and water contamination by oil products and other organic environment polluting compounds
- Identification of fossils, rocks and minerals

Ecotoxicology

Toxic and genotoxic impacts of elements, toxic substances and other sources of pollution on model species, cell cultures and microorganisms



Centre for the Latest Pharmaceutical and Health Technologies

Contact information:

Ms. Ieva Imbrasaitė ieva.imbrasaite@ismuni.lt

Centre for the Latest Pharmaceutical and Health Technologies

Modern medical technology and pharmaceutical laboratories, which employ highly-skilled Lithuanian and foreign scientists conducting research in medical, pharmaceutical and biopharmaceutical fields.

Advantages of the centre:

- **Concentration** of similar and/or related laboratories and departments into one building
- **Consolidation** of human resources
- **Optimization** of equipment needed for R&D development
- **Efficiency** of costs and management
- **Open access to laboratories**
- **Quality of R&D** activities
- **Partnership** between educational, scientific and business institutions

Centre for the Latest Pharmaceutical and Health Technologies

R&D collaboration areas

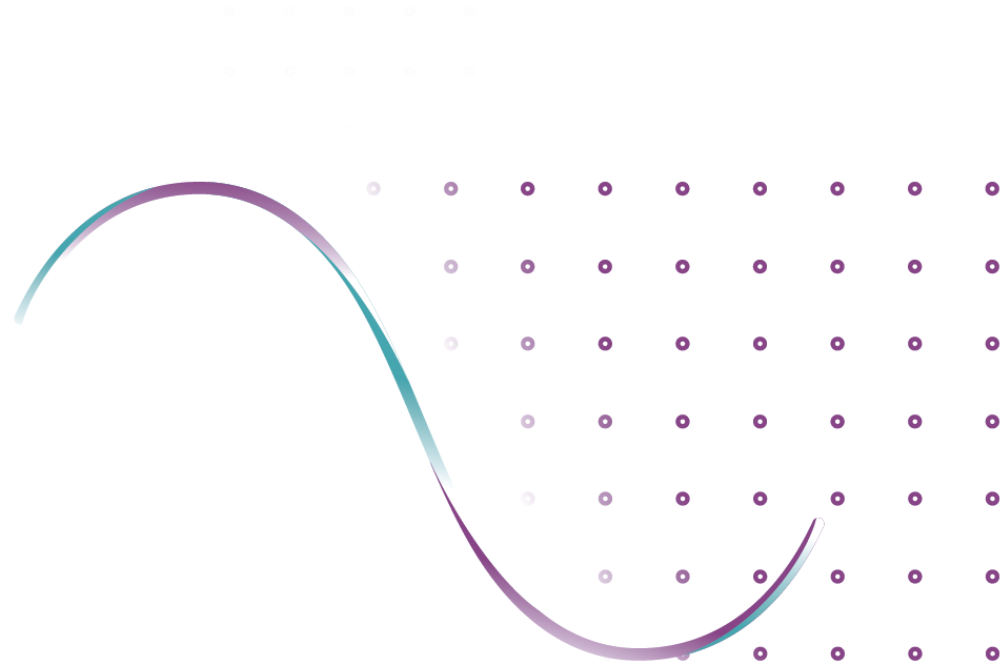
- Investigation of natural biologically active compounds and phytodrugs
- Tissue engineering – tissue engineering of heart valves and cartilage
- Preclinical study of drugs, clinical trials, diagnostic medical devices trials
- Investigation of pharmaceutical targets in tissues. Personalised medicine
- Investigation of proteins and peptides: technologies for extraction, purification
- Search for biomarkers of early diagnostics of gastrointestinal cancer
- Development of new innovative means and methods for early diagnostics of Alzheimer's disease
- Investigation of molecular mechanisms of ischemic and pharmacological preconditioning in brain and heart in order to develop innovative methods for neuro- and cardioprotection in ischemic syndromes
- Genetic epidemiological studies of CVD

Centre for the Latest Pharmaceutical and Health Technologies

Success stories

"In cooperation with Biok Laboratory we have developed cosmetic line for men called Aras. Also, the same group of scientists together with Aconitum UAB has developed an anti-cancer herbal preparation for maintenance therapy.

