

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



**25<sup>th</sup> International Scientific Conference**

# **ENGINEERING FOR RURAL DEVELOPMENT**

**PROGRAMME**



**Jelgava, Latvia, May 27-29, 2026**



**Wednesday, 27 May**

**16<sup>00</sup> – 17<sup>00</sup>** Registration of participants,  
Faculty of Engineering and Information Technologies, LBTU,  
5 J. Cakstes blvd., lobby

**Thursday, 28 May**

**9<sup>00</sup> – 10<sup>00</sup>** Registration of participants,  
Faculty of Engineering and Information Technologies, LBTU,  
5 J. Cakstes blvd., lobby

**10<sup>00</sup> – 10<sup>15</sup>** Plenary session,  
5 J. Cakstes blvd., Room 410  
Welcome speech  
**Gatis Vitols,**  
*Latvia University of Life Sciences and Technologies,*  
Vice-rector of science

**10<sup>15</sup> – 10<sup>45</sup>** Challenges in laser weeder design  
**Vitalijs Osadcuks,**  
*Latvia University of Life Sciences and Technologies*

Join Zoom Meeting  
Meeting ID: 951 2358 9784  
Passcode: aXKQ93GqC



<https://zoom.us/j/95123589784?pwd=IL8CgtT9ZMYmZ9lv2AC11zgvEo1V2a.1>

**11<sup>00</sup> – 13<sup>00</sup>** Work in sections  
**13<sup>00</sup> – 14<sup>20</sup>** Photo, Lunch, Liela str. 2, Jelgava palace  
**14<sup>20</sup> – 16<sup>00</sup>** Work in sections  
**16<sup>00</sup> – 16<sup>30</sup>** Coffee break  
5 J. Cakstes blvd., Room 212  
**16<sup>30</sup> – 18<sup>30</sup>** Work in sections  
**19<sup>00</sup>** Conference dinner  
5 J. Cakstes blvd., Room 212

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, 29 May**

**8<sup>30</sup> – 18<sup>00</sup>** Social tour



**WiFi**

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

**PROGRAMME COMMITTEE**

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Yang Zhang, University of Sheffield, United Kingdom

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## Abstracted and indexed (depending on volume)

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Conference homepage

ENGINEERING FOR RURAL DEVELOPMENT is available online at  
<https://erdev.lbtu.lv/>

## Organisations supporting conference

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Faculty of Engineering and Information Technologies



Latvian Academy of Agricultural and  
Forestry Sciences, Unit of Engineering  
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<http://llmza.lv/index.php/en/units/unit-of-engineering-sciences>

International Symposium on Hydrogen Energy,  
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<http://www.herem.org/>



# WEEDBOT



Weedbot - High precision laser weeding  
technology

<https://weedbot.eu/>

Nordic Association of Agricultural Science  
<https://nordicagriculture.eu/>



## Section 1: AGRICULTURAL MACHINERY

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

Join Zoom Meeting

<https://zoom.us/j/91082515004?pwd=XMFGBNWRWvx3uORyTmbWqInMFAbqOj.1>

Meeting ID: 910 8251 5004

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*Latvia University of Life Sciences and Technologies,  
Latvia*

Vice-chairman: Dr.sc.ing. **Volodymyr Bulgakov**  
*National University of Life and Environmental Sciences of Ukraine,  
Ukraine*



- 11:00 TF155 JUSTIFICATION OF SCHEME AND PARAMETERS OF PNEUMATIC WORKING BODY FOR PRECISE APPLICATION OF TECHNOLOGICAL MATERIALS IN CROP PRODUCTION  
**Martin Aller, Yevhen Ihnatiev, Tormi Lillerand, Juri Olt**  
*Estonian University of Life Sciences, Estonia; Dmytro Motornyi Tavria State Agrotechnological University, Ukraine*
- 11:20 TF065 DEVELOPMENT OF TRACTION CONTROL SYSTEM FOR ELECTRIC UNMANNED GROUND VEHICLE  
**Joonas Paales, Gregor Randla, Yevhen Ihnatiev, Tormi Lillerand, Juri Olt**  
*Estonian University of Life Sciences, Estonia; Dmytro Motornyi Tavria State Agrotechnological University, Ukraine*
- 11:40 TF103 ANALYSIS OF ROOT CROP SCREW GRINDER-MIXER PERFORMANCE  
**Viktor Baranovsky, Vitalii Pankiv, Roman Komar, Viktor Tesliuk, Viktor Makarov**  
*Ternopil Ivan Puluj National Technical University, Ukraine; National University of Life and Environmental Sciences of Ukraine, Ukraine*
- 12:00 TF104 EXPERIMENTAL STUDIES OF SPECIFIC POWER CONSUMPTION OF COMBINED SCREW CONVEYOR  
**Vitalii Pankiv, Viktor Baranovsky, Natalia Dubchak, Oleg Huryk, Andrii Pastushenko**  
*Ternopil Ivan Puluj National Technical University, Ukraine; Separate unit National University of Life Resources and Environmental Management of Ukraine "Berezhana Agrotechnical Institute", Ukraine*
- 12:20 TF106 RESEARCH ON PROCESS OF CLEANING TABLE BEET ROOT CROPS WITH SPIRAL CLEANER  
**Volodymyr Bulgakov, Ivan Holovach, Volodymyr Martyniuk, Oleksandra Trokhaniak, Dainis Viesturs, Adolfs Rucins, Juri Olt, Yevhen Ihnatiev**  
*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*
- 12:40 TF107 INVESTIGATION OF DEGREE OF DAMAGE TO TABLE BEET ROOTS DURING CLEANING WITH SPIRAL CLEANER  
**Volodymyr Bulgakov, Ivan Holovach, Volodymyr Martyniuk, Oleksandra Trokhaniak, Aivars Aboltins, Adolfs Rucins**  
*National University of Life and Environmental Sciences of Ukraine, Ukraine; Latvia University of Life Sciences and Technologies, Latvia*
- 13:00   PHOTO, LUNCH
- 14:20 TF108 STUDY OF DEVICE WITH FLEXIBLE SCREW CONVEYOR FOR REMOVING DAMAGED SOIL CLEARED FROM CRATER  
**Oleksandra Trokhaniak**  
*National University of Life and Environmental Sciences of Ukraine, Ukraine*

- 14:40 TF109 IMPROVEMENT OF MOVEMENT STABILITY OF TRACTOR-MACHINE UNIT DURING INTER-ROW CULTIVATION OF SUGAR BEET  
**Volodymyr Bulgakov, Aivars Aboltins, Adolfs Rucins, Viktor Antoshchenkov, Ivan Holovach, Oleksandra Trokhaniak, Juri Olt, Yevhen Ihnatiev, Nadia Khomyk, Roman Antoshchenkov, Vadym Yaremenko**  
*National University of Life and Environmental Sciences of Ukraine, Ukraine; Latvia University of Life Sciences and Technologies, Latvia; Kharkiv Petro Vasylenko National Technical University of Agriculture, Ukraine; Estonian University of Life Sciences, Estonia; Dmytro Motornyi Tavria State Agrotechnological University, Ukraine; Ternopil Ivan Puluj National Technical University, Ukraine; State Biotechnological University, Ukraine*
- 15:00 TF110 SYNTHESIS OF MACHINE-TRACTOR UNIT AUTOMATIC CONTROL SYSTEM FOR INTER-ROW CULTIVATION OF SUGAR BEET  
**Volodymyr Bulgakov, Aivars Aboltins, Adolfs Rucins, Roman Antoshchenkov, Viktor Kis, Ivan Holovach, Oleksandra Trokhaniak, Viktor Antoshchenkov, Oleh Chernysh, Yevhen Ihnatiev**  
*National University of Life and Environmental Sciences of Ukraine, Ukraine; Latvia University of Life Sciences and Technologies, Latvia; State Biotechnological University, Ukraine; Kharkiv Petro Vasylenko National Technical University of Agriculture, Ukraine; Estonian University of Life Sciences, Estonia; Dmytro Motornyi Tavria State Agrotechnological University, Ukraine*
- 15:20 TF112 STUDY ON EFFECTS OF MICROCLIMATIC PARAMETERS ON DEVELOPMENT AND PRODUCTIVITY OF INSECT CULTURES  
**Volodymyr Belchenko, Nonna Pishchanska, Aivars Aboltins, Adolfs Rucins, Igor Podmazko, Oksana Bulgakova, Andrii Pylypenko**  
*Engineering and Technological Institute "Biotekhnika" of NAAS, Ukraine; Latvia University of Life Sciences and Technologies, Latvia; National University of Life and Environmental Sciences of Ukraine, Ukraine*
- 15:40 TF113 TECHNICAL AND TECHNOLOGICAL SOLUTION FOR SMALL-SCALE PRODUCTION OF LIQUID MICROBIOLOGICAL RODENTICIDE IN FERMENTER  
**Igor Bepalov, Nina Pyliak, Aivars Aboltins, Adolfs Rucins, Raisa Vozhehova, Oksana Bulgakova, Maksym Porodko**  
*Engineering and Technological Institute "Biotekhnika" of NAAS, Ukraine; Latvia University of Life Sciences and Technologies, Latvia; Institute of Climate Smart Agriculture of the National Academy of Agrarian Sciences of Ukraine, Ukraine; National University of Life and Environmental Sciences of Ukraine, Ukraine; National Scientific Center "Institute of Agriculture" of the National Academy of Agrarian Sciences of Ukraine, Ukraine*
- 16:00  COFFEE BREAK
- 16:20 TF114 HARDWARE AND SOFTWARE SYSTEM FOR RECORDING BIOPREPARATION PRODUCTION PROCESS PARAMETERS  
**Dmytro Kovalchuk, Viktor Dorovskikh, Dainis Viesturs, Adolfs Rucins, Oksana Bulgakova, Margarita Stepanova, Oleh Zhurylo**  
*Engineering and Technological Institute "Biotekhnika" of NAAS, Ukraine; Latvia University of Life Sciences and Technologies, Latvia; National University of Life and Environmental Sciences of Ukraine, Ukraine; Institute of Climate Smart Agriculture of the National Academy of Agrarian Sciences of Ukraine, Ukraine; Kharkiv National University of Radio Electronics, Ukraine*
- 16:40 TF115 TECHNOLOGY FOR OBTAINING COMPLEX MICROBIAL PREPARATION FOR BIOLOGICAL PROTECTION OF PLANTS FROM PESTS AND DISEASES USING BIOREACTOR  
**Nina Pyliak, Vladislav Yaroshevsky, Mykola Tkachenko, Aivars Aboltins, Adolfs Rucins, Oksana Bulgakova, Oleksandra Trokhaniak, Hanna Tsyon**  
*Engineering and Technological Institute "Biotekhnika" of NAAS, Ukraine; National Scientific Center "Institute of Agriculture" of the National Academy of Agrarian Sciences of Ukraine, Ukraine; Latvia University of Life Sciences and Technologies, Latvia; National University of Life and Environmental Sciences of Ukraine, Ukraine; Ternopil Ivan Puluj National Technical University, Ukraine*
- 17:00 TF116 INVESTIGATION OF JET-LOOP BIOREACTOR JET AERATOR OPERATION MODES  
**Vladislav Yaroshevsky, Serhii Yasynskyi, Tetiana Osypenko, Volodymyr Bulgakov, Yevhenii Bakulin, Dainis Viesturs, Valentina Bakulina**  
*Engineering and Technological Institute "Biotekhnika" of NAAS, Ukraine; National University of Life and Environmental Sciences of Ukraine, Ukraine; Latvia University of Life Sciences and Technologies, Latvia*

