



**RIGA TECHNICAL UNIVERSITY
53rd INTERNATIONAL SCIENTIFIC CONFERENCE**

**DEDICATED TO THE 150th ANNIVERSARY AND
THE 1st CONGRESS OF WORLD ENGINEERS
AND RIGA POLYTECHNICAL INSTITUTE / RTU ALUMNI**

**11-12 October 2012
*Rīga, Latvija***

Organised by:

Office of the Vice-Rector of Research, Riga Technical University, LATVIA

in co-operation with:

Faculties of Riga Technical University
RTU Development Fund
RTU Students Parliament
Business Liaison and Development centre

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IEEE

***Venue: Ķīpsala International Exhibition Centre; Ķīpsalas iela 8, Rīga, Latvija
www.rigaexpo.lv***

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MESSAGE FROM THE CONFERENCE CHAIRMAN



On behalf of the Office of Vice-Rector for Research and University it is my great pleasure to welcome you to the **Riga Technical University 53rd International Scientific Conference dedicated to the 150th anniversary and to the 1st Congress of World Engineers and Riga Polytechnical Institute / RTU Alumni!**

The Conference offers an excellent opportunity to meet scientists from all over the world, to exchange new ideas and information about recent research results with colleagues and to present and discuss them. The conference attracts young scientists from the countries all over the World.

It will be the first time in RTU history that along with the scientific conference the congress of world engineers and Riga Polytechnical Institute/Riga Technical University (RPI/RTU) alumni will take place.

The Congress will unite representatives of number of fields: engineers, technologists, scientists and entrepreneurs who have graduated from the oldest technical high school of Latvia – RPI/RTU, who will share their experience and knowledge as well as demonstrate examples of successful entrepreneurship and recent technological developments.

The conference and the congress will be an excellent opportunity to meet, to present one's own research as well as to find out about the achievements of colleagues.

Looking forward meeting you at the conference!

A handwritten signature in blue ink, consisting of several loops and a long horizontal stroke at the end.

Professor Tālis Juhna,
Conference General Chairman,
Vice-Rector for Research of Riga Technical University, LATVIA

ORGANIZATION OF THE CONFERENCE

Conference Chairman

Tālis Juhna, Vice-Rector for Research of Riga Technical University

Conference Board

Leonīds Ribickis, *Dr. habil. sc. ing.*

Rector, Riga Technical University

Gatis Bažbauers, *Dr. sc. ing.*

Deputy Vice-Rector for Research, Riga Technical University

Artūrs Zeps, *Dipl.ing., Mg. sc.ing., MBA*

Executive director, Riga Technical University Development Fund

Organizing Committee

Research Coordination and Information Office

Elīna Ločmele

Liene Vilsāre

Daina Ostrovska

Elīna Karaseva

Mārcis Dzenis, *Dr. sc. ing.*

Iļja Galkins, *Dr.sc.ing.*

Aleksandrs Urbahs, *Dr.sc.ing.*

Jurijs Dehtjars, *Dr. phys.*

Jānis Vība, *Dr.sc.ing.*

Jānis Rudzītis, *Dr.sc.ing.*

Elīna Gaile-Sarkane, *Dr. oec.*

Anita Lanka, *Dr. paed.*

Gunārs Ozolzīle, *Dr. soc.*

Juris Smirnovs, *Dr. sc. ing.*

Jānis Grundspenķis, *Dr. sc. ing.*

Aivars Spalviņš, *Dr. sc. ing.*

Sandra Treija, *Dr. arch.*

Juris Briedis, *Dr.biol.*

Scientific Committee

Guntars Balodis, *Dr. sc. ing.*

Oskars Krievs, *Dr. sc. ing.*

Jānis Grundspenķis, *Dr. sc. ing.*

Valdis Kokars, *Dr. chem.*

Ēriks Geriņš, *Dr. sc. ing.*

Juris Smirnovs, *Dr. sc. ing.*

Remigijs Počs, *Dr. oec.*

Uģis Bratuškins, *Dr. arch.*

PLENARY SESSION

Program

11 October 2012

Ķīpsala International Exhibition Centre

- 8:30 - 9:00** Welcome Coffee
- 9:00 - 9:05** Opening Address
Professor Tālis Juhna, Vice-Rector for Research
- 9:05 - 9:15** Welcome Address
Professor Leonīds Ribickis, Rector
- 9:15 - 9:25** Welcome Address
Professor Roberts Ķīlis, Minister of Education and Science
- 9:25 - 9:35** Welcome Address
Professor Juris Ekmanis, President of the Latvian Academy of Sciences
- 9:35 - 9:55** Technology and Science Synergy – Optical Fiber Expansion
Juris Gulbis, Board Chairman, SIA Lattelecom
- 9:55 - 10:15** A Decade in Medical Physics Progresses. Experiences of an International Cooperation between Riga Technical University and University of Florence
Professor Franco Milano, University of Florence
- 10:15 - 10:30** Michael Dolivo-Dobrowolsky (1862–1919), Pioneer of Three-Phase Alternating Current: Stations of Life and Achievements
Professor Gerhard Neidhöfer, Technical University Darmstadt, Germany, Consultant of Alstom Power Switzerland
- 10:30 - 10:50** Cooperation between Latvenergo and RTU on Long-Term Research Issues
Āris Žīgurs, Chairman of the Management Board, Latvenergo AS
- 10:50 - 11:10** Nanotechnology - a New Approach towards High-Performance Building Materials
Professor Michael Schmidt, University of Kassel
- 11:10 - 12:00** The Scientist of the Year 2012 and The Young Scientist of the Year 2012 Awards Ceremony

SPEAKERS



FRANCO MILANO

Professor
in Medical Physics
University
of Florence,
Italy



ĀRIS ŽĪGURS

Chairman of the
Management Board,
Latvenergo AS,
Latvia



**MICHAEL
SCHMIDT**

Professor, Head
of the Institute for
Structural
Engineering,
University
of Kassel,
Germany



**GERHARD
NEIDHÖFER**

Professor, Technical
University
Darmstadt, Germany
Consultant of
Alstom Power
Switzerland



JURIS GULBIS

Chief Executive Officer,
Chairman of the
Management Board, SIA
Lattelecom, Latvia

CONFERENCE INFORMATION

The city of Riga

Riga was once at the crossroads of the trade. It's excellent location has attracted many invaders during the eight centuries of its existence. But the city has also been renowned for its architecture, parks and squares. Some visitors even used to refer to it as "a northern pearl, a small Paris". Riga is one of the most beautiful and oldest cities in Europe. An attentive visitor can retrace practically all way of history in architectural styles of Old Riga. By the way Latvia is among the ten ecologically cleanest countries. Sea and fresh pine air – everything is favourable to live. Every fourth year we have All-Latvian folk music festivals. It is very accessible by an international airport linked with the main European towns, by motorways and railways, comfortable hotels and restaurants. Riga and Latvia as a whole are rich with natural and folklore beauty, marvelous old cities. Enjoy!

Transport

Airport "Riga" provides both local and international flights. It is situated on Riga-Jurmala highway. You can get there by taxi or bus number 22.

By means of busses, trolleybuses and trams you can travel around Riga and to the suburbs of the city. Tickets can be obtained in the vehicles and costs LVL 0.70.

If you would like to hire a taxi please ask your hotel receptionist or the conference staff for help or you can call: Air Baltic +371 20008500 or Riga Taxi +371 8000 10 10.

Useful telephone numbers

Exit code: 00

Area code: 371

In case of emergency call +371-112 and you will be connected to a necessary service

Public hospitals

Medical centre ARS: Skolas 5, Riga. Tel. +371 7201007

Venue

The conference will take place at the Ķīpsala International Exhibition Centre.

Conveniently located close by the very heart of Riga, Ķīpsala International Exhibition Centre is within easy reach of public transport network, the best hotels and restaurants, and in a just 10—20 minutes' drive from the Riga Passenger Port, Riga International Bus Terminal, Central Railway Station and Riga International Airport.

Ķīpsala International Exhibition Centre hosts trade fairs and exhibitions, conferences and congresses, concerts and other mass events.

Language

The language of the conference, its sessions and all printed documents is English.

Digest

Digests on USB flash drive will be published and handed out to the participants at the conference.

This service is included in the registration fee.

Registration information

The Conference Registration Form and all related information are available on the conference web-site <http://www.scientific-conference2012.rtu.lv>. The home page is updated regularly.

Registration desk

The registration desk will be open the following times:

Wednesday	10 October 17:00 – 21:00
Thursday	11 October 7:30 – 16:00
Friday	12 October 8:00 – 16:00

Registration fees

The registration includes attendance to all sessions, USB flash drive with Conference Digests, lunches, ICE-BREAKER party, coffee breaks for one registered person.

Lunches

Lunches will be served each day in K ipsala International Exhibition Centre. One lunch ticket for each day is included in the registration. All tickets will be provided at the registration, they have to be presented for the service. The ticket is valid only on the day pointed on it.

SESSION LIST

	Oral Session	Dialog Session (Poster Presentations)
<u>Computer Science</u>	OS 1	DS 1
<ul style="list-style-type: none"> • Technologies of Computer Control • Applied Computer Systems • Information Technology and Management Science • Boundary Field Problems and Computer Simulation 		
<u>Power and Electrical Engineering</u>	OS 2	
<ul style="list-style-type: none"> • Power Engineering • Electrical Machines and Drives, Robotics • Power Electronic Converters and Applications • Process Control • Environmental and Climate Technologies 		
<u>Materials Science and Applied Chemistry</u>	OS 3	DS 3
<ul style="list-style-type: none"> • Materials Science • Chemistry and Chemical Technology • Textile and Clothing Technology 		
<u>Humanities and Social Sciences</u>	OS 4	
<u>Architecture and Urban Planning</u>	OS 5	DS 5
<u>Construction Science</u>	OS 6	DS 6
<ul style="list-style-type: none"> • Construction Science • Heat, Gas and Water Technology • Geomatics 		
<u>National Economy and Entrepreneurship</u>	OS 7	DS 7
<ul style="list-style-type: none"> • Scientific Problems of Technogenic Environment Safety • International Business, Logistics, Customs and Taxes • National and Regional Economics • Production Economics, Finance and Marketing • Quality Technologies and Management 		
<u>Technology Transfer and Innovation</u>	OS 8	
<u>Engineering, Mechanics and Mechanical Engineering</u>	OS 9	DS 9
<ul style="list-style-type: none"> • Production Engineering • Mechanics and Mechanical engineering • Heat Power and Thermal Physics 		
<u>Transport</u>	OS 10	DS 10
<ul style="list-style-type: none"> • Road Transport • Railway Transport • Aeronautics and Transport Systems 		
<u>International Symposium of Biomedical Engineering and Medical Physics</u>	OS 11	DS 11
<u>History of Technical Sciences</u>	OS 12	
RTU main building, Kaluku Street 1		
<u>Real Estate Economics and Construction Entrepreneurship</u>	OS 13	
<u>European Forum Entrepreneurship Research (EFER) Alumni Roundtable</u>	OS 14	

CONFERENCE SCIENTIFIC PROGRAMME

Thursday, 11 October

Section

Computer Science OS 1

Section Chair: Prof. J.Grundspenķis, Riga Technical University, Latvia
Dr. sc.ing. A. Spalviņš, Riga Technical University, Latvia

Subsection “Boundary Field Problems and Computer Simulation”

Scientific Committee:

A. Spalviņš	Dr. sc.ing.	Riga Technical University	Latvia
A. Kolišķins	Dr. math.	Riga Technical University	Latvia
I. Volodko	Dr. math.	Riga Technical University	Latvia
I. Iltiņš	Dr. sc.ing.	Riga Technical University	Latvia
M. Iltiņa	Dr. sc.ing.	Riga Technical University	Latvia
V. Kremņeckis	Dr. phys.	Riga Technical University	Latvia
O.V. Mul	Dr. sc.ing.	Ternopol State Technical University	Ukraine
D. F. M. Torres	Dr. math.	University of Aveiro	Portugal
P. Greber	Dr. habil. sc.ing.	Dresden Institute of Technology	Germany
R. Thunvik	Dr. habil. sc.ing.	Royal Institute of Technology	Sweden

12:00 - 12:20

REGIONAL HYDROGEOLOGICAL MODEL OF LATVIA AS A TOOL FOR ESTIMATING INTERACTION BETWEEN GROUNDWATER AND SURFACE WATER

A. Spalvins, J. Slangens, I. Lace, K. Krauklis, O. Aleksans, N. Levina, V. Skibelis, Riga Technical University, Latvia

12:20 - 12:40

METHODS OF OBTAINING DISTRIBUTIONS OF PIEZOMETRIC BOUNDARY CONDITIONS AND OF INFILTRATION FLOW FOR REGIONAL HYDROGEOLOGICAL MODEL OF LATVIA

A. Spalvins, J. Slangens, I. Lace, K. Krauklis, Riga Technical University, Latvia

12:40 - 13:00

METHODS AND SOFTWARE TOOLS USED TO DESIGNATE GEOMETRY FOR REGIONAL HYDROGEOLOGICAL MODEL OF LATVIA

A. Spalvins, J. Slangens, I. Lace, K. Krauklis, O. Aleksans, N. Levina, Riga Technical University, Latvia

13:00 – 14:00 Lunch

14:00 - 14:20

COMPUTER BASED METHODS FOR INCLUDING HYDROGRAPHICAL NETWORK IN REGIONAL HYDROGEOLOGICAL MODEL OF LATVIA

A. Spalvins, J. Slangens, I. Lace, K. Krauklis, V. Skibelis, A. Macans, Riga Technical University, Latvia

14:20 - 14:40

CHARACTERIZATION OF WIND LOADING OF THE LARGE RADIO TELESCOPE

S. Upnere, N. Jekabsons, R. Joffe, Ventspils University College, Latvia

14:40 - 15:00

DETERMINATION OF HEAT EXCHANGE LAW, BY USING AVERAGE ISOTHERM

I. Iltins, M. Iltina, Riga Technical University, Latvia

15:00 - 15:20

PANTOGRAPH-CATENARY CONTROL SYSTEM BASED ON PARAMETRIC IDENTIFICATION

Al. Matvejevs, An. Matvejevs, Riga Technical University, Latvia

15:30 – 15:45 Coffee Break

15:45 - 16:05

DETERMINATION OF COMPLEX EIGENVALUES IN EDDY CURRENT TESTING PROBLEMS

V. Koliskina, I. Volodko, Riga Technical University, Latvia

16:05 - 16:25

NUMERICAL SOLUTION OF SPATIAL STABILITY PROBLEMS FOR SLIGHTLY CURVED SHALLOW MIXING LAYERS

I. Eglite, A. Kolyshkin, Riga Technical University, Latvia

16:25 - 16:45

HUMANISTIC APPROACHES TO TEACHING THE COURSE OF MATHEMATICS

S. Cernajeva, Riga Technical University, Latvia

16:45 - 17:05

OBSERVATION OF AGE PECULIARITIES TEACHING MATHEMATICS TO PART – TIME STUDENTS

S. Cernajeva, V. Gosteine, Riga Technical University, Latvia

17:05 - 17:25

PRINCIPLES OF CREATION OF SOFTWARE FOR PROCESSING FLIGHT INFORMATION AT THE FLIGHT TEST STAGE OF AEROSPACE SYSTEMS

G. Burov, Riga Technical University, Latvia

17:25 - 17:45

IMITATION MODELLING OF COMPUTING ALGORITHMS OF IDENTIFICATION OF TECHNICAL OBJECTS

G. Burov, Riga Technical University, Latvia

17:45 - 18:05

FORMATION OF THE ICE CASTING PATTERN STRUCTURE AND METHODS OF ITS MODELING

V. Doroshenko, V. Kravchenko, Physico-Technological Institute of Metals and Alloys, Ukraine
O. Mul, Ternopil National Ivan Puluj Technical University, Ukraine

18:05 - 18:25

ON STABILITY OF A CYLINDRICAL COUETTE FLOW WITH SUCTION/INJECTION IN RADIAL AND AZYMUTHAL MAGNETIC FIELDS

V. Kremeneckis, Riga Technical University, Latvia

18:25 - 18:45

MATHEMATICAL OVER XML FAMILY OF TECHNOLOGIES

A. Georgieva, Technical University of Sofia, Bulgaria

Friday, 12 October

Section

Computer Science OS 1

Section Chair: Prof. J.Grundspenķis, Riga Technical University, Latvia
Dr. sc.ing. A. Spalviņš, Riga Technical University, Latvia

Subsection « Technologies of Computer Control »

Subsection Chair: Dr. sc.ing. Maris Ziema, Riga Technical University, Latvia

Scientific Committee:

M.Ziema	Dr. sc.ing.	Riga Technical University	Latvia
A. Glazs	Dr.hab. sc.ing.	Riga Technical University	Latvia
Z.Markovičs	Dr.hab. sc.ing.	Riga Technical University	Latvia
V.Zagursky	Dr. hab. sc.comp.	Riga Technical University	Latvia
A.Andronovs	Dr.hab. sc.ing.	Riga Technical University	Latvia
B.Courtois	prof.	Grenobles TIMA lab.	France
R.Lashevsky	prof.	University of Aizu	Japan
N.Nečvals	Dr.hab. sc.ing.	University of Latvia	Latvia
K.Pattichis	prof.	University of Cyprus	Cyprus
R.Šarunas	prof.	Vilnius Mathematic and Informatic Institute	Lithuania
J.Vander Sloten	prof.	Katholieke Universiteit Leuven	Belgium
I.Zelinka	prof.	Zlins Technical University	Czechia

9:00 – 9:20

AN APPROACH OF 3D MODEL SMOOTHING BASED ON INTERPOLATION SURFACE SUBDIVISION

A.Sisojevs, A.Glazs, Riga Technical University, Latvia

9:20 – 9:40

MEDICAL IMAGE ANALYSIS TO DETERMINE THE EFFECTIVENESS OF TREATING OSTEOPOROSIS

M. Kovalovs, A.Glazs, Riga Technical University, Latvia

9:40 – 10:00

ROBOTIC EXPLORATION AND RECOGNITION ALGORITHMS FOR RESEARCH OF AN OBJECT IN UNKNOWN ENVIRONMENT

Yan Kristofic, A.Glazs, Riga Technical University, Latvia

10:00 - 10:20

ON RESOURCE DISTRIBUTION IN MEDICAL TELEMEDICINE SCREENING COMPLEX

J.Lauznis, G.Balodis, Z.Markovics, Riga Technical University, V.Streles, SIA "INTEGRIS", Latvia

10:20 – 10:40

SYNTHESIS OF AN OPTIMAL RECOVERY STRATEGY BY USING MULTI-OBJECTIVE GENETIC ALGORITHMS

I. Karpics, Riga Technical University, Latvia

10:40 – 11:00

DECISION MAKING METHOD FOR THERAPY SELECTION

E.Prancane, I.Markovica, Z. Markovics, Riga Technical University, Latvia

11:00 - 11:20

**THE USAGE OF AN INDUSTRIAL ROBOT FOR EDUCATION AND RESEARCH- A
SURVEY AND EXPERIENCE OF RIGA TECHNICAL UNIVERSITY**

I.Karpics, Riga Technical University, Latvia

11:20 - 11:40

KNOWLEDGE-BASED SYSTEMS IN BUSINESS PROCESS AUTOMATION

A.Petrovs, Riga Technical University, Latvia

11:40 – 12:00

**SCANNING OF OPTIMIZATION PARAMETER COMBINATION SPACE OF
BIOCHEMICAL MODELS UNDER METABOLITE CONCENTRATION CONSTRAINT**

N. Bulipopa, J. Sulins, E.Stalidzans, Latvia University of Agriculture, Latvia

12:00 – 13:00 Lunch

13:00 - 13:20

**ANALYSIS OF VEHICLES INTENSITY ON THE MULTI-LANE HIGHWAYS WITHS ONE
CONTROL ZONE**

A.Ozols, Riga Technical University, Latvia

13:20 - 13:40

E-SERVICES SYSTEMS DESIGN METHODS

P. Stipravietis, M. Ziema, Riga Technical University, Latvia

13:40 - 14:00

AUTONOMOUS MOBILE UNMANNED OUTDOOR ROBOT DESIGN

A.Baums, A. Gordjusins, G. Kanonirs, Institute of Electronic and Computer science, Latvia

14:00 – 14:20

**TECHNIQUES AND ARCHITECTURE IMPROVEMENTS FOR FAST WIRELESS DATA
ACQUISITION NETWORK**

D.Bliznuks, V.Zagurskis, Riga Technical University, Latvia

14:20 – 14:40

MULTIPLE MOBILE GATEWAYS FOR WIRELESS SENSOR NETWORKS

G.Miezitis, V. Zagursky, R.Taranovs, Riga Technical University, Latvia

14:40 – 15:00

**AN EFFICIENT CLUSTERING APPROACH FOR HIERARCHICAL WIRELESS SENSOR
NETWORKS**

R. Taranovs, V. Zagursky, G.Miezitis, Riga Technical University, Latvia

15:00 – 15:45 Coffee Break

15:45 – 16:05

**FUNCTIONAL STATE EVALUATION SYSTEM WITH DISTRIBUTED INTELLECT FOR
ELDERLY AND DISABLED PERSONS**

A.Vainoras, L.Gargasas, L.Bikulciene, V.Jurkonis, R.Ruseckas, Institute of Cardiology of Lithuanian University of Health Sciences, Lithuania

16:05 – 16:25

INTRODUCTION TO REGULARIZED DIRECT FILTER APPROACH

G.Buss, Riga Technical University, Latvia

16:25 – 16:45

TRACKING BUSINESS CYCLE OF EUROPEAN UNION GDP IN REAL TIME

G.Buss, Riga Technical University, Latvia

16:45 – 17:05

SOFTWARE DEFINED RADIO BASED EMBEDDED AUTOMATED IDENTIFICATION SYSTEM RECEIVER FOR NANO-SATELLITE

M. Krastins, K. Kondratjevs, J.Polevskis, G. Korats, J. Trokss (Ventspils University College, Latvia)

17:05 – 17:25

NANO-RTU BASED RADIATION TOLERANT MODULATOR FOR SATELLITE EARTH COMMUNICATION

A. Skorodumovs (Ventspils University College, Latvia)

Thursday, 11 October

Section

Computer Science OS 1

Section Chair: Prof. J.Grundspeņķis, Riga Technical University, Latvia

Subsection “Applied Computer Systems”

Scientific Committee:

J.Bārzdīņš	Prof.	University of Latvia	Latvia
W.Bodrow	Prof.	University of Applied Sciences in Berlin	Germany
J.Borzovs	Prof.	University of Latvia	Latvia
J.Bubenko, jr.	Prof.	Stockholm University	Sweden
A.Čaplinskā	Prof.	Vilnius University	Lithuania
D.Dzemydiene	Assoc. prof.	Vilnius University	Lithuania
K.Freivalds	Sen. researcher	University of Latvia	Latvia
G.Arnicaņš	Assoc. prof.	University of Latvia	Latvia
H.-M.Haav	Sen. researcher	Tallinn University of Technology	Estonia
Z.Huzar	Prof.	Wroclaw University of Technology	Poland
A.Kalniņš	Prof.	University of Latvia	Latvia
R.Kuusik	Prof.	Tallinn University of Technology	Estonia
H.Linger	Prof.	Monash University	Australia
A.Lupeikiene	Sen. researcher	Vilnius University	Lithuania
A.G.Nilsson	Prof.	Karlstad University	Sweden
L.Novickis	Prof.	Riga Technical University	Latvia
O.Ņikiforova	Prof.	Riga Technical University	Latvia
J.Osis	Prof.	Riga Technical University	Latvia
J.Tepandi	Prof.	Tallinn University of Technology	Estonia
O.Vasilecas	Prof.	Vilnius Gediminas Technical University	Lithuania
K.Wang	Prof.	Norwegian University of Science and Technology	Norway
B.Wangler	Prof.	University of Skovde	Sweden
W.Wojtkowski	Prof.	Boise State University	USA

13:00 - 13:15

SCIENTIFIC JOURNAL OF APPLIED COMPUTER SYSTEMS: LOOKING BACK AND MOVING FORWARD

J. Grundspeņķis, L. Novickis, O. Ņikiforova, Riga Technical University, Latvia

13:15 - 13:30

INTEGRATED ROBOT LOCALIZATION APPROACH FOR INDOOR ROBOTIC SYSTEMS

A. Ņikitenko, A. Liekna, M. Ekmanis, G. Kulikovskis, Riga Technical University, Latvia

13:30 - 13:45

SOFTWARE ARCHITECTURE FOR MOBILE ROBOT INDOOR LOCALIZATION USING ARTIFICIAL LANDMARKS

A. Liekna, A. Ņikitenko, M. Ekmanis, G. Kulikovskis, Riga Technical University, Latvia

13:45 - 14:00

ARCHITECTURE AND .NET IMPLEMENTATION OF MULTI-ROBOT MANAGEMENT SYSTEM

A. Liekna, A. Ņikitenko, Riga Technical University, Faculty of Computer Science and Information Technology, Institute of Applied Computer Systems

14:00 - 14:15

MAPPING IMPLEMENTATION FOR MULTI-ROBOT SYSTEM WITH GLYPH LOCALIZATION

I. Andersone, A. Liekna, A. Ņikitenko, Riga Technical University, Latvia

14:15 - 14:30

USE OF LEARNING METHODS TO IMPROVE KINEMATIC MODELS

K. Priedniece, A. Ņikitenko, A. Liekna, Riga Technical University, Latvia

14:30 - 14:45

ALGORITHM OF ONTOLOGY TRANSFORMATION TO CONCEPT MAP FOR USAGE IN SEMANTIC WEB EXPERT SYSTEM AND COMPARISON OF ONTOLOGY REASONING SYSTEMS FOR SEMANTIC WEB EXPERT SYSTEM

O. Verhodubs, J. Grundspenķis, Riga Technical University, Latvia

14:45 - 15:00

THE ROLE OF FEEDBACK IN INTELLECTUAL TUTORING SYSTEM

J. Dāboliņš, J. Grundspenķis, Riga Technical University, Latvia

15:00 - 15:15

REQUIREMENTS FOR KNOWLEDGE SEARCH SYSTEM

O. Ļebedeva, L. Zaiceva, Riga Technical University, Latvia

15:15 - 15:30

MIGRATION OF DATABASES TO GOOGLE CLOUD SQL

Z. Buliņš, Riga Technical University, Latvia

15:30 – 15:45 Coffee Break

15:45 - 16:00

IMPROVEMENT OF THE TWO-HEMISPHERE MODEL-DRIVEN APPROACH FOR GENERATION OF THE UML CLASS DIAGRAM

O. Ņikiforova, K. Gusarovs, O. Gorbiks, N. Pavlova, Riga Technical University, Latvia

16:00 - 16:15

UML SEQUENCE DIAGRAM: TRANSFORMATION FROM THE TWO-HEMISPHERE MODEL AND LAYOUT

O. Ņikiforova, L. Kozačenko, D. Ahiļčenoka, Riga Technical University, Latvia

16:15 - 16:30

CODE GENERATION FROM UML MODEL: STATE OF THE ART AND PRACTICAL IMPLICATIONS

A. Bajovs, O. Nikiforova, J. Sējāns, Riga Technical University, Latvia

16:30 - 16:45

**ENSURING DOMAIN CONFORMITY BY A MEANS OF THE TOPOLOGICAL
FUNCTIONING MODEL**

E. Aņņina, Riga Technical University, Latvia

16:45 - 17:00

**INTEGRATION OF THE MVC PATTERN AND THE TOPOLOGICAL FUNCTIONING
MODEL**

B. Gulbis, E. Aņņina, Riga Technical University, Latvia

17:00 - 17:15

ANALYSIS OF CSS3 FEATURES

V. Judins, D. Rostkovskis, A. Grocevs, V. Tomko, N. Prokofjeva, Riga Technical University, Latvia

17:15 - 17:30

HTML5 IN DEVELOPMENT OF CONTROL TASKS FOR E-LEARNING SYSTEMS

N. Prokofjeva, A. Grocevs, V. Tomko, V. Judins, Riga Technical University, Latvia

17:30 - 17:45

**APPLYING THE MODEL-DRIVEN APPROACH TO MEASURING THE PERFORMANCE
OF PROCESS SYNCHRONIZATION**

V. Nazaruks, P. Rusakovs, Riga Technical University, Latvia

17:45 - 18:00

RECENT TRENDS AND SOLUTIONS IN SOFTWARE SYSTEM LOGGING

G. Alksnis, Riga Technical University, Latvia

18:00 - 18:15

AGILE SOFTWARE DEVELOPMENT

G. Linkevičs, Riga Technical University, Latvia

18:15 - 18:25

THE VALUE OF BUSINESS ANALYSIS

K. Lace, International Institute of Business Analysis, Latvia

18:25 - 18:35

IMPORTANCE OF CONFIGURATION MANAGEMENT

U. Karlovs-Karlovs, C.T.Co, Latvia

18:35 - 18:45

VARIOUS ROLES IN SOFTWARE PRODUCT LINE INDUSTRY

J. Grigorjevs, Tieto, Latvia

18:45 - 18:55

**LATVIAN LANGUAGE TECHNOLOGIES IN MULTI-LINGUAL INFORMATION
SOCIETY: TILDE'S EXPERIENCE**

A. Lagzdiņš, I. Skadiņa, I. Sāmīte, A. Vasiļjevs, Tilde, Latvia

18:55 - 19:05

ACCENTURE – THE WORLD'S LARGEST IT CONSULTING COMPANY IN LATVIA

V. Nikuļšins, D. Pozdņakovs, Accenture Latvia, Latvia

19:05 - 19:15

EXIGEN SERVICES – OVERVIEW OF PROJECTS, TECHNOLOGIES AND SKILLS

P. Krastiņš, Exigen Services, Latvia

Friday, 12 October

Section

Computer Science OS 1

Section Chairs: Prof. J.Grundspenķis, Riga Technical University, Latvia
Dr. sc.ing. A. Spalviņš, Riga Technical University, Latvia

Subsection “Information Technology and Management Science”

Subsection Chair: Prof. A. Borisov

Scientific Committee:

A. Borisov	Dr. habil. sc.comp.	Riga Technical University	Latvia
G. Dzemyda	Dr. habil. sc.ing.	Vilnius University	Lithuania
Y. Merkurjev	Dr. habil. sc.ing.	Riga Technical University	Latvia
G. Merkurjeva	Dr. habil. sc.ing.	Riga Technical University	Latvia
H. Pranevicius	Dr. habil. sc.ing.	Kaunas University of Technology	Lithuania
P. Rivza	Dr. habil. sc.ing.	Latvian University of Agriculture	Latvia
D. Al-Dabass	PhD	Nottingham Trent University	United Kingdom
A.G. Bruzzone	Dr.	University of Genoa	Italy
M. Buikis	Dr. math.	Riga Technical University	Latvia
H.Van Landeghem	Dr., ir.	Ghent University	Belgium
J. Petuhova	Dr. sc.ing.	Riga Technical University	Latvia
M. A. Piera	Dr.	The Autonomous University of Barcelona	Spain
A. Romanovs	Dr. sc.ing.	Riga Technical University	Latvia

9:00 - 9:15

OPENING SPEECH

A.Borisov, Riga Technical University, Latvia

9:15 - 9:30

SECURITY MANAGEMENT IMPROVEMENT USING REAL TIME LOG ANALYSIS

D. Pēterkops, Riga Technical University, Latvia

V. Minkevičs, Ministry of Finance of the Republic of Latvia, Latvia

9:30 - 9:45

**A METHOD FOR EFFECTIVE REUSE-ORIENTED SOFTWARE RELEASE
CONFIGURATION AND ITS APPLICATION IN INSURANCE AREA**

A. Bartusevics, V. Kotovs, L. Novickis, Riga Technical University, Latvia

9:45 - 10:00

ON-DEMAND REMOTE DATA INTEGRATION ARCHITECTURE

J. Kampars, Riga Technical University, Latvia

10:00 - 10:15

FITNESS LANDSCAPE ANALYSIS AND OPTIMISATION IN DELIVERY PLANNING

G. Merkurjeva, V. Bolshakov, Riga Technical University, Latvia

10:15 - 10:30

**ANALYSIS OF LATVIAN HIGHER EDUCATIONAL INSTITUTIONS RATING DATA
USING CLUSTERING**

P. Grabusts, Rezekne Higher Education Institution, Latvia

10:30 - 10:45

DEVELOPMENT OF AN INTEGRATED GEOSIMULATION SYSTEM FOR PUBLIC TRANSIT ANALYSIS AND PLANNING

A. Lektauers, J. Petuhova, A. Teilans, A. Kleins, Riga Technical University, Latvia

10:45 - 11:00

E-GOVERNMENT READINESS IN LATVIA: PAST AND PRESENT

D. Dumpe, I. Arhipova, Latvia University of Agriculture, Latvia

11:00 - 11:15

DEVELOPMENT OF SAMPLING DRILLHOLE ACCOUNTING SYSTEM

A. Gailuma, L. Bērziņa, D. Lauva, Latvia University of Agriculture, Latvia

11:15 - 11:30

PROJECT PHASE DEPENDENT CONFIGURATION OF PROJECT MANAGEMENT INFORMATION SYSTEMS

S. Berziša, Riga Technical University, Latvia

11:30 - 11:45

GROUND SPACE MONITORING TECHNOLOGIES

J. Petuhova, Y. Merkurjev, Riga Technical University, Latvia

V. Zelentsov, St. Petersburg Institute for Informatics and Automation of RAS, Russia

11:45 - 12:00

OPTIMISATION OF BUSINESS PROCESSES “RECEIVABLES MANAGEMENT”

