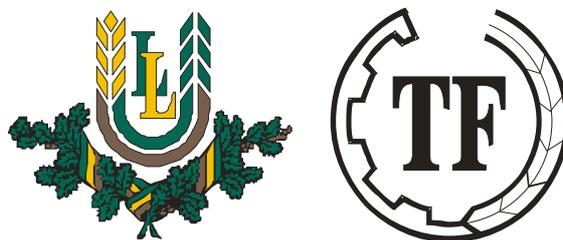


**Latvia University of Agriculture
Faculty of Engineering**



14th International Scientific Conference

ENGINEERING FOR RURAL DEVELOPMENT

PROGRAMME



Jelgava, Latvia, May 20 – 22, 2015

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ABSTRACTS, CABI full text, EBSCO Academic Search Complete

ONLINE: Proceedings *ENGINEERING FOR RURAL DEVELOPMENT* is available online at
<http://tf.llu.lv/conference/proceedings2015/>

Wednesday, 20 May

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

Thursday, 21 May

9⁰⁰ – 10⁰⁰ Registration of participants,
Faculty of Engineering, LUA, 5 J. Cakstes blvd., 2nd floor, Room 254,
Coffee

10⁰⁰ – 12¹⁰ Opening of the conference and plenary session
Faculty of Engineering, Room 429

Chairman: Dr.sc.ing. Aivars Aboltins, Latvia University of Agriculture

Vice-chairman: Dr. sc.ing. Janis Palabinskis, Latvia University of Agriculture

10⁰⁰ – 10¹⁰	OPENING WELCOME Ilmars Dukulis <i>Dean of the Faculty of Engineering, Latvia University of Agriculture</i>
10¹⁰ – 10⁴⁰	SEVENTY YEARS OF AGRICULTURAL ENGINEERING EDUCATION AND SCIENCE Kaspars Vartukapteinis <i>Latvia University of Agriculture</i>
10⁴⁰ – 11¹⁰	ECONOMIC COST ANALYSIS IN HIGHER EDUCATION IN LATVIA Daina Vasilevska¹, Baiba Rivza² <i>¹Riga Technical University, Latvia; ²Latvia University of Agriculture</i>
11¹⁰ – 11⁴⁰	ISSUES OF SOLID WOOD BIOMASS DEVELOPMENT FOR BIOENERGY IN LATVIA Ligita Melece, Agnese Krievina <i>Latvian State Institute of Agrarian Economic</i>
11⁴⁰ – 12¹⁰	3D RECONSTRUCTION OF MINING HARVESTER HEAD USING MULTI-VIEW PHOTO David Hoffmann, Petr Hermanek, Adolf Rybka, Ivo Honzik <i>Czech University of Life Sciences Prague</i>

12¹⁵ – 13⁰⁰ Lunch

13⁰⁰ – 15⁰⁰ Work in sections

15⁰⁰ – 15³⁰ Coffee break, Room 254

15³⁰ – 18⁰⁰ Work in sections

Regulations: *Presentations – 10 minutes*

Discussions – 5 minutes

19⁰⁰ Conference dinner
5 J. Cakstes blvd., Room 254

Conference languages – English, Russian, Latvian

5 J.Cakstes blvd., Room 212

Chairman: Dr.sc.ing. **Juris Priekulis**, *Latvia University of Agriculture*

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

- 1 EVALUATION OF QUALITATIVE PARAMETERS OF SELECTED SOIL TILLAGE MACHINES FOR LOOSENING SOIL WITHOUT TURNING
Petr Novak, Jiri Masek, Lukas Benes, Jitka Kumhalova
Czech University of Life Sciences Prague
- 2 MOVEMENT AND TRANSFORMATION OF GRAIN IN TWO-STAGE CRUSHER
Vasilij Sysuev¹, Semjons Ivanovs², Peter Savinyh¹, Vladimir Kazakov¹
¹North-East Agricultural Research Institute, Russia; ²Latvia University of Agriculture
- 3 MECHANICAL BEHAVIOUR OF BULK RAPESEEDS UNDER QUASI DYNAMIC COMPRESSION LOADING
David Herak, Vladimir Sleger, Cestmir Mizera, Ales Sedlacek
Czech University of Life Sciences Prague
- 4 ESTIMATED MATHEMATICAL MODEL OF PLANE-PARALLEL MOTION OF TRAILED HEMP HARVESTING AGGREGATE
Volodimir Bulgakov¹, Semjons Ivanovs², Valerii Adamchuk³
¹National University of Life and Environmental Sciences of Ukraine; ²Latvia University of Agriculture; ³National Research Centre of the National Sciences of Ukraine "Institute of Mechanization and Electrification of Agriculture"
- 5 MATHEMATICAL MODEL FOR DETERMINATION OF LOSSES OF SUGAR BEARING-MASS WHEN SUGAR BEET TOPS ARE REMOVED
Volodimir Bulgakov¹, Semjons Ivanovs², Valeriy Adamchuk³, Andrey Boris³
¹National University of Life and Environmental Sciences of Ukraine; ²Latvia University of Agriculture; ³National Research Centre of the National Academy of Agrarian Sciences of Ukraine "Institute of Mechanization and Electrification of Agriculture"
- 6 TENSILE RESISTANCE OF WHEELED COMBINE HARVESTER
Lukas Benes, Petr Hermanek, Petr Novak
Czech University of Life Sciences Prague
- 7 RESEARCH IN STRIP TILLAGE MACHINE ROW CLEANER TECHNOLOGY PROCESS
Egidijus Sarauskis¹, Kristina Vaitauskiene¹, Kestutis Romaneckas¹, Antanas Sakalauskas¹, Algirdas Jasinskas¹, Vidmantas Butkus¹, Davut Karayel², Zita Kriauciuniene¹
¹Aleksandras Stulginskis University, Lithuania; ²Akdeniz University, Turkey
- 8 AERODYNAMIC PROPERTIES OF NOISE SILENCERS
Pavel Kic
Czech University of Life Sciences Prague
- 9 SELECTED FACTORS AFFECTING MICROCLIMATIC CONDITIONS IN DRIVER'S CABIN
Retta Zewdie, Pavel Kic
Czech University of Life Sciences Prague

