



PLENĀRSĒDE


 2023. gada
13. oktobrī

 Domus Auditorialis,
Zunda krastmala 8

| | |
|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9.30–10.00 | Reģistrācija, kafija |
| 10.00–10.10 | Plenārsēdes atklāšana Akadēmiķis Tālis Juhna, RTU rektors |
| 10.10–10.20 | Pētniecības un inovāciju aktualitātes RTU 2022–2023 Profesors Gatis Bažbauers, RTU zinātņu prorektora p. i. |
| 10.20–10.40 | Inovāciju ekosistēmas stratēģiskās attīstības virzieni Kauņas Tehnoloģiju universitātē Profesors Eugenijus Valatka, Kauņas Tehnoloģiju universitātes rektors |
| 10.40–11.00 | VILNIUS TECH / pētniecības un attīstības kapacitātes veicināšana Profesors Dalius Navakauskas, Viļņas Ģedimina tehniskās universitātes zinātņu un inovāciju proktors |
| 11.00–11.20 | Jaunākie stratēģiskie sasniegumi Tallinas Tehnoloģiju universitātē (TalTech) Profesors Tiit Land, Tallinas Tehnoloģiju universitātes rektors |
| 11.20–11.40 | LUT universitāšu reitingos – pētnieka perspektīva Profesors Jari Hämäläinen, Lappeenranta-Lahti Tehnoloģiju universitātes zinātņu un inovāciju proktors |
| 11.40–12.00 | Universitāšu kā inovāciju un ilgtspējīgas attīstības virzītājspēku loma Eiropas reģionālajās ekosistēmās Profesors Sergio Cavalieri, Bergamo Universitātes rektors |
| | RTU Goda doktora nosaukuma piešķiršana Bergamo Universitātes rektoram profesoram Sergio Cavalieri |
| | RTU Goda doktora nosaukuma piešķiršana Salento Universitātes rektoram profesoram Fabio Pollice |
| 12.20–12.50 | Ar PVDF un PLZT nanodaļiņām leģētas nanošķiedras biomedicīnai un enerģijas ieguvei Profesors Ashok Vaseashta, Starptautiskā tīrā ūdens institūts Manassasā, Virdžīnijā, ASV |
| | RTU Goda doktora nosaukuma piešķiršana Starptautiskā tīrā ūdens institūta Manassasā profesoram Ashok Vaseashta |
| 13.00–13.20 | Kafijas pauze |
| 13.20 | Apbalvojumu RTU Gada zinātnieks 2023, RTU Gada jaunā zinātniece 2023 un RTU Gada jaunais zinātnieks 2023 pasniegšanas ceremonija |
| | Apbalvojumu RTU Akadēmiskās izcilības gada balva – mācībspēks 2023, RTU Akadēmiskās izcilības gada balva – jaunais mācībspēks 2023 un RTU Akadēmiskās izcilības vides veicinātājs 2023 pasniegšanas ceremonija |
| | Glāze vīna un uzkodas |

Plenārsēdes darba valoda – angļu.

