

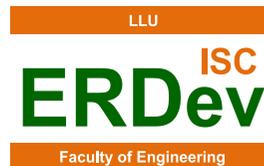
Plenary session

Date: 27.05.2021
Moderator: Aivars Aboltins
aivars.aboltins@llu.lv

Zoom Meeting ID: 2436995670
Passcode: RW3iuA

Zoom Meeting link: <https://zoom.us/j/2436995670?pwd=NGIxRXRYaEdZNUVDVnYvZHRqd3lXUT09>

Faculty of Engineering
Latvia University of Life Sciences and Technologies
Latvia Academy of Agricultural and Forest Sciences,
Section of Engineering



has the pleasure to invite you to attend
**20th International Scientific
Conference
Engineering for Rural
Development**
26.-28.05.2021 Jelgava, LATVIA

9:45 Connection to online conference

10:00 Welcome speech

Aigars Laizans,

Vice-rector, Latvia University of Life Sciences and Technologies

10:10 Opening welcome, some facts and history
about ERDev conference

Ilmars Dukulis,

Dean, Faculty of Engineering, Latvia University of Life Sciences and Technologies

10:20 Opening of the conference

Aivars Aboltins,

Chairman Conference program committee

10:40 Work in sections

13:00 Lunch

13:40 Work in sections

15:40 Break

16:00 Work in sections

Section 1. Agricultural machinery and technologies

Date: 27.05.2021

Moderator: Adolfs Rucins

adolfs.rucins@llu.lv

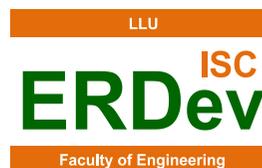
Regulations: presentation – 15 min, discussion – 5 min

Zoom Meeting ID: 8589883278

Passcode: 780485

Zoom Meeting link: <https://zoom.us/j/8589883278?pwd=Q00xZWFTYzNWMWczYUZoTnB5OHVzUT09>

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Time (UTC+3)	Presentetion title and authors
10:40	DIFFERENCES IN OCCUPATION OF LYING STALLS BY COWS: CASE STUDY OF PENS WITH ONE ROW OF STALLS <u>Marek Gaworski</u> <i>Warsaw University of Life Sciences, Poland</i>
11:00	IMPACT OF BIOLOGICAL WATER-BASED FERTILISERS UPON SOIL FERTILITY Valentyna Krutyakova, Nina Pyliak, Olena Nikipelova, Volodymyr Bulgakov, Adolfs Rucins <i>Engineering and Technology Institute "Biotechnica", Ukraine; National University of Life and Environmental Sciences of Ukraine, Ukraine; Latvia University of Life Sciences and Technologies, Latvia</i>
11:20	INVESTIGATION OF TECHNOLOGY FOR OBTAINING BIOFERTILISERS BASED ON SEWAGE SLUDGE Valentina Krutiakova, Nina Pyliak, Olena Nikipelova, Volodymyr Bulgakov, Adolfs Rucins, Hristo Beboev <i>Engineering and Technology Institute "Biotechnica", Ukraine; National University of Life and Environmental Sciences of Ukraine, Ukraine; Latvia University of Life Sciences and Technologies, Latvia</i>
11:40	RESEARCH ON COW TRAFFIC IN FACILITIES WITH AUTOMATIC MILKING SYSTEMS <u>Maris Mangalis</u>, Juris Priekulis, Girts Vernavs <i>Latvia University of Life Sciences and Technologies, Latvia</i>
12:00	EVALUATION OF COMBINE HARVESTER PARAMETERS USING MANUAL AND AUTO-STEERING MODES Antanas Juostas, <u>Egle Jotautiene</u> <i>Vytautas Magnus University, Lithuania</i>
12:20	INVESTIGATIONS IN OZONE APPLICATION FOR ACTIVE VENTILATION OF GRAIN <u>Adolfs Rucins</u>, Evita Straumite, Dainis Viesturs, Alberts Kristins <i>Latvia University of Life Sciences and Technologies, Latvia; Institute of Solid State Physics, University of Latvia, Latvia</i>
12:40	ANALYSIS OF NEGATIVE CONSEQUENCES IN DEVELOPMENT OF MOBILE ENERGY FROM THE POINT OF VIEW OF AGROTECHNOLOGICAL RESTRICTIONS <u>Aleksandr Levshin</u>, Irina Gasparyan, Ivan Golubev, Aleksandr Panin <i>Russian Timiryazev State Agrarian University, Russia; Rosinformagrotech, Research Center Agroinnovation, Russia</i>
13:00	Lunch
13:40	DESIGN OF CUTTING DEVICE FOR DECAPITATION OF POTATO SHOOTS <u>Aleksandr Levshin</u>, Irina Gasparyan, Sergey Shchigolev, Mikhail Mekhedov <i>Russian Timiryazev State Agrarian University, Russia</i>
14:00	STRUCTURAL FILM-LAYING MACHINES FOR USE IN COMB PLANTING OF POTATOES <u>Irina Gasparyan</u>, Aleksandr Levshin, Sergey Shchigolev, Shagen Gasparyan <i>Russian Timiryazev State Agrarian University, Russia</i>

