

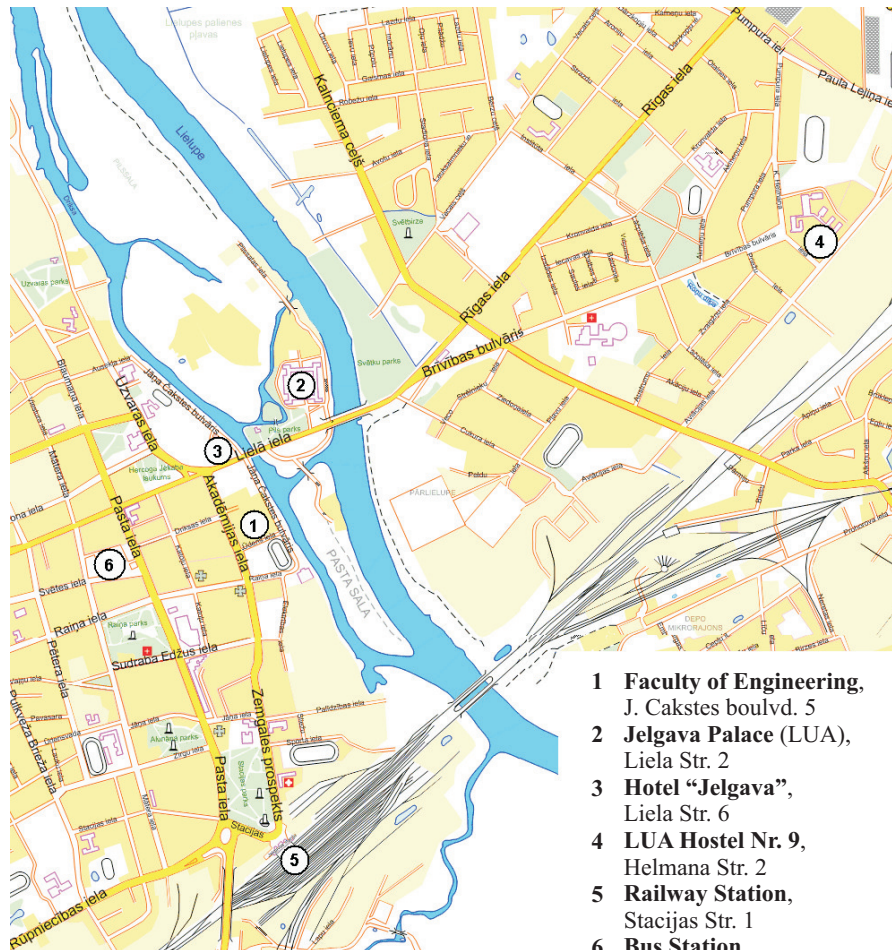
Latvia University of Life Sciences and Technologies
Faculty of Engineering
Latvian Academy of Agricultural and Forestry Sciences



18th International Scientific Conference

ENGINEERING FOR RURAL DEVELOPMENT

PROGRAMME



- 1 Faculty of Engineering,
J. Cakstes boulevd. 5
- 2 Jelgava Palace (LUA),
Liela Str. 2
- 3 Hotel "Jelgava",
Liela Str. 6
- 4 LUA Hostel Nr. 9,
Helmana Str. 2
- 5 Railway Station,
Stacijas Str. 1
- 6 Bus Station,
Pasta Str. 26



Jelgava, Latvia, May 22 – 24, 2019

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

**18th International Scientific Conference
ENGINEERING FOR RURAL
DEVELOPMENT
PROGRAMME**

Jelgava, Latvia, May 22 – 24, 2019

Program Committee, Organising Committee

PROGRAM COMMITTEE

- Chairman:** Aivars Aboltins, *Latvia University of Life Sciences and Technologies, Latvia*
- Members:** Valeriy Adamchuk, *National Academy of Agrarian Science of Ukraine (NAASU), Ukraine*
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Nikolai Morozov, *All-Russia Scientific-Research Institute of Life-stock Farming Mechanization, Russia*
Agris Nikitenko, *Riga Technical University, Latvia*
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Vladimir Peredna, *National Academy of Sciences of Belarus for Agriculture Mechanization, Belarus*
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Kaspars Vartukapeinis, *Latvia University of Life Sciences and Technologies, Latvia*
Yang Zhang, *The University of Sheffield, United Kingdom*

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- Chairman:** Janis Palabinskis, *Latvia University of Life Sciences and Technologies, Latvia*
- Members:** Aivars Aboltins, *Latvia University of Life Sciences and Technologies, Latvia*
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Ainars Galins, *Latvia University of Life Sciences and Technologies, Latvia*
Vitalijs Osadcuks, *Latvia University of Life Sciences and Technologies, Latvia*
Aldis Pecka, *Latvia University of Life Sciences and Technologies, Latvia*
Dainis Viesturs, *Latvia University of Life Sciences and Technologies, Latvia*
Olafs Vronskis, *Latvia University of Life Sciences and Technologies, Latvia*

Timetable

Wednesday, May 22

- 16⁰⁰ – 18⁰⁰ Registration, welcome party, coffee and snacks,
Faculty of Engineering, LUA, 5 J. Cakstes blvd., 2nd floor, Room 254