M. Sverdan, Interindustrial Institute of Management, Ukraine

O. Korzachenko, Kyiv National Economic University, Ukraine

12:00 - 13:00 Lunch

13:00 - 13:15

PRICING OF FINANCIAL ACTIVES WITH SERIAL CORRELATIONS IN RETURNS

J. Fjodorovs, Riga Technical University, Latvia

13:15 - 13:30

SIMULATION-BASED CLUSTER ANALYSIS AND OPTIMISATION OF VEHICLE SCHEDULES

G. Merkurjeva, V. Bolshakov, M. Kornevs, Riga Technical University, Latvia

13:30 - 13:45

LOGISTICS INFORMATION SYSTEMS: AN OVERVIEW

O. Soshko, Y. Merkurjev, Riga Technical University, Latvia

13:45 - 14:00

ASSESSING THE NEED FOR INFORMATION TECHNOLOGY CONTROL ENVIRONMENT ESTABLISHMENT

R. Pirta, R. Strazdiņa, Riga Technical University, Latvia

14:00 - 14:15

WAVELET TRANSFORM MODULUS MAXIMA APPROACH FOR STOCK INDEXES MULTIFRACTAL ANALYSIS

A. Pučkovs, A. Matvejevs, Riga Technical University, Latvia

14:15 - 14:30

STATBOX SIMULATION SYSTEM CONCEPT FOR SPATIAL ANALYSIS

K. Chabs, Riga Technical University, Latvia

M. Cekule, University of Latvia, Latvia

14:30 - 14:45

**THE CAPABILITIES OF INTELLIGENT INTRUSION DETECTION TECHNIQUES IN
WEB-BASED INFORMATION SYSTEMS**

P. Dorogovs, A. Romanovs, Riga Technical University, Latvia

14:45 - 15:00

**USE OF INTRUSION DETECTION SYSTEM BASED ON NETWORK BEHAVIOUR
ANALYSIS IN SCADA NETWORKS**

A. Velicko, P. Dorogovs, A. Romanovs, Riga Technical University, Latvia

15:00 - 15:15

**ANALYSIS AND MODELLING OF SOCIAL NETWORKS: LEADER IDENTIFICATION
AND INFORMATION DISSEMINATION**

A. Cumiks, A. Romanovs, Riga Technical University, Latvia

15:15 - 15:30

SELF-ORGANISING NEURAL NETWORK USAGE FOR PROJECT RISK ASSESSMENT

O. Bulgakovs, V. Minkeviča, Riga Technical University, Latvia

15:30 – 15:45 Coffee Break

15:45 - 16:00

**IMPACT OF CLUSTER STABILITY ON CLASS DECOMPOSITION IN ANTIBODY
DISPLAY DATA**

I. Polaka, A. Borisov, Riga Technical University

16:00 - 16:15

USE OF BEXA FAMILY ALGORITHMS IN BIOINFORMATICS DATA CLASSIFICATION

M. Gasparovica, L. Aleksejeva, V. Gersons, Riga Technical University, Latvia

16:15 - 16:30

MODERN APPROACHES TO CREATING USER BEHAVIOUR MODELS

P. Osipov, A. Borisov, Riga Technical University, Latvia

16:30 - 16:45

**A COMPARATIVE STUDY OF EVOLUTONARY BAYESIAN OPTIMIZATION
TECHNIQUES**

B. Vaskin, Y. Chizhov, A. Borisov, Riga Technical University, Latvia

16:45 - 17:00

**EXTRACTION OF INTERPRETABLE RULES FROM PIECEWISE-LINEAR
APPROXIMATION OF A NONLINEAR CLASSIFIER USING CLUSTERING-BASED
DECOMPOSITION**

A. Bondarenko, V. Jumute, Riga Technical University, Latvia

17:00 - 17:15

**REPRESENTATION AND ANALYSIS OF SECURITY REQUIREMENTS IN BUSINESS
PROCESSES**

M. Tora, Riga Technical University, Latvia

17:15 - 17:30

SIMULATION-BASED ANALYSIS OF THE GOLDMINE SYSTEM OPERATION

J. Petuhova, A. Bogusevica, L. Andersone, Riga Technical University, Latvia

17:30 - 17:45

**APPLYING BUILDING BLOCK SELECTION IN LINEAR GENETIC PROGRAMMING TO
SOLVE CLASSIFICATION TASKS**

S. Provorovs, I. Provorova, A. Borisov, Riga Technical University, Latvia

17:45 - 18:00

INTERMODAL SYSTEM OF PUBLIC TRANSPORT: A SURVEY

A. Petrova, J. Petuhova, Riga Technical University, Latvia

18:00 - 18:15

THE PROBLEM OF EFFICIENCY MEASUREMENT AND ITS SOLUTIONS

T. Arshinova, Riga Technical University, Latvia

CONFERENCE SCIENTIFIC PROGRAMME

Thursday, 11 October

Section

Power and Electrical Engineering OS 2

Section Prof. L. Ribickis, Riga Technical University, Latvia
Chair:

Scientific Committee:

V. Ambrožič	Dr. sc. ing., University of Ljubljana, Slovenia
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G. Benysek	Dr. sc. ing., University of Zielona Gora, Poland
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J. Gerhards,	Dr. sc. ing., RTU, Latvia
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M. Kolcun,	Dr. sc. ing., TUK, Slovakia
A. Kolganov	Dr. sc. ing., Ivanovo Power State University, Russian Federation
A. Pumpurs	Dr. sc. ing., CRR "Argus", Latvia
V. Krēsliņš,	Dr. sc. ing., LEEA, Latvia
O. Krievs,	Dr. sc. ing., RTU, Latvia
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O. Linkevičs	Dr. sc. ing., Latvenergo, Latvia
T. Lomane	Dr. sc. ing., RTU, Latvia
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J. Martins	Dr. sc. ing., Universidade Nova de Lisboa, Portugal
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S. Miesniece	Dr. sc. ing., RTU, Latvia
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A. Mutule	Dr. sc. ing., RTU, Latvia

V. Neimane,	Dr. sc .ing., Vattenfal, Sweden
R. Neimanis,	Dr. sc .ing., General Electric, Sweden
A. Nikitenko	Dr. sc .ing., RTU, Latvia
I. Oļeiņikova	Dr. sc .ing., FEI, Latvia
Y. Paerand	Dr. sc .ing., Donbas State Technical University, Ukraine
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V.Pugachev,	Dr. sc .ing., FEI, Latvia
I. Raņķis,	Dr. habil. sc. ing., RTU, Latvia
L. Ribickis,	Dr. habil. sc. ing., RTU, Latvia
A. Riosin,	Dr. sc .ing., TTU, Estonia
I. Roasto	Dr. sc .ing., TTU, Estonia
E. Romero-Cadaval	Dr. sc .ing., University of Extremadura, Spain
S. Rubcovs	Dr. sc .ing., RTU, Latvia
A. Sauhats,	Dr. habil. sc. ing., RTU, Latvia
R. Smoleński	Dr. sc .ing., University of Zielona Góra, Poland
J. Stabulnieks,	Dr. sc .ing., FEI, Latvia
R. Strzelecki	Dr. sc .ing., Gdynia Maritime Academy, Poland
V. Strelkovs	Dr. sc .ing., Latvenergo, Latvia
J. Survilo	Dr. sc .ing., RTU, Latvia
A. Šņīders,	Dr. sc .ing., LLU, Latvia
A. Utāns	Dr. sc .ing., RTU, Latvia
M. Valdma,	Dr. sc .ing., TTU, Estonia
E. Vanzovičs,	Dr. sc .ing., RTU, Latvia
S. Vitolina	Dr. sc .ing., RTU, Latvia
D. Vinnikov,	Dr. sc .ing., TTU, Estonia
V. Vodovozov,	Dr. sc .ing., TTU, Estonia
J. Zakis	Dr. sc .ing., TTU, Estonia
I. Zicmane	Dr. sc .ing., RTU, Latvia
S. Zimina	Dr. sc .ing., RTU, Latvia
S. Zizins-Malisevs	Dr. sc .ing., Latvenergo, Latvia
A. Zviedris	Dr. sc .ing., RTU, Latvia
D. Žalostība	Dr. sc .ing., RTU, Latvia

9:00 – 12:00

**OPENING AND PLENARY SESSION OF RTU 53RD ANNUAL
SCIENTIFIC CONFERENCE**

12:00 – 13:00 Lunch

13:00 – 15:30

PLENARY REPORTS

Chair: Assoc. Prof. O. Krievs, Riga Technical University, Latvia

13:00 – 13:35

KEYNOTE SPEECH

**RECENT SCIENTIFIC ACHIEVEMENTS AT THE INSTITUTE OF
ELECTRICAL ENGINEERING AND POWER ELECTRONICS**

Prof. L. Ribickis, Riga Technical University, Latvia

13:35 – 14:10

KEYNOTE SPEECH

**POWER SYSTEM'S RISKS ESTIMATION AND OPERATION DURING
EMERGENCY SITUATIONS**

Prof. A. Sauhats, Riga Technical University, Latvia

14:10 – 14:45

**KEYNOTE SPEECH AN OVERVIEW OF RECENT INNOVATIONS IN THE
DOMAIN OF SMART SYSTEMS**

Prof. M. Glesner, Darmstadt Technical University, Germany

14:45 – 15:30

**KEYNOTE SPEECH
LARGE BASE MOTION COMPENSATION OF SERIAL ROBOTS USING
THE VIRTUAL REDUNDANT AXIS APPROACH**

Prof. A. Kecskeméthy, University Duisburg-Essen, Germany

15:30 – 15:45 Coffee Break

Thursday, 11 October

Section

Power and Electrical Engineering OS 2

Section Chair: Prof. L. Ribickis, Riga Technical University, Latvia

Subsection “Power Engineering”

Subsection chair: Prof. A. Sauhats, Riga Technical University, Latvia

15:45 – 18:15

15:45 – 16:00

**ASSESSMENT OF WIND PRODUCTION IMPACTS TO A POWER SYSTEM AND
MARKET FORMATION IN BALTIC**

M. Turcik, A. Obushev and I. Oleinikova, Institute of Physical Energetics, Latvia

16:00 – 16:15

**TRANSMISSION AND OPTICAL NETWORKS CREATING BY USING A
COOPERATIVE GAME THEORY APPROACH**

I. Moskins, A. Sauhats, Riga Technical University, Latvia

16:15 – 16:30

**ENVIRONMENTAL ASPECTS AND OPERATION MODE OF SMALL
HYDROPOWER**

J. Survilo, Riga Technical University, Latvia

16:30 – 16:45

THE EFFECT OF NON-UNIFORMITY IN MESHED NETWORKS

J. Survilo, Riga Technical University, Latvia

16:45 – 17:00

**EVALUATION OF THE PROFITABILITY OF HIGH TEMPERATURE LOW SAG
CONDUCTORS**

E. Vanzovichs, A. Sauhats, S. Berjzokina, Riga Technical University, Latvia

17:00 – 17:15

**THE STIPULATION FOR ORTHOGONALITY OF THE NODAL AND EXTRA
CURRENTS**

J. Survilo, D. Antonovs, E. Biela, , Riga Technical University, Latvia

17:15 – 17:30

**SPATIAL MODELLING OF THE PROCESSES OF SPREADING OF EMISSIONS
FROM THERMAL POWER PLANTS AND BOILER HOUSES**

A. Gnatyuk, Vladimir Law Institute, Russian Federation

B. Staroverov, Kostroma State University of Technology, Russian Federation

17:30 – 17:45

**EVALUATION OF CUSTOMER COSTS OF RELIABILITY WITH TIME-
VARIABLE LOADS AND OUTAGE COSTS**

A. Lvovs, A. Mutule, Riga Technical University, Latvia

17:45 – 18:00

**ESTIMATION OF ASSET INSULATION CONDITION BY THE MONTE CARLO
METHOD**

M. Zviedritis, Riga Technical University, Latvia

18:00 – 18:15

**DEVELOPMENT OF AN ALGORITHM AND SOFTWARE “MVES-TV 2012” FOR
TOUCH VOLTAGE CALCULATION IN MV NETWORKS**

I. Priedite-Razgale, J. Rozenkrons, Riga Technical University, Latvia

FRIDAY, 12 OCTOBER

Section

Power and Electrical Engineering OS 2

Section Chair: Prof. L. Ribickis, Riga Technical University, Latvia

Subsection “Electrical Machines, Drives and Robotics”

Subsection chair: Prof. Janis Dirba, Riga Technical University, Latvia

9:15 – 12:00

9:00 – 9:15

**DETECTION OF INDUCTION MOTOR BROKEN BARS IN GRID AND
FREQUENCY CONVERTER SUPPLY**

Toomas Vaimann, Tallinn University of Technology, Estonia

Anouar Belahcen, Aalto University, Finland

Javier Martinez, Aalto University, Finland

and Aleksander Kilk, Tallinn University of Technology, Estonia

9:15 – 9:30

**THE FORMULA SYNTHESIS OF THE MAXIMAL MECHANICAL TORQUE ON
THE VOLUME FOR A CYLINDRICAL MAGNETIC COUPLER**

Baiba Ose-Zala, Riga Technical University, Latvia

Oskars Onzevs, Private University “Turība”, Latvia

Vladislav Pugachov, Institute of Physical Energetics, Latvia

9:30 – 9:45

**THE RE-EXAMINATION TO ADJUSTMENT THE ROTOR MAGNETIC FIELD
OBSERVER IN THE INDUCTION MOTOR**

Alexander Smirnov, Alexander Burkov, Evgeny Krasilnikyants and Georgii Buldukyan,

Ivanovo Power State University, Russian Federation

9:45 – 10:00

START-UP AND REVERSE ANALYSIS OF INDUCTION MOTOR MODEL IN PUMP REGIME

Guntis Orlovskis and Karlis Ketners, Riga Technical University, Latvia

10:00 – 10:15

HYBRID SYNCHRONOUS MOTOR TORQUE RESEARCH

Elena Suvorkova, Istvan Vajda, Budapest University of Technology and Economics, Hungary
Yuriy Dementiev and Lev Burulko, National Research Tomsk Polytechnic University,
Russian Federation

10:45 – 11:00

ELECTROMECHANICAL BATTERY MASS MINIMIZATION, TAKING INTO ACCOUNT ITS ELECTRICAL MACHINES ROTOR ENERGY

Andrejs Podgornovs and Antons Sipovichs, Riga Technical University, Latvia

10:15 – 10:30

METHODS FOR PREDICTING REMAINING SERVICE LIFE OF POWER TRANSFORMERS AND THEIR COMPONENTS

Julija Jakovleva, Sandra Vitolina and Vjaceslavs Maskaljonoks, Riga Technical University,
Latvia

10:30 – 10:45

LOAD COMPENSATION IN MECHATRONIC SYSTEM WITH OBSERVER

Alexey Kolganov, Sergey Lebedev and Mikhail Kulenko, Ivanovo Power State University,
Russian Federation

11:00 – 11:15

ESTIMATION OF TRACTION DRIVE TEST BENCH WITH ENERGY STORAGE SYSTEM OPERATION IN REGENERATIVE BRAKING MODE

Genadijs Zaleskis, Viesturs Brazis, Riga Technical University, Latvia
and Leonards Latkovskis, Institute of Physical Energetics, Latvia

11:15 – 11:30

IMPROVING OF DYNAMIC CONTROL QUALITY OF MANIPULATOR ROBOTS

Evgeny Krasilnikyants, Artem Varkov and Vladimir Tyutikov, Ivanovo Power State
University, Russian Federation

11:30 – 11:45

MULTI-DOMAIN MODEL FOR ELECTRICAL CONSUMPTION MODELLING OF INDUSTRIAL ROBOTS

Davis Meike, Riga Technical University, Latvia

11:45 – 12:00 Free time

12:00 – 13:00 Lunch

FRIDAY, 12 OCTOBER

Section

Power and Electrical Engineering OS 2

Section Chair: Prof. L. Ribickis, Riga Technical University, Latvia

Subsection “Power Electronic Converters and Applications – 1”

Subsection chair: Prof. Dmitri Vinnikov, Tallinn University of Technology, Estonia

13:00 – 15:30

13:00 – 13:15

NEW DC/DC CONVERTER FOR ELECTROLYSER INTERFACING WITH STAND-ALONE RENEWABLE ENERGY SYSTEM

Andrei Blinov and Anna Andrijanovits, Tallinn University of Technology, Estonia

13:15– 13:30

GEOMETRY OPTIMIZATION OF HALF-BRIDGE CONVERTER WITH SYMMETRICAL BUSBAR STRUCTURE

Sergey Burtovoy and Andrew Stepanov, Riga Technical University, Latvia

13:30 – 13:45

SIMULATION STUDY OF DIFFERENT MODULATION TECHNIQUES FOR THREE-LEVEL QUASI-Z-SOURCE INVERTER

Carlos Roncero-Clemente, Enrique Romero-Cadaval, University of Extremadura, Spain
Oleksandr Husev, Chernihiv State Technological University, Ukraine
and Dmitri Vinnikov, Tallinn University of Technology, Estonia

13:45– 14:00

DESIGN OF RESONANT DC/DC CONVERTER FOR 5KW FUEL CELL APPLICATION

Aleksandrs Andreiciks, Riga Technical University, Latvia

14:00 – 14:15

IMPLEMENTATION POSSIBILITIES OF SMD CAPACITORS FOR HIGH POWER APPLICATIONS

Janis Zakis and Dmitri Vinnikov, Tallinn University of Technology, Estonia

14:15 – 14:30

BUCK-BOOST DC-DC CONVERTER FOR WIND AND HYDROGEN BASED AUTONOMOUS ENERGY SUPPLY SYSTEM

Pavels Suskis and Ivars Rankis, Riga Technical University, Latvia

14:30 – 14:45

ENHANCEMENT OF DIMMABLE LED DRIVERS UTILIZING DISCONTINUOUS CONDUCTION MODE

Irena Milashevski, Tallinn University of Technology, Estonia
Olegs Tetervenoks and Ilya Galkin, Riga Technical University, Latvia

14:45 – 15:00

CHOICE OF OPTIMAL POWER FOR UNIT OF DISTRIBUTED LIGHTING SYSTEM

Olegs Tetervenoks, Riga Technical University, Latvia

15:00 – 15:15

**ASSESSMENT OF AUTONOMOUS POWER SUPPLY SYSTEM FOR LIGHT
SENSOR OF ILLUMINATION MEASUREMENT STAND**

Olegs Tetervenoks, Riga Technical University, Latvia
Jelena Armas, Elektrilevi OÜ, Estonia
and Ilya Galkin, Riga Technical University, Latvia

15:15 – 15:30

ENHANCEMENT OF STREET LIGHTING INFRASTRUCTURE WITH DC LINK

Alexander Suzdalenko and Ilya Galkin., Riga Technical University, Latvia

15:30–15:45 Coffee Break

Subsection “Power Electronic Converters and Applications” (continued)

Subsection chair: Prof. Ilya Galkin, Riga Technical University, Latvia

15:45 – 16:15

15:45 – 16:00

**MULTIPORT DC/DC CONVERTERS FOR RENEWABLE ENERGY SYSTEMS:
GENERAL TOPOLOGIES AND CONTROL METHODS**

Anna Andrijanovits, Tallinn University of Technology, Estonia

16:00 – 16:15

**USE OF PASSIVE CELL BALANCING FOR ELECTRIC VEHICLE BATTERY
PACK**

Kristaps Vitols, Riga Technical University, Latvia

FRIDAY, 12 OCTOBER

Section

Power and Electrical Engineering OS 2

Section Chair: Prof. L. Ribickis, Riga Technical University, Latvia

Subsection “Process Control”

Subsection chair: Asoc. Prof. Nadezhda Kunicina, Riga Technical University, Latvia

16:15 – 17:30

16:15 – 16:30

**INVARIANT METHOD OF LOAD INDEPENDENT PRESSURE CONTROL IN
STEAM BOILER**

Andris Šnīders and Toms Komass, Latvian University of Agriculture, Latvia

16:30 – 16:45

**A RISK BASED MODELING OF INTERDEPENDENCIES IN CRITICAL
INFRASTRUCTURES THROUGH UML**

Anatolijs Zabasta, Oksana Nikiforova and Nadezhda Kunicina, Riga Technical University,
Latvia

16:45 – 17:00

**SMOOTH BRAKING OF TRAIN USING ADAPTIVE CONTROL ALGORITHMS
ON EMBEDDED DEVICES"**

Andrejs Potapovs, Andrew Mor-Yaroslavtsev, Anatoly Levchenkov and Mikhail Gorobetz,
Riga Technical University, Latvia

17:00 – 17:15

SPEECH CONTROL SYSTEMS FOR ELECTRICAL TECHNOLOGIES

Peteris Apse-Apsitis, Ansis Avotins and Leonids Ribickis, Riga Technical University, Latvia

Thursday, 11 October

Subsection

Environmental and Climate Technologies

Section Chair: Gatis Bazbauers

«Research of Environmental and Climate Technologies»

Scientific Committee:

D.Blumberga	Dr.	Riga Technical University	Latvia
I.Veidenbergs	Dr.	Riga Technical University	Latvia
G.Bazbauers	Dr.	Riga Technical University	Latvia
M.Rosa	Dr.	Riga Technical University	Latvia
M.Klavins	Dr.	University of Latvia	Latvia
C.Luttropp	Dr.	Royal Institute of Technology	Sweden
V.Martinaitis	Dr.	Vilnius Technical University	Lithuania
A.Siirde	Dr.	Tallinn Technical University	Estonia

9:00 - 12:00

PLENARY SESSION

12:00 - 13:00 Lunch

13:00 - 13:30

KEYNOTE SPEECH

INNOVATIVE TECHNOLOGIES FOR GREEN ENERGY IN LATVIA

D. Blumberga, Institute of Energy Systems and Environment, Riga Technical University, Latvia

13:30 - 13:50

**EUROPEAN UNION EMISSIONS TRADING SYSTEM AND CLIMATE CHANGE
MITIGATION IN LATVIA**

I.Pruse, University of Latvia, Latvia

13:50 - 14:10

**POTENTIAL ENERGY SAVINGS AND RETENTION WATER FROM GREEN ROOFS IN
COMPARISON WITH CONVENTIONAL ONES**

K.Tselekis, Utrecht University, Nederland

14:10 - 14:30

**ENVIRONMENTAL AND ECONOMIC ASPECTS OF USING
WIND POWER IN HEAT PUMPS OF DISTRICT HEATING SYSTEMS**

G.Bazbauers, Institute of Energy Systems and Environment, Riga Technical University, Latvia

14:30 – 15:30

POSTER SESSION

15.30 - 15.40 Coffee break

15:40 - 16:00

**ENERGY SAVING AND GHG EMISSION REDUCTION IN A MICRO-CCHP SYSTEM BY
USE OF SOLAR ENERGY**

I.V. Ion, F. Popescu, "Dunarea de Jos" University of Galati, Romania

G. Ciocea, S.C. Termaexim S.A., Romania

16.00 - 16.40

First Day closing discussions

Friday, 12 October

ENVIRONMENTAL ASSESMENT, EVALUATION AND MANAGEMENT

10:00 - 10:40

KEYNOTE SPEECH

DYNAMIC MODELLING FOR SUSTAINABLE DEVELOPMENT

A.Blumberga, Institute of Energy Systems and Environment, Riga Technical University, Latvia

10:40 - 11:00

ECOLOGICAL SCARCITY METHOD: ADAPTATION AND IMPLEMENTATION FOR DIFFERENT COUNTRIES

M. Grinberg, R. Ackermann, M. Finkbeiner, Technische Universität Berlin, Germany

11:00 - 11:20

IMPLEMENTATION AND IMPACT ASSESSMENT OF BIOLOGICAL WASTE MANAGEMENT SYSTEM IN LATVIA

J.Pubule, I.Bergmane, D.Blumberga, Institute of Energy Systems and Environment, Riga Technical University, Latvia

11:20 - 11:40

ASSESSMENT OF SUSTAINABILITY ASPECTS OF THE PACKAGING'S DEPOSIT-REFUND SYSTEM IN LATVIA

E. Dace, I. Pakere, D. Blumberga, Institute of Energy Systems and Environment, Riga Technical University, Latvia

11:40 - 12:00

CHARACTERISTICS OF MECHANICALLY SORTED MUNICIPAL WASTES AND THEIR SUITABILITY FOR PRODUCTION OF REFUSE DERIVED FUEL

D. Arina, Latvia University of Agriculture, Latvia
A.Orupe, Institute of Physical Energetic, Latvia

12:00 - 13:00 Lunch break

13:00 - 13:20

DETERMINATION OF SOME IMPORTANT EMISSIONS OF POULTRY WASTE CO-COMBUSTION

H. Topal, E. Amirabedin, Department of Mechanical Engineering, Gazi University, Turkey

13:20 - 13:40

ENERGY ENGINEERING STUDENTS ON THEIR WAY TO EXPERTISE IN SUSTAINABLE ENERGY

H. Mälkki, K. Alanne Aalto University, Finland
L. Hirsto University of Helsinki, Finland

13:40 - 14:00

THE DEVELOPMENT OF THE EDUCATIONAL COURSE (ECO-ENGINEERING) AS A PART OF MASTERS' PROGRAM ON SPECIALTY ELECTRICAL ENERGY IN THE REPUBLIC OF KAZAKHSTAN

I.Koshkin, S. Zhabayeva, Kostanay State University, Kazakhstan

14:00 - 14:20

COMPARISON OF DOLOSTONE AND LIMESTONE ASSESSMENT METHODS FOR ESTONIAN DEPOSITS

J. Šommet, Department of Mining, Sustainability and Risk Assessment Center, OÜ OHUTU TK, Estonia

J. Pastarus, Department of Mining TUT, Tallinn University of Technology, Estonia

14:20 - 14:40

REMOTE SENSING APPLICATIONS FOR PLANNING IRRIGATION MANAGEMENT. THE USE OF SEBAL METHODOLOGY FOR ESTIMATING CROP EVAPOTRANSPIRATION IN CYPRUS

G. Papadavid, Agricultural Research Institute of Cyprus, Cyprus

S. Perdikou, M. Hadjimitsis, D. Hadjimitsis Cyprus University of Technology, Cyprus

14:40 - 15:00

CHANGES OF EXTREME CLIMATE EVENTS IN LATVIA

Z. Avotniece, M. Kļaviņš, V. Rodinovs, University of Latvia, Latvia

15:00 - 15:20

PRECIPITATION AND AIR TEMPERATURE IMPACT ON SEASONAL VARIATIONS OF GROUNDWATER LEVELS

I.Vitola, V. Vircavs, K. Abramenko, D. Lauva, A. Veinbergs, Latvia University of Agriculture, Latvia

15:20 - 15:40 Coffee break

15:40 - 16:00

THE QUALITY OF PELLETS AVAILABLE ON THE MARKET IN LATVIA: CLASSIFICATION ACCORDING EN 14961 REQUIREMENTS

V. Kirsanovs, L. Timma, A. Zandeckis, F. Romagnoli, Institute of Energy Systems and Environment, Riga Technical University, Latvia

16:00 - 16:20

INFLUENCE OF TEMPERATURE AND PRESSURE CHANGE ON ADIABATIC AND ISOTHERMAL METHANATION PROCESSES

J. Porubova, K. Valters, D. Markova, M. Rēpele, G. Bažbainers, Institute of Energy Systems and Environment, Riga Technical University, Latvia

M. Klemm, I. Kiendl, Deutsches Biomasse Forschungs Zentrum, Germany

16.20 - 17.00

Second Day closing discussions

Posters

1. INDUSTRIAL RESEARCH OF CONDENSING UNIT FOR NATURAL GAS BOILER HOUSE

J. Ziemele, D. Blumberga, I. Laicane, Institute of Energy Systems and Environment, Riga Technical University, Latvia

N. Talcis, District heating company "Rigas Siltums", Latvia

2. THE REGULATION POSSIBILITIES OF BIOMASS COMBUSTION

V. Suzdalenko, M. Gedrovics, Institute of Energy Systems and Environment, Riga Technical University, Latvia

M. Zaķe, I. Barmina, Institute of Physics, University of Latvia, Latvia

- 3. A WIND ENERGY DEVELOPMENT IN THE LATVIA AND FUTURE PERSPECTIVES**
A.Barkans, Rezekne Higher Education Institution, Latvia
- 4. SUSTAINABLE USAGE OF SOSNOWSKYI'S HOGWEED**
I.Marinina, E.Dace, Riga Technical University, Latvia
- 5. A REVIEW ON SUSPENDED WOOD DUST COMBUSTION. EFFICIENCY AND FUEL QUALITY**
K. Silins, Institute of Energy Systems and Environment, Riga Technical University, Latvia
- 6. DEVELOPMENT OF UNDERWATER LASER SCALING ADAPTER**
K. Bluss, Daugavpils University, Latvia
- 7. TRANSFER OF METALS IN FOOD CHAIN: AN EXAMPLE WITH COPPER AND LETTUCE**
Z. Vincevica- Gaile, M. Klavins, University of Latvia, Latvia
- 8. LEACHING OF CONTAMINATION FROM STABILIZATION / SOLIDIFICATION REMEDIATED SOILS OF DIFFERENT TEXTURE**
J. Burlakovs, R.Kasparinskis, M.Klavins, University of Latvia, Latvia
- 9. AGRICULTURAL WASTE UTILIZATION FOR HEALTHY ENVIRONMENT AND SUSTAINABLE LIFESTYLE**
N. Sindhu, P.S. Shehrawat, Chaudhary Charan Singh Haryana Agricultural University, India
- 10. FRAMEWORK CONDITIONS FOR HEAT USE FROM BIOGAS PLANTS IN EUROPE**
I. Dzene, Institute of Energy Systems and Environment, Riga Technical University, Latvia
- 11. CONSTRUCTION SECTOR NEEDS TO ACHIEVE THE CLIMATE AND ENERGY TARGETS 2020**
A.Kamenders, Institute of Energy Systems and Environment, Riga Technical University, Latvia
- 12. BIOENERGY RESOURCE DEVELOPMENT FORECAST FOR LATVIA 2030**
D. Blumberga, Institute of Energy Systems and Environment, Riga Technical University, Latvia
- 13. EVALUATION OF THE ENERGY PERFORMANCE OF THE MODELED SOLAR COOLING SYSTEM UNDER LATVIAN CLIMATE CONDITIONS**
Dz. Jaunzems, Institute of Energy Systems and Environment, Riga Technical University, Latvia
- 14. DISTRICT HEATING RETURN TEMPERATURE INFLUENCE ON THE FLUE GAS CONDENSER CAPACITY**
I.Veidenbergs, Institute of Energy Systems and Environment, Riga Technical University, Latvia
- 15. COST-BENEFIT ANALYSIS OF INDOOR CLIMATE IMPACT ON ENERGY CONSUMPTION AND HUMAN HEALTH**
A.Blumberga, Institute of Energy Systems and Environment, Riga Technical University, Latvia
- 16. TEACHING ENVIRONMENTAL MANAGEMENT SYSTEMS TO ENVIRONMENTAL ENGINEERING SCIENCE STUDENTS**
S.Valtere, Institute of Energy Systems and Environment, Riga Technical University, Latvia
- 17. SCIENTIFIC COMMUNICATION IN THE CURRICULUM OF ENVIRONMENTAL ENGINEERING SCIENCE STUDENTS**
K.Valters, Institute of Energy Systems and Environment, Riga Technical University, Latvia

- 18. THE DEVELOPMENT OF INDUSTRIAL SYMBIOSIS NETWORKS IN LATVIA**
A.Beloborodko, M.Rosa, Institute of Energy Systems and Environment, Riga Technical University, Latvia
- 19. DEVELOPMENT OF ACTIVELY CONTROLLED CEILING PANEL WITH INCORPORATED PHASE CHANGE MATERIALS**
K.Kass, A.Blumberga, Institute of Energy Systems and Environment, Riga Technical University, Latvia
- 20. THE CHALLENGES OF ZERO-ENERGY BUILDINGS**
R.Vanaga, A.Blumberga, Institute of Energy Systems and Environment, Riga Technical University, Latvia
- 21. HISTORIC BRICK BUILDING EXTERIOR WALL INSULATION MATERIALS**
M.Dzikevics, K.Zvaigznitis, A.Blumberga, G.Žogla, Institute of Energy Systems and Environment, Riga Technical University, Latvia
- 22. TEAM APPROACH PROMOTES HOUSEHOLDS TO SAVE ENERGY AT HOME**
L.Ozolina, M.Pelss, Institute of Energy Systems and Environment, Riga Technical University, Latvia
- 23. POLICY INSTRUMENTS FOR INCREASING THE USE OF WOOD FUEL IN LATVIAN DISTRICT HEATING SYSTEMS**
A.Barisa, Francesco Romagnoli, I.Dzene, A.Blumberga, Institute of Energy Systems and Environment, Riga Technical University, Latvia
- 24. DRYING AGENT RECIRCULATION INFLUENCE ON ENERGY CONSUMPTION OF THE DRYING PROCESS**
Z.Sproge, I.Veidenbergs, Institute of Energy Systems and Environment, Riga Technical University, Latvia
- 25. NECESSARY AMOUNT OF SPRAY WATER FOR OPTIMAL FLUE GAS CONDENSER OPERATION**
G.Galindoms, I.Veidenbergs, Institute of Energy Systems and Environment, Riga Technical University, Latvia
- 26. ECOINNOVATION DIFFUSION IN THE BUILDING ENERGY EFFICIENCY MARKET**
I.Laicane, A.Blumberga, Institute of Energy Systems and Environment, Riga Technical University, Latvia
- 27. PERFORMANCE OF THE SOLAR COMBISYSTEM IN FUNCTION OF THE FLOW RATE IN THE DHW RECIRCULATION LOOP**
A.Zandeckis, D.Blumberga, C.Rochas, Institute of Energy Systems and Environment, Riga Technical University, Latvia
- 28. OPTIMIZATION OF EXISTING OFFICE BUILDINGS. INTEGRATION OF PHOTOVOLTAICS AND SHADING DEVICES**
L.Drukmane, C.Rochas, Institute of Energy Systems and Environment, Riga Technical University, Latvia
- 29. FUTURE ENERGY EFFICIENCY BENCHMARK FOR RENOVATED MULTI-APARTMENT BUILDINGS**
K.Klavina, C.Rochas, Institute of Energy Systems and Environment, Riga Technical University, Latvia