Time (UTC+3)	Presentetion title and authors
14:20	IMPROVEMENT OF DIGGING SHARES OF ROOT HARVESTING MACHINES BASED ON RHEOLOGICAL MODEL OF SOIL STATE Andrei Kalinin, Igor Teplinsky, Vyacheslav Ruzhev <i>Saint-Petersburg State Agrarian University, Russia</i>
14:40	TRAPEZOIDAL DRAINAGE BUCKET AND MPVS MOUNDING DEVICE PRODUCTIVITY AND MOUND QUALITY COMPARISON Kristaps Makovskis, Dagnija Lazdina, Igors Gusarevs, Germans Gusarevs <i>Latvian State Forest Research Institute "Silava", Latvia; Orvi Ltd., Latvia</i>
15:00	EVALUATION OF WHEAT SEED SEPARATION PERFORMANCES FOR NEW DESIGN OF ROTATING CYLINDRICAL SIEVE, EQUIPPED WITH CUSTOMIZABLE HOMOGENIZATION COIL Florin Nenciu, Costin Mircea, Valentin Vladut, Nastasia Belc, Mariana Berca Lavinia <i>National Institute of Research-Development for Machines and Installations Designed to Agriculture and Food Industry, Romania; National Research and Development Institute for Food Bioresources , Romania</i>
15:20	EXPERIMENTAL INVESTIGATIONS IN DISTRIBUTION PROCESS OF AMMONIA NITRATE BY ORKING BODY WITH INCLINED AXIS Volodymyr Bulgakov, Oleg Adamchuk, Adolfs Rucins, Simone Pascuzzi <i>National University of Life and Environmental Sciences of Ukraine, Ukraine; Institute for Agricultural Engineering and Electrification, Ukraine; Latvia University of Life Sciences and Technologies, Latvia; University of Bari Aldo Moro, Italy</i>
15:40	THEORETICAL INVESTIGATION OF ROTARY DIGGING TOOL PARAMETERS FOR POTATO TUBERS Volodymyr Bulgakov, Ivan Holovach, Vitaliy Bonchik, Semjons Ivanovs, Volodymyr Volskiy, Juri Olt <i>National University of Life and Environmental Sciences of Ukraine, Ukraine; State Agrarian and Engineering University in Podillia, Ukraine; Latvia University of Life Sciences and Technologies, Latvia; Institute for Agricultural Engineering and Electrification, Ukraine; Estonian University of Life Sciences, Estonia</i>
16:00	Break
16:20	SIMULATION OF ELASTIC-DISSIPATIVE CONNECTION OF MULTI-AXLE BLOCK-MODULAR AGRICULTURAL TRACTOR MODULES Volodymyr Bulgakov, Volodymyr Kuvachov, Semjons Ivanovs, Viktor Melnik <i>National University of Life and Environmental Sciences of Ukraine, Ukraine; Tavria State Agrotechnological University, Ukraine; Latvia University of Life Sciences and Technologies, Latvia; Kharkiv Petro Vasylenko National Technical University of Agriculture, Ukraine</i>
16:40	EXPERIMENTAL INVESTIGATIONS IN VERTICAL VIBRATION DAMPING OF AGRICULTURAL AGGREGATE OF BLOCK-MODULAR TYPE Volodymyr Bulgakov, Volodymyr Kuvachov, Semjons Ivanovs, Viktor Melnik <i>National University of Life and Environmental Sciences of Ukraine, Ukraine; Tavria State Agrotechnological University, Ukraine; Latvia University of Life Sciences and Technologies, Latvia; Kharkiv Petro Vasylenko National Technical University of Agriculture, Ukraine</i>
17:00	RESEARCH IN DYNAMIC TRANSITIONAL PROCESSES OF FUNCTIONING OF COMBINE HARVESTER HYDRAULIC DRIVES Volodymyr Bulgakov, Semjons Ivanovs, Vadym Yaremenko, Francesco Santoro <i>National University of Life and Environmental Sciences of Ukraine, Ukraine; Latvia University of Life Sciences and Technologies, Latvia; University of Bari Aldo Moro, Italy</i>
17:20	OPERATIONAL AND TECHNOLOGICAL PROPERTIES OF PLOUGHING BLOCK-MODULAR MACHINE-AND-TRACTOR AGGREGATE Volodymyr Bulgakov, Volodymyr Kuvachov, Semjons Ivanovs, Viktor Melnik, Francesco Santoro, Juri Olt <i>National University of Life and Environmental Sciences of Ukraine, Ukraine; Tavria State Agrotechnological University, Ukraine; Latvia University of Life Sciences and Technologies, Latvia; Kharkiv Petro Vasylenko National Technical University of Agriculture, Ukraine; University of Bari Aldo Moro, Italy; Estonian University of Life Sciences, Estonia</i>
17:40	THEORETICAL STUDY OF PNEUMATIC SEPARATION OF GRAIN MIXTURES IN VORTEX FLOW Valerii Adamchuk, Volodymyr Bulgakov, Semjons Ivanovs, Ivan Holovach, Yevhen Ihnatiev <i>National Scientific Centre "Institute for Agricultural Engineering and Electrification" of Ukraine, Ukraine; National University of Life and Environmental Sciences of Ukraine, Ukraine; Latvia University of Life Sciences and Technologies, Latvia; Tavria State Agrotechnological University, Ukraine</i>

Time (UTC+3)	Presentetion title and authors
18:00	<p>MATHEMATICAL MODEL OF INTERACTION BETWEEN SHARE WORKING BODY AND BEET ROOT DURING VIBRATIONAL DIGGING</p> <p><u>Volodymyr Bulgakov</u>, Semjons Ivanovs, Ivan Holovach, Yevhen Ihnatiev</p> <p><i>National University of Life and Environmental Sciences of Ukraine, Ukraine; Latvia University of Life Sciences and Technologies, Latvia; Tavria State Agrotechnological University, Ukraine</i></p>

