



*University of Banja Luka  
Faculty of Mechanical Engineering*



*11<sup>th</sup> International Conference on Accomplishments in  
Electrical and Mechanical Engineering and  
Information Technology DEMI 2013*

# CONFERENCE PROGRAM

DEMI 2013



*Banja Luka  
30<sup>th</sup> May – 1<sup>st</sup> June 2013*

## CONFERENCE PROGRAM

THURSDAY, May 30, 2013		
TIME	PLACE	ACTIVITY
9.00 : 10.00	Entrance hall	Registration of the participants
10.00 : 10.45	Amphitheatre	Conference Opening
11.00 : 12.45	Amphitheatre	<p>Keynote Lectures:</p> <p>Konstantinos-Dionysios Bouzakis: CHARACTERIZATION METHODS AND PERFORMANCE OPTIMIZATION OF COATED CUTTING TOOLS</p> <p>Manfred Hild: DEFYING GRAVITY – A MINIMAL COGNITIVE SENSORIMOTOR LOOP WHICH MAKES ROBOTS WITH ARBITRARY MORPHOLOGIES STAND UP</p> <p>Niko Heraković: DEVELOPMENT TRENDS IN ASSEMBLY AUTOMATION ANFLUID POWER</p>
12.45 : 13.45	Entrance hall	Welcome Coctail
13.45 : 14.45	Amphitheatre	<p>Keynote Lectures:</p> <p>Giovanni Belingardi: LIGHTWEIGHT DESIGN OF VEHICLE BODY A CONTRIBUTION TOWARD GREENER ENVIRONMENT</p> <p>Dušan Gruden: QUESTION THAT IS ASKED FOR DECADES: WHO WILL MOVE OUR CARS IN THE FUTURE?</p>
15.00 : 17.00	Amphitheatre, Rooms 11, 19, 21 and 29	Work in Sections
17.00 : 17.15		Coffee Break
17.15: 18.45	Amphitheatre, Rooms 11, 19, 21 and 29	Work in Sections
18.45 : 20.00		Free Time
20.00	Restaurant "STARA ADA"	Gala Dinner

FRIDAY, May 31, 2013		
TIME	PLACE	ACTIVITY
8.30 : 10.00	Amphitheatre, Rooms 11, 19 and 21	Work in Sections
10.00 : 10.15		Coffee Break
10.15 : 12.15	Amphitheatre and Room 21	Work in Sections
	Room 11	<p>Workshop</p> <p>RMS d.o.o Belgrade, representative of Bruel&amp;Kjaer, Denmark "Environmental&amp;Occupational Noise Management"</p>
13.00 : 17.00		<p>Social Events:</p> <p>Visit to Rafting Center Karanovac and rafting for interested Conference participants</p>

SATURDAY, June 1, 2013		
TIME	PLACE	ACTIVITY
10.00 : 11.00	Amphitheatre	<p>Round table:"Modes of links and cooperation between university and industry"</p> <p>End of Conference</p>

## WORK IN SECTIONS

**THURSDAY, May 30, 2013**

TIME	PLACE	ACTIVITY
15.00 : 17.00	Amphitheatre	Section A. PRODUCTION TECHNOLOGIES AND ENGINEERING Papers with numbers 1-12  Moderators: Konstantinos-Dionysios Bouzakis Pavel Kovač Vid Jovišević
	Room 11	Section B. MECHANICS AND DESIGN Papers with numbers 1-13  Moderators: Stevan Maksimović Slobodanka Boljanović Stain Posavljak
	Room 19	Section C. MECHATRONICS Papers with numbers 1-10  Moderators: Mihajlo Lazarević Miroslav Rogić
	Room 21	Section D. ENERGY AND THERMAL ENGINEERING Papers with numbers 1-12  Moderators: Milan Lečić Gordana Tica
	Room 29	Section E. TRANSPORT AND MEANS OF TRANSPORT Keynote lectures and papers with numbers 1-12  Moderators: Miroljub Tomić Dobrivoje Ninković Snežana Petković
17.00 : 17.15	Coffee Break	
17.15 : 18.45	Amphitheatre	Section A. PRODUCTION TECHNOLOGIES AND ENGINEERING Papers with numbers 13-21  Moderators: Velimir Todić Janez Kopač Gordana Globočki-Lakić
	Room 11	Section F. MAINTENANCE OF TECHNICAL SYSTEMS, OCCUPATIONAL SAFETY Papers with numbers 1-10  Moderators: Miodrag Bulatović Ninoslav Zuber Zdravko Milovanović
	Room 19	Section C. MECHATRONICS Papers with numbers 11-20  Moderators: Trygve Thomessen Tihomir Latinović
	Room 21	Section D. ENERGY AND THERMAL ENGINEERING Papers with numbers 13-22  Moderators: Predrag Živković Petar Gvero

