

**Latvia University of Life Sciences and Technologies
Faculty of Engineering and Information Technologies
Latvian Academy of Agricultural and Forestry Sciences**



24th International Scientific Conference

ENGINEERING FOR RURAL DEVELOPMENT

PROGRAMME



ISC
ERDev

Wednesday, 21 May

16⁰⁰ – 17⁰⁰ Registration of participants,
Faculty of Engineering and Information Technologies, LBTU,
5 J. Cakstes blvd., lobby

Thursday, 22 May

9⁰⁰ – 10⁰⁰ Registration of participants,
Faculty of Engineering and Information Technologies, LBTU,
5 J. Cakstes blvd., lobby

10⁰⁰ – 10¹⁵ Plenary session,
5 J. Cakstes blvd., Room 314
Welcome speech

Gatis Vitols,

LBTU,

Vice-rector of science

Ruslans Smigins,

Faculty of Engineering and Information Technologies,

Dean

Aivars Aboltins,

Conference programme committee,

Chairman

10¹⁵ – 10⁵⁰ Research on hydrogen use in national economy of Latvia

Aigars Laizans

Faculty of Engineering and Information Technologies,

Professor

<https://zoom.us/j/91087996903?pwd=XDPGO9LLL5ljgcltkWp9vI50wq6aqK.1>

11⁰⁰ – 13⁰⁰ Work in sections

13⁰⁰ – 14²⁰ Photo, Lunch

14²⁰ – 16⁰⁰ Work in sections

16⁰⁰ – 16³⁰ Coffee break

5 J. Cakstes blvd., Room 212

16³⁰ – 18³⁰ Work in sections

19⁰⁰ Conference dinner

5 J. Cakstes blvd., Room 212

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The conference will be held in hybrid (on-site and on-line) format.
Sections may be attended and reports may be presented in both formats.

Regulations: presentation – **15 min**

discussion – **5 min**

EEST time used in all timetables

Conference language – **English**

Friday, 23 May

8³⁰ – 18⁰⁰ Social tour



WiFi

Internet access during the conference:
network access using vouchers, ask at the registration table.

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Organisations supporting conference

Latvia University of Life Sciences and Technologies
Faculty of Engineering and Information Technologies



Latvian Academy of Agricultural and
Forestry Sciences, Unit of Engineering
Sciences

<http://ilmza.lv/index.php/en/units/unit-of-engineering-sciences>

International Symposium on Hydrogen Energy,
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Section 1: AGRICULTURAL MACHINERY

5 J.Cakstes blvd., **Room 326**,

Join Zoom Meeting

<https://zoom.us/j/92501232098?pwd=iclhSK4toNDD8CAjNTzaEKrotszbH.1>

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Chairman: Dr.sc.ing. **Adolfs Rucins**,
Latvia University of Life Sciences and Technologies, Latvia
Vice-chairman: Dr.sc.ing. **Egle Jotautiene**
Vytautas Magnus University, Lithuania



- 11:00 TF021 STUDY OF *PROPYLEA QUATUORDECIMPUNCTATA* FEED CONSUMPTION DYNAMICS AT VARIOUS STAGES OF ONTOGENESIS IN REARING TECHNOLOGY
Vitalii Barkar, Tetiana Markina, Volodymyr Bulgakov, Aivars Aboltins, Adolfs Rucins, Anatoliy Zaryshnyak
Engineering and Technological Institute "Biotehnika" of NAAS, Ukraine; Kharkiv National Pedagogical University named after H. S. Skovoroda, Ukraine; National University of Life and Environmental Sciences of Ukraine, Ukraine; Latvia University of Life Sciences and Technologies, Latvia; NAAS of Ukraine, Ukraine
- 11:20 TF121 INVESTIGATION OF VIBRATION DYNAMICS IN VERTICAL PLANE OF TRACTORS WITH SINGLE AND DOUBLED WHEELS
Volodymyr Bulgakov, Valerii Adamchuk, Roman Antoshchenkov, Ivan Holovach, Adolfs Rucins, Aivars Aboltins, Ivan Beloev, Ivan Halych, Oleksandra Trokhaniak, Yevhen Ihnatiev
National University of Life and Environmental Sciences of Ukraine, Ukraine; Institute of Mechanics and Automatics of Agroindustrial Production of the NAAS of Ukraine, Ukraine; State Biotechnological University, Ukraine; Latvia University of Life Sciences and Technologies, Latvia; "Angel Kanchev" University of Ruse, Bulgaria; Dmytro Motornyi Tavria State Agrotechnological University, Ukraine
- 11:40 TF123 ASSESSMENT OF AERODYNAMIC SCREEN EFFICIENCY OF VIBRO-FRICTIONAL SEED SEPARATOR IN PROCESSING SMALL SEED MATERIALS
Volodymyr Bulgakov, Roman Antoshchenkov, Anton Nykyforov, Adolfs Rucins, Aivars Aboltins, Ivan Beloev, Ivan Holovach, Oleksandra Trokhaniak
National University of Life and Environmental Sciences of Ukraine, Ukraine; State Biotechnological University, Ukraine; Latvia University of Life Sciences and Technologies, Latvia; "Angel Kanchev" University of Ruse, Bulgaria
- 12:00 TF088 BRIEF OVERVIEW OF UNMANNED AERIAL VEHICLE (UAV) SPRAY APPLICATIONS: OPPORTUNITIES AND CHALLENGES
Alessia Farella, Francesco Paciolla, Tommaso Quartarella, Simone Pascuzzi
University of Bari Aldo Moro, Italy
- 12:20 TF065 PREDICTION OF ENVIRONMENTAL IMPACT OF HYBRID-ELECTRIC TRACTOR USING ITS DIGITAL MODEL
Francesco Paciolla, Alessia Farella, Giovanni Popeo, Simone Pascuzzi
University of Bari Aldo Moro, Italy
- 12:40 TF142 COMPARISON OF TWO ELECTROMAGNETOMETERS FOR SURVEYING SOIL ELECTRICAL CONDUCTIVITY: CDM MINI-EXPLORER AND SOIL EXPLORER
Giovanni Popeo, Alessia Farella, Francesco Vicino, Simone Pascuzzi
University of Bari Aldo Moro, Italy
- 13:00  *PHOTO, LUNCH*
- 14:20 TF175 DESIGN AND STRUCTURAL ANALYSIS OF NEW MOWER DESIGN CAPABLE OF WORKING IN AREAS WITH 45° SLOPE
Lukasz Gierz, Marcin Zastempowski, Pawel Wysocki
Poznan University of Technology, Poland; Bydgoszcz University of Science and Technology, Poland