Time (UTC+3)	Presentation title and authors
15:00	INFLUENCE OF ADJUSTABLE FRONT BALLAST ON TRACTOR FUEL CONSUMPTION AT WINTER WHEAT STUBBLE HARROWING <u>Vidas Damanauskas, Algirdas Janulevicius</u> <i>Lithuanian Research Centre for Agriculture and Forestry, Lithuania; Vytautas Magnus University, Lithuania</i>
15:20	ADVANTAGE OF USING AIRCRAFT-TYPE STAGES FOR CREATING "LATLAUNCH" LAUNCH VEHICLE <u>Sergey Kravchenko, Nikolaj Kuleshov, Vladimir Shestakov, Natalia Panova, Ilmars Blumbergs</u> <i>Riga Technical University, Latvia; SIA Cryogenic and vacuum systems, Latvia</i>
15:40	DRIVING SPEED INFLUENCE ON OPERATOR VIBRATION EXPOSURE IN FORWARDING OPERATIONS <u>Gediminas Vasiliauskas, Ricardas Butkus, Remigijus Zinkevicius</u> <i>Vytautas Magnus University, Lithuania</i>
16:00	ESTIMATION OF PRODUCTIVITY AND COST OF SMALL-SIZE FULLY-MECHANIZED CUT-TO-LENGTH SYSTEMS <u>Agris Zimelis, Andis Lazdins, Guntis Saule, Santa Kaleja</u> <i>Latvian State Forest Research Institute "Silava", Latvia</i>

Section 3. Material science and technologies

Date: 27.05.2021

Moderator: Imants Nulle
imants.nulle@llu.lv

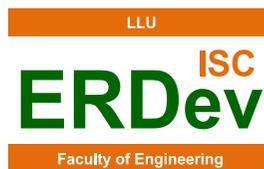
Regulations: presentation – 15 min, discussion – 5 min

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Zoom Meeting link: <https://zoom.us/j/6059939783?pwd=UWhOQjIROEMwMVZreUREYWdMVzZwdz09>

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Time (UTC+3)	Presentetion title and authors
10:40	METHOD OF JUSTIFICATION OF MACHINE PARTS HARDENING MODES Alexander Pastukhov, Olga Sharaya, Eugeny Timashov, Dmitriy Bakharev <i>Belgorod State Agricultural University named after V. Gorin, Russia</i>
11:00	APPROXIMATE APPROACH OF RESEARCH AND ASSESSMENT OF CRACK RESISTANCE OF CYLINDRICAL HOUSINGS Volodymyr Bulgakov, Aivars Aboltins, Oleksii Kutsenko, Semjons Ivanovs, Simone Pascuzzi <i>National University of Life and Environmental Sciences of Ukraine, Ukraine; Latvia University of Life Sciences and Technologies, Latvia; Taras Shevchenko National University of Kyiv, Ukraine; University of Bari Aldo Moro, Italy</i>
11:20	STUDY OF AXISYMMETRIC STRESS-STRAIN STATE OF BILAYER CYLINDER Volodymyr Bulgakov, Aivars Aboltins, Oleksii Kutsenko, Semjons Ivanovs, Hristo Beloev <i>National University of Life and Environmental Sciences of Ukraine, Ukraine; Latvia University of Life Sciences and Technologies, Latvia; Taras Shevchenko National University of Kyiv, Ukraine; "Angel Kanchev" University of Ruse, Bulgaria</i>
11:40	DEVELOPMENT OF ADVANCED ALLOY STEELS FOR MACHINERY Yevhenii Aftandiliants, Svyatoslav Gnyloskurenko <i>National University of Life and Environmental Sciences of Ukraine, Ukraine</i>
12:00	STUDY OF TRIBOLOGICAL PROPERTIES OF SLIDING SURFACES FOR PRODUCTION AND PACKAGING LINES Vladislavs Butkevics, Daina Kanaska <i>Latvia University of Life Sciences and Technologies, Latvia</i>
12:20	PHYSICAL MECHANICAL PROPERTIES EVALUATION OF EXPERIMENTAL GRANULATED POULTRY MANURE FERTILIZER Ramunas Mieldazys, Egle Jotautiene, Algirdas Jasinskas <i>Vytautas Magnus University, Lithuania</i>
12:40	GRANULATION OF POULTRY MANURE AND BIOCHAR FOR PRODUCTION OF ORGANIC FERTILIZERS Egle Jotautiene, Ramunas Mieldazys, Aloyzas Gaudutis, Aivars Aboltins <i>Vytautas Magnus University, Lithuania; Latvia University of Life Sciences and Technologies, Latvia</i>
13:00	Lunch
13:40	AMBER NANO FIBRE DEVELOPMENT PROSPECTS TO EXPAND CAPABILITIES OF TEXTILE 3D PRINTING. FABRICATION METHODS AND THEIR FEATURES (REVIEW) Arta Viluma-Gudmona, Inga Lasenko, Jaymin Vrajlal Sanchaniya, Blal Abdelhadi <i>Riga Technical University, Latvia; Cadi-Ayyad University, Morocco</i>

