
11th International Scientific Practical Conference “Environment. Technology. Resources”

Rezekne Academy of Technologies,
Rezekne, Faculty of Engineering, Latvia,
June 15 – 17, 2017

Programme



Rezekne
2017

Conference Programme 15.06.2017.

<i>Time</i>	PROGRAMME
	<i>Atbrivosanas aleja 115, Assembly Hall (222)</i>
11.00	<i>REGISTRATION, COFFE</i>
13.00-13.30	CONFERENCE OPENING
13.30-14.40	PLENARY SESSION
14.40-15.00	<i>COFFEE-BREAK</i>
15.00-16.30	PLENARY SESSION
18.00	<i>DINNER</i>

Conference Programme 16.06.2017.

<i>Time</i>	PROGRAMME							
	<i>Atbrivosanas aleja 115, k-4 (Faculty of Engineering)</i>							
	<i>Room 113</i>	<i>Room 111</i>	<i>Room 132</i>	<i>Room 130</i>	<i>Room 112</i>	<i>Room 308</i>	<i>Room 013</i>	<i>Room 105</i>
10.30-11.25	Section 1	Section 2	Section 3	Section 4	Section 5	Section 6	Section 7	Section 8
11.30-12.00	<i>COFFEE-BREAK (1st floor vestibule)</i>							
12.00-12.30	<i>POSTERS (1st floor vestibule)</i>							
12.30-13.25	Section 1	Section 2	Section 3	Section 4	Section 5	Section 6	Section 7	Section 8
13.25-14.30	<i>COFFEE-BREAK (1st floor vestibule)</i>							
14.30-16.05	Section 1	Section 3	Section 3	Section 4	Section 5	Section 6	Section 7	Section 8
17.00	<i>VISIT TO ENVIRONMENTAL OBJECTS</i>							

Conference Programme 17.06.2017.

<i>Time</i>	PROGRAMME
10.00-10.30	<i>COFFEE. CONCLUSION OF CONFERENCE (room 308)</i>
10.30-13.30	<i>VISIT TO AGRICULTURE SCIENCE CENTER OF LATGALE (LATVIA)</i> <i>VISIT TO STOCK COMPANY "VILANI SELECTION AND RESEARCH STATION"</i> <i>BIOGAS COGENERATION</i>

15.06.2017.

Registration from 11.00 Atbrivosanas aleja 115, Assembly hall, room 222

PLENARY SESSION

Chairman: Gotfrids Noviks

13.00-13.30	Conference opening
13.30-13.45	Horst Exner The New Laser Institute Building and Further Increasing of Laser Research Activities
13.55-14.10	Aigars Andersons, Sarmite Rozentale Dynamic Simulation Model for Sustainable Municipality Development in Vidzeme Region, Latvia
14.20-14.35	Juris Soms Assessment of geodiversity as tool for environmental management of protected nature areas in south-eastern Latvia
14.40-15.00	<i>Coffee-break</i>

Chairman: Artis Teilāns

15.00-15.15	
15.25-15.40	Inga Dāboliņa, Ausma Viļumsone, Eva Lapkovska Anthropometric parametrization of uniforms for armed forces
15.50-16.05	Pavels Narica, Lyubomir Lazov, Artis Teilans, Peteris Grabusts, Edmunds Teirumnieks, Pavels Cacivkins Method for color laser marking process optimization with the use of genetic algorithms
16.10-16.25	Andrejs Romanovs IEEE: World and Latvia Dimensions
18.00	<i>Dinner</i>

16.06.2017.

Section 1

Atbrivosanas aleja 115 k-4 (IF), room 113

INTELLECTUAL DECISION SUPPORT SYSTEMS

Chairman: Pēteris Grabusts and Sergejs Kodors

10.30-10.45	Henrihs Gorskis* , Ludmila Aleksejeva , Inese Poļaka Ontology-based system development for medical database access
10.50-11.05	Artyom Shootov* , Yuriy Chizhov , Alexander Oks , Alexei Katashev The Good, the Bad and the Unrecognized: Smart Textile Signal Clustering by Self-Organizing Map
11.10-11.25	Lauma Jokste* , Jānis Grabis Rule based adaptation: Literature Review
11.30-12.00	<i>Coffee-break (1st floor vestibule)</i>
12.00-12.30	<i>Posters</i>
12.30-12.45	Vasily Karasev* , Ekaterina Karaseva Logical and probabilistic method for risk management in socio-economic systems
12.50-13.05	Andrejs Radionovs* , Oleg Uzhga-Rebrov Comparison of Different Fuzzy AHP Methodologies in Risk Assessment
13.10-13.25	Oļegs Uzhga-Rebrov* , Galina Kulešova Fault Trees and Belief Networks in Risk Modelling: A Comparative Analysis
13.25-14.30	<i>Coffee-break (1st floor vestibule)</i>
14.30-14.45	Sergejs Kodors Geometric Feature Selection of Building Shape for Urban Classification
14.55-15.05	Aleksejs Zorins* , Peter Grabusts Latvian Sign Language Recognition Using Infrared Sensor Technology
15.10-15.25	Peter Grabusts Potential function method approach to pattern recognition applications
15.30-15.45	Ērika Žubule* , Peter Grabusts , Lūcija Kavale Creation of innovative approach for study of the national fiscal space