PLENARY SESSION

 13 October
2023

 Domus Auditorialis,
Zunda krastmala 8

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|-------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9.30–10.00 | Registration and coffee |
| 10.00–10.10 | Welcome address Academician Tālis Juhna, Rector, Riga Technical University |
| 10.10–10.20 | Research and Innovation Highlights at RTU 2022–2023 Professor Gatis Bažbauers, acting Vice-Rector for Research |
| 10.20–10.40 | Strategic Developments of the Innovation Ecosystem at Kaunas University of Technology Professor Eugenijus Valatka, Rector, Kaunas University of Technology |
| 10.40–11.00 | VILNIUS TECH Fostering Research and Development Capacities Professor Dalius Navakas, Vice-Rector for Research and Innovation, Vilnius Gediminas Technical University |
| 11.00–11.20 | Recent Strategic Developments at Tallinn University of Technology (TalTech) Professor Tiit Land, Rector, Tallinn University of Technology (TalTech) |
| 11.20–11.40 | LUT in University Rankings – Researcher’s Perspective Professor Jari Hämäläinen, Vice-President for Research and Innovation, Lappeenranta-Lahti University of Technology |
| 11.40–12.00 | The Role of Universities as Drivers of Innovation and Sustainable Development in European Regional Ecosystems Professor Sergio Cavalieri, Rector, University of Bergamo |
| | Awarding the title of RTU Honorary Doctor to Professor Sergio Cavalieri, Rector of the University of Bergamo |
| | Awarding the title of RTU Honorary Doctor to Professor Fabio Pollice, Rector of Salento University |
| 12.20–12.50 | Nanofibers Doped with PVDF and PLZT Nanoparticles for Biomedical and Energy Harvesting Applications Professor Ashok Vaseashta, International Clean Water Institute Manassas, Virginia, USA |
| | Awarding the title of RTU Honorary Doctor to Professor Ashok Vaseashta, International Clean Water Institute Manassas, Virginia, USA |
| 13.00–13.20 | Coffee |
| 13.20 | Awards Ceremony: The Scientist of the Year 2023, The Young Female Scientist of the Year 2023, The Young Male Scientist of the Year 2023 |
| | Awards Ceremony: RTU Annual Academic Excellence Award – Teaching Staff 2023, RTU Academic Excellence of the Year Award – New Teaching Staff 2023, and RTU Academic Excellence Environmental Promoter |
| | Reception / Glass of wine, light snacks |

The working language of the plenary session will be English.



STRATEGIC DEVELOPMENTS OF INNOVATION ECOSYSTEM AT THE KAUNAS UNIVERSITY OF TECHNOLOGY

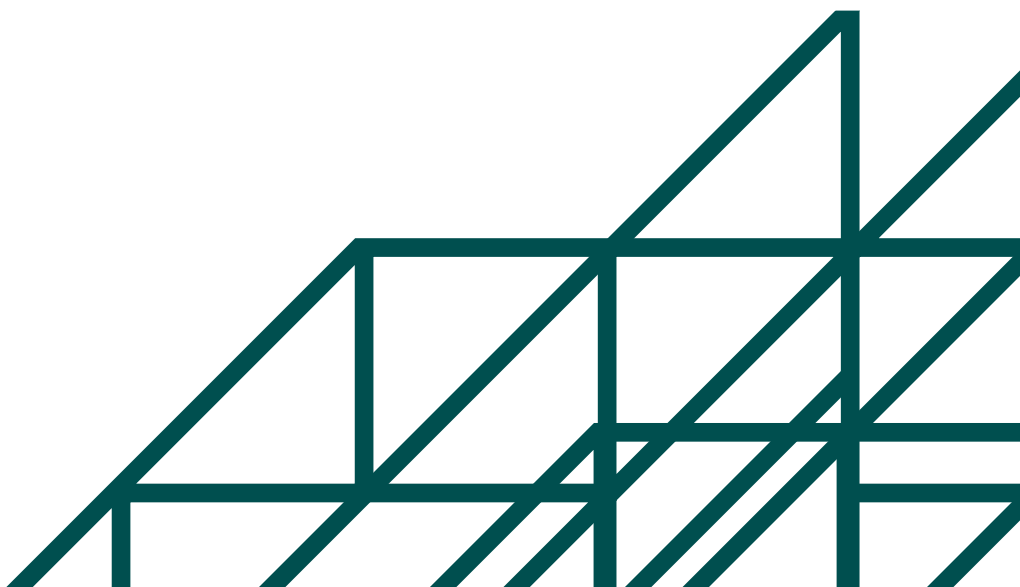
Professor EUGENIJUS VALATKA

Rector, Kaunas University of Technology

The lecture will present new strategic directions in the development of the research and innovation ecosystem at the university. On the basis of these data, the possibilities of broader cooperation between the Baltech network partners will be discussed.