- 10** AIR PRESSURE IN TIRES EFFECTS ON SLIPPAGE OF TRACTORS
Vaclovas Kurkauskas, Algirdas Janulevicius, Gediminas Pupinis
Aleksandras Stulginskis University, Lithuania
- 11** RESISTANCE SPOT WELDING OF STEEL SHEETS OF DIFFERENT THICKNESS
Milan Brozek
Czech University of Life Sciences Prague
- 12** EVALUATION OF COMBINE HARVESTER FUEL CONSUMPTION AND OPERATION COSTS
Jiri Masek, Petr Novak, Tomas Pavlicek
Czech University of Life Sciences Prague
- 13** FLEET OF TRACTORS ON FARMS OF LATVIA
Nikolajs Kopiks, Dainis Viesturs, Oskars Valainis
Latvia University of Agriculture
- 14** RESEARCH IN MANURE MANAGEMENT IN LATVIA
Juris Priekulis¹, Aivars Aboltins¹, Armins Laurs¹, Ligita Melece²
¹Latvia University of Agriculture; ²Latvian State Institute of Agrarian Economics
- 15** EFFICIENCY OF HEAT RECOVERY FROM PIGSTY MANURE
Andrievs Ilsters, Imants Ziemelis, Henriks Putans
Latvia Univeristy of Agriculture
- 16** DETERMINATION OF OPERATING PARAMETERS IN MILKING ROBOTS WITH FREE COW TRAFFIC
Halil Unal, Hasan Kuraloglu
Uludag University, Turkey
- 17** CRITERIA FOR OPTIMIZATION OF MILKING PARLOUR ON DAIRY FARM
Pavel Kic
Czech University of Life Sciences Prague

Section 2: ENGINEERING TECHNOLOGIES

J. Cakstes blvd., Room 429

Chairman: Dr.sc.ing. **Aivars Aboltins**, *Latvia University of Agriculture*

Vice-chairman: Dr.sc.ing. **Janis Palabinskis**, *Latvia University of Agriculture*

- 1 ASSESSMENT OF COMBUSTION PARAMETERS OF BIOMASS MIXTURES
Aivars Kakitis, Imants Nulle, Martins Ozollapins, Janis Kjakste
Latvia University of Agriculture
- 2 CUTTING ENERGY ASSESSMENT OF HEMP FIBRES
Aivars Kakitis, Roberts Berzins, Uldis Berzins
Latvia University of Agriculture
- 3 HOP MATERIAL SEPARATION ON ROLLER CONVEYOR
Martin Krupicka, Adolf Rybka
Czech University of Life Sciences Prague
- 4 INVESTIGATION OF SAPROPEL EXTRACTION TECHNICAL TOOLS
Roberts Vanags
Latvia University of Agriculture
- 5 ANALYTICAL SOLUTION FOR 3D MODEL OF PEAT BLOCKS
Harijs Kalis¹, Ilmars Kangro²
¹University of Latvia; ²Rezekne Higher Education Institution, Latvia
- 6 COMPARISON OF MINT PLANT AND PINE CONE DRYING BY CONVECTION
Aivars Aboltins¹, Pavel Kic²
¹Latvia University of Agriculture; ²Czech University of Life Sciences Prague
- 7 DRYING RESEARCH IN PERENNIAL MUGWORT (*ARTEMISIA DUBIA* WALL.)
Zivile Volkaviciute¹, Algirdas Raila¹, Zydre Kadziuliene², Egidijus Zvicevicius¹, Vita Tilvikiene², Edgaras Tauras¹
¹Aleksandras Stulginskis University; ²Lithuanian Research Center for Agriculture and Forestry
- 8 MATHEMATICAL MODEL OF SUN DRYING OF SLICED TOMATO IN HAWASSA REGION – ETHIOPIA
Petr Hrabe, David Herak
Czech University of Life Sciences in Prague
- 9 RESEARCH IN HEAT TRANSFER PROCESS DURING FREEZING BERRIES
Ilze Beitane, Aivars Aboltins, Anita Blija, Uldis Gross, Sigita Boca, Imants Skrupskis
Latvia Univeristy of Agriculture
- 10 HEAT LOSSES DECREASING POSSIBILITIES THROUGH BUILDINGS WINDOWS
Edmunds Visockis¹, Raimunds Selegovskis², Stanislavs Pleiksnis³
¹Institute of Polimer Mehanics; ²Latvia University of Agriculture; ³Rezekne Higher Education Institution, Latvia
- 11 INVENTORY OF AGRICULTURAL BUILDING OBJECTS BASED ON DATA OBTAINED FROM MEASUREMENTS BY LASER SCANNING
Elzbieta Szafranko, Joanna A. Pawlowicz
University of Warmia and Mazury in Olsztyn, Poland