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Section 2

Atbrivosanas aleja 115 k-4 (IF), room 111

SYSTEM MODELLING AND DESIGN

Chairman: Artis Teilāns and Peteris Rivza

10.30-10.45	Laila Niedrite* , Darja Solodovnikova University IS architecture for the research evaluation support
10.50-11.05	Margarita Vasileva* , Milena Lambeva Intelligent methods for attestation of scientific and teaching staff. Rasch model
11.10-11.25	Kristīne Mackare* , Anita Jansone Guidelines for design of e-study materials
<i>11.30-12.00</i>	<i>Coffee-break (1st floor vestibule)</i>
<i>12.00-12.30</i>	<i>Posters</i>
12.30-12.45	Ilze Kazaine Evaluating the quality of e-learning material
12.50-13.05	Lienīte Litavniece* , Daina Znotiņa Customer behaviour doing online shopping: latvia's case
13.10-13.25	Inga Podjavo , Solvita Berzisa* Performance Evaluation of Software Development Project Team
<i>13.25-14.30</i>	<i>Coffee-break (1st floor vestibule)</i>
14.30-14.45	Padmaraj Nidagundi* , Leonids Novickis Towards Utilization of Lean Canvas in the DevOps Software
14.55-15.05	Uldis Žaimis* , Ilva Magazeina , Anita Jansone Gold - section in interactive user interface development
15.10-15.25	Jānis Kampars , Krišjānis Pinka* Auto-scaling and adjustment platform for cloud-based systems
15.30-15.45	Peteris Rivza* , Ivars Mozga , Laima Berzina Development of a dynamic modelling tool for agricultural production projections in relation to GHG mitigation measures

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Section 3

Atbrivosanas aleja 115 k-4 (IF), room 132

**ENVIRONMENTAL PROTECTION, ENVIRONMENTAL ECONOMICS AND
MANAGEMENT**

Chairman: Aleksejs Zorins

10.30-10.45	Sarmite Rozentale* , Aigars Andersons Indicators affecting Vidzeme region smart development
10.50-11.05	Sandis Dejus* , Alina Neščerecka , Tālis Juhna On-line drinking water contamination event detection methods
11.10-11.25	Yulia M. Galitskova , Mikhail I. Balzannikov , Euphym G. Vyshkin* Rehabilitation of polluted urban areas
11.30-12.00	<i>Coffee-break (1st floor vestibule)</i>
12.00-12.30	<i>Posters</i>
12.30-12.45	Gotfrīds Noviks System analysis of region environmental dimension
12.50-13.05	Dace Ržepicka* , Aija Ziemeļniece Context of trade canal and industrial heritage in Liepaja
13.10-13.25	Shouchuang Hu , Jun Chen* , Ke Wu , Zhongkai Zhou , Tingting Cheng , Dongbiao Wu Optimization of municipal solid waste collection system in Hefei city of China
13.25-14.30	<i>Coffee-break (1st floor vestibule)</i>
14.30-14.45	Iveta Linina* , Rosita Zvirgzdiņa Evaluation of efficient consumer response (ECR) processes in retail companies in the Baltic states
14.55-15.05	Agita Livina* , Mahender Reddy Nature park as a resource for nature based tourism
15.10-15.25	Ingrīda Kepalaitė Water spring researching in Utena district (Lithuania)
15.30-15.45	Jānis Buholcs Environmental communication in Latvian municipal newsletters
15.50-16.05	Sharif E. Guseynov* , Ruslans Aleksejevs , Jekaterina V. Aleksejeva , Raufs Guseinovs Determining countries' potentials for successful export of luxurious and banking services