14:40	TF158	EXPERIMENTAL INVESTIGATION ON DYNAMICS OF PRECISION SPREADING OF GRANULAR FERTILIZERS Egle Jotautiene, Antanas Juostas, Edvardas Vaiciukevicius, Rolandas Domeika <i>Vytautas Magnus University, Lithuania</i>
15:00	TF122	ANALYSIS OF IMAGES OF VINEYARD WITH COMPUTER VISION MODELS FOR DATA UNDERSTANDING INTERPRETATION Francesco Vicino, Francesco Paciolla, Tommaso Quartarella, Simone Pascuzzi <i>University of Bari Aldo Moro, Italy</i>
15:20	TF132	ADVANCED PNEUMATIC CONVEYING SYSTEMS FOR GRANULAR AGRIFOOD MATERIALS Raluca-Adriana Zota, Sorin-Stefan Biris, Mihaela-Florentina Dutu, Nelus-Evelin Gheorghita, Alina-Daiana Ionescu <i>National University of Science and Technology Politehnica of Bucharest, Romania</i>
15:40	TF025	INVESTIGATION AND JUSTIFICATION OF WORKING BODY PARAMETERS OF COMBINED SOIL TILLAGE IMPLEMENT SCREW SECTION Volodymyr Bulgakov, Olena Glazunova, Oleksandra Trokhaniak, Adolfs Rucins, Aivars Aboltins, Mykola Klendii, Ivan Beloev, Valentina Vasileva <i>National University of Life and Environmental Sciences of Ukraine, Ukraine; Latvia University of Life Sciences and Technologies, Latvia; Separated Subdivision of National University of Life and Environmental Sciences of Ukraine "Berezhany Agrotechnical Institute", Ukraine; "Angel Kanchev" University of Ruse, Bulgaria</i>
16:00		COFFEE BREAK
16:30	TF066	DESIGN OF CHAINS OF CHAIN CONVEYOR AS PART OF MOBILE WORKING MACHINE MODIFICATION Miroslav Blatnický, Jan Dizo, Alyona Lovska, Stanislav Semenov <i>University of Zilina, Slovakia; Volodymyr Dahl East Ukrainian National University, Ukraine</i>
16:50	TF036	ANALYSIS OF AGRICULTURAL TRACTOR CABIN STRENGTH Jacek Caban, Aleksander Nieoczym, Leszek Gardynski, Jan Vrabel <i>Lublin University of Technology, Poland; University of Zilina, Slovakia</i>
17:10	TF162	INVESTIGATION OF POSSIBILITIES TO APPLY THE METHOD OF TENSOR TRANSFORMATIONS OF ELECTRIC NETWORKS IN SYNTHESIS OF CONTROL STRUCTURES IN AGRO-INDUSTRIAL COMPLEX Volodymyr Bulgakov, Roman Antoshchenkov, Anton Nykyforov, Adolfs Rucins, Aivars Aboltins, Ivan Beloev, Ivan Holovach, Oleksandra Trokhaniak <i>National University of Life and Environmental Sciences of Ukraine, Ukraine; State Biotechnological University, Ukraine; Latvia University of Life Sciences and Technologies, Latvia; "Angel Kanchev" University of Ruse, Bulgaria</i>
17:30	TF163	THEORETICAL INVESTIGATION OF MOVEMENT OF ROUND-SHAPE TABLE BEET ROOTS INSIDE SPIRAL VIBRATION TYPE CLEANER Volodymyr Bulgakov, Ivan Holovach, Volodymyr Martyniuk, Oleksandra Trokhaniak, Aivars Aboltins, Adolfs Rucins, Juri Olt, Yevhen Ihnatiev <i>National University of Life and Environmental Sciences of Ukraine, Ukraine; Latvia University of Life Sciences and Technologies, Latvia; Estonian University of Life Sciences, Estonia; Dmytro Motornyi Tavria State Agrotechnological University, Ukraine</i>
17:50	TF072	STUDY AND SETTING-UP OF AUTONOMOUS TERRESTRIAL ROVER SUITABLE FOR MONITORING ACTIVITIES IN "TENDONE" TRAINED VINEYARDS Simone Pascuzzi, Francesco Paciolla, Giovanni Popeo, Tommaso Quartarella, Francesco Vicino, Alessia Farella <i>University of Bari Aldo Moro, Italy</i>
18:10	TF026	INVESTIGATION IN WORKING BODY POWER PARAMETERS AND ENERGY CAPACITY FOR REMOVING DAMAGED SOIL FROM SURFACE OF CRATERS Volodymyr Bulgakov, Olena Glazunova, Ivan Holovach, Oleksandra Trokhaniak, Zinoviy Ruzhylo, Adolfs Rucins, Aivars Aboltins, Gencho Popov, Ivan Beloev, Valentina Vasileva <i>National University of Life and Environmental Sciences of Ukraine, Ukraine; Latvia University of Life Sciences and Technologies, Latvia; "Angel Kanchev" University of Ruse, Bulgaria</i>
19:00		CONFERENCE DINNER