	Room 29	<p>Section E. TRANSPORT AND MEANS OF TRANSPORT Papers with numbers 13-23</p> <p>Moderators: Radivoje Pešić Aleksandar Milašinović</p>
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FRIDAY, May 31, 2013		
TIME	PLACE	ACTIVITY
8.30 : 10.00	Amphitheatre	<p>Section A. PRODUCTION TECHNOLOGIES AND ENGINEERING Papers with numbers 22-30</p> <p>Moderators: Milentije Stefanović Miroslav Plančak Milan Zeljković</p>
	Room 11	<p>Section F. MAINTENANCE OF TECHNICAL SYSTEMS, OCCUPATIONAL SAFETY Papers with numbers 11-17</p> <p>Moderators: Jasmina Cholaska Mladen Todić</p>
	Room 19	<p>Section B. MECHANICS AND DESIGN Papers with numbers 14-28</p> <p>Moderators: Milosav Ognjanović Dragan Milosavljević Živko Pejašinović</p>
	Room 21	<p>Section D. ENERGY AND THERMAL ENGINEERING Papers with numbers 23-31</p> <p>Moderators: Gradimir Ilić Zdravko Milovanović</p>
10.00 : 10.15		Coffee Break
10.15 : 12.15	Amphitheatre	<p>Section A. PRODUCTION TECHNOLOGIES AND ENGINEERING Papers with numbers 31-40</p> <p>Moderators: Miodrag Hadžistević Saša Živanović Emilija Assenova</p>
	Room 21	<p>Section D. ENERGY AND THERMAL ENGINEERING Papers with numbers 32-39</p> <p>Moderators: Viktor Šajn Pero Petrović</p>

**AMPHITHEATRE****THURSDAY, May 30, 2013****Section A. PRODUCTION TECHNOLOGIES AND ENGINEERING**

TIME	NUM.	PAPER
15.00 : 17.00	1	Branko Pejović, Slavica Cvetković, Pantelija Dakić, Aleksandar Todić, Stefan Pavlović ABOUT A SUITABLE MODEL OF KINEMATIC ANALYSIS OF COMPLEX MACHINE TOOLS TRANSMITTERS
	2	Bogdan Marić, Ranko Božičković, Miloš Sorak, Zdravko Božičković ALGORITHM FOR PRODUCTION PROCESS MANAGEMENT IN OVERHAUL PRODUCTION SYSTEM
	3	Dragoslav Dobraš, Zdravko Božičković, Žarko Petrović, Mladen Santrač, Petar Tasić VIRTUAL WELDING
	4	Jovišević Vid, Borojević Stevo, Globočki-Lakić Gordana, Čiča Đorđe, Sredanović Branislav ANALYSIS OF EFFECTIVENESS ON PRODUCTION SYSTEM FOR PRODUCTION OF THE TOOLS FOR HYDRAULIC PRESS BRAKES
	5	Milan Despotović, Zoran Kovačević, Jasna Radulović ANALYSIS OF OPTIMAL WIRING OF PV PANELS BY MEANS OF NONLINEAR INTEGER PROGRAMMING
	6	Dragan Adamović, Vesna Mandić, Milentije Stefanović, Srbslav Aleksandrović, Miroslav Živković ANALYSIS OF THE TEMPERATURE CHANGE ON THE TOOL AND WORK PIECE DURING THE IRONING PROCESS
	7	Marin Gostimirovic, Dragan Rodic, Pavel Kovac, Vladimir Pucovsky, Branislav Savkovic APPLICATION OF NEURO-FUZZY SYSTEMS AND GENETIC PROGRAMMING FOR MODELLING SURFACE ROUGHNESS IN ELECTRICAL DISCHARGE MACHINING
	8	Dušan Petković, Goran Radenković, Vladislav Blagojević, Predrag Živković, Ivan Ćirić APPLICATION OF REGRESSION ANALYSIS AND GENETIC ALGORITHM TO THE OPTIMIZATION OF NITRIC ACID PASSIVATION OF 316L STAINLESS STEEL
	9	Simo Jokanović, Slaviša Todorović AUTOMATIC GENERATION OF 3D CAD MODELS OF STANDARD PARTS AND PRODUCTS BY APPLICATION PROGRAMMING INTERFACES OF CAD/CAM SYSTEMS
	10	Mathias Liewald, Ranko Radonjic BEHAVIOR OF ADVANCED HIGH STRENGTH STEELS IN DEEP DRAWING PROCESSES
	11	D. Dobraš, Ž. Petrović, Z. Božičković BROWN'S GAS - HEAT SOURCE FOR WELDING
	12	Zoran Janjuš, Aleksandar Petrović, Aleksandar Jovović, Radica Prokić-Cvetković CHANGES MECHANICAL PROPERTIES POLYPROPYLENE FILLED GLASS POWDER
17.00 : 17.15	Coffee Break	