Thursday, May 23

- 9⁰⁰ – 10⁰⁰ Registration of participants,
Faculty of Engineering, LUA, 5 J. Cakstes blvd., 2nd floor, Room 254
- 10⁰⁰ – 12¹⁰ Opening of the conference and plenary session
Faculty of Engineering, LUA, 5 J. Cakstes blvd., 4th floor, Room 429
- Chairman:** Dr.sc.ing. Aivars Aboltins, *Latvia University of Life Sciences and Technologies*
Vice-chairman: Dr. sc.ing. Janis Palabinskis, *Latvia University of Life Sciences and Technologies*
- 10⁰⁰ – 10⁰⁵ WELCOME SPEECH, SOME FACTS ABOUT CONFERENCE
Aivars Aboltins, *Program committee chairman*
- 10⁰⁵ – 10¹⁵ OPENING WELCOME
Aigars Laizans, *Vice-rector, Latvia University of Life Sciences and Technologies*
- 10¹⁵ – 10²⁰ OPENING WELCOME
Ilmars Dukulis, *Dean, Faculty of Engineering, Latvia University of Life Sciences and Technologies*
- 10²⁰ – 10³⁰ PROFESSOR ARVIDS LEPPIKS AWARD CEREMONY
- 10³⁰ – 11⁰⁰ SPEEDING UP INNOVATION PROCESSES IN AGRICULTURAL ENGINEERING THROUGH USER-CENTRED DESIGN AND MULTI-ACTOR APPROACH
Hannu E.S. Haapala, *Agrinnotech, Finland*
- 11⁰⁰ – 11³⁰ COMPARATIVE DYNAMIC ANALYSIS OF VALUE ADDED CREATED BY INDUSTRY "CROP AND ANIMAL PRODUCTION, HUNTING AND RELATED SERVICE ACTIVITIES" IN THE BALTIC STATES AND FINLAND
Andrejs Jaunzems, Ilze Balode, *Ventspils University of Applied Sciences, Latvia*
- 11³⁰ – 12⁰⁰ CLIMATE CHANGE ADAPTATION POLICY: ISSUES IN LATVIA
Ligita Melece, Ilze Shena, *Institute of Agricultural Resources and Economics, Latvia*
- 12⁰⁰ – 13⁰⁰ Photo, Lunch
- 13⁰⁰ – 15³⁰ Work in sections: *presentations 10 minutes, discussions 5 minutes*
- 15³⁰ – 16⁰⁰ Coffee break
- 16⁰⁰ – 18³⁰ Work in sections: *presentations 10 minutes, discussions 5 minutes*
- 19⁰⁰ Conference dinner.
5 J. Cakstes blvd., Room 254

Timetable

Friday, May 24

- 9⁰⁰ – 10³⁰ Visit to plant “AKG Thermotechnik Lettland”.
- 11⁰⁰ – 13³⁰ Excursion to Jurmala, (Dzintari forest park, observation tower, sea).
- 14⁰⁰ – 16⁰⁰ Visit to the beverage factory "Tirelu dzituve”

Note: Program changes are possible, depending on weather conditions

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Ulbroka research center is founded in 1960 as the Scientific Research Institute for the Mechanization and Electrification of Agriculture, since 1998 incorporated into the Latvia University of Agriculture. It carries out fundamental and material investigations aimed at the improvement of technical means and technological processes in agriculture, estimation of their adequacy and suitability.



WiFi internet access during the conference (5 J. Cakstes blvd.)

Network name: Seminar

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Section 1: Agricultural machinery and husbandry

5 J. Cakstes blvd., Room 429

Chairman: Dr.sc.ing. **Semjons Ivanovs**, *Latvia University of Life Sciences and Technologies, Latvia*

Vice-chairman: Dr.sc.ing. **Alexander Pastukhov**, *Belgorod State Agricultural University named after V. Gorin, Russia*

- 1 ESTIMATION OF TRACTOR WHEEL SLIPPAGE WITH DIFFERENT TIRE PRESSURES FOR 4WD AND 2WD DRIVING SYSTEMS
Algirdas Janulevicius, Antanas Juostas, Gediminas Pupinis
Vytautas Magnus University, Lithuania
- 2 DEPENDENCE OF FUEL CONSUMPTION ON WINTER RAPE STUBBLE TILLAGE QUALITY IN CLAY LOAM SOIL
Vidas Damauskas
Lithuanian Research Centre for Agriculture and Forestry, Lithuania
- 3 WORK IMPROVEMENT OF AIR-AND-SCREEN CLEANER OF COMBINE HARVESTER
Nikolay Aldoshin, Otari Didmanidze, Nikolay Lylin, Maxim Mosyakov
Russian Timiryazev State Agrarian University, Russia
- 4 RESEARCH OF VIBROACOUSTIC DIAGNOSTICS OF FUEL SYSTEM OF ENGINES OF COMBINE HARVESTERS
Ivan Rogovskii, Liudmyla Titova, Andriy Novitskii, Victor Rebenko
National University of Life and Environmental Sciences of Ukraine, Ukraine
- 5 DEVELOPMENT OF NEW METHOD OF DRYING AT ENERGY-SAVING UNIVERSAL DRYER TO IMPROVE QUALITY OF CROPS USED IN FODDER PRODUCTION
Artem Kliuchnikov
Yaroslavl Scientific Research Institute of Livestock Breeding and Forage Production, Russia
- 6 QUALITY EVALUATION OF MIXING FODDER BY MOBILE COMBINED UNITS
Vasyl Khmelovskiy, Svitlana Rogach, Oksana Tonkha, Yuriy Rosamaha
National University of Life and Environmental Sciences of Ukraine, Ukraine
- 7 OPERABILITY ASSESSMENT OF DRIVE SHAFTS OF JOHN DEERE TRACTORS IN OPERATIONAL PARAMETERS
Mikhail Erokhin, Alexander Pastukhov, Sergey Kazantsev
Russian Timiryazev State Agrarian University, Russia; Belgorod State Agricultural University named after V. Gorin, Russia
- 8 COMPLEX FOREST MANAGEMENT SYSTEM BASED ON SMALL SIZE FOREST MACHINES
Agris Zimelis, Santa Kaleja, Modris Okmanis
Latvian State Forest Research Institute "Silava", Latvia
- 9 EVALUATION OF FOREST TREE PLANTING MACHINE EFFECTIVENESS
Dagnija Lazdina, Karlis Dumins, Timo Saksa, Kristaps Makovskis
Latvian State Forest Research Institute "Silava", Latvia; Latvia University of Life Sciences and Technologies, Latvia; Natural Resources Institute Finland (Luke), Finland