Section 2: MATERIAL SCIENCE AND GHG EMISSIONS

5 J.Cakstes blvd., **Room 312**,

Join Zoom Meeting


<https://zoom.us/j/93175223413?pwd=jUxPigCcHdFLBmgU9vA59THaH0Fs2q.1>

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Latvia University of Life Sciences and Technologies, Latvia
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Casimir Pulaski Radom University, Poland



- 11:00 TF089 SELECTION AND JUSTIFICATION OF BINDING MATERIAL FOR POLYMER-GRAVEL COMPOSITE OF BLOCK TYPE INVERSE GRAVEL FILTER
Gulzada Umirova, Andrii Sudakov, Aidar Kuttybayev, Diana Sudakova
Kazakh National Technical University named after K.I. Satpayev, Kazakhstan; Dnipro University of Technology, Ukraine
- 11:20 TF210 INNOVATIVE SOLUTIONS FOR PHOSPHORUS REMOVAL IN MUNICIPAL WASTEWATER: PRIMARY AND POST-TREATMENT APPROACHES
Dagnija Grabuza, Linda Grinberga, Ruta Ozola-Davidane, Julija Karasa
Latvia University of Life Sciences and Technologies, Latvia; University of Latvia, Latvia
- 11:40 TF188 PROSPECTS FOR RECYCLING THERMAL INSULATION MATERIALS
Andrii Khalieiev, Oleksandr Novytskyi, Mykola Stashko
Sumy National Agrarian University, Ukraine; Ukrainian State University of Railway Transport, Ukraine
- 12:00 TF111 INFLUENCE OF VARIOUS FACTORS ON DETERMINATION ACCURACY OF SURFACE PROFILE ELEMENTS FOR ENGINEERING CALCULATIONS
Natalija Bulaha
Riga Technical University, Latvia
- 12:20 TF085 INNOVATIVE TECHNOLOGIES FOR EQUIPPING OPERATIONAL WELLS WITH SYSTEMS FOR MECHANICAL PURIFICATION OF LIQUID AND GASEOUS MINERAL RESOURCES
Gulzada Umirova, Andrii Sudakov, Dmytro Pobidynskyi, Askar Seidaliyev
Kazakh National Technical University named after K.I. Satpayev, Kazakhstan; Dnipro University of Technology, Ukraine; Caspian University of Technology and Engineering named after Sh. Yessenov, Kazakhstan
- 12:40 TF179 MATHEMATICAL MODEL OF REED GRIPPER DYNAMICS CONSIDERING FLEXIBILITY OF STEM
Olafs Vronskis, Aivars Kakitis
Latvia University of Life Sciences and Technologies, Latvia
- 13:00  *PHOTO, LUNCH*
- 14:20 TF134 CONSTRUCTION WASTE MANAGEMENT IN CONTEXT OF SUSTAINABLE DEVELOPMENT CASE STUDY OF POLYGON "BRAKŠĶI" JEGAVA MUNICIPALITY, LATVIA
Sandra Gusta, Nils Mezsargs
Latvia University of Life Sciences and Technologies, Latvia
- 14:40 TF035 EVALUATION OF BONE MEAL GRANULAR FERTILIZER PHYSICAL MECHANICAL PROPERTIES
Ramunas Mieldazys, Egle Jotautiene, Algirdas Jasinskas, Grazvydas Juodisius
Vytautas Magnus University, Lithuania