Time (UTC+3)	Presentetion title and authors
14:00	ELECTRO-RESISTANT BIOTEXTILE DEVELOPMENT BASED ON FIBER REINFORCEMENT WITH NANO PARTICLES Arta Viluma-Gudmona, Inga Lasenko, Jaymin Vrajlal Sanchaniya, Andrejs Podgornovs <i>Riga Technical University, Latvia</i>
14:20	PLYWOO SOME MECHANICAL PROPERTIES DEPENDING OF PRESSING TECHNOLOGICAL PARAMETERS Uldis Spulle, Laimonis Kulins, Evija Kopeika, Karlis Hermanis Liepa, Haralds Sillers <i>Latvia University of Life Sciences and Technologies, Latvia</i>
14:40	THE EFFICIENCY OF DIFFERENT WOOD COATINGS AGAINST WATER SURFACE ABSORPTION Janis Iejavs, Oskars Ruluks, Laura Laiveniece, Vilnis Jakovlevs, Karlis Pugovics, Sigita Lise, Uldis Spulle <i>Latvia University of Life Sciences and Technologies, Latvia</i>
15:00	SOME PHYSICAL AND MECHANICAL PROPERTIES OF LIGHTWEIGHT STABILISED BLOCKBOARDS PANELS Rihards Rozins, Janis Iejavs, Vilnis Jakovlevs, Uldis Spulle <i>Latvia University of Life Sciences and Technologies, Latvia; Forest and Wood Products Research and Development Institute, Latvia</i>
15:20	EFFECT OF 80% WATER SOLUTION OF ANIMAL SLURRY ON CARBON STRUCTURAL S235JRC STEEL AT ROOM TEMPERATURE Tomasz Lipinski, Dariusz Karpisz <i>University of Warmia and Mazury in Olsztyn, Poland; Cracow University of Technology, Poland</i>
15:40	EFFECT OF TI AND B ADDITIONS AS POWDER AND PRELIMINARY ALLOY WITH AL-SI ALLOY ON MICROSTRUCTURE AND MECHANICAL PROPERTIES OF ALSI9MG ALLOY INTENDED FOR PARTS OF AGRICULTURAL MACHINERY Tomasz Lipinski, Dariusz Karpisz <i>University of Warmia and Mazury in Olsztyn, Poland; Cracow University of Technology, Poland</i>
16:00	Break
16:20	STABILITY AND POST-BUCKLING STATE OF SQUARE COMPOSITE WALLS OF ANISOTROPIC STRUCTURE SPARS UNDER SHEAR Oleg Mitrofanov, Igors Lebedevs, Margarita Urbaha <i>Moscow Aviation Institute (National Research University), Russia; "Aviatest" LTD, Latvia; Riga Technical University, Latvia</i>
16:40	NUMERICAL SIMULATION OF COMPOSITE REINFORCED BY SPUN THREAD KNITTED FABRIC Umesh H. Vavaliya, Jemish Modi, Olga Kononova <i>Riga Technical University, Latvia</i>
17:00	DURABILITY CRITERIA OF RUBBER PARTS OF MACHINES Svetlana Polukoshko, Vladimirs Gonca <i>Ventspils University College, Latvia; Riga Technical University, Latvia</i>

Section 4. Engineering for industry and environment

Date: 27.05.2021

Moderator: Vitalijs Osadcuks

vtl@tvnet.lv

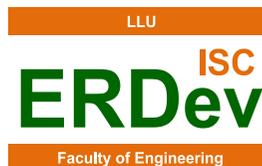
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Time (UTC+3)	Presentetion title and authors
10:40	EVALUATION OF STATE OF TECHNOGENIC ENVIRONMENT IN LATVIA AND THE WORLD IN THE 21 ST CENTURY <u>Mihails Urbans</u>, Jelena Malahova, Vladimirs Jemeljanovs <i>Riga Technical University, Latvia</i>
11:00	FEASIBILITY ANALYSIS OF CULTIVATED BERRY FIELD LAYOUT FOR AUTOMATED CULTIVATION Kaarel Soots, <u>Tormi Lillerand</u>, Erkki Jogi, Indrek Virro, Juri Olt <i>Estonian University of Life Sciences, Estonia</i>
11:20	STATIC ANALYSIS OF SINGLE-AXLE TRACTOR TRIALER FRAME <u>Jan Dizo</u>, Miroslav Blatnický, Stanislav Semenov, Evgeny Mikhailov, Rafal Melnik, Jakub Kurtulík <i>University of Zilina, Slovakia; Volodymyr Dahl East Ukrainian National University, Ukraine; Lomza State University of Applied Sciences, Poland</i>
11:40	PARAMETRIZATION OF EFFECT OF METRO WAGON BASIC STRUCTURE DOOR FORCE MODEL Miroslav Blatnický, <u>Jan Dizo</u> <i>University of Zilina, Slovakia</i>
12:00	INVESTIGATION OF CENTRIFUGAL PUMP CHARACTERISTICS <u>Edgars Repsa</u>, Eriks Kronbergs <i>Latvia University of Life Sciences and Technologies, Latvia</i>
12:20	ASSESSMENT OF GRANULATED MANURE FERTILIZER CENTRIFUGAL SPREADING FIELD SIMULATION Vaidas Bivainis, Egle Jotautiene, <u>Raimonda Zinkeviciene</u> <i>Vytautas Magnus University, Lithuania; Kaunas University of Technology, Lithuania</i>
12:40	ANALYSIS OF OIL POINT THRESHOLD INDICATORS OF BULK RAPESEEDS AND SUNFLOWER SEEDS UNDER COMPRESSION LOADING <u>Cimen Demirel</u>, David Herak, Abraham Kabutey, Oldrich Dajbych <i>Czech University of Life Sciences Prague, Czech Republic</i>
13:00	Lunch
13:40	EFFECT OF HOT-FILL PROCESSING AT REDUCED TEMPERATURES ON TOMATO SAUCE MICROBIOLOGICAL STABILITY IN PLASTIC PACKAGING <u>Evalds Raičs</u>, Lasma Pinte, Asnate Kirse-Ozolīna, Sandra Muizniece-Brasava <i>Kronis Ltd., Latvia; Latvia University of Life Sciences and Technologies, Latvia</i>
14:00	PROBLEM OF MEASURING THERMAL CONDUCTIVITY OF POLYURETHANE THERMAL INSULATION OF LIQUID HYDROGEN TANKS FOR LAUNCH VEHICLE IN OPERATIONAL ENVIRONMENT <u>Sergey Kravchenko</u>, Nikolaj Kuleshov, Natalia Panova, Ugis Cabulis, Romass Pauliks, Vladimir Shestakov, Sergey Bratarchuk <i>SIA Cryogenic and vacuum systems, Latvia; Riga Technical University, Latvia; Latvian State Institute of Wood Chemistry, Latvia; Ventspils University of Applied Sciences, Latvia</i>