- 17:20 TF117 BIOLOGIZED TECHNOLOGY ELEMENTS IN CONFECTIONERY SUNFLOWER: EFFECTIVENESS ASSESSMENT  
**Olga Onyshchenko, Ivan Semenenko, Yevheniia Holub, Iaroslav Gadzalo, Viktor Kaminskyi, Adolfs Rucins, Aivars Aboltins, Volodymyr Bulgakov**  
*Engineering and Technological Institute "Biotekhnika" of NAAS, Ukraine; National Academy of Agrarian Sciences of Ukraine, Ukraine; Latvia University of Life Sciences and Technologies, Latvia; National University of Life and Environmental Sciences of Ukraine, Ukraine*
- 17:40 TF118 STUDY OF FORCE PARAMETERS OF FLEXIBLE SCREW CONVEYOR DURING TRANSPORTATION OF EXCAVATED CONTAMINATED SOIL FROM CRATER CENTER  
**Oleksandra Trokhaniak, Myroslav Budzanivskyi, Volodymyr Martyniuk, Aivars Aboltins, Adolfs Rucins**  
*National University of Life and Environmental Sciences of Ukraine, Ukraine; Institute of Mechanics and Automatics of Agroindustrial Production of the National Academy of Agrarian Sciences of Ukraine, Ukraine; Latvia University of Life Sciences and Technologies, Latvia*
- 18:00 TF119 STUDY OF WORKING BODY FOR REMOVING DAMAGED SOIL LAYER INSIDE CRATER  
**Oleksandra Trokhaniak, Stanislav Kovalchuk**  
*National University of Life and Environmental Sciences of Ukraine, Ukraine*
- 18:20 TF192 OSCILLATIONS OF HEATING PLATFORM FOR 3D PRINTING OF AGRICULTURAL DRONE PARTS  
**Ivan Rogovskii, Viktor Krushelnytskyi, Maksym Dombrovskyi**  
*National University of Life and Environmental Sciences of Ukraine, Ukraine*
- 18:40 TF207 STUDY OF FINGER-TYPE SAFETY CLUTCH  
**Volodymyr Bulgakov, Aivars Aboltins, Adolfs Rucins, Dainis Viesturs, Olena Glazunova, Oleksandra Trokhaniak, Zinoviy Ruzhylo, Mykhailo Chernovol, Arlindo Almeida**  
*National University of Life and Environmental Sciences of Ukraine, Ukraine; Latvia University of Life Sciences and Technologies, Latvia; Central Ukrainian National Technical University, Ukraine; Polytechnic Institute of Braganca (ESAB/IPB), Mountain Research Center (CIMO), Portugal*
- 19:00 TF208 STUDY OF UNIT ENERGY PARAMETERS TILLING SOIL WITH HARROW USING SCREW WORKING BODIES  
**Volodymyr Bulgakov, Simone Pascuzzi, Dainis Viesturs, Adolfs Rucins, Olena Glazunova, Oleksandra Trokhaniak, Mariia Ruzhylo, Mykola Klendii, Mykhailo Chernovol**  
*National University of Life and Environmental Sciences of Ukraine, Ukraine; University of Bari Aldo Moro, Italy; Latvia University of Life Sciences and Technologies, Latvia; Separate unit National University of Life Resources and Environmental Management of Ukraine "Berezhana Agrotechnical Institute", Ukraine; Central Ukrainian National Technical University, Ukraine*

## Section 2: ENGINEERING TECHNOLOGIES

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

Join Zoom Meeting

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Meeting ID: 970 5761 9261

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*Latvia University of Life Sciences and Technologies,*  
*Latvia*

Vice-chairman: Dr.sc.ing. **Egle Jotautiene**  
*Vytautas Magnus University,*  
*Lithuania*



- 11:00 TF120 EVOLUTION OF POWER AND MASS IN SPECIALISED AGRICULTURAL TRACTORS: TREND ANALYSIS  
**Deepak Kumar Yadav, Tatevik Yezekyan, Alessia Cogato, Marco Sozzi, Francesco Marinello**  
*University of Padova, Italy*
- 11:20 TF121 CONSTRUCTION OF MODEL SERIES OF CARS, TRACTORS, AND SELF-PROPELLED CHASSIS USING CONDITIONAL ENTROPY  
**Mikhail Podryhalo, Nikolay Artiomov, Volodymyr Krasnokutskyi, Vitalii Shein**  
*Kharkiv National Automobile and Highway University, Ukraine; State Biotechnological University, Ukraine; National Technical University "Kharkiv Polytechnic Institute", Ukraine*
- 11:40 TF053 ENGINEERING AND TECHNOLOGICAL JUSTIFICATION FOR THE BIOTECHNOLOGICAL PRODUCTION OF A MYCOBIOLOGICAL PREPARATION  
**Viktor Tesliuk, Yulia Kolomiyets, Viktor Baranovsky, Raisa Kovbasenko**  
*National University of Life and Environmental Sciences of Ukraine, Ukraine; Ternopil Ivan Puluj National Technical University, Ukraine; Institute of Cell Biology and Genetic Engineering, Ukraine*
- 12:00 TF085 INTEGRATED MANAGEMENT OF RELIABILITY AND TECHNO-ECONOMIC EFFICIENCY OF VEHICLES BASED ON ENGINE AIR FILTER REPLACEMENT LOGISTICS  
**Andriy Novitskiy, Valentyna Melnyk, Zinoviy Ruzhylo, Oleksandr Bannyi, Yuriy Novitskiy**  
*National University of Life and Environmental Sciences of Ukraine, Ukraine*
- 12:20 TF153 RESEARCH OF INDICATORS OF HUMUS CONTENT IN SOILS OF POLTAVA REGION (UKRAINE) AND TECHNOLOGIES OF ITS RESTORATION AND INCREASE  
**Sergii Liashenko, Anton Kelemesh, Oleksii Burlaka, Andrii Lazorenko**  
*Poltava State Agrarian University, Ukraine*
- 12:40 TF177 CONTACT INTERACTION COEFFICIENT BETWEEN ROOT AND SCREW TURN  
**Maria Pankiv, Viktor Baranovsky, Natalia Dubchak, Valentin Potapenko, Vasyl Ramsh**  
*Ternopil Ivan Puluj National Technical University, Ukraine; Separate unit National University of Life Resources and Environmental Management of Ukraine "Berezhana Agrotechnical Institute", Ukraine*
- 13:00  *PHOTO, LUNCH*
- 14:20 TF031 EXPERIMENTAL STUDY OF PRECISION SEEDING METERING SYSTEM SEED FALL RATE  
**Egle Jotautiene, Davut Karayel, Hasan Yilmaz, Sigitas Petkevicius**  
*Vytautas Magnus University, Lithuania; Akdeniz University, Turkey*
- 14:40 TF034 GREEN COMPOSITE BASED ON RECYCLED RUBBER FOR TRACKED DRIVE OF MULTI-PURPOSE AGRICULTURAL ROBOTIC PLATFORM  
**Olena Nalobina, Mykola Holotiuk, Oleh Bundza, Artem Mykhailov**  
*National University of Water and Environmental Engineering, Ukraine*