- 12 DETERMINING MEAN VALUE OF MISSING PARTICLE SIZE FOR WEIGHT CALCULATION**
Iva Cerna, Josef Pecen
Czech University of Life Sciences Prague
- 13 RESEARCH OF TECHNOLOGICAL PROCESS OF HEMP SLAB PRODUCTION**
Semjons Ivanovs¹, Adolfs Rucins¹, Oskars Valainis¹, Dana Belakova², Edgars Kirilovs², Rihards Vidzickis²
¹Latvia University of Agriculture; ²Riga Technical University, Latvia
- 14 RESEARCH IN OAK WASTE PREPARATION AND UTILIZATION FOR BURNING**
Algirdas Jasinskas¹, Rolandas Domeika¹, Egidijus Sarauskis¹, Ramunas Mieldazys¹, Vytautas Kucinskas¹, Andres Annuk²
¹Aleksandras Stulginskis University, Lithuania; ²Estonian University of Life Sciences, Estonia
- 15 VALUE OF COMBUSTION HEAT OF BIOMASS MATERIAL DEPENDING ON SIZE OF BIOMASS PARTICLES AND PERIOD OF MEASURING IN CALORIMETER**
Josef Pecen, Petra Zabloudilova
Czech University of Life Sciences in Prague

Section 3: MOTOR VEHICLES AND FUELS

5 J. Cakstes blvd., Room 431

Chairman: Dr.sc.ing. **Gints Birzietis**, *Latvia University of Agriculture*

Vice-chairman: Dr.sc.ing. **Eriks Kronbergs**, *Latvia University of Agriculture*

- 1 AERODYNAMIC CHARACTERISTICS OF CARS WITH TRAILERS IN ROAD EXPERIMENTS
Dainis Berjoza
Latvia University of Agriculture
- 2 ANALYSIS OF DISTRIBUTION OF ELECTRIC VEHICLE CHARGING STATIONS IN THE BALTICS
Dainis Berjoza, Inara Jurgena
Latvia Univeristy of Agriculture
- 3 ANALYSIS OF ENERGIES AND SPEED PROFILES OF DRIVING CYCLES FOR FUEL CONSUMPTION MEASUREMENTS
Denis Makarchuk¹, Juris Kreicbergs¹, Aivis Grislis¹, Maris Gailis^{1,2}
¹Riga Technical University; ²Latvia University of Agriculture
- 4 CITY DRIVING ELEMENT COMBINATION INFLUENCE ON CAR TRACTION ENERGY REQUIREMENTS
Juris Kreicbergs, Denis Makarchuk, Gundars Zalcmanis, Aivis Grislis
Riga Technical University
- 5 EFFECT OF RHOMBOID PRESSING MECHANISM ON BRIQUETTING ENERGY
Edgars Repsa, Eriks Kronbergs
Latvia Univeristy of Agriculture
- 6 EVALUATION OF SOCIAL LEGISLATION INFRINGEMENTS FOR INTERNATIONAL HAULAGE TRUCK DRIVERS INVOLVED IN ROAD TRANSPORT ACCIDENTS
Gundars Zalcmanis, Aivis Grislis, Juris Kreicbergs
Riga Technical University
- 7 EXPERIMENTAL INVESTIGATION OF SHREDDER CUTTER HEAD VIBRATION PARAMETERS
Mareks Smits, Eriks Kronbergs
Latvia Univeristy of Agriculture
- 8 HIGH RISK OF ABRUPT CLIMATE CHANGE REQUIRING CLOSELY ESTIMATE BIOFUEL GREENHOUSE GAS EMISSIONS BY LIFE CYCLE ASSESSMENT
Sandis Vilums
Latvia Univeristy of Agriculture
- 9 APPLICATION OF ENZYMATIC PROCESS FOR BIODIESEL SYNTHESIS FROM VEGETABLE OIL WITH HIGH FATTY ACID CONTENT USING BUTANOL
Kiril Kazancev, Egle Sendzikiene, Irina Kazanceva
Aleksandras Stulginskis University