Time (UTC+3)	Presentetion title and authors
14:20	<p>PRODUCTION OF SEAWEED DERIVED BIOPLASTICS</p> <p><u>Uldis Zaimis</u>, Sintija Ozolina, Roberts Jurmalietis</p> <p><i>Liepaja University, Latvia</i></p>
14:40	<p>EFFECT OF VARIABLE RATE SEEDING ON WINTER WHEAT SEEDBED AND GERMINATION PARAMETERS USING SOIL APPARENT ELECTRICAL CONDUCTIVITY</p> <p><u>Marius Kazlauskas</u>, Egidijus Sarauskis, Kestutis Romaneckas, Dainius Steponavicius, Algirdas Jasinskas, Vilma Naujokiene, Indre Bruciene, Tadas Ziogas, Dovydas Vaicekauskas, Justinas Anusauskas, Abdul Mounem</p> <p><i>Vytautas Magnus University, Lithuania; Ghent University, Belgium</i></p>
15:00	<p>ENERGY CONSUMPTION BY SOLAR-POWERED WATERCRAFT AT VARIOUS SPEED SETTINGS</p> <p><u>Dainis Berjoza</u>, Inara Jurgena, Vitalijs Osadcuks</p> <p><i>Latvia University of Life Sciences and Technologies, Latvia</i></p>
15:20	<p>WELDING WORK ORGANISATION IN SERIAL PRODUCTION</p> <p><u>Gunars Verdins</u>, Kristine Elere</p> <p><i>Latvia University of Life Sciences and Technologies, Latvia; Bucher Municipal Ltd, Latvia</i></p>
15:40	<p>LOCATION AND IDENTIFICATION OF OAK WOOD DEFECT BY DEEP LEARNING</p> <p><u>Gints Romanovskis</u>, Karlis Bumanis, Gundars Kulikovskis, Peteris Rivza</p> <p><i>Latvia University of Life Sciences and Technologies, Latvia; Forest and Wood Products Research and Development Institute, Latvia; SIA Zippy Vision, Latvia</i></p>

Section 5. Renewable and conventional energy, GHG emission and waste management

Date: 27.05.2021

Moderator: Liene Kancevica
liene.kancevica@llu.lv

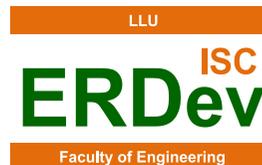
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Time (UTC+3)	Presentation title and authors
10:40	LONG-TERM MEASUREMENTS OF ENERGY PRODUCTION OF SOLAR PHOTOVOLTAIC PANELS <u>Iļze Pelece</u>, <u>Adolfs Rucins</u>, <u>Semjons Ivanovs</u> <i>Latvia University of Life Sciences and Technologies, Latvia</i>
11:00	HEAT RECOVERY IN HYBRID FLASH/ORC POWER PLANTS <u>Andriy Redko</u>, <u>Adam Ujma</u>, <u>Anna Pavlovska</u>, <u>Yurii Burda</u>, <u>Volodymyr Andoniev</u> <i>Kharkiv National University of Construction and Architecture, Ukraine; Czestochowa University of Technology, Poland</i>
11:20	ACTIVATED COMBUSTION OF BIOMASS BLENDS BY MICROWAVE PRE-TREATMENT OF STRAW <u>Linards Goldsteins</u>, <u>Raimonds Valdmanis</u>, <u>Maija Zake</u> <i>Institute of Physics, University of Latvia, Latvia</i>
11:40	MICROWAVE PRE-TREATED WHEAT STRAW PELLETS AS ADDITIVE FOR ACTIVATION OF THERMAL DECOMPOSITION OF BIOMASS BLENDS <u>Raimonds Valdmanis</u>, <u>Linards Goldsteins</u>, <u>Alexandr Arshanitsa</u>, <u>Anna Andersone</u> <i>Institute of Physics, University of Latvia, Latvia; EkoKompozit Ltd, Latvia; Latvian State Institute of Wood Chemistry, Latvia</i>
12:00	NON-ISOTHERMAL THERMAL ANALYSIS OF DIFFERENT ORIGINATED LIGNOCELLULOSIC BIOMASS, NON-TREATED AND TORREFIED BY MICROWAVE TREATMENT <u>Alexandr Arshanitsa</u>, <u>Anna Andersone</u>, <u>Galina Telysheva</u> <i>Latvian State Institute of Wood Chemistry, Latvia; EkoKompozit Ltd, Latvia</i>
12:20	ENHANCING ENZYMATICALLY TREATED HAY SUBSTRATE BIOMETHANE POTENTIAL USING BIODEGRADABLE SURFACTANTS <u>Eriks Skripsts</u>, <u>Linda Mezule</u>, <u>Elvis Klaukans</u>, <u>Estere Romanovska</u> <i>Riga Technical University, Latvia; Bio RE, Ltd., Latvia</i>
12:40	INVESTIGATION OF FERMENTATION CHAMBER THERMAL CONDITION PARAMETERS <u>Marina Tereshchuk</u>, <u>Yaroslav Mykhailovych</u>, <u>Nataliya Tsyvenkova</u>, <u>Anna Holubenko</u> <i>Zhytomyr National Agroecological University, Ukraine; National University of Life and Environmental Sciences of Ukraine, Ukraine; Polissia National University, Ukraine</i>
13:00	Lunch
13:40	LIVESTOCK MANURE USE FOR BIOGAS PRODUCTION IN LATVIA <u>Juris Priekulis</u>, <u>Olga Frolova</u>, <u>Laima Berzina</u>, <u>Armins Laurs</u> <i>Latvia University of Life Sciences and Technologies, Latvia</i>