Section 1: Agricultural machinery and husbandry

- 10 EXPERIMENTAL INVESTIGATION OF TECHNICAL AND OPERATIONAL INDICES OF ASYMMETRIC SWATH REAPER MACHINE-AND-TRACTOR AGGREGATE
Volodymyr Bulgakov, Valerii Adamchuk, Semjons Ivanovs, Hryhorij Kaletnik
National University of Life and Environmental Sciences of Ukraine, Ukraine; National Scientific Centre "Institute for Agricultural Engineering and Electrification" of Ukraine, Ukraine; Latvia University of Life Sciences and Technologies, Latvia; Vinnytsia National Agrarian University, Ukraine
- 11 INVESTIGATION OF MECHANICAL METHOD OF TRICHOGRAM DISPERSAL
Valentyna Krutyakova, Volodymyr Bulgakov, Volodymyr Belchenko, Adolfs Rucins
Engineering and Technology Institute "Biotechnica", Ukraine; National University of Life and Environmental Sciences of Ukraine, Ukraine; Latvia University of Life Sciences and Technologies, Latvia
- 12 PROBABILITY OF TRAUMATIC SITUATIONS IN MECHANIZED PROCESSES IN AGRICULTURE USING MATHEMATICAL APPARATUS OF MARKOV CHAIN METHOD
Oleksandr Voinalovych, Oleg Hnatiuk, Ivan Rogovskii, Oleksandr Pokutnii
National University of Life and Environmental Sciences of Ukraine, Ukraine; Institute of Mathematics of National Academy of Sciences of Ukraine, Ukraine
- 13 PROBABILITY OF BOUNDARY EXHAUSTION OF RESOURCES AS FACTOR OF OPERATIONAL SAFETY FOR AGRICULTURAL AGGREGATES
Georgiy Pisarenko, Oleksandr Voinalovych, Ivan Rogovskii, Myhailo Motrich
Institute for Problems of Strength National Academy of Sciences of Ukraine, Ukraine; National University of Life and Environmental Sciences of Ukraine, Ukraine
- 14 EVALUATION OF BEARING RELIABILITY OF COMBINE HARVESTER STRAW CHOPPER
Egle Jotautiene, Antanas Juostas, Algirdas Janulevicius, Aivars Aboltins
Vytautas Magnus University, Lithuania; Latvia University of Life Sciences and Technologies, Latvia
- 15 EFFECTIVENESS ANALYSIS OF WAYS ORGANIZING PRODUCTION OF COMBINED FEEDS
Marina Chkalova, Vladimir Shahov, Victoria Pavlidis
Orenburg State Agrarian University, Russia
- 16 VISCOSITY METHOD IN ROBOTIC MILKING SYSTEM FOR DETECTION OF SOMATIC CELL COUNT IN MILK
Ivars Lusis, Armins Laurs, Vita Antane
Latvia University of Life Sciences and Technologies, Latvia

Section 2: Renewable and conventional energy

5 J.Čakstes blvd., Room 319

Chairman: Dr.sc.ing. **Raimunds Selegovskis**, *Latvia University of Life Sciences and Technologies, Latvia*

Vice-chairman: Dr.sc.ing. **Algirdas Jasinskas**, *Vytautas Magnus University, Lithuania*

- 1 INNOVATION LEVEL ON GLOBAL AND NATIONAL SCALE IN CONTEXT OF RENEWABLE ENERGY PRODUCTION IN LATVIA
Modrite Pelse, Lasma Aleksejeva, Dace Ziedina
Latvia University of Life Sciences and Technologies, Latvia
- 2 ELECTRODYNAMIC CONTROL OF STRAW CO-FIRING WITH PROPANE
Inesa Barmina, Antons Kolmickovs, Raimonds Valdmans, Sergejs Vostrikovs
Institute of Physics, University of Latvia, Latvia
- 3 METHOD FOR DETERMINING CONSUMER HEAT ENERGY DEMAND PROFILE USING HEAT CONSUMPTION DATA FROM PREVIOUS PERIODS
Raimunds Selegovskis, Janis Berzins
Latvia University of Life Sciences and Technologies, Latvia
- 4 INTERSEASONAL HEAT STORAGE FOR RESIDENTIAL BUILDINGS WITH RENEWABLE ENERGY GENERATION
Janar Kalder, Mart Hovi, Alo Allik, Andres Annuk
Estonian University of Life Sciences, Estonia
- 5 IMPROVEMENT OF EFFICIENCY OF PV PANELS FOR WATER HEATING BY CHANGING HEATER RESISTANCE
Ilze Pelece, Imants Ziemeļis, Henriks Putans, Andrejs Snegovs
Latvia University of Life Sciences and Technologies, Latvia
- 6 SINGLE MOTOR TWO-AXEL SOLAR PANELS TRACKING DEVICE USING SLIDER-CRANK MECHANISM
Viktorija Zagorska, Andrejs Snegovs, Henriks Putans, Imants Ziemeļis
Latvia University of Life Sciences and Technologies, Latvia
- 7 DEVELOPMENT OF SOLAR PANELS TRACKER SENSOR
Andrejs Snegovs, Henriks Putans, Liene Kancevica, Imants Ziemeļis
Latvia University of Life Sciences and Technologies, Latvia
- 8 CALCULATION AND SIMULATION OF AERODYNAMIC CHARACTERISTICS OF WIND POWER PLANT TURBINE
Aleksandrs Urbahs, Nikolaj Kuleshov, Dmitrijs Titovs, Leonid Chernin
Riga Technical University, Latvia
- 9 SIMULATION BASED ANALYSIS OF QUASI Z-SOURCE CONVERTER FOR WIRELESS POWER TRANSFER
Kaspars Kroicis
Riga Technical University, Latvia