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Section 4

Atbrivosanas aleja 115 k-4 (IF), room 130

ECOLOGICAL AGRICULTURE AND BIOLOGY

Chairmans: Rasma Tretjakova

10.30-10.45	Zofija Jankauskiene* , Elvyra Gruzdeviene, Ernestas Maumevičius, Iryna M. Layko Investigation of hemp (<i>Cannabis sativa L.</i>) fibre quantity and quality as influenced by genotype and seed rate
10.50-11.05	Nataliia Kalinkina* , Larisa Nazarova, Elena Tekanova, Peter Litinsky, Anastasiia Sidorova The assessment of climate change and watershed effect on the heterotrophic metabolism in the Lake Onego ecosystem
11.10-11.25	Inese Biukšāne Competitiveness of the fishery sector in Latvia
11.30-12.00	Coffee-break (1st floor vestibule)
12.00-12.30	Posters
12.30-12.45	Anatoly Vladimirovich Istomin* , Sergei Mikhalap The natural dynamics of the diversity of small mammal's communities in primary forests in the central of the Caspian-Baltic watershed
12.50-13.05	Anastasiia Sidorova* , Lidia Belicheva Distribution and population structure of the invasive amphipod <i>Gmelinoides fasciatus</i> (Stebbing) in Lake Onego
13.10-13.25	Inga Stafacka* , Dace Grauda, Veneranda Stramkale Diseases diversity for flax genetic resources in Latvia
13.25-14.30	Coffee-break (1st floor vestibule)
14.30-14.45	Livija Zarina* , Ina Alsina, Aija Vaivode Effectiveness of rhizobial strains on the faba bean development and yield in soddy podzolic soils
14.55-15.05	Nikole Krasņevska* , Dace Grauda, Dace Kļaviņa, Isaak Rashal Endopolyploidy of endangered plant species <i>ligularia sibirica</i> in different environments
15.10-15.25	Jānis Vigovskis* , Agrita Svarta, Aivars Jermuss, Daina Sarkanbarde The changes of phosphorus and potassium in soil under different lime rates
15.30-15.45	Astrida Rijkure Impact of blue growth on Baltic Sea region ports

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Section 5

Atbrivosanas aleja 115 k-4 (IF), room 112

ENVIRONMENTAL ENGINEERING AND ENERGETICS

Chairman: *Liena Poiša*

10.30-10.45	Marta Frolova*, Jurgis Zemītis, Kristina Tihomirova, Linda Mežule, Jānis Rubulis, Kamila Gruškeviča, Tālis Juhna Approbation of microbially available phosphorus (map) determination method by flow cytometry
10.50-11.05	Svetlana M. Puring*, Denis N. Vatuzov, Nadezhda A. Novopashina Refining vent emissions from fine droplet aerosols
11.10-11.25	Ilva Nakurte*, Kristaps Stankus, Inguss Virsis, Aigars Paze, Janis Rizhikovs Characterization of antioxidant activity and total phenolic compound content of birch outer bark extracts using micro plate assay
11.30-12.00	<i>Coffee-break (1st floor vestibule)</i>
12.00-12.30	<i>Posters</i>
12.30-12.45	Rasma Tretjakova, Lyubomir Lazov*, Andris Martinovs, Samanta Marija Misina Impact of laser on microorganisms in the digestate
12.50-13.05	Wang Lei, Wang Yun, Jin Jie* Pickling experimental study on preparation of diesel oil with pyrolysis oil from waste rubber
13.10-13.25	Sharif E. Guseynov, Aleksandrs Bereznojs* Modelling of urban traffic flow
13.25-14.30	<i>Coffee-break (1st floor vestibule)</i>
14.30-14.45	Li Cong, Lingling Feng, Xinlai Wei, Jie Jin*, Ke Wu Study on the adsorption characteristics of congo red by sycamore bark activated carbon
14.55-15.05	Natalya G. Chumachenko*, Vladimir V. Turnikov, Ekaterina V. Petrova Analyzing environmental implications of anthropogenic impacts as a result of syzran shale-processing refinery work
15.10-15.25	Edgars Čubars*, Liena Poiša Analysis of ash content in composite biomass fuels
15.30-15.45	Arkady Terzhevnik*, Sergey Golosov, Galina Gavrilenko, Nikolai Palshin, Galina Zdorovenova, Roman Zdorovenov, Ilya Zverev Effect of physical processes on the methane dynamics in shallow boreal lakes "Observations and Modelling"