Time (UTC+3)	Presentetion title and authors
14:00	<p>INVESTIGATION OF PHYSICAL-MECHANICAL AND ENERGY PROPERTIES OF GRANULATED CEREAL PLANT WASTE AND ASH OBTAINED BY INCINERATION OF PRODUCED BIOFUEL</p> <p><u>Algirdas Jasinskas</u>, Justinas Skruodys, Rolandas Domeika, Ramunas Mieldazys, Nerijus Pedisius <i>Vytautas Magnus University, Lithuania; Lithuanian Energy Institute, Lithuania</i></p>
14:20	<p>EVALUATING POTENTIAL OF ORGANIC CARBON PRODUCTION FROM FIBER HEMP BIOMASS</p> <p>Egidijus Zvicevicius, Kestutis Ziura, Zivile Cerniauskiene, Vita Tilvikiene <i>Vytautas Magnus University, Lithuania; Lithuanian Research Centre for Agriculture and Forestry, Lithuania</i></p>
14:40	<p>EXTRACTION OF DIGESTATE FROM VARIOUS RAW MATERIALS AND ITS MIXTURES WITH ASH</p> <p>Vilis Dubrovskis, Imants Plume, Aleksandrs Adamovics <i>Latvia University of Life Sciences and Technologies, Latvia</i></p>
15:00	<p>METHANE POTENTIAL FROM HOUSEHOLD GARDEN LEAVES</p> <p>Vilis Dubrovskis, Imants Plume <i>Latvia University of Life Sciences and Technologies, Latvia</i></p>
15:20	<p>ANAEROBIC FERMENTATION OF COW MANURE AND WHEAT STRAW IN LOW VOLTAGE ELECTRIC FIELD</p> <p>Imants Plume, Vilis Dubrovskis <i>Latvia University of Life Sciences and Technologies, Latvia</i></p>
15:40	<p>COVID-19 IMPACT ON DEVELOPMENT OF RENEWABLE ENERGY FACILITIES IN RURAL REGIONS IN EU</p> <p>Vladislav Zavadskiy, Gita Revalde <i>Almaty University of Power Engineering and Telecommunication, Kazakhstan; Riga Technical University, Latvia</i></p>
16:00	Break
16:20	<p>PRODUCTIVITY AND CARBON DIOXIDE (CO₂) EMISSIONS OF COMPACT CLASS VIMEK 404 T5 HARVESTER IN THINNING OF YOUNG BIRCH STANDS IN AFFORESTED CROPLAND</p> <p>Andis Lazdins, Santa Kaleja, Agris Zimelis, Gints Spalva, Andis Bardulis <i>Latvian State Forest Research Institute "Silava", Latvia</i></p>
16:40	<p>EVALUATION OF MIDDLE TERM GREENHOUSE GAS (GHG) MITIGATION POTENTIAL OF BIRCH PLANTATIONS WITH MINERAL AND ORGANIC SOILS</p> <p>Andis Lazdins, Guntars Snepsts, Aldis Butlers, Dana Purvina, Zaiga Anna Zvaigzne, Ieva Licite <i>Latvian State Forest Research Institute "Silava", Latvia</i></p>
17:00	<p>INFLUENCE OF WOOD CHIP QUALITY ON BOILER HOUSE EFFICIENCY</p> <p>Agate Klavina, Raimunds Selegovskis <i>Latvia University of Life Sciences and Technologies, Latvia</i></p>
17:20	<p>APPLICATION OF CRYOGENIC ENERGY STORAGE (CES) IN DISTRIBUTED RENEWABLE GENERATION</p> <p>Dmitrijs Rusovs, Lubova Parsikova <i>Riga Technical University, Latvia</i></p>

Section 6. Modelling and simulation

Date: 27.05.2021

Moderator: Aivars Aboltins
aivars.aboltins@llu.lv

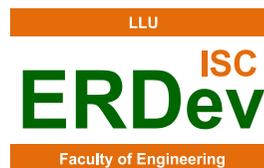
Regulations: presentation – 15 min, discussion – 5 min

Zoom Meeting ID: 2436995670

Passcode: RW3iuA

Zoom Meeting link: <https://zoom.us/j/2436995670?pwd=NGIxRXRYaEdZNUVDVnYvZHRqd3lXUT09>

Faculty of Engineering
Latvia University of Life Sciences and Technologies
Latvia Academy of Agricultural and Forest Sciences,
Section of Engineering



has the pleasure to invite you to attend
**20th International Scientific
Conference
Engineering for Rural
Development**
26.-28.05.2021 Jelgava, LATVIA