15:00	TF143	MECHANICAL PROPERTIES OF ECOLOGICAL COMPOSITE MATERIAL WITH OIL SHALE ASH PARTICLES Ilgar Jafarli, Armands Grickus, Igors Tipans, Laimdota Snidere <i>Riga Technical University, Latvia; RTU Liepaja Academy, Latvia</i>
15:20	TF120	CHARACTERIZATION AND ASSESSMENT OF PHYSICAL AND MECHANICAL PROPERTIES OF ROSEHIP (<i>ROSA CANINA</i> L.) FRUITS AND SEEDS Alina-Daiana Ionescu, Gheorghe Voicu, Elena-Madalina Stefan, Gabriel-Alexandru Constantin <i>National University of Science and Technology Politehnica of Bucharest, Romania</i>
15:40	TF110	DEVELOPMENT AND OPTIMIZATION OF HARD ALLOY COMPOSITIONS FOR ROCK DESTRUCTION Oleksandr Pashchenko, Oleksandr Kamyshatskyi, Elmira Omirzakova, Sara Ratova <i>Dnipro University of Technology, Ukraine; Ukrainian State University of Science and Technologies, Ukraine; Satbayev University, Kazakhstan</i>
16:00		COFFEE BREAK
16:30	TF081	ANALYSIS OF WC-CO AND ZRO ₂ -WC MATRICES FROM PERSPECTIVE OF WEAR RESISTANCE OF DIAMOND-REINFORCED COMPOSITES Boranbay Ratov, Mirosław Rucki, Edvin Hevorkian, Volodymyr Mechnik, Mykola Bondarenko, Anita Bialkowska, Dora Kroisova <i>Kazakh National Technical University named after K.I. Satpayev, Kazakhstan; Casimir Pulaski Radom University, Poland; Ukrainian State University of Railway Transport, Ukraine; V.Bakul Institute for Superhard Materials NAS, Ukraine; Technical University at Liberec, Czech Republic</i>
16:50	TF079	DISTRIBUTION OF CHROMIUM IN TRANSITION LAYER OF BIMETALLIC CASTINGS Yevhenii Aftandiliants, Svyatoslav Gnyloskurenko, Helena Meniailo, Valerii Khrychikov <i>National University of Life and Environmental Sciences of Ukraine, Ukraine; Physico-technological Institute of Metals and Alloys, Ukraine; Ukrainian State University of Science and Technologies, Ukraine</i>
17:10	TF055	INFLUENCE OF DIFFERENT VENEER SOAKING TECHNOLOGICAL FACTORS ON REACTION TO FIRE PERFORMANCE OF BIRCH PLYWOOD Edgars Buksans, Ilze Kalnina <i>Forest and Wood Products Research and Development Institute, Latvia; Latvia University of Life Sciences and Technologies, Latvia; AS "Latvijas finieris", Latvia</i>
17:30	TF040	EVALUATION OF SOIL AMENDMENT EFFECT ON FOLIAR NUTRIENT COMPOSITION AS BASIS FOR DEVELOPING PREDICTIVE TECHNOLOGIES FOR FOREST STAND RESPONSE Guna Petaja, Zaiga Anna Zvaigzne, Dana Purvina, Andis Lazdins <i>Latvian State Forest Research Institute "Silava", Latvia; Latvian Academy of Sciences, Latvia</i>
17:50	TF015	RESULTS OF PILOT STUDY COMPARING GREENHOUSE GAS FLUXES FROM FORWARDING RUTS AND CONTROL AREA IN MOIST MINERAL SOIL AFTER CLEARFELLING Andis Lazdins, Aldis Butlers, Dana Purvina <i>Latvian Academy of Sciences, Latvia; Latvian State Forest Research Institute "Silava", Latvia</i>
18:10	TF082	APPLICATION OF REINFORCEMENT LEARNING AI METHODS FOR SELF-CALIBRATION OF MODULAR OPTICAL ROTARY ENCODERS Armantas Piksrys, Donatas Gurauskis, Patryk Osuch, Mirosław Rucki <i>Vilnius University, Lithuania; Vilnius Gediminas Technical University, Lithuania; Precision Machine Parts Poland Sp. z o.o., Poland; Casimir Pulaski Radom University, Poland</i>
19:00		CONFERENCE DINNER

Section 3: MODELLING AND SIMULATION

5 J.Cakstes blvd., **Room 215**,

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Latvia University of Life Sciences and Technologies, Latvia
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University of Zilina, Slovakia