- 10 ASSESMENT OF COMPATIBILITY OF FUEL SUPPLY SYSTEM POLYMERIC PARTS WITH BIOETHANOL/GASOLINE BLEND E85**
Maris Gailis^{1,2}, Vilnis Pirs¹
¹Latvia University of Agriculture; ²Riga Technical University, Latvia
- 11 DETERMINATION OF N-BUTANOL AND ISOBUTANOL IN GASOLINE USING GAS CHROMATOGRAPHY (GC-FID)**
Vladimir Honig, Jan Taborsky, Zdenek Linhart
Czech University of Life Sciences Prague
- 12 USE OF BLEND OF FAME FROM ANIMAL FATS WITH BIOBUTANOL AS FUEL IN DIESEL ENGINES**
Vladimir Honig, Zdenek Linhart, Matyas Orsak
Czech University of Life Sciences Prague
- 13 USE OF BLEND OF HYDROTREATED VEGETABLE OIL WITH BIOBUTANOL FOR APPLICATIONS IN DIESEL ENGINES**
Vladimir Honig, Zdenek Linhart, Matyas Orsak
Czech University of Life Sciences Prague
- 14 POTENTIAL ABILITY TO INCREASE THE AREA OF WINTER RAPESEED CULTIVATION FOR BIOFUEL PRODUCTION IN POLAND**
Renata Marks-Bielska, Stanislaw Bielski, Krystyna Kurowska, Hubert Kryszk
University of Warmia and Mazury in Olsztyn

5 J. Cakstes blvd., Room 403

Chairman: Dr.sc.ing. **Imants Ziemelis**, *Latvia University of Agriculture*

Vice-chairman: Dr.sc.ing. **Aleksandrs Terebkovs**, *Latvian Maritime Academy*

- 1 ANALYSIS OF WIND POWER FLOW ON DIFFERENT HEIGHTS IN VENTSPILS REGION
BASED ON MEASUREMENTS BY PENTALUM SPIDAR
Aleksejs Zacepins¹, Valerijs Bezrukovs², Vitalijs Komasilovs¹, Vladislavs Bezrukovs²
¹Institute of Physical Energetics, Latvia; ²Ventspils University College, Latvia
- 2 HOUSHOLD ELECTRIC POWER SUPPLY GRID POWER FACTOR TRENDS
Arvids Jakusenoks, Aigars Laizans
Latvia Univeristy of Agriculture
- 3 OPERATION IMPROVEMENT OF INDUCTION MOTOR TEMPERATURE PROTECTION
DEVICE UNDER EXTREME OVERLOAD
Aleksejs Gedzurs
Latvia Univeristy of Agriculture
- 4 PUBLIC BUS ENERGY CONSUMPTION INVESTIGATION FOR TRANSITION TO
ELECTRIC POWER AND SEMI-DYNAMIC CHARGING
Igors Graurs¹, Aigars Laizans², Peteris Rajeckis³, Aivars Rubenis⁴
*¹Transport and Telecommunication Institute, Latvia; ²Latvia University of Agriculture; ³AUTO
CADA AJ LTD., Latvia; ⁴TransfoElectric, Latvia*
- 5 BIOGAS SPECIFIC HEAT CAPACITY VARIATIONS DURING UPGRADING
Revik Vardanjan¹, Aigars Laizans², Andris Jakovics³, Stanislavs Gendelis³
¹Armgate LLC, Latvia; ²Latvia Univeristy of Agriculture; ³University of Latvia
- 6 STATIONARY ESS CONTROL ACCORDING TO TRAM TRAFFIC INTENSITY
Ugis Sirmelis, Linards Grigans
Institute of Physical Energetics
- 7 STATOR CORE VIBRATION AND TEMPERATURE ANALYSIS OF HYDROPOWER
GENERATION UNIT AT 100 HZ FREQUENCY
Marina Grisenco, Renars Vitols
Riga Technical University
- 8 TUNEABLE ELASTOMERIC VIBRATION ISOLATOR
Vladimirs Gonca¹, Svetlana Polukoshko², Egons Lavendelis¹
*¹Riga Technical University, Latvia; ²Ventspils University College, Engineering Research Institute
"VSRC", Latvia*
- 9 WIND POWER INDUCTOR GENERATOR WITH ELECTROMAGNETIC REGULATION OF
AIR GAP FOR ALTERNATIVE POWER ENGINEERING
Aleksandrs Gasparjans¹, Maria Hramcova¹, Aleksandrs Terebkovs¹, Anastasia Zhiravetska²
¹Latvian Maritime Academy; ²Riga Technical University, Latvia
- 10 VOLTAGE BALANCE CONTROL OF TWO-LEVEL DC-DC CONVERTER
Kaspars Kroics¹, Ugis Sirmelis¹, Viesturs Brazis²
¹Institute of Physical Energetics; ²Riga Technical University