17.15 : 18.45	13	Milena Ćosić, Marina Dojčinović, Zagorka Aćimović-Pavlović CHARACTERIZATION OF THE MICROSTRUCTURE EVOLUTION IN RHEOCAST HYPEREUTECTIC AL-SI ALLOY
	14	Vladan Andonovic, Marija Ackovska, Neda Petroska Angelovska CLOUD COMPUTING AS INTERNET OF THINGS PARADIGM FOR BIOMEDICAL INVESTIGATION
	15	Slobodan Petricevic, Marko Barjaktarovic, Peđa Mihailovic COATED BOARD INSPECTION SYSTEM
	16	Velimir Todić, Dejan Lukić, Mijodrag Milošević, Jovan Vukman, Goran Jovičić COMPUTER AIDED CONCEPTUAL PROCESS PLANNING - A SHORT REVIEW
	17	Dejan Lukić, Velimir Todić, Mijodrag Milošević, Goran Jovičić, Jovan Vukman SOFTWARE DEVELOPMENT FOR CONCEPTUAL PROCESS PLANNING
	18	Dejan Lukić, Velimir Todić, Mijodrag Milošević, Jovan Vukman, Goran Jovičić VERIFICATION OF THE DEVELOPED CONCEPTUAL CAPP SYSTEM ON THE EXAMPLE OF ROLLER BEARING
	19	Branislav Sredanović, Gordana Globočki Lakić, Davorin Kramar, Janez Kopač CUTTING FORCE MODELING IN HARD ALLOY STEEL TURNING
	20	Srbislav Aleksandrović, Tomislav Vujinović, Milentije Stefanović, Vukić Lazić, Milan Djordjević, Dragan Milosavljević DEFINING OF PRESSURE AND DRAWBEAD HEIGHT FUNCTIONS IN SHEET METAL STRIPE TENSILE TEST OVER DRAWBEAD WITH VARIABLE PARAMETERS
	21	Mladen Todić, Ostoja Miletic DEFORMATION ZONES AT TWO-LAYER BENDING COMPOSITES

**FRIDAY, May 31, 2013**

Section A. PRODUCTION TECHNOLOGIES AND ENGINEERING		
TIME	NUM.	PAPER
8.30 : 10.00	22	Dimitri Kozinakov, Filip Zdraveski DETERMINATION OF STIFFNESS CLASS OF SPIRAL PIPES VIA TEST METHOD AND COMPARISON WITH COMPUTER MODEL RESULTS
	23	Mileta Janjić, Sreten Savićević, Milan Vukčević, Nikola Šibalić DETERMINATION OF STRAIN RATE STATE AT FORGING IN OPEN DIE
	24	Asim Jušić, Nijaz Hasanagić, Milan Jurković, Mladen Todić ELASTIC STRAIN TEST FRAME OF PROCESSING SYSTEM FOR PROFILING SHEET METAL BY ROLLERS
	25	Petar Tasić, Ismar Hajro, Damir Hodžić, Dragoslav Dobraš ENERGY EFFICIENT WELDING TECHNOLOGY: FSW
	26	Igor Kačmarčik, Miroslav Plančak, Dragiša Vilotić, Dejan Movrin, Aljoša Ivanišević IMPACT OF BILLET SHAPE ON FORGING LOAD AND MATERIAL FLOW IN BI- METALLIC FORWARD Al/Cu EXTRUSION
	27	Milentije Stefanović, Vesna Mandić, Zvonko Gulišija, Srbislav Aleksandrović, Dragan Adamović IMPROVING THE QUALITY OF AL- ALLOYS HOT FORGING PARTS
	28	Adnan Mustafić, Slađan Lovrić, Edis Nasić, Mirza Krajnović INFLUENCE OF POROUS STAINLESS STEEL OBTAINED BY CENTRIFUGAL CASTING ON THE CUTTING ABILITY OF BANDSAW TOOLS
	29	I. Karabegović, B. Novkinić, E. Husak, S. Isić INFLUENCE OF SELF-EXCITED VIBRATIONS ON THE SURFACE ROUGHNESS OF WORKPIECES OBTAINED BY LONGITUDINAL TURNING
	30	Aljoša Ivanišević, Dejan Movrin, Igor Kačmarčik, Branko Štrbac, Milorad Betegalo INVESTIGATION OF NEGATIVE SPRING BACK IN V – BENDING OPERATIONS
10.00 : 10.15	Coffee Break	