- 11:00 TF018 RESEARCH OF DYNAMIC LOADING CAPACITY AND STRENGTH OF CONTAINER WHEN TRANSPORTED ON OPEN WAGON
Juraj Gerlici, Alyona Lovska, Jan Dizo, Pavlo Rukavishnikov
University of Zilina, Slovakia; Ukrainian State University of Railway Transport, Ukraine
- 11:20 TF078 SUSTAINABLE LAST-MILE DELIVERY TECHNOLOGIES IN REGIONAL PERSPECTIVE AND POLICY-MAKING: INPUT-OUTPUT ANALYSIS
Astra Auzina-Emsina
Riga Technical University, Latvia
- 11:40 TF187 HYPERBOLIC TYPE SPLINES FOR SOLVING STATIONARY DIFFUSION PROBLEMS IN 3-D DOMAIN WITH SPECIAL SOURCE FUNCTIONS
Harijs Kalis, Ilmars Kangro, Aivars Aboltins
Institute of Mathematics and Computer Science, University of Latvia, Latvia; Rezekne Academy of Riga Technical University, Latvia; Latvia University of Life Sciences and Technologies, Latvia
- 12:00 TF020 ANALYSIS OF LOCOMOTIVE DRIVER RIDE COMFORT
Jan Dizo, Miroslav Blatnický, Alyona Lovska, Vadym Ishchuk, Martin Bucko
University of Zilina, Slovakia
- 12:20 TF098 DESIGN AND FEA SIMULATION OF SELF-CLEANING PUBLIC BENCH
Kithalawalana Jayathilaka, Pomudhi Gayathmi Pathirage
Riga Technical University, Latvia; The British School in Colombo, Sri Lanka
- 12:40 TF125 EVALUATING VIBRATIONAL AND STRUCTURAL STABILITY OF OSSEOINTEGRATED FEMORAL PROSTHESES: FINITE ELEMENT APPROACH
Kithalawalana Jayathilaka, Vladislavs Jevstignejevs, Oskars Gainutdinovs
Riga Technical University, Latvia; SIA "Tehniskā Ortopēdija", Latvia
- 13:00  **PHOTO, LUNCH**
- 14:20 TF141 CONTROLLING SHAPE OF FLAME WITH DIFFERENTIABLE PHYSICS
Laura Leja, Karlis Freivalds
University of Latvia, Latvia; Institute of Electronics and Computer Science, Latvia
- 14:40 TF155 ON MODELLING AND SIMULATION OF AUTO-IGNITION IN PARTICLE-LADEN BIOMASS FLOWS
Uldis Strautins, Maksims Marinaki
Institute of Mathematics and Computer Science, University of Latvia, Latvia
- 15:00 TF053 STUDY OF GRID COVER STRUCTURE BEHAVIOR
Nataliia Sribniak, Liudmyla Tsyhanenko, Serhii Halushka, Hennadii Tsyhanenko, Valerii Lutskovskyi, Oleksandr Dranik
Sumy National Agrarian University, Ukraine

15:20	TF095	SUPPLIER RELIABILITY PREDICTION IN CONSTRUCTION WITH ARTIFICIAL INTELLIGENCE AND ADAPTIVE EVALUATION METRICS Shirantha Ramanayake, Janis Zvirgzdins, Thilina-Ganganath Weerakoon, Ineta Geipele <i>Riga Technical University, Latvia; Vilnius Gediminas Technical University, Lithuania</i>
15:40	TF112	EARLY DETECTION OF CATERPILLARS USING ARTIFICIAL INTELLIGENCE Sergejs Kodors, Ilmars Apeinans, Imants Vancans, Toms Bartulsons, Imants Zarembo <i>Rezekne Academy of Riga Technical University, Latvia; Institute of Horticulture (LatHort), Latvia</i>
16:00		COFFEE BREAK
16:30	TF042	DEVELOPING METHODOLOGY FOR MANAGING CHANGE ORDERS IN CONSTRUCTION PROJECTS USING BIM AND CLOUD COMPUTING Mohamed H. Shaban, Ali Amran <i>Homs University, Syria</i>
16:50	TF287	EVALUATION OF VISUAL ODOMETRY ALGORITHMS FOR TREE NURSERY INSPECTION MACHINES Vitalijs Osadcuks, Kristaps Muska, Andrejs Zujevs, Arturs Ardavs <i>Latvia University of Life Sciences and Technologies, Latvia; Riga Technical University, Latvia</i>
17:10	TF096	STAR TIME SERIES MODELS WITH ASYMMETRIC TRANSITION FUNCTION: ESTIMATION USING R SOFTWARE AND APPLICATIONS FOR LATVIAN ECONOMIC DATA Oksana Pavlenko <i>Riga Technical University, Latvia</i>
17:30	TF148	COMPARISON OF GROSS OUTPUT AND FINAL DEMAND OF INDUSTRY AGRICULTURE, HUNTING, FORESTRY IN THE BALTIC STATES AND FINLAND Ilze Balode, Andrejs Jaunzems <i>Riga Stradins University, Latvia; Ventspils University of Applied Sciences, Latvia</i>
17:50	TF071	INVESTIGATION OF IMPACT OF COLOR SATURATION AND HUE ON NEURAL NETWORK-BASED OBJECT RECOGNITION IN UNDERWATER ENVIRONMENTS Andrejs Salms, Uldis Zaimis <i>Riga Technical University Liepaja Academy, Latvia</i>
18:10	TF019	FORECASTING ENERGY PATTERNS OF BUILDING PROJECTS THROUGH DEEP LEARNING MODELS TOWARD NET-ZERO CONSTRUCTION Thilina-Ganganath Weerakoon, Sulaksha Wimalasena, Chaniru Koralagama, Keshmin Senaratna <i>Vilnius Gediminas Technical University, Lithuania; Riga Technical University, Latvia</i>
19:00		CONFERENCE DINNER

Section 4: RENEWABLE AND CONVENTIONAL ENERGY

5 J.Cakstes blvd., **Room 314**,

Join Zoom Meeting

<https://zoom.us/j/97871416192?pwd=g3TQZlXHBJKUITIXcVZGzJzqKZVyba.1>



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Latvia University of Life Sciences and Technologies, Latvia
Vice-chairman: Dr.sc.ing. **Pavel Kic**
Czech University of Life Sciences Prague, Czech Republic