- 11 CYLINDRICAL SOLAR COLLECTOR WITH REFLECTOR
Ilze Pelece
Latvia Univeristy of Agriculture
- 12 ROLLED UP HEMP MASS DESICCATION IN FIELD CONDITIONS BY SOLAR RADIATION
Viktorija Zagorska, Henriks Putans, Ilze Pelece, Imants Ziemelis
Latvia University of Agriculture
- 13 FERROMAGNETIC COILS FOR WIRELESS POWER TRANSFER
Aigars Laizans¹, Ainars Galins¹, Vitalijs Osadcuks¹, Aldis Pecka¹, Aivars Rubenis²
¹Latvia University of Agriculture; ²TransfoElectric, Latvia
- 14 DECOMPOSITION METHOD FOR ANALYSIS OF ROBOT VERTICAL VIBRATION MOVEMENT
Janis Viba, Abdessemed Chaouki, Oskars Ozolins, Valters Cipruss
Riga Technical University
- 15 DOUBLE PENDULUM VIBRATION MOTION IN FLUID FLOW
Janis Viba, Maris Eiduks, Martins Irbe
Riga Technical University
- 16 APPLICATION OF WIRELESS SENSOR NETWORKS IN PRECISION APICULTURE
Armands Kvisis¹, Aleksejs Zacepins¹, Mahmut Durgun², Saban Tekin³
¹Latvia University of Agriculture, Latvia; ²Karamanoglu Mehmetbey University, Turkey; ³TUBITAK Marmara Research Center Genetic Engineering and Biotechnology Institute, Turkey
- 17 HONEY BEE COLONY MONITORING WITH IMPLEMENTED DECISION SUPPORT SYSTEM
Armands Kvisis, Aleksejs Zacepins, Gatis Riders
Latvia Univeristy of Agriculture

Section 5: BIOMASS CONDITIONING AND AGRICULTURAL EMISSIONS

5 J. Cakstes blvd., Room 410

Chairman: Dr.sc.ing. **Vilis Dubrovskis**, *Latvia University of Agriculture*

Vice-chairman: Dr.sc.ing. **Laima Berzina**, *Latvia University of Agriculture*

- 1 BIO FUEL CONTRIBUTION IN MEETING RENEWABLE ENERGY AND CLIMATE POLICY TARGETS IN LATVIA
Gaidis Klavs, Ivars Kudrenickis, Janis Rekis
Institute of Physical Energetics
- 2 ANAEROBIC DIGESTION OF VEGETABLE PROCESSING WASTES WITH CATALYST METAFERM AND MICROELEMENTS
Vilis Dubrovskis, Vladimirs Kotelenecs, Imants Plume
Latvia University of Agriculture
- 3 BIOGAS POTENTIAL FROM FRESHWATER ALGAE
Vilis Dubrovskis, Imants Plume
Latvia University of Agriculture
- 4 ELECTRIC FIELD CONTROL OF BIOMASS GASIFICATION
Inesa Barmina, Antons Kolmickovs, Raimonds Valdmanis, Sergejs Vostrikovs, Maija Zake
Institute of Physics
- 5 ELECTRIC FIELD EFFECT ON BIOMASS COMBUSTION CHARACTERISTICS
Inesa Barmina, Aleksandrs Cipijs, Janis Valdmanis, Raimonds Valdmanis, Maija Zake
Institute of Physics
- 6 ENERGY CROPS IN POLISH AGRICULTURE BASED ON RESULTS OF AGRICULTURAL CENSUS OF 2010
Krystyna Kurowska¹, Roman Rudnicki²
¹University of Warmia and Mazury in Olsztyn, Poland; ²Nicolaus Copernicus University in Toruń, Poland
- 7 YIELD CROP DEPENDENCE ON SOIL PROPERTIES AND SOIL WATER AVAILABILITY
Jan Chyba, Milan Kroulik, Vaclav Brant, Jiri Masek
Czech University of Life Sciences Prague
- 8 FLUE GASES EMITTED BY TIMOTHY AND MEADOW FESCUE PELLETS
Aleksandrs Adamovics, Rasma Platace
Latvia University of Agriculture
- 9 ASH CONTENT IN GRASS BIOMASS YIELDED IN 1ST AND 2ND CULTIVATION YEAR AND EVALUATION OF SUITABILITY THEREOF FOR PELLET PRODUCTION
Rasma Platace¹, Aleksandrs Adamovics¹, Liena Poisa¹, Edgars Cubars², Skaidrite Bumane³
¹Latvia University of Agriculture; ²Rezekne Higher Education Institution, Latvia; ³Latvian Plant Protection Research Centre
- 10 BIOMASS YIELD AND CHEMICAL COMPOSITION OF PERENNIAL GRASSES FOR ENERGY PRODUCTION
Sarmite Rancane¹, Aldis Karklins¹, Dagnija Lazdina², Peteris Berzins¹
¹Latvia University of Agriculture; ²Latvia State Forest Research Institute "Silava"