10.15 : 12.15	31	Mirza Krajnović, Adnan Mustafić, Mensur Demirović MODELING OF ELASTIC STRAIGHTENING IN THE PROCESS OF PRODUCTION OF COIL (HELICAL) CYLINDRICAL SPRINGS
	32	Dusan Jovanic, Zeljko Eremic MODELLING DATABASE OF WELDING PROCEDURE SPECIFICATION
	33	Sekulić Milenko, Kramar Davor, Kopač Janez, Gostimirović Marin, Kovač Pavel OPTIMIZATION CUTTING PARAMETERS BASED ON CUTTING TEMPERATURE IN HPJA TURNING PROCESS USING TAGUCHI'S METHOD
	34	Dijana Nadarević, Davorin Kramar, Mirko Soković PLANNING OF THE CRANKSHAFT GRINDING PROCESS
	35	Matin Ivan, Hadzistevic Miodrag, Hodolic Janko, Vukelic Djordje PRACTICAL ASPECTS OF INTEGRATION IN THE DEVELOPED MOLD DESIGN SYSTEM
	36	Tabaković Slobodan, Bojanić Mirjana, Zeljković Milan, Milojević Zoran PROGRAMMING SOLUTIONS FOR PROCESSING DIGITAL MEDICAL IMAGES
	37	Saša Živanović, Miloš Glavonjić SIMULATIONS OF MACHINING BASED ON STEP-NC
	38	Borut Kosec, Mirko Soković, Gorazd Kosec, Blaž Karpe THERMOGRAPHIC AND FAILURE ANALYSIS OF DIES FOR ALUMINIUM ALLOYS DIE-CASTING
	39	Emilia Assenova, Mara Kandeve TRIBOLOGY CENTER AT THE TECHNICAL UNIVERSITY - SOFIA
	40	Bogdan Nedić, Marko Janković, Miroslav Radovanović, Gordana Lakić Globočki AN INVESTIGATION OF QUALITY IN PLASMA CUTTING

**ROOM 11****THURSDAY, May 30, 2013****Section B. MECHANICS AND DESIGN**

TIME	NUM.	PAPER
15.00 : 17.00	1	Djordjevic Zorica, Blagojevic Mirko, Kostic Nenad, Jovanovic Sasa, Marjanovic Vesna ADVANTAGES OF APPLICATION COMPOSITE MATERIALS FOR PRODUCTION CARDAN SHAFTS
	2	Tihomir Mačkić, Živko Babić, Mirko Blagojević, Goran Jotić, Jovan Škundrić AN ANALYSIS OF LUBRICATION REGIME BETWEEN THE CONTACT ELEMENTS OF CYCLOID REDUCER
	3	Stevan Maksimović, Ivana Vasović, Mirko Maksimović, Mirjana Đurić ANALYSIS OF AICRAFT STRUCTURES WITH RESPECTS TO FATIGUE AND FRACTURE MECHANICS
	4	Pejašinović Živko, Jotić Goran, Mačkić Tihomir ANALYSIS OF ELASTIC ELEMENTS PROPERTIES OF AXIAL FORCE TRANSDUCERS
	5	Radomir Đokić, Jovan Vladić, Dragan Živanić ANALYSIS OF POWER TRANSMISSION SYSTEMS FOR ELEVATORS AND DYNAMIC MODELS
	6	Ljupco Trajcevski, Tale Geramitchioski ANALYTIC SIMULATION OF DAMAGE OF GEAR TOOTH
	7	Nenad Marjanović, Nenad Kostić, Mirko Blagojević, Vesna Marjanović, Biserka Isailović AUTOMATED GEAR TRAIN MODELING IN CAD ENVIRONMENT
	8	Gordana Bogdanović, Dragan Milosavljević, Ljiljana Veljović, Aleksandar Radaković COMPOSITE MATERIALS – MECHANICAL BEHAVIOR OF ANISOTROPIC MEDIA
	9	Nijaz Hasanagić, Asim Jušić, Milan Jurković, Mladen Todić DESIGNING TRANSDUCERS FOR MEASUREMENT OF FORCE IN SHEET METAL FORMING PROCES BY MEANS OF ROLLERS
	10	Matejić S. Miloš, Veljović Ljiljana, Marjanović Vesna, Blagojević Mirko, Marjanović Nena DYNAMIC BEHAVIOR OF PLANETARY GEARBOX NEW CONCEPT
	11	Filip Zdraveski, Ivan Mickoski, Dimitri Kozinakov EXPLORING THE PERFORMANCE OF TUNED MASS DAMPERS-TMD IN MULTY STOREY BUILDINGS
	12	Aleksandar Borković FREE VIBRATION ANALYSIS OF STIFFENED THIN-WALLED STRUCTURES
	13	Aleksandar Borković GEOMETRIC NONLINEAR ANALYSIS OF STIFFENED PLATES USING THE COMPOUND STRIP METHOD
17.00 : 17.15	Coffee Break	