- 15:00 TF079 MICROWAVE-ASSISTED FREEZE-DRYING: PHYSICAL LIMITATIONS AND PLASMA-AWARE SYSTEM ARCHITECTURE  
**Sergey Kravchenko, Natalia Kravchenko, Viktor Kravchenko, Nikolajs Kulesovs, Kristine Carjova, Daria Panova**  
*SIA "Cryogenic and vacuum systems", Latvia; vik.works UG, Germany; Tallinn University of Technology, Estonia*
- 15:20 TF090 NATURE-BASED MOSS BARRIERS FOR URBAN NOISE ABSORPTION: IMPEDANCE TUBE ASSESSMENT OF BOREAL MOSS SPECIES  
**Juta Karklina, Edgars Karklins**  
*Latvia University of Life Sciences and Technologies, Latvia*
- 15:40 TF160 FROM TECHNICAL SPECIFICATIONS TO OPERATIONAL ALIGNMENT: FIREFIGHTING VEHICLE PLANNING IN RURAL AREAS  
**Viktorija Politika, Andrejs Sisovs, Jelena Pundure, Tatjana Tambovceva**  
*Riga Technical University, Latvia*
- 16:00  COFFEE BREAK
- 16:20 TF173 SURVIVAL SKILLS IN EVENT OF NATURAL DISASTER  
**Uldis Karlsons, Dace Brizga**  
*Latvia University of Life Sciences and Technologies, Latvia*
- 16:40 TF227 DEVELOPMENT AND TESTING OF SELF-CLEANING SAND RETENTION SCREENS FOR HIGH-TEMPERATURE WELLS  
**Gulzada Umirova, Aidar Kuttybayev, Mars Narbaev, Irzabek Tovassarov**  
*Kazakh National Research Technical University named after K.I. Satpayev, Kazakhstan*
- 17:00 TF195 SOME INDICATORS OF MILKING ROBOT EFFICIENCY: CASE STUDY ON POLISH FARM WITH ONE-STALL AMS  
**Marek Gaworski, Slawomir Maciejak**  
*Warsaw University of Life Sciences, Poland*
- 17:20 TF210 RESEARCH ON WEED DESTRUCTION MECHANIZED PROCESS BY FLAME CULTIVATION OF VEGETABLE AND ROW CROPS IN ORGANIC FARMING  
**Valerii Adamchuk, Igor Savchenko, Petro Rykhliivskiy, Aivars Aboltins, Adolfs Rucins**  
*Institute of Mechanics and Automatics of Agroindustrial Production of the National Academy of Agrarian Sciences of Ukraine, Ukraine; Latvia University of Life Sciences and Technologies, Latvia*
- 17:40 TF213 CFD MODELLING OF NEW DESIGNED HEAT EXCHANGER  
**Viktor Trokhaniak, Dainis Viesturs, Adolfs Rucins, Yevhenii Bakulin, Oleksandr Synyavskiy, Larysa Kolomyets, Valentina Bakulina**  
*National University of Life and Environmental Sciences of Ukraine, Ukraine; Latvia University of Life Sciences and Technologies, Latvia; National Scientific Center "Institute of Agriculture" of the National Academy of Agrarian Sciences of Ukraine, Ukraine*
- 18:00 TF209 USAGE OF MICROBIAL FUNGICIDAL PREPARATIONS IN APPLE ORCHARDS AND THEIR EFFECT ON FRUIT STORAGE UNDER REFRIGERATION CONDITIONS  
**Nina Pyliak, Olena Nikipelova, Antonina Barabash, Oksana Bulgakova, Aivars Aboltins, Adolfs Rucins, Anatoliy Zaryshnyak, Anatoliy Bondarchuk**  
*Engineering and Technological Institute "Biotekhnika" of NAAS, Ukraine; National University of Life and Environmental Sciences of Ukraine, Ukraine; Latvia University of Life Sciences and Technologies, Latvia; National Academy of Agrarian Sciences of Ukraine, Ukraine; National Scientific Center "Institute of Agriculture" of the National Academy of Agrarian Sciences of Ukraine, Ukraine*
- 18:20 TF226 SIMULATION AND EXPERIMENTAL EVALUATION OF EROSION WEAR OF ANTI-SAND FILTERS AT HIGH FLOW VELOCITIES AND PRESENCE OF FINE SAND  
**Gulzada Umirova, Zaira Matayeva, Oleksandr Kamyshatskiy, Zhanel Aubakirova**  
*Kazakh National Research Technical University named after K.I. Satpayev, Kazakhstan; Dnipro University of Technology, Ukraine*
- 18:40 TF048 ASSESSMENT OF OPERATIONAL RELIABILITY OF MIXER-FEEDER MACHINES UNDER CONDITIONS OF LIVESTOCK ENTERPRISES  
**Andriy Novitskiy, Ivan Holovach, Oleksandr Bannyi, Yuriy Novitskiy**  
*National University of Life and Environmental Sciences of Ukraine, Ukraine*
- 19:00  CONFERENCE DINNER

## Section 3: CONTROL SYSTEMS AND ENGINEERING ECONOMICS

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

Join Zoom Meeting

<https://zoom.us/j/91029106403?pwd=hzXYmMlxcyxrK3LTD5jkMJGiZqLVbl.1>

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*Latvia University of Life Sciences and Technologies,*  
*Latvia*

Vice-chairman: Dr.oec. **Ilze Balode**,  
*Riga Stradins University,*  
*Latvia*



- 11:00 TF142 EARLY-STAGE TESTING OF MINERAL-BASED SORBENT PROTOTYPE SYSTEMS FOR PHOSPHORUS CAPTURE IN EUTROPHIC LAKES OF LATVIA AND ESTONIA  
**Dagnija Grabuza, Ruta Ozola-Davidane, Linda Grinberga, Kersti Kangro, Krista Alikas, Mirjam Uusoue**  
*Latvia University of Life Sciences and Technologies, Latvia; University of Tartu, Estonia*
- 11:20 TF076 ARCHITECTURE OF DISTRIBUTED DIAGNOSTIC SYSTEM FOR AGRICULTURAL PROCESSING EQUIPMENT: CASE STUDY OF FREEZE-DRYING SYSTEMS  
**Sergey Kravchenko, Natalia Kravchenko, Viktor Kravchenko, Nikolajs Kulesovs, Kristine Carjova, Daria Panova**  
*SIA "Cryogenic and vacuum systems", Latvia; vik.works UG, Germany; Tallinn University of Technology, Estonia*
- 11:40 TF081 OPERATIONAL ROBUSTNESS ASSESSMENT OF DISTRIBUTED MONITORING SYSTEMS APPLIED TO FREEZE-DRYING EQUIPMENT  
**Sergey Kravchenko, Natalia Kravchenko, Nikolajs Kulesovs, Kristine Carjova, Daria Panova**  
*SIA "Cryogenic and vacuum systems", Latvia; Tallinn University of Technology, Estonia*
- 12:00 TF078 EXPERIMENTAL VALIDATION OF LOG-BASED DIAGNOSTIC METHODS FOR FREEZE-DRYING EQUIPMENT USING DISTRIBUTED LABORATORY TEST PLATFORM  
**Sergey Kravchenko, Natalia Kravchenko, Nikolajs Kulesovs, Kristine Carjova, Daria Panova**  
*SIA "Cryogenic and vacuum systems", Latvia; Tallinn University of Technology, Estonia*
- 12:20 TF091 HIQCES: UNIFIED QUANTUM COGNITIVE ARCHITECTURE FOR EXPLAINABLE, OPTIMIZED RURAL ENGINEERING DECISION SUPPORT  
**Muhammad Aamir Mahmood**  
*Virtual University of Pakistan, Pakistan*
- 12:40 TF168 PREDICTIVE ANGULAR POSITION CONTROL USING EVENT-TIME ESTIMATION AND LATERALLY POLARIZED PERMANENT MAGNET  
**Uldis Zaimis, Edgars Skruodis**  
*Riga Technical University Liepaja Academy, Latvia; Vidzeme University of Applied Sciences, Latvia*
- 13:00  *PHOTO, LUNCH*
- 14:20 TF220 SYNERGY: HIERARCHICAL PREDICTIVE CONTROL FRAMEWORK FOR SUSTAINABLE BIO-INDUSTRIAL SYSTEMS  
**Muhammad Aamir Mahmood**  
*Virtual University of Pakistan, Pakistan*
- 14:40 TF229 DEVELOPMENT OF REAL-TIME FORECASTING METHODOLOGY FOR DRILLING FLUID PROPERTY CHANGES BASED ON SURFACE SENSOR DATA  
**Samal Muratova, Volodymyr Khomenko, Oleksandr Pashchenko, Kuanysh Tavasarov**  
*Kazakh National Research Technical University named after K.I. Satpayev, Kazakhstan; Dnipro University of Technology, Ukraine*

- 15:00 TF233 AGRO-CPS: INTEGRATED CYBER-PHYSICAL FRAMEWORK FOR MULTI-AGENT SMART AGRICULTURE WITH SAFETY AND CARBON OPTIMIZATION  
**Muhammad Aamir Mahmood, Abdul Waqas**  
*Virtual University of Pakistan, Pakistan; Latvia University of Life Sciences and Technologies, Latvia*
- 15:20 TF017 ENGINEERING-ECONOMIC ASSESSMENT OF UKRAINE DIGITAL LAND CADASTRE: QUANTIFYING ADDED VALUE FROM GEODATA ACROSS AGRICULTURE, ENERGY AND TRANSPORT PROJECTS  
**Andrii Martyn, Liudmyla Hunko, Nataliia Medynska, Anatolii Poltavets, Liudmyla Kolosa**  
*National University of Life and Environmental Sciences of Ukraine, Ukraine*
- 15:40 TF029 INVESTIGATION OF AGRICULTURAL LAND MARKET IN UKRAINE  
**Olha Tykhenko, Andrii Martyn, Oleksandr Shevchenko, Ruslan Tykhenko, Ivan Openko, Andrii Snyieutskyi**  
*National University of Life and Environmental Sciences of Ukraine, Ukraine*
- 16:00  COFFEE BREAK
- 16:20 TF156 REAL ESTATE DEVELOPMENT STRATEGY IN EMERGING REGIONAL CITIES: DATA-DRIVEN FRAMEWORK FOR INFRASTRUCTURE AND SUSTAINABILITY PLANNING  
**Rashmi Jaymin-Sanchaniya, Ganesalingam Kireksi Romenath, Nikunj Niranjanbhai Pandya, Antra Kundzina, Janis Vanags**  
*Riga Technical University, Latvia; Maharaja Sayajirao University of Baroda, India*
- 16:40 TF075 PRODUCTIVITY OF COKE AND REFINED PETROLEUM USE IN AGRICULTURE, FORESTRY AND FISHING INDUSTRIES IN THE BALTIC STATES AND FINLAND  
**Ilze Balode, Andrejs Jaunzems**  
*Riga Stradins University, Latvia; Ventspils University of Applied Sciences, Latvia*
- 17:00 TF172 COMPARATIVE ANALYSIS OF TECHNOLOGY TRANSFER EFFICIENCY IN AGRI-FOOD SECTORS OF EUROPEAN COUNTRIES  
**Aleksejs Hilkevics**  
*Ventspils University of Applied Sciences, Latvia*
- 17:20 TF174 IMPLEMENTATION PROFILE OF SOLAR ENERGY SOLUTIONS THROUGH EU FUNDED ENERGY PROJECTS  
**Eliza Elza Lipsane, Gunita Mazure**  
*Latvia University of Life Sciences and Technologies, Latvia*
- 17:40 TF187 HOW FAST DEVELOPMENT AND ADOPTION OF DIGITIZED PROCESSES ALLOW MANUFACTURING COMPANIES TO MANAGE COMPLEXITY: BIBLIOMETRIC NETWORK ANALYSIS  
**Florian Zill, Inese Mavlutova**  
*BA School of Business and Finance of the University of Latvia, Latvia*
- 18:00 TF217 TECHNO-ECONOMIC ASSESSMENT OF PV-PEM INTEGRATION FOR KURZEME COASTAL REGION  
**Andris Backurs, Leo Jansons, Aigars Laizans, Sanda Lapuke**  
*Latvia University of Life Sciences and Technologies, Latvia; Riga Technical University, Latvia*
- 18:20 TF158 ECONOMIC DETERMINANTS OF URBAN HOUSING AFFORDABILITY: COST-BENEFIT ANALYSIS OF CONSTRUCTION AND FINANCING FACTORS  
**Rashmi Jaymin-Sanchaniya, Vihanga Akushla De Silva Weligodage, Nikunj Niranjanbhai Pandya, Antra Kundzina, Janis Vanags**  
*Riga Technical University, Latvia; Maharaja Sayajirao University of Baroda, India*
- 19:00  CONFERENCE DINNER