Time (UTC+3)	Presentetion title and authors
10:40	MODELING OF WATER FLOW FOR WATERJET PROPULSION SYSTEM <u>Marina Cerpinska</u>, Martins Irbe, Andrejs Pupurs, Kaspars Burbeckis <i>Riga Technical University, Latvia</i>
11:00	TRANSLATIONAL VIBRATIONS OF FLAT PLATE WITH ELASTIC SUSPENSION IN AIR FLOW <u>Marina Cerpinska</u>, Grigory Panovko, Shravan Koundinya Vutukuru, Janis Viba, Martins Irbe <i>Riga Technical University, Latvia; Russian Academy of Sciences, Russia</i>
11:20	ACTION OF PENDULUM IN TRANSIENT FLUID FLOW Igors Tipans, Janis Viba, <u>Shravan Koundinya Vutukuru</u>, Martins Irbe <i>Riga Technical University, Latvia</i>
11:40	SOARING MOTION OF VIBRATING DRIVE OBJECT IN FLUID <u>Edgars Kovals</u>, Maris Eiduks, Kristaps Spade, Janis Viba, Kaspars Burbeckis <i>Riga Technical University, Latvia</i>
12:00	ON OBTAINING NUMERICAL SOLUTIONS FOR SOME REACTING FLOW PROBLEMS BY USING DIFFERENT MATLAB TOOLS <u>Maksims Marinaki</u> <i>Institute of Mathematics and Computer Science, University of Latvia, Latvia</i>
12:20	DESIGNING OF CATAMARAN HULL SPINE BEAM Alexander Janushevskis, <u>Jaymin-Vrajlal Sanchaniya</u>, Sanjay-Rajni Vejanand <i>Riga Technical University, Latvia</i>
12:40	SIMULATION OF FIBRE REINFORCED CONCRETE STRUCTURAL FAILURE BASED ON BENDING TEST RESULTS <u>Ulvis Skadins</u>, Mareks Bokta <i>Latvia University of Life Sciences and Technologies, Latvia</i>
13:00	Lunch
13:40	SOLID WOOD SURFACE MODIFICATION BY CHARRING AND ITS IMPACT ON REACTION TO FIRE PERFORMANCE Edgars Buksans, <u>Laura Laiveniece</u>, Valters Lubinskis <i>Forest and Wood Products Research and Development Institute, Latvia; Pavasars wood constructions Ltd, Latvia</i>
14:00	WOOD ONE-SIDE SURFACE CHARRING OF TIMBER FOR CLADDINGS OR RECYCLED WOOD <u>Andris Morozovs</u>, Laura Laiveniece, Valters Lubinskis <i>Latvia University of Life Sciences and Technologies, Latvia; Forest and Wood Products Research and Development Institute, Latvia; Pavasars wood constructions Ltd, Latvia</i>

Time (UTC+3)	Presentetion title and authors
14:20	SOLUTIONS OF NONLINEAR BOUNDARY VALUE PROBLEM WITH APPLICATIONS TO BIOMASS THERMAL CONVERSION Armands Gritsans, Andrei Kolyshkin, Diana Ogorelova, Felix Sadyrbaev, Inna Samuilik, Inara Yermachenko <i>Daugavpils University, Latvia; Riga Technical University, Latvia; Institute of Mathematics and Computer Science, University of Latvia, Latvia</i>
14:40	SOME NETWORK MODELS RELATED TO HEAT AND MASS TRANSFER DURING THERMAL CONVERSION OF BIOMASS Uldis Strautins, Laura Leja <i>Institute of Mathematics and Computer Science, University of Latvia, Latvia</i>
15:00	ON MODELLING OF COMPLEX NETWORKS Svetlana Atslega, Felix Sadyrbaev, Inna Samuilik <i>Institute of Mathematics and Computer Science, University of Latvia, Latvia; Latvia University of Life Sciences and Technologies, Latvia; Riga Technical University, Latvia; Daugavpils University, Latvia</i>
15:20	SPECIAL AVERAGING METHOD FOR SOLVING SOME 3-D HEAT TRANSFER PROBLEMS Aivars Aboltins, Ilmars Kangro, Harijs Kalis <i>Latvia University of Life Sciences and Technologies, Latvia; Rezekne Academy of Technologies, Latvia; Institute of Mathematics and Computer Science, University of Latvia, Latvia</i>
15:40	ANALYSIS OF DRYING PROCESS OF SEA BUCKTHORN (<i>HIPPOPHAE RHAMNOIDES</i> L.) BERRIES Egidijus Zvicevicius, Ausra Cipliene, Algirdas Raila, Aurelija Paulauskiene <i>Vytautas Magnus University, Lithuania</i>
16:00	NETWORK MODEL FOR THERMAL CONVERSION OF HETEROGENEOUS BIOMASS GRANULES Laura Leja, Uldis Strautins <i>University of Latvia, Latvia; Institute of Mathematics and Computer Science, University of Latvia, Latvia</i>
16:20	NECESSITY AND WAYS TO INCREASE ADAPTIVE POTENTIAL OF DRIED LAND IN CHANGEABLE CLIMATIC CONDITIONS Anatoly Rokochynskiy, Yury Mazhayskiy, Pavlo Volk, Jerzy Yeznah, Aliaksandr Volchak, Aleh Meshyk, Olga Chernikova, Nataliia Prykhodko <i>National University of Water and Environmental Engineering, Russia; All-Russian Research Institute of Hydrotechnics and Melioration named after A.N. Kostyakova, Russia; Warsaw University of Life Sciences, Poland; Brest State Technical University, Belarus; Academy of Law Management of the Federal Penal Service of Russia, Russia</i>

Section 7. Engineering economics and education

Date: 27.05.2021

Moderator: Baiba Briede

baiba.briede@llu.lv

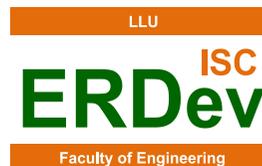
Regulations: presentation – 15 min, discussion – 5 min

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Passcode: 667540

Zoom Meeting link: <https://zoom.us/j/4268445387?pwd=YUkxQUlQYmlYc0JrQ2Y4anpYU3p2UT09>

