18th International Scientific Conference

ENGINEERING FOR RURAL DEVELOPMENT

PROGRAMME

Latvia, May 22 – 24, 2019
18th International Scientific Conference
ENGINEERING FOR RURAL DEVELOPMENT
PROGRAMME

Jelgava, Latvia, May 22 – 24, 2019
Program Committee, Organising Committee

PROGRAM COMMITTEE

Chairman: Aivars Abolkins, Latvia University of Life Sciences and Technologies, Latvia

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Jozsef Kapozta, Szent Istvan University, Hungary
Pavel Kic, Czech University of Life Sciences Prague, Czech Republic
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Yang Zhang, The University of Sheffield, United Kingdom

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Aldis Pecka, Latvia University of Life Sciences and Technologies, Latvia
Dainis Vieburs, Latvia University of Life Sciences and Technologies, Latvia
Olafs Vronskis, Latvia University of Life Sciences and Technologies, Latvia

Timetable

Wednesday, May 22
16" – 18"
Registration, welcome party, coffee and snacks,
Faculty of Engineering, LUA, 5 J. Cakstes blvd., 2" floor, Room 254

Thursday, May 23
9" – 10"
Registration of participants,
Faculty of Engineering, LUA, 5 J. Cakstes blvd., 2" floor, Room 254
10" – 12"
Opening of the conference and plenary session
Faculty of Engineering, LUA, 5 J. Cakstes blvd., 4" floor, Room 429

Chairman: Dr. sc. ing. Aivars Abolkins, Latvia University of Life Sciences and Technologies
Vice-chairman: Dr. sc. ing. Janis Palabinskis, Latvia University of Life Sciences and Technologies

10" – 10"
WELCOME SPEECH, SOME FACTS ABOUT CONFERENCE
Aivars Abolkins, Program committee chairman

10" – 10"
OPENING WELCOME
Aigars Laizans, Vice-rector, Latvia University of Life Sciences and Technologies

10" – 10"
OPENING WELCOME
Ilmars Dukulis, Dean, Faculty of Engineering,
Latvia University of Life Sciences and Technologies

10" – 10"
PROFESSOR ARVIDS LEPPIKS AWARD CEREMONY

10" – 11"
SPEEDING UP INNOVATION PROCESSES IN AGRICULTURAL ENGINEERING
THROUGH USER-CENTRE DESIGN AND MULTI-ACTOR APPROACH
Hannu E.S. Haapala, Agritech, Finland

11" – 11"
COMPARATIVE DYNAMIC ANALYSIS OF VALUE ADDED CREATED BY
INDUSTRY "CROP AND ANIMAL PRODUCTION, HUNTING AND RELATED
SERVICE ACTIVITIES" IN THE BALTIC STATES AND FINLAND
Andrea Jaunzem, Ilze Balode, Ventspils University of Applied Sciences, Latvia

11" – 12"
CLIMATE CHANGE ADAPTATION POLICY: ISSUES IN LATVIA
Ligita Melecka, Ilze Shena, Institute of Agricultural Resources and Economics, Latvia

12" – 13"
Photo, Lunch
13" – 15"
Work in sections: presentations 10 minutes, discussions 5 minutes
15" – 16"
Coffee break

16" – 18"
Work in sections: presentations 10 minutes, discussions 5 minutes
19"
Conference dinner,
5 J. Cakstes blvd., Room 254
**Timetable**

**Friday, May 24**

9" – 10"
Visit to plant “AKG Thermotechnik Letland”.

11" – 13"
Excursion to Jurmala, (Dzintari forest park, observation tower, sea).

14" – 16"
Visit to the beverage factory “Tirelu dzirnavė”

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.