Section 2: Renewable and conventional energy

- 10 BUILDING OF POWER BACKUP SYSTEM WITH PARALLEL CONNECTION TO GRID
Rodions Saltanovs, Aivars Rubenis
Riga Technical University, Latvia; SIA "TransfoElectric", Latvia; Latvia University of Life Sciences and Technologies, Latvia
- 11 INFLUENCE OF MOISTURE ON OSIER WILLOW CHOPS CHARACTERISTICS
Egidijus Zvicevicius, Algirdas Raila, Ausra Cipliene, Kestutis Ziura
Vytautas Magnus University, Lithuania
- 12 INVESTIGATION OF BLACK POPLAR (*POPULUS NIGRA* L.) PREPARATION AND UTILIZATION FOR ENERGY CONVERSION
Algirdas Jasinskas, Vilma Banioniene, Egle Jotautiene, Imants Ziemeļis
Vytautas Magnus University, Lithuania; Latvia University of Life Sciences and Technologies, Latvia
- 13 THE INFLUENCE OF THE RECOVERY CHAMBER PARAMETERS ON THE EFFICIENCY OF BIOMASS GASIFICATION PROCESS
Nataliya Tsyvenkova, Anna Holubenko, Ivan Omarov, Marina Tereshchuk
Zhytomyr National Agroecological University, Ukraine
- 14 SELECTION OF OPTIMAL DIMENSIONS OF AIR HUMIDIFICATION SECTION IN MICROCLIMATE PREPARATION SYSTEM FOR GROWING OF ENTOMOPHAGES
Valentyna Krutyakova, Volodymyr Bulgakov, Aleksandrs Adamovics, Nonna Pishchanska
Engineering and Technology Institute "Biotechnica", Ukraine; National University of Life and Environmental Sciences of Ukraine, Ukraine; Latvia University of Life Sciences and Technologies, Latvia
- 15 EVALUATION OF COMBUSTION PROPERTIES OF BIOMASS FUEL
Aleksandrs Adamovics, Rasma Platace, Aivars Kakitis, Semjons Ivanovs
Latvia University of Life Sciences and Technologies, Latvia
- 16 METHANE PRODUCTION POTENTIAL FROM VARIETY OF UNPRINTED PAPERS
Vilnis Dubrovskis, Imants Plume, Indulis Straume
Latvia University of Life Sciences and Technologies, Latvia
- 17 CO-DIGESTION OF MOLASSES WITH DRY GRAIN SWEEPS AND BIRCH LEAVES
Vilnis Dubrovskis, Imants Plume, Indulis Straume
Latvia University of Life Sciences and Technologies, Latvia
- 18 USE OF ENZYME ALPHA AMYLASE TO INCREASE BIOGAS YIELD FROM LUCERNE PELLETS AND BIRCH LEAVES PELLETS
Vilnis Dubrovskis, Imants Plume, Indulis Straume
Latvia University of Life Sciences and Technologies, Latvia

Section 3: Control systems, transport and GHG emissions

5 J.Čakstes blvd., Room 312

Chairman: Dr.sc.ing. **Vitalijs Osadcuks**, *Latvia University of Life Sciences and Technologies, Latvia*

Vice-chairman: Dr.sc.ing. **Oldrich Latal**, *Agrovyzkum Rapotin S.R.O., Czech Republic*

- 1 EVALUATING ACCURACY OF FAULT LOCALIZATION WHEN MONITORING CONDITION OF LARGE STRUCTURES BY ACOUSTIC METHOD
Jevgenijs Prostaks, Margarita Urbaha
AS "AirBaltic Corporation", Latvia; Riga Technical University, Latvia
- 2 THEORETICAL AND EXPERIMENTAL ANALYSIS OF TECHNICAL CONDITION OF PISTON RINGS OF VESSEL DIESEL INSTALLATIONS BY METHOD OF RESONANCE OSCILLATIONS
Aleksandrs Gasparjans, Aleksandrs Terebkovs, Anastasija Ziravecka
Latvian Maritime Academy, Latvia; Riga Technical University, Latvia
- 3 RESEARCH IN PARAMETERS OF ACCELERATION OF ELECTRIC VEHICLE DEPENDING ON TRANSMISSION GEAR RATIO
Dainis Berjoza, Inara Jurgena, Vilnis Pirs
Latvia University of Life Sciences and Technologies, Latvia
- 4 DEVELOPMENT OF MODEL FOR INCREASING ELECTRIC VEHICLE CHARGING CAPACITY WITH LIMITED AVAILABLE GRID POWER
Aivars Rubenis, Dainis Tropins, Andra Zvirbule
Latvia University of Life Sciences and Technologies, Latvia; EMI Electronics, Latvia; SIA "TransfoElectric", Latvia
- 5 OPPORTUNITIES FOR ELECTRIC VEHICLE FAST CHARGING NETWORKS IN NORTHERN REGIONS USING SMART CHARGING
Aivars Rubenis, Dainis Tropins, Leslie R. Adrian
SIA "TransfoElectric", Latvia; EMI Electronics, Latvia; Latvia University of Life Sciences and Technologies, Latvia; Riga Technical University, Latvia
- 6 APPLICATION OF COMBINATION OF NEURAL NETWORKS AND FUZZY LOGIC IN PLANNING OF MOBILE ROBOT MOTION IN UNKNOWN ENVIRONMENT
Andrius Nemeiksis, Vitalijs Osadcuks
Latvia University of Life Sciences and Technologies, Latvia
- 7 RESEARCH IN CONTROLLED MOVES OF ROBOTIC MANIPULATORS FOR BIOLOGICAL OBJECT PROCESSING
Daiva Nemeiksyte, Vitalijs Osadcuks
Latvia University of Life Sciences and Technologies, Latvia
- 8 MILKING MACHINE AID-1-01 VACUUM EQUIPMENT START-UP PROCESS RESEARCH
Rahims Geidarovs, Ivans Grinevics, Artemijs Zodzijs, Vladislavs Cemirins, Ilja Ivanovs
Riga Technical University, Latvia
- 9 ON PROXIMITY INFORMATION SYSTEMS
Dmitry Namiot, Manfred Sneps-Snepe
Lomonosov Moscow State University, Russia; Ventspils University of Applied Sciences, Latvia