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Time (UTC+3)	Presentetion title and authors
10:40	STUDY IN POSSIBILITIES OF PROFESSIONAL ORIENTATION IN TRAINING OF SPECIALISTS IN AGRARIAN AND TECHNICAL UNIVERSITIES Stanislav Nikolaenko, Oksana Bulgakova, Valentina Vasileva, Ilmars Dukulis, Lesia Zbaravska <i>National University of Life and Environmental Sciences of Ukraine, Ukraine; University of Ruse Angel Kanchev, Bulgaria; Latvia University of Life Sciences and Technologies, Latvia; State Agrarian and Engineering University in Podillia, Ukraine</i>
11:00	SOCIAL AND POLITICAL SENTIMENTS OF SCIENTIFIC AND PEDAGOGICAL WORKERS OF HIGHER SCHOOL OF UKRAINE IN THE PERIOD OF PARTIAL DEMOCRATIC CHANGES IN THE LATE 1950 Oksana Bulgakova <i>National University of Life and Environmental Sciences of Ukraine, Ukraine</i>
11:20	MATHEMATICS RESULTS OF LATVIA FIRST YEAR ENGINEERING STUDENTS AT REMOTE STUDIES AND COVID PANDEMIA TIME Evija Kopeika, Liga Zvirgzdina <i>Riga Technical University, Latvia; Latvia University of Life Sciences and Technologies, Latvia</i>
11:40	CHALLENGES AND BENEFITS OF REMOTE LEARNING IN CONTEXT OF COMPETENCE DEVELOPMENT OF ENGINEERING STUDENTS DURING COVID-19 PANDEMIC Anna Vintere, Eve Aruvee, Daiva Rimkuvieni <i>Latvia University of Life Sciences and Technologies, Latvia; Estonian University of Life Sciences, Estonia; Vytautas Magnus University, Lithuania</i>
12:00	PROBLEMS AND SOLUTIONS OF ACQUIRING MATHEMATICAL KNOWLEDGE AT UNIVERSITY DURING COVID-19 CRISIS Natalija Sergejeva, Svetlana Atslega, Aivars Aboltins <i>Latvia University of Life Sciences and Technologies, Latvia; Institute of Mathematics and Computer Science, University of Latvia, Latvia</i>
12:20	ENGINEERING COMPETENCES OF UNIVERSITY GRADUATES: VIEW OF EMPLOYERS AND YOUNG SPECIALISTS Inna Krutko, Natalia Popova <i>Ural Federal University, Russia</i>
12:40	CHALLENGES IN TEACHING-LEARNING HIGHER MATHEMATICS REMOTELY AT RIGA TECHNICAL UNIVERSITY IN COVID-19 PANDEMIC Ilonā Dzenīte, Sarmīte Cernājeva, Elena Ligere <i>Riga Technical University, Latvia</i>
13:00	Lunch
13:40	STUDY OF EFFECTIVENESS OF EDUCATIONAL COMMUNICATION IN THE PROCESS OF DISTANCE LEARNING OF AGRICULTURAL ENGINEERS Stanislav Nikolaenko, Maria Bondar, Oksana Bulgakova, Lyubov Shymko, Ilmars Dukulis <i>National University of Life and Environmental Sciences of Ukraine, Ukraine; Latvia University of Life Sciences and Technologies, Latvia</i>

Time (UTC+3)	Presentetion title and authors
14:00	STUDYING REQUIREMENTS FOR SUBSTANTIONAL LIST OF PROFESSIONAL KNOWLEDGE FOR STUDENTS OF AGRICULTURAL ENGINEERING SPECIALITIES Stanislav Nikolaenko, Maria Bondar, <u>Oksana Bulgakova</u>, Valentina Vasileva, Kaspars Vartukapteinis <i>National University of Life and Environmental Sciences of Ukraine, Ukraine; University of Ruse Angel Kanchev, Bulgaria; Latvia University of Life Sciences and Technologies, Latvia</i>
14:20	WASTE MANAGEMENT WITHIN CONTEXT OF URBAN SUSTAINABLE DEVELOPMENT: BIBLIOMETRIC ANALYSIS <u>Regina Veckalne</u>, Tatjana Tambovceva <i>Riga Technical University, Latvia</i>
14:40	RISKENESS OF PUBLIC-PRIVATE PARTNERSHIP CONCEPT <u>Radan Tomek</u> <i>Czech Technical University in Prague, Czech Republic</i>
15:00	REGIONAL CENTRE DEVELOPMENT MANAGEMENT FACTORS: CASE STUDY OF LIEPAJA <u>Andris Ozols</u>, Valdis Avotins <i>Riga Technical University, Latvia; Riga Photonics Centre, Latvia</i>
15:20	STRATEGIC PLANNING IN PROCESS OF ADAPTING CITIES TO CLIMATE CHANGE <u>Anastasija Les</u>, <u>Anastasia Rashchenko</u>, Nataliya Tsyvenkova, Tetyana Les <i>Zhytomyr National Agroecological University, Ukraine; National University of Life and Environmental Sciences of Ukraine, Ukraine; Polissia National University, Ukraine</i>
15:40	IMPROVEMENT OF MICROLEARNING WITH HELP OF LEARNING ANALYTICS IN ENTERPRISES <u>Uldis Zandbergs</u>, Janis Judrups, Elina Plane, Raitis Uscins <i>Baltic Computer Academy Ltd, Latvia; Tet, Latvia</i>
16:00	Break
16:20	MACHINE LEARNING BASED SOLUTION FOR PREDICTING VOLUNTARY EMPLOYEE TURNOVER IN ORGANIZATION <u>Janis Judrups</u>, Ronalds Cinks, Ilze Birzniece, Ilze Andersone, Uldis Zandbergs <i>Baltic Computer Academy Ltd, Latvia; University of Latvia, Latvia; Riga Technical University, Latvia</i>
16:40	USE OF STANFORD2010 DATA FOR DETERMINATION OF EFFECT OF HARVESTER OPERATOR PERIODIC TRAINING ON PRODUCTIVITY AND FUEL ECONOMY <u>Aigars Strubergs</u>, Andis Lazdins, Linards Sisenis <i>Latvia University of Life Sciences and Technologies, Latvia; Latvian State Forest Research Institute "Silava", Latvia</i>
17:00	ANALYSIS AND OUTLOOK OF DAIRY SECTOR IN BALTIC STATES <u>Aleksandra Rizojeva-Silava</u>, Sandija Zeverte-Rivza, Peteris Rivza <i>Latvia University of Life Sciences and Technologies, Latvia</i>