Professor Eugenijus Valatka is the Rector of Kaunas University of Technology since 2018. He holds BSc in Engineering (1993), MSc in Environmental Engineering (1996), and PhD in Chemical Engineering (2000). He has worked as a Lecturer (2000–2002), Associate Professor (2002–2012), Professor (2012–up to now), Vice-Dean (2006–2011), and the Dean (2011–2018) in the Faculty of Chemical Technology, Kaunas University of Technology. His research is in the areas of photoelectrochemistry, photocatalysis

and electrochemical energy storage using metal oxides. He was a supervisor of 5 PhD students who have graduated. Professor is a member of the International Society of Electrochemistry, the Lithuanian Society of Chemistry, and the Lithuanian Industrialist Confederation. He serves as President of the Association Santaka Valley (Integrated Science, Studies and Business Center), which unites and integrates activities of the largest research, technology and education institutions of Kaunas. He is a Board member of various national and international organizations (Lithuanian Industrialist Confederation, Kaunas Chamber of Commerce, Industry and Crafts, Lithuanian National Radio and Television, ISM University of Management and Economics, Nordtek, ECIU University, and Lithuanian Energy Institute).





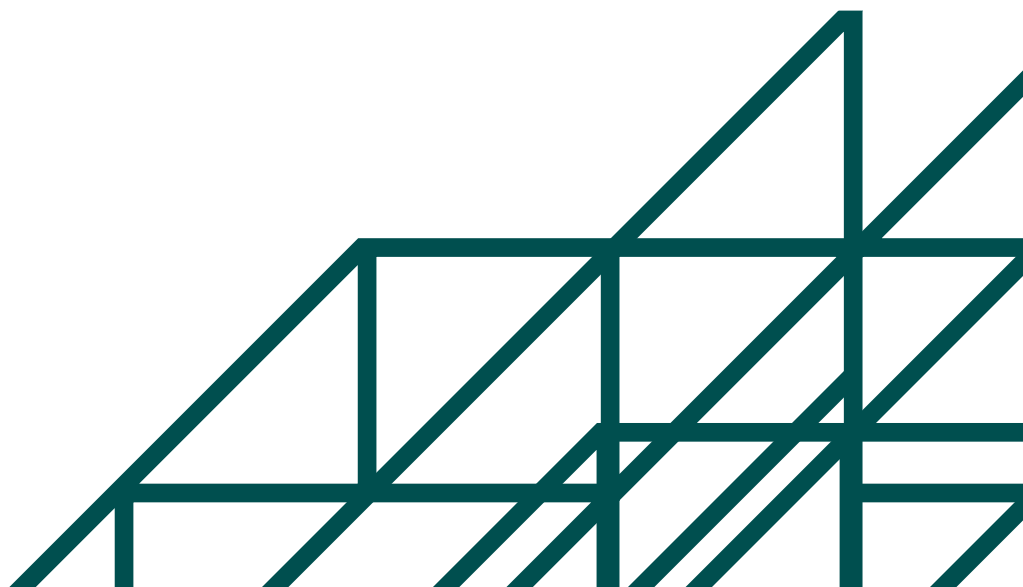
VILNIUS TECH FOSTERING RESEARCH AND DEVELOPMENT CAPACITIES

Professor Dr. (HP) DALIUS NAVAKAUSKAS

Vice-Rector for Research and Innovation, Vilnius Gediminas Technical University (VILNIUS TECH)

The talk will briefly introduce VILNIUS TECH – the main facts and figures will be given. Based on university research priorities and R&D areas, recent investments in infrastructure and human resources will be showcased. Current R&D projects and potential areas of collaboration will be outlined. Professor Dr. (HP) Dalius Navakauskas received an Honour Diploma of Radio-Electronics Engineer (1992), an MSc in Electronics degree (1994), a Doctor of Electrical and Electronic Engineering degree (1999), passed the habilitation procedure in Informatics Engineering (2005), and received the title of a Professor (2008) all at VILNIUS TECH. He served as an R&D expert at the Agency for Science, Innovation and Technology (2013–2020), the Lithuanian Business Support Agency (2013–2020), the Latvian Council of Science (2013), and the Technology Centre of

LG Electronics, Inc. (2012–2013). His main research interests include computational intelligence, signal and image processing, and bioinformatics. He promoted around 100 doctoral degree recipients in the fields of computer science, electrical, and electronics engineering; 9 PhD students received their doctorate under his supervision. He has published >100 internationally reviewed articles, 2 monographs, and 4 textbooks. He is an IEEE Senior member; and served in several volunteering positions in the IEEE Lithuania Section: the founder and Chair of Jnt. SP/CIS/COM Society Chapter (2005–2010), Section Chair (2011–2015, 2019–2020) and Section Vice-Chair (2015–2018, 2021–2022). He is currently the IEEE R8 PEAC member and Lithuania Section treasurer.