Section F. MAINTENANCE OF TECHNICAL SYSTEMS, OCCUPATIONAL SAFETY		
TIME	NUM.	PAPER
17.15 : 18.45	1	Ninoslav Zuber, Rusmir Bajrić CHALLENGES OF GEAR FAULT DETECTION BASED ON VIBRATION SIGNAL PROCESSING TECHNIQUE
	2	Silvana Angelevska, Ivo Kuzmanov, Zore Angelevski, Vasko Stojanovski MAINTANCE MANAGEMENT AND USING BENCHMARKING AS A TOOL IN THE FRAME OF WORLD CLASS INDUSTRIAL SYSTEM
	3	Dušan Đurović, Miodrag Bulatović MAINTENANCE AND AVAILABILITY OF MACHINERY
	4	Tale Geramitchioski, Ljupco Trajcevski MONITORING THE CONDITION OF THE MACHINERY IN A METAL SMELTER FENI KAVADARCI USING VIBRATION SIGNATURE
	5	Kazafer Bečić, Veljko Vuković, Safet Sinanović TECHNOLOGICAL PROCEDURE OF PROCESSING AND DYNAMIC BALANCING COLLECTOR OF TRACTION MOTORS TYPE 644-8 ISVK
	6	Vujadin Aleksić, Ljubica Milović, Srđan Bulatović TESTING OF METALS IN THE FUNCTION OF DETERMINING THE FAILURE OF TURBINE SHAFT – METHODOLOGICAL APPROACH
	7	Dragoljub Vujic WIRELESS SENSOR NETWORKS IN AIRCRAFT DESIGN AND STRUCTURAL HEALTH MONITORING
	8	Adnan Ramakić, Zlatko Bundalo DATA PROTECTION IN MICROCOMPUTER SYSTEMS AND NETWORKS
	9	Vladan Andonovic, Marija Ackovska, Neda Petroska Angelovska RFID AS A MODERN BRAND PROTECTION TECHNOLOGY
	10	Nenad Miloradović, Rodoljub Vujanac, Danijela Miloradović, Blaža Stojanović USE OF WORKING PLATFORMS ON FORKLIFT TRUCKS

FRIDAY, May 31, 2013

Section F. MAINTENANCE OF TECHNICAL SYSTEMS, OCCUPATIONAL SAFETY		
TIME	NUM.	PAPER
8.30 : 10.00	11	Aleksandar Majstorović THE MICROBIOLOGICAL ANALYSIS OF COMPRESSED MEDICAL AIR FROM BREATHING APPARATUS
	12	Ivo Kuzmanov, Silvana Angelevska, Zore Angelevski, Vasko Stojanovski EVALUATING THE INJURIES INTO BITOLA'S REGION IN 2012, REAL ENTERPRISE EXPERIENCE AND WAYS FOR IMPROVING THE SAFETY SYSTEMS INTO REAL ENTERPRISES
	13	Biljana Naumovska, Jasmina Chaloska, Ljuben Dudeski HUMAN VIBRATIONS EFFECTS, MEASUREMENT AND PROTECTION
	14	Boban Cvetanović LEGISLATION AND STANDARDIZATION RELATED TO WHOLE BODY VIBRATION
	15	Petar S. Djekic, Anica Milosevic, Sladjana Nedeljkovic SAFETY AND HEALTH AT WORK IN THE PRODUCTION OF RUBBER CONVEYOR BELTS
	16	Biljana Vranješ STATISTICS METHODS IN THE ANALYSIS OF INJURIES AT WORK
	17	Mihajlo Ivanov, Jasmina Chaloska, Ljuben Dudeski THE ASSESSMENT OF RISK- BASE OF PREVENTIVE MEASURES LIKE PRIORITY IN THE SYSTEM OF SAFETY AT WORK