## Section 4: MATERIAL SCIENCE AND FUELS

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5 J.Cakstes blvd., **Room 410**,

Join Zoom Meeting

<https://zoom.us/j/94627357142?pwd=eE4bhor4rAwZsh6OZBSIqHYVew4dwq.1>

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*Latvia University of Life Sciences and Technologies,*  
*Latvia*

Vice-chairman: Dr.hab.ing. **Mirosław Rucki**  
*Casimir Pulaski Radom University,*  
*Poland*



- 11:00 TF063 ASSESSMENT OF NOX EMISSION CHARACTERISTICS OF E85-FUELLED VEHICLE WITH IMPLICATIONS FOR RURAL TRANSPORT SYSTEMS  
**Edward Kozłowski, Piotr Laskowski, Magdalena Zimakowska-Laskowska, Piotr Wisniewski, Andrzej Swiderski**  
*Lublin University of Technology, Poland; Warsaw University of Technology, Poland; Motor Transport Institute, Poland; Environment Protection Centre, Motor Transport Institute, Poland*
- 11:20 TF157 IMPACT OF HYDROGEN INJECTION ON PERFORMANCE AND EMISSIONS OF TRACTOR DIESEL ENGINE OPERATING ON HVO  
**Karlis Amatnieks, Ruslans Smigins, Gunars Krikseuns, Aivars Birkavs**  
*Latvia University of Life Sciences and Technologies, Latvia; VTUA, Latvia*
- 11:40 TF165 COST-EFFECTIVE DUAL-FUEL COMBUSTION STRATEGY COMBINING LPG WITH PROTECTIVE INTAKE WATER INJECTION  
**Uldis Zaimis, Alberto Bonomi, Armands Jurjevs**  
*Riga Technical University Liepaja Academy, Latvia; SIA "ABLabs", Latvia*
- 12:00 TF070 IMPACT OF RECLAIMED WASTEWATER FILTER CAKE MATERIAL ON RHEOLOGY AND COMPRESSIVE STRENGTH OF CONCRETE MADE WITH CEM II AND CEM III BINDERS  
**Ernest Ozolins, Arturs Macanovskis, Nikola Sinica, Maris Tupesis**  
*SIA "Dzelzsbetons MB", Latvia; SIA "Betona petijumu centrs", Latvia*
- 12:20 TF126 UNDERSTANDING GREENWASHING AND CONSUMER TRUST IN HUNGARIAN CONTEXT  
**Andras Szeberenyi, Agnes Furesz, Imre Matyas Kovacs**  
*Szent Istvan University, Hungary; Hungarian University of Agriculture and Life Sciences, Hungary*
- 12:40 TF129 MODULAR BOILER HOUSE FOR DISTRIBUTED BIOMASS AND RDF CO-INCINERATION  
**Dmitrijs Rusovs, Sandis Gromovs, Janis Meikulans**  
*Riga Technical University, Latvia; SIA "EcoHeat Technologies", Latvia*
- 13:00  *PHOTO, LUNCH*
- 14:20 TF183 EFFECT OF WHEAT STRAW AND PEAT ADDITIVES ON MECHANICAL STRENGTH OF POULTRY MANURE GRANULES  
**Imants Plume, Aleksandrs Adamovics, Aivars Kakitis, Lauris Plume**  
*Latvia University of Life Sciences and Technologies, Latvia*
- 14:40 TF042 ENHANCEMENT OF C<sub>DIAMOND</sub>-(WC-Co)-CrB<sub>2</sub>-ZrO<sub>2</sub> COMPOSITE WITH ALUMINA NANOPOWDER  
**Boranbay Ratov, Volodymyr Mechnik, Edvin Hevorkian, Mirosław Rucki**  
*Kazakh National Research Technical University named after K.I. Satpayev, Kazakhstan; V.Bakul Institute for Superhard Materials NAS, Ukraine; University of Life Sciences in Lublin, Poland; Casimir Pulaski Radom University, Poland*
- 15:00 TF044 IMPROVEMENT OF REACTION TO FIRE PERFORMANCE FOR WOOD RIBBON PANELS MADE OF ASPEN OR THERMALLY MODIFIED ASPEN WOOD LAMELLAS  
**Edgars Buksans, Kristaps Grinbergs**  
*Forest and Wood Products Research and Development Institute, Latvia; SIA "4PLUS", Latvia*

- 15:20 TF058 INFLUENCE OF EXTERNAL DEFECTS ON MECHANICAL PROPERTIES OF BIMETALLIC CASTINGS AND CAST-WELDED BIMETALLIC CONSTRUCTIONS  
**Yevhenii Aftandiliants, Svyatoslav Gnyloskurenko, Iulia Kvasnytska, Kateryna Kvasnytska, Volodymyr Noha**  
*Physico-technological Institute of Metals and Alloys, Ukraine; National University of Life and Environmental Sciences of Ukraine, Ukraine*
- 15:40 TF069 IMPACT OF INCORPORATING GRAPHENE NANOPATELET DISPERSIONS ON STRENGTH DEVELOPMENT OF LOW-CARBON CEMENTITIOUS MATRICES  
**Ernests Ozolins, Arturs Macanovskis, Nikola Sinica, Maris Tupesis**  
*SIA "Dzelzsbetons MB", Latvia; SIA "Betona petijumu centrs", Latvia*
- 16:00  COFFEE BREAK
- 16:20 TF144 EFFECT OF PINE WOOD MOISTURE CONTENT ON COATING ADHESION AND PROCESS STABILITY UNDER UV-LED AND UV MERCURY CURING  
**Arturs Dzenis, Ainars Uzuls, Vilnis Jakovlevs, Uldis Spulle**  
*Latvia University of Life Sciences and Technologies, Latvia; SIA "Kokparstrade 98", Latvia; Latvia University of Life Sciences and Technologies Malnava College, Latvia; Institute of Civil Engineering and Woodworking, Latvia*
- 16:40 TF150 MECHANICAL AND THERMAL PROPERTIES OF RECYCLED HIGH-DENSITY POLYETHYLENE: EXPERIMENTAL INVESTIGATION  
**Harikrishnan Krishnan Muraleedharan, Vishnu Vijayan, Abhaydev Kavalackal Prasad, Jaymin Vrajlal Sanchaniya**  
*Riga Technical University, Latvia; Kaunas University of Technology, Lithuania*
- 17:00 TF152 EFFECT OF BUILD ORIENTATION ANGLE ON MECHANICAL PROPERTIES AND FRACTURE BEHAVIOUR OF FDM 3D PRINTED PLA  
**Harikrishnan Krishnan Muraleedharan, Anandhu Aravind, Vishnu Vijayan, Jaymin Vrajlal Sanchaniya**  
*Riga Technical University, Latvia; Kaunas University of Technology, Lithuania*
- 17:20 TF154 FUNCTIONALLY GRADED INFILL FOR ENHANCED FLEXURAL PERFORMANCE IN 3D-PRINTED PLA  
**Vishnu Vijayan, Abhishek Kottapadikkal Pradeep, Harikrishnan Krishnan Muraleedharan, Jaymin Vrajlal Sanchaniya**  
*Riga Technical University, Latvia; Kaunas University of Technology, Lithuania*
- 17:40 TF139 DEVELOPMENT OF DATA-SUPPORTED METHODOLOGY FOR CREATING DIGITAL CO<sub>2</sub> EMISSION CALCULATOR TO PROMOTE BEHAVIOURAL CHANGES IN PUBLIC TRANSPORT PASSENGERS  
**Adolfs Rucins, Dainis Viesturs, Aivars Aboltins, Ikars Melnalksnis, Pavel Semenchuk, Artem Slobolinskyi**  
*Latvia University of Life Sciences and Technologies, Latvia; SIA "Xperience", Latvia*
- 18:00 TF037 INVESTIGATION OF EFFECTS OF OIL ADDITIVE IN INTERNAL COMBUSTION ENGINE  
**Tomas Mickevicius, Rytis Zautra, Povilas Saulys**  
*Kauno kolegija Higher Education Institution, Lithuania*
- 18:20 TF140 A COMPARISON OF DIESEL ENGINE CAR PERFORMANCE USING H<sub>2</sub>O-CH TECHNOLOGY  
**Gints Birzietis, Vilnis Pirs, Dainis Berjoza**  
*Latvia University of Life Sciences and Technologies, Latvia*
- 19:00  CONFERENCE DINNER

## Section 5: ENERGY AND TRANSPORT

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5 J.Cakstes blvd., **Room 247**,

Join Zoom Meeting

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*Latvia University of Life Sciences and Technologies,*  
*Latvia*

Vice-chairman: Dr.sc.ing. **Jaroslav Senko**  
*Warsaw University of Technology,*  
*Poland*