RECENT STRATEGIC DEVELOPMENTS AT TALLINN UNIVERSITY OF TECHNOLOGY (TALTECH)

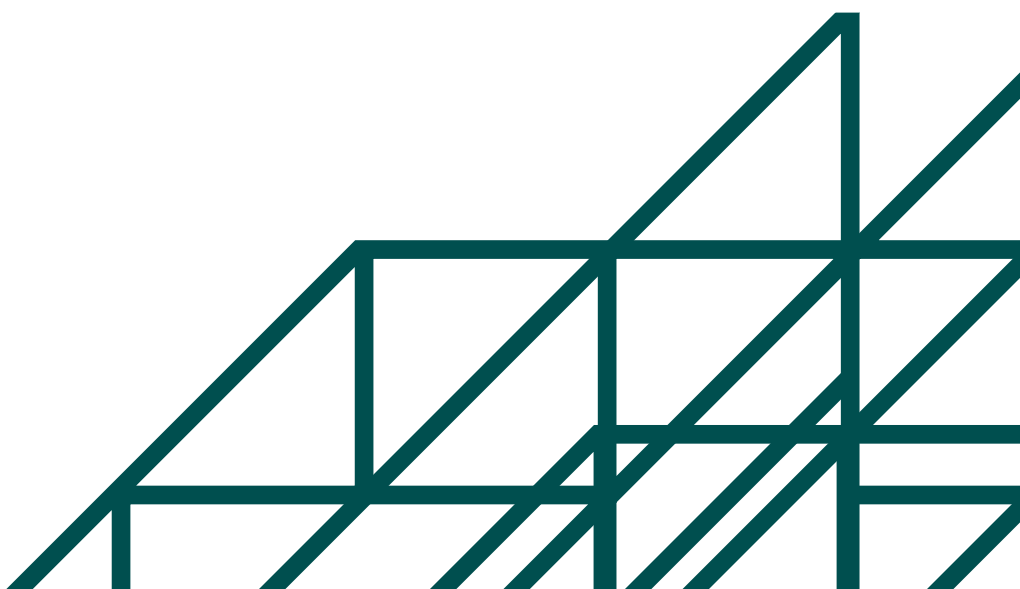
Professor TIIT LAND

Rector, Tallinn University of Technology (TalTech)

A short overview of the strategic goals of Taltech will be presented, focusing on R&D and cooperation with businesses. The most recent TalTech Green Strategy 2023–2035 will be introduced along with defined development areas. Potential collaboration areas in green technologies will be discussed.

Professor Tiit Land is the Rector of Tallinn University of Technology (TalTech), Estonia. He started his academic career at the University of Tartu, Estonia, by receiving an MA in Chemistry and Bio-organic Chemistry. In 1994 he received his PhD degree in Neurochemistry and Neurotoxicology from Stockholm University, Sweden. He was employed as a researcher at the National Institutes of Health (NIH), USA, between

1994–1999. In 1999 he returned to Stockholm University, where he worked as a researcher and lecturer. In 2006 he was elected Professor in Chemistry at Tallinn University, Estonia. Between 2011 and 2020, he worked as the Rector of Tallinn University. He is a member of the Board of Stockholm University, Sweden. His research area is biochemistry and neurochemistry. He has been working on issues related to cellular iron metabolism, the role of iron in prion diseases, relationships between iron regulation, oxidative stress and inflammation, and signal transduction mechanisms in Alzheimer's disease. He is a co-author of many scientific articles. Seven PhD theses have been defended under his supervision.