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**Online:** Proceedings ENGINEERING FOR RURAL DEVELOPMENT will be available online at http://tf.llu.lv/conference/proceedings2019/

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

Network name: Seminar
Password: LLUv2n4N2019
Section 1: Agricultural machinery and husbandry

1. ESTIMATION OF TRACTOR WHEEL SLIPPAGE WITH DIFFERENT TIRE PRESSURES FOR 4WD AND 2WD DRIVING SYSTEMS
   Algirdas Janulevičius, Antanas Juostas, Gediminas Pupinis
   Vytautas Magnus University, Lithuania

2. DEPENDENCE OF FUEL CONSUMPTION ON WINTER RAPE STUBBLE TILLAGE QUALITY IN CLAY LOAM SOIL
   Vidas Damanaukas
   Lithuanian Research Centre for Agriculture and Forestry, Lithuania

3. WORK IMPROVEMENT OF AIR-AND-SCREEN CLEANER OF COMBINE HARVESTER
   Nikolay Aldoshin, Otari Didmadize, 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, Liudmila 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 Khmelovskyi, Svitala 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 Kazantsiev
   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 Saks, Kristaps Makovskis
   Latvian State Forest Research Institute “Silava”; Latvian University of Life Sciences and Technologies, Latvia; Natural Resources Institute Finland (Luke), Finland

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 DISPERAL
    Valentina Krutyakova, Volodymyr Bulgakov, Volodymyr Belchenko, Adolfs Racins
    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 Voinalovsky, Oleg Hnatiuk, Ivan Rogovskii, Oleksandr Pokutni
    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 Ptsarenko, Oleksandr Voinalovsky, Ivan Rogovskii, Myhalo 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 Abolins
    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

1 INNOVATION LEVEL ON GLOBAL AND NATIONAL SCALE IN CONTEXT OF RENEWABLE ENERGY PRODUCTION IN LATVIA
Modrīte 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 Ališ, 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 Ziemeis, Henriks Putans, Andrejs Snegovs
Latvia University of Life Sciences and Technologies, Latvia

6 SINGLE MOTOR TWO-AXEL SOLAR PANELS TRACKING DEVICE USING SLIDERCrank MECHANISM
Viktoria Zagorska, Andrejs Snegovs, Henriks Putans, Imants Ziemeis
Latvia University of Life Sciences and Technologies, Latvia

7 DEVELOPMENT OF SOLAR PANELS TRACKER SENSOR
Andrejs Snegovs, Henriks Putans, Liene Kaneveca, Imants Ziemeis
Latvia University of Life Sciences and Technologies, Latvia

8 CALCULATION AND SIMULATION OF AERODYNAMIC CHARACTERISTICS OF WIND POWER PLANT TURBINE
Aleksandrs Urbans, Nikolaj Kuleshov, Dmitrijs Titovs, Leonid Chernin
Riga Technical University, Latvia

9 SIMULATION BASED ANALYSIS OF QUASI Z-SOURCE CONVERTER FOR WIRELESS POWER TRANSFER
Kaspars Kroics
Riga Technical University, Latvia

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 Raita, Ausra Cipliene, Kestutis Ziura
Vytautas Magnus University, Lithuania

12 INVESTIGATION OF BLACK POPLAR (POPULUS NIGRA L.) PREPARATION AND UTILIZATION FOR ENERGY CONVERSION
Algirdas Jasinskis, Vilma Banioniene, Egle Jotautiene, Imants Ziemeis
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 OFENTOMOPHAGES
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, Rusmne Platace, Aivars Kakitis, Semjons Ivanov
Latvia University of Life Sciences and Technologies, Latvia

16 METHANE PRODUCTION POTENTIAL FROM VARIETY OF UNPRINTED PAPERS
Vilis Dubrovsks, Imants Plume, Indulis Straune
Latvia University of Life Sciences and Technologies, Latvia

17 CO-DIGESTION OF MOLASSES WITH DRY GRAIN SWEEPS AND BIRCH LEAVES
Vilis Dubrovsks, Imants Plume, Indulis Straune
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
Vilis Dubrovsks, Imants Plume, Indulis Straune
Latvia University of Life Sciences and Technologies, Latvia
Section 3: Control systems, transport and GHG emissions

5 Control systems, transport and GHG emissions

J.Cakstes blv.d., Room 312
Chairman: Dr.sci.ing. Vitalijs Osadceiks. Latvia University of Life Sciences and Technologies, Latvia

Vice-chairman: Dr.sci.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
Jevgenis 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 Terekovs, 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, Vihinis 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 Zvīrbaule
Latvia University of Life Sciences and Technologies, Latvia; EMI Electronics, Latvia; SLA "TransfoElectric", Latvia