Section 3: Control systems, transport and GHG emissions

- 10 CONTROL OF AGRICULTURAL LAND FLOODING BY USING REMOTELY PILOTED AIRCRAFT SYSTEM
Dmitrijs Gorelikovs, Margarita Urbaha
Riga Technical University, Latvia
- 11 PHOTOGRAPHY FOR THE ANALYSIS OF RURAL LANDSCAPES AND THE EVALUATION OF THEIR CHANGES, AGRICULTURAL AREAS LOCATED IN AN APULIAN NATURAL PARK (ITALY)
Giuseppe Ruggiero, Rinaldo Grittani, Simone Pascuzzi, Alexandros Sotirios Anifantis, Francesco Santoro
University of Bari Aldo Moro, Italy
- 12 MAPPING THE ENVIRONMENTAL DAMAGE OF "ERZENI" RIVER USING GIS TECHNOLOGY, THE IMPACT OF THE HIGHWAY CONSTRUCTION IN ENVIRONMENT
Edmond Hoxha
Polytechnic University of Tirana, Albania
- 13 REMOTELY PILOTED AIRCRAFT SYSTEM AIR VEHICLE TYPE SELECTION
Nikolajs Glizde, Margarita Urbaha
Riga Technical University, Latvia
- 14 GREENHOUSE GAS EMISSIONS CAUSED BY FARM MANURE MANAGEMENT IN LATVIA
Laima Berzina, Juris Priekulis, Aivars Aboltins, Olga Frolova
Latvia University of Life Sciences and Technologies, Latvia
- 15 MECHANICAL PRE-TREATMENT FOR SEPARATION OF BIO-WASTE FROM MUNICIPAL SOLID WASTE: CASE STUDY OF DISTRICT IN LATVIA
Dace Arina, Janis Kalnacs, Ruta Bendere, Aleksandrs Murasovs
Institute of Physical Energetics, Latvia; University of Latvia, Latvia
- ACTIVATORS OF BIOLOGICAL TRANSFORMATION AND THEIR EFFECT ON PIG
- 16 MANURE QUALITY AND BARN CONDITION AGGREGATE
Oldrich Latal, Petr Novak, Petr Sarec, Martin Brtnicky
Agrovyzkum Rapotin S.R.O., Czech Republic; Czech University of Life Sciences Prague, Czech Republic; Mendel University in Brno, Czech Republic
- 17 AMMONIA EMISSION REDUCTION MEASURES IN DAIRY CATTLE FARMING
Juris Priekulis, Armins Laurs, Ligita Melece
Latvia University of Life Sciences and Technologies, Latvia; Institute of Agricultural Resources and Economics, Latvia
- 18 ON ONE INVERSE PROBLEM OF OPTIMAL PLANNING UNDER UNCERTAINTY IN PREDICTION
Sharif E. Guseynov, Jekaterina V. Aleksejeva
Liepaja University, Latvia; "Entelgine" Research & Advisory Co., Ltd, Latvia
- 19 IDENTIFYING POTENTIAL RISKS CREATED BY STATE JOINT-STOCK COMPANY LATVIJAS DZELZCEĻŠ JELGAVA STATION AND EVALUATING THEIR IMPACT ON ENVIRONMENT, INHABITANTS AND INFRASTRUCTURE
Mihails Urbans, Jelena Malahova, Vladimirs Jemeljanovs
Riga Technical University, Latvia

Section 4: Material science and fuels

5 J.Cakstes blvd., Room 238

Chairman: Dr.sc.ing. **Gints Birzietis**, *Latvia University of Life Sciences and Technologies, Latvia*

Vice-chairman: Dr.sc.ing. **Iryna Hren**, *J. E. Purkyne University in Usti nad Labem, Czech Republic*