- 30. PLA BIOPOLYMER PRODUCTION ASSESSMENT.CASE STUDY**
R.Rusenieks, D.Blumberga, Institute of Energy Systems and Environment, Riga Technical University, Latvia
- 31. TOWARDS CLEANER PRODUCTION OF ASPHALT PAVEMENT**
L.Timma, D.Blumberga, Institute of Energy Systems and Environment, Riga Technical University, Latvia
- 32. ALTERNATIVE ENERGY FOR BRICK INDUSTRY**
M.Repele, M.Dudko, J.Porubova, G.Bazbauers, Institute of Energy Systems and Environment, Riga Technical University, Latvia
- 33. ECONOMIC ANALYSIS OF CLEANER PRODUCTION MEASURES FOR CONCRETE BLOCKS PRODUCTION**
J.Ziemele, D.Blumberga, Institute of Energy Systems and Environment, Riga Technical University, Latvia
- 34. ENERGY PLANNING MODEL IN SMALL SIZE MUNICIPALITIES**
M. Rosa, Institute of Energy Systems and Environment, Riga Technical University, Latvia
- 35. ANALYSIS OF INDICATORS OF ENVIRONMENTAL IMPACT ASSESSMENT FOR ROADS**
L. Lieplapa, D.Blumberga Institute of Energy Systems and Environment, Riga Technical University, Latvia
- 36. MANAGEMENT STRATEGY FOR HAZARDOUS WASTE**
J. Vilgerts, L.Timma, D.Blumberga Institute of Energy Systems and Environment, Riga Technical University, Latvia
- 37. ENERGY EFFICIENT AND ECOLOGICAL HOUSING: OVERVIEW OF “ECOHOUSING” PROJECT**
F. Romagnoli, Institute of Energy Systems and Environment, Riga Technical University, Latvia
- 38. BIOWASTE AND ALAGE KNOWLEDGE FOR THE PRODUCTION OF 2ND GENERATION BIOFUELS: OVERVIEW OF “BioWALK4Biofuels” PROJECT**
F. Romagnoli, Institute of Energy Systems and Environment, Riga Technical University, Latvia
- 39. PELLET COMBUSTION TESTS IN ECOHOUSING PROJECT BY TTS**
J. Kouki, Work Efficiency Institute (TTS), Rajamäki, Finland
- 40. COMBUSTION TESTS IN ECOHOUSING PROJECT BY RTU**
A. Beloborodko, V. Kirsanovs, A. Zandeckis, L. Timma, F.Romagnoli. Institute of Energy Systems and Environment, Riga Technical University, Latvia
- 41. BIOPLASTIC CLEANER PRODUCTION AND ECONOMICAL CALCULATION**
S.Grivalde, D.Blumberga, Institute of Energy Systems and Environment, Riga Technical University, Latvia
- 42. NEGATIVE CO₂ EMISSIONS THROUGH CARBON CAPTURE AND STORAGE PROCESSES IN BIOMASS ENERGY PLANTS**
J.Gusca, D.Blumberga, Institute of Energy Systems and Environment, Riga Technical University, Latvia

CONFERENCE SCIENTIFIC PROGRAMME

Thursday, 11 October

Section

Material Science and Applied Chemistry OS 3

Section Chair: Assoc.Prof. M.Dzenis, Riga Technical University, Latvia

Subsection "Material Science"

Scientific Committee:

G.Mezinskis	Prof.	Riga Technical University	Latvia
M.Knite	Prof.	Riga Technical University	Latvia

12:00 - 13:00 Lunch

13:00 - 13:30

STATE RESEARCH PROGRAM – FROM THE EARTH MINERAL RESOURCES TO THE CERAMICS AND BIOTECHNOLOGIES

V.Seglins, M.Klavins, O.Mutere, University of Latvia

L.Berzina-Cimdina, G.Sedmale, V.Svinka, Riga Technical University, Latvia

13:30 - 14:00

CALCIUM PHOSPHATE IMPLANT MATERIALS FOR REGENERATIVE MEDICINE

L.Berzina-Cimdina, Riga Technical University, Latvia

14:00 - 14:30

BRINGING THE KNOWLEDGE OF RTU TO REAL LIFE – THE 10 YEARS SUCCESS STORY OF SAKRET

A.Vanags, I.Laumane, V.Kokorevics, SIA SAKRET, Latvia

14:30 - 14:45

ANISOTROPY OF HOLOGRAMS IN MOLECULAR AZOCHROMOPHORE FILMS

A.Ozols, V.Kokars, P.Augustovs, K.Traskovskis, Riga Technical University, Latvia

14:45 - 15:00

IMPROVEMENT OF CdZnTe CRYSTAL QUALITY BY LASER RADIATION

A.Myhko, A.Medvid, E.Dauksta, Riga Technical University, Latvia

E.Dieguez, H.Bensalash, Universidad Autonoma de Madrid, Spain

15:00 - 15:15

MECHANISM OF p-n JUNCTION FORMATION IN INTRINSIC SEMICONDUCTOR BY LASER RADIATION

P.Onufrijevs, A.Medvids, G.Mozolevskis, E.Dauksta, R.Rimsa, Riga Technical University, Latvia

15:15 - 15:30

NANOCONE FORMATION ON p- AND n-TYPE SILICON BY LASER RADIATION AND THEIR PROPERTIES

G.Mozolevskis, A.Medvids, P.Onufrijevs, Riga Technical University, Latvia

I.Dmytruk, I.Pundyk, National Taras Shevchenko University, Ukraine

15:30 - 15:45 Coffee break

15:45 - 16:00

BOLOMETRIC PHOTO RESPONSE OF POLYMER/NANOSTRUCTURED CARBON COMPOSITE

K.Ozols, M.Knite, Riga Technical University, Latvia

16:00 - 16:15

CRUSHING OF MINERAL PARTICLES BY CONTROL OF THEIR KINETIC ENERGY

E.Stambloiadis, K.Kiskira, C.Emejulu, Technical University of Crete, Grece
D.Stamboliadis, Superior Technical Educational Institution of Piraeus, Grece

16:15 - 16:30

POROUS CERAMICS FROM LATVIAN CLAY

V.Svinka, R.Svinka, L.Dabare, L.Bidermanis, A.Cimmers, Riga Technical University, Latvia

16:30 - 16:45

POROUS MULLITE CERAMICS DOPED WITH WO₃

L.Mahnicka, R.Svinka, V.Svinka, Riga Technical University, Latvia

16:45 - 17:00

POROUS CORUNDUM AND MULLITE CERAMICS

I.Zake, V.Svinka, R.Svinka, Riga Technical University, Latvia

17:00 - 17:15

INVESTIGATION OF RELATIONSHIPS: MICROSTRUCTURE, MECHANICAL PROPERTIES AND CHEMICAL RESISTANCE OF HPC

J.Setina, J.Petrova, L.Krage, J.Baroninsh, Riga Technical University, Latvia

17:15 - 17:30

LOW-TEMPERATURE HYDRAULIC BINDERS FOR RESTORATION NEEDS

I.Barbane, I.Vitina, L.Lindina, Riga Technical University, Latvia

17:30 - 17:45

INFLUENCE OF COMPLETE DISSOLUTION OF CARBONATES ON THE AGGREGATION OF CLAY PARTICLES

I.Dusenkova, J.Vecstraudza, V.Lakevics, J.Malers, L.Berzina-Cimdina, Riga Technical University, Latvia

17:45 - 18:00

THE DEVELOPMENT AND INVESTIGATION OF PROPERTIES OF NEW FINISHING MATERIAL COMPOSITION FOR WINDOW OPENING

J.Kucinska, I.Juhnevica, Riga Technical University, Latvia
B.Migliniece, SIA SAKRET, Latvia

18:00 - 18.15

CONTROLLED RELEASE OF DEXAMETHASONE FROM FIBRIN MIXED WITH BIPHASIC CALCIUM PHOSPHATE BIOCERAMICS

A.Dubnika, I.Salma, D.Loca, L.Berzina-Cimdina, Riga Technical University, Latvia

13:00 - 18:00

DIALOGUE SESSION

Materials Science and Applied Chemistry DS 3

1. LASER PROCESSING OF CdZnTe, ITS OPTICAL AND ELECTRICAL PROPERTIES

E.Dauksta, A.Medvid, A.Mychko, Riga Technical University, Latvia
E. Dieguez, Universidad Autónoma de Madrid, Spain

2. EFFECT OF PLASTICIZERS PARAMETERS ON REFRACTORY CASTABLE BINDER PASTE RHEOLOGICAL AND HYDRATION PROPERTIES

I.Demidova-Buiziniene, I.Pundiene, Vilnius Gediminas Technical University, Lithuania

- 3. CHARACTERIZATION OF Mo-O-Se FILMS PREPARED BY ELECTRODEPOSITION**
N.Dukstiene, D.Sinkeviciute, Kaunas University of Technology, Lithuania
J.Baltrusaitis, University of Iowa, USA
- 4. NEW NANOCOMPOSITE MATERIALS ON DIELECTRIC POROUS MATRICE BASE**
A.V.Filimonov, A.A.Naberezhnov, S.B.Vakhrushev, E.Yu.Koroleva, Yu.A. Kumzerov, St.
Petersburg State Polytechnical University and Ioffe Phisico-Technical Institute, Russia
I.V.Golosovsky, St. Petersburg Nuclear Physics Institute, Russia
- 5. PRE-EXFOLIATION OF GRAPHITE FLAKES BY SONICATION IN ORGANIC MEDIA**
V.Kampars, K.Malinsh, Riga Technical University, Latvia
- 6. GRAPHITE OXIDES BY OXIDATION OF GRAPHITE FLAKES**
V.Kampars, M.Utinans, Riga Technical University, Latvia
- 7. USE OF VARIOUS CLAY FOR PRODUCTION OF GLASS-CERAMICS CONTAINING INDUSTRIAL WASTE**
E.Lodins, Riga Technical University, Latvia
- 8. INVESTIGATION OF POSSIBILITY TO REGULATE BOUNDARY PROCESSES IN COMPOSITE MATERIAL MADE FROM SCRAP TIRES AND POLYMER BINDER**
A.Megne, R.Plesuma, L.Malers, Riga Technical University, Latvia
- 9. INVESTIGATION OF ELECTRICAL PROPERTIES OF TITANIA CERAMIC**
I.Narkevica, K.Rubenis, J.Ozolins, J.Locs, Riga Technical University, Latvia
J.Kleperis, Institute of Solid State Physics, University of Latvia
- 10. MODIFICATION OF POLYAMIDE FILMS BY THE LAYERS OF CADMIUM SELENIDE**
N.Petrasauskiene, Kaunas University of Technology, Lithuania
- 11. SYNTHESIS, PROPERTIES AND APPLICATIONS OF MAGNETIC IRON OXIDE NANOPARTICLES**
A.Sardiko, I.Juhnevica, Riga Technical University, Latvia
- 12. EFFECT OF CHEMICAL TREATMENT OF ILLITE CLAY ON PHASE COMPOSITION AND PROPERTIES OF CERAMIC PRODUCTS**
G.Sedmale, A.Korovkins, L.Lindina, Riga Technical University, Latvia
V.Seglins, University of Latvia
- 13. CLUSTER EMBEDDING METHOD WITH NON-ORTHOGONAL WAVE FUNCTIONS FOR QUANTUM-CHEMICAL SIMULATION OF NANODEVICES**
E.Shidlovskaya, University of Latvia
- 14. SYNTHESIS AND STRUCTURE OF PALLADIUM 2,4-DIMETHYL-8-SELENOQUINOLINATE**
E.Silina, J.Ashaks, D.Zaruma, Institute of Inorganic Chemistry of Riga Technical University, Latvia
S.Belyakov, A.Tokmakov, Latvian Institute of Organic Synthesis, Latvia
- 15. THE IMPACT OF MIXING AND Ca(OH)₂ SUSPENSION CONCENTRATION ON HYDROXYAPATITE SYNTHESIS**
M.Sokolova, A.Putnins, I.Kreicbergs, Riga Technical University, Latvia

- 16. HEMP FIBRES CONTAINING LINEAR LOW DENSITY POLYETHYLENE COMPOSITES EXPLOITATION PROPERTIES**
R.Soliženko, J.Kajaks, O.Nestore, S.Kukle, Riga Technical University, Latvia
- 17. INFLUENCE OF Mg-SUBSTITUTION ON THE CHARACTERISTICS OF HYDROXYAPATITE POWDERS**
L.Stipniece, K.Salma-Ancane, N.Borodajenko, D.Jakovlevs, G.Krieke, L.Berzina-Cimdina, Riga Technical University, Latvia
- 18. EFFECT OF CURING CONDITIONS ON THE MECHANICAL PROPERTIES OF ALKALI ACTIVATED MATERIAL**
I.Sperberga, A.Cimmers, G.Sedmale, M.Matroze, Riga Technical University, Latvia
I.Vircava, Latvia University of Agriculture, Latvia
- 19. BIOBASED NATURAL FIBER REINFORCED GREEN COMPOSITES**
A.Ziemele, A.Voronova, A.Dzene, V.Tupureina, Riga Technical University, Latvia
- 20. STRENGTH OF A THREE-DIMENSIONAL POLYMER STRUCTURE ACRYLIC BONE CEMENT AND DRY COMPACT BONE BOND**
V.Vitins, I.Knets, V.Krilova, Riga Technical University, Latvia
- 21. THE STUDY OF THE SYNTHESIS OF NANOSIZED REFRACTORY CARBIDES BY CARBOTHERMAL REDUCTION OF PRECURSOR GELS**
I.Zalite, A.Letlena, L.Cera, Institute of Inorganic Chemistry of Riga Technical University, Latvia
- 22. THE EFFECT OF STARTING MATERIALS ON PROPERTIES OF NANOSIZED SiAlON CERAMICS**
N.Zilinska, I.Zalite, I.Steins, Institute of Inorganic Chemistry of Riga Technical University, Latvia
- 23. PREPARATION AND CHARACTERISATION OF PEO/SiO₂ NANOCOMPOSITES WITH ADDITION OF TEOS BINDING AGENT**
E.Zukulis, I.Juhnevica, S.Gaidukov, Riga Technical University, Latvia
- 24. ROLE OF HYDROGEN BONDS IN THE CRYSTAL STRUCTURE OF BENZYLTRIMETHYLAMMONIUM BIS(CITRATO)BORATE MONOHYDRATE [(C₆H₅CH₂)N(CH₃)₃][(C₆H₆O₇)₂B]·H₂O**
I.Zviedre, Institute of Inorganic Chemistry of Riga Technical University, Latvia
S.Belyakov, Latvian Institute of Organic Synthesis, Latvia

Friday, 12 October

Section

Material Science and Applied Chemistry OS 3

Section Chair: Assoc.Prof. M.Dzenis, Riga Technical University, Latvia

Subsection “Chemistry and Chemical Technology”

Scientific Committee:

M.Turks	Prof.	Riga Technical University	Latvia
L.Berzina-Cimdina	Prof.	Riga Technical University	Latvia

9:00 - 9:15

THE SYNTHESIS AND BIOLOGICAL INVESTIGATION OF COMPOUNDS CONTAINING B-LACTAM AND Γ-LACTAM HETEROCYCLES

G.Veinbergs, M.Vorona, I.Shestakova, M.Dambrova, L.Zvejniece, Latvian Institute of Organic Synthesis, Latvia

9:15 - 9:30

TRITYLOXYETHYL AND TERT-BUTYL GROUPS CONTAINING MOLECULAR GLASSES OF 4H-PYRAN-4-YLIDENE DERIVATIVES WITH LIGHT-EMITTING AND AMPLIFIED SPONTANEOUS EMISSION PROPERTIES

E.Zarins, K.Siltane, E.Misina, V.Kokars, K.Lazdovica, V.Kampars, Riga Technical University, Latvia
A.Vembris, S.Popova, M.Rutkis, Institute of Solid State Physics, University of Latvia

9:30 - 9:45

USE OF MODULAR APPROACH TO OBTAIN MOLECULAR GLASSES FOR PHOTONICS: TRIPHENYL MOIETIES

K.Traskovskis, V.Kokars, Riga Technical University, Latvia
A.Tokmakovs, I.Mihailovs, M.Rutkis, Institute of Solid State Physics, University of Latvia

9:45 - 10:00

DERIVATIVES OF 5-BENZYL MELDRUM'S ACID – NOVEL ANTIOXIDANTS

I.Mierina, M.Jure, D.Zicane, Z.Tetere, I.Ravina, Riga Technical University, Latvia

10:00 - 10:15

SELECTIVE INHIBITOR STUDIES OF CARBONIC ANHYDRASE USING NMR AND MOLECULAR MODELING

A.Lends, K.Jaudzems, E.Liepinsh, Latvian Institute of Organic Synthesis, Latvia

10:15 - 10:30

QUANTUM CHEMICAL INVESTIGATION OF THE GEOMETRIC AND ELECTRONIC STRUCTURE OF THE 3-AMIDINO-2-BROMBENZANTHRONE. ABSORPTION AND FLUORESCENT SPECTRA PREDICTION

A.Yanichev, G.Kirilov, S.Belakov, M.Fleisher, Latvian Institute of Organic Synthesis, Latvia

10:30 - 10:45

SPECTROSCOPIC MONITORING OF BIODIESEL AGING

M.Svilans, A.Blums, R.Kampare, Riga Technical University, Latvia

10:45 - 11:00

PROPERTIES AND STRUCTURE STUDIES OF NEW 2,6-BIS-(1,2,3-TRIAZOLYL) SUBSTITUTED PURINE ARABINONUCLEOSIDES

I.Novosjolova, A.Kovalovs, E.Bizdena, M.Turks, Riga Technical University, Latvia

11:15 - 11:30

EFFECT OF OZONATION OF THE PRE-COAGULATED MODEL WASTEWATER ON REMOVAL OF WOOD POLLUTANTS

J.Brovkina, G.Shulga, Latvian State Institute of Wood Chemistry, Latvia
J.Ozolins, R.Neilands, K.Tihomirova, Riga Technical University, Latvia
A.Podjava, University of Latvia

11:30 - 11:45

COMPOSITION OF BIRCH BARK EXTRACTS DEPENDING ON THE SOLVENT TYPE

A.Pazhe, J.Zandersons, J.Rizhikovs, G.Dobele, B.Springe, V.Jurkjane, A.Tardenaka, Latvian State Institute of Wood Chemistry, Latvia

11:45 - 12:00

PRINCIPLES AND APPLICATION OF pO_2 CASCADE CONTROL IN FERMENTATION PROCESS

O.Grigs, J.Vanags, K.Dubencovs, V.Stepanova, A.Trubaca, Riga Technical University, Latvia
V.Galvanauskas, Kaunas University of Technology, Lithuania

12:00 - 12:15

NEW METHODS OF BIOFUEL PRODUCTION

V.Kampars, K.Malins, J.Brinks, T.Rusakova, Z.Sustere, K.Lazdovica, K.Cirule, R.Murnieks,
R.Kampare, Riga Technical University, Latvia

MEMORIAL READINGS DEVOTED TO PROFESSOR OJARS NEILANDS

Faculty of Material Science and Applied Chemistry

Azenes Street 14, Lecture-room 101

14:30 - 14:35

OPENING SPEECH

V.Kokars, Riga Technical University, Latvia

14:35 - 14:55

COMMON STUDY YEARS WITH PROFESSOR OJARS NEILANDS

J.Stradins, Latvian Academy of Science

14:55 - 15:15

NONLINEAR OPTICAL CHROMOPHORES WITH 1,3-INDANDIONE MOIETY

V.Kampars, Riga Technical University, Latvia
Institute of Solid State Physics University of Latvia

15:35 - 15:55

**GLASSY AZOBENZENE DERIVATIVES FOR HOLOGRAPHIC RECORDINGS
MATERIALS OR OTHER NLO MATERIALS CONTAINING TRIPHENYL SUBSTITUTES
AND LUMINESCENT GLASS FORMING STYRYL-4H-PYRAN-4-YLIDENE OR 5,5-
DIMETHYLCYCLOHEX-1-ENYL)VINYL FRAGMENT CONTAINING DERIVATIVES
FOR OLED MATERIALS**

V.Kokars, Riga Technical University, Latvia

15:40

Discussions and coffee

9:00 - 13:00

DIALOGUE SESSION

Materials Science and Applied Chemistry DS 3

**1. PROPANEPHOSPHONIC ACID ANHYDRIDE - MEDIATED CYCLODEHYDRATION
OF MALEIC ACID MONOAMIDES**

E.Bakis, E.Petrova, I.Klimenkovs, University of Latvia

**2. SYNTHESIS OF THIAZOLYLSUBSTITUTED DERIVATIVE OF QUINOLINE- AND
ISOQUINOLINE-5,8-DIONES**

N.Batenko, O.Popova, R.Valters, Riga Technical University, Latvia

**3. STUDIES OF NOVEL 2,6-BIS-(1,2,3-TRIAZOLYL) SUBSTITUTED PURINE
RIBONUCLEOSIDES**

E.Bizdena, I.Novosjolova, I.Bizane, M.Turks, Riga Technical University, Latvia

**4. SWELLING OF GELATIN IN SOLUTIONS MADE ON THE RECIPES OF FOLK
MEDICINE**

T.Borisova, Riga Stradin's University, Latvia

- 5. EFFECT OF OZONATION OF THE PRE-COAGULATED MODEL WASTEWATER ON REMOVAL OF WOOD POLLUTANTS**
J.Brovkina, G.Shulga, Latvian State Institute of Wood Chemistry, Latvia
J.Ozolins, R.Neilands, K.Tihomirova, Riga Technical University, Latvia
A.Podjava, University of Latvia
- 6. GLYCERIC, LACTIC AND MESOXALIC ACIDS PRODUCTION BY OXIDATION OF GLYCEROL IN PRESENCE OF SUPPORTED GOLD CATALYSTS**
S.Cornaja, O.Stepanova, S.Zizkuna, K.Dubencovs, V.Kampars, D.Jankovica, E.Sproge, Riga Technical University, Latvia
- 7. INFLUENCE OF ACTIVATED CARBON ADDITIVE TO THE PARAMETERS OF SPECIFIC SURFACE OF CATALYST SUPPORT**
G.Dabrilaitė-Kudžmiene, A.Jaskunas, S.Kitrys, Kaunas University of Technology, Lithuania
- 8. QUANTUM CHEMICAL INVESTIGATION OF THE INTERACTION BETWEEN THIOCYANATE AND THE HUMAN CARBONIC ANHYDRASE II**
M.Fleisher, R.Zalubovskis, A.Shmidlers, D.Jansone, Latvian Institute of Organic Synthesis, Latvia
- 9. FLUORESCENT SUBSTITUTED AMIDINES OF BENZANTHRONE: SYNTHESIS AND SPECTROSCOPY**
S.Gonta, I.Ivanova, University of Latvia
M.Utinans, Riga Technical University, Latvia
E.Kirilova, Daugavpils University, Latvia
- 10. SPECTRAL AND THERMAL PROPERTIES OF MONO- AND DISUBSTITUTED BENZANTHRONE DYES**
I.Ivanova, N.Orlova, University of Latvia
E.Kirilova, Daugavpils University, Latvia
- 11. PHENOLIC ANTIOXIDANTS OF BARLEY GRAINS AND OIL**
E.Ivdre, I.Mierina, M.Jure, Riga Technical University, Latvia
- 12. ISOLATION AND CHARACTERIZATION OF PROANHCYANIDINS FROM ALDER BARK BY FTIR, GPC/SEC, ¹³C-NMR AND MALDI-TOF MASS SPECTROMETRY**
S.Janceva, T.Dizbite, G.Telysheva, Latvian State Institute of Wood Chemistry, Latvia
M.Dzenis, Riga Technical University, Latvia
- 13. CRYSTAL STRUCTURE OF DILTIAZEM BASE**
G.Kiselovs, A.Mishnev, Latvian Institute of Organic Synthesis, Latvia
- 14. LYSOZYME IMMOBILIZATION ONTO SYNTHESIZED TERPOLYMERIC CATIONITE AND SUBSEQUENT RELEASE FROM CONJUGATES**
V.Krilova, R.Steika, Riga Technical University, Latvia
- 15. SYNTHESIS OF PHTHALOCYANINE, CONTAINING NITROGEN HETEROCYCLES**
T.Krivicha, M.Roze, Riga Technical University, Latvia
- 16. AZOBENZENE CORE DENDRIMERS WITH TRITYL GROUPS IN THE PERIPHERY**
L.Laipniece, V.Kampars, Riga Technical University, Latvia
- 17. SYNTHESIS OF DENDRONIZED AZOCHROMOPHORES WITH BENZYL AND 2,3,4,5,6-PENTAFLUOROBENZYL FRAGMENTS**
L.Laipniece, V.Kampars, Riga Technical University, Latvia

- 18. ASSESSMENT OF ANTIOXIDANT ACTIVITY OF OLIGOMERIC PHENOLIC COMPOUNDS ISOLATED FROM WOOD BARK USING DIFFERENT TESTING METHODS**
M.Lauberts, S.Janceva, J.Ponomarenko, T.Dizhbite, G.Telysheva, Latvian State Institute of Wood Chemistry, Latvia
- 19. EFFECT OF THE HEATING RATE ON THE WHEAT STRAW PYROLYSIS**
K.Lazdovica, L.Liepina, V.Kampars, Riga Technical University, Latvia
- 20. SEQUENTIAL MICHAEL ADDITION AND 1,3-DIPOLAR CYCLOADDITION REACTIONS AS A SIMPLE METHOD FOR COMBINING OF CARBOHYDRATES**
J.Luginina, V.Rjabovs, M.Turks, Riga Technical University, Latvia
S.Belyakov, Latvian Institute of Organic Synthesis, Latvia
- 21. NOVEL 1,2,3-TRIAZOLYL-GLYCOCONJUGATES IN ALLO-, GALACTO- AND GULO-SERIES**
J.Mackevica, M.Turks, Riga Technical University, Latvia
- 22. INFLUENCE OF BRANCHED RAPESEED OIL FATTY ACID ALKYL ESTERS ON BIODIESEL COLD FILTER PLUGGING POINT**
K.Malins, V.Kampars, Riga Technical University, Latvia
- 23. ESTERIFICATION AND TRANSESTERIFICATION OF RAPESEED OIL/FATTY ACIDS MIXTURE IN PRESENCE OF SULFURIC ACID**
K.Malins, V.Kampars, J.Brinks, Riga Technical University, Latvia
- 24. BIODIESEL PREPARATION USING CaO AS CATALYST**
K.Malins, V.Kampars, T.Rusakova, Riga Technical University, Latvia
- 25. COUMARIN DERIVATIVES AS POTENTIAL ANTIRADICAL AGENTS**
I.Mierina, V.Drinka, M.Jure, Riga Technical University, Latvia
- 26. CONDENSATION OF MALONANILIC ACIDS WITH AROMATIC ALDEHYDES**
I.Mierina, A.Stikute, M.Jure, Riga Technical University, Latvia
- 27. CATALYTIC DEOXYGENATION OF RAPESEED OIL TO *n*-PARAFFINS**
R.Murnieks, L.Apseniece, V.Kampars, Z.Shustere, Riga Technical University, Latvia
- 28. LIQUID FERTILIZER WITH AMINO ACIDS**
R.Paleckiene, A.M.Sviklas, R.Slinksiene, Kaunas University of Technology, Lithuania
- 29. SYNTHESIS OF 4-AMINO BUTYRIC ACID DERIVATIVES: A SUGAR-BASED CHIRAL AUXILIARY APPROACH**
V.Poznaks, M.Turks, Riga Technical University, Latvia
- 30. THE IMPACT OF INDIVIDUAL TECHNOLOGICAL PARAMETERS ON THE WATER ELECTROLYSIS PROCESS**
M.Reimanis, J.Ozolins, E.Vindedze-Jonisenoka, S.Sirsina, J.Malers, Riga Technical University, Latvia
- 31. SACCHAROPEPTIDES AND THEIR TRIAZOLE ISOSTERES**
V.Rjabovs, M.Turks, Riga Technical University, Latvia
D.Zelencova, E.Liepins, Latvian Institute of Organic Synthesis, Latvia

- 32. EXTRACTION AND IDENTIFICATION OF PENTACYCLIC LUPANE-TYPE TRITERPENOIDS FROM ALDER BARK**
L.Roze, O.Bikovens, G.Telysheva, Latvian State Institute of Wood Chemistry, Latvia
- 33. GLYCEROL ETHERS FROM GLYCEROL AND ALCOHOLS**
M.Roze, V.Kampars, K.Teivena, I.Birska, R.Kampare, Riga Technical University, Latvia
- 34. BIOAUGMENTATION OF ACID WHEY ANAEROBIC DIGESTION**
K.Rugele, S.Larsson, Riga Technical University, Latvia
- 35. SEPARATION OF COBALT(II) AND NICKEL(II) BY LIQUID MEMBRANES DURING ELECTRODIALYSIS**
T.Sadyrbaeva, Institute of Inorganic Chemistry of Riga Technical University, Latvia
- 36. CRYSTAL STRUCTURE, MECHANOCHEMICAL PREPARATION POSSIBILITIES AND STABILITY OF SOME ISONIAZID COCRYSTALS**
I.Sarcevic, L.Orola, University of Latvia
S.Belyakov, Latvian Institute of Organic Synthesis, Latvia
- 37. STABILIZATION OF HEMPSEED OIL WITH NATURAL ANTIOXIDANTS**
R.Serzane, M.Strele, I.Mierina, M.Jure, Riga Technical University, Latvia
- 38. LIGNIN-BASED POLYELECTROLYTE COMPLEXES AND THEIR ADVANCED APPLICATION**
G.Shulga, S.Vitolina, S.Ostrovsk, Latvian State Institute of Wood Chemistry, Latvia
- 39. CRYSTAL STRUCTURE OF FLECAINIDE ACETATE**
D.Stepanovs, A.Mishnev, Latvian Institute of Organic Synthesis, Latvia
- 40. KETONIZATION OF BENZYL BUTYRATE OVER ZINC CHROMITE CATALYST**
V.Stonkus, K.Edolfa-Kalnina, M.Fleisher, A.Shmidlers, A.Jankevica, Latvian Institute of Organic Synthesis, Latvia
- 41. SYNTHESIS OF ENANTIOMERICALLY PURE 4-AMINO-TETRAHYDROINDAZOLES**
I.Strakova, N.Strelnikova, M.Turks, Riga Technical University, Latvia
S.Belyakov, Latvian Institute of Organic Synthesis, Latvia
- 42. CHEMICAL INTERESTERIFICATION OF RAPESEED OIL WITH ETHYL ACETATE USING *t*-BUTANOLIC POTASSIUM BUTOXIDE**
Z.Sustere, V.Kampars, Riga Technical University, Latvia
- 43. ISOLATION AND CHARACTERIZATION OF BIOLOGICALLY ACTIVE COMPONENTS FROM *STREPTOMYCES MILBEMYCINIUS***
M.Turks, E.Bizdena, V.Kumpins, M.Jure, I.Grinsteine, Riga Technical University, Latvia
S.Belyakov, Latvian Institute of Organic Synthesis, Latvia
- 44. ACTIVITY OF CuO, CuO-CeO₂, CuO-La₂O₃ / Al₂O₃ SYSTEMS FOR TOTAL CATALYTIC OXIDATION OF VOCS**
A.Urbutis, S.Kitrys, Kaunas University of Technology, Lithuania
- 45. THE SYNTHESIS AND BIOLOGICAL INVESTIGATION OF COMPOUNDS CONTAINING β -LACTAM AND γ -LACTAM HETEROCYCLES**
G.Veinbergs, M.Vorona, I.Shestakova, M.Dambrova, L.Zvejniece, Latvian Institute of Organic Synthesis, Latvia

**46. COAGULATION OF BIOMASS FROM THE MODEL WASTEWATER BY
POLYETHYLENEIMINE**

S.Vitolina, G.Shulga, Latvian State Institute of Wood Chemistry, Latvia
S.Reihmane, Riga Technical University, Latvia

**47. SYNTHESIS OF NOVEL 4-AMINO-TETRAHYDRO-PYRROLO[1,2-A]QUINAZOLINE
DERIVATIVES**

D.Zicane, Z.Tetere, I.Ravina, M.Turks, Riga Technical University, Latvia

Friday, 12 October

Section

Materials Science and Applied Chemistry OS 3

Section Chair: Assoc.Prof. Marcis Dzenis, Riga Technical University, Latvia

Subsection "Textile and Clothing Technology"

Scientific Committee:

A.Vilumsone	Prof.	Riga Technical University	Latvia
S.Kukle	Prof.	Riga Technical University	Latvia

12:00 – 13:00 Lunch

13:00 - 13:30

OPENING OF CONFERENCE

G.Strazds, Association of Textile and Clothing Industry, Latvia

13:30 - 13:45

**NETTLE FIBERS GROWN IN LATVIA AS ONE OF THE POTENTIAL NATURAL RAW
MATERIAL FOR TEXTILE**

I.Baltina, L.Lapsa, Riga Technical University, Latvia
Z.Jankauskiene, Upyte Experimental Station of the Lithuanian Research Centre for Agriculture and Forestry, Lithuania

13:45 - 14:00

**METAL COATED TEXTILE TESTING WITH GDV METHOD: RAW MATERIAL
INFLUENCE ON THE PARAMETERS OF GDV ELECTROGRAMMS**

E.Trumsiņa, S.Kukle, G.Zommere, Riga Technical University, Latvia

14:00 - 14:15

**THIN-COATINGS ON THE RAW COTTON TEXTILE DEPOSITED BY SOL-GEL
METHOD**

S.Vihodceva, S.Kukle, Riga Technical University, Latvia

14:15 - 14:30

MECHANICAL PROPERTIES OF HEMP FIBRES BUNDLES

L.Freivalde, S.Kukle, Riga Technical University, Latvia

14:30 - 14:45

**CAMOUFLAGE PROTECTION QUALITY OF THE COMBAT INDIVIDUAL
PROTECTION SYSTEM WITHIN ELECTROMAGNETIC SPECTRAL BAND RANGE OF 3
μM TO 12 μM TIR (THERMO INFRA-RED)**