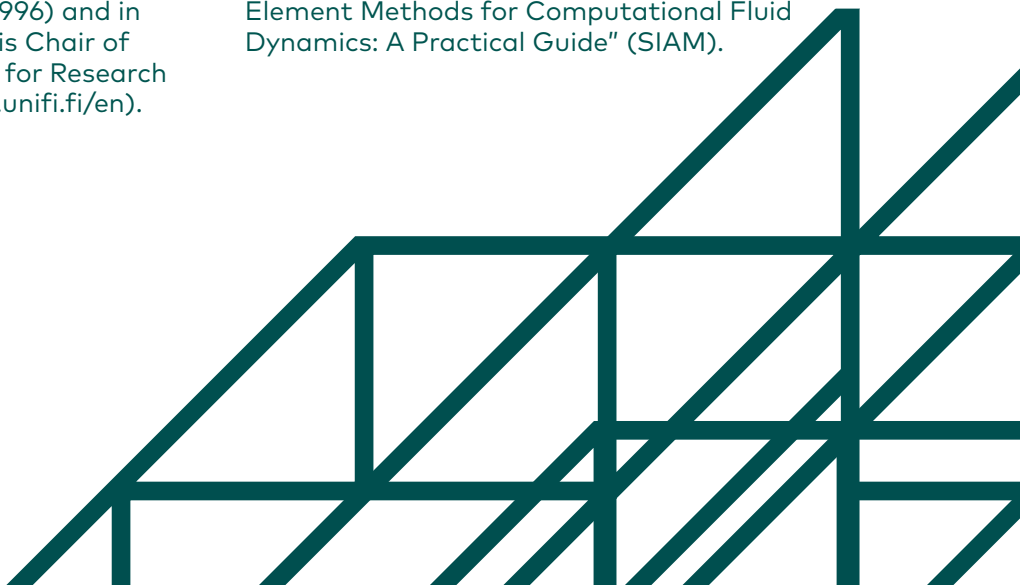
LUT IN UNIVERSITY RANKINGS – RESEARCHER'S PERSPECTIVE

Professor JARI HÄMÄLÄINEN

Vice-President for Research and Innovation, Lappeenranta-Lahti University of Technology

The lecture will introduce briefly the main university rankings but is focused on the Times Higher Education (THE) rankings, that is, THE world university ranking (WUR) and THE impact ranking. The ranking methodology will be analyzed by using concrete data collected from LUT. Based on the ranking measures, the lecture will discuss the possibilities of researchers and teachers to contribute to the success of their university. Jari Hämäläinen has been Vice-President (Vice-Rector) for Research and Innovation at Lappeenranta-Lahti University of Technology (LUT; www.lut.fi) since 2014 and Professor of industrial mathematics at LUT since 2010. Earlier, he worked as Professor of industrial physics at the University of Eastern Finland (2004–2010). After receiving his doctoral degree at the University of Jyväskylä in 1993, he worked at VTT Technical Research Centre of Finland (1994–1996) and in industry (1996–2003). Hämäläinen is Chair of the Committee of the Vice-Rectors for Research of Finnish universities (UNIFI; www.unifi.fi/en).

He has been representing the Council of Finnish Academies (CoFA; <https://academies.fi/en/>) in Euro-CASE (www.euro-case.org) since 2018. Recently Hämäläinen was Chair of the Scientific Committee (SC) of European Cooperation in Science and Technology (COST; www.cost.eu) in 2017–2021 and Vice-Chair of the SC in 2015–2017. He was a board member of the NORDTEK network of the Rectors and Deans of the Technical Universities in the Nordic and Baltic countries (www.nordtek.net) in 2018–2022. Hämäläinen's major research interests are computational methods for industrial applications. His industrial career was dealing with forest sector applications, e.g., R&D for papermaking technology. He has recently been working with wind energy aerodynamics and wind park optimization. He has published, e.g., a textbook on "Finite Element Methods for Computational Fluid Dynamics: A Practical Guide" (SIAM).