# ROOM 19

THURSDAY, May 30, 2013

Section C. MECHATRONICS		
TIME	NUM.	PAPER
15.00 : 17.00	1	Corina Daniela Cunțan, Ioan Baci, Cezara Rat A SELECTION AND DISPLAY SYSTEM FOR NUMERIC INFORMATION DEVELOPED IN LABVIEW
	2	Vojkan Cvijanovic, Vladimir Kvrđic, Goran Ferenc AN ANALYSIS OF CONTEMPORARY TECHNOLOGIES FOR THE SECURE USER TO USER EMAIL TRANSFERS
	3	Mitar Jocanović, Velibor Karanović, Darko Knežević APPLICATION OF GEAR REDUCER OILS IN FOOD PROCESSING INDUSTRY
	4	Remigiusz Labudzki APPLICATION THE MACHINE VISION TO PRODUCT PACKAGING
	5	Isak Karabegović, Sanel Karabegović, Ermin Husak, Safet Iščić AUTOMATION OF CONVEYOR LINES IN THE MILK TREATMENT INDUSTRY
	6	Tihomir Latinovic, Mihailo Lazarevic, Sorin Deaconu, Gabor Sziebig FUZZY LOGIC COMBINED WITH NEURAL ALGORITHM TO CONTROL INDUSTRIAL ROBOT
	7	Deaconu Sorin Ioan, Deaconu Razvan, Latinovic Tihomir HIGH POWER STATIC CONVERTERS IN INDUSTRY APPLICATIONS
	8	Tanja Kerezović, Gabor Sziebig, Bjørn Solvang, Tihomir Latinovic HUMAN SAFETY IN ROBOT APPLICATIONS – REVIEW OF SAFETY TREND
	9	Slaviša Galamić, Trygve Thomessen, Balazs Daniel INTRODUCTION TO A FORCE CONTROLLED BEER POURING ROBOT
	10	Mina Vasković, Marko Jurišević, Nenad Babajić, Milan Matijević PIONEER 3-DX DISTANCE CONTROL USING DIFFERENT TYPE OF SENSORS
17.00 : 17.15	Coffee Break	
17.15 : 18.45	11	Dragan Živanić, Anto Gajić, Jovan Vladić, Radomir Đokić, Zdravko Ristić PROPERTY OF PROGRESSIVE ZONING IN THE ORDER PICKING SYSTEMS
	12	Petar Mandić, Mihailo Lazarević, Slavoljub Stojanović, Milan Ristanović REAL TIME CONTROL OF ROTARY INVERTED PENDULUM
	13	Audun Rønning Sanderud, Trygve Thomessen RELEASING THE SYNERGY OF HUMAN-ROBOT COLLABORATION – REDUNDANT ROBOTICS IN PRACTICE
	14	Nikola Malešević, Gabor Sziebig, Bjørn Solvang, Tihomir Latinovic SIMULATION OF ROBOTIC TASKS WITH VALIP SYSTEM – PRACTICAL APPLICATION
	15	Mihailo Lazarević, Petar Mandić, Tihomir Latinović, Trygve Thomessen SOME RESULTS OF CONTROL AND SIMULATION OF NEURO ARM ROBOT
	16	Isak Karabegović, Edina Karabegović, Mehmed Mahmić, Ermin Husak THE FUTURE AND STRATEGIC DEVELOPMENT OF SERVICE ROBOTS IN THE 21th CENTURY
	17	I. Ćirić, Ž. Ćojbašić, V. Nikolić, P. Živković, D. Petković, M. Tomić, Miša Tomić THERMAL VISION INTEGRATION IN MOBILE ROBOT VISION SYSTEM
	18	Zoran Rajilić TIME SERIES ANALYSIS USING MinLMaXL DIAGRAMS
	19	Rodoljub Vujanac, Radovan Slavković, Nenad Miloradović, Mirko Blagojević VERTICAL RECIPROCATING CONVEYOR AS A PART OF FULLY AUTOMATED MULTI DEPTH PALLET RACK STORAGE SYSTEM
	20	Vasilije Vasić, Mihailo P. Lazarević, Taško Maneski ADAPTRONIC SYSTEM AND VIBRATION CONTROL WITH MR DAMPERS