- 11 ENERGY BALANCE EVALUATION OF WINTER TRITICALE PRODUCTION**
Stanislaw Bielski
University of Warmia and Mazury in Olsztyn, Poland
- 12 PRINCIPLES OF PRECISION AGRICULTURE IN ON-FARM SPRING WHEAT FERTILIZATION EXPERIMENT**
Kestutis Romanekas, Remigijus Zinkevicius, Dainius Steponavicius, Antanas Maziliauskas, Vidmantas Butkus, Ausra Marcinkeviciene
Aleksandras Stulginskis University
- 13 INFLUENCE OF BIO-PREPARATION ON CUTTING CHARACTERISTICS OF CANNABIS RESIDUES**
Vilma Naujokiene, Egidijus Sarauskis, Kristina Vaitauskiene, Ieva Skukauskaite
Aleksandras Stulginskis University, Lithuania
- 14 AGRICULTURAL GHG EMISSION AND MITIGATION MEASURES IN LATVIA**
Irina Pilvere, Arnis Lenerts
Latvia University of Agriculture
- 15 DAIRY FARMING AND GREENHOUSE GAS EMISSIONS IN LATVIA: SOME METHODOLOGICAL ASPECTS OF GREENHOUSE GAS INVENTORY**
Ritvars Sudars, Laima Berzina, Juris Priekulis
Latvia University of Agriculture
- 16 EVALUATION OF MEASURES FOR MITIGATION OF GREENHOUSE GAS EMISSIONS SUITABLE FOR LATVIAN AGRICULTURE**
Dina Popluga, Kaspars Naglis-Liepa
Latvia Univeristy of Agriculture
- 17 INVESTIGATION OF WATER EVAPORATION FROM CATTLE MANURE**
Evgenia Lantsova, Valerii Vtoryi, Sergei Vtoryi
Federal State Budget Scientific Institution "Institute for Engineering and Environmental Problems in Agricultural Production" IEEP, Russia

5 J. Cakstes blvd., Room 336

Chairman: Dr.paed. **Baiba Briede**, *Latvia University of Agriculture*

Vice-chairman: Dr.oec. **Sandija Zeverte-Rivza**, *Latvia University of Agriculture*

1 STUDENT WORK DURING PREPARATION OF MATERIAL DATASHEETS FOR SPECIFIC COMPANY

Natasa Naprstkova¹, Pavel Kraus¹, Dana Stancekova²

¹Jan Evangelista Purkyně University in Ústí nad Labem, Czech Republic; ²University of Žilina, Slovakia

2 EVALUATING COMPETENCES WITH COMPUTERIZED TESTS

Uldis Zandbergs, Janis Judrups

Baltic Computer Academy Ltd., Latvia

3 OVERVIEW OF MULTIMEDIA E-LEARNING MATERIALS

Ilze Kazaine

Latvia Univeristy of Agriculture

4 LEARNING OF TECHNOLOGIES: ROAD FROM NON-FORMAL EMPIRICAL DESCRIPTIONS TO FORMAL MATHEMATICAL STUDY

Vladimir Romanenko, Galina Nikitina

North-Western Branch of Academy of Information Technologies in Education, Russia

5 COMPUTER ASSISTED INSTRUCTIONAL TECHNOLOGIES: NEW DEMANDS FOR TEACHERS' STAFF

Vladimir Romanenko, Galina Nikitina

North-Western Branch of Academy of Information Technologies in Education, Russia

6 DIDACTIC DESIGNING OF LEARNING OBJECTS

Elena Vakhtina¹, Zuzana Palkova²

¹Stavropol State Agrarian University, Russia; ²Slovak University of Agriculture in Nitra, Slovakia

7 COMPETENCE BASED HUMAN RESOURCE DEVELOPMENT SOLUTION

Janis Judrups, Uldis Zandbergs, Maksims Kazakovs

Baltic Computer Academy Ltd.

8 INNOVATIONS AND THE USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES IN ENTREPRENEURSHIP IN LATVIA

Modrite Pelse, Sandija Zeverte-Rivza

Latvia Univeristy of Agriculture

10 IDENTIFICATION OF FACTORS INFLUENCING THE TRANSACTION PRICE OF AGRICULTURAL REAL ESTATE

Krystyna Kurowska, Hubert Kryszk

University of Warmia and Mazury in Olsztyn, Poland

11 POTENTIAL RYE BREAD CONSUMERS

Aija Eglite¹, Barbara Freytag-Leyer²

¹Latvia University of Agriculture; ²Fulda University of Applied Sciences, Germany

12 WORK ENVIRONMENT ASSESSMENT IN THE ASPECT OF WORK PSYCHOLOGY PROCESSES

Dace Brizga, Ludis Peks

Latvia Univeristy of Agriculture

13 DEVELOPMENTAL TEACHING IN THE PROCESS OF FORMATION COMMUNICATIVE COMPETENCE IN READING PROFESSIONALLY-ORIENTED TEXTS

Elena Zorina, Olga Chudnova

Stavropol State Agrarian University, Russia

5 J. Cakstes blvd., Room 327

Chairman: Dr.sc.ing. **Daina Kanaska**, *Latvia University of Agriculture*

Vice-chairman: Dr. hab.sc.ing. **Tomasz Lipinski**, *University of Warmia and Mazury in Olsztyn, Poland*