- 1 STUDY OF EXOTHERMIC WELDED JOINT GRINDING BY "SPENO" RAIL GRINDERS
Pavel Gavrilov, Viktor Ivanov
Riga Technical University, Latvia
- 2 QUASI-STATIC TESTS ON POLYURETHANE ADHESIVE BONDS REINFORCED BY RUBBER POWDER
Martin Tichy, Viktor Kolar, Miroslav Muller, Petr Valasek
Czech University of Life Sciences Prague, Czech Republic
- 3 THERMAL MODIFICATION AS TOOL TO INCREASE HYDROPHOBICITY OF VENEERS
Anete Meija-Feldmane, Errj Sansonetti, Andris Morozovs, Uldis Spulle
Latvia University of Life Sciences and Technologies, Latvia; Latvian State Institute of Wood Chemistry, Latvia
- 4 HEAT RESISTANT CONGLOMERATE TI-AL-SI-CR-N COATINGS FOR TITAN ALLOY-BASED PARTS OF GAS TURBINE ENGINES
Aleksandrs Urbahs, Konstantins Savkovs
Riga Technical University, Latvia
- 5 DEPENDENCE OF MECHANICAL PROPERTIES ON POROSITY OF ALSI7MG0.3 ALLOY DURING GRAVITY CASTING
Iryna Hren, Stefan Michna, Lenka Michnova
J. E. Purkyne University in Usti nad Labem, Czech Republic
- 6 EVALUATION OF MODIFIED KNITWEAR PROPERTIES
Ieva Bake, Vineta Afanasjeva, Silvija Kukle
Riga Technical University, Latvia
- 7 STUDY OF SURFACE INTEGRITY BASED ON MILLING OF MATERIAL AISI 316L
Mailis Polma, Tonu Leemet, Marten Madissoo
Estonian University of Life Sciences, Estonia
- 8 EVALUATION OF METHODOLOGY FOR DETERMINATION OF MECHANICAL EFFICIENCY OF SPARK IGNITION ENGINE
Daniels Levickis, Maris Gailis, Janis Rudzitis, Juris Kreicbergs
Riga Technical University, Latvia; Latvia University of Life Sciences and Technologies, Latvia
- 9 COMPARISON OF VEHICLE PERFORMANCE USING FOSSIL DIESEL FUEL BLENDS WITH BIODIESEL AND HVO FUEL
Kristaps Sondors, Aivars Birkavs, Vilnis Pirs, Gints Birzietis, Ilmars Dukulis
Latvia University of Life Sciences and Technologies, Latvia
- 10 IMPACT OF AVIATION FUEL ON DURABILITY OF DIESEL COMMON RAIL INJECTION SYSTEM
Tomas Mickevicius, Stasys Slavinskas, Gvidonas Labeckas
Vytautas Magnus University, Lithuania

Section 4: Material science and fuels

- 11 DIAGNOSIS OF FUELS WITH INFRARED SPECTROSCOPY UTILIZATION

Stefan Cornak

University of Defence in Brno, Czech Republic

- 12 ENGINE OIL ANALYSIS - EFFECTIVE INSTRUMENT TO EVALUATE RELIABILITY OF TRACTOR ENGINES
Marie Sejkorova, Ivana Hurtova
University of Pardubice, Czech Republic
- 13 DESIGN DEVELOPMENT OF DYNAMOMETER WATER ABSORBER
Karlis Banis
Latvia University of Life Sciences and Technologies, Latvia
- 14 LIFE CYCLE COST ANALYSIS OF BBTM AND TRADITIONAL ASPHALT CONCRETES IN LATVIA
Arturs Riekstins, Viktors Haritonovs, Valters Abolins, Verners Straupe, Janis Tihonovs
Riga Technical University, Latvia; SJSC Latvian State Roads, Latvia; Institute of Electronics and Computer Science, Latvia; SC "Celuprojekts", Latvia

Section 5: Modeling and simulation

5 J.Cakstes blvd., Room 326

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

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

- 1 QUANTITATIVE STUDY OF ENVIRONMENTAL NOISE ON DOVILU VILLAGE POPULATION
Egle Jotautiene, Inga Bernotiene, Jurate Liebuviene, Almantas Bernotas
Vytautas Magnus University, Lithuania; Klaipeda State University of Applied Sciences, Lithuania
- 2 MATHEMATICAL MODELING OF STALK BIOMASS SHREDDING PROCESS
Imants Nulle, Aivars Kakitis, Mareks Smits, Olafs Vronskis
Latvia University of Life Sciences and Technologies, Latvia
- 3 DYNAMIC DISCRETE-EVENT SIMULATION OF AN AUTONOMOUS BATTERY ELECTRIC VEHICLE SYSTEM AT SWEDISH FARMS
Oscar Lagnelov, Per-Anders Hansson
The Swedish University of Agricultural Sciences, Sweden
- 4 INVESTIGATION OF IMPACT OF TECHNOLOGICAL PARAMETERS OF COMPRESION ON RELATIVE DENSITY AND MECHANICAL RESISTANCE OF GRANULATED ORGANIC COMPOST FERTILIZERS
Antanas Pocius, Sigute Savickiene, Tytas Savickas, Jurate Vaitekoniene
Klaipeda State University of Applied Sciences, Lithuania
- 5 MANURE PROCESSING INTO GRANULAR FERTILIZERS USING ADDITIONAL ADDITIVES
Ramunas Mieldazys, Egle Jotautiene, Raimonda Zinkeviciene, Algirdas Jasinskas
Vytautas Magnus University, Lithuania
- 6 CAM WITH SPECIAL SPLINES FOR SOLVING OF DIFFUSION-CONVECTION PROBLEMS WITH DISCONTINUOUS COEFFICIENTS FOR LAYERED MATERIALS EXPOSED TO FIRE
Aivars Aboltins, Harijs Kalis, Ilmars Kangro
Latvia University of Life Sciences and Technologies, Latvia; Institute of Mathematics and Computer Science, University of Latvia, Latvia; Rezekne Academy of Technologies, Latvia
- 7 NUMERICAL SIMULATION OF HEAT EXCHANGE IN DISCRETE-ROUGH CHANNELS AT FLOW SUPERIMPOSED OSCILLATIONS
Egils Dzelzitis, Natalia Sidenko
Riga Technical University, Latvia
- 8 ANALYSIS OF FLAT PLATE VIBRATIONS BY VARYING FRONTAL AREA TO THE FLOW
Shravan Koundinya Vutukuru, Janis Viba, Igors Tipans, Ilmars Viksne, Martins Irbe
Riga Technical University, Latvia
- 9 RESEARCH OF DYNAMICS OF DOUBLE HELICOIDAL VEHICLE IN GRANULAR MEDIA
Marcis Eimanis, Janis Auzins
Riga Technical University, Latvia