- 11:00 TF006 ASSESSMENT OF INDOOR AIR HUMIDIFIER PERFORMANCE
Pavel Kic
Czech University of Life Sciences Prague, Czech Republic
- 11:20 TF061 WATER ELECTROLYSIS TECHNOLOGIES: COMPARISON OF MATURITY, OPERATIONAL AND COST EFFICIENCY
Andris Backurs, Leo Jansons, Aigars Laizans
Latvia University of Life Sciences and Technologies, Latvia; Riga Technical University, Latvia
- 11:40 TF190 REVIEW OF LATEST ACHIEVEMENTS IN AGRIVOLTAICS
Vytautas Adomavicius, Gintvile Simkoniene, Artem Dedenok
Kaunas University of Technology, Lithuania; Klaipėda University, Lithuania
- 12:00 TF191 SMALL-SCALE SOLAR-WIND POWER PLANTS FOR RURAL AREAS
Vytautas Adomavicius, Gintvile Simkoniene, Artem Dedenok
Kaunas University of Technology, Lithuania; Klaipėda University, Lithuania
- 12:20 TF136 SOLAR ENERGY CONVERSION MODULE RESEARCH
Marius Mickevicius, Egidijus Zvicevicius, Kestutis Ziura, Inga Adamonyte
Vytautas Magnus University, Lithuania
- 12:40 TF276 ASSESSMENT OF NATURAL AND INDUSTRIAL RESOURCES FOR GREEN HYDROGEN INDUSTRY DEVELOPMENT IN THE BALTIC STATES
Ilgmars Lejnicks, Modrite Pelse
Latvia University of Life Sciences and Technologies, Latvia
- 13:00  **PHOTO, LUNCH**
- 14:20 TF014 ANALYSIS OF INPUT BIOMASS PARAMETER IMPACT ON ELECTRIC CAPACITY FACTOR OF BIOGAS PLANTS
Lauris Plume, Imants Plume
Latvia University of Life Sciences and Technologies, Latvia
- 14:40 TF211 MODELLING ELECTRICITY PRODUCTION FROM 49.9 KWP FIXED VERTICAL AGRI-VOLTAIC POWER PLANT AS FUNCTION OF SPOT SALES IN THE CZECH REPUBLIC
Michal Strnad, Libor Matyas, Martin Cisler, Petr Novak
Czech University of Life Sciences Prague, Czech Republic
- 15:00 TF109 APPLICATION OF MACHINE LEARNING FOR WELLBORE STABILITY ASSESSMENT
Samal Muratova, Oleksandr Pashchenko, Volodymyr Khomenko, Abat Zhailiev
Satbayev University, Kazakhstan; Dnipro University of Technology, Ukraine; Caspian University of Technology and Engineering named after Sh. Yessenov, Kazakhstan
- 15:20 TF069 ENVIRONMENTAL CHARACTERISTICS OF BIODIESEL PRODUCED USING DIFFERENT ALCOHOLS AND HETEROGENEOUS CATALYSTS
Ieva Gaide, Andrius Grigas, Violeta Makareviciene, Egle Sendzikiene
Vytautas Magnus University, Lithuania

15:40	TF194	IMPROVING SCOTS PINE REGENERATION ON STAGNATING SITES THROUGH SOIL PREPARATION Karlis Dumins, Toms Arturs Stals, Kristaps Makovskis, Dagnija Lazdina <i>Latvian State Forest Research Institute "Silava", Latvia</i>
16:00		COFFEE BREAK
16:30	TF237	METEOROLOGICAL SENSITIVITY OF TREE-RING WIDTH OF SCOTS PINE AND NORWAY SPRUCE IN DRAINED STAND Karlis Bickovskis, Aris Jansons, Diana Jansone, Roberts Matisons <i>Latvian State Forest Research Institute "Silava", Latvia; Latvia University of Life Sciences and Technologies, Latvia</i>
16:50	TF107	IMPROVED TECHNIQUE FOR MEASURING RHEOLOGICAL PROPERTIES OF DRILLING FLUID Volodymyr Khomenko, Samal Muratova, Zamanbek Utepov, Arailym Zhanggirkhanova <i>Dnipro University of Technology, Ukraine; Satbayev University, Kazakhstan; Caspian University of Technology and Engineering named after Sh. Yessenov, Kazakhstan</i>
17:10	TF170	EVALUATION OF THE EFFECTIVENESS OF SPRINKLER FIRE PROTECTION SYSTEMS Aleksandrs Dobrovolskis, Maris Ziemelis, Vladimir Jemeljanov <i>Riga Technical University, Latvia</i>
17:30	TF084	APPLICATION OF BIOREACTORS IN PRODUCTION OF ALTERNATIVE PROTEINS - REVIEW Elena-Valeria Vladut, Sorin-Stefan Biris, Mariana Ferdes, Adrian Iosif, Vasile Padureanu <i>National University of Science and Technology Politehnica of Bucharest, Romania</i>
17:50	TF013	CO-DIGESTION OF CATTLE MANURE WITH PAPER DUST BRIQUETTES Indulis Straume, Vilis Dubrovskis, Imants Plume <i>Latvia University of Life Sciences and Technologies, Latvia</i>
19:00		CONFERENCE DINNER