5 OPPORTUNITIES FOR ELECTRIC VEHICLE FAST CHARGING NETWORKS IN NORTHERN REGIONS USING SMART CHARGING
Aivars Rubenis, Dainis Tropins, Leslie R. Adrian
SLA "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 Nemeikis, Vitalijs Osadceiks
Latvia University of Life Sciences and Technologies, Latvia

7 RESEARCH IN CONTROLLED MOVES OF ROBOTIC MANIPULATORS FOR BIOLOGICAL OBJECT PROCESSING
Daiva Nemelkyné, Vitalijs Osadceiks
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 Zodzikis, Vladislavs Cemirins, Ilja Ivanovs
Riga Technical University, Latvia

9 ON PROXIMITY INFORMATION SYSTEMS
Dmitry Namiot, Manfred Sneps-Sneppe
Lomonosov Moscow State University, Russia; Ventspils University of Applied Sciences, Latvia

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 Prieckulis, Aivars Abolins, 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

16 ACTIVATORS OF BIOLOGICAL TRANSFORMATION AND THEIR EFFECT ON PIG MANURE QUALITY AND BARN CONDITION AGGREGATE
Oldrich Latal, Petr Novak, Petr Sarec, Martin Brtník
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 Prieckulis, 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. Gusynov, Jekaterina V. Aleksejeva
Liepaja University, Latvia; "Entelgine" Research & Advisory Co., Ltd, Latvia

19 IDENTIFYING POTENTIAL RISKS CREATED BY STATE JOINT-STOCK COMPANY LATVIJAS DŽELZCEļU, 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 bld., 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 Gavrilo, 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, Erzj Sanonetti, 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
Aleksands 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 Afnasjeva, Silvija Kukle
Riga Technical University, Latvia

7. STUDY OF SURFACE INTEGRITY BASED ON MILLING OF MATERIAL AISI 316L
Mallis Polma, Tonu Leenet, Marten Madisoo
Estonian University of Life Sciences, Estonia

8. EVALUATION OF METHODOLOGY FOR DETERMINATION OF MECHANICAL EFFICIENCY OF SPARK IGNITION ENGINE
Dansils Levickis, Maris Gailis, Janis Rudzitis, Juris Kreieberg
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 Micevicius, Stasys Slavinskas, Gvidonas Labeckas
Vytautas Magnus University, Lithuania

Section 5: Modeling and Simulation

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, Mareiks 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 Lagnew, Per-Anders Hansson
   The Swedish University of Agricultural Sciences, Sweden

4. **Investigation of Impact of Technological Parameters of Compress on Relative Density and Mechanical Resistance of Granulated Organic Compost Fertilizers**
   Antanas Pocius, Sigute Savickiene, Tytus Savickas, Jurate Vaitkeviciene
   Klaipeda State University of Applied Sciences, Lithuania

5. **Manure Processing into Granular Fertilizers Using Additional Additives**
   Ramunas Mieldzys, Egle Jotautiene, Raimonda Zinkevičienė, 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, Imars 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**
   Eglis Dzelzitis, Natalia Sidenko
   Riga Technical University, Latvia

8. **Analysis of Flat Plate Vibrations by Varying Frontal Area to the Flow**
   Shrvan Koundinya Vutukuru, Janis Viba, Igors Tīpans, Ilmars Vikse, Martins Irbe
   Riga Technical University, Latvia

9. **Research of Dynamics of Double Helicoidal Vehicle in Granular Media**
   Marcis Eimanis, Janis Aurins
   Riga Technical University, Latvia

10. **Passive Cooling of Electronic Components Using Closed Aluminium Housing Filled with Liquid**
    Janis Galins, Algars 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 Fluuctuating Asymmetry of Optical Density of Leaves**
    Sergey Rakutko, Elena Rakutko, Ansis Avotins, Peteris Apsē-Apulis
    Institute for Engineering and Environmental Problems in Agricultural Production, Russia; Riga Technical University, Latvia

13. **Designing of Thermal Treatment Parameters for Tomato Sauces**
    Inga Cipoviča, Evalds Raits, Aivare Kirse-Ozolina
    Latvia University of Life Sciences and Technologies, Latvia; Kronis Ltd., Latvia