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- 10 PASSIVE COOLING OF ELECTRONIC COMPONENTS USING CLOSED ALUMINIUM HOUSING FILLED WITH LIQUID
Janis Galins, Aigars Laizans, Ainars Galins
Latvia University of Life Sciences and Technologies, Latvia
- 11 VALUE ADDED CREATED BY INDUSTRY "EDUCATION" IN BALTIC STATES AND FINLAND
Andrejs Jaunzems
Ventspils University of Applied Sciences, Latvia
- 12 METHOD AND DEVICE FOR MEASURING STABILITY OF PLANT DEVELOPMENT BY FLUCTUATING ASYMMETRY OF OPTICAL DENSITY OF LEAVES
Sergey Rakutko, Elena Rakutko, Ansis Avotins, Peteris Apse-Apsitis
Institute for Engineering and Environmental Problems in Agricultural Production, Russia; Riga Technical University, Latvia
- 13 DESIGNING OF THERMAL TREATMENT PARAMETERS FOR TOMATO SAUCES
Inga Ciprovica, Evalds Raitis, Asnate Kirse-Ozolina
Latvia University of Life Sciences and Technologies, Latvia; Kronis Ltd., Latvia
- 14 EFFECT OF STERILIZATION PARAMETERS ON QUALITY OF COMMERCIALY-PREPARED INSTANT SOUPS
Asnate Kirse-Ozolina, Sandra Muizniece-Brasava, Evalds Raitis, Zanda Kruma
Latvia University of Life Sciences and Technologies, Latvia; Kronis Ltd., Latvia
- 15 DRYING CHARACTERISTICS OF RHUBARB CUBES AT LOW TEMPERATURE
Tatjana Rubina, Aivars Aboltins, Janis Palabinskis
Latvia University of Life Sciences and Technologies, Latvia
- 16 MODELLING OF STIFFNESS VARIABILITY OF SKELETON SLED ON INCLINED ICE PLANE
Martins Irbe, Karlis Agris Gross, Janis Viba, Marina Cerpinska
Riga Technical University, Latvia
- 17 CONCEPTION OF CAE SYSTEM SUPPORT FOR PROTECTIVE COATING DEPOSITION PROCESS DESIGN IN AGROINDUSTRIAL COMPLEX
Igor Kravchenko, Maxim Glinskiy, Yury Kuznetsov, Tatiana Cheha
Russian Timiryazev State Agrarian University, Russia; N.V. Parahina Orel State Agrarian University, Russia
- 18 OPTIMIZATION OF MANAGEMENT DECISIONS FOR CHOOSING THE STRATEGY OF ENTERPRISES FIXED ASSETS REPRODUCTION
Aleksandr Birjukov, Evgeniy Dobryshkin, Igor Kravchenko, Maxim Glinskiy
Military Academy of Logistics named Army General A.V. Chrulev, Russia; Russian Timiryazev State Agrarian University, Russia
- 19 RESEARCH OF INFLUENCE OF AIR RESISTANCE ON THE PARTICLE MOVEMENT ON THE RADIAL PLANE FIXED IN A HORIZONTAL ROTATING CYLINDER
Oleh Marus, Gennadii Golub, Savellii Kukharets, Viacheslav Chuba
National University of Life and Environmental Sciences of Ukraine, Ukraine; Zhytomyr National Agroecological University, Ukraine

Section 6: Engineering education and economics

5 J.Čakstes blvd., Room 336

Chairman: Dr.paed. **Baiba Briede**, *Latvia University of Life Sciences and Technologies, Latvia*

Vice-chairman: Dr.paed. **Daina Vasilevska**, *Liepaja University, Latvia*

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Aleksejs Nipers, Irina Pilvere, Agnese Krievina, Valda Bratka
Latvia University of Life Sciences and Technologies, Latvia; Institute of Agricultural Resources and Economics, Latvia
- 2 ONE OF OPPORTUNITIES TO REDUCE STUDENT DROPOUTS
Aivars Aboltins, Svetlana Atslega, Natalija Sergejeva, Liene Strupule
Latvia University of Life Sciences and Technologies, Latvia
- 3 STUDENTS' SATISFACTION WITH THEIR HOST CITY: CASE OF JELGAVA, LATVIA
Līga Feldmane
University of Latvia, Latvia
- 4 INTERNET OF THINGS FOR FARMERS: EDUCATIONAL ISSUES
Boris Medvedev, Sergey Molodyakov
Peter the Great Saint-Petersburg Polytechnic University, Russia
- 5 IMPACT OF DIGITAL INNOVATION ON DEVELOPMENT OF AGRICULTURE IN LATVIA
Daina Vasilevska, Baiba Rivza, Peteris Rivza
Liepaja University, Latvia; Latvia University of Life Sciences and Technologies, Latvia
- 6 PROSPECTS FOR USE OF TECHNICAL CYBERNETICS IN ANIMAL HUSBANDRY
Oksana Mamai, Sergey Mashkov, Velta Parsova
Samara State Agricultural Academy, Russia; Latvia University of Life Sciences and Technologies, Latvia
- 7 SUSTAINABLE URBAN MOBILITY PLANNING DEVELOPMENT PRECONDITIONS: GOVERNANCE SYSTEM APPROACH
Zanda Krukle, Līga Biezina, Raimonds Ernsteins
University of Latvia, Latvia
- 8 CASE STUDY ON DEVELOPMENT OF MATHEMATICAL COMPETENCE OF FOREST SPECIALTIES STUDENTS
Anna Vintere, Līga Zvirgzdina
Latvia University of Life Sciences and Technologies, Latvia
- 9 READINESS FOR INNOVATIVE ACTIVITY AS IMPORTANT PROFESSIONAL COMPETENCE OF NEW GENERATION ENGINEER
Aliya Murzagaliyeva, Bakytgul Jugembayeva
Al-Farabi Kazakh National University, Kazakhstan
- 10 LOWER ROAD USER COSTS WITH PRECAST CONCRETE PAVEMENTS
Radan Tomek
Czech Technical University in Prague, Czech Republic