I.Sitvjenkins, National Armed Forces, Latvia
A.Vilumsone, I.Abele, Riga Technical University, Latvia
H.Torbicka, NFM Group, Poland

14:45 - 15:00

**QUALITY OF THE PROCUREMENT MODELS AND SUPPLYING NORMS OF THE
COMBAT INDIVIDUAL PROTECTION SYSTEM**

H.Torbicka, NFM Group, Poland

I.Sitvjenkins, National Armed Forces, Latvia

A.Vilumsone, Riga Technical University, Latvia

15:00 - 15:15

DURABILITY OF SMART CLOTHING WITH WEARABLE ENERGY SOURCE

G.Terlecka, I.Baltina, A.Vilumsone, J.Blums, Riga Technical University, Latvia

15:15 - 15:30

INCORPORATION OF LIGHT EMITTING DIODES IN CLOTHING

I.Sahta, I.Baltina, S.Leitane, Riga Technical University, Latvia

15:30 – 15:45 Coffee Break

15:45 - 16:00

APPAREL MANUFACTURING LOGISTICS PROCESS MODELING

I.Ziemele, D.Belakova, J.Aleksejeva, Riga Technical University, Latvia

16:00 - 16:15

APPLICATIONS OF BIOMONITORING CLOTHING

V.Mecnika, I.Krievins, Riga Technical University, Latvia

16:15 - 16:30

**GENERAL PERFORMANCE TESTS DEVELOPMENT OF UNIFORM PROTOTYPES FOR
STATE POLICE**

I.Abele, A.Vilumsone, G.Strazds, Riga Technical University, Latvia

16:30 - 16:45

WEARABLE PPG DEVICE FOR PULSE WAVE ANALYSIS

V.Mecnika, I.Krievins, Riga Technical University, Latvia

E.Kviesis, Institute of Atomic Physics and Spectroscopy of Latvia University, Latvia

Z.Marcinkevics, Department of Human and Animal Physiology, Faculty of Biology of Latvia
University

16:45 - 17:00

UNIVERSAL DESIGN AND SUSTAINABLE SPATIAL DEVELOPMENT

A.Ulme, Riga Technical University, Latvia

17:00 - 17:15

PLACEMENT OF ACCELEROMETER IN CYCLIST'S JACKET

M.Grecka, A.Vilumsone, J.Blums, Riga Technical University, Latvia

Z.Pavare, Riga Stradin's University, Latvia

17:15 - 17:30

ANNUAL RENEWABLE RESOURCES POTENTIAL USE

A.Stikute, S.Kukle, Riga Technical University, Latvia

17:30 - 17:45

STEAM EXPLOSION AS PRETREATMENT METHOD OF LIGNOCELLULOSIC BIOMASS

A.Putnina, S.Kukle, Riga Technical University, Latvia

J.Gravitis, Latvian State Institute of Wood Chemistry, Laboratory of Biomass Eco-Efficient Conversation, Latvia

17:45 - 18:00

THE ROLE OF USAGE OF LATEST CLOTHING CAD/CAM SYSTEMS IN EDUCATION

I.Dabolina, A.Vilumsone, Riga Technical University, Latvia

DIALOGUE SESSION

Materials Science and Applied Chemistry DS 3

- 1. THE GOLDEN TRIANGLE AND THE GOLDEN SQUARE IN FASHION DESIGN**
Z.Kazlacheva, Trakia University, Faculty of Technics and Technologies of Yambol, Bulgaria
- 2. APPLICATION OF INTERACTIVE PRESENTATION SYSTEMS IN EDUCATION IN FASHION DESIGN AND TECHNOLOGIES**
V.Stoykova, Z.Kazlacheva, K.Georgieva, D.Balabanova, Trakia University, Faculty of Technics and Technologies of Yambol, Bulgaria
- 3. DESIGN OF LADIES DRESSES IN FITTED SILHOUETTE**
D.Balabanova, P.Dineva, Trakia University, Faculty of Technics and Technologies of Yambol, Bulgaria
- 4. DESIGN OF LADIES' DRESSES ON THE BASE OF CONSTRUCTIONAL ELEMENTS OF BULGARIAN NATIONAL COSTUME**
Z.Kazlacheva, Trakia University, Faculty of Technics and Technologies of Yambol, Bulgaria
M.Pavlova, Technical University of Sofia, Bulgaria
- 5. INFLUENCE OF PECTINASES ENZYME RETTING ON HEMP FIBER'S QUALITY**
A.Bernava, S.Reihmane, Riga Technical University, Latvia
- 6. CLASSIFICATION OF TEXTILE-BASED SENSORS FOR SMART GARMENT APPLICATION**
I.Parkova, A.Valisevskis, A.Vilumsone, Riga Technical University, Latvia
- 7. TEXTILE MOISTURE SENSOR FOR ENURESIS ALARM SYSTEM**
I.Parkova, A.Valisevskis, I.Ziemele, U.Briedis, A.Vilumsone, Riga Technical University, Latvia
- 8. MODIFICATION OF MICROCLIMATE MONITORING JACKET**
I.Parkova, A.Valisevskis, A.Vilumsone, Riga Technical University, Latvia
- 9. STUDENTS LEARNING RESEARCH PROCESS IN THE CONTEXT OF SUSTAINABILITY: EXPERIENCE OF REZEKNE HIGHER EDUCATION INSTITUTION**
S.Mezinska, Rezekne Higher Education Institution, Latvia

CONFERENCE SCIENTIFIC PROGRAMME

Thursday, 11 October

Section

Humanities and Social Sciences OS 4

Section Chair: Assoc.Prof. G.Ozolzile, Riga Technical University, Latvia

Scientific Committee:

A.Lanka	Prof.	Riga Technical University	Latvia
A.Baldins	Assoc.Prof.	Riga Technical University	Latvia
B.Garjane	Prof.	Riga Teacher Trainer and Educational Management Academy	Latvia
T.Tisenkopfs	Prof.	University of Latvia	Latvia
U.Ozolins	Dr.phil.	Deakin University	Australia
A.Steinberga	Assoc.Prof.	Riga Technical University	Latvia
A.Kuznecova	Prof.	Latvian Academy of Sports Education	Latvia
L.Kaikkonen	Dr.paed.	Jyvaskyla University of Applied Sciences	Finland
S.Omarova	Dr.sc.pol.	Northwestern University	USA
J.Broks	Prof.	“Turība” University	Latvia

12:30 - 12:45

CORPORATE SUSTAINABILITY AND SOCIAL RESPONSIBILITY: CHALLENGES AND OPPORTUNITIES FOR PROTECTING A COMPANY’S REPUTATION

N.Simchenko, National Technical University of Ukraine „Kyiv Polytechnic Institute“, Ukraine

12:45 - 13:00

ARTMUSE – HOW EUROPEAN TRANSFORMATIONS TRIGGER DIGITAL CREATIVITY

M.Fetting, M.Koplin, M2C Institute of Applied Media Technology and Culture Bremen, Germany

13:00 – 14:00 Lunch

14:00 - 14:15

CAREER LONGEVITY OF A RESCUE WORKER IN CONTEXT OF PATHOGENETIC AND SALUTOGENETIC PARADIGM

N.Lepeshinski, The State Educational Establishment „Institute for Command Engineers“ of the Ministry for Emergency Situations of the Republic of Belarus, Belarus

14:15 - 14:30

CONCEPT AND TRANSFORMATION OF DIPLOMACY

M.Bisofa, Embassy of the Republic of Latvia to the Russian Federation, Latvia

14:30 - 14:45

CORPORATE SOCIAL RESPONSIBILITY (CSR): PROBLEMS AND PROSPECTS IN LATVIAN SOCIETY

S.Revele, Riga Technical University, Latvia

14:45 - 15:00

GLOBAL ECONOMIC CRISIS IN LATVIA: RISKS FOR THE SOCIAL SECURITY SYSTEM

S.Dobelniece, Latvia University of Agriculture, Latvia

T.Lace, Riga Stradins‘ University, Latvia

15:00 - 15:15

DETERMINANTS OF SOCIAL RESILIENCE AMONG DISADVANTAGED FAMILIES IN LATVIA: INDIVIDUAL PERSPECTIVE

I.Karklina, Institute of Philosophy and Sociology, Agency of the University of Latvia, Latvia

15:15 - 15:30

ROLE OF TEACHER'S PERSONALITY IN DEVELOPING LEARNING DIALOGUE IN HISTORY LESSONS

V.Purens, Riga Teacher Trainer and Educational Management Academy, Latvia

15:30 – 15:45 Coffee Break

15:45 - 16:00

PEDAGOGY AND ICT AS THE BASIS OF INTERDISCIPLINARY SUBJECT

I.Ivashkin, Riga Technical University, Latvia

16:00 - 16:15

FAMILY-FRIENDLY WORKPLACES AS A FORM OF CORPORATE SOCIAL RESPONSIBILITY

V.Korpa, S.Dobelniece, Latvia University of Agriculture, Latvia

16:15 - 16:30

SOCIAL PARTNERSHIP AND MODERNIZATION OF RUSSIA

S.Soboleva, Moscow State Technical University n.a.N.E.Bauman, Russia

16:30 - 16:45

ANOMIE AND CONTEMPORARY INFORMATION SOCIETY

A.Markin, Krasnodar University of the Ministry of Interior, Russia

16:45 - 17:00

INSTITUTIONAL FRAMEWORK OF INTER-MUNICIPAL COOPERATION IN LATVIA

D.Bite, Latvia University of Agriculture, Latvia

17:00 - 17:15

TYPE THEORY AND SOCIONICS: ARE THEY MUTUALLY COMPLEMENTARY THEORIES?

L.Zilite, „Turība“ University, Latvia

17:15 - 17:30

LITERATURE, LANGUAGE AND PERSONALITY: INSIGHT INTO THE PROBLEM

E.Stikute, A.Vulane, University of Latvia, Latvia

Friday, 12 October

9:15 - 9:30

COMPETENCY-BASED CURRICULUM DEVELOPMENT AT HIGHER EDUCATION

T.Skolnikova, Riga Aeronautical Institute, Latvia

9:30 - 9:45

LEARNING MOTIVATION

A.Baldins, Riga Technical University, Latvia

A.Razeva, University of Latvia, Latvia

9:45 - 10:00

FORMATION OF A PERSONAL WORLDVIEW IN LEARNING ENVIRONMENT OF VOCATIONAL SCHOOL

B.Garjane, Riga Teacher Trainer and Educational Management Academy, Latvia

I.Augskalne, Riga Higher Institute of Religious Sciences, Latvia

10:00 - 10:15

SOCIAL STUDIES TEACHERS' ATTITUDES TOWARDS TEACHING STRATEGIES

A.Kupsans, S.Ignatjeva, Daugavpils University, Latvia

10:15 - 10:30

THE AGE OF INFORMATION AND CHANGE IN THINKING: PEDAGOGICAL AND PSYCHOLOGICAL ASPECTS

A.Steinberga, Riga Technical University, Latvia

10:30 - 10:45

PERSONAL EXPERIENCE-BASED LEARNING PROCESS IN PRESCHOOL

L.Kenina, Riga Teacher Trainer and Educational Management Academy, Latvia

10:45 - 11:00

SELF-CONCEPT OF ADOLESCENTS WITH DIVERSE CENTRALITY IN CLASSROOM

J.Levina, International Higher School of Practical Psychology, Latvia

11:00 - 11:15

INTERRELATION BETWEEN EMOTIONAL EXHAUSTION LEVEL OF MANAGERS AND ACHIEVEMENT MOTIVATION

G.Soboleva, "Aleks un V" Ltd, Latvia

11:15 - 11:30

CONFORMITY OF ADOLESCENT SELF-IMAGE TO SOCIALLY DESIRABLE CHARACTERISTICS

N.Soldatenko, International Higher School of Practical Psychology, Latvia

11:30 - 11:45

PSYCHOLOGICAL ASPECTS OF ADOPTED CHILDREN ADAPTATION TO THEIR FAMILY

T.Kovalenko, SC "Citadele banka", Latvia

O.Kravtsova, „Efarm Herbalshop“ Ltd, Latvia

11:45 - 12:00

PERSPECTIVES OF SOCIAL PROGNOSTICS IN MODERN SOCIETY

L.Girsova, Riga Technical University, Latvia

12:00 – 12:15 Coffee Break

12:15 - 12:30

MANAGEMENT COMPETENCE OF A CANDIDATE FOR POSITION OF PRINCIPAL OF GENERAL EDUCATION SCHOOL: STRUCTURAL APPROACH

E.Vebers, Riga Teacher Trainer and Educational Management Academy, Latvia

12:30 - 12:45

THE CONCEPTS OF BEHAVIORISM IN PEDAGOGICAL INTERPRETATION

S.Gudzuka, Riga Technical University, Latvia

12:45 - 13:00

PRODUCTIVE POTENTIALS OF KINDS OF THINKING

V.Daberts, The University College of Economics and Culture, Latvia

13:00 – 14:00 Lunch

14:00 - 14:15

**PERIODISATION OF LATVIAN DOCUMENTARY CINEMA IN THE CONTEXT OF
SOCIO-POLITICAL FACTORS (1944-1990)**

R.Cane, “Turība” University, Latvia

14:15 - 14:30

**THE BEGINNING OF THE XXI CENTURY: TRANSFORMATION OF ETIQUETTE
NORMS**

Z.Lejniece, Riga Technical University, Latvia

14:30 - 14:45

**ANTHROPOLOGY AND PEDAGOGY OF MYTH IN LATE PHILOSOPHY OF
SCHELLING (AN EXISTENTIAL-PHENOMENOLOGICAL INTERPRETATION)**

V.Cers, Riga Technical University, Latvia

14:45 - 15:00

**COMMUNICATION AND COMMUNICATIONS: HUMANITARIAN AND
TECHNOLOGICAL ASPECT OF (IN)CONSISTENCY IN TERMINOLOGY**

E.Olupe, “Turība” University, Latvia

15:00 - 15:15

DOMINANT MOTIVATION FOR SPORTS ACTIVITIES OF STUDYING YOUTH

A.Abele, P.Egle, Latvian Academy of Sports Education, Latvia

15:15 - 15:30

**DEVELOPMENT OF PROFESSIONAL COMPETENCE OF COACHES IN CONTINUING
EDUCATION**

M.Jakovleva, Latvian Academy of Sports Education, Latvia

15:30 – 15:45 Coffee Break

15:45 - 16:00

COMPARATIVE ANALYSIS OF STUDENTS’ ANTHROPOMETRIC CHARACTERISTICS

L.Plavina, National Defence Academy of Latvia, Latvia

16:00 - 16:15

**SPORTS INJURIES AMONG YOUNG PEOPLE AND EVALUATION OF THEIR HEALTH
CONDITION**

J.Porozovs, Riga Teacher Trainer and Educational Management Academy, Latvia

16:15 - 16:30

**INFLUENCE OF SWIMMING EXERCISES ON BALANCE OF SEPARATE MUSCLE
GROUPS**

E.Sislova, Riga Technical University, Latvia

16:30 - 16:45

URINE SPECIFIC GRAVITY AS A MEASURE OF HYDRATION LEVEL IN ATHLETES' BODY

I.Pontaga, L.Ozolina, Latvian Academy of Sports Education, Latvia

16:45 - 17:00

NETWORK AS A ATTRIBUTE OF BEING

J.Broks, "Turība" University, Latvia

17:00 - 17:15

CONSTITUTIONAL REFORM EXPERIENCES IN EASTERN EUROPE AND LATVIA

G.Ozolzile, Riga Technical University, Latvia

CONFERENCE SCIENTIFIC PROGRAMME

Thursday, 11 October

Section

Architecture and Urban Planning OS 5

Scientific Committee:

Jānis Krastiņš	Prof.	Riga Technical University	Latvia
Gintaras Stauskis	Prof.	Vilnius Gediminas Technical University	Lithuania
Frank Eckardt	Prof.	Bauhaus Universität Weimar	Germany
Martina Zbašnik-Senegačnik	Prof.	University of Ljubljana	Slovenia
Helka-Liisa Hentilä	Prof.	University of Oulu	Finland
Daniel B. Hess	Assoc. Prof.	University at Buffalo	USA

Subsection “Sustainability”

Section Chair: Prof. Sandra Treija, Riga Technical University, Latvia

12:15 – 12:30

ADAPTABLE LANDSCAPE IN HOUSING RENOVATION: A TOOL FOR ACTIVATING LOCAL TERRITORIAL COMMUNITIES

Gintaras Stauskis, Vilnius Gediminas Technical University, Lithuania

12:30 – 12:45

IMPLEMENTING THE BIOCLIMATIC DESIGN IN THE SUSTAINABLE ARCHITECTURAL PRACTICE

Edgars Bondars, Riga Technical University, Latvia

12:45 – 13:00

TRENDS OF SUSTAINABLE RESIDENTIAL ARCHITECTURE

Arturas Narvydas, Kaunas University of Technology, Lithuania

13:00 – 14:00 Lunch

Thursday, 11 October

Section

Architecture and Urban Planning OS 5

Scientific Committee:

Jānis Krastiņš	Prof.	Riga Technical University	Latvia
Gintaras Stauskis	Prof.	Vilnius Gediminas Technical University	Lithuania
Frank Eckardt	Prof.	Bauhaus Universität Weimar	Germany
Martina Zbašnik-Senegačnik	Prof.	University of Ljubljana	Slovenia
Helka-Liisa Hentilä	Prof.	University of Oulu	Finland
Daniel B. Hess	Assoc. Prof.	University at Buffalo	USA

Subsection “Urban development”

Section Chair: Prof. Gintaras Stauskis, Vilnius Gediminas Technical University, Lithuania

14:00 – 14:25

IS THERE A BALTIC CASE? URBAN SPRAWL OF MAJOR CITIES IN THE BALTIC STATES

Matas Cirtautas, Vilnius Gediminas Technical University, Lithuania

14:25 – 14:45

FROM POST-SOVIET TO POST-CAPITALIST CITY – DEVELOPMENT OF RIGA OVER THE LAST 20 YEARS

Oskars Redbergs, Brandenburgische Technische Universität Cottbus, Germany

14:45 – 15:10

POSTMODERN DISCOURSE OF POST-SOVIET LARGE HOUSING DISTRICTS: MODELING THE POSSIBILITIES

Petras Džervus, Vilnius Gediminas Technical University, Lithuania

15:10 – 15:30

URBAN ALLOTMENT GARDENS IN RIGA – CHALLENGE FOR LANDSCAPE SUCCESSION IN FUTURE DEVELOPMENT

Sandra Treija, Uģis Bratuškis, Riga Technical University, Latvia

15:30 – 15:45 Coffee Break

Thursday, 11 October

Section

Architecture and Urban Planning OS 5

Scientific Committee:

Jānis Krastiņš	Prof.	Riga Technical University	Latvia
Gintaras Stauskis	Prof.	Vilnius Gediminas Technical University	Lithuania
Frank Eckardt	Prof.	Bauhaus Universität Weimar	Germany
Martina Zbašnik-Senegačnik	Prof.	University of Ljubljana	Slovenia
Helka-Liisa Hentilä	Prof.	University of Oulu	Finland
Daniel B. Hess	Assoc. Prof.	University at Buffalo	USA

Subsection “Cultural heritage ” I

Section Chair: Dr. Arne Riekstiņš, Riga Technical University, Latvia

15:45 – 16:10

NEW ARCHITECTURE AS AN INFILL IN HISTORICAL CONTEXT

Konstantina Demiri, National Technical University of Athens, Greece

16:10 – 16:30

META-FUNCTIONAL TYPOLOGY OF THE FORTS OF KAUNAS FORTRESS

Kęstutis Zaleckis, Nijole Steponaityte, Giedre Gudzineviciute, Kaunas University of Technology, Lithuania

16:30 – 16:50

PAUL CAMPE AND ARCHITECTURE OF LIEPĀJA

Jānis Krastiņš, Riga Technical University, Latvia

16:50 – 17:10

FOLKLORISTIC ART DECO AND LATVIA

Renāte Čaupale, Riga Technical University, Latvia

17:10 – 17:30

**ARCHITECTURAL TENDENCIES OF RECENT INFILL BUILDINGS IN KAUNAS
HISTORIC CENTRE**

Eglė Navickienė, Vilnius Gediminas Technical University, Lithuania

Friday, 12 October

Subsection “Cultural heritage” II

Section Chair: Prof. Jānis Krastiņš, Riga Technical University, Latvia

09:00 – 09:20

**ANALYZING AND UNDERSTANDING THE CONSTRUCTION OF VERNACULAR
BUILDINGS AT THE NATIONAL TECHNICAL UNIVERSITY OF ATHENS**

Constantine A. Caradimas, National Technical University of Athens, Greece

09:20 – 09:40

**BANSKÁ ŠTIAVNICA – EDUCATIONAL SPACE FOR THE PRESERVATION OF
CULTURAL HERITAGE**

Pavel Gregor, Slovak University of Technology, Slovakia

09:40 – 10:00

**RELATIONSHIP BETWEEN ARCHITECTURAL RESEARCH AND PRACTICE. THE
MEDIA ROLE OF PROFESSIONAL ASSOCIATION**

Zanda Treimane, Riga Technical University, Latvia

10:20 – 10:40 Apple Break

Friday, 12 October

Section

Architecture and Urban Planning OS 5

Scientific Committee:

Jānis Krastiņš	Prof.	Riga Technical University	Latvia
Gintaras Stauskis	Prof.	Vilnius Gediminas Technical University	Lithuania
Frank Eckardt	Prof.	Bauhaus Universität Weimar	Germany
Martina Zbašnik-Senegačnik	Prof.	University of Ljubljana	Slovenia
Helka-Liisa Hentilä	Prof.	University of Oulu	Finland
Daniel B. Hess	Assoc. Prof.	University at Buffalo	USA

Subsection “Contemporary digital tools”

Section Chair: Assoc. Prof. Eglė Navickienė, Vilnius Gediminas Technical University, Lithuania

10:40 – 11:00

TOPOLOGICAL MODELING IN ARCHITECTURE

Arne Riekstiņš, Riga Technical University, Latvia

11:00 – 11:20

FRACTAL ARCHITECTURE

Agnieszka Rumiez, Poznan University of Technology, Poland

11:20 – 11:40

THINK BETA – SYSTEMS FOR PARTICIPATION IN URBAN DEVELOPMENT

Helmut Eirund, Researcher at TA / Olivetti Research Lab, Germany

Martin Koplín, Carl Skelton, Thorsten Teschke, University of Applied Sciences Bremen, Germany

11:40 – 12:00

TRANSPORT PROBLEMS IN RIGA – COLLAPSE OR PROSPERITY ON THE BASIS OF ITS

Eleonora Shabarova, Petersburg State Transport University, Russia

12:00 – 12:15 Coffee Break

DIALOGUE SESSION

Architecture and Urban Planning DS 5

12:15 – 13:00

CHALLENGES OF DESIGNING NEW URBAN QUALITY IN HISTORICAL ENVIRONMENT (BASED ON FINAL PROJECTS OF BA STUDENTS OF THE DEPARTMENT OF URBAN DESIGN, FA, VGTU)

Dalia Dijokienė, Vilnius Gediminas Technical University, Lithuania

CULTURE HOUSES IN LATVIA

Agate Eniņa, Riga Technical University, Latvia

SUSTAINABLE CITY – A CITY WITHOUT CRIME

Irina Matijošaitienė, Kęstutis Zaleckis, Inga Stankevičė, Kaunas University of Technology, Lithuania

ASSESSMENT AND PLANNING TOOLS FOR DESIGN OF SEASONS CAPES

Indra Purs, Latvia University of Agriculture, Latvia

THE IMPACT OF URBAN PLANNING ON THE DEVELOPMENT OF TERRITORIAL LAND RESOURCES (EXPERIENCE IN LITHUANIA)

Evaldas Ramanauskas, Liucijus Dringelis, Kaunas University of Technology, Lithuania

ARCHITECTURAL EXCURSION AS A TOOL: MODERNIST VILNIUS CASE

Indrė Ruseckaitė, Aistė Galaunytė, Liutauras Nekrošius, Vilnius Gediminas Technical University, Lithuania

SPATIAL AND ARCHITECTURAL ASPECTS OF TERRITORIAL REFORMS IN LATVIA IN THE BEGINNING OF 20TH CENTURY

Ilona Šavraka, Riga Technical University, Latvia

LOCAL AND GLOBAL TENDENCIES OF THE WORLD EXPO ARCHITECTURE. THE CASE OF LITHUANIAN PAVILION AT EXPO 2012 YEOSU, KOREA

Martynas Valevičius, Vilnius Gediminas Technical University, Lithuania

THE ARCHITECTONIC SPATIAL ASPECTS OF THE RIGA HOUSING VALUE

Dainis Zemešs, Riga Technical University, Latvia

EXPLORATION ON FLEXIBILITY IN URBAN PLANNING FORMULATION OF CHINA

Zhenmin Xu, Wuhan Land Use and Urban Spatial Planning Research Center, China

Yawei Zhang, Urban Design Faculty of Wuhan University, China

**SCENARIO PLANNING AS INSTRUMENT IN URBAN PLANNING TO GENERATE
SUSTAINABLE LAND-USE STRATEGIES IN URBAN REGIONS**

Sonja Deppisch, HafenCity University Hamburg, Germany

13:00 – 14:00 Lunch

Friday, 12 October

Section			
Architecture and Urban Planning OS 5			
Scientific Committee:			
Jānis Krastiņš	Prof.	Riga Technical University	Latvia
Gintaras Stauskis	Prof.	Vilnius Gediminas Technical University	Lithuania
Frank Eckardt	Prof.	Bauhaus Universität Weimar	Germany
Martina Zbašnik-Senegačnik	Prof.	University of Ljubljana	Slovenia
Helka-Liisa Hentilä	Prof.	University of Oulu	Finland
Daniel B. Hess	Assoc. Prof.	University at Buffalo	USA

Subsection “Landscape and planning”

Section Chair: Prof. Kęstutis Zaleckis, Kaunas University of Technology, Lithuania

14:00 – 14:20

SPATIAL REGENERATION OF THE CULTURAL AND HISTORICAL HERITAGE OF FARMSTEADS IN LATVIA

Aija Ziemeļniece, Latvia University of Agriculture, Latvia

14:20 – 14:45

RURAL VERSUS RURBAN: RURAL MANOR RESIDENCIES IN THE URBAN CONTEXT. LITHUANIAN CASE

Indrė Gražulevičiūtė-Vilėniškė, Jurga Vitkuvienė, Kaunas University of Technology, Lithuania

14:45 – 15:10

IDENTIFICATION OF VISUAL INFLUENCE ZONES OF WIND FARMS IN LITHUANIA

Jonas Abromas, Jūratė Kamičaitytė-Virbašienė, Kaunas University of Technology, Lithuania

15:10 – 15:30

SPATIAL REGENERATION OF URBAN COASTAL ENVIRONMENT

Jānis Briņķis, Egons Bērziņš, Riga Technical University, Latvia

15:30 – 15:45 Coffee Break

Friday, 12 October

Section			
Architecture and Urban Planning OS 5			
Scientific Committee:			
Jānis Krastiņš	Prof.	Riga Technical University	Latvia
Gintaras Stauskis	Prof.	Vilnius Gediminas Technical University	Lithuania
Frank Eckardt	Prof.	Bauhaus Universität Weimar	Germany

Martina Zbašnik-Senegačnik	Prof.	University of Ljubljana	Slovenia
Helka-Liisa Hentilä	Prof.	University of Oulu	Finland
Daniel B. Hess	Assoc. Prof.	University at Buffalo	USA

Subsection “Architect and profession”

Section Chair: Prof. Uģis Bratuškis, Riga Technical University, Latvia

15:45 – 16:15

Andris Roze, The Ontario Professional Planners Institute, Canada

16:15 – 16:45

Varis Bokalders, Ekokultur Konsulter AB, Sweden

16:45 – 17:15

Visvaldis Sarma, Sarma & Norde, Latvia

17:15 – 18:00

DISCUSSION

CONFERENCE SCIENTIFIC PROGRAMME

Thursday, 11 October

Section “Construction Science” OS 6

Section Chair: Prof. Juris Smirnovs, Riga Technical University, Latvia
Dr.sc.ing. Janis Kaminskis, Riga Technical University, Latvia

Subsection “Construction Science” OS 6

Scientific Committee:

A.Chate	Prof.	Riga Technical University	Latvia
D.Čigas	Prof.	Vilnius Gediminas Technical University	Lithuania
G.Fischer	Prof.	Technical University of Denmark	Denmark
T.Hanak	Assist. Prof.	Brno University of Technology	Czech Republic
J.Korytarova	Assist. Prof.	Brno University of Technology	Czech Republic
K.Rocens	Prof.	Riga Technical University	Latvia
M.Schmidt	Prof.	University of Kassel	Germany
G.Shakhmenko	Assist. Prof.	Riga Technical University	Latvia
J.Smirnovs	Prof.	Riga Technical University	Latvia
R.Tepfers	Prof.	Chalmers University of Technology	Sweden
V.E.Volkova	Prof	Dnepropetrovsk National University of the Railway Transport	Ukraine

SESSION 1

14:00 – 17:00

Session Chair: Prof. Aleksandrs Korjakins, Riga Technical University, Latvia
Assist. Prof. Genady Shakhmenko, Riga Technical University, Latvia

14:00 - 14:20

CONCERNING CONCRETE E-MODULUS

Ralejs Tepfers, Department of Civil and Environmental Engineering, Concrete Structures, Chalmers University of Technology, Sweden

14:20 - 14:40

ASSESSMENT OF THE 2007 - 2013 NATIONAL ROAD TRAFFIC SAFETY PROGRAMME IN LATVIA

Juris Smirnovs, Juris Rihards Naudzuns, RTU, Latvia
Aldis Lama, Gatis Lama, Road Traffic Research Ltd

14:40 - 15:00

IDENTIFICATION OF DYNAMIC MODEL OF BOLTED JOINT OF STRUCTURAL ELEMENTS

Viktorija E. Volkova, Dnepropetrovsk National University of the Railway Transport, Dnepropetrovsk, Ukraine

15:00 - 15:15

MICRO-CRACK INITIATION AND PROPAGATION IN FIBER REINFORCED POLYMER COMPOSITES

Andrejs Pupurs, Janis Varna, Luleå University of Technology, Sweden

15:15 - 15:30

ON THE BEHAVIOR OF WEB-FLANGE JUNCTIONS OF GRP PULTRUDED PROFILES

Luciano Feo and Rosa Penna, Department of Civil Engineering, University of Salerno, Italy

15:30 - 15:45 Coffee break

15:45 - 16:00

DYNAMIC LOADING AND RESPONSE OF OBSERVATION TOWERS

Liga Gaile, Ivars Radinsh, RTU, Latvia

16:00 - 16:15

ANALYSIS OF DYNAMIC PARAMETERS OF TIMBER AND STEEL OBSERVATION TOWERS

Liga Gaile, RTU, Latvia

16:15 - 16:30

NUMERICAL ANALYSIS OF CONCRETE STRUCTURES UNDER BLAST LOADS

Krzysztof Cichocki, Koszalin University of Technology, Poland

16:30 - 16:45

CHARACTERIZATION AND ANALYSIS OF TIME DEPENDENT BEHAVIOR OF BIO-BASED COMPOSITES MADE OUT OF HIGHLY NON-LINEAR CONSTITUENTS

Liva Pupure, Roberts Joffe, Janis Varna, Luleå University of Technology, Sweden

16:45 - 17:00

A SIMPLIFIED APPROACH TO ASSESS INDOOR RADON ACTIVITY CONCENTRATIONS BASED UPON ON-SITE EXPERIMENTAL EVALUATIONS OF RADON EXHALATION FROM BUILDING MATERIALS

Simona Mancini, Albina Cuomo, Domenico Guida, Dept. of Civil Engineering, University of Salerno, Italy

Davide Guadagnuolo, Michele Guida, Dept. of Physics, University of Salerno, Italy

17:00 - 17:15

HEAT ENGINEERING MEASUREMENTS OF RENOVATED BUILDING ENVELOPES

Martins Vilnitis, Normunds Ermansons, RTU, Latvia

17:15 - 17.30

OPTIMIZATION OF CABLE-STAYED BRIDGE ELEMENTS

Verners Straupe, Ainars Paeglitis, RTU, Latvia

Friday, 12 October

SESSION 2

9:00 – 12:00

Session Chair: Prof. Michael Schmidt, University of Kassel, Germany
Assoc. Prof. Diana Bajare, Riga Technical University, Latvia

9:00 - 9:15

PERFORMANCE OF MORTAR MADE WITH WASTE FINE AGGREGATE AND CERAMIC FUME

Jacek Katzer, Katarzyna Cieśla, Koszalin University of Technology, Poland

9:15 - 9:30

HIGH EFFICIENCY CONCRETE CONTAINING MICRO AND NANO-SIZED PARTICLES

Genady Shakhmenko, Inna Juhnevica, Diana Bajare, Gundars Mezinskis, Aleksandrs Korjakins, Nikolajs Toropovs, RTU, Latvia

9:30 - 9:45

MECHANICAL PROPERTIES OF CEMENT PASTE WITH GLASS CULLET

Patricija Kara, RTU, Latvia

9:45 - 10:00

COMPOSITION OF POROUS GEOPOLYMERS MADE OF ALUMINIUM RECYCLING WASTE

Diana Bajare, Girts Bumanis, Aleksandrs Korjakins, RTU, Latvia

10:00 - 10:15

INFLUENCE OF THE PLASTICISING ADDITIVE ON THE PROPERTIES OF HARDENED CONCRETE WHEN COARSE AND FINE AGGREGATES ARE REPLACED BY CONCRETE WASTE