14. **Effect of Sterilization Parameters on Quality of Commercially-Prepared Instant Soups**
    Asnate Kirse-Ozolina, Sandra Mužniec-Brasava, Evalds Raits, Zanda Kruma
    Latvia University of Life Sciences and Technologies, Latvia; Kronis Ltd., Latvia

15. **Driving 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

    Aleksandr Birjukov, Evgeniy Dobryshkin, Igor Kravchenko, Maxim Glinskiy
    Military Academy of Logistics named Army General A.V. Chruules, 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, Savelii Kukharet, 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.Cakates blvd., Room 336
Chairman: Dr.peda. Baiba Briede, Latvia University of Life Sciences and Technologies, Latvia
Vice-chairman: Dr.peda. Daina Vasilevska, Liepaja University, Latvia

1 PROJECTING INVESTMENTS AND FIXED ASSETS IN AGRICULTURE IN LATVIA
Aleksjs Nipers, Irina Pilvere, Agnese Krievina, Valda Bratka
University of Latvia, Latvia; Institute of Agricultural Resources and Economics, Latvia

2 ONE OF OPPORTUNITIES TO REDUCE STUDENT DROPOUTS
Aivars Aboltins, Svetlana Atselega, Natalija Sergejeva, Liene Strupule
University of Latvia, Latvia; Institute of Agricultural Resources and Economics, Latvia

3 STUDENTS’ SATISFACTION WITH THEIR HOST CITY: CASE OF JELGAVA, LATVIA
Liga Feldmane
University of Latvia, Latvia

INTERNET OF THINGS FOR FARMERS: EDUCATIONAL ISSUES
Boris Medvedev, Sergey Molodyakov
Peter the Great Saint-Petersburg Polytechnic University, Russia

IMPACT OF DIGITAL INNOVATION ON DEVELOPMENT OF AGRICULTURE IN LATVIA
Daina Vasilevska, Baiba Rivza, Peteris Rivza
University of Latvia, Latvia; Institute of Agricultural Resources and Economics, Latvia

PROSPECTS FOR USE OF TECHNICAL CYBERNETICS IN ANIMAL HUSBANDRY
Oksana Mamai, Sergey Mashkov, Velta Parsova
Saratov State Agricultural Academy, Russia; Latvia University of Life Sciences and Technologies, Latvia

SUSTAINABLE URBAN MOBILITY PLANNING DEVELOPMENT PRECONDITIONS: GOVERNANCE SYSTEM APPROACH
Zanda Krukle, Liga Biezina, Raimonds Ernsteins
University of Latvia, Latvia

CASE STUDY ON DEVELOPMENT OF MATHEMATICAL COMPETENCE OF FOREST SPECIALTIES STUDENTS
Anna Vintere, Liga Zvirgzdina
Latvia University of Life Sciences and Technologies, Latvia

READINESS FOR INNOVATIVE ACTIVITY AS IMPORTANT PROFESSIONAL COMPETENCE OF NEW GENERATION ENGINEER
Aliya Murzagaliyeva, Bakytgul Jugembayeva
Al-Farabi Kazakh National University, Kazakhstan

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Radan Tomek
Czech Technical University in Prague, Czech Republic

11 ICT IN LIFE OF STUDENTS AT THE LATVIA UNIVERSITY OF LIFE SCIENCES AND TECHNOLOGIES
Aanda Zeidmane
Latvia University of Life Sciences and Technologies, Latvia

12 ENGINEERING STUDY PROGRAM COMPLIANCE EVALUATION TO GUIDELINES FOR SOFTWARE ENGINEERING CURRICULUM
Gatis Vītols, Irina Arhipova, Liga Pauva
Latvia University of Life Sciences and Technologies, Latvia

13 PROBLEMS OF CONSERVATION AND USE OF AGRICULTURAL LAND IN URBAN AGGLOMERATIONS
Anastasiya Kondolkskaia, 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
Matiss 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 Kuryliiv, Nadia Kryshevsk
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
Social tour

Friday, May 24

9th – 16th 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.

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.

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