- 11:00 TF216 PORTFOLIO-STRUCTURED SEGMENTATION AND FORECAST-GUIDED TARGETING OF DAYTIME-COMMERCIAL SMES ELECTRIC ENERGY USAGE PATTERNS  
**Aigars Laizans, Andris Backurs, Martins Tisenkopfs, Nikita Roldugins**  
*Latvia University of Life Sciences and Technologies, Latvia; SIA "TET", Latvia*
- 11:20 TF105 RESEARCH ON WEAR VARIATION OF BRAKE PADS AND DISCS OF ROMANIAN DACIA LOGAN CARS  
**Gheorghe Voicu, Cristina Apetrei, Paula Tudor, Gabriel-Alexandru Constantin, Gabriel Musuroi, Sorin-Dan Iordache, Marina-Teodora Dudau**  
*National University of Science and Technology Politehnica of Bucharest, Romania; George Bibescu Technological High School Craiova, Romania; DMT Teodora Distribution SRL, Romania*
- 11:40 TF008 ACTIVATED THERMAL DECOMPOSITION OF BIOMASS MIXTURES BY MICROWAVE PRETREATMENT OF COMPONENTS  
**Raimonds Valdmanis, Maija Zake**  
*Institute of Physics, University of Latvia, Latvia*
- 12:00 TF009 ASSESSMENT OF ELECTRICITY STORAGE OPTIONS FOR INTEGRATING RENEWABLE ENERGY IN RURAL KAZAKHSTAN  
**Vladislav Zavadskiy, Gita Revalde**  
*UNEP CCC TNA Kazakhstan National Energy Expert, Denmark; Riga Technical University, Latvia*
- 12:20 TF083 DYNAMICS OF ENERGY WOOD QUALITY DURING LONG-TERM STORAGE IN WOOD PILES IN LATVIA  
**Agris Zimelis, Santa Kaleja, Jordane Champion**  
*Latvian State Forest Research Institute "Silava", Latvia*
- 12:40 TF093 PRODUCTIVITY AND FUEL CONSUMPTION ANALYSIS OF PONSSE FORWARDERS BASED ON DATA ACCUMULATED UNDER PRODUCTION CONDITIONS  
**Aigars Strubergs, Nikolass Jaunzems, Agris Zimelis**  
*Latvia University of Life Sciences and Technologies, Latvia; Latvian State Forest Research Institute "Silava", Latvia*
- 13:00  *PHOTO, LUNCH*
- 14:20 TF163 DOUBLE ROTATION WIND TURBINE  
**Adrian PANDELE, Bogdan Ovidiu DURAN, Dragos Mihail PREDA, Gheorghe Voicu**  
*National University of Science and Technology Politehnica of Bucharest, Romania; ARROW SRL, Romania; ROLIX IMPEX SERIES SRL, Romania*
- 14:40 TF219 EXPERIMENTAL INVESTIGATION OF ACCELERATION PERFORMANCE OF LOW-POWER TWO-WHEELED ELECTRIC VEHICLES  
**Dainis Berjoza, Inara Jurgena, Janis Laceklis-Bertmanis**  
*Latvia University of Life Sciences and Technologies, Latvia*

- 15:00 TF225 HIERARCHICAL PHYSICS INFORMED GRAPH META REINFORCEMENT LEARNING FOR RESILIENT HYBRID ENERGY GRID OPTIMIZATION SYSTEMS  
**Ahmad Raza Khan, Muhammad Aamir Mahmood, Hafiz Ayyaz Ahmed**  
*Latvia University of Life Sciences and Technologies, Latvia; Virtual University of Pakistan, Pakistan; Islamia University of Bahawalpur, Pakistan*
- 15:20 TF018 STRATEGIES FOR OPTIMIZING SINGLE-CHANNEL MASS SERVICE SYSTEM WITH NON-STATIONARY INPUT FLOW  
**Oleg Zagurskiy, Liliya Savchenko, Oleksandr Domin, Maksym Odnorog**  
*National University of Life and Environmental Sciences of Ukraine, Ukraine; Bila Tserkva National Agrarian University, Ukraine*
- 15:40 TF019 IMPLEMENTATION OF DIGITAL TWIN OF LOGISTICS SUPPLY CHAIN BASED ON ANT-LOGISTICS FOR ASSESSING RESILIENCE TO PEAK LOADS  
**Liliya Savchenko, Oleg Zagurskiy, Viktoriia Opalko, Daria Lemishko**  
*National University of Life and Environmental Sciences of Ukraine, Ukraine*
- 16:00 ☕ COFFEE BREAK
- 16:20 TF030 ASSESSMENT OF TRANSPORT PROCESS QUALITY IN CONTEXT OF LOGISTICS DIGITALIZATION  
**Oleg Zagurskiy, Liliya Savchenko, Viktoriia Opalko, Sergii Bondariiev**  
*National University of Life and Environmental Sciences of Ukraine, Ukraine*
- 16:40 TF052 IMPACT OF SIMPLIFIED ELECTRONIC CYLINDER DEACTIVATION ON SPECIFIC FUEL CONSUMPTION OF SPARK-IGNITION ENGINE  
**Vadims Serguns, Maris Gailis**  
*Riga Technical University, Latvia; European University of Technology, European Union*
- 17:00 TF077 ROAD SAFETY OF SENIORS IN LATVIA  
**Nadezda Kilupe, Gundars Zalcmanis, Juris Kreicbergs**  
*Riga Technical University, Latvia; Road Traffic Safety Directorate, Latvia*
- 17:20 TF088 INDICATOR-BASED METHOD FOR EVALUATING RURAL TRANSPORT ACCESSIBILITY  
**Inguna Jurgelane-Kaldava, Viktorija Tabakurska**  
*Riga Technical University, Latvia*
- 17:40 TF180 USING AI TOOLS TO MODEL PASSENGER FLOW IN PUBLIC TRANSPORT  
**Jaroslav Senko, Mikolaj Szyca, Przemyslaw Rumianek, Maciej Jurewicz**  
*Warsaw University of Technology, Poland; Warsaw University of Life Sciences, Poland*
- 18:00 TF002 SELECTING LOCATION FOR SOLAR POWER PLANTS USING GIS TECHNOLOGIES: EXAMPLE OF SKIRSNEMUNE ELDERSHIP  
**Ruta Puziene**  
*Vilnius Gediminas Technical University, Lithuania*
- 18:20 TF092 SCENARIO-BASED INUNDATION RISK ANALYSIS OF POTENTIAL SHIP LOCK GATE FAILURE AT KAUNAS HYDROPOWER PLANT  
**Robertas Snapkauskiene, Egidijus Kasiulis, Linas Jurevicius**  
*Vytautas Magnus University, Lithuania; Lietuvos Inžinerijos Kolegija, Higher Education Institution, Lithuania*
- 19:00 🍷 CONFERENCE DINNER

## Section 6: MODELING AND SIMULATION

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

Join Zoom Meeting

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Chairman: Dr.sc.ing. **Aivars Aboltins**,  
*Latvia University of Life Sciences and Technologies,*  
*Latvia*

Vice-chairman: Dr.mat. **Svetlana Atslega**  
*Latvia University of Life Sciences and Technologies, Institute*  
*of Mathematics and Computer Science, University of Latvia,*  
*Latvia*



- 11:00 TF221 AGRI-OMNI: MULTI-SCALE, VALIDATED COMPUTATIONAL FRAMEWORK FOR INTEGRATED AGRICULTURAL SYSTEMS ENGINEERING  
**Muhammad Aamir Mahmood**  
*Virtual University of Pakistan, Pakistan*
- 11:20 TF025 SIMULATIONS OF PIEZOELECTRIC ENERGY HARVESTING SYSTEM FOR DIESEL ENGINE  
**Jacek Caban, Jakub Skoczylas, Mateusz Waskowicz, Petr Jilek**  
*Lublin University of Technology, Poland; University of Pardubice, Czech Republic*
- 11:40 TF224 INTELLIGENT IUDGO FOR ADAPTIVE CITY-SCALE SIMULATION: INTEGRATING DYNAMIC CAPABILITIES, COMPLEX ADAPTIVE SYSTEMS AND INSTITUTIONAL THEORY  
**Abdul Waqas, Gatis Vitols, Muhammad Aamir Mahmood**  
*Latvia University of Life Sciences and Technologies, Latvia; Virtual University of Pakistan, Pakistan*
- 12:00 TF189 APPLICATION OF ARTIFICIAL INTELLIGENCE FOR DETECTION OF LAND PLOTS  
**Olena Glazunova, Ihor Bolbot, Volodymyr Kravchenko, Roman Rudenskyi, Oleksii Tsyganov**  
*National University of Life and Environmental Sciences of Ukraine, Ukraine*
- 12:20 TF099 MODELLING OF ENERGY WOOD FLOWS IN COUNTRIES WITH ABUNDANT FOREST RESOURCES AND EXPORT-ORIENTED FOREST INDUSTRIES  
**Igors Krasavcevs, Astra Auzina-Emsina**  
*Latvian State Forest Research Institute "Silava", Latvia; Riga Technical University, Latvia*
- 12:40 TF100 QUALITATIVE ANALYSIS AND CHAOTIC DYNAMICS OF NONLINEAR THREE-DIMENSIONAL SYSTEM  
**Anna Levicka, Inna Samuilik**  
*Riga Technical University, Latvia; Daugavpils University, Latvia*
- 13:00  *PHOTO, LUNCH*
- 14:20 TF125 MODELLING AGRICULTURAL COMPETITIVENESS SENSITIVITY TO FACTOR PRICE FLUCTUATIONS IN THE EU  
**Astra Auzina-Emsina, Alberts Auzins, Armands Veveris, Andris Lismanis**  
*Riga Technical University, Latvia; Institute of Agricultural Resources and Economics, Latvia; Edo Consult, Ltd., Latvia*
- 14:40 TF145 ON MODELLING AND SIMULATION OF BUOYANCY-DRIVEN BALLOONS WITH EVOLVING ENVELOPES  
**Uldis Strautins, Maksims Marinaki, Vanesa Vevere**  
*Institute of Mathematics and Computer Science, University of Latvia, Latvia*
- 15:00 TF151 DESIGN AND EXPERIMENTAL VALIDATION OF FLUTED ROLLER FOR FERTILISER METERING SYSTEM  
**Gregor Randla, Yevhen Ihnatiev, Tormi Lillerand, Juri Olt**  
*Estonian University of Life Sciences, Estonia; Dmytro Motornyi Tavria State Agrotechnological University, Ukraine*