THE ROLE OF UNIVERSITIES AS DRIVERS OF INNOVATION AND SUSTAINABLE DEVELOPMENT IN EUROPEAN REGIONAL ECOSYSTEMS

Professor SERGIO CAVALIERI

Rector, University of Bergamo

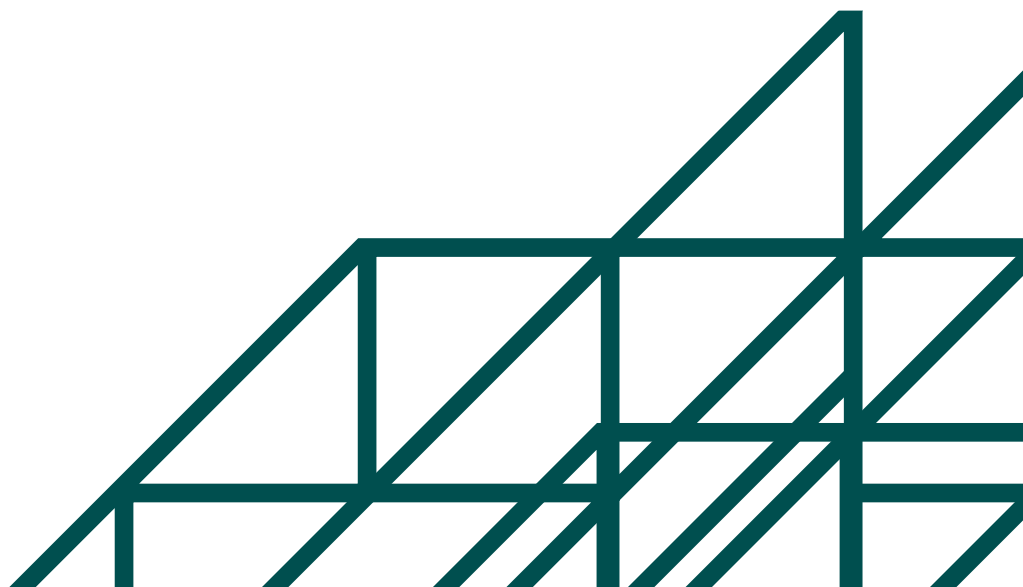
Mid-size universities have a special role as drivers of innovation and sustainable development in European regional ecosystems.

They help in answering the challenges that regions have to face providing support to the actors of the triple helix (University, Industry, Government) because of their cultural, geographical and thematical proximity, as well as their flexibility and dynamism.

UniBg will present best practices on this domain showing its crucial role as a reference point for culture and research, as territorial aggregator and orchestrator for the innovation ecosystem.

Sergio Cavalieri is Rector of the University of Bergamo. He is full Professor of Operations Management; his research interests are related to the innovation of operations and supply chain

management processes of manufacturing and service companies. He is President of the Board of Directors of U4I – University for Innovation, Past-President of the Italian Association of Professors in Industrial Systems Engineering, Director of MeGMI – Executive Master on Industrial Asset Management, Coordinator of the Expert Committee of the Italian Ministry of University and Research on “Innovation for the manufacturing industry” of the National Research Plan 2021–2027. He is a member of IFAC-TC 5.1 on Advanced Manufacturing Technology, a member of IFIP WG 5.7, a former member of the Technical Development Steering Committee of the Supply Chain Council, founder and coordinator of the Italian Service Management Forum, a joint industry-academic initiative.





NANOFIBERS DOPED WITH PVDF AND PLZT NANOPARTICLES FOR BIOMEDICAL AND ENERGY HARVESTING APPLICATIONS

Professor ASHOK VASEASHTA

Full Professor of Applied Physics, International Clean Water Institute Manassas, Virginia, USA.
Fulbright Specialist, Riga Technical University, Riga, Latvia
Chaired Distinguished Professor and Member of the Academy of Science of Moldova, Chisinau, Moldova

Multifunctional composite nanofiber membranes of Polyvinylidene fluoride and polyvinylidene difluoride (PVDF) and PVDF embedded with La^{+3} ion substituted for Pb^{+2} ion in Lead zirconate titanate ($\text{Pb}_{1-x}\text{La}_x(\text{Zr}_y\text{Ti}_{1-y})_{1-x/4}\text{O}_3$) (PLZT) nanoparticles were investigated. The membranes using PVDF/PLZT nanoparticles demonstrate the presence of an electroactive phase, which is responsible for piezoelectric, pyroelectric, and dielectric properties depending on the concentration of embedded PLZT nanoparticles. The samples were tested under compression, shear, and torsion for their response, which indicates

that the composites can be used for designing capacitive force sensing devices. Based on the pyroelectric coefficient and real and imaginary parts of the dielectric constant, appropriate figures of merit were calculated to determine an optimum value for specific functionalities. Due to the vast range of potential applications, an overview of parametric considerations will be discussed for designing flexible multifunctional sensor platforms for biomedical applications. Energy harvesting membranes coupled with edge computing will be discussed as future pathways for on-board sensors.