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Section 6

Atbrivosanas aleja 115 k-4 (IF), room 308

MATERIAL SCIENCE

Chairman: Līga Gaile and Svetlana Polukoshko

10.30-10.45	Peteris Druķis*, Līga Gaile, Vadims Goremikins Case study of structural reliability of existing building
10.50-11.05	Eva Namsone*, Genadijs Sahmenko, Elviņa Namsone, Aleksandrs Korjakiņš Thermal conductivity and frost resistance of foamed concrete with porous aggregate
11.10-11.25	Galitskov K.S.*, Samokhvalov O.V., Fadeev A.S. Optimization of burning production process of ceramsite with specified density
<i>11.30-12.00</i>	<i>Coffee-break (1st floor vestibule)</i>
<i>12.00-12.30</i>	<i>Posters</i>
12.10-12.25	Genadijs Sahmenko*, Sandis Aispurs, Aleksandrs Korjakiņš Experience of application high performance cement composites for creating durable sculptural elements
12.30-12.45	Yulia Usherenko*, Sergei Usherenko, Javad Yazdani, Vladimir Dashkevich Using dynamic pre-activation of steel surfaces for nitriding intensification
12.50-13.05	Stanislav Ya. Galitskov*, Sergey A. Mizuryaev, Alexander G. Chiknovoryan Heat resistant building envelopes made of lightweight concrete with the use of porous granular wastes
13.10-13.25	Alexander Guryanov*, Sofia Korenkova, Yulia Sidorenko Structure formation process of hydrated portland cement compositions: nanoscale level control
<i>13.25-14.30</i>	<i>Coffee-break (1st floor vestibule)</i>
14.30-14.45	Mārtiņš Andžs The influence of Steam Explosion severity factor on fibre fractional content
14.55-15.05	A. V. Cvetkov, V. I. Gerbreders, S. D. Khanin, A. E. Lukin, A. S. Ogurcovs, S. G. Romanov, V. G. Solovyev*, A. I. Vanin, M.V.Yanikov Structure and optical properties of hybrid metal-dielectric colloidal photonic crystals
15.10-15.25	Svetlana Polukoshko*, Andris Martinovs, Svetlana Sokolova Aging, fatigue and durability of rubber vibration isolation elements

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Section 7

Atbrivosanas aleja 115 k-4 (IF), room 013

**MECHANICS, METALWORKING AND MECHANICAL ENGINEERING
TECHNOLOGIES**

Chairman: Vladimir Solovyev

10.30-10.45	Yordanka Angelova, Silvija Mežinska*, Lyubomir Lazov Innovative laser technology in textile industry: marking and engraving
10.50-11.05	Ilze Baltina*, Ausma Vilumsone, Anna Tarasenko, Liene Silina Fabric selection for work wear during procurement procedure
11.10-11.25	Tingting Cheng, Jun Chen*, Ke Wu, Jianguo Liu, Siheng Lu, Shouchuang Hu Analysis and countermeasure of vocs source in automobile production process in China
11.30-12.00	<i>Coffee-break (1st floor vestibule)</i>
12.00-12.30	<i>Posters</i>
12.10-12.25	Lyubomir Lazov*, Hristina Deneva, Erika Teirumnieka Influence of defocus position on laser cutting process in sheet steel
12.30-12.45	Aleksandrs Gorbunovs*, Zanis Timsans, Atis Kapenieks, Rudolfs Gulbis Development of human balance capability testing prototype
12.50-13.05	Armands Grickus*, Sharif Guseynov Describing optimal processing mechanism of dispersed granular materials in gravitational flow with horizontal or inclined vibrating sieve classifying screens
13.10-13.25	Lyubomir Lazov*, Hristina Deneva, Erika Teirumnieka Study of auxiliary gas pressure on laser cutting technology
13.25-14.30	<i>Coffee-break (1st floor vestibule)</i>
14.30-14.45	Ilmārs Kangro*, Harijs Kalis, Ērika Teirumnieka, Edmunds Teirumnieks On mathematical modelling of the 2-d filtration problem in porous axial symmetrical cylinder
14.55-15.05	Andris Martinovs*, Rasma Tretjakova, Rene Castro, Vladimir Solovyev, Josef Timmerberg, Alexander Cvetkov, Sergey Gango, Angelika Borkenstein, Paul Beckmann, Helmut Schütte, Nikolai Puchkov, Sergey Trifonov Effect of heat treatment on electrical and mechanical properties of the solid sapropel
15.10-15.25	Lyubomir Lazov*, Pavels Narica, Janis Valiniks, Antons Pacejs, Hristina Deneva, Dainis Klavins Optimization of CO ₂ laser parameters for wood cutting
15.30-15.45	Uldis Zaimis*, Sharif E. Guseynov Scientifically substantiated guidelines for physico-mathematical modelling of laser surface-treatment of wear-resistant implants for human joint replacements