1 INFLUENCE OF OVERLAPPING LENGTH ON PEELING STRENGTH OF ADHESIVE BONDS

Jan Cidlina, Miroslav Muller

Czech University of Life Sciences in Prague

2 INFLUENCE OF ADDITIONAL CHEMICAL COMPONENTS ON MACHINING PROPERTIES OF SELECTED ALUMINIUM-SILICON ALLOY

Natasa Naprstkova¹, Dana Kalincova²

¹Jan Evangelista Purkyně University in Ústí nad Labem, Czech Republic; ²Technical University of Zvolen, Czech Republic

3 EVALUATION OF NEW TYPE OF CHEMICAL PRE-TREATMENT APPLIED ON LOW-CARBON STEEL SUBSTRATE USING SEM AND EDS ANALYSIS

Jaroslava Svobodova

Jan Evangelista Purkyně University in Ústí nad Labem, Czech Republic

4 BENDING STRAINS OF STEEL CONSTRUCTION IN PROCESS OF WELDING BY MAG TECHNOLOGY

Gunars Verdins¹, Daina Kanaska¹, Mareks Kairiss²

¹Latvia University of Agriculture; ²EASTMETAL Ltd., Latvia

5 EFFECT OF IMPURITIES ON BENDING FATIGUE STRENGTH OF STRUCTURAL STEEL

Tomasz Lipinski, Anna Wach

University of Warmia and Mazury in Olsztyn, Poland

6 METHODS OF EVALUATION DEGRADED PARTS

Sylvia Kusmierczak

Jan Evangelista Purkyně University in Ústí nad Labem, Czech Republic

7 MORPHOLOGY OF IMPURITIES IN STEEL AFTER DESULFURIZATION AND VACUUM DEGASSING

Tomasz Lipinski

University of Warmia and Mazury in Olsztyn, Poland

8 RESEARCH IN MECHANICAL PROPERTIES OF ADHESIVE CONTAMINATED WITH DUSTY MICRO-PARTICLES FROM PRODUCTION PROCESS

Alena Krofova, Miroslav Muller

Czech University of Life Sciences Prague

9 SURFACE TEXTURE PARAMETERS FOR FLAT GRINDED SURFACES

Natalija Bulaha, Janis Rudzitis

Riga Technical University

10 POLYHARMONIC METAL DETECTOR

Jakub Svatos^{1,2}, Miloslav Linda¹

¹Czech University of Life Sciences Prague; ²Czech Technical University in Prague

- 11** LABORATORY DETERMINATION OF REFLECTANCE COEFFICIENT SELECTED FOR THE BEDDING MATERIALS RELATED TO THE PROPERTIES OF THE LIGHT SOURCES USED IN THE BARNS
Josef Pecen¹, Petra Zabloudilova²
¹Czech University of Life Sciences Prague; ²Research Institute of Agricultural Engineering; Czech Republic
- 12** INVESTIGATION OF GRANULATION PROCESS INFLUENCE TO GRANULATED ORGANIC COMPOST FERTILIZER PROPERTIES
Antanas Pocius, Egle Jotautiene, Rolandas Domeika, Algirdas Jasinskas, Vytautas Kucinskas, Mecys Palsauskas
Aleksandras Stulginskis University, Lithuania
- 13** APPLICATION OF OVERLAY MATERIALS FOR REDUCING ABRASIVE WEAR
Jiri Cieslar¹, Milan Brozek²
¹ATG s.r.o. (Advanced Technical Group), Czech Republic; ²Czech University of Life Sciences Prague

Friday, 22 May

10⁰⁰ - 17⁰⁰

Social tour

Departure from 5 J. Cakstes blvd. at 9⁴⁵

The Bauska Castle

The castle surrounded by a picturesque scenery is located in the territory of Bauska town, on the land strip between the rivers Mūsa and Mēmele, not far from the place where the rivers meet to form the river Lielupe. The Bauska castle complex consists of two parts. The oldest of them – Livonia Order Castle – was built in the middle of the 15th century, but only ruins have remained up to nowadays. While the newest – residence for the Duke of Kurzeme (Courland) – was built at the end of the 16th century.



Brewery “Bauskas Alus”

You have a unique opportunity to visit our brewery in Bauska.

We are offering you a 1-1.5 hours guided tour. You will learn some important points about the history of our brewery, as well as its secret process of beer producing. At the end of excursion, you will have time to test our beer and non-alcoholic beverages.

Brewery *Bauskas Alus* – *Beer of Bauska* – was founded in 1981. Since the dawn of the Company its brewers were true (and are today) to classic brewing technology, thanks to which Brewery has earned place on store shelves and in hearts of people.