Justas Babarskas, Head of the centre



National Open Access Scientific Centre for Future Energy Technologies

Contact information:

Mr. Andrius Tamošiūnas andrius.tamosiunas@lei.lt

Mr. Rolandas Urbonas rolandas.urbonas@lei.lt

Mr. Rimantas Levinskas rimantas.levinskas@lei.lt

National Open Access Scientific Centre for Future Energy Technologies



The exceptional experience, expertise and scientific potential in energy and related fields

Fields of our services

- Thermal physics, gas and liquid dynamics and metrology research
- Research of materials, processes and technologies, devoted to use renewable energy sources, to develop hydrogen energy, to efficiently use energy sources and reduce environmental pollution
- Safety and reliability research of nuclear and thermal nuclear power engineering and other industrial objects
- Methods of nuclear waste management, also terminating the operation of Ignalina nuclear power plant
- Simulation and management of power systems, energy economy

National Open Access Scientific Centre for Future Energy Technologies

Popular services:

- Wind power plants planning, feasibility studies, consulting biogas plants
- Research and visualisation of hydrodynamic and aerodynamic parameters
- Combustion process optimization
- Research of efficiency of small and medium capacity heat-equipment burning the solid biofuel and the implementation of innovative technologies
- Safety assessment of nuclear power plants
- Testing of materials, assessment and analysis of their qualitative indicators
- Surface analysis of the composition of new composite fuel cell development, hydrogen technology
- Energy systems modeling (e-chains, local design needs, the state of the energy sector policy formation)

National Open Access Scientific Centre for Future Energy Technologies

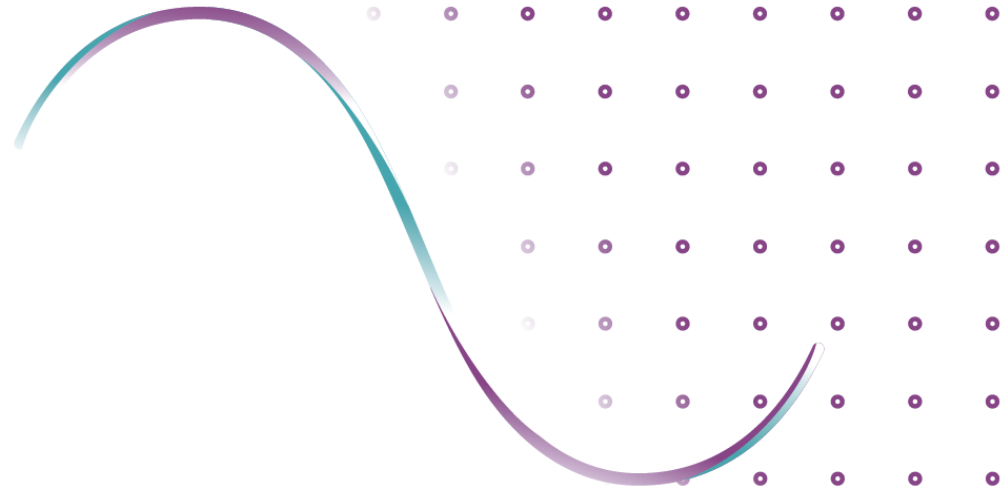
Success stories

We successfully cooperate with the New Century Holdings (USA) holds SIA GroGlass Company and carry out their research output, using X-ray photoelectron spectroscopy.

Also, our researchers have developed a method that allows to check high bandwidth electromagnetic meters of wastewater on site using mobile flow measurement system.

This method was used by the company Kauno vandenys: the company on site checked its water treatment system. Time and money was saved.