- 15:20 TF169 MATHEMATICAL MODELING OF TEXTILE ABRASION IN MARTINDALE TEST  
**Rolands Breza, Uldis Strautins**  
*University of Latvia, Latvia; Institute of Mathematics and Computer Science, University of Latvia, Latvia*
- 15:40 TF228 INFLUENCE OF THERMO-CYCLIC LOADS AND ABRASIVE WEAR ON DURABILITY OF PDC CUTTERS IN HIGH-TEMPERATURE WELLS  
**Boranbay Ratov, Oleksandr Pashchenko, Arailym Zhanggirkhanova, Nursulu Tovbasarova**  
*Kazakh National Research Technical University named after K.I. Satpayev, Kazakhstan; Dnipro University of Technology, Ukraine*
- 16:00  COFFEE BREAK
- 16:20 TF176 ENERGY APPROACH TO STUDY ON DUFFING EQUATION  
**Svetlana Atslega, Marija Dobkevich, Felix Sadyrbaev**  
*Latvia University of Life Sciences and Technologies, Latvia; Institute of Mathematics and Computer Science, University of Latvia, Latvia; Riga Technical University, Latvia; Daugavpils University, Latvia*
- 16:40 TF179 MODELING STABILITY OF ZIEGLER COLUMN WITH CONSIDERATION OF DRY FRICTION  
**Sebastian Krakowiak, Radoslaw Nowak, Jaroslaw Senko**  
*Warsaw University of Technology, Poland*
- 17:00 TF043 PROBLEMS OF USING PLANAR FINITE ELEMENTS (THIN PLATE THEORY) AND THEIR ENGINEERING SOLUTION IN THE ANALYSIS OF REINFORCED CONCRETE SLABS  
**Taliat Azizov, Nataliia Sribniak, Liudmyla Tsyhanenko, Dmytro Volkov**  
*Sumy National Agrarian University, Ukraine*
- 17:20 TF045 STEEL STRUCTURAL SOLUTION FOR EFFICIENT ROOF SYSTEM  
**Nataliia Sribniak, Liudmyla Tsyhanenko, Hennadii Tsyhanenko, Valerii Lutskovskyi, Serhii Halushka, Oleksandr Dranyk**  
*Sumy National Agrarian University, Ukraine*
- 17:40 TF178 AERODYNAMIC ANALYSIS OF FORMULA STUDENT FRONT WING USING CFD  
**Abbas Abasov, Nikoloz Kapanadze, Svetlana Sokolova**  
*Riga Technical University, Latvia; Politecnico di Torino, Italy*
- 18:00 TF230 COMPARATIVE ANALYSIS OF RHEOLOGICAL MODELS FOR WATER-BASED DRILLING FLUIDS BASED ON VISCOMETRIC MEASUREMENTS  
**Samal Muratova, Volodymyr Khomenko, Yersain Jalgassov, Nursulu Tovbasarova**  
*Kazakh National Research Technical University named after K.I. Satpayev, Kazakhstan; Dnipro University of Technology, Ukraine; Yessenov University, Kazakhstan*
- 18:20 TF215 TRIBOLOGICAL ANALYSES OF COMPOSITE MULTILAYER COATINGS APPLIED FOR MOLDS IN TIRE PRODUCTION  
**Jan Novotny, Stefan Michna**  
*J. E. Purkyne University in Usti nad Labem, Czech Republic*
- 19:00  CONFERENCE DINNER

5 J.Cakstes blvd., **Room 212**,

- TF004 OPTIMIZATION OF SHAPE STABILITY OF HEMP FOOTWEAR TEXTILES THROUGH CONSTRUCTIVE AND TECHNOLOGICAL SOLUTIONS  
**Halyna Boiko, Svitlana Yaheliuk, Nina Merezhko, Tetyana Holovenko**  
*Kherson National Technical University, Ukraine; Lutsk National Technical University, Ukraine; State University of Trade and Economics, Ukraine*
- TF005 TIN MODELING OF CURRENT EARTHWORK VOLUMES DURING EXCAVATION PIT CONSTRUCTION FOR DEFENCE PROTECTIVE STRUCTURE  
**Ivan Openko, Olesia Huretska, Oleg Tsvyakh, Oleksandr Shevchenko, Ruslan Tykhenko, Nataliia Kolesnik, Viktoriia Paschenko**  
*National University of Life and Environmental Sciences of Ukraine, Ukraine; Bogomolets National Medical University, Ukraine*
- TF006 COMPREHENSIVE SCIENTIFIC RESEARCH ON NEW VARIETIES OF INDUSTRIAL HEMP FOR MANUFACTURE OF HIGH-QUALITY INDUSTRIAL PRODUCTS  
**Tetyana Holovenko, Halyna Boiko, Oleksandr Shovkomyd, Vitalii Pavlenko, Yurii Berezovskyi**  
*Lutsk National Technical University, Ukraine; Kherson National Technical University, Ukraine; Kyiv National University of Construction and Architecture, Ukraine*
- TF007 APPLICATION OF A SIMPLIFIED MODEL FOR ANALYSING AIRFLOW INTERACTION WITH BODIES OF VARIOUS SHAPES  
**Vitalijs Beresnevich, Janis Viba, Maris Eiduks, Martins Irbe, Edgars Kovals, Shравan Koundinya Vutukuru**  
*Riga Technical University, Latvia; Vel Tech Rangarajan Dr Sagunthalla R and D Institute of Science and Technology, India*
- TF010 INTEGRATED MANAGEMENT OF CONSTRUCTION WASTE USING BIM-BASED VISUAL MODELING  
**Mohamed H. Shaban, Hassan Mohammad Ali**  
*Homs University, Syria*
- TF012 SUBSTANTIATION OF STRIP TILLAGE AFTER CORN HARVESTING BASED ON POST-HARVEST RESIDUE CHARACTERISTICS  
**Serhii Yermakov, Mykola Korchak, Taras Hutsol, Oleksandr Hovorov, Serhiy Oleksiyko**  
*Kamyanskyi Podilskyi Instrument Applied College of Construction, Architecture and Design, Ukraine; Podillia State University, Ukraine; Odesa State Agrarian University, Ukraine; Khotyn Vocational College of Higher educational institution Podillia State University, Ukraine*
- TF013 MICROSTRUCTURAL ANALYSIS AND IMAGE-BASED EVALUATION OF TEMPERATURE-INDUCED TRANSFORMATIONS IN BIOMASS DURING TORREFACTION  
**Serhii Yermakov, Julia Galchynska, Pavlo Fedirko, Zoya Pustova, Oleksii Sikora**  
*Podillia State University, Ukraine; Kamyanskyi Podilskyi Instrument Applied College of Construction, Architecture and Design, Ukraine*
- TF014 UAV-BASED AUTOMATIC ASSESSMENT OF FLAX FIBER PRODUCTION POTENTIAL USING STEM LENGTH ESTIMATION AND MACHINE LEARNING  
**Olexandr Yaheliuk, Oleksii Prykhodko**  
*Lutsk National Technical University, Ukraine*
- TF022 ASSESSMENT OF OCCUPATIONAL RISKS OF MECHANIZED PROCESSES FOR CHEMICAL PROTECTION OF PLANTS  
**Oleksandr Voinalovych, Vasyl Tymochko, Ivan Horodetskyi, Olena Visyn**  
*National University of Life and Environmental Sciences of Ukraine, Ukraine; Stepan Gzhytskyi National University of Veterinary Medicine and Biotechnologies, Ukraine; Lutsk National Technical University, Ukraine*
- TF024 STUDY OF TANGENTIAL STICKINESS FORCE OF MIXTURES BASED ON ORGANIC SAPROPEL  
**Igor Tsiz, Serhiy Khomych, Tetiana Tsyz, Valentyn Holii**  
*Lutsk National Technical University, Ukraine*