Olga Finoženok, Ramunė Žurauskienė, Rimvydas Žurauskas, Vilnius Gediminas Technical University, Lithuania

10:15 - 10:30 Coffee break

10:30 - 10:45

SUSTAINABLE CONCRETE WITH RECYCLED AGGREGATE

Patricija Kara, RTU, Latvija

10:45 - 11:00

COAL BOTTOM ASH AS MICROFILLER IN CONVENTIONAL CONCRETE

Girts Bumanis, Diana Bajare, Aleksandrs Korjakins, RTU, Latvia

11:00 - 11:15

EFFECT OF PLASTICIZERS PARAMETERS ON REFRACTORY CASTABLE BINDER PASTE RHEOLOGICAL AND HYDRATION PROPERTIES

Irina Demidova-Buiziniene, Ina Pundiene, Vilnius Gediminas Technical University

11:15 - 11:30

BENDING MOMENTS IN STEEL FIBRE REINFORCED CONCRETE BEAMS BASED ON WASTE SAND

Jacek Domski, Koszalin University of Technology, Poland

11:30 - 11:45

STRESS DISTRIBUTION ALONG THE CRACK IN CRACKED BENDED FIBERCONCRETE BEAM

A.Krasnikovs, A.Macanovskis, V.Lusis, E.Macanovskis, RTU, Latvia

11:45 - 12:00

FIBERCONCRETE STRUCTURAL ELEMENTS WITH ORIENTED FIBERS STRUCTURE

A.Krasnikovs, V.Lapsa, V.Zaharevskis, V.Lusis, J.Zalesskis, RTU, Latvia

12:00 – 13:00 Lunch

SESSION 3

14:00 – 17:00

Session Chair: Prof. Dmitrijs Serdjuks, Riga Technical University, Latvia
Dr. Viktors Haritonovs, Riga Technical University, Latvia

14:00 - 14:15

HIGHWAY VEHICLE LOADS IN LATVIA

Andris Paeglitis, RTU, Latvia, Raitis Lacis, Inzenierbuve Ltd

14:15 - 14:30

LOAD TESTING RESULT ANALYSIS OF THE LATVIAN BRIDGES

Ilze Paeglite, RTU, Latvia

14:30 - 14:45

BEHAVIOR OF PRESTRESSED SUSPENSION BRIDGE

Vadims Goremikins, Karlis Rocens, Dmitrijs Serdjuks, RTU, Latvia

14:45 - 15:00

EVALUATION OF FUNCTIONAL PROPERTIES OF ROAD SALT

Boriss Jelisejevs, Juris Naudzuns, RTU, Latvia, Gita Laugale, JSC LAU

15:00 - 15:15

CONCRETE BRIDGE DETERIORATION CAUSED BY DE-ICING SALTS IN HIGH TRAFFIC INTENSITY ROAD ENVIRONMENT IN LATVIA

Kristaps Gode, Ainars Paeglitis, Institute of Transport Infrastructure Engineering, RTU, Latvia

15:15 - 15:30

CREEP BEHAVIOUR OF CEMENT-BASED COMPOSITES

Andina Sprince, Leonids Pakrastinsh, Aleksandrs Korjakins, RTU, Latvia

15:30 - 15:45 Coffee break

15:45 - 16:00

RIBBED PLATE STRUCTURE WITH INCREASED SPECIFIC STRENGTH AND VARIABLE STIFFNESS

Janis Sliseris, Karlis Rocens, RTU, Latvia

16:00 - 16:15

FEM STRATEGIES FOR NUMERICAL MODELING OF DENDROLIGHT CELLULAR WOOD MATERIAL CORE

Edgars Labans, Kaspars Kalnins, RTU, Institute of Materials and Structures, Latvia

16:15 - 16:30

GRANULATED ECOLOGICAL THERMAL INSULATION MATERIAL BASED ON PEAT BINDER

Nikolajs Toropovs, Aleksandrs Korjakins, Genady Shakhmenko, Patricija Kara, RTU, Latvia

16:30 - 16:45

COLLECTION OF SPILLED OIL PRODUCTS BY MEANS OF FERROMAGNETIC POWDER MATERIALS

Vjaceslavs Lapkovskis, Viktors Mironovs, RTU, Latvia

Juris Treijs, Edmunds Teirumnieks, Rezekne Higher Education Institution, Latvia

16:45 - 17.00

CELLULAR STRUCTURES MADE OF PERFORATED METAL BANDS

Mihails Lisicins, Viktors Mironovs, RTU, Laboratory of Powder Materials, Latvia

17:00 - 17.15

SILICON CARBIDE CERAMICS USES IN CIVIL ENGINEERING

Elina Indriksone, Viktors Mironovs, RTU, Laboratory of Powder Materials, Latvia

17:15 - 17:30

BENDING STIFFNESS AND WEIGHT OPTIMIZATION OF PLYWOOD SANDWICH PANELS

Edgars Labans, Kaspars Kalnins, RTU, Institute of Materials and Structures, Latvia

POSTER SESSION – will take place in breaks between sessions on October 11 and 12

Construction Science OS 6

Subsection “Construction Science”

Section Chair: Dr. Genady Shakhmenko, Riga Technical University, Latvia

- 1. THE INFLUENCE OF MICRO AND NANO SILICA TO THE PROCESSES OF FORMATION OF MICROSTRUCTURE AND MECHANICAL PROPERTIES OF HIGH PERFORMANCE CONCRETE**
Diana Bajare, Linda Krage, Janis Locs, Aleksandrs Korjakins, Genady Shakhmenko, RTU, Latvia
- 2. USE OF UNCONVENTIONAL AGGREGATES IN HOT - MIX ASPHALT CONCRETE**
Viktors Haritonovs, Guntis Brencis, Juris Smirnovs, Martins Zaumanis, RTU, Latvia
- 3. INTERNAL CURING OF CONCRETE BY SUPERABSORBENT POLYMERS**
Janis Justs, RTU, Latvia, Pietro Lura, EMPA, ETHZ, Switzerland
Diana Bajare, Genady Shakhmenko, RTU, Latvia
- 4. HIGH EFFICIENCY POROUS CERAMICS FOR THE PRODUCTION OF INSULATION BUILDINGS MATERIALS**
Aleksandrs Korjakins, Diana Bajare, Liga Upeniece, RTU, Latvia
- 5. UNIAXIAL TENSION OF WEDGE-TYPE ANCHORAGE SYSTEM**
Andrejs Kovalovs, Institute of Materials and Structures, RTU, Latvia
Vladimir Kulakovs, Aleksandr Arnautovs, Georgij Portnovs, Institute of Polymer Mechanics, University of Latvia
- 6. CONCRETE STRUCTURAL ELEMENT REINFORCED BY GLASS FIBER FABRIC**
A.Krasnikovs, O.Kononova, V.Lapsa, V.Lusis, J.Zalesskis, G.Harjkova, RTU, Latvia
- 7. VIBRATION-BASED TECHNIQUE FOR DAMAGE DETECTION**
Sandris Rucevskis, Pavel Akishin, Andris Chate, Institute of Materials and Structures, RTU, Latvia
- 8. HEAT INSULATION MATERIALS MADE OF FOLIAGE TREE FIBRES**
Liga Upeniece, Diana Bajare, Aleksandrs Korjakins, RTU, Latvia
- 9. PERFORMANCE CHARACTERISTICS OF TWO WARM MIX ASPHALT TECHNOLOGIES**
Martins Zaumanis, Viktors Haritonovs, Guntis Brencis, Juris Smirnovs, RTU, Latvia
- 10. SLOW PYROLYSIS WASTE-TO-ENERGY TECHNOLOGY FOR LATVIAN MARKET**
Vjaceslavs Lapkovskis, Viktors Mironovs RTU, Latvia
Karlis Zarins, Orions Siltums SIA, Latvia
Giovanni Codenotti, Officina Meccanica di G.Codenotti, Italy
- 11. TRAFFIC FLOW RESEARCH OF THE RIGA STREET NETWORK**
Ziedonis Lazda, Juris Smirnovs RTU, Latvia

Friday, 12 October

Section “Construction Science” OS 6

Subsection “Heat, Gas and Water Technology”

Section Chair: Prof. A. Borodinecs, Riga Technical University, Latvia

Subsection “Heat, Gas and Water Technology”

Scientific Committee:

A.Borodinecs	Prof.	Riga Technical University	Latvia
A.Kreslins	Prof.	Riga Technical University	Latvia
H.Voll	Assoc.Prof.	Tallinn University of Technology	Estonia
L.Seduikyte	Assoc.Prof.	Kaunas University of Technology	Lithuania

9:00 - 9:15

ULTRACAPACITORS THE INVESTIGATION OF THE INDIRECT ADIABATIC COOLING PERFORMANCE IN TEMPERATE CLIMATE OF BALTIC STATES

A.Brahmanis, A. Lesinskis, Riga Technical University, Latvia

9:15 - 9:30

SUPPLY AIR PARAMETERS INTERACTION ON THERMAL PERFORMANCE OF IEAC

G. Frīdenbergs, Riga Technical University, Latvia

09:30 - 09:45

AIRTIGHTNESS MEASUREMENT STANDARDS FOR LARGE BUILDINGS

C.Genge, Retrotec Energy Innovations, Canada

09:45 - 10:00

ANALYSIS OF INDOOR AIR QUALITY IN PRIMARY CLASS OF NEW SCHOOL BUILDING

G.Plavenieks, Riga Technical University, Latvia

10:00 - 10:15

LIMITATIONS FOR SUPPLIED AIR VELOCITY AND DRAFT RATE IN HUMANS' OCCUPANCY ZONE

A.Prozuments, A.Borodinecs, Riga Technical University, Latvia

10:15 - 10:30

CEILING PANELS RADIANT HEATING SYSTEMS

J.Psenicnaja, A.Kreslins, Riga Technical University, Latvia

10:30 - 10:45

METHODS AND PROBLEMS OF NATURAL GAS FILTRATION

P.Skackovs, Riga Technical University, Latvia

10:45 - 11:00

INFLUENCE OF THERMAL INSULATION ON SOLAR THERMAL SYSTEMS EFFICIENCY

A.Snegirjovs, L. Migla, Riga Technical University, Latvia

P.Shipkovs, Institute of Physical Energetics, Latvia

11:00 - 11:15

METHOD TO INVESTIGATE EFFECTS OF INDOOR CLIMATE ON ENERGY CONSUMPTION AND PRODUCTIVITY IN OFFICES

G.Stankevica, A.Kreslins, Riga Technical University, Latvia

11:15 - 11:30

IMPROVING THE HEAT TRANSFER OF BATCH-FIRED STRAW BOILER

K.Vagoliņš, G.Frīdenbergs, Riga Technical University, Latvia

11:30 - 11:45

OPTIMISATION OF THE HEATING PERIOD ACCORDING TO THE CALORIFIC CHARACTERISTICS OF THE BUILDING

V.Varavs, Training centre manager JSC "RIGAS SILTUMS", Latvia

A. Kreslins, Riga Technical University, Latvia

11:45 - 12:00

STRATEGY FOR DEVELOPMENT OF ENERGY-EFFICIENT VENTILATION SYSTEM

A.Zajacs, J.Zemitis, Riga Technical University, Latvia

12:00 – 13:00 Lunch

13:00 - 13:15

EVALUATION OF EFFECTIVENESS OF PROPORTIONAL PRESSURE CONTROL OF VARIABLE SPEED CENTRIFUGAL PUMPS IN WATER SUPPLY SYSTEMS

D.Pilscikovs, E.Dzelzitis, Riga Technical University, Latvia

13:15 - 13:30

INFLUENCE OF THE RIVER BED STRATIFICATION ON SCOUR DEVELOPMENT AT ENGINEERING STRUCTURES

B.Gunzburgs, E.Govsha, Riga Technical University, Latvia

13:30 - 13:45

LOCAL SCOUR DEVELOPMENT AT ENGINEERING STRUCTURES DURING MULTIPLE FLOODS

G.Jaudzems, B.Gjunsburgs, Riga Technical University, Latvia

13:45 - 14:00

CHARACTERIZATION OF KARST SPRINGS IN A TYPICAL MEDITERRANEAN FLUVIAL LANDSCAPE THROUGH AN INTERDISCIPLINARY INVESTIGATION BASED ON RADON-222 AS AN ENVIRONMENTAL INDICATOR

D.Guadagnuolo, M.Guida, Department of Physics, University of Salerno, Italy

A.Cuomo, D.Guida, V.Siervo Department of Civil Engineering, University of Salerno, Italy

14:00 - 14:15

METHODOLOGY AND RESULTS OF WATER INFILTRATION EVALUATION IN RIVER CATCHMENTS OF DIFFERENT LITHUANIA'S GEOMORPHOLOGICAL REGIONS

A.Litvinaitis, Vilnius Gediminas Technical University, Lithuania

A.Česnulevičius, Lithuanian University of Educational Sciences, Lithuania

14:15 - 14:30

RESEARCH OF NUTRIENTS MIGRATION OF AERATION ZONE OF LATVIA AND LITHUANIA RIVERS BANKS IN SPRING

A.Litvinaitis, Vilnius Gediminas Technical University, Lithuania

L.Bagdžiūnaitė-Litvinaitienė, Vilnius Gediminas Technical University, Lithuania

14:30 - 14:45

ASSESSMENT OF THE LEVEL OF SECURITY OF GAS SUPPLY: EXAMPLE OF THE BALTIC STATES

I.Niedrite, A.Jesinska, Riga Technical University, Latvia

N.Zeltins, Institute of Physical Energetics, Latvia

A.Davis, JSC Latvijas Gaze, Latvia

14:45 - 15:00

PASSIVE HOUSE SOLUTIONS FOR CLIMATIC CONDITIONS OF LATVIA

J.Zemitis, A.Borodincevs, Riga Technical University, Latvia

15:00 - 15:30

**INFLUENCE OF UNCONDITIONED SPACES ON THE ENERGY EFFICIENCY
CALCULATION OF BUILDINGS**

I.Dimdiņa, Riga Technical University

A.Jakovičs, S.Gendelis, J.Džeriņš, Latvian University, Latvia

15:30 – 15:45 Coffee Break

15:45 - 16.00

**INFLUENCE OF A REGIONAL FACTOR ON A FUEL CHOICE FOR CHP PLANTS USING
RES**

T.Odiņeca, Riga Technical University, Latvia

16.00 - 16.15

**HEAT CONSUMPTION ASSESSMENT OF THE DOMESTIC HOT WATER SYSTEMS IN
THE APARTMENT BUILDINGS**

D.Grasmanis, N.Talcis, A.Greķis, Riga Technical University, Latvia

16.15 - 16.30

OPTIMIZATION OF DISTRICT HEATING FACILITIES IN MUNICIPALS

K.Grinbergs, Riga Technical University, Latvia

P.Shipkovs, Institute of Physical Energetics, Latvia

16.30 - 16.45

**DETERMINATION OF MICROORGANISM GROWTH POTENTIAL IN WATER SUPPLY
SYSTEMS BY FLOW CYTOMETRY**

A.Nescerecka, K.Tihomirova, Janis Rubulis, Riga Technical University, Latvia

16.45 - 17.00

TEMPERATURE AND MOISTURE REGIME IN ORTHODOX CHURCHES

J.Nazarova, Riga Technical University, Latvia

DIALOGUE SESSION

Construction Science OS 6

Subsection “Heat, Gas and Water Technology”

Section Chair: Prof. A. Borodincevs, Riga Technical University, Latvia

**1. CENTRAL BALTIC COOPERATION IN ENERGY EFFICIENCY AND FEASIBILITY IN
URBAN PLANING: ENEF**

A.Borodincevs, Riga Technical University, Latvia

**2. NORMATIVE DATA FOR BUILDING ENERGY CONSUMPTION IN LATVIA,
ESTONIA, SWEDEN AND FINLAND**

J.Zemitis, Riga Technical University, Latvia

**3. RESULTS OF ENEF SURVEY ON ENERGY EFFICIENCY UNDERSTANDING IN
DIFFERENT SECTORS**

J.Psenicnaja, Riga Technical University, Latvia

4. BEST PRACTICES ANALYSIS OF RENOVATED BUILDING CASES AND URBAN PLANNING OF ENEF PROJECT PARTNER COUNTRIES

J.Zemitis, B.Gaujena. Riga Technical University, Latvia

5. OUTDOOR CLIMATE DATA FOR BUILDING ENERGY CALCULATION

G.Stankevica, A.Kreslins, Riga Technical University, Latvia

Thursday, 11 October

Section “Construction Science” OS 6

Subsection “Geomatics”

Sessions 13:00 – 18:20

Scientific Committee:

J.Strauhmanis	Prof.	Riga Technical University	Latvia
J.Balodis	Prof.	University of Latvia	Latvia
H.Saler	Prof.	Hochschule Karlsruhe HSKA	Germany
M.Dobelis	Prof.	Riga Technical University	Latvia
Section Chair:	Dr.hab.hist. Dr.sc.ing.	J.Strauhmanis, Riga Technical University, J.Kaminskis, Riga Technical University,	Latvia Latvia

SESSION 1

13:00 – 15:30

13:00 - 13:20

DEVELOPMENT OF GEODESY EDUCATION AND SCIENCE IN 150 YEARS OF RIGA TECHNICAL UNIVERSITY

Janis Kletnieks, Janis Strauhmanis, Riga Technical University, Latvia

13:20 - 13:40

GEOMATICS EDUCATION IN KARLSRUHE

Heinz Saler, Christine Radestock, Hochschule Karlsruhe (HSKA) -University of Applied Sciences, Germany

13:40 - 14:00

GNSS SCINTILLATION: DETECTION, FORECASTING AND MITIGATION

Craig Hancock, Marcio Aquino, Sreeja Veetil, Alan Dodson, University of Nottingham, United Kingdom

14:00 - 14:15

PROSPECTS OF UPDATING LAND COVER SPATIAL DATA AT SMALLER SCALE IN LITHUANIA

Lina Papsiene, Vilnius Gediminas Technical University, Lithuania

14:15 - 14:35

IMPROVEMENTS AND NEW DEVELOPMENTS OF WEATHERFORD ROTARY STEERABLE SYSTEMS

Carsten Simms, Kristaps Rumnieks, Weatherford Energy Services GmbH, Langenhagen, Germany

14:35- 14:55

DIRECTIONAL SURVEYING AND MWD

Kristaps Rumnieks, Weatherford Energy Services GmbH, Langenhagen, Germany

14:55 - 15:10

USE OF VARIOUS METHODS FOR LEVELING ACROSS WATER BODIES

Armands Celms, Andrejs Brants, Edgars Kauranens, Latvia University of Agriculture, Atis Vallis, SIA GeoStar, Latvia

15:10 - 15:30

WHAT HEIGHT SYSTEM IS USED IN LATVIA?

Janis Balodis, University of Latvia, Diana Haritonova, Riga Technical University, Ieva Lasmane, University of Latvia, Inese Janpaule, Riga Technical University/University of Latvia, Madara Normand, Riga Technical University/University of Latvia, Gunars Silabriedis, Riga Technical University

15:30 – 16:00 Coffee Break

SESSION 2

16:00 – 18:20

16:00 - 16:20

ASSESSMENT OF “RADON-PRONE AREAS” WITH AN INTERDISCIPLINARY HIERARCHICAL MULTI-SCALAR APPROACH INTEGRATED IN A GIS-BASED MANAGEMENT PROCEDURE

A. Cuomo, D.Guadagnuolo, D.Guida, M.Guida, V.Siervo, University of Salerno, Italy

16:20 - 16:35

COASTLINE CHANGE DETECTION USING REMOTE SENSING

Inese Jaunzeme, Engineering Research Institute “Ventspils International Radio Astronomy Centre” of Ventspils University College, Latvia, Linda Gulbe, Latvia

16:35 - 16:50

ON THE VERTICAL DEFLECTION MEASUREMENTS FOR IMPROVEMENT OF LATVIAN GEOID MODEL

Inese Janpaule, Riga Technical University/University of Latvia, Ansis Zarins, University of Latvia

16:50 - 17:05

RESULTS OF THE LATPOS COORDINATE ESTIMATION

Didzis Dobelis, Riga Technical University, Janis Zvirgzds, Latvian Geospatial Information Agency

17:05 - 17:20

COMBINATION OF KTH GEOID SOLUTION WITH GPS-LEVELLING DATA

Inese Janpaule, University of Latvia, Katerina Morozova, Latvia

17:20 - 17:35

OBTAINING AERONAUTICAL DATA IN GLOBAL HEIGHT SYSTEM- EXAMPLE OF LATVIA

Ivars Aleksejenko, Riga Technical University, Latvia

17:35 - 17:50

GRISI + PROJECT WITHIN GEOMATICS

Janis Kaminskis, Riga Technical University, Latvia

17:50 - 18:05

GNSS STATION KINEMATIC COORDINATE ANALYSIS”

Diana Haritonova, Riga Technical University, Latvia

18:05 - 18:20

THE PROBLEM OF THE QUALITY OF CARTOGRAPHIC WORKS

Janis Strauhmanis, Riga Technical University, Latvia

CONFERENCE SCIENTIFIC PROGRAMME

Friday, 12 October

Section

National Economy and Entrepreneurship OS 7

Section Chair: Prof. E.Gaile-Sarkane, Riga Technical University, Latvia

Subsection “Scientific Problems of Technogenic Environment Safety”

Scientific Committee:

J. Ieviņš	Prof.	Riga Technical University	Latvia
V. Urbane	Prof.	Riga Technical University	Latvia
V. Jemeljanovs	Prof.	Riga Technical University	Latvia
J. Sulojeva	Asist. Prof.	Riga Technical University	Latvia

10:00 – 10:10

OPENING

J. Ieviņš, RTU, Latvia

10:10 – 10:30

**SIMULATION OF TWO-PHASE FLOW IN THE DIFFUSER WITH FOAM SPRINKLERS
PRE-AERATION EXTINGUISHING AGENT**

I. Kachanau, Belarusian National Technical University, Belarus

S. Pauliukou, Institute for Command-Engineers of the Ministry of Emergencies of Belarus, Belarus

10:30 – 10:50

FIRE RESISTANCE EVALUATION OF REINFORCED CONCRETE STRUCTURES

V. Kudryashov, N. T. Kien, L. Aliaksandr, Institute for Command Engineers of the Ministry of Emergencies of Belarus, Belarus

10:50 – 11:10

**DYNAMIC LIGHTING SYSTEM FOR WORKPLACES
AT NORTHERN LATITUDES**

T. Koppel, Tallinn University of Technology, Estonia

11:10 – 11:25 Coffee Break

11:25 – 11:45

THE ANALOG WORKPLACE METHOD

J. Ieviņš, J. Siliņš, Riga Technical University, Latvia

11:45 – 12:05

**MULTI-STEP EVOLUTION OF RADIATION DUST UNDER GRAVITATION IN THE
PROBLEMS OF POLLUTION PREDICTION**

K. Nemchenko, Karazin Kharkov National University, Ukraine

12:25 – 12:45

ASSESSMENT OF WORK ENVIRONMENT HAZARDS DURING SHALE OIL HANDLING

A. Traumann, P. Tint, K. Reinhold, O. Järvik, V. Oja, Tallinn University of Technology, Estonia

12:45 – 13:45 Lunch

13:45 – 14:05

**TREND OF AIR POLLUTION DURING ELECTRIC ARC WELDING AND
OXYACETYLENE CUTTING**

L. Vladimirov, University of Ruse, Bulgaria

14:05 – 14:25

DIAGNOSTIC OF TRANSBOUNDARY ENVIRONMENTAL SECURITY

L. Vladimirov, University of Ruse, Bulgaria

14:25 – 14:45

**ECONOMIC SYSTEM OF EVALUATING EFFECTIVENESS OF FIRE
PROTECTION TAKING INTO CONSIDERATION USE OF MOBILE ROBOTS**

R. Zinko, Lviv Polytechnic National University Institute of Engineering Mechanics and Transport,
Ukraine

J. Sulojeva, Riga Technical University, Latvia

B. Heimmanis, Baltic International Academy, Latvia

14:45 – 15:00 Coffee Break

15:00 – 15:20

ANALYSIS OF THE INERTIAL PARAMETERS OF FIRE DETECTORS

V. Jemeljanovs, J. Sulojeva, J. Bartušauskis, Riga Technical University, Latvia

A. Golubevs, State fire and rescue service of Latvia, Latvia

Thursday, 11 October

Section

National Economy and Entrepreneurship OS 7

Section Chair: Prof. E. Gaile-Sarkane, Riga Technical University, Latvia

Subsection “International Business, Logistics, Customs and Taxes”

Sub-Section Chair: Prof. K. Ketners, Riga Technical University, Latvia

Scientific Committee:

K. Ketners	Prof.	Riga Technical University	Latvia
A. V. Krastiņš	Prof.	Riga Technical University	Latvia
R. Počs	Prof.	Riga Technical University	Latvia

12:20 - 12:40

**EFFICIENCY OF CORPORATE INCOME TAX RELIEFS FOR THE INVESTMENT
PROMOTION IN LATVIA**

I. Šņucins, University of Latvia, Ministry of Finance, Latvia

12:40 - 13:00

THE PECULIARITIES OF FOREIGN DIRECT INVESTMENT INTENSIFICATION POLICY

A. Šimelytė, Vilnius Gediminas Technical University, Lithuania

13:00 – 14:00 Lunch

14:00 - 14:20

**MODELING PERSPECTIVES, STATUS AND DEVELOPMENT OF INTERNATIONAL
LENDING IN UKRAINE**

L. Berezhna, Cherkassy State Technological University, Ukraine

14:20 - 14:40

EU ENLARGEMENT ANALYSIS WITH SYSTEM DYNAMIC METHOD

V. Skribans, Riga Technical University, Latvia

14:40 - 15:10

INBOUND TOURISM AND SECTORAL DEVELOPMENT IN LATVIA

V. Ozoliņa, A. Auziņa-Emsiņa, Riga Technical University, Latvia

15:10 - 15:30

KNOWLEDGE AND CULTURE IN TOURISM ORGANIZATION MANAGEMENT

Ē. Lingeberziņš, Turība University, Latvia

15:30 – 15:45 Coffee Break

15:45 - 16:05

JUST IN TIME AND SEQUENCE LOGISTICS CHALLENGES FOR THE AUTOMOTIVE ENTERPRISES IN THE EASTERN EUROPE COUNTRIES

P.Patļins, D.Solovjovs, Riga Technical University, Latvia

16:05 - 16:20

TRANSIT CHAIN ANALYSIS

E. Kreipane, G. Gromovs, Transport and Telecommunication Institute, Latvia

J. Kushkins, Riga Technical University, Latvia

16:20 - 16:40

UNIFICATION OF PUBLIC-USE RAILWAY INFRASTRUCTURE CHARGING

J. Hudenko, V.Andrejeva, Riga Technical University, Latvia

16:40 - 17:00

LATVIAN COMPANIES' ENTRY MODEL IN THE MARKET OF FRANCE

K. Ritovs, Kontaktu Vēstniecība Ltd., Latvia

17:00 - 17:15

THE ROLE OF EXPORT CREDIT GUARANTEES IN THE IMPROVEMENT OF BUSINESS ENVIRONMENT IN THE EUROPEAN UNION

E. Andersone, O.Bogdanova, Riga Technical University, Latvia

17:15 - 17:30

APPLICATION OF IMMOVABLE PROPERTY TAX IN THE EUROPEAN UNION MEMBER STATES

S. Štucere, G. Mazūre, Latvia University of Agriculture, Latvia

17:30 - 17:45

APPLICATION OF THE RISK-BASED APPROACH TO AUDIT AND INTERNAL CONTROL SYSTEM

E. Ļimane, I. Voronova, Riga Technical University, Latvia

17:45 - 18:00

APPLICATION EXPORT, INDUSTRIAL PRODUCTIVITY AND INTERNATIONAL COMPETITIVENESS: THE CASE OF LATVIA

A.Auziņa-Emsiņa, V. Ozoliņa, Riga Technical University, Latvia

Thursday, 11 October

Section

National Economy and Entrepreneurship OS 7

Section Chair: Prof. E.Gaile-Sarkane, Riga Technical University, Latvia

Subsection "National and Regional Economics"

Scientific Committee:

J.Saulitis	Prof.	Riga Technical University	Latvia
M.Senfelde	Prof.	Riga Technical University	Latvia
L.Adamsone	Assoc.Prof.	Riga Technical University	Latvia
N.Volgina	Prof.	Peoples' Friendship University of Russia	Russia

12:00 - 12:20

GOVERNANCE AND SOCIOECONOMIC PERFORMANCE

A. Vitola, M. Senfelde, Riga Technical University, Latvia

12:20 - 12:40

PERSPECTIVES OF RURAL DEVELOPMENT IN LATVIA

Z. Hermansons, Ministry of Environmental Protection and Regional Development, Latvia, A. Vītola, Riga Technical University, Latvia

12:40 - 13:00

THE INTERACTION OF PUBLIC DEPT AND MACROECONOMIC FACTORS: CASE OF THE BALTIC COUNTRIES

J. Stankeviciene, A. Lakstutiene, Kaunas University of Technology, Lithuania

13:00 – 14:00 Lunch

14:00 - 14:20

APPLICATION OF METHODS TO ASSESS PUBLIC FINANCE SUSTAINABILITY IN LATVIA

K. Jakovleva, J. Kekla, Ministry of Finance of the Republic of Latvia

14:20 - 14:40

EFFECTIVE MANAGEMENT OF RESIDENTIAL REAL ESTATE IN EUROPEAN COUNTRIES AND RUSSIA

S.Kirsanov St. Petersburg State University of Engineering and Economics, Russia

14:40 - 15:00

RESEARCH OF FACTORIAL ANALYSIS EVALUATION IN CURRENT ASSETS COSTS

L. Giriunas, R. Valkauskas, Vilnius University, Lithuania

15:00 - 15:20

INNOVATION BEHAVIOUR SUPPORT OF CZECH FIRMS

H. Scholleova, C. Kotulič, University of Economics, Prague, Czech Republic

15:30 – 15:45 Coffee Break

15:45 - 16:05

**GDP AND LENDING BEHAVIOR:
EMPIRICAL EVIDENCE FOR LATVIA**

Ģ. Brasliņš, A. Orlovs, I. Braukša, Latvian University, Latvia

16:05 - 16:25

POLICY IMPACT ON THE DEVELOPMENT OF THE ENTREPRENEURSHIP IN LATVIA

E. Sipola, Riga Aeronautical Institute, Latvia

16:25 - 16:45

**TRAILS – CCBM: CROSS CULTURAL BUSINESS AND VIRTUAL TEAM
COMMUNICATION TRAINING PLATFORM**

M. Koplín, H.Eirund, S.Müller, M.Fetting, M2C Institute of Applied Media Technology and Culture
Bremen, J.Berninghausen, J. Schiffmann, Centre for Intercultural Management of the University of
Applied Sciences Bremen, Germany

16:45 - 17:05

INSURANCE LIABILITIES EVALUATION IN SMALL ECONOMY ENVIRONMENT

A. Linartas, Mykolas Romeris University, Lithuania

17:05 - 17:25

FUNDED PILLARS IN PENSION SYSTEMS OF ESTONIA, LATVIA AND LITHUANIA

O. Rajevska, University of Latvia, Latvia

17:25 - 17:45

CORPORATE GOVERNANCE REFORM IN LITHUANIA

A. Aleliunaite, UAB Linkage Baltic, Klaipeda, Lithuania

17:45 - 18.05

**STRUCTURE OF THE NATIONAL DEPT, CREDIT RATING AND STATE FINANCIAL
SECURITY**

N. Semjonova, Riga Technical University, Latvia

Friday, 12 October

9:00 - 9:20

**TERRITORY DEVELOPMENT INDEX – OVERRATED FOR SOME TERRITORIES,
UNDERVALUED – FOR OTHER?**

I. Braukša, University of Latvia, Latvia

9:20 - 9:40

**ASSESSMENT OF HUMAN RESOURCES MANAGEMENT POLICY ISSUES IN PUBLIC
ADMINISTRATION OF LATVIA**

I. Baltina, M.Senfelde, Riga Technical University, Latvia

9:40 - 10:00

**MODELS OF EFFICIENT INVESTMENT MANAGEMENT IN LATVIAN AQUACULTURE
SECTOR**

I. Biukšāne, Latvian State Institute of Agrarian Economics, Latvia

10:00 - 10:20

**RECONSIDERING LABOUR FORCE TRAINING TO ENHANCE INNOVATION FOR
ECONOMIC DEVELOPMENT**

I. Buligina, B. Sloka, University of Latvia, Latvia

10:20 - 10:40

**APPLICATION OF DETERMINATE FACTOR ANALYSIS IN MUNICIPAL
PERFORMANCE INDICATORS ANALYSIS**

S. Ivanova, Riga Technical University, Latvia

10:40 - 11:00

IMPORTANCE OF ATTITUDE AND MOTIVATION FOR KNOWLEDGE TRANSFER

A. Vahere-Abrazune, School of Business and Finance, Ministry of Education and Science of the Republic of Latvia

11:00 - 11:20

PRICING MECHANISM IN THE CHANGEABLE MODERN LATVIAN BUSINESS ENVIRONMENT

I. Bruksle, School of Business Administration Turiba, N. Gode, TSI, Latvia

11:20 - 11:40

EVALUATING THE SIGNIFICANCE OF STRUCTURAL CHANGES WITHIN NATIONAL ECONOMY FOR ECONOMIC GROWTH OF LATVIA USING THE ECONOMETRIC MODEL