Section 5: ENGINEERING ECONOMICS AND TRANSPORT

5 J.Cakstes blvd., **Room 319**,

Join Zoom Meeting

<https://zoom.us/j/96884701933?pwd=5vHKTamQkXZVGsgaN9mqGzOs0jHLeR.1>


Meeting ID: 968 8470 1933

Passcode: uzm7V86s

Chairman: Dr.sc.ing. **Dainis Berjoza**,
Latvia University of Life Sciences and Technologies, Latvia
Vice-chairman: Dr.sc.ing. **Tomas Mickevicius**
Kauno kolegija Higher Education Institution, Lithuania



- 11:00 TF076 IMPACT OF BIODIESEL EXPORTS AND IMPORTS ON NATIONAL ECONOMY OF LATVIA
Gunita Mazure, Tatjana Hane, Anita Cesnauska
Latvia University of Life Sciences and Technologies, Latvia
- 11:20 TF102 COMPARATIVE ANALYSIS OF MATERIAL USE IN URBAN AND RURAL AREAS OF LATVIA:
FINANCIAL AND ENVIRONMENTAL EFFECTS OF BIM-DRIVEN CONSTRUCTION
Soroush Saneimoghaddam, Ineta Geipele, Antra Kundzina, Janis Zvirgzdins
Riga Technical University, Latvia
- 11:40 TF103 USING PUBLIC-PRIVATE PARTNERSHIPS TO MODERNIZE LATVIA'S INFRASTRUCTURE:
ACHIEVEMENTS AND TAKEAWAYS
Soroush Saneimoghaddam, Ineta Geipele, Antra Kundzina, Janis Zvirgzdins
Riga Technical University, Latvia
- 12:00 TF011 FACTORS INFLUENCING PROPERTY REUSE FOR AGE-FRIENDLY SOCIAL HOUSING
DEVELOPMENT: SYSTEMATIC REVIEW
Rashmi Jaymin-Sanchaniya, Jurgita Cerneckiene, Ineta Geipele, Antra Kundzina
Riga Technical University, Latvia; Kaunas University of Technology, Lithuania
- 12:20 TF129 ROLE OF INNOVATION SOURCES FOR EXTERNAL KNOWLEDGE ABSORPTION READINESS
FOR LATVIAN ENTERPRISES
Andris Ozols, Elina Gaile-Sarkane, Valdis Avotins
Riga Technical University, Latvia; Institute of Astronomy of University of Latvia, Latvia
- 12:40 TF005 SYNERGIZING POLICY, INNOVATION AND BUSINESS SUSTAINABILITY FOR GREENER,
EFFICIENT AND POLITICALLY ENGAGED RIGA AIRPORT ECOSYSTEM
Inese Abolina
University of Latvia, Latvia
- 13:00  **PHOTO, LUNCH**
- 14:20 TF083 REDUCING AIR RESISTANCE AND FUEL CONSUMPTION IN PASSENGER CAR-CARAVAN
COMBINATIONS USING ROOF SPOILER PROTOTYPES
Dainis Berjoza, Inara Jurgena, Janis Ozols
Latvia University of Life Sciences and Technologies, Latvia
- 14:40 TF058 OUTSOURCING OF LOGISTICS SERVICES AS STRATEGIC ADVANTAGE OF SUPPLY CHAIN
Oleg Zagurskiy, Liliya Savchenko, Oleksandr Domin, Viktoriia Opalko
National University of Life and Environmental Sciences of Ukraine, Ukraine
- 15:00 TF203 IDLE MOTION DURING PROPULSION OF WHEELCHAIRS WITH DRIVETRAIN SYSTEMS
EQUIPPED WITH TRANSMISSIONS
Lukasz Wargula, Mateusz Kukla
Poznan University of Technology, Poland
- 15:20 TF004 INVESTIGATION OF PNEUMATIC TIRE OPERATION UNDER LOAD
Ramiz Zaripov, Valeriy Yessaulkov, Pavels Gavriloys
Toraighyrov University, Kazakhstan; Riga Technical University, Latvia

15:40	TF174	INVESTIGATION IN INFLUENCE OF VEHICLE DRIVER SEATING POSITION ON VISIBILITY Jonas Matijosius, Rytis Zautra, Tomas Mickevicius <i>Kauno kolegija Higher Education Institution, Lithuania</i>
16:00		COFFEE BREAK
16:30	TF168	INFLUENCE OF OIL ADDITIVE ON ENGINE PERFORMANCE Tomas Mickevicius, Povilas Saulys <i>Kauno kolegija Higher Education Institution, Lithuania</i>
16:50	TF177	CHICKEN MANURE AS CLOSED-LOOP CIRCULAR ECONOMY PRODUCT OF POULTRY INDUSTRY Vjaceslavs Kocetkovs, Andra Zvirbule <i>Latvia University of Life Sciences and Technologies, Latvia</i>
17:10	TF145	IMPACT OF FIREFIGHTING VEHICLE TECHNICAL PARAMETERS ON FIREFIGHTING EFFICIENCY Viktorija Politika, Jelena Pundure, Vladimir Jemeljanov, Marina Jarvis <i>State Fire and Rescue Service, Latvia; Riga Technical University, Latvia; Tallinn University of Technology, Estonia</i>
17:30	TF232	ACCOUNTING OF EXTRACTED HARVESTING RESIDUES USING FORWARDER BOOM SCALES Agris Zimelis, Santa Kaleja, Jordane Champion <i>Latvian State Forest Research Institute "Silava", Latvia</i>
17:50	TF057	CADASTRAL ACCOUNTING OF LAND POLLUTED AS A RESULT OF MILITARY OPERATIONS IN UKRAINE Olha Tykhenko, Andrii Martyn, Ruslan Tykhenko, Ivan Openko <i>National University of Life and Environmental Sciences of Ukraine, Ukraine</i>
19:00		CONFERENCE DINNER

Friday, 23 May

8⁰⁰ – 8³⁰

Gathering at the faculty 5 J. Čakste blvd.