- TF027 COMPREHENSIVE APPROACH TO POLYETHYLENE WASTE RECYCLING  
**Vladyslav Sokol, Bohdan Korinenko, Tetiana Tkachenko, Vitalii Yevdokymenko**  
*V.P. Kukhar Institute of Bioorganic Chemistry and Petrochemistry of NAS of Ukraine, Ukraine*
- TF035 INFLUENCE OF HEAT CARRIER VELOCITY ON DRYING KINETICS OF CAPILLARY-POROUS MATERIALS UNDER COMBINED CONVECTIVE AND DIRECT ELECTRIC HEATING  
**Oleksandr Savoiskyi, Viktor Sirenko, Oleksandr Solarov, Viktor Kozin, Oleksandr Tatsenko**  
*Sumy National Agrarian University, Ukraine*
- TF036 PREDICTING DURABILITY OF GREEN CONCRETE USING INTEGRATED MATHEMATICAL MODELING AND BUILDING INFORMATION MODELING (BIM) WITHIN SUSTAINABLE CONSTRUCTION FRAMEWORK  
**Moustafa Ali Wassouf**  
*Syrian Virtual University, Syria*
- TF041 DESIGN OF CLAMPING DEVICE STRUCTURE AS PART OF SEMI-AUTOMATIC PROCESSES OF MOBILE WORKING MACHINE  
**Miroslav Blatnický, Jan Dizo, Ivana Domanikova, Patrik Slusnak**  
*University of Zilina, Slovakia*
- TF046 PATTERNS OF SOIL BULK DENSITY CHANGES RESULTING FROM REPEATED IMPACT OF MACHINE-AND-TRACTOR UNIT RUNNING GEAR  
**Victor Melnyk, Oleksandr Solarov, Oleksandr Savoiskyi, Oleksandr Tatsenko, Vitalii Kolodnenko**  
*Sumy National Agrarian University, Ukraine*
- TF049 COMBINING SENSITIVITY ANALYSIS AND NON-PARAMETRIC STATISTICS TO ASSESS FARM-LEVEL GHG EMISSION DRIVERS  
**Katrina Muizniece, Inga Grinfelde, Jovita Pilecka-Ulcugaceva**  
*Latvia University of Life Sciences and Technologies, Latvia; Lietuvos Inžinerijos Kolegija, Higher Education Institution, Lithuania*
- TF050 EVALUATING EFFICIENCY OF SMART ACOUSTIC SYSTEM FOR PROTECTION OF APPLE ORCHARDS AGAINST PESTS  
**Augustina Pruteanu, Alexandru Ionescu, Gheorghe Stroescu**  
*National Institute of Research-Development for Machines and Installations Designed to Agriculture and Food Industry, Romania*
- TF051 IMPROVING EFFICIENCY OF GRAIN COMPONENT PREPARATION FOR CATTLE FEEDING  
**Vasyl Khmelovskiy, Victor Rebenko, Svitlana Potapova, Oleg Zabolotko**  
*National University of Life and Environmental Sciences of Ukraine, Ukraine*
- TF060 MODELLING AND ANALYSIS OF ENERGY-EFFICIENT HEAT TRANSFER PROCESSES IN NON-LINEAR STRUCTURED FLUIDS OF GROUND HEAT EXCHANGERS IN HEAT PUMP HEATING SYSTEMS OF INDOOR SPORTS FACILITIES  
**Yurii Chovniuk, Anna Moskvitina, Serhii Rybachov, Petro Zynych**  
*Kyiv National University of Construction and Architecture, Ukraine*
- TF061 RESEARCH INTO NON-STATIONARY HEAT TRANSFER PROCESSES FOR HYPERBOLIC TRANSFER MODELS IN GROUND HEAT EXCHANGERS INCREASING ENERGY EFFICIENCY OF HEAT PUMP HEATING SYSTEMS IN SPORTS BUILDINGS  
**Yurii Chovniuk, Anna Moskvitina, Serhii Rybachov, Petro Zynych**  
*Kyiv National University of Construction and Architecture, Ukraine*
- TF064 DETERMINING EFFECT OF GROWING CONDITIONS ON HEMP SEED PROPERTIES  
**Viktor Sheichenko, Dmytro Petrachenko, Denys Sheichenko, Oleksandr Shapoval**  
*Poltava State Agrarian University, Ukraine; Separate Structural Unit of the Hlukhiv Agrotechnical Vocational College of Sumy National Agrarian University, Ukraine*
- TF068 RADIATIVE WATER-COOLING SYSTEM UTILIZING DEEP SPACE RADIATION ENERGY AT NIGHT  
**Andriy Redko, Oleksandr Redko, Ihor Redko, Yurii Burda**  
*Sumy National Agrarian University, Ukraine; O.M. Beketov National University of Urban Economy in Kharkiv, Ukraine; Ukrainian State University of Railway Transport, Ukraine*
- TF071 ASSESSMENT OF SUITABILITY OF FLAX PULP FOR PRODUCTION OF FOOD PACKAGING PAPER  
**Svitlana Yaheliuk, Vladislav Chasnikov, Vasylyna Shemet**  
*Lutsk National Technical University, Ukraine*

- TF072 EXAMINATION OF REGIONAL CONNECTIONS BETWEEN SMART TRANSPORT SAFETY SYSTEMS  
**Jozsef Kaposzta, Tibor Csonka, Balazs Lorinc**  
*Hungarian University of Agriculture and Life Sciences, Hungary*
- TF082 MODERNIZATION OF RAW MATERIAL FEEDING MECHANISM INTO IMPACT BRIQUETTE PRESS  
**Oleksandr Yeremenko, Oleksandr Voinalovych, Vasyl Khmelovskiy, Sergiy Subota, Tetyana Vozniuk, Tetyana Zubok**  
*National University of Life and Environmental Sciences of Ukraine, Ukraine; Institute of Mechanics and Automatics of Agroindustrial Production of the National Academy of Agrarian Sciences of Ukraine, Ukraine*
- TF087 QUANTITATIVE FORECASTING APPROACH TO IDENTIFY WORKFORCE GAPS IN ENERGY SECTOR  
**Rimants Jelinks, Una Libkovska**  
*Ventspils University of Applied Sciences, Latvia*
- TF089 CHARACTERISTICS OF BIOCHAR FROM MISCANTHUS STEMS OBTAINED AT DIFFERENT PROCESS PARAMETERS  
**Nicoleta Vanghele, Valentin Vladut, Andreea Matache, Ana-Maria Tabarasu**  
*National Institute of Research-Development for Machines and Installations Designed to Agriculture and Food Industry, Romania; Polytechnical University of Bucharest, Romania*
- TF094 LIDAR DECISION SUPPORT TOOL FOR FOREST DRAINAGE MAINTENANCE  
**Raitis Normunds Melniks, Janis Ivanovs, Andis Lazdins**  
*Latvian State Forest Research Institute "Silava", Latvia*
- TF095 MODELLING DISSOLVED ORGANIC CARBON (DOC) EXPORT FOR GREENHOUSE GAS (GHG) ACCOUNTING IN DRAINED ORGANIC FOREST SOILS  
**Raitis Normunds Melniks, Arta Bardule, Andis Lazdins**  
*Latvian State Forest Research Institute "Silava", Latvia*
- TF096 EFFECT OF DEEP FURROWING ON METHANE FLUXES IN NON-DRAINED PEATLAND FOREST CLEARCUTS  
**Dana Purvina, Arta Bardule, Zaiga Anna Zvaigzne, Andis Lazdins**  
*Latvian State Forest Research Institute "Silava", Latvia*
- TF097 CASE STUDY ON GHG FLUX CONTRASTS BETWEEN NON-DRAINED AND DRAINED PEATLAND FORESTS BEFORE AND AFTER REGENERATIVE FELLING  
**Iloņa Skranda, Aldis Butlers, Arta Bardule, Andis Lazdins**  
*Latvian State Forest Research Institute "Silava", Latvia*
- TF098 COMPARISON OF GREENHOUSE GAS (GHG) EMISSIONS FROM FORWARDING RUTS IN CLEARCUTS IN ORGANIC AND MINERAL SOILS  
**Raitis Normunds Melniks, Zaiga Anna Zvaigzne, Arta Bardule, Martins Vanags Duka, Andis Lazdins**  
*Latvian State Forest Research Institute "Silava", Latvia*
- TF102 EVALUATING SONOCHEMICAL POTENTIAL FOR PFAS MITIGATION IN DIFFUSE AGRICULTURAL SYSTEMS  
**Jana Grave, Inga Grinfelde, Jovita Pilecka-Ulcugaceva**  
*Latvia University of Life Sciences and Technologies, Latvia; Lietuvos Inžinerijos Kolegija, Higher Education Institution, Lithuania*
- TF123 ADAPTIVE MULTI-BAND LORA-BASED SYSTEM FOR DATA TRANSMISSION IN CIVIL DEFENCE MONITORING AND ALERTING  
**Rodions Saltanovs, Alexey Shevchenko, Janis Usanse**  
*Riga Nordic University, Latvia; SIA "RS DYNAMICS", Latvia; SIA "Strive", Latvia*
- TF124 AI GOVERNANCE FOR SAFE RURAL AUTOMATION: GLOBAL SURVEY OF LITERACY, OVERSIGHT AND REGISTRATION PRACTICES  
**Ayoola Rilwan Lawal, Tarmo Koppel, Romans Putans**  
*University of Latvia, Latvia; Tallinn University of Technology, Estonia*
- TF130 ROUTE-LEVEL TECHNO-ECONOMIC ASSESSMENT OF ALTERNATIVE FUELS FOR SHORT-SEA SHIPPING UNDER EU EMISSIONS TRADING SYSTEM  
**Georgi Hrenov, Merle Kuettim, Helery Tasane, Wolfgang Gerstlberger**  
*Tallinn University of Technology, Estonia*

- TF132 PARTIAL POWER CONVERTERS IN MOBILE MODULAR ROBOT POWER SUPPLY SYSTEM  
**Rodions Saltanovs, Alexey Shevchenko**  
*Riga Nordic University, Latvia; SIA "RS DYNAMICS", Latvia*
- TF136 THEORETICAL STUDY OF ENERGY-EFFICIENT STRAW DRYING BASED ON SENSIBLE HEAT RECOVERY FROM POST-PRESSED BRIQUETTES  
**Yuriy Semirnenko, Svetlana Semirnenko, Oleksandr Savoiskyi, Oleksandr Sarzhanov**  
*Sumy National Agrarian University, Ukraine*
- TF137 JUSTIFICATION OF COMPONENT COMPOSITION OF SOLID COMPOSITE BIOFUEL BASED ON SEWAGE SLUDGE AND CEREAL STRAW  
**Viacheslav Bratishko, Vasyl Khmelovskiy, Victor Rebenko, Oksana Achkevych, Stanislav Kostiuk**  
*National University of Life and Environmental Sciences of Ukraine, Ukraine*
- TF141 ENSURING AFFORDABLE AND CLEAN ENERGY: DRIVERS OF SUSTAINABLE DEVELOPMENT AND RESILIENCE WITHIN THE EUROPEAN UNION  
**Balazs Lorinc, Tibor Csonka, Jozsef Kaposzta**  
*Hungarian University of Agriculture and Life Sciences, Hungary*
- TF143 ANALYSIS OF VENTILATION POSITIONING INFLUENCE ON COOLING EFFICIENCY OF PROTECTIVE CLOTHING  
**Sanjay-Rajni Vejanand, Alexander Janushevskis**  
*Riga Technical University, Latvia*
- TF147 NUMERICAL STUDY AND ANALYSIS OF COMPOSITE STRUCTURES WITH GRADED FOAM  
**Andrejs Kovalovs, Pavel Akishin, Vanesa Dhalivala, Ugis Cabulis**  
*Riga Technical University, Latvia; Latvian State Institute of Wood Chemistry, Latvia*
- TF149 IMPACT DAMAGE INFLUENCE ON VIBRATION CHARACTERISTICS OF WOVEN COMPOSITES  
**Pavel Akishin, Andrejs Kovalovs, Oleh Derkach**  
*Riga Technical University, Latvia; G.S. Pisarenko Institute for Problems of Strength, National Academy of Sciences, Ukraine*
- TF161 LOCAL RIVER WATER BASIN GOVERNANCE MONITORING DEVELOPMENTS IN LATVIA: TOWARDS STAKEHOLDER'S CO-MANAGEMENT  
**Arturs Skute, Raimonds Ernsteins, Toms Bringulis**  
*Daugavpils University, Latvia; University of Latvia, Latvia*
- TF181 METHODOLOGY FOR TESTING BIOLOGICAL CONTAMINATION OF CABIN FILTERS AT TEST STATION SIMULATING PASSENGER CAR VENTILATION  
**Agnieszka Jurkowska, Ewa Karwowska, Szymon Dowkontt, Jaroslaw Senko**  
*Warsaw University of Technology, Poland*
- TF185 STUDY OF INFLUENCE OF FINGER WORKING ELEMENT CONFIGURATION ON PROCESS OF CAPTURING STEM MATERIAL  
**Oleksandr Yeremenko, Mykola Volokha, Mykola Tolstushko, Olena Turitsyna, Ievgen Antypov, Svitlana Tarasenko**  
*National University of Life and Environmental Sciences of Ukraine, Ukraine; Igor Sikorsky Kyiv Polytechnic Institute, Ukraine; Lutsk National Technical University, Ukraine*
- TF188 IMPACT OF FRACTAL PARAMETERS OF POWDER-BED PACKING ON PART QUALITY AND PROCESS PERFORMANCE IN SLS PRINTING OF MECHANICAL ENGINEERING COMPONENTS  
**Serhii Pustiulha, Volodymyr Samchuk, Yuliia Bondarchuk, Mykola Tolstushko, Nataliya Tolstushko, Ihor Holovachuk**  
*Lutsk National Technical University, Ukraine*
- TF191 INTEGRATED ENGINEERING-ECONOMIC APPROACH TO MODELING AIR LOGISTICS EFFICIENCY IN RURAL REGIONS  
**Igor Kryvovyazyuk, Serhii Smerichevskiy, Svitlana Korobka, Iryna Kaminska, Nataliya Tolstushko, Mykola Tolstushko**  
*Lutsk National Technical University, Ukraine; State University Kyiv Aviation Institute, Ukraine; Stepan Gzhytskyi National University of Veterinary Medicine and Biotechnologies, Ukraine*