FRIDAY, May 31, 2013

Section B. MECHANICS AND DESIGN		
TIME	NUM.	PAPER
8.30 : 10.00	14	Lj. Veljović, D. Milosavljević, G. Bogdanović, A. Radaković MODELING AND ANALYSIS FOR THE VIBRATION OF A GYRO-ROTOR
	15	Aleksandar Živković, Milan Zeljković, Slobodan Tabaković NONLINEAR MATHEMATICAL MODEL TO DETERMINE THE STIFFNESS OF THE AUTOMOTIVE WHEEL BEARING
	16	Daniela Ristić, Dragan Milosavljević NUMERICAL MODEL FOR THE CRITICAL STRESS DETERMINATION IN SPUR GEARS – CASE OF A DRIVEN GEAR
	17	Strain Posavljak, Katarina Maksimovic, Slobodanka Boljanovic ON IMPORTANCE OF GEOMETRY AND CYCLIC MATERIAL PROPERTIES IN DESIGN OF FATIGUE RESISTANT TURBOJET ENGINE ROTATING DISKS
	18	Miloš Ristić, Milosav Ognjanović PLANETARY GEAR TRANSMISSION SET DESIGN WITH UNIFORM RELIABILITY LEVEL
	19	Enes Mujanović, Denijal Sprečić POSSIBILITIES OF THE APPLICATION OF MACHINE VISION IN THE ANALYSIS OF THE MICROSTRUCTURE OF DAMAGED MECHANICAL PARTS
	20	A. Radaković, D. Milosavljević, G. Bogdanović, Lj. Veljović, S. Aleksandrović SECOND-ORDER FAILURE CRITERIA IN LAMINATE INCLUDING THE EFFECT OF SHEAR STRESS
	21	Miloš Đorđević, Nenad Zrnić, Milorad Pantelić SIMPLIFIED LIFE CYCLE ASSESSMENT OF A RETURN BELT CONVEYOR IDLER
	22	Radivoje Mitrović, Nataša Soldat, Žarko Mišković, Nebojša Matić SOME EXPERIENCES IN LABORATORY TESTING OF BEARINGS OF TRANSPORT IDLERS ON BELT CONVEYOR
	23	Slobodanka Boljanović, Stevan Maksimović, Strain Posavljak STRENGTH ANALYSIS OF DAMAGED STRUCTURAL COMPONENTS
	24	D. Blagojevic, M. Todric, V. Golubovic-Bugarski STRESS STATE OF RAIL VEHICLE WHEEL RIM IN EXPLOATATION
	25	Andreja Ilić, Lozica Ivanović, Danica Josifović, Vukić Lazić, Boris Rakić TESTING OF ELEMENTS AND JOINTS AT MECHANICAL CONSTRUCTIONS
	26	Dragi Stamenković, Katarina Maksimović, Slobodanka Boljanović THE EFFECTS OF RESIDUAL STRESSES TO CRACK GROWTH RATE OF WELDED ST
	27	Srđan Bošnjak, Zoran Petković, Miodrag Arsić, Nebojša Gnjatović, Ivan Milenović BUCKETS OF THE BUCKET WHEEL EXCAVATORS: FAILURES AND REDESIGN
	28	Srđan Bošnjak, Zoran Petković, Nebojša Gnjatović, Vaso Mihajlović, Goran Milojević STRENGTH PROBLEMS OF THE TRAVELLING MECHANISMS OF THE OPEN PIT MACHINES

## ROOM 21

THURSDAY, May 30, 2013

Section D. ENERGY AND THERMAL ENGINEERING		
TIME	NUM.	PAPER
15.00 : 17.00	1	Jasmina Skerlic, Milorad Bojic, Danijela Nikolic, Jasna Radulovic, Dragan Taranovic A KEY REVIEW ON EXERGETIC ANALYSIS AND ASSESSMENT OF SOLAR ENERGY SYSTEMS FOR A SUSTAINABLE FUTURE
	2	Suad H. Suljković, Velimir P. Stefanović, Saša R. Pavlović, Marko Ilić A REVIEW OF STRATEGIES AND TECHNOLOGIES TOWARDS NET ZERO ENERGY BUILDINGS THROUGH EXAMPLES ALL OF THE WORLD
	3	Gordana Tica, Azra Rogović-Grubić, Kotur Milovan, Petar Gvero AN ANALYSIS OF THE USE OF HCFC – REFRIGERANTS IN THE INDUSTRY AND HOUSEHOLDS IN BOSNIA AND HERZEGOVINA. A REVIEW OF POSSIBLE ALTERNATIVE REPLACEMENTS
	4	Vladimir V. Jovanović, Mirko S. Komatina, Dragoslava D. Stojiljković, Nebojša Manić APPLICATION OF FUEL FACTOR FOR CALCULATION OF FLUE GAS FLOW RATE IN TPP KOSTOLAC
	5	Vesna Ranković, Milorad Bojić, Aleksandar Novaković, Marko Miletić, Nenad Kostić BUILDING CONTROLLER SYNTHESIS BASED ON THE USE OF MLE+ CO-SIMULATION TOOL
	6	Dušan Gordić, Gordana Stojanović, Ana Radojević COMPARATIVE ANALYSIS OF ENERGY INDICATORS IN SCHOOLS IN THE TERRITORY OF THE CITY OF KRAGUJEVAC
	7	Bosko Bacic, Milan Lecic, Indir Mujanic COMPARATIVE ANALYSIS OF SOME METHODS FOR THE CALCULATION OF HEAT TRANSFER COEFFICIENT DURING THERMAL CALCULATION OF EVAPORATOR WITH NATURAL CIRCULATION
	8	Marko Miletić, Ivan Miletić, Dragan Cvetković, Nenad Kostić, Milorad Bojić COMPARISON OF BUILDING ENVELOPE TYPES DEPENDING ON THE THERMAL INSULATION LAYER POSITION
	9	Nenad Kostić, Mirko Blagojević, Vesna Marjanović, Marko Miletić, Milorad Bojić DETERMINING SOLAR ANGLES FOR SUN TRACKING SYSTEM DEVELOPEMENT DURING SPECIFIC TIMES OF THE YEAR
	10	Aleksandar Novaković, Vesna Ranković, Nenad Grujović, Dejan Divac, Nikola Milivojević DEVELOPMENT OF NEURO-FUZZY MODEL FOR DAM SEEPAGE ANALYSIS
	11	Marko Mančić, Dragoljub Živković, Velimir Stefanović, Vladana Stanković, Goran Jovanović DYNAMICAL SIMULATION OF A SOLAR-HEAT PUMP SYSTEM FOR ON-SITE ELECTRICITY PRODUCTION
	12	Elvis Hozdić, Milan Jurković, Sulejman Kendić ECOLOGICAL SOLID WASTE DISPOSAL AND EXPLOITATION OF LANDFILL GAS
17.00 : 17.15	Coffee Break	