Deputy Director Rimantas Levinskas



National Open Access R&D Centre within Kaunas University of Technology

Contact information:

Mr. Kęstutis Morkūnas kestutis.morkunas@ktu.lt

Ms. Sigita Neverauskaitė sigita.neverauskaite@ktu.lt

Website: <http://ktu.edu/ivc/en/>

National Open Access R&D Centre within Kaunas University of Technology

We are famous throughout the world for our breakthroughs in ultrasound, organic chemistry, mechatronics, system diagnostics, environmental engineering and many other fields.

Our services

Diagnostic and measurement technologies

- Biomechanics
- Diagnostic technologies
- Machine and mechanism diagnostic research
- Signal and image processing

Smart environments and information technology

- Automation, control and robotics
- Internet of things and services
- Multidisciplinary models
- Systems engineering

National Open Access R&D Centre within Kaunas University of Technology

Our services

New materials for high-tech

- Functional molecules and materials
- Smart materials

Sustainable growth and social-cultural development

- Innovation, growth and competitiveness
- Identities and governance in Europe and worldwide
- Sustainable, innovative and secure society

Technologies for sustainable development and energy

- Environmental protection and environmental engineering
- Future production
- Healthy food
- Intelligent energy
- Micro and Nanotechnology

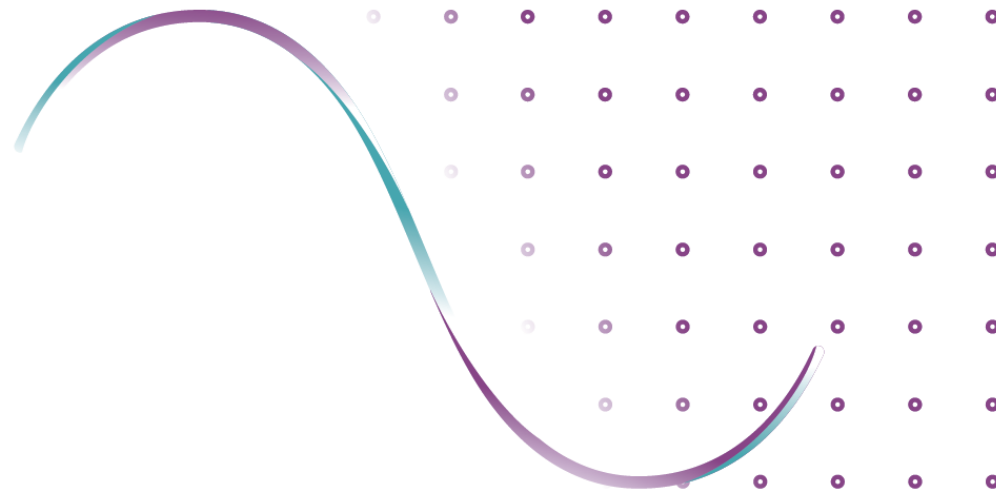
National Open Access R&D Centre within Kaunas University of Technology

They trust us



MULTI-FUNCTIONAL
LASER FACILITY
"NAGLIS"

OPEN R & D
LITHUANIA



Multi-functional laser facility Naglis

Contact information:

Ms. Ieva Pipinytė ieva.pipinyte@cr.vu.lt

Mr. Arūnas Varanavičius arunas.varanavicius@ff.vu.lt

SAULĖTEKIS
V A L L E Y

Multi-functional laser facility Naglis



Close cooperation with laser companies

Previous studies of parametric effects were used to create prototypes of optical parametric amplifier TOPAS and other optical parametric amplifier and oscillator. Currently, these products are best sold products by Lithuanian laser companies.

Multi-functional laser facility Naglis



Our services

Laser nanophotonics

„3D printing“ in micro/nano scale

- Scaffolds for stem cells growth
- Implants for tissue engineering
- Multifunctional micro-optical elements (they can be integrated on a tip of optical fiber)

Ultrafast spectroscopy

Analysis of chemical/biological materials, semiconductor properties with ultrafast absorption spectroscopy methods at room and liquid nitrogen temperature.

Optical damage testing

- Laser-induced damage threshold test
- Registration of images of sample morphology with optical microscope

Multi-functional laser facility Naglis



Our services

Femtosecond microfabrication

By combining femtosecond laser pulses together with accurate beam positioning systems we are able to perform material processing with outstanding precision.