- TF194 INVESTIGATION OF HEAT AND MASS EXCHANGE PROCESSES OF HELIUM DRYER OPERATION BY ANALYTICAL METHOD AND USING CFD ANALYSIS IN SOLIDWORKS FLOW SIMULATION ENVIRONMENT  
**Serhiy Korobka, Mykola Tolstushko, Igor Stukalets, Viktor Sheichenko, Igor Kryvovyazyuk, Nataliya Tolstushko**  
*Lviv National Environmental University, Ukraine; Lutsk National Technical University, Ukraine; Poltava State Agrarian University, Ukraine*
- TF196 ADAPTIVE CONTROL OF TECHNOLOGICAL MACHINE MODES TAKING INTO ACCOUNT CHARACTERISTICS OF RAW MATERIALS AND ENVIRONMENT  
**Viktor Sheichenko, Oleksii Hizzatullin, Mykola Tolstushko, Misha Shevchuk, Yurii Fedorus, Larysa Pylypiuk**  
*Poltava State Agrarian University, Ukraine; Lutsk National Technical University, Ukraine; Uman National University of Horticulture, Ukraine*
- TF199 STUDY OF FLAT MOVEMENT OF FLATTENING ROLLERS ALONG HEMP STEMS  
**Viktor Sheichenko, Igor Dudnikov, Yuliia Skoriak, Mykola Tolstushko, Vitaliy Shevchuk, Larysa Pylypiuk**  
*Poltava State Agrarian University, Ukraine; Lutsk National Technical University, Ukraine; Uman National University of Horticulture, Ukraine*
- TF205 INFLUENCE OF FRICTION IN JOINTS ON FORCE CHARACTERISTICS OF SCISSOR ROLLING BRIDGE JACK  
**Yurii Bulik, Vasyl Pavliuk, Mykola Tolstushko, Nataliya Tolstushko**  
*Lutsk National Technical University, Ukraine*
- TF206 DETERMINATION OF AVERAGE DIAMETER AND TAPER OF FLAX STEM  
**Serhii Yukhymchuk, Svitlana Yukhymchuk, Mykola Tolstushko, Leonid Datsiuk, Victor Tarasiuk**  
*Lutsk National Technical University, Ukraine*
- TF232 DEVELOPMENT TREND OF AGRICULTURAL DRONES BASED ON PATENT RESEARCH  
**Juri Olt, Olga Liivapuu, Yevhen Ihnatiev**  
*Estonian University of Life Sciences, Estonia; Estonian Aviation Academy, Estonia; Dmytro Motornyi Tavria State Agrotechnological University, Ukraine*
- TF234 STUDY OF GRANULAR FERTILISER DOSING UNIFORMITY USING IMPROVED ROLLER DESIGNS BASED ON DEM MODELLING  
**Erik Sven Paertin, Olga Liivapuu, Yevhen Ihnatiev, Juri Olt**  
*Estonian University of Life Sciences, Estonia; Estonian Aviation Academy, Estonia; Dmytro Motornyi Tavria State Agrotechnological University, Ukraine*

***Friday, 29 May***

**8<sup>00</sup> – 8<sup>30</sup>** Gathering at the faculty **5 J. Cakste blvd. [S/F]**

**8<sup>30</sup> – 16<sup>30</sup>** Excursion

**Jelgava Caramel Workshop [1]**

During the excursion to the Jelgava Caramel Workshop, visitors will be able to learn about the caramel-making process and participate in making caramels themselves. The delicious caramels are made from natural and pure ingredients.



**Laflora Energy Wind Farm [2]**

The Laflora Energy Wind Farm will be able to generate approximately 5% of Latvia’s required energy annually (around 350 GWh planned). Peat extraction in the Kaigu Bog will come to an end in the coming years, making it important to plan the future economic use of the area. The wind farm consists of 16 wind turbines with a total capacity of 108 MW. The height to the highest point of the blade reaches 266 m. Construction costs amount to EUR 185 million. The opening of the wind farm is planned for July 2026.

**“Lāči” Bread [3]**

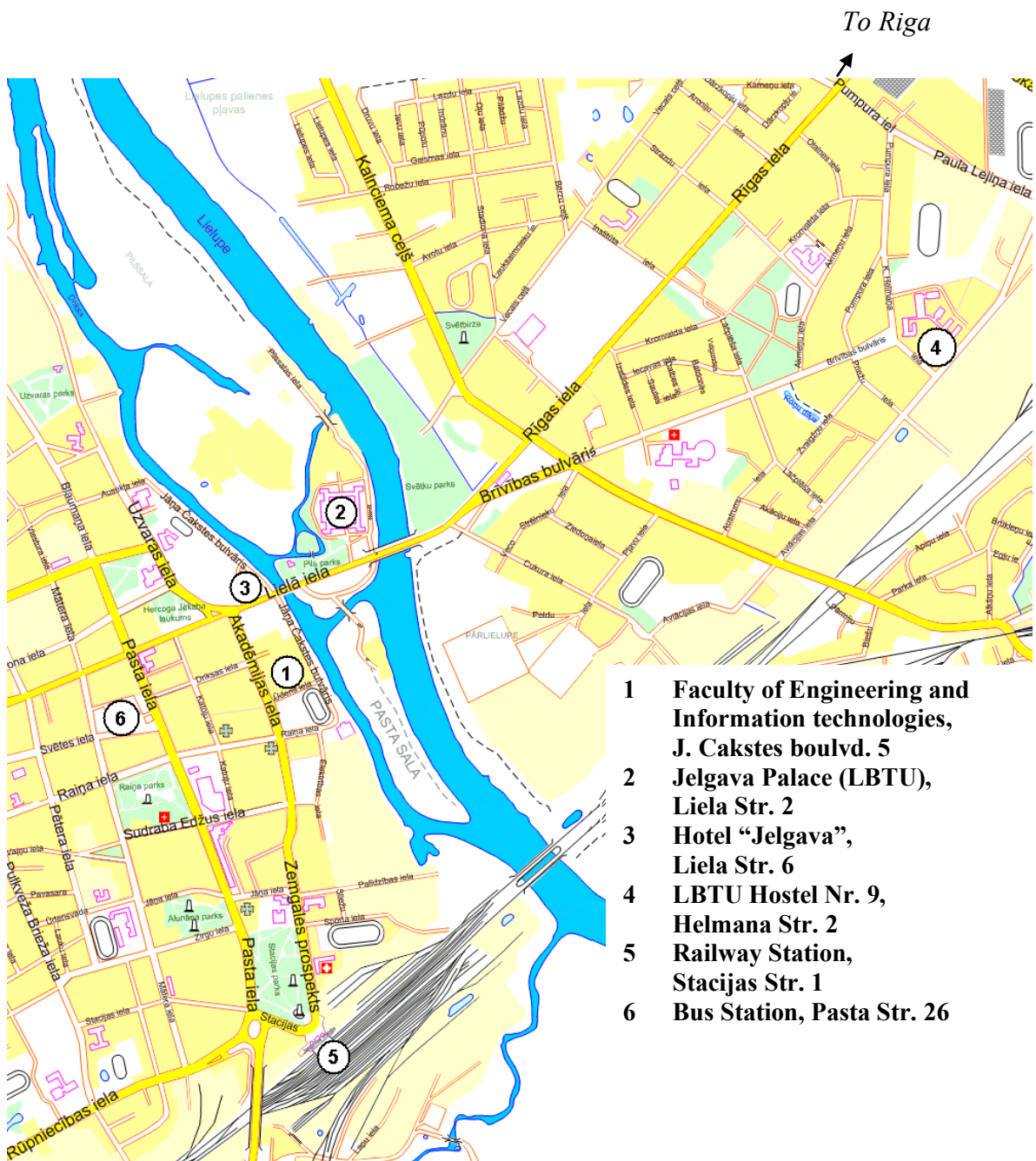
During the excursion, we will learn about the bread-making process. At “Lāči”, the dough is fermented in traditional wooden troughs, kneaded by hand, and each loaf is shaped by hand. The bread at “Lāči” is baked in a real wood-fired oven. The firewood is arranged in such a way that every loaf is evenly warmed and its crust lovingly baked to perfection.











*Address of the Conference Committee*

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