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Section 8

Atbrivosanas aleja 115 k-4 (IF), room 105

ELECTRICAL ENGINEERING

Chairman: Igor Plokhov and Josef Timmerberg

10.30-10.45	Sergei Trashchenkov*, Victor Astapov Spurious activation assessment of thermal power plant's safety-instrumented systems
10.50-11.05	Kaspars Kroics*, Janis Zakis, Oleksander Husev Capacitance reduction using ripple suppression control of single phase energy stored quasi-z-source inverter
11.10-11.25	Peter Uzunov, Lyubomir Lazov* Design of permanent magnet linear synchronous motor driving 2d table for laser marking
11.30-12.00	<i>Coffee-break (1st floor vestibule)</i>
12.00-12.30	<i>Posters</i>
12.30-12.45	Oksana Igorevna Kozyreva*, Igor Vladimirovich Plokhov, Nikita Aleksandrovich Kotkov, Igor Savraev, Alexander Ilyin Experimental investigations of effect of lc-circuits on sparking and thermal state of sliding electric contact unit
12.50-13.05	Alexander Pavlov*, Igor Plokhov, Sergei Drozdov, Vadim Smirnov Study and optimization of electric heating for oil and petroleum products pipeline
13.10-13.25	Andrei Khitrov*, Alexander Khitrov, Evgeny Veselkov, Vyacheslav Tikhonov Investigations of electric power quality in autonomous low power plant
13.25-14.30	<i>Coffee-break (1st floor vestibule)</i>
14.30-14.45	Sharif E. Guseynov*, Ruslans Aleksejevs, Jekaterina V. Aleksejeva, Raufs Guseinovs Determining countries' potentials for successful export of luxurious and banking services
14.55-15.05	Igor Plokhov*, Igor Savraev, Alexander Markov, Alexander Ilyin, Oksana Kozyreva, Nikita Kotkov Industrial tests of current distribution dynamics in the brush-contact apparatus of the turbo-generator
15.10-15.25	Pavels Narica*, Jurijs Komkovs Study of laser source output characteristics
15.30-15.45	Aleksei Petrov, Anton Rassõlkin*, Toomas Vaimann, Anouar Belahcen, Ants Kallaste, Igor Plokhov Basic algorithm for induction motors rotor faults pre-determination
15.50-16.05	Alexander Ilyin*, Igor Plokhov, Igor Savraev, Oksana Kozyreva, Nikita Kotkov Forming and overlapping microreliefs in sliding contact simulation model

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Atbrivosanas aleja 115 k-4 (IF) , 1st floor vestibule

POSTERS

12.00-12.30	<p>Oskars Podziņš*, Andrejs Romānovs IT risk identification and risk assessment methodology for IT company</p>
	<p>Arthur Stepchenko Land Cover Classification Based On MODIS Imagery Data Using Artificial Neural Networks</p>
	<p>Vladimiras Gražulis, Ramutė Narkūnienė* Tourism development conditions in the municipalities of the Eastern Aukštaitija region</p>
	<p>Aigars Paze*, Janis Rizhikovs, Prans Brazdausks, Maris Puke, Juris Grinins, Ramunas Tupciauskas, Ance Plavniece Processing possibilities of birch outer bark into green bio-composites</p>
	<p>Sanita Reinerte*, Martins Andzs, Ramunas Tupciauskas, Andris Veveris, Janis Gravitis Steam explosion as a pre-treatment method for bio-refined hybrid aspen lignocellulose</p>
	<p>Janis Rizhikovs*, Aigars Paze, Ance Plavniece, Kristaps Stankus, Inguss Virsis A novel method for birch outer bark quality control using higher heating value</p>
	<p>Janis Šliseris*, Līga Gaile, Leonids Pakrastiņš, Kārlis Rocēns Nonlinear numerical modelling of basalt rebar reinforced concrete structures</p>
	<p>Sanita Vitolina*, Galia Shulga, Brigita Neiberte, Skaidrite Reihmane, Elina Zhilinska New environmentally friendly dust suppressant based on lignocellulosic biomass from wood processing wastewater</p>
	<p>Jevgenijs Jaunslavietis, Galia Shulga*, Jurijs Ozoliņš, Brigita Neiberte, Anrijs Verovkins, Sanita Vitolina, Sandra Livcha Effect of the acidic treatment of domestic wood residue on biocomposite wettability and moisture sorption properties</p>
	<p>Evita Muizniece-Treija Odour study with qualitative and quantitative research methods in various districts of Riga</p>
	<p>Natalia Pashkevich, Tatyana Tarabarinova* Problems of legal and evaluation of the objects of subsoil usage</p>
	<p>Rasma Tretjakova*, Samanta Marija Misiņa, Jevgenijs Lukašenoks Chemical and biological properties of the lake blue clay</p>

Technical Co-Sponsors:

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