- Formation of metal masks
- Drilling of transparent materials
- Topographic analysis of processed samples

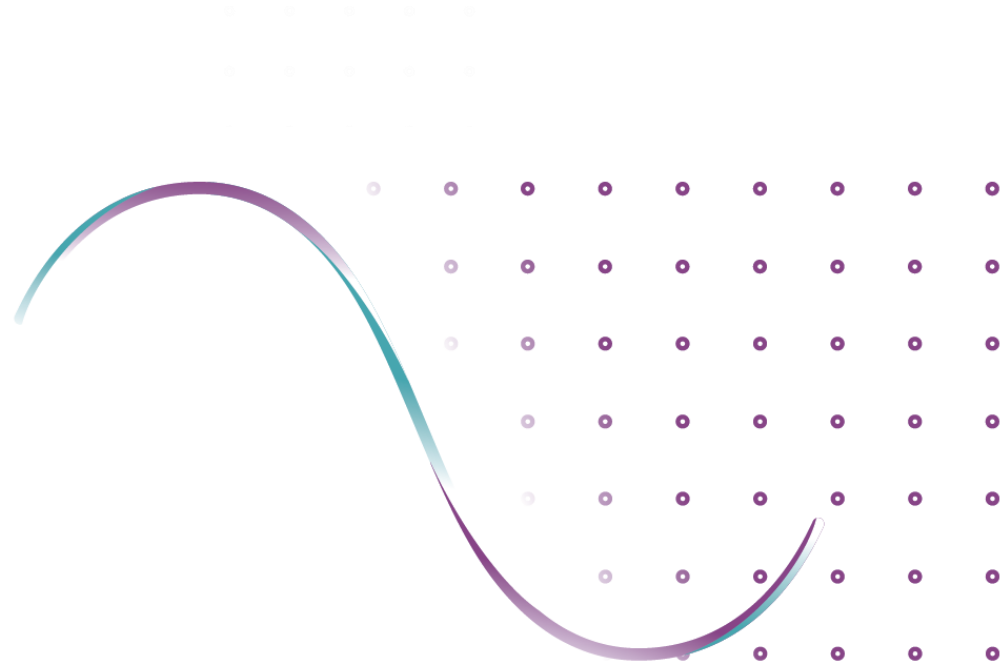
Nonlinear optics

Optical system with femtosecond Yb:KGW laser system „Pharos (6W, 200 kHz, 1030 nm, 300 fs)

- Power increase of
- Laser radiation
- Pumping of optical parametric amplifiers
- Measurement of femtosecond laser pulses contrast

Femtosecond Ti:sapphire laser system (800 nm, 1 kHz, 130 fs)

- Investigation of ultrashort pulses characteristics in transparent nonlinear materials
- Characterization of nonlinear materials nonlinear



Civil Engineering Research Centre

Contact information:

Ms. Lidija Kraujalienė Lidija.kraujaliene@vgtu.lt

Application of innovative solutions and excellent knowledge in civil engineering will increase your company's competitiveness and added value.

Modern laboratories employing international level scientists:

- Laboratory of Building Constructions
- Laboratory of Building Materials
- Laboratory of Building Energy and Microclimate Systems
- Laboratory of Road Technologies
- Laboratory of Geodesy
- Laboratory of Environmental Technologies
- Laboratory of Field Experimental Research
- Laboratory of Soil Physical and Mechanical Properties

Scope of our activities and investigations:

Eco-building technologies

- Building microclimate keeping
- Environmental protection
- Efficiency of energy increase
- Renewable energy resources integration
- Creating building structure elements
- Production and testing