9TH INTERNATIONAL SAND SCULPTURE FESTIVAL

On 23 and 24 May, we invite you to the 9th International Sand Sculpture Festival “Summer Signs” which takes place annually in Jelgava. The sand sculpting theme for this year’s festival participants will be the “Future in 750 Years” which is dedicated to the anniversary of the city. Visitors will be able to see the various interpretations and artists’ visions of the future on 23 and 24 May on Pasta (Post) Island.

The judging committee has selected 15 professional sculptors from eleven countries – Latvia, Estonia, Russia, France, Bulgaria, Turkey, Ukraine, Hungary, Lithuania, Poland, and China. Jelgava Sand Sculpture Festival has become the largest competition of its kind in the Baltics. More than 900 tonnes of sand in total will be used for the preparation of the works.



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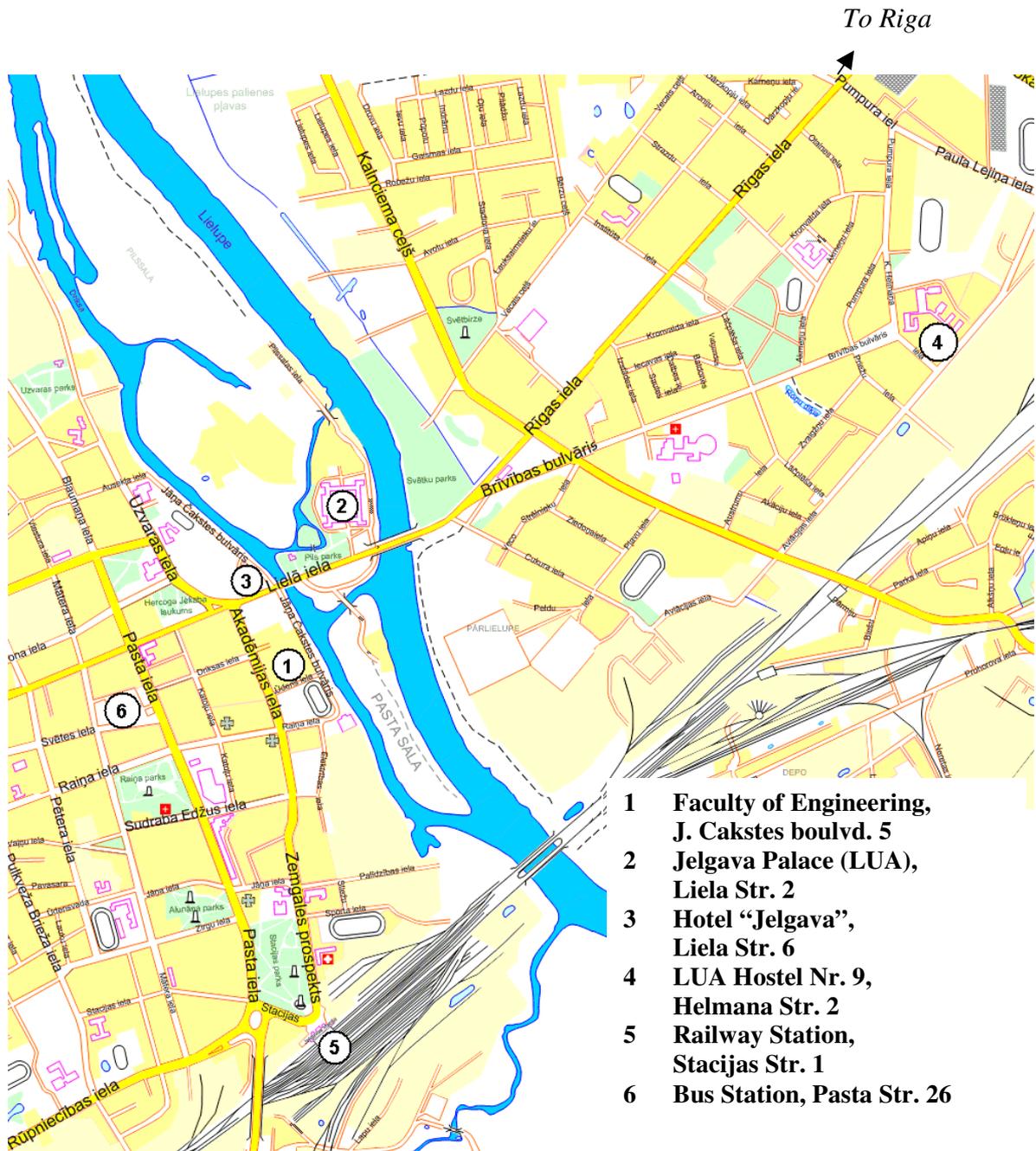
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Latvia University of Agriculture, Research Institute of Agricultural Machinery is founded in 1960 as the Scientific Research Institute for the Mechanization and Electrification of Agriculture, since 1998 incorporated into the Latvia University of Agriculture. 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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