A. Mihnenoka, J. Saulitis, Riga Technical University, Latvia

11:40 - 12:00

EUROPEAN MONETARY UNION AND ITS COMPLIANCE WITH THE OPTIMUM CURRENCY AREA CRITERIA

O. Kiselova, I. Dovladbekova, Riga Technical University, Latvia

12:00 – 12:15 Coffee Break

12:15 - 12:35

INTERACTION OF MAIN STAKEHOLDERS IN AN INNOVATION PROCESS

J. Leontjevs, L. Adamsons, Riga Technical University, Latvia

12:35 - 13:00

ASYMMETRIC DEVELOPMENT UNDER EUROPEAN INTEGRATION: SOCIAL ASPECT

A. Fedotovs, Riga International School of Economics and Business Administration, Latvia

13:00 - 13:20

LEVEL OF COMPETITIVENESS OF DEPRESSIVE REGIONS IN BULGARIA

I. Ivanov, University of Forestry, Sofia, Bulgaria

13:20 - 13:40

INNOVATION IN LATVIAN ECONOMY

A. Abeltina, School of Business Administration Turiba, Latvia

13:40 - 14:00

PROBLEMS AND DEVELOPMENT PROSPECTS OF EDUCATIONAL SYSTEM IN LATVIA

L. Kamola, V. Nespors, Riga Technical University, Latvia

14:00 - 14:20

URBAN DEVELOPMENT TRENDS IN LATVIA

U. Kamols, Riga Technical University, Latvia

14:20 - 14:40

RUSSIAN CAPITAL IN LATVIA: TRENDS AND PERSPECTIVES

N. Volgina, Peoples' Friendship University of Russia, Russian Federation, M. Senfelde, Riga Technical University, Latvia

14:40-15:05 FACTORS OF THE BUSINESS – PROCESS RE-ENGINEERING IN THE KNOWLEDGE – DRIVEN ECONOMY

A. Blinov, O. Rudakova, Financial University under the Government of the Russian Federation, Russia

15:05-15:30 EMPLOYEE OWNERSHIP MODEL FOR LATVIA

A. Berke - Berga, Riga Technical University, Latvia

15:30 – 15:45 Coffee Break

15:45-16:05 SMART WORK CENTER – POSSIBILITY TO INCREASE ECONOMICAL DEVELOPMENT IN BALVI MUNICIPALITY

I. Judrupa, Riga Technical University, Latvia

16:05 – 16:25 CIVILIZATION DETERMINANTS OF COMPETITIVENESS OF NATIONAL ECONOMY

O. Chernega, U. Bocharova, Donetsk National University of Economics and Trade named after Mykhailo Tugan-Baranovsky, Ukraine

16:25 – 16:45 PARTICIPATION OF UKRAINE IN THE DECISION OF WORLD FOOD SAFETY PROBLEMS

A. Malovychko, Donetsk National University of Economics and Trade named after Mykhailo Tugan-Baranovsky, M. Gokhberg, Comprehensive specialized sanatorium boarding schools "Erudite" for gifted children, Ukraine

16:45 – 17:05 REGIONAL INTEGRATIVE AGREEMENTS EFFECTS

L. Samosonok, Donetsk National University of Economy and Trade named after Mykhailo Tugan-Baranovskyy, Ukraine

Thursday, 11 October

Section

National Economy and Entrepreneurship OS 7

Section Chair: Prof. Elīna Gaile-Sarkane, Riga Technical University, Latvia

Subsection “Production Economics, Finance and Marketing”

Sub-Section Chair: Prof. N. Lāce, Riga Technical University, Latvia

Scientific Committee:

N. Lāce	Dr.oec.	Riga Technical University	Latvia
K. Didenko	Dr.oec.	Riga Technical University	Latvia
A. Magidenko	Dr.habil. oec.	Riga Technical University	Latvia
G. Ciemleja	Dr.oec.	Riga Technical University	Latvia
K. Kozlovskis	Dr.oec.	Riga Technical University	Latvia
T. Põlajeva	Dr.oec.	Tallinn University of Technology	Estonia
P. Nemeček	Dr.habil.oec.	Tomas Bata University in Zlin	Czech Republic
A. Kocmanova	Dr.oec.	Brno University of Technology	Czech Republic
I. Šimberova	Dr.oec.	Brno University of Technology	Czech Republic
D. Pollard	Dr.oec.	Leeds Metropolitan University	UK
A. Temichev	Dr.oec.	Belarusian National Technical University	Republic of Belarus

12:15 - 12:20

OPENING

N. Lāce, RTU, Latvia

12:20 - 12:40

EMIGRATIONS: MAJOR CAUSES AND FUTURE TRENDS, CASE OF ESTONIA

T. Põlajeva, Tallinn University of Technology, Estonia

12:40 - 13:00

CORPORATE GOVERNANCE IN THE CZECH REPUBLIC: SELECTED RESEARCH RESULTS

I. Simberova, A. Kocmanova, Brno University of Technology, Czech Republic

P. Nemecek, Tomas Bata University in Zlin, Czech Republic

13:00 – 14:00 Lunch

14:00 - 14:15

INTERNET MARKETING TOOLS FOR HIGHER EDUCATION INSTITUTION

A. Pabedinskaite, Mykolas Romeris University, Lithuania

14:15 – 14:30

DIFFERENTIAL EQUATIONS WITH DELAY IN DYNAMICAL MODEL OF A FINANCIAL SYSTEM

V. Novotná, J. Kříž, Brno University of Technology, Czech Republic

14:30 – 14:45

E-COMMERCE DEVELOPMENT IN LITHUANIA

A. Pabedinskaite, Mykolas Romeris University, Lithuania

14:45 – 15:00

ORGANIZATION CHANGES AND CONSUMER EXPERIENCE 2.0: E-TOURISM TENDENCIES

V. V. Fernández-Bendito, Complutense University of Madrid, Spain,

A. Mihi-Ramírez, University of Granada, Spain,

V. Kumpikaite, Kaunas University of Technology, Lithuania

15:00 – 15:15

THE INTEGRATED MODEL OF MIGRATION THEORIES

V. Kumpikaite, I. Zickute, Kaunas University of Technology, Lithuania

15:15 – 15:30

MAPLE AS EFFECTIVE MEANS OF PRODUCTION MODELING AND ANALYSIS IN ENTREPRENEURSHIP

Z. Chvatalova, Brno University of Technology, Czech Republic

15:30 – 15:45 Coffee Break

15:45 - 15:55

PREREQUISITES FOR THE FORMATION OF BUSINESS GROUPS IN LITHUANIA

J. Mačerinskas, M. Morkūnas, Mykolas Romeris University, Lithuania

15:55 - 16:05

THE CONCEPT OF CREATIVITY AND INNOVATIVENESS ASSESSMENT IN BUSINESS ORGANIZATION

I. Mačerinskienė, A. Bulygina, Mykolas Romeris University, Lithuania

16:05 - 16:15

**CHALLENGES AND RESULTS IN ABSORPTION OF EU FUNDS IN BULGARIA
(FINANCIAL FRAMEWORK 2007-2013)**

K. Anguelov, Technical University of Sofia, Bulgaria

16:15 - 16:25

**OPPORTUNITIES FOR IMPROVING THE EFFECTIVENESS OF EU FUNDS IN
BULGARIA IN THE NEXT FINANCIAL FRAMEWORK (2014-2020)**

K. Anguelov, Technical University of Sofia, Bulgaria

16:25 - 16:35

**INTELLIGENCE AS MAIN WAY TO ENSURE UNIVERSAL SUSTAINABILITY OF
COUNTRY'S DEVELOPMENT**

A.V. Rutkauskas, V. Stasytyte, Vilnius Gediminas Technical University, Lithuania

16:35 - 16:45

**FINANCIAL RISK MANAGEMENT IN THE EXECUTION OF CORPORATE INNOVATION
PROJECTS**

J. Angelova, Technical University of Sofia, Bulgaria

16:45 - 16:55

MANAGEMENT CONTROL AS A TOOL OF EFFECTIVENESS IMPROVEMENT

M. Daskalova, Technical University of Sofia, Bulgaria

16:55 - 17:05

**TRENDS IN DETERMINING MACHINE LIFE-EXPECTANCY IN RELATION TO THE
INNOVATION OBSOLESCENCE AND PHYSICAL DETERIORATION**

S. Demirova, Technical University of Varna, Bulgaria

17:05 - 17:15

**RESEARCH OF THE EFFECT OF THE ARBITRATION COURT OF THE HEALTH
SYSTEM AND HEALTH INSURANCE OF ST. PETERSBURG FOR THE ORGANIZATION
OF MEDICAL CARE IN THE CITY**

O. Nosyreva, T. Rtishcheva, Saint-Petersburg State University of Engineering and Economics, Russia

17:15 - 17:25

PROFESSIONAL SOCIAL RESPONSIBILITY OF THE LANDSCAPE ARCHITECT

E. Dragozova-Ivanova, University of forestry, Bulgaria

17:25 - 17:35

**IMPROVING REGIONAL COOPERATION ORGANIZATIONS INVOLVED IN
PROVIDING ORTHOPEDIC CARE TO PUBLIC**

I. Poygina, Saint-Petersburg State University of Engineering and Economics, Russia

17:35 - 17:45

**EXPERIENCE OF TRAINING SPECIALISTS IN BUSINESS ADMINISTRATION AT
BELARUSIAN NATIONAL TECHNICAL UNIVERSITY**

A. Temichev, Belarusian National Technical University, Belarus

17:45 - 17:55

DEVELOPING COMPETENCES OF MANAGERS TO DIRECT INTELLECTUAL CAPITAL

A. Sarokina, Belarusian National Technical University, Belarus

17:55 - 18:05

**DEVELOPING A RANGING SYSTEM OF SCIENTIFIC RESEARCHES FOR IMPROVING
A QUALITY ESTIMATION OF THEIR PRODUCTIVITY**

I. Barysevich, Belarusian National Technical University, Belarus

Friday, 12 October (I)

09:00 - 09:10

HOW TO MANAGE CUSTOMERS

R. Nakova, Technical University of Sofia, Bulgaria

09:10 - 09:20

**ASSESSMENT OF COMPULSORY HEALTH INSURANCE FUND WITHIN THE CONTEXT
OF ENTREPRENEURSHIP**

G. Giriuniene, Kaunas University of Technology, Lithuania

09:20 - 09:30

BUSINESS DEVELOPMENT PROJECT PLANNING: BUSINESS MODEL ANALYSIS

Y. Vykhodets, I. Chumachenko, National Aerospace University "Kharkov Aviation Institute", Ukraine

V. Kosenko, State enterprise „Kharkiv scientific-research institute of machine manufacturing
technology”, Ukraine

09:30 - 09:40

**IMPACT OF INFORMATION RESOURCES ON THE DEVELOPMENT OF NATIONAL
PRODUCTION**

G. Voloshchuk, Cherkasy State Technological University, Ukraine

09:40 - 09:50

INFORMATION TECHNOLOGY AND MANAGING ORGANIZATIONAL CHANGE

I. Stoyanov, D. A. Tsenov Academy of Economics, Bulgaria

09:50 - 10:00

ACTUAL PROBLEMS OF SME DEVELOPMENT IN UKRAINE

I. Mazur, Taras Shevchenko National University of Kyiv, Ukraine

10:10 - 10:20

**IMPORTANCE OF MIDDLE CLASS FOR ENTREPRENEURSHIP DEVELOPMENT IN
UKRAINE**

V. Gura, Taras Shevchenko National University of Kyiv, Ukraine

10:20 - 10:30

**PARTICULARITIES OF FORMING OF STRATEGIES OF SUSTAINABLE
DEVELOPMENT IN SOME COUNTRIES**

L. Gordienko, Cherkasy State Technological University, Ukraine

10:30 - 10:40

MARKETING MANAGEMENT

G. Peresadko, Kyiv National University of Trade and Economics, Ukraine

10:40 - 10:50

**THEORETICAL AND PRACTICAL ASPECTS OF BUSINESS PROCESS MANAGEMENT
IN LATVIA**

J. Jakubāne, Riga Technical University, Latvia

10:50 - 11:00

**THE METHODOLOGY OF STATISTICAL MODELLING USING FOR DECISION MAKING
IN ROAD SAFETY**

V. Jansons, V. Jurenoks, Riga Technical University, Latvia

11:00 - 11:15 Coffee Break

11:15 - 11:25

**EFFICIENCY ASSESSMENT OF WEBSITES DESIGNED FOR SMALL AND MEDIUM-
SIZED ENTERPRISES**

L. Budņiks, K. Didenko, Riga Technical University, Latvia

11:25 - 11:35

**DIRECTIONS FOR IMPROVED EFFECTIVENESS AND EFFICIENCY OF SUPPORT FOR
GREEN ENERGY GENERATION IN LATVIA**

A. Denina, J. Zvanītājs, Riga Technical University, Latvia

11:35 - 11:45

ESSENTIAL FACTORS INFLUENCING DWELLING SPACE MARKET PRICE IN LATVIA

D. Ādmīdiņš, J. Zvanītājs, Riga Technical University, Latvia

11:45 - 11:55

RISKS ASSESSMENT WITHIN SMALL AND MEDIUM-SIZED ENTERPRISES IN LATVIA

I. Jansone, I. Voronova, Riga Technical University, Latvia

11:55 - 12:05

**STAKEHOLDERS AND HUMAN RESOURCE MANAGEMENT: SOCIALLY
RESPONSIBLE STRATEGY**

O. Stariņeca, I. Lapiņa, G. Maurāne, Riga Technical University, Latvia

12:05 - 12:15

PERSONNEL TURNOVER AS INDICATOR OF HUMAN RESOURCE MANAGEMENT

I. Ozolina-Ozola, Riga Technical University, Latvia

12:15 - 12:25

SIGNIFICANCE OF THE PROMOTION OF INNOVATION ECONOMICS

J. E. Niedritis, Business University Turība, Latvia

V. Niedrite, University of Latvia, Latvia

12:25 - 12:35

**THE IMPORTANCE OF INTANGIBLE ASSETS ON VALUE OF LATVIAN PRIVATE
HEALTH CARE COMPANY**

S. Babauska, BA School of Business and Finance, SBS Swiss Business School, Latvia

12:35 - 12:45

DIRECTION OF INNOVATION MARKETING DEVELOPMENT IN LATVIA

I. Spica, University of Information Systems Management, Latvia

12:45 - 12:55

THE TEACHABILITY QUEST OF ENTREPRENEURSHIP RESEARCH

I. Kozlinska, BA School of Business & Finance, University of Tartu, Latvia

13:00 – 14:00 Lunch

14:00 - 14:10

KNOWLEDGE MANAGEMENT IN MICRO, SMALL AND MEDIUM ENTERPRISES

I. Krūmiņa, University of Latvia, Latvia

14:10 - 14:20

THE ROLE AND PLACE FOR COACHING AMONG OTHER TARGETED INTERVENTIONS

A. Roshā, Information Systems Management Institute, Latvia

14:20 - 14:30

THE ROLE OF SOCIAL NETWORKS FOR BUSINESS DEVELOPMENT

J. Lācis, K. Kozlovskis, Riga Technical University, Latvia

14:30 - 14:40

CLIENTS' LOYALTY AND E-ENVIRONMENT

D. Ščeulovs, E. Gaile-Sarkane, Riga Technical University, Latvia

14:40 - 14:50

INFORMATION INTERPRETATION POSSIBILITIES IN MUNICIPAL SOLID WASTE MANAGEMENT

M. Strādere, K. K. Didenko, Riga Technical University, Latvia

14:50 - 15:00

THE MODEL OF DEVELOPMENT FOR TELECOMMUNICATION COMPANIES IN LATVIA

L. Vasilyeva, L. Saulgrieze, Riga Technical University, Latvia

15:00 - 15:10

QUALITY AS AN ELEMENT OF MARKETING MIX

R. Greitāne, Riga Technical University, Latvia

15:10 - 15:20

COMPETITION FACTOR FOR MANUFACTURING COMPANIES

V. Šatrevičs, Riga Technical University, Latvia

15:20 - 15:30

THE ROLE OF INDICATORS IN THE WAY TO SUSTAINABLE DEVELOPMENT

D. Atstāja, BA School of Business and Finance, Latvia

15:30 – 15:45 Coffee Break

15:45 - 15:55

DECISION- MAKING PROCESS IN SMALL COMPANIES

J. Rozenbergs, E. Gaile-Sarkane, Riga Technical University, Latvia

15:55 - 16:05

METHODS OF ESTIMATING THE NOMINAL AND EFFECTIVE TARIFF PROTECTION IN INTERNATIONAL TRADE

Dzmitry Shauchenka, Educational Institution of the Federation of Trade Unions of Belarus "International University "MITSO", Belarus

16:05 - 16:15

THREATS TO NATIONAL AND GLOBAL ENERGY SECURITY

Natalya Kamozkaya, Educational Institution of the Federation of Trade Unions of Belarus
"International University "MITSO", Belarus

16:15 - 16:25

ALTERNATIVE SUPPLY OPTIONS OF NATURAL GAS IN LATVIA AND RELATED RISKS

V. Didenko, A. Magidenko, Riga Technical University, Latvia

16:25 - 16:35

INTERNATIONAL COMPETITIVENESS AND INNOVATION DEVELOPMENT IN LATVIA IN RECENT YEARS

A. Breiksa, Riga Technical University, Latvia

Friday, 12 October (II)

09:00 - 09:15

CORRUPTION AND EUROPEAN FUNDS IN THE CZECH REPUBLIC

D. Čamska, University of Economics, Prague, Czech Republic

09:15 - 09:30

PARTICULAR CHARACTERISTICS OF FINANCIAL DISBALANCES IN EU COUNTRIES

Y. Pasichnyk, Cherkassy State Technological University, Ukraine

09:30 - 09:45

FINANCIAL LEASING

S. Lukash, Sumy branch of National Joint-Stock Company "Ukragroleasing", Ukraine

09:45 - 10:00

FINANCIAL ASSISTANCE INSTRUMENTS TO LATVIA IN THE SECONDARY MATERIALS MANAGEMENT SECTOR

N. Kulakova, BA School of Business and Finance, Latvia

K. Kruzs, University of Latvia, Latvia

10:00 - 10:15

COMPANY'S FINANCIAL STRATEGY DEVELOPMENT

B. Mavlutov, Baltic International Academy, Latvia

I. Mavlutova, BA School of Business and Finance, Latvia

10:15 - 10:30

INSURANCE AS A FINANCIAL INSTRUMENT OF PRIVATE WELL-BEING LATVIA

S. Titova, B. Pūle, A. Graudiņa, BA School of Business and Finance, Latvia

10:30 - 10:45

EQUILIBRIUM REAL EXCHANGE RATE OF THE LATVIAN LAT: COMPARISON OF ALTERNATIVE APPROACHES

R. Freimane, University of Latvia, Latvia

10:45 - 11:00

DIVIDEND PAYMENT BEHAVIOUR IN CEE COUNTRIES

J. Bistrova, N. Lace, Riga Technical University, Latvia

11:00 - 11:15 Coffee Break

11:15 - 11:30

RISK MANAGEMENT IMPROVEMENT UNDER SOLVENCY II FRAMEWORK

D. Kaļiņina, I. Voronova, Riga Technical University, Latvia

11:30 - 11:45

SHORT-TERM STOCK PORTFOLIO SECURITIES SELECTION METHODOLOGY

L. Freināts, I. Voronova, Riga Technical University, Latvia

11:45 - 12:00

INSURANCE OF BUSINESS VIABILITY THROUGH EQUITY SUFFICIENCY

N. Koleda, N. Lace, Riga Technical University, Latvia

12:00 - 12:45

THE AUDIT OF GOING CONCERN ASSUMPTION AND RISK ASSESSMENT

J. Mežiels, I. Voronova, Riga Technical University, Latvia

12:45 - 13:00

MEASURING BANK VALUE BASED ON KEY PERFORMANCE INDICATORS

J. Titko, N. Lace, Riga Technical University, Latvia

13:00 – 14:00 Lunch

14:00 - 14:15

FINANCIAL STABILITY OF INSURANCE COMPANIES: ASSESSMENT AND PROVISION

J. Ziemele, I. Voronova, Riga Technical University, Latvia

14:15 - 14:30

MODEL FOR SELECTING THE OPTIMAL FIRE INSURANCE SYSTEM

J. Pushkina, K. Didenko, Riga Technical University, Latvia

14:30 - 14:45

FINANCIAL LITERACY: CASE FROM LATVIA

G. Ciemleja, N. Lace, Riga Technical University, Latvia

14:45 - 15:00

CHANGES IN BUSINESS MODEL OF BANKS IN CEE COUNTRIES

J. Erina, N. Lace, Riga Technical University, Latvia

15:00 - 15:15

ANALYSIS OF THE FINANCIAL RESOURCES OF REGIONS OF LATVIA

E. Gross, University of Latvia, Latvia,

I. Ratanova, Baltic International Academy, Latvia

15:15 - 15:30

**BELARUSIAN EXPERIENCE OF LEGISLATIVE REGULATION OF FIXED ASSETS
ACCOUNTING IN HYPERINFLATIONARY ECONOMY**

Yury Karaleu, Educational Institution of the Federation of Trade Unions of Belarus "International University "MITSO", Belarus

15:30 – 15:45 Coffee Break

Thursday, 11 October

Section

National Economy and Entrepreneurship

Section Chair: Prof. E.Gaile-Sarkane, Riga Technical University, Latvia

Subsection "Quality Technologies and Management"

Scientific Committee:

J.Mazais	Prof.	Riga Technical University	Latvia
P.Menguy	Prof.	University of le Havre	France
V.Majstorovic	Prof.	University of Belgrade	Serbia
I.Lapina	Assoc. Prof.	Riga Technical University	Latvia

12:00 - 12:20

QUALITY OF LIFE IN FRANCE

P. Menguy, University of le Havre, France

12:20 - 12:40

QUALITATIVE FACTORS INFLUENCING THE RISK INTELLIGENCE AUDIT FIRM'S MANAGEMENT

J. D. Staliuniene, Kaunas University of Technology, Lithuania

12:40 - 13:00

MANDATORY SUBSEQUENT VERIFICATION OF MEASURING INSTRUMENTS

J. Miķelsons, Riga Technical University, Latvia

13:00 – 14:00 Lunch

14:00 - 14:20

CONFORMITY ASSESSMENT: BILLING METHODS FOR WATER CONSUMPTION

R. Liepiņa, J. Mazais, I. Lapiņa, Riga Technical University, Latvia

14:20 - 14:40

ASSESSMENT OF RESEARCH RESULTS COMMERCIALIZATION PROCESS IN LATVIA

O. Priede, J. Mazais, Riga Technical University, Latvia

14:40 - 15:00

APPLICATION OF QUALITY FUNCTION DEPLOYMENT METHODOLOGY FOR IMPROVEMENT OF STUDY PROGRAMMES

J. Janauska, I. Lapiņa, Riga Technical University, Latvia

15.00 - 15:20

HEALTH MANAGERS' ATTITUDES SURVEY – IMPLEMENT THE INFORMATION COMMUNICATION SYSTEM FOR REGISTRATION OF MEDICAL ERRORS

R. Stoyanova, R. Dimova, R. Raycheva, Medical University Plovdiv, Bulgaria

TECHNOLOGY TRANSFER AND INOVATION PROGRAMME

Thursday, 11 October

Section

Technology transfer and innovation OS 8

Section Chair: Elīna Gaile-Sarkane, Riga Technical University, Latvia

Discussion topic of the day:

“Innovation Challenges in Contemporary World: Bridging Academia and Business”

Section moderator:

KTH Royal Institute of Technology, Sweden

Scientific Committee:

E. Gaile-Sarkane	Professor	Riga Technical University	Latvia
I. Knets	Professor	Riga Technical University	Latvia
M. Ozolins	Assist. Professor	Riga Technical University	Latvia
J. Caune	Assist. Professor	Riga Technical University	Latvia
K.G. Hoff	Professor	Norwegian University of Life Sciences	Norway
R. Qvenild	Professor	Buskerud University College	Norway

14:00 - 14.05

WELCOME BY SECTION MODERATOR

14:05 - 14:45

HOW CAN ALUMNI BE MORE INVOLVED IN THE WORK OF UNIVERSITIES?

Donnie Lygonis, KTH Innovation, Sweden

Anita Straujuma, Executive Director of Riga Technical University Alumni Association

14:45 - 15:30

HOW TO INCREASE STUDENT ACTIVITIES AND STUDENT INVOLVEMENT?

Representative of Tallin University of Technology

15:30 – 16:00 Coffee Break and networking

16:00 - 16:45

**TOOLS FOR INCREASING STUDENT CREATIVITY , MOTIVATION AND
ENTREPRENEURSHIP**

Assoc. Professor Rolandas Strazdas, Žilvinas Jančoras Vilnius Gediminas Technical
University, Lithuania

16:45 - 17:00

CLOSING DISCUSSION

20:30 – 23:00

ICE BREAKER “LET’S MEET”

Friday, 12 October

Section

Technology Transfer and Innovation OS 8

Section Chair: Elīna Gaile-Sarkane, Riga Technical University, Latvia

Discussion topic of the day:

”Innovation Within and Outside *Alma Mater*”

Section moderator:

Ms. Inese Suija-Markova, Institute for Environmental Solutions, Lecturer of Riga Technical University, Latvia

Scientific Committee:

E. Gaile-Sarkane	Professor	Riga Technical University	Latvia
I. Knets	Professor	Riga Technical University	Latvia
M. Ozolins	Assist. Professor	Riga Technical University	Latvia
J. Caune	Assist. Professor	Riga Technical University	Latvia
K.G. Hoff	Professor	Norwegian University of Life Sciences	Norway
R. Qvenild	Professor	Buskerud University College	Norway

09:00 - 09:05

WELCOME BY SECTION CHAIR

09:05 - 09:35

LEARN, EARN, RETURN: 10 LESSONS FROM A GLOBAL ENTREPRENEUR

Dr. Bert Twaalfhoven, European Forum for Entrepreneurship Research (EFER), Netherlands

09:35 - 09:55

TECHNIQUE WITH EMOTIONS

Mr. Lauris Rasa, HUGU Ltd., the Founder, Latvia

09:55 - 10:15

INTERDISCIPLINARY RESEARCH AS A CATALYST FOR INNOVATION: CASE OF INSTITUTE FOR ENVIRONMENTAL SOLUTIONS

Ms. Inese Suija-Markova, Institute for Environmental Solutions, Lecturer of Riga Technical University, Latvia

10:15 - 10:35

THE KONGSBERG STORY: FROM A SMALL MILITARY WORKSHOP TO WORLD CLASS INDUSTRIES

Prof. Rolf Qvenild, Buskerud University College; the former CEO of Kongsberg Våpenfabrikk, Norway

10:35 - 10:55

FROM ONE PRODUCT TO MULTIPLE APPLICATIONS: CASE OF RIGA BIOMATERIALS INNOVATION AND DEVELOPMENT CENTER

Prof. Jānis Ločs, Institute of Bio Materials and Bio Mechanics, RTU, Latvia

10:55 – 11:30 Coffee Break

11:30 - 11:50

ROBOTICS IN RIGA TECHNICAL UNIVERSITY: RESTARTING FROM SKETCH

Docent Agris Ņikitenko Institute of Applied Computer Systems RTU, Latvia

11:50 - 12:10

INNOVATION STRATEGIES OF TECHNOLOGY DEVELOPMENT AND TRANSFER

Prof. Tatjana Volkova, BA School of Business and Finance, Latvia

12:10 - 12:30

TECHNOLOGY TRANSFER ACTIVITIES IN RIGA TECHNICAL UNIVERSITY

Renars Reklaitis, Head of Technology Transfer Office, RTU, Latvia

12:30 - 12:50

INVESTMENT ATTRACTION FEATURES FOR SMALL COMPANIES

Mr. Edvīns Kalviņš, Technical Partners International Inc., Canada

12:50 - 13:10

REGIONAL INNOVATION SYSTEMS AND TOTAL INNOVATION MANAGEMENT

I. Vaivode, University of Latvia, Latvia

13:10 – 14:00 Lunch

14:00 - 14:20

**“TRAILS – CCBM: CROSS CULTURAL BUSINESS AND VIRTUAL TEAM
COMMUNICATION TRAINING PLATFORM”**

Martin Koplín, M2C Institute of Applied Media Technology and Culture, Bremen, Germany

14:20 - 14:40

**THE IMPACT OF INTELLECTUAL PROPERTY REWARD REGIME ON THE
COMPETITIVENESS OF INNOVATIVE SMES**

Tõnis Mets, Aleksei Kelli, University of Tartu, Estonia

14:40 - 15:00

CONCLUSIONS OF SECTION AND CLOSING

CONFERENCE SCIENTIFIC PROGRAMME

Thursday, 11 October

Section

Engineering, Mechanics and Mechanical Engineering OS 9

Section Chair: Prof. J.Viba, Prof. J.Rudzitis, Riga Technical University, Latvia

Subsection “Production Engineering”

Scientific Committee:

J.Auzins	Prof.	Riga Technical University	Latvia
T.Otto	Prof.	Tallinn University of Technology	Estonia
L.Mattsson	Prof.	KTH Royal Institute of Technology	Sweden

12:00 – 13:00 Lunch

13:00-13:10 INTRODUCTION

J.Viba, Riga Technical University, Latvia

13:10-13:30 NANO TECHNOLOGY INVESTIGATIONS OF MACHINE ELEMENTS

J.Rudzitis, E.Gerins, Riga Technical University, Latvia

13:30-13:50 DEPENDENCE OF COEFFICIENT OF FRICTION FROM SURFACE MICRO GEOMETRY

D.Rags, O.Linins, Riga Technical University, Latvia

13:50-14:10 WEAR CALCULATION MODELS FOR SLIDE FRICTION PAIRS

G.Springis, J.Rudzitis, Riga Technical University, Latvia

14:10-14:30 INFLUENCE OF MEASUREMENT PRESSURE ON FLEXIBLE BODY CONTACT DEFORMATION AND THE LINEAR DIMENSION PRECISION

A.Avisane, Riga Technical University, Latvia

14:30-14:50 ANALOGUE MODELING OF RESISTANCE WELDING PROCESS

V.Kulakova, Riga Technical University, Latvia

14:50-15:10 STUDY OF THE SHIELDING GAS INFLUENCE ON WELDING JOINT APPEARANCE

D.Avisans, I.Boiko, Riga Technical University, Latvia

15:10-15:30 ISO 9001 QUALITY MANAGEMENT SYSTEMS IN SMALL AND MEDIUM-SIZED MECHANICAL ENGINEERING ENTERPRISES IN LATVIA

G.Civcisa, Riga Technical University, Latvia

15:30 – 15:45 Coffee Break

15:45-16:05 LOW PLASTICITY BURNISHING TECHNOLOGY FOR ADVANCES IN SHAFT WEAR SLEEVE MANUFACTURING

G.Pikurs, G.Bunga, V.Gutakovskis, Riga Technical University, Latvia

Subsection “Mechanics and Mechanical Engineering”

16:05-16:25 METAMODELING METHODOLOGY FOR ANALYSIS AND OPTIMIZATION OF DYNAMICAL SYSTEMS

J.Auziņš, A.Kovaļska, R.Priedītis, M.Eimanis, Riga Technical University, Latvia

**16:25-16:45 THE COMPLETE BIFURCATION THEORY FOR GLOBAL ANALYSIS OF
NONLINEAR DYNAMICS AND CHAOS**

M.Zakrzhevsky, R.Smironova, I.Schukin, V.Yevstignejev, Riga Technical University, Latvia
V.Frolov, OM Technologies, Latvia
A.Klokov, E.Shilvan, Riga Technical University, Latvia

16:45-17:05 NEW FISH-LIKE DESIGNS OF UNDERWATER VEHICLES

S.Cifanskis, J.Vība, V.Beresņevičs, J.Auziņš, V.Jakuševičs, G.Kuļikovskis, Riga Technical University,
Latvia

**17:05-17:25 ABOUT POSSIBILITY TO PREDICT FIBERS ORIENTATION AND
DISTRIBUTION IN VISCOUS FLOW**

A.Krasnikovs, O.Kononova, A.Machanovskis, A.Losevs, A.Galushchaka, Riga Technical University,
Latvia

**17:25-17:45 SHAPE OPTIMIZATION TECHNIQUE OF OBJECTS DESIGNED USING
CAD/CAE**

A.Januševskis, A.Meļņikovs, O.Sīmanis, Riga Technical University, Latvia
J.Januševskis, Ecole Nationale Supérieure des Mines de Saint-Etienne, France

17:45-18:05 INNOVATIVE TECHNOLOGIES FOR MILK PRODUCTION

I.Grīnevich, Riga Technical University, Latvia

Friday, 12 October

Section

Engineering, Mechanics and Mechanical Engineering OS 9

Section Chair: Prof. J.Vība, Prof. J.Rudzītis, Riga Technical University, Latvia

Subsection “Mechanics and Mechanical Engineering”

**09:00-09:20 DESIGN OF ELASTOMERIC SHOCK ABSORBERS WITH MOVING SIDE
STOP**

V.Gonca, Y.Shvab, Riga Technical University, Latvia

09:20-09:40 POLYMER FIBER PULL OUT OF ELASTIC MATRIX

A.Krasnikovs, O.Kononova, A.Machanovskis, V.Lusis, A.Galushchaka, Riga Technical University,
Latvia

**09:40-10:00 DETERMINATION OF RESOURCE REDUCING A OF TANK WAGONS ON
THE LATVIAN RAILWAY DUE TO FATIGUE DAMAGES**

A.Boiko, Riga Technical University, Latvia

**10:00-10:20 INCLINED SINGLE ELASTO-PLASTIC FIBER PULL OUT OF ELASTIC
VOLUME WITH FRICTION**

O.Kononova, A.Krasnikovs, A.Khabaz, A. Galushchaka, Riga Technical University, Latvia

**10:20-10:40 BODY VIBRATION IN THE AIR OR WATER IN REGION OF SMALL
VELOCITY AMPLITUDE**

J.Vība, S.Noskovs, Riga Technical University, Latvia

10:40-11:00 HIGH-SPEED IMPACT ACTION ON ROTATION TARGET

S. Polukoshko, Engineering Research Institute “VSRC” of Ventspils University College,
Latvia

A. Boiko, V. Gonca, Riga Technical University, Latvia

Subsection “Heat Power and Thermal Physics”

11:00-11:20 THE INDUSTRIAL CAPACITY ABSORPTION HEAT PUMP HEATING SYSTEMS

Cers A., JSC Latvenergo, Latvia
Talcis N., JSC Rīgas Siltums, Latvia

11:20-11:40 HEAT AND MASS TRANSFER DURING THE LYOPHILIZATION PROCESS: A REVIEW

Cimbale A., Plavoka I., Riga Technical University, Latvia

11:40-12:00 SUSTAINABLE MANAGEMENT OF LANDFILL GAS FOR ENERGY PRODUCTION. TRENDS FOR LATVIAN LANDFILLS

Karnupa I., Riga Technical University, Latvia
Cars A., Getliņi Eko Ltd., Latvia

12:00 – 13:00 Lunch

13:00-13:20 COGENERATION POWER PLANT EFFICIENCY IMPROVEMENT USING ABSORPTION CHILLERS

Turlajs D., Cers A., Kaulakalns R., Riga Technical University, Latvia

13:20-13:40 WATER-LOOP HEAT PUMP SYSTEMS: LATVIAN EXPERIENCE

Petrovs B., Zeltins N., Zebergs V., Semenako A., Actina G., Institute of Physical Energetics, Latvia

13:40-14:00 MICRO-COGENERATION AND STIRLING ENGINE

Rusovs D., Poluhins O., Riga Technical University, Latvia

14:00-14:20 WHAT IS MORE IMPORTANT – ENERGETICS OR ECONOMICS?