Thermo Insulation Materials

Creating, development and testing of new generation heat insulation materials

Sustainable Urban Development

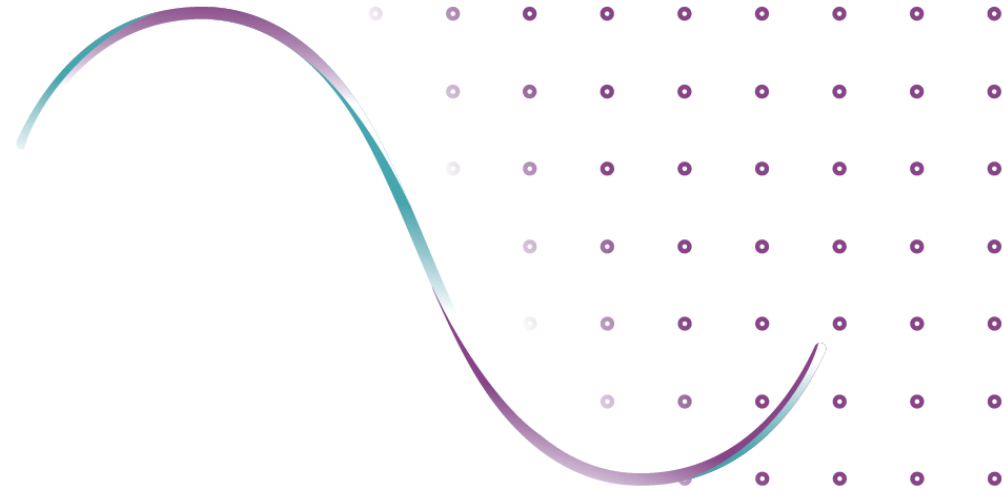
Infrastructure, roads, environmental and geotechnical research studies

Success story

"Our center has already managed to provide services to several foreign companies. German company NUKEM Technologies GmbH ordered to perform testing of construction materials, while concrete sleepers and concrete tests were accomplished for the Polish company "Track Tec SA" and Estonian-Lithuanian company Swetrak UAB.

Virgaudas Juocevičius, Director

ANIMAL HEALTH AND
MATERIAL OF ANIMAL
ORIGIN QUALITY OPEN
ACCESS CENTRE



Animal Health and Material of Animal Origin Quality Open Access Center

Contact information:

Mr. Albinas Brancevičius albinas.brancevicius@ismuni.lt

Animal Health and Material of Animal Origin Quality Open Access Center

Our services:

- R&D in the fields of contagious animal disease epidemiology, ethiopathogenesis, treatment and prophylaxis;
- Investigation of common human and animal diseases that threaten animal food contamination;
- Sustainable and safe disease prevention, treatment measures, healthy animal origin raw food material gain and quality monitoring;
- Basic virological, microbiological, parasitological and other tests;
- Production and control of microorganisms strains accumulation and storage for research and quality control purposes.

Animal Health and Material of Animal Origin Quality Open Access Center

Our laboratories:

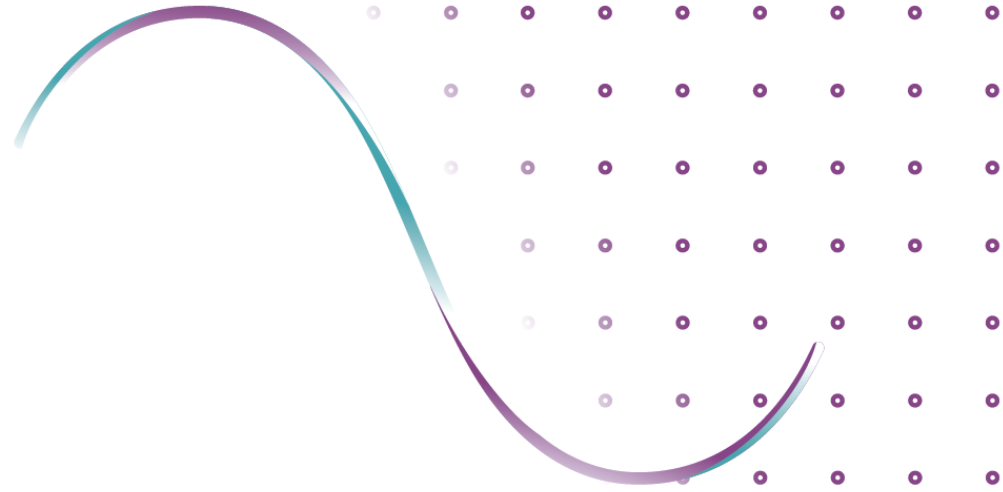
- Animal health and material of animal origin quality open access center
- Livestock Meat Characteristics and Quality Evaluation Laboratory
- Virological Laboratory
- Microbiological Research Laboratory
- Parasitology Laboratory
- Histopathology Laboratory
- Raw Animal Origin Foodstuffs Safety and Quality Testing Laboratory
- Experimental and Clinical Pharmacology Laboratory