8³⁰ – 16³⁰

Excursion: TBA

Svēte Bread. The company bakes bread using original recipes. During the tour, we will explore the bread-making and baking process. Various types of bread and pastry products will be available for tasting during the tour.

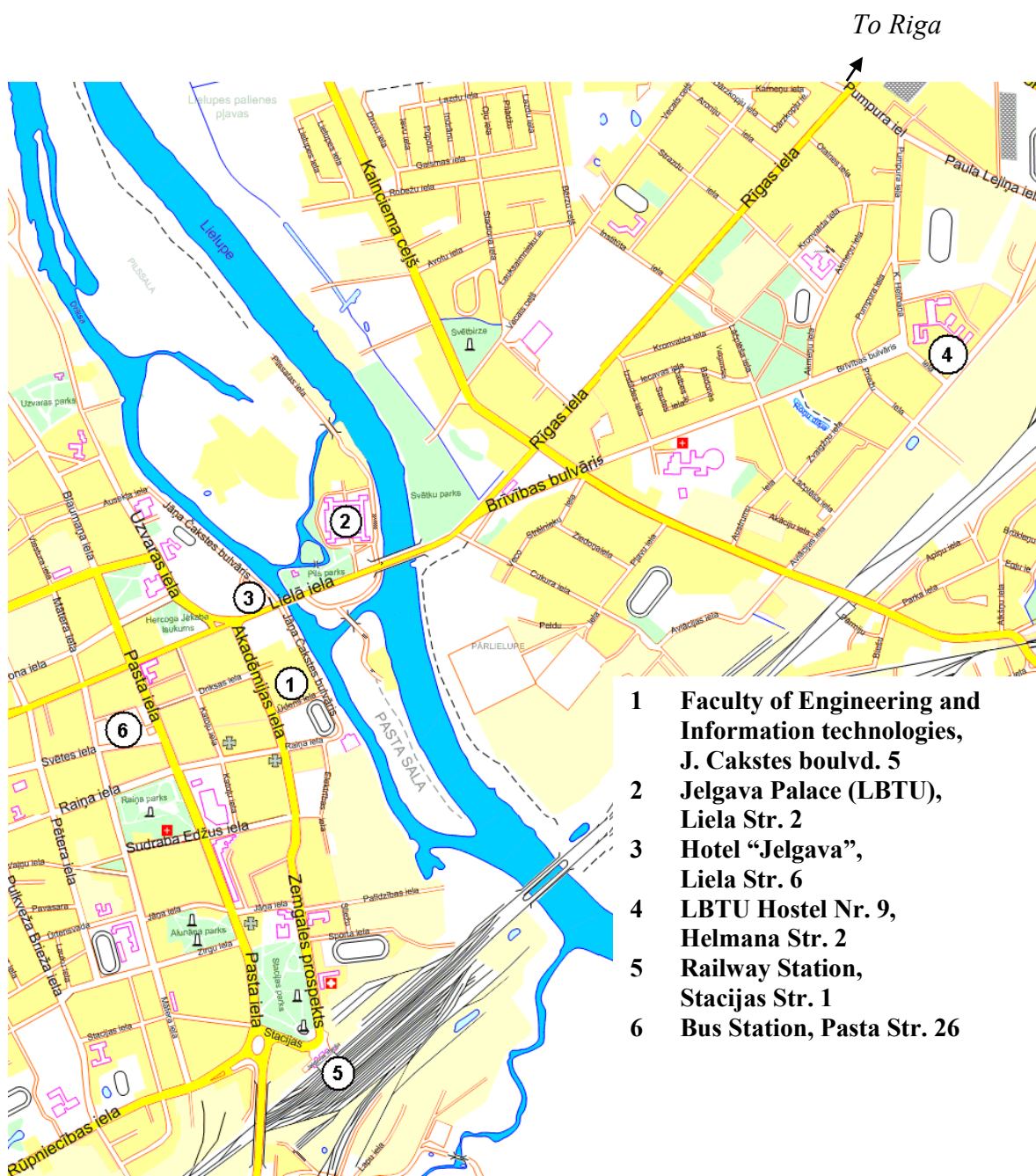


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“Viesu Līči” or “Farmer’s Feast”. An excursion to the rural tourism destination "Farmer's Feast." The owner of the business will share how the idea, born in 1998, developed into a company well known to many residents of Latvia. The tour includes an introduction to the leisure complex and enjoying a lunch meal.



Boat Trip with “Relax”. At the end of the excursion, we will take a boat trip with “Relax” around Castle and Post Islands. During the boat ride, we will also have the opportunity to see wild horses.



Address of the Conference Committee

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