Stuklis I., World Energy Council Latvian National Committee member, Latvia

14:20-14:40 THE CO-FIRING OF WOOD CHIPS AND PELLETS WITH OTHER SOLID AND GASEOUS FUELS

Turlajs D., Ignatjeva M., Veselauskis R., Riga Technical University, Latvia
Lūsis G., “Dalkia” Ltd., Latvia
Timpars Ē., “MP Maintenance” Ltd., Latvia

15:30 – 15:45 Coffee Break

Dialogue Session

Engineering, Mechanics and Mechanical Engineering DS 9

Posters will be provided by co-authors of the papers presented orally according to Programme of the Session

DESIGN OF THE EXPERIMENTAL EQUIPMENT IN RUBBER PAD STAMPING RESEARCH AREA

J.Vilcans, T.Torims, Riga Technical University, Latvia

EVALUATION CRITERIA OF TECHNOLOGICAL PROCESS

G.Muiznieks, E.Gerins, J.Ozolins, Riga Technical University, Latvia

CONFERENCE SCIENTIFIC PROGRAMME

Thursday, 11 October

Section

Transport OS 10

Section Chair: Prof., Dr.hab.sc.ing. A. Urbahs (Riga Technical University, Latvia)
Prof., Dr. sc.ing. G. Liberts (Riga Technical University, Latvia)

9:00 – 12:00

PLENARY SESSION

12:00 – 13:00 Lunch

Subsection “Road Transport”

Scientific Committee:

G.Liberts	Dr.sc.ing.	Riga Technical University	Latvia
A.Grīslis	Dr.sc.ing.	Riga Technical University	Latvia

13:00 - 13:10

STUDIES ON THE EFFECTS OF OIL ADDITIVES ON FRICTION SURFACES

A. Leitāns, Riga Technical University, Latvia

13:10 - 13:20

DETERMINATION OF ENGINE OIL CHANGE INTERVAL BY RESULTS OF CHEMICAL ANALYSES

J. Semjonovs, Riga Technical University, Latvia

Thursday, 11 October

Section

Transport OS 10

Section Chair: Prof., Dr.hab.sc.ing. A. Urbahs (Riga Technical University, Latvia)
Prof., Dr. sc.ing. G. Liberts (Riga Technical University, Latvia)

Subsection “Railway transport”

Scientific Committee:

M.Mezītis	Dr.sc.ing.	Riga Technical University	Latvia
V.Popovs	Dr.hab.phys.,	Riga Technical University	Latvia
D.Sergejevs	Dr.sc.ing.	Riga Technical University	Latvia
J.Eduks	Dr.sc.ing.	Riga Technical University	Latvia

13:20 - 13:30

TRANSPORT PROBLEMS IN RIGA - COLLAPSE OR PROSPERITY ON THE BASIS OF ITS (MEMORIES OF THE FUTURE)

E.Shabarova, PSTU, St. Petersburg

13:30 - 13:40

SIMULATION OF THE INTERACTION OF RAILWAY STATION AND HARBOUR

F. Mihailovs, D.Sergejevs, Riga Technical University, Latvia

13:40 - 13:50

OPTIMAL SECONDARY SUSPENSION OF RAILWAY CARRIAGES FOR IMPROVED PASSENGER COMFORT

J.Eiduks, D.Bušs, Riga Technical University, Latvia

13:50 - 14:00

RAILWAY SAFETY CONTROL SYSTEMS – ERTMS, ALS AND KLUB COMPATIBILITY OPTIONS

M.Mežītis, J.Krepša, Riga Technical University, Latvia

14:00 - 14:10

INTELLIGENT TRANSPORT SYSTEM RAIL TRANSPORT IN RIGA

E.Shabarova, PSTU, St. Petersburg

14:10 - 14:20

THE ELECTROMAGNETIC COMPATIBILITY IN RAILWAY AUTOMATIC DEVICES

L.Sergejeva, A.Nikolajevs, Riga Technical University, Latvia

14:20 - 14:30

TEST POINT FOR THE BATTERY UNDER LOAD

M.Mežītis, V.Karevs, Riga Technical University, Latvia

14:30 - 14:40

TRANSPORT LOGISTICS AIRFLOWS THRO “THE CITY – THE AIRPORT”

E.Shabarova, PSTU, St. Petersburg

14:40 - 14:50

THE FREIGHT TRANSPORTATION EVALUATION IN LOCAL TRAFFIC OF LATVIA

M.Mežītis, E.Skrebutene, Riga Technical University, Latvia

14:50 - 15:00

SURFACING OF FROG CORE

D.Sergejevs, S.Mihailovs, P.Gavrilovs, Riga Technical University, Latvia

Thursday, 11 October

Section

Transport OS 10

Section Chair: Prof., Dr.hab.sc.ing. A. Urbahs (Riga Technical University, Latvia)
Prof., Dr. sc.ing. G. Liberts (Riga Technical University, Latvia)

Subsection “Aeronautics and Transport Systems”

Scientific Committee:

A.Urbahs	Prof., Dr.hab.sc.ing.	Riga Technical University	Latvia
Y.M.Haddad	Prof., Dr.sc.ing.	University of Ottawa	Canada
O.Antoshkiv	Dr.sc.ing.	Technical University Cottbus	Germany
A.Shanyavskiy	Prof., Dr.hab.sc.ing.	State Centre for Civil Aviation Safety Flight	Russia
J.Martinovs	Prof., Dr.hab.sc.ing.	Riga Technical University	Latvia
M.Banovs	Dr.hab.sc.ing.	Riga Technical University	Latvia
A.Kobcevs	Prof., Dr.hab.sc.ing.	Riga Technical University	Latvia
Y.Paramonovs	Prof., Dr.hab.sc.ing.	Riga Technical University	Latvia
V.Šestakovs	Prof., Dr.hab.sc.ing.	Riga Technical University	Latvia
P.Trifonovs	Prof., Dr.hab.sc.ing.	Riga Technical University	Latvia
Bogdanovs			

15:00 - 15:10

DEVELOPMENT OF UNMANNED AIR VEHICLE FEATURES FOR ICE MONITORING IN BALTIC SEA REGION

A. Urbahs, I. Lešinskis, V.Petrovs, Riga Technical University, Latvia
J. Bērziņš, A.Pavlovičs, Latvian Maritime Academy, Latvia

15:10 - 15:20

ANALYSIS OF NORTHERN SEA ROUTE ROLE IN MERCHANT SHIPPING

I.Stelpa, Riga Technical University, Latvia

15:20 - 15:30

**EXTREMELY SHORT TAKE-OFF AND LANDING ALL-SURFACE HYBRID AIRCRAFT –
DESIGN AND MANUFACTURING TASKS**

A.Urbahs, V.Petrovs, A.Jakovļevs, K.Savkovs, V.Bulanovs, K.Carjova, Riga Technical University,
Latvia

15:30 – 15:45 Coffee Break

15:50 - 16:00

**CREATION OF HEAT RESISTANT NANOSTRUCTURED COATINGS FOR GAS TURBINE
ENGINE BLADES**

K.Savkovs, Riga Technical University, Latvia

16:00 - 16:10

**ANALYSIS OF HYBRID AIRCRAFT TAKE-OFF AND LANDING AT TYPICAL
EUROPEAN AERODROMES**

A.Urbahs, V.Petrovs, M.Urbaha, Riga Technical University, Latvia

16:10 - 16:20

**ASSESSMENT OF AIRCRAFT CREW SKILLS DEVELOPMENT DYNAMICS BY MEANS
OF A SEPARATE EXERCISE RESULTS**

A.Lešinskis, Riga Technical University, Latvia

16:20 - 16:30

ANALYSIS OF AERODYNAMIC PROPERTIES OF HYBRID AIRCRAFTS

A.Urbahs, D.Titovs, V.Petrovs, M.Urbaha, Riga Technical University, Latvia

16:30 - 16:40

**APPLICATIONS OF ELECTROMAGNETIC CONVEYING SYSTEM IN POWDER
METALLURGY INDUSTRY**

V.Mironovs, V.Lapkovskis, Riga Technical University, Latvia

16:40 - 16:50

**LIFE CYCLE TESTS OF AVIATION EQUIPMENT USING ACOUSTIC EMISSION
METHOD**

A.Urbahs, M.Banovs, V.Turko, K.Carjova, Riga Technical University, Latvia

16:50 - 17:00

**MINMAX APPROACH FOR AIRCRAFT INSPECTION PROGRAM INTERVAL
SELECTION IN ORDER TO ENSURE AIRLINE SAFETY**

M.Hauka, Y. Paramonovs, Riga Technical University, Latvia

Friday, 12 October

10:00 - 10:10

**DESIGN AND MANUFACTURE ANALYSIS OF UNDERWATER REMOTELY OPERATED
VEHICLE HULL**

A.Urbahs, K.Carjova, I.Stelpa, V.Zavtkevichs, M.Urbans, Riga Technical University, Latvia

10:10 - 10:20

INNOVATIVE SHIPBUILDING STEEL IN 21ST CENTURY

G.Rijkuris, P. Vulans, Riga Technical University, Latvia

I.Sorokins, M.Kokmanis, Latvian Maritime Academy, Latvia

10:20 - 10:30

USE OF CAD/CAE MANUFACTURING FOR AIRCRAFT PROTOTYPE PARTS

A.Urbahs, V.Petrovs, A.Jakovļevs, K.Savkovs, Riga Technical University, Latvia

10:30 - 10:40

ANALYSIS OF GEOMETRY OF ROUGH SURFACE - ACTUAL AREA OF CONTACT

G.Rijkuris, Riga Technical University, Latvia

10:40 - 10:50

**EXAMINATION OF ION-PLASMA COATINGS SURFACE LAYER BY MEANS OF X-RAY
DIFFRACTOMETER**

M.Urbaha, S.Bogdanova, K.Savkovs, Riga Technical University, Latvia

10:50 - 11:00

**COMPOSITE MATERIAL FATIGUE LIFE CALCULATION BASED ON MARKOV CHAIN
THEORY**

V.Čīmanis, J.Paramonovs, Riga Technical University, Latvia

11:10 - 11:20

DEVELOPMENT PROSPECT OF CARGO TERMINAL MANGALI

V.Feofanovs, N.Tarancova, Riga Technical University, Latvia

11:20 - 11:30

**NANOSTRUCTURED MULTICOMPONENT COATINGS “KJONBOMU” FOR
RESTORATION AND PROTECTION OF MACHINE FRICTION PARTS**

M.Urbaha, K.Savkovs, J.Urbaha, G.Rijkuris, V. Kozyukov, Riga Technical University, Latvia

11:30 - 11:40

EFFICIENCY OF ENERGY EFFICIENT SHIP: USE OF SPINNAKER

I.Stelpa, Riga Technical University, Latvia

G.Šteinerts, Latvian Maritime Academy, Latvia

11:40 - 11:50

**THE RESULTS OF INVESTIGATING THE DISTRIBUTION OF EFFORT IN MOUNTING
STUDS TO THE MAIN LANDING GEAR OF AN AIRPLANE WING LONGERONS
FITTING**

A.Urbahs, A.Čepuševs, A. Sorokins, Riga Technical University, Latvia

11:50 - 12:00

**OVERSIZE CARGO PROJECTING AND TRANSPORTATION PROCEDURES
ORGANIZATION**

G.Gromovs, E.Kozhemyakina, A.Shlenskis, Transport and Telecommunication institute, Latvia

12:00 – 13:00 Lunch

13:00 - 13:10

USE OF SEA TERRITORIES' ON THE WESTERN COAST OF LATVIA

M.Nagaine, Latvian Maritime Academy, Latvia

13:10 - 13:20

DIAGNOSTICS OF 7- LAYER COMPOSITE MATERIALS AFTER THE IMPACT OF LIGHTNING USING THE METHOD OF ACOUSTIC EMISSION

A.Urbahs, M.Banov, S.Bratarchuk, N.Khodos, P.Serebrjakovs, V.Turko, Riga Technical University, Latvia

13:20 - 13:30

UNDERWATER SURVEY FUTURE PERSPECTIVES

K.Carjova, V.Zavtkevichs, I.Stelpa, D.Andrejeva, R.Straume Riga Technical University, Latvia

13:30 - 13:40

NON-DESTRUCTIVE MONITORING METHODS FOR AN OIL PIPELINE

A.Urbahs, K.Carjova, P.Simanovičs, Riga Technical University, Latvia

13:40 - 13:50

E-GUIDED VESSEL – INTRODUCTION TO COLLISION AVOIDANCE SYSTEM

D.Andrejeva, Riga Technical University, Latvia

13:50 - 14:00

PERSPECTIVES OF SHIP'S HULL DIAGNOSTICS USING ACOUSTIC EMISSION METHOD

A.Urbahs, A.Unbedahts, Riga Technical University, Latvia

14:00 - 14:10

DIESEL ENGINE FAULTS STRUCTURE AND ANALYSIS OF POSSIBLE DIAGNOSTICS

A.Urbahs, I.Kurjanovičs, A.Zalāns, Riga Technical University, Latvia

14:10 - 14:20

SHIP MAIN ENGINE BEARINGS VIBRATION ANALYSIS

J.Kokars, Riga Technical University, Latvia

14:20 - 14:30

COMPOSITION AND STRUCTURE OF MICRO ARC OXIDATION COATINGS

A.Urbahs, V.Zujevs, K.Savkovs, Riga Technical University, Latvia

14:30 - 14:40

MICRO-CLASS UNMANNED AERIAL VEHICLE DESIGN SOLUTIONS

A.Urbahs, V.Petrovs, A.Jakovļevs, K.Savkovs, V.Bulanovs, Riga Technical University, Latvia

14:40 - 14:50

LIGHTING ARC STRIKE ZONE IMPACT ON COMPOSITE MATERIAL STRENGTH

J.Serebrjakova, Riga Technical University, Latvia

P. Serebrjakovs, Aviatest LNK, Latvia

CONFERENCE SCIENTIFIC PROGRAMME

Thursday, 11 October

Section

International Symposium on Biomedical Engineering and Medical Physics



Cochairmen: Prof. Yuri Dekhtyar, Prof. Alexei Katashev, Riga Technical University, Latvia

Organizing Committee:

Aldis Balodis, Prof. (Latvia)
Karina Dudina, MSc (Latvia)
Aleksejs Kataševs, Prof. (Latvia) - chairman
Marina Romanova, MSc, PhD student (Latvia)
Maksims Šneiders, MSc (Latvia)
Viktorija Vendiņa, MSc, PhD student (Latvia)

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Gerhard Artmann, Prof. (Germany)	Zigurds Markovics, Prof. (Latvia)
Igor Axenovich, Dr.Med (Hungary)	Jose Miguel Martin Martinez, Prof. (Spain)
Csaba Balazsi, Prof. (Hungary)	Kalju Meigas (Estonia)
Marom Bikson, Prof. (USA)	Ion Mihailescu, Prof. (Romania)
Yuri Dekhtyar, Prof. (Latvia) – chairman	Franco Milano, Prof. (Italy)
Arzum Erdem, Prof. (Turkey)	Pawel Olko, Prof. (Poland)
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James Goh, Prof. (Singapore)	Erik Palcevski, Dr. (Latvia)
Natalia Golnik, Prof. (Poland)	Nicolas Pallikarakis, Prof. (Greece)
Hans Joachim Hein, Dr.rer.nat. habil. (Germany)	Marta Wasilewska-Radwanska, Prof. (Poland)
Timo Jamsa, Prof. (Finland)	Miriam Rafailovich, Prof. (USA)
Djordje Janackovic, Prof. (Serbia)	Anatoly Rozenfeld, Prof. (Australia)
Vladimir Kasyanov, Prof. (Latvia)	Rachel Sammons, Dr. (UK)
Włodzimierz Klonowski, Prof. (Poland)	Wolfgang Schüler, Prof. (Germany)
Igor Khlusov, Prof. (Russia)	Andrejs Skagers, Prof. (Latvia)
Ivars Knets, Prof. (Latvia)	Jos A.E. Spaan, Prof. (The Netherlands)
Leszek Kubisz, Prof. (Poland)	Janis Spigulis, Prof. (Latvia)
Ivars Lacis, Prof. (Latvia)	Frank Stein, Dr. (Germany)
Linda Lancere, MSc, PhD student (Latvia) – secretary	Jenia Vassileva, Prof. (Bulgaria)
Juris Lauznis, MSc (Latvia)	Vladimir Varchena, MSc (USA)
Cornelius Lewis, Prof. (UK)	Todorka Vladkova, Prof. (Bulgaria)
Pierre-Noel Lirsac, Dr. (France)	Yuri Volkov, Prof. (Ireland)
Arunas Lukosevicius, Prof. (Lithuania)	Jan Maria Wojcicki, Prof. (Poland)

CONFERENCE ROOM NR.3

7:30 - 16:00

REGISTRATION OF THE PARTICIPANTS

9:00 - 12:00

**PLENARY SESSION OF THE 53RD INTERNATIONAL CONFERENCE OF THE RIGA
TECHNICAL UNIVERSITY DEDICATED TO ITS 150 ANNIVERSARY**

12:00 - 13:00 Break for lunch

13:00 - 13:15

OPENING ADDRESS (JOINT PHOTO IS PLANNED)

13:15 - 14:30

PLENARY SESSION I

Chairmen: Prof. Włodzimierz Klonowski (Poland,), Prof. Nicolas Pallikarakis (Greece)

13:15 - 13:40

DISPOSABLE ELECTROCHEMICAL SENSORS FOR BIOMOLECULAR RECOGNITIONS

A.Erdem (Turkey)

13:40 - 14:05

NOVEL CONCEPTS OF “NICHE-RELIEF” AND “NICHE-VOLTAGE” FOR STEM CELLS

I. Khlusov, Yu. Dekhtyar, M. Khlusova, E. Gostischev, Yu. Sharkeev, V. Pichugin, E. Legostaeva
(Latvia, Russia)

14:05 - 14:30

**STUDY OF COMBINATIONS OF TL/OSL SINGLE DOSIMETERS FOR MIXED
HIGH/LOW IONIZATION DENSITY RADIATION FIELDS**

L. Oster, S. Druzhyna, I. Orion, Y. Horowitz (Israel)

14:30 - 14:40 Break

14:40 - 15:30

PLENARY SESSION II

Chairlady: Prof. Arzum Erdem (Turkey)

Chairman: Prof. Wolfgang Schüler (Germany)

14:40 - 15:05

INTERNET TOOL FOR INTERNATIONAL BIOMEDICAL ENGINEERING EDUCATION

A. Kybartaitė, J. Malmivuo (Lithuania, Finland)

15:05 - 15:30

**MISSION AND SOCIAL IMPACT OF THE MULTIDISCIPLINARY SCHOOL OF
ENGINEERING IN BIOMEDICINE**

M. Wasilewska-Radwańska, E. Augustyniak, P. Augustyniak (Poland)

15:30 - 15:40 Break for coffee

15:40 - 18:00 Poster session

20:30 - 23:00

ICE BREAKER “LET’S MEET”

POSTER SESSION (posters should be installed since 7:30, 11 October, 2012)
International Symposium on Biomedical Engineering and Medical Physics DS 11

GENERALITY, EPIDEMIOLOGY, AND EDUCATION

1. DEFECTS OF FIELD STRUCTURES

Irina Demidova (Russia)

2. SYSTEM PATTERN OF CONSCIOUSNESS FUNCTIONING

Sergo Dadunashvili (Georgia)

3. FUTURE NUMBER OF ESRD PATIENTS' PROJECTION USING MARKOV CHAIN MONTE CARLO MODEL

A. Rodina-Theocharaki, K. Bliznakova, D. Goumenos, N. Pallikarakis (Greece)

4. DEPENDENCE OF THE NATURAL POPULATION INCREASE IN LATVIA ON THE EFFECTS OF THE ANOMALOUS GRAVITY FIELD

L. Kartunova, V. Vetrennikov (Latvia)

5. FUNDAMENTALS OF RADIOBIOLOGY

M. Wasilewska-Radwanska, A. Bolewski, T. Kuc (Poland)

6. MEDICAL DIAGNOSTICS WITH IONIZING RADIATION

M. Wasilewska-Radwanska, M. Budzanowski, E. Jaksan, J. Pawlus, A. Stepien (Poland)

SENSORS, INSTRUMENTATION AND TELEMEDICINE

7. APPROACH TO THE SILICON SENSOR WITH PRE-THRESHOLD ELECTRON EMISSION READOUT TO DETECT EXHALED BREATH GASES

Yu. Dekhtyar, K. Perovicha, A. Soudnikovich (Latvia)

8. DEVELOPMENT OF THERMAL SIMULATOR OF HUMAN TO THERMOPHYSICAL RESEARCH OF MEDICAL SUPPLIES AND THERMAL SURGICAL EQUIPMENT

I. Khudetsky, A. Telpiakova

9. SYSTEM DESIGNED FOR ELDERLY VITAL SIGNALS MONITORING

A. Vainoras, L. Gargasas, L. Bikulciene, V. Jurkonis, R. Ruseckas

10. THE BIOTELEMETRY LESSONS INNOVATION – LOW POWER RF

M. Cerny, M. Penhaker

11. NOVEL WIRELESS HYBRID ELECTRODE FOR ECG/EEG MEASUREMENTS

E. Valchinov, A. Rutkovskis, N. Pallikaraki

12. DEVELOPMENT OF NEW MOBILE TELEMEDICINE SCREENING COMPLEX

Z. Markovitch, J. Lauznis, I. Markovitcha, G. Balodis, A. Katashev

DIAGNOSTICS, IMAGING, EXPERT SYSTEMS

13. NEW SUCCESSFUL ASSESSMENT METHOD OF HEARING AID FITTING

D.Hojan-Jeziarska, E.Hojan, A.Jeziarska, D.Włodarczyk

- 14. THE SIGNATURE OF ADDICTION. GRAPHOMOTOR ANALYSIS OF PSYCHOMOTOR PERFORMANCE IN HEROIN USERS UNDERGOING SUBSTITUTION TREATMENT WITH METHADONE**
E. Ratajczak, J. Feit, E. J. Gorzelanczyk
 - 15. DRY RESIDUAL URINE IR ABSORPTION SPECTRA**
V. Antonyuk, O. Bordun, I. Kukharsky, I. Franko, M. Vistak
 - 16. SACCADOMETRY AS A NOVEL TOOL IN NEUROPSYCHIATRIC AND NEUROPSYCHOLOGICAL ASSESSMENT**
P. Walecki, M. Kunc, E. Gorzelanczyk
 - 17. THE DIFFERENTIAL OSCILLOMETRIC METHOD CAN BE USED FOR RECORDING BEAT-TO-BEAT ARTERIAL PRESSURE PATTERNS FROM RADIAL ARTERIES**
J. Talts, R. Raamat, K. Jagomägi, J. Kivastik
 - 18. REVEALING SMALL HIDDEN CHANGES IN HUMAN EEG BY HIGUCHI'S FRACTAL DIMENSION**
M. Bachmann, A. Suhhova, J. Lass, H. Hinrikus
 - 19. THE ASSESSMENT OF SACCADIC REFIXATIONS VELOCITY IN OPIOID-ADDICTED SUBJECTS WITH THE USE OF SACCADOMETER DIAGNOSTIC SYSTEM**
J. Feit, E. Nowińska, K. Pasgreta, P. Walecki, W. Lasoń, M. Kunc, P. Podlipniak, E. J. Gorzelanczyk
 - 20. MEASUREMENT OF CHANGES IN SKIN CONDUCTANCE EVOKED BY MUSICAL STIMULI**
E. Gorzelanczyk, P. Podlipniak, P. Walecki
 - 21. EVALUATION OF ATROPHIC EDENTULOUS MAXILLARY ALVEOLAR BONE WITH CONE BEAM COMPUTED TOMOGRAPHY (CBCT) IN POSTMENOPAUSAL WOMEN**
L. Neimane, A. Skagers, A. Slaidina
 - 22. SPECTRAL IMAGING USED IN DETERMINING THE AGE OF BRUISES DEPENDING ON THE BILIRUBIN CONCENTRATION**
M. Lange, I. Saknite, D. Jakovels
 - 23. A SURFACE SMOOTHING METHOD FOR A 3D MODEL OF A MEDICAL OBJECT**
M. Kovalovs, A. Sisojevs, A. Glazs
 - 24. DIGITAL BREAST TOMOSYNTHESIS WITH MONOCHROMATIC BEAM FOR LOW CONTRAST FEATURES**
A. Malliori, K. Bliznakova, N. Pallikarakis
- BIOPHYSICS AND PHYSIOLOGY, DRUG DELIVERY AND MOLECULAR DIAGNOSTICS**
- 25. THE MODELING OF CELLS MEMBRANE ELECTRODYNAMICS**
J. Valdmanis
 - 26. VARIABLE MAGNETIC FIELD AND PULSED RED LIGHT AS FACTORS INFLUENCING RESPIRATORY BURST OF NEUTROPHILS IN VITRO**
H. Nawrocka-Bogusz, F. Jaroszyk

**27. CARDIOSYNCHRONOUS TRANSCUTANEOUS ELECTRICAL NERVE
STIMULATION**

Z. Bredriha, J. Lauznis, P. Butlers

**28. EFFECTS OF HEAT STRESS ON THE BLOOD PRESSURE AND HEART RATE
VARIABILITY IN YOUNG MEN**

K. Jagomägi, O. Ates, J. Talts, R. Raamat, B. Cotuk, A. Burk, K. Karelson, V. Ööpik, T. Traks and
J. Kivastik

**29. ACTIVITY OF HOST DEFENSE PROTEINS IN RABBIT BONE AFTER PURE
HYDROXYAPATITE AND TRICALCIUM PHOSPHATE AND MIXED TRICALCIUM
PHOSPHATE/HYDROXYAPATITE IMPLANTATION**

J. Vamze, M. Pilmane, A. Skagers

**30. ELECTROCHEMICAL DETECTION OF INTERACTION BETWEEN 6-THIOGUANINE
AND DNA**

E. Eksin, G. Congur, F. Mese, A. Erdem

**31. DRUG TRANSPORT TO BRAIN: MOLECULAR DESCRIPTORS AS THE WAY FOR
EFFECTIVE DRUGS CREATION**

N. Ovcharenko, V. Larionov

RADIATION THERAPY AND DIAGNOSTICS, DOSIMETRY AND QA

**32. X-RAY RADIATION STATISTICS TOWARDS QUALITY ASSURANCE IN DIGITAL
RADIOGRAPHY**

L. Bumbure, Y. Dekhtyar, A. Katashev, T. Kirsanova and V. Zemite

33. ANTHROPOMORPHIC FEMALE PELVIC PHANTOM

N. Spizhenko, S. Luchkovskiy, O. Bezshyyko, L. Golinka-Bezshyyko, I. Kadenko, A. Nagai

**34. NEW ALIGNMENT DEVICE FOR POSITIONING THE IONIZATION CHAMBER TO
DEFINED DEPTH IN WATER PHANTOM**

V. Stserbakov

35. NEUTRON FIELD OUTSIDE THE ROOM OF MEDICAL LINEAR ACCELERATOR

K. Polaczek-Grelik, P. Gandor, A. Orlef

36. CT DOSE TEST WITH STANDARD PHANTOMS

N. Kreislere, A. Balodis

**37. TIME DEPENDENT DETERIORATION OF THE X-RAY DENTAL DIAGNOSTIC
EQUIPMENT**

Yu. Dekhtyar, A. Kamenetskikh, M. Polakovs, M. Sneideris

**38. CHARACTERIZATION OF A SIPM-BASED WAVELENGTH-SHIFTING FIBRE
GAMMA CAMERA USING ^{99m}Tc**

F. Castro

BIOMECHANICS, REHABILITATION AND PROSTHESES

39. PROSPECTS FOR USE OF GRAVITY ANOMALIES AS RECREATIONAL RESOURCES

L. Kartunova, V. Vetrennikov

40. EFFECT OF PHYSICAL TRAINING ON PSYCHOMOTOR SPEED IN THE TMT A AND B TEST IN ATHLETES.

E. Nowińska, J. Feit, K. Pasgreta, E. Jacek. Gorzelańczyk

41. ACCELEROMETER NETWORK FOR HUMAN POSTURE MONITORING

A. Hermanis, K. Nesenbergs

42. BIONICS IN PLANNING OF HABILITATION FOR CHILDREN WITH CEREBRAL PALSY

E. Dukendjiev

43. ASSESSMENT OF THE DYNAMICS PARAMETERS OF THE DOMINANT HAND MOVEMENT IN PATIENTS WITH A NERVOUS SYSTEM DISORDERS

E. Gorzelanczyk, W. Lason, P. Walecki

BIOMATERIALS, MICRO-, NANOMATERIALS

44. THE PROSPECTS COMPOSITES BASED ON POLYMER MATERIALS AS IMPLANTS FOR ORTHOPEDICS AND TRAUMATOLOGY

D. Mitrichenko, A. Prosolov, A. Ognev, I. Khlusov, E. Bolbasov, S. Tverdokhlebov, R. Paderin, A. Zheravin

45. FIRST PRINCIPLES STUDIES OF HYDROXYAPATITE STRUCTURE AND PROPERTIES

V. Bystrov, E. Costa, S. Kopyl, C. Santos, M. Almeida, A. Bystrova and Yu. Dekhtyar

46. NEW BIPHASIC CALCIUM PHOSPHATE IN ORTHOPEDIC SURGERY: FIRST CLINICAL RESULTS

S. Petronis, J. Petronis, J. Locs, V. Zalite, A. Skagers, M. Pilmane

47. NOVEL SYNTHESIS METHOD AND BIOMEDICAL APPLICATIONS OF DOPED AND UNDOPED HYDROXYAPATITES AND FLUOROAPATITES

G. Nechyporenko, V. Zinchenko

48. HYDROXYAPATITE-BASED COATINGS CONTAINING SILICATE IONS FOR MEDICAL IMPLANTS

R. Surmenev, M. Surmeneva, V. Pichugin, A. Ivanova, I. Grubova, I. Khlusov, O. Prymak, M. Epple

49. ENGINEERING OF THE HYDROXYAPATITE CELL ADHESION CAPACITY

Yu. Dekhtyar, A. Katashev, E. Palcevskis, N. Polyaka, M. Romanova, V. Bystrov, A. Bystrova, E. Paramonova, A. Dindune, I. Khlusov, R. Sammons

50. THE COMPARISON OF THE MAGNETIC FIELD EFFECT ON THE ELECTRIC PERMITTIVITY OF THE PDMS FERROMAGNETIC GEL AND THE COLLAGEN FERROMAGNETIC GEL

L. Kubisz, M. Gauza, A. Skumiel, E. Pankowski, D. Hojan-Jeziarska

51. SYNTHESIS AND AFFINITY FOR BDR CNS 3-(CIS-ARYLIDENE)-1,4-BENZODIAZEPIN-2-ONES

S.A. Andronati, V.I. Pavlovsky, S.Y. Bachinskii, N.A. Burenkova, I.A. Boyko

52. INVESTIGATION OF DEGRADATION BEHAVIOR OF MG-1CA ALLOY FOR BIOMEDICAL APPLICATION IN DIFFERENT SIMULATED BIOLOGICAL MEDIUM

I. Antoniac, D. Mihaela

53. INFLUENCE PARAMETERS FOR PERFORMANCES OF POLYSULFONE HEMODIALYSIS MEMBRANES

S. I. Voicu, I. Antoniac, A. Dobrica, A. Turcu, S. Sava

54. MECHANO-ELECTRICAL COUPLING IN MICROTUBULES

O. Kučera, M. Cifra, J. Pokorný, D. Havelka, J. Hašek

BIOIMPLANTS, TISSUE ENGINEERING, NANOMEDICINE AND NANOTOXICITY

55. MODELING AND OPTIMIZATION OF CELL GROWTH AND PROLIFERATION IN BIODEGRADABLE SCAFFOLDS FOR VASCULARIZED TISSUE ENGINEERING

N. Kizilova

56. CHEMICALLY INERT NANOPARTICLES AFFECT HEMOPOIETIC AND STROMAL CELLS MICROENVIRONMENTS IN VITRO

I. Khlusov, T. Feduschak, M. Khlusova

57. CARBON NANOMATERIAL SUSPENSION TOXICITY ASSESSMENT

A. Baumerte, G. Šakale, M. Knite, I. Putna, M. Balode

Friday, 12 October

9:00 - 10:00

SESSION: SENSORS, INSTRUMENTATION AND TELEMEDICINE

Chairmen: Prof. Janis Spigulis (Latvia)