Animal Health and Material of Animal Origin Quality Open Access Center

Perspectives on the International Cooperation

- International academic partner, developing R&D activities, network spread
- International business companies, association, SME and farmer in draft offering the competitive pricing and high quality services
- Cooperation with international high technology companies through EU funded research networks
- Participation in EU funded projects, science initiatives
- Participation in EU organized public procurements
- Reach the most efficient implementation of the Horizon 2020 program goals

2014. MITA. All rights reserved.



Food Science and Technology Competence Centre

Contact information:

Ms. Reda Aleksandravičienė Reda.Aleksandraviciene@ktu.lt

Food Science and Technology Competence Centre



The modern food production laboratory and qualitative research center that brings together the best specialists in the field.

- We provide professional consulting on technical issues of food production and alteration
- We constantly analyze and consult on application of related EU directives
- We help in analysis and development of a conception
- We simulate real conditions of food production with small amounts of raw materials
- We produce and demonstrate prototypes of products
- We offer various trainings on issues of food chemical constitution, food production and quality

Food Science and Technology Competence Centre



We seek to help your business in satisfying needs of global market,
so we:

- Educate high qualification specialists of food industry
- Apply new technologies and improve current ones
- Develop new products
- Implement scientific researches
- Carry out orders of your business

We offer our knowledge in these spheres:

- Food and Health
- Food Quality and Production
- Food Safety
- Food and Consumer
- Efficient Food Production
- Management of Food Chain

Food Science and Technology Competence Centre

A unique product made of production waste?

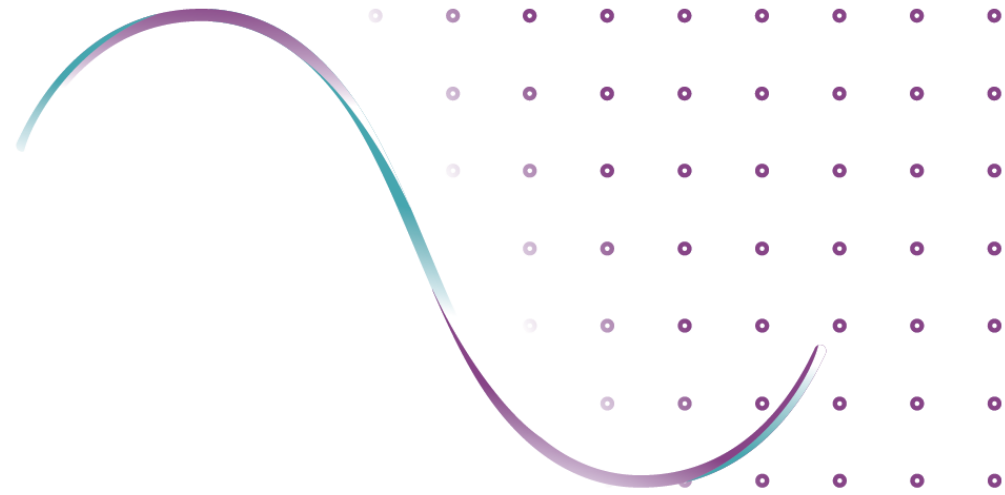
Yes! This is one of the most successfully executed business orders

Client: a company selling coffee

Problem: many waste of coffee grounds

Our solution: a way of producing oil out of coffee grounds

This unique and yet unexplored oil has a color of dark amber, a unique and strong smell and high anti-oxidation features. Test samples have been sent to cosmetic companies for further examining.