Section 6: Engineering education and economics

- 11 ICT IN LIFE OF STUDENTS AT THE LATVIA UNIVERSITY OF LIFE SCIENCES AND TECHNOLOGIES
Anda Zeidmane
Latvia University of Life Sciences and Technologies, Latvia
- 12 ENGINEERING STUDY PROGRAM COMPLIANCE EVALUATION TO GUIDELINES FOR SOFTWARE ENGINEERING CURRICULUM
Gatis Vitols, Irina Arhipova, Līga Paura
Latvia University of Life Sciences and Technologies, Latvia
- 13 PROBLEMS OF CONSERVATION AND USE OF AGRICULTURAL LAND IN URBAN AGGLOMERATIONS
Anastasiya Kondolskaya, Dariya Vasilieva, Velta Parsova, Dmitry Antropov
Samara State University of Economics, Russia; Latvia University of Life Sciences and Technologies, Latvia; State University of Land Use Planning, Russia
- 14 FEASIBILITY STUDY OF PHYSIOLOGICAL PARAMETER REGISTRATION SENSORS FOR NON-INTRUSIVE HUMAN FATIGUE DETECTION SYSTEM
Matis Erins, Olesja Minejeva, Raivis Kivlenieks, Juris Lauznis
Riga Technical University, Latvia
- 15 DIFFERENTIATION OF LAND COVER DEGRADATION IN UKRAINE AND LATVIA
Velta Parsova, Nataliia Stoiko, Roman Kuryltsiv, Nadiia Kryshenyk
Latvia University of Life Sciences and Technologies, Latvia; Lviv National Agrarian University, Ukraine
- 16 METHODOLOGICAL BACKGROUND OF COMPETENCE-BASED MATHEMATICS EDUCATION FOR STUDENTS OF INFORMATION TECHNOLOGIES SPECIALTIES
Anna Vintere, Baiba Briede
Latvia University of Life Sciences and Technologies, Latvia
- 17 METHODOLOGICAL ASPECTS OF TRAINING FUTURE AGROENGINEERS
Stanislav Nikolaenko, Oksana Bulgakova, Ilmars Dukulis, Irina Pilvere
National University of Life and Environmental Sciences of Ukraine, Ukraine; Institute of History of Ukraine, National Academy of Sciences of Ukraine, Ukraine; Latvia University of Life Sciences and Technologies, Latvia
- 18 PROBLEMS OF PROVIDING AFFORDABLE HIGH QUALITY STUDENT HOUSING IN CONTEXT OF DEVELOPMENT OF MAJOR LATVIAN UNIVERSITIES
Sandra Gusta, Inese Gusta
Latvia University of Life Sciences and Technologies, Latvia; Riga Technical University, Latvia
- 19 ROLE AND VALUE OF USER BASE AROUND LARGE-SCALE RESEARCH FACILITIES
Aivars Timofejevs, Valdis Avotins
Stockholm School of Economics in Riga, Latvia; Oxford Research Baltics, Latvia; Ventspils University of Applied Sciences, Latvia; Riga International School of Economics and Business Administration, Latvia

Friday, May 24

9⁰⁰ – 16⁰⁰

Social tour. Departure from 5 J. Cakstes blvd., main entrance.

AKG Thermotechnik is located in Jelgava. It is a Germany-centered family business that produces Copper/Brass and Aluminum radiators. AKG, with its product portfolio of radiator, oil cooler, and intercooler is in the status of the greatest supplier of the producers of heavy machinery, compressor, railway, agriculture and forestry equipment, electronics industry, hydraulic system in the world.



In the beverage factory “Tirelu dzituve” produced drinks are spirits obtained by German method of fermenting and distilling fruit and berries grown in Latvia.



Dzintari Forest Park is intended both for the fans of active and relaxing leisure activities. The park is open all year round. Cross-country skiing is available in winter. In mid-May of 2010, a viewing tower was opened in Dzintari Forest Park, thus supplementing the offer of the park and the various options for activities. The viewing platform of the tower is located at the height of 33.5 m. The tower has 12 balconies.

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Address

Address of the Conference Committee

Faculty of Engineering
Latvia University of Life Sciences and Technologies
5 J. Cakstes blvd., Jelgava, LV-3001, Latvia
Aivars Aboltins
Phone: + 371 29134846
E-mail: aivars.aboltins@llu.lv, janis.palabinskis@llu.lv
<http://www.tf.llu.lv/conference/>