Prof. Arunas Lukosevicius (Lithuania)

9:00 - 9:15

VOLATILE ORGANIC COMPOUNDS DETECTION WITHIN GASEOUS MIXTURES

G. Sakale, E. Liepa, M. Knite (Latvia)

9:15 - 9:30

MEMS ACCELEROMETER-BASED HEART MONITORING SYSTEM WITH MYOCARDIAL FIXATION

F. Tjulkins, A. T. Thai Nguyen, K. Imenes, M. Andersen (Norway)

9:30 - 9:45

SOURCE LOCALIZATION BASED ON ICTAL ELECTROENCEPHALOGRAPHIC RECORDINGS

N. P. Subramaniam, J. Peltola, J. M.A.Tanskanen, K. Wendel-Mitoraj, J. Hyttinen, J. Malmivuo (Finland)

9:45 - 10:00

TELEMEDICINE IN INDIA – IMPACT ON HEALTH CARE

A.Chougule (India)

10:00 - 10:15 Break

10:15 - 11:30

SESSION: RADIATION THERAPY AND DIAGNOSTICS, DOSIMETRY AND QA

Chairmen: Prof. Franco Milano (Italy), Prof. Leonid Oster (Israel)

10:15 - 10:30

ON USABILITY OF GAMMA CRITERIA DISTRIBUTION FOR EVALUATION OF FIELD-IN-FIELD TREATMENT PLANS IN CONFORMAL RADIOTHERAPY

A. Bernans, A. Katashev (Latvia)

10:30 - 10:45

DETERMINING THE THRESHOLD OF RADIOTHERAPY DELIVERY ERROR DETECTION USING DELTA4

P. Eizentals, M. Thomas (Latvia, UK)

10:45 - 11:00

DOSE EVALUATION ALONG THE IR -192 BRACHYTHERAPY SOURCE TRANSPORTATION PATH TO THE DWELL POSITION USING 2D FILM DOSIMETRY

D. Adliene, J. Laurikaitiene, K. Jakstas, V. Rudzianskas, G. Adlys (Lithuania)

11:00 - 11:15

AN APPLICATION OF LÉVY METRIC TO RADIOTHERAPY BIOLOGICAL TREATMENT PLAN OPTIMIZATION

F. C. Henríquez, S. V. Castrillón (Spain)

11:15 - 11:30

PHYSICAL MEASUREMENT AND DOSE TESTS ON FUJIFILM AMULET

E. Buono, M. Italiani (Italy)

12:00 - 13:00 Time for lunch

13:00 - 15:30

SESSION: BIOMATERIALS, MICRO-, NANOMATERIALS

Chairmen: Dr. Rachel Sammons, (UK), Prof. Jose Miguel Martin Martinez (Spain)

13:00 - 13:15

AUTOLOGOUS FIBRIN MIXED WITH BIPHASIC CALCIUM PHOSPHATE BIOCERAMIC GRANULES ACTIVATES ENCAPSULATION IN SOFT TISSUE ENVIRONMENT

I. Salma, G. Salms, A. Skagers, M. Pilmane, L. Feldmane (Latvia)

13:15 - 13:30

IN VITRO EVALUATION OF OSTEOBLAST CELL BEHAVIOR AND ANTIMICROBIAL PROPERTIES OF BIPHASIC CALCIUM PHOSPHATE CERAMICS

D. Loca, A. Dubnika, A. Reinis, N. Romancikova (Latvia)

13:30 - 13:45

IN VIVO TESTS OF CYANOACRYLATE ADHESIVES WITH DIFFERENT ALKYL CHAIN LENGTH

F. J. Martínez-García, I. Sebastián-Poncea; A. M. Madariaga-O'Ryana, A. Angulo-Jerezb, R. Torregrosa-Coquec. J. M. Martín-Martínez (Spain)

13:45 - 14:00

ABSORPTION AND DEGRADATION CHARACTERISTICS OF COLLAGEN-BASED COMPOSITES REINFORCED WITH MAGNESIUM AND BIOCERAMIC POWDERS

I. Antoniac, D. Vranceanu (Romania)

14:00 - 14:15

SYNTHESIS AND ELECTRONIC STRUCTURE OF HAP-CARBON NANOMATERIALS COMPOSITES

V. L. Karbovskii, N. V. Rozhkov, N. A. Kurgan, V. V. Vishnyak (Ukraine)

14:15 - 14:30

INFLUENCE OF THE HYDROXYPROLINE CONTENT ON THE DENATURATION TEMPERATURE OF FISH SKIN COLLAGEN AND BOVINE ACHILLES TENDON COLLAGEN

M. Gauza, L. Kubisz (Poland)

14:30 - 14:45

BIOGENIC NANOSIZED HYDROXYAPATITE AS NOVEL MATERIAL FOR TISSUE ENGINEERING APPLICATIONS

K. Balázs, H.-Y. Sim, Je-Y. Choi, S.-G. Kim, C.-H. Chae, C. Balázs (Hungary, Korea)

14:45 - 15:00

PROFILOMETRY ON REFINED HYDROXYAPATITE COATINGS SUPPORTS THE DESIGN OF ORTHOPAEDIC IMPLANTS

K. A. Gross, M. Kumermanis, J. Rudzitis (Latvia)

15:00 - 15:15

PHYSICAL-MECHANICAL PROPERTIES AND BIOMEDICAL PERFORMANCES OF TITANIUM OXYNITRIDE FILMS DEPOSITED BY REACTIVE MAGNETRON SPUTTERING

V. Pichugin, N. Morozova, M. Konischev, Y. Vechersky, S. Andreev, I. Khlusov, K. Eremenko (Russia)

15:15 - 15:30

NANOSTRUCTURED TITANIUM PRODUCED BY SEVERE PLASTIC DEFORMATION: STRUCTURE, PROPERTIES, MEDICAL APPLICATIONS

Yu. Sharkeev (Russia)

15:30 - 15:45 Break for coffee

15:45 - 18:15

SESSION: BIOIMPLANTS, TISSUE ENGINEERING, NANOMEDICINE AND NANOTOXICITY

Chairmen: Prof. Csaba Balazsi (Hungary), Prof. Iulian Antoniac (Romania)

15:45 - 16:00

DLC THIN FILMS FOR CARDIOVASCULAR STENTS

S.T. Shishiyanu, T.S. Shishiyanu, P.S. Stefanov, V.K. Gueorguiev (Moldova)

16:00 - 17:15

LASER-INDUCED HYDRODYNAMICS FOR TISSUE REGENERATION

V. Bagratashvili (Russia)

17:15 - 17:30

ULTRASTRUCTURAL CHARACTERISTICS OF TISSUE RESPONSE AFTER IMPLANTATION OF CALCIUM PHOSPHATE CERAMICS IN THE MANDIBLE OF RABBIT

V. Zalite, V. Groma, D. Jakovlevs, J. Locs, G. Salms (Latvia)

17:30 - 17:45

**BONE MARROW MULTIPOTENT MESENCHYMAL STROMAL CELLS
TRANSPLANTATION EFFECTS AFTER EXPERIMENTAL POLYTRAUMA IN RATS**

G. Krumina, D. Babarykin, Z. Krumina, I. Paegle, O. Suhorukov, G. Makarenkova, S. Nikulshin, I. Folkmane (Latvia)

17:45 - 18:00

**TRANSMYOCARDIAL LASER REVASCULARIZATION: SINGLE – INSTITUTION
EXPERIENCE**

E. Freilibs, R. Lacis, U. Strazdins (Latvia)

18:00 - 18:15

SOURCES OF RADIOTOXICITY IN SPENT NUCLEAR FUEL

G. Adlys (Lithuania)

18:15 - 18:30

Closing of the Symposium

1ST FLOOR

9:00 - 10:30

SESSION: DIAGNOSTICS, IMAGING, EXPERT SYSTEMS

Chairlady: Prof. Marta Radwanska (Poland)

Chairman: Prof. Kalju Meigas (Estonia)

9:00 - 9:15

**PILOT CLINICAL STUDY OF NOVEL ULTRASONIC HYDRATION MONITOR FOR
INFANTS**

A. Tatarinov, N. Sarvazyan, D. Gardovska, L. Eihvalde, I. Kreicberga (Latvia, USA)

9:15 - 9:30

**COMPARISON OF MICROSPHERE MODELS FOR CALCULATION OF
BACKSCATTERED ULTRASOUND SPECTRA**

R. Jurkonis, A. Lukosevicius (Lithuania)

9:30 - 9:45

**LED BASED DUAL WAVELENGTH HETEROCHROMATIC FLICKER METHOD FOR
SEPARATE EVALUATION OF LUTEIN AND ZEAXANTHIN IN RETINA**

M. Ozolinsh, P. Paulins (Latvia)

9:45 - 10:00

**THE ANALYSIS OF FINGER PHOTOPLETHYSMOGRAPHIC WAVEFORM IN HEALTHY
VOLUNTEERS AND DIABETES PATIENTS**

K. Pilt, K. Meigas, K. Temitski, M. Viigimaa (Estonia)

10:00 - 10:15

NEW FRACTAL METHODS FOR DIAGNOSIS OF CANCER

W. Klonowski, M. Pierzchalski, P. Stepień, R. A. Stepień (Poland)

10:15 - 10:30

**ONTOLOGY DRIVEN DECISION SUPPORT SYSTEM ARCHITECTURE FOR GAIT
ANALYSIS**

I. Turcin, V. Ergovic, M. Lackovic (Croatia)

10:45 - 11:45

SESSION: BIOMECHANICS, REHABILITATION AND PROSTHESIS

Chairmen: Dr. Frank Stein (Germany), Prof. Ivars Knets (Latvia)

10:45 – 11:00

**ON CRITERIA FOR WIDE-ANGLE LENS DISTORTION CORRECTION FOR
PHOTOGRAMMETRIC APPLICATIONS**

D. Celinskis, A. Katashev (Latvia)

11:00 – 11:15

**REQUIRED LOKOMOTOR ROBOT HABILITATION AND REHABILITATION FOR
CHILDREN WITH CEREBRAL PALSY DURING SLEEP**

E. Dukendjiev (Latvia)

11:15 - 11:30

METHODS FOR EVALUATION OF ROOT CANAL CURVATURES

A.M. Pangica, C. Biclesanu, A. Florescu (Romania)

11:30 - 11:45

SOLE HARDNESS EFFECT ON TYPICAL BADMINTON MOVEMENT

J.B. Ma, W.W. Shen, Q. Hao (China)

12:00 - 13:00 Time for lunch

13:00 - 14:30

**SESSION: BIOPHYSICS AND PHYSIOLOGY, DRUG DELIVERY AND MOLECULAR
DIAGNOSTICS**

Chairlady: Prof. Diana Adliene (Lithuania), Chairman: Prof. Leszek Kubisz (Poland)

13:00 - 13:15

**SEQUENTIAL AND STRUCTURAL BIOPHYSICAL ASPECTS OF COMBINATORIAL
OLIGO FISH IN HER2/NEU BREAST CANCER DIAGNOSTICS**

D. Zeller, N. Kepper, M. Hausmann, E. Schmitt (Germany)

13:15 - 13:30

**MAGNETIC PROPERTIES OF LEWIS LUNG CARCINOMA AND ANTITUMOR
MAGNETO-SENSITIVE COMPLEX**

V. Orel, A. Shevchenko, A. Romanov, A. Burlaka, S. Lukin, E. Sidorik, E. Venger (Ukraine)

13:30 - 13:45

**ENTERING THE NANO-COSMOS OF THE CELL BY MEANS OF SPATIAL POSITION
DETERMINATION MICROSCOPY (SPDM): IMPLICATIONS FOR MEDICAL
DIAGNOSTICS AND RADIATION RESEARCH**

M. Hausmann, P. Müller, R. Kaufmann, C. Cremer (Germany)

13:45 - 14:00

**THE INFLUENCE OF TEMPERATURE AND CARBON SOURCE ON EXPRESSION OF
RECOMBINANT HBCAG**

K. Ruģele, I. Bērza, S. Larsson, A. Dišlers, J. Vanags (Latvia)

14:00 - 14:15

TWO PROTEINS, HSP70 AND GAPDH, PLAY OPPOSITE ROLES IN THE FORMATION OF AGGREGATES IN MODELS OF HUNTINGTON DISEASE

B. Margulis, I. Guzhova, V. Lazarev (Russia)

14:15 - 14:30

DEVELOPMENT OF POLY(VINYL ALCOHOL) CRYO-SYSTEMS WITH MEDICINES AND THEIR COMPARATIVE STUDY OF ANTIMICROBIAL ACTIVITY AND CYTOTOXICITY

J. Stasko, N. Romanchikova, A. Reinis, L. Berzina-Cimdina, J. Kroica (Latvia)

15:30 - 15:45 Break for coffee

18:15 - 18:30

Closing of the Symposium

CONFERENCE SCIENTIFIC PROGRAMME

Section

History of Technical Sciences / Tehnisko zinātņu vēsture OS 12

Section Chair: Prof. J.Briedis, Riga Technical University, Latvia

Sekcijas zinātniskā komisija:

J. Briedis,	Dr.biol., RTU, priekšsēdētājs
H. Guļevskis,	Dr.sc.ing., RTU, priekšsēdētāja vietnieks
A. Zigmunde,	Dr.paed., RTU, sekretāre
I. Grosvalds,	Dr.sc.ing., RTU
J. Klētnieks,	Dr.sc.ing., RTU
J. Langins,	Dr.phil., Kanāda
J. Lielmežs,	Dr.phD.(chem.), Kanāda
A. Matukonis,	Dr.habil.sc.ing., Lietuva
I. Meirovics,	Dr.chem., RTU
K.Vārtukapteinis,	Dr.sc.ing., Latvijas Lauksaimniecības universitāte
A. Vīksna,	Dr.med., Latvijas Universitāte

Ceturtdiena, 11. oktobris

8.30 – 9.00

Dalībnieku reģistrācija

9.00 – 12.00

PLENĀRSĒDE

Sekcijas sēde Kaļķu ielā 1, 201.auditorijā (Mazajā zālē)

Piektdiena, 12. oktobris

Sekcijas sēde Kaļķu ielā 1, 219.auditorijā

8.30 – 9.00

Dalībnieku reģistrācija

9.00 – 9.10

H.GUĻEVSKIS (RTU), J.KLĒTNIEKS (LATVIJAS ZINĀTŅU VĒSTURES ASOCIĀCIJA)

Sēdes atklāšana

9.10 – 9.40

J.STRADIŅŠ (LATVIJAS ZINĀTŅU AKADĒMIJA), J.BRIEDIS (RTU)

Rīgas Tehniskās universitātes (Rīgas Politehnikuma / Rīgas Politehniskā institūta) vēsturiskā nozīme
Historical value of the Riga Technical University (Riga Polytechnicum / Riga Polytechnical Institute)

9.40 – 10.00

J.STRADIŅŠ (LATVIJAS ZINĀTŅU AKADĒMIJA)

Pauls Valdens – zinātnieks, rektors, latvietis

Pauls Valdens – scientist, rector, Latvian

10.00 – 10.20

L.RIBICKIS (RTU)

Rīgas Politehnikuma students Mihails Doļivo-Dobrovoļskis – trīsfāžu maiņstrāvas elektroapgādes
pamatlicējs

The student Mihail Dolivo-Dobrovolsky of the Riga Polytechnic – the developer of the three phase AC
power supply

10.20 – 10.35

M.URBAHA (RTU)

Ievērojamā zinātnieka, Rīgas Politehniskā institūta audzēkņa, Fridriha Candra ieguldījums aviācijas attīstībā un raķešu būvē

The contribution of Friedrich Zander - famous scientist, graduate from Riga Polytechnical Institute - to world aircraft and rocket building

10.35 – 10.50

IBERGA (LATVIJAS ĶĪMIJAS VĒSTURES MUZEJS), I.GRIŅEVIČS (LATVIJAS BIEDRĪBA "INFLANTY")

Latvijas Zinātņu vēstures asociācijas Goda biedram Dr. inž. Ilgaram Grosvaldam – 85

85 Years Dr. ing. Ilgars Grosvalds – the Honorary Member of Latvian Association of the History Science

10.50 – 11.00 Kafijas pauze

11.00 – 11.15

IGROSVALDS (LATVIJAS ĶĪMIJAS VĒSTURES MUZEJS), A.ZIGMUNDE (RTU)

Grēvingu dzimtas kultūrvēsturiskā nozīme Latvijā

The Grevingk family and their contribution to the cultural life of Latvia

11.15 – 11.30

J.KLĒTNIĒKS, J.ŠTRAUHMĀNIS (RTU)

Ģeodēzijas zinātne un izglītība RTU 150 gadus

Development of Education and Sciences in Geodesy in 150 years of Riga Technical University

11.30 – 11.45

A.KRĒSLIŅŠ, N.ZELTIŅŠ (RTU)

Latvijas dalība Pasaules Enerģijas Padomes aktivitātēs (1924-2012)

Participation of Latvia in activities of World Energy Council (1924-2012)

11.45 – 12.00

V.LAPKOVSKIS, V.MIRONOVS, A.ŠIŠKINS, V.STANKEVIČA, V.ZEMCHENKOVS (RTU)

Rīgas Tehniskās universitātes Pulvermateriālu laboratorijai 40 gadi

The Laboratory of Powder Materials at Riga Technical University – 40 years

12.00 – 12.15

I.ZVIRGZDIŅŠ (MADONAS NOVADPĒTNIECĪBAS MUZEJS)

Pētera Dzeņa mērniecības kursi

Peteris Dzenis Surveying Courses

12.15 – 13.00 Pārtraukums

13.00 – 13.15

DZ.ATSTĀJA (BANKU AUGSTSKOLA), A.ZIGMUNDE. (RTU)

Rīgas Politehniskā institūta Komercijas nodaļas 1911.gada absolventi

The alumni of the department of commerce of the Riga Polytechnical institute

13.15 – 13.30

I.GRIŅEVIČS (LATVIJAS BIEDRĪBA "INFLANTY"), I.GROSVALDS (LATVIJAS ĶĪMIJAS VĒSTURES MUZEJS)

Maksis Eglītis: no Rīgas Politehniskā institūta studenta līdz Jelgavas Lauksaimniecības akadēmijas rektoram

Maksis Eglitis from the Student of Riga Polytechnical Institute till to Rector of the Academy of Agriculture in Jelgava

13.30 – 13.45

M.PORMALE (LATVIJAS ZINĀTŅU VĒSTURES ASOCIĀCIJA)

Arvīda Kalniņa zaļais patvērums

Arvid Kalninsh green shelter

13.45 – 14.00

V.BRUNERE, A.BLŪMS (RTU)

Jānis Sauka – ķīmijas zinātnieks un pedagogs

Janis Sauka – Scientist of Chemie and pedagogue

14.00 – 14.15

I.GROSVALDS, U.ALKSNIS (LATVIJAS ĶĪMIJAS VĒSTURES MUZEJS)

Latvijas Universitātes ķīmiķu mācībgrāmatas

The textbooks of the chemists of the University of Latvia

14.15 – 14.30 Kafijas pauze

14.30 – 14.45

J.EIZENTĀLS, J.JANSONS, M.MANDAVS (RTU)

Latvijas radioražojumu kolekcija Elektronikas un telekomunikāciju fakultātē

The collection of Latvian radio set products in Faculty of Electronics and Telecommunications

14.45 – 15.00

J.JANSONS (RTU)

Kārlis Sīkais – pirmais latviešu radioierīču ražotājs

Kārlis Sikais – the first latvian radio producer

15.00 – 15.15

J.EIZENTĀLS (RTU)

Latvijas radiokonstrukciju analoģu izmantošana citos Padomju Savienības radiouztvērējos

The analogy of radios constructed in Latvia to other radio sets produced in the Soviet Union

15.15 – 15.30

S.COJA (SEMINARIUM HORTUS HUMANITATIS)

Rīgas Politehnikuma absolvents Nikolajs Zablockis (1863 - 1932)

Nikolai Zablocky (1863 - 1932) - the graduate of Riga Polytechnicum

CONFERENCE SCIENTIFIC PROGRAMME

Thursday, 11 October

Section

Real Estate Economics and Construction Entrepreneurship OS 13

Section Chair: Prof. I.Geipele, Riga Technical University, Latvia

Subsection “The real estate market development and the professional education development opportunities for the real estate area”

Moderator: Aigars Zariņš, FIABCI-Baltic Multinational Chapter president, Latvia

Scientific Committee:

I.Geipele	Prof.	Riga Technical University	Latvia
J.Vanags	Prof.	Riga Technical University	Latvia
I.Potravný	Prof.	Plekhanov Russian University of Economics	Russia

12:20 - 13:00

SCIENTIFIC PRACTICAL ROUNDTABLE “THE REAL ESTATE MARKET DEVELOPMENT AND THE PROFESSIONAL EDUCATION DEVELOPMENT OPPORTUNITIES FOR THE REAL ESTATE AREA”

13:00 – 14:00 Lunch

14:00 – 15:30

SCIENTIFIC PRACTICAL ROUNDTABLE “THE REAL ESTATE MARKET DEVELOPMENT AND THE PROFESSIONAL EDUCATION DEVELOPMENT OPPORTUNITIES FOR THE REAL ESTATE AREA”

/FOLLOWED BY DISCUSSION/

15:30 – 15:45 Coffee Break

15:45 - 17:00

SCIENTIFIC PRACTICAL ROUNDTABLE “THE REAL ESTATE MARKET DEVELOPMENT AND THE PROFESSIONAL EDUCATION DEVELOPMENT OPPORTUNITIES FOR THE REAL ESTATE AREA”

/DISCUSSION AND CONCLUSIONS/

Friday, 12 October

Section

Real Estate Economics and Construction Entrepreneurship OS 13

Section Chair: Prof. I.Geipele, Riga Technical University, Latvia

Subsection “The real estate market development and the professional education development opportunities for the real estate area”

Moderator: Aigars Zariņš, FIABCI-Baltic Multinational Chapter president, Latvia

Edgars Šīns, the Head of the Board LANIDA, Latvia

Scientific Committee:

I.Geipele	Prof.	Riga Technical University	Latvia
J.Vanags	Prof.	Riga Technical University	Latvia
I.Potravný	Prof.	Plekhanov Russian University of Economics	Russia

9:00 - 9:15

SEKCIJAS VADĪTĀJA UZRUNA

I.Geipele, Riga Technical University, Latvia

9:15 - 9:30

**MODELING HEALTH RISK FACTORS IN RUSSIA USING INPUT-OUTPUT AND
ECONOMETRIC APPROACHES**

Lidiya Kazantseva, Institute of Economics and Industrial Engineering of the Siberian Branch of the
RAS, Russia

Tatyana Tagaeva, Institute of Economics and Industrial Engineering of the Siberian Branch of the
RAS, Russia

Vadim Gilmundinov, Institute of Economics and Industrial Engineering of the Siberian Branch of the
RAS, Russia

9:30 - 9:45

**IMPROVING OF ECONOMIC COOPERATION: FORMS INVESTIGATION AND
GRAVITY MODEL IMPLEMENTATION**

Olha Lukash, Sumy State University, Ukraine

9:45 - 10:00

THE DUALISM OF ECONOMIC SYSTEMS AND ENVIRONMENTAL ISSUES

Leonid Melnyk, Sumy State University, Ukraine

10:00 - 10:15

TIME FACTOR IN ECONOMICS

Leonid Melnyk, Sumy State University, Ukraine

Yuriy Derevyanko, Sumy State University, Ukraine

Irina Dehtyarova, Sumy State University, Ukraine

10:15 - 10:30

ECOPOLIS AS INNOVATIVE VECTOR OF GREENING THE ECONOMY

Leonid Melnyk, Sumy State University, Ukraine

Elena V. Shkarupa, Sumy State University, Ukraine

Irina M. Burlakova, Sumy State University, Ukraine

10:30 - 10:45

REGIONAL MODEL OF CLUSTER INTERACTIONS IN THE «GREEN ECONOMY»

Maria Tereshina, Kuban State University, Russia

10:45 - 11:00

MAIN DIRECTIONS OF THE RUSSIAN ECOLOGICAL POLICY: A LOOK AFTER «RIO + 20»

Anna Vega, Plekhanov Russian University of Economics, Russia

Ivan Potravny, Plekhanov Russian University of Economics, Russia

Ekaterina Zhalsarayeva, East Siberia State University of Technology and Management, Russia

11:00 - 11:15

METHODOLOGICAL SOLUTIONS FOR EVALUATION OF LAND USE EFFICIENCY

Armands Auziņš, Riga Technical University, Latvia

11:15 - 11:30

**THE CHALLENGES FOR REAL ESTATE MASS VALUATION AND TAXATION SYSTEM
FOR THE ECONOMIC STABILIZATION OF LATVIA**

Sarmite Barvika, Riga Technical University, Latvia

Aldis Rausis, Riga Technical University, Latvia

Ineta Geipele, Riga Technical University, Latvia

11:30 - 11:45

**REEQUIPMENT OF HEATING SYSTEMS IN APARTMENT BUILDINGS TECHNICAL
ECONOMICAL SOLUTIONS**

Viktors Bloks, Riga Technical University, Latvia

Baiba Pļaviņa, Riga Technical University, Latvia

Ineta Geipele, Riga Technical University, Latvia

Sanda Geipele, Riga Technical University, Latvia

Iveta Stāmure, Riga Technical University, Latvia

11:45 - 12:00

**ON COMPETITIVENESS BASED MANAGEMENT FOR MANUFACTURING WOOD
PRODUCTS IN LATVIA**

Kristīne Fedotova, Riga Technical University, Latvia

Ineta Geipele, Riga Technical University, Latvia

12:00 – 12:15 Coffee Break

12:15 – 12:30

**ENERGY EFFICIENCY SUSTAINABLE DEVELOPMENT IN LATVIA AT NATIONAL AND
REGIONAL PERSPECTIVE**

Ineta Geipele, Riga Technical University, Latvia

Gita Actiņa, Riga Technical University, Latvia

Namejs Zeltiņš, Institute of Physical Energetic, Latvia

12:30 – 12:45

FINANCING MODELS FOR HOUSING FUND RENOVATION IN LATVIA

Ineta Geipele, Riga Technical University, Latvia

Jānis Vanags, Riga Technical University, Latvia

Sanda Geipele, Riga Technical University, Latvia

Iveta Stāmure, Riga Technical University, Latvia

12:45 – 13:00

**PROBLEMS AND THEIR SOLUTIONS IN VALUATION OF COMMERCIAL TYPE REAL
ESTATE FOR THE NEEDS OF MORTGAGE LENDING**

Sanda Geipele, Riga Technical University, Latvia

Darja Kosareva, Riga Technical University, Latvia

13:00 – 14:00 Lunch

14:00 – 14:15

**REVITALIZATION AND DEVELOPMENT OF THE GREEN REAL ESTATE OF RIGA
CITY**

Jurijs Grizāns, Riga Technical University, Latvia

Jānis Vanags, Riga Technical University, Latvia

14:15 - 14:30

**THE IMPORTANCE OF EUROPEAN UNION FUNDING FOR INFRASTRUCTURE
DEVELOPMENT IN LATVIA**

Laura Lielgaidiņa, Riga Technical University, Latvia

Ineta Geipele, Riga Technical University, Latvia

14:30 - 14:45

STRATEGIC DEVELOPMENT DIRECTIONS IN ROAD CONSTRUCTION

Sanda Pilskalne, Riga Technical University, Latvia

Sanda Geipele, Riga Technical University, Latvia

14:45 - 15:00

ECONOMICALLY ADVANTAGEOUS LOCATION ASSESSMENT FOR THE INDUSTRIAL BUSINESS IN LATVIA

Tatjana Štaube, Riga Technical University, Latvia

Ineta Geipele, Riga Technical University, Latvia

15:00 - 15:15

BUILDING INFORMATION SYSTEMS FOR SUSTAINABLE CONSTRUCTION

Tatjana Tambovceva, Riga Technical University, Latvia

Andrejs Tambovcevs, Riga Technical University, Latvia

15:15 – 15:30

SOCIALLY ECONOMICAL AND ECOLOGICAL ASPECTS OF THE INTERACTIVITY OF DEVELOPMENT OF CITIES AND REGIONS

Jānis Vanags, Riga Technical University, Latvia

Ineta Geipele, Riga Technical University, Latvia

Jurijs Grizāns, Riga Technical University, Latvia

Sanda Geipele, Riga Technical University, Latvia

Iveta Stāmure, Riga Technical University, Latvia

15:30 – 15:45 Coffee Break

15:45 - 16:00

PERSONAL INCOME CHANGES IN THE LONG TERM AND ITS INFLUENCE ON HOUSING FUND DEVELOPMENT IN LATVIA

Vitālijs Zubkovs, Riga Technical University, Latvia

Ineta Geipele, Riga Technical University, Latvia

16:00 – 16:15

SUMMARY

Ineta Geipele, Riga Technical University, Latvia

CONFERENCE SCIENTIFIC PROGRAMME

Friday, 12 October

Section

**European Forum Entrepreneurship Research (EFER) Alumni Roundtable OS 14
Hosted by Riga Technical University on the occasion of the 150th Jubilee Celebration**

09:00 - 09:30

WELCOME & INTRODUCTIONS

Welcome and opening comments from Talis Juhna, Vice Rector, RTU, Latvia

Self-introductions of all participants

9:30 - 10:15

**THE EUROPEAN FINANCIAL CRISIS: CASE STUDY ON LATVIA NAVIGATING THE
FINANCIAL CRISIS**

In recent months, Latvia has been repeatedly referred to as an example for other countries struggling in the financial crisis in Europe. What actions did Latvia take in 2009 and what lessons can be applied to other countries in Europe? A recently released HBS case study on Latvia will be used as the basis for discussion.

10:15 - 11:00

**PANEL DEBATE ON INNOVATION, INVESTMENT AND ECONOMIC GROWTH IN
EUROPE. WHAT IS THE WAY FORWARD FOR EUROPE?**

11:00 - 11:40 Coffee Break

11:40 - 12:00

LEARN, EARN, RETURN: 10 LESSONS FROM A GLOBAL ENTREPRENEUR

B. Twaalfhoven, President and Founder, EFER

12:00 - 12:45

WHAT CAN BE DONE TO ACCELERATE ENTREPRENEURSHIP?

Governments are increasingly interested in promoting entrepreneurship to spur economic growth and job creation. What role can government play? What role does entrepreneurship education play and how can the universities engaged?

13:00 - 14:00 Lunch

14:00 - 14:45

**PANEL DISCUSSION: ENGAGING ENTREPRENEURS IN THE CLASSROOM,
EXPERIENCES FROM ENTREPRENEURS WHO ARE ALSO TEACHING**

14:45 - 15:30

BUILDING COMMITMENT FOR ENTREPRENEURSHIP WITHIN THE UNIVERSITY

15:30 - 16:45

PARALLEL SESSIONS

SESSION A: DEVELOPING ENTREPRENEURSHIP COURSES & CURRICULUM

Since EECPC and EEC, our EFER alumni have been developing new courses and reshaping the curriculum at their universities. This session will provide an opportunity to hear about the approaches they have taken and the opportunities and challenges they have faced within their institutions along the way.

SESSION B: LINKING UNIVERSITIES TO THE ENTREPRENEURIAL ECOSYSTEM

More and more students are interested in entrepreneurship but what does it take to help them make the leap? This session will highlight experiences in countries across Europe.

16:45 - 17:15

REPORT BACKS FROM THE PARALLEL SESSIONS & EFER UPDATE

- EFER European Training programs:
 - o EEC 2012 (Cambridge)
 - o Plans for EEC 2013-2016
- Other projects and activities
 - o Champions project
 - o Spin-off project
 - o EFER's entrepreneurs board and EIR program
 - o EFER faculty exchange (aim to restart in 2013)
- Next EFER Alumni Roundtables

Saturday, 13 October

Location: Riga Technical University

9:30 - 10:30

PANEL DISCUSSION: EXPERIENCES IN ENTREPRENEURSHIP EDUCATION ACROSS EUROPE

Practices in Entrepreneurship Education are growing and evolving in different ways across universities and countries. What can be learned from experiences of "entrepreneurial universities" in Europe? How is entrepreneurship being taught across disciplines?

10:30 - 10:45 Coffee break

10:45 - 12:00

PARALLEL SESSIONS

SESSION A: DEVELOPING ENTREPRENEURSHIP CASES

The EFER Champions Project has focused on identifying international entrepreneurs who have emerged from Central and Eastern Europe. Several EFER alumni have been involved in the writing of these case studies. This session will provide an opportunity to share best practices and lessons learned.

SESSION B: ENTREPRENEURSHIP TEACHING METHODS/NEW APPROACHES AND PRACTICES

In addition to the case method, there are many new approaches and interactive methods to teaching entrepreneurship. This session will highlight a variety of practices such as simulations, projects with companies, etc.

12:00 - 12:30

BRAINSTORMING: MEASURING SUCCESS?

With all of the new tools and approaches to teaching entrepreneurship, how do we measure success? What metrics are appropriate and how do we gather them? With limited evaluations done to date on entrepreneurship education programs, how do we know what is working and what it not?

12:30 - 12:45

REPORT BACKS FROM PARALLEL SESSIONS AND WRAP-UP

CONFERENCE SCIENTIFIC PROGRAMME

Friday, 12 October

Roundtable Discussion „Funding models for universities”
*Hosted by Riga Technical University on the occasion of the 150th Jubilee
Celebration*

14:00-16:00

Āzenes Street 16/20 (1st floor, room 132)

Riga, Latvia

Moderator:

Asoc.prof. G.Revalde, Vice Rector for Academic Policy and Quality, Riga Technical university

Participants:

T.Halonen (Ministry of Education and Culture, Finland)

E.Veldre (Estonian Student association, Estonia)

A.Teikmanis (Latvian Academy of Art, Latvia)

Mr.R.Smyth (Ministry of Education, New Zealand)

I.Eriņš (Riga Technical university, Latvia)