Open Access Joint Research Centre of Agriculture and Forestry

Contact information:

Ms. Živilė Juknevičienė Zivile.jukneviene@asu.lt

Open Access Joint Research Centre of Agriculture and Forestry

Processes – from separate process steps to full device process sequences.

Characterization – from single measurement to integrated analysis for deep understanding of complex structures.

- Process and characterization services are provided by our skilled experts
- Commissioned research and development projects
- Access to our equipment for your personnel
- Education in process technology, characterization and laboratories infrastructure
- Access to our partners laboratory resources: within the Aleksandras Stulginskis university, Lithuanian Institutes of Horticulture, Agriculture and Forestry

8 laboratories in one place:

- Agro biotechnologies
- Plant Raw Materials Quality
- Environment Monitoring
- Climate Change Impact to Forest Ecosystems
- Timber Use, Quality and Processing Technologies
- Agrobiology
- microbiology
- Lab of Biological Signs

Open Access Joint Research Centre of Agriculture and Forestry



Our services:

- Developing competitive technologies of plants
- Plant selection, genetics and biotechnology
- Creating modern technologies and products for food quality and safety
- Developing agro biotechnologies, assessment of plants genetic potential
- Investigating of climate change and improving of environment condition
- Developing the sustainable technologies for agriculture, forestry and water management, sustainable use of resources
- Developing wood micro-and macro-structure, chemical composition and physical and mechanical properties evaluation of research

National Open Access Centre of Marine Sciences and Technologies

Contact information:

Mr. Kornelijus Danilevičius kornelijus.danilevicius@ku.lt

National Open Access Centre of Marine Sciences and Technologies

Accumulated scientific potential allows us to discover solutions to relevant environmental issues. We are open to your needs and collaboration!

Fields of our services:

Marine environment

Oceanographic, hydrological, hydrographic, geological, biological, ecological marine and coastal ecosystems (biological, mineral, energy, water, air, environmental) research.

Marine technologies

- Marine and coastal engineering and mechatronic systems dynamics research; marine structures and materials research;
- Intelligent transport systems, smart control technologies;
- Shipping ports, industrial, maritime and marine energy technology and equipment research;
- Ship hydrodynamics, mechanics, energy (including alternative), and environmental technologies, systems and equipment research and development.

National Open Access Centre of Marine Sciences and Technologies

Modern laboratories and services:

Laboratory of Marine Ecosystems is aimed at complex analysis of different ecosystem components and integration of results using multifunctional modelling tools.

Laboratory of Marine Chemistry performs physical-chemical analysis of different components of the marine environment.

Laboratory for Research of Marine Constructions and their Reliability performs researches in marine bio-engineering, marine mechatronic systems, structural materials, constructions and non destructive control.

Laboratory of Waterborne Transport Technologies performs researches in marine hydro-dynamics, energy and environment protection.

Research vessel is designed for all major oceanographic researches and expeditionary equipment (hydro-acoustic, geo-physical and navigational equipment; equipment for coastal geodesic and geo-physical researches; equipment for ecological and geological researches) for marine scientific-research expeditions.

Focus on —
the Future

A decorative graphic on the right side of the slide. It features a large, smooth, purple-to-teal gradient sine wave that starts at the top left, curves down to the bottom right, and then curves back up. To the right of the wave is a grid of small, light purple dots arranged in a regular pattern.

Let's innovate together

Inga Taujanskytė

Marketing Manager of Open Access Centres
Agency for Science, Innovation and Technology
Tel.: +370 647 46888,
E-mail: inga.taujanskyte@mita.lt,
Web: apc.mita.lt

Ričardas Valančiauskas

Chief Officer of Innovation Support and Technology Transfer Division
Agency for Science, Innovation and Technology
Phone: + 370 5 2127 434
E-mail: apc@mita.lt
Website: apc.mita.lt