17.15 : 18.45	13	Ranka Radic, Aleksandra Stanivukovic, Semin Petrovic, Brian Schjertzer, Petar Gvero EMISSION REDUCTION MEASURES IN LOCAL COMMUNITIES IN B&H AS A RESULT OF SIGNING COVENANT OF MAYORS
	14	Boris Ćosić, Antun Pfeifer, Neven Duić ENERGY SYSTEM PLANNING WITH A HIGH SHARE OF RENEWABLE ENERGY SOURCES: THE CASE STUDY OF BOSNIA AND HERZEGOVINA
	15	Mića Vukić, Jelena Janevski, Goran Vučković, Mirko Dobrnjac EXPERIMENTAL INVESTIGATION ON DRYING KINETICS OF CORN IN PACKED AND FLUIDIZED BED
	16	Sadun Ayed, Miloš Jovanović, Gradimir Ilić, Predrag Živković, Mića Vukić, Mirko Dobrnjac, Suzana Klječanin EXPERIMENTAL STUDY OF TEMPERATURE DISTRIBUTION FOR TURBULENT RAYLEIGH–BÉNARD CONVECTION IN A RECTANGULAR TAN
	17	Danijela Kardaš, Petar Gvero, Mario Katalinić HEAT PUMP USING WASTE WATER AS A HEAT SOURCE - Student centar „Nikola Tesla“ Banja Luka
	18	Nenad Miloradović, Ivan Miletić, Marko Miletić, Dragan Cvetković, Milorad Bojić INFLUENCE OF PROPER WINDOW SELECTION ON ENERGY CONSUMPTION DURING A YEAR
	19	Andreevski Igor, Kanevce Gligor, Kanevce Ljubica, Stavreva Sevde, Popovski Kire INVERSE ESTIMATIONS APPLICATION IN THE FIELD OF DISPERSION MODELING
	20	Mladen Tomić, Predrag Živković, Mića Vukić, Mirko Dobrnjac, Gradimir Ilić MATRIX HEAT EXCHANGERS AND THEIR APPLICATION
	21	Danijela Nikolic, Milorad Bojic, Jasmina Skerlic, Jasna Radulovic, Dragan Taranovic MODELLING OF HYBRID VENTILATION SYSTEM IN BUILDINGS USING ENERGYPLUS SOFTWARE
	22	Sevde Stavreva, Marko Serafimov, Igor Andreevski, Cvete Dimitrievska USE OF CFD ANALYSIS TO ACHIEVE ENERGY EFFICIENT DATA CENTER

Section D. ENERGY AND THERMAL ENGINEERING		
TIME	NUM.	PAPER
8.30 : 10.00	23	Igor Shesho, Dame Dimitrovski, Marko Serafimov NEARLY ZERO ENERGY BUILDINGS (nZEB), PLANNING AND POSSIBILITIES FOR APPLICATION
	24	Žana Stevanović, Gradimir Ilić, Mića Vukić, Predrag Živković, Ivan Lazović NUMERICAL SIMULATION OF COANDA EFFECT IN MECHANICAL AND VENTILATED OFFICE
	25	Alexandre Patou-Parvedy, Milan Despotović OPTIMAL COMPOSITION AND THICKNESS OF THE ABSORBER WALL OF THE SOLAR CHIMNEY
	26	Novak Nikolić, Nebojša Lukić, Dragan Taranović OPTIMAL REFLECTOR POSITION OF A DOUBLE EXPOSURE FLAT-PLATE SOLAR COLLECTOR
	27	Marko Miletić, Saša Jovanović, Zorica Đorđević, Ivan Miletić, Milorad Bojić OPTIMISATION OF ZERO-NET ENERGY HOUSE ORIENTATION FROM SOLAR ENERGY ABSORPTION ASPECT
	28	Svetlana Dumonjic-Milovanović, Petar Gvero OPTIMIZATION OF HYBRID SYSTEM FOR ELECTRICITY PRODUCTION BASED ON WIND AND SUN ENERGY CONVERSION WITH ANALYSIS OF ITS APPLICABILITY ON BANJALUKA REGION
	29	Dragan Cvetković, Milorad Bojić, Vesna Ranković, Marko Miletić, A. P. Parvedy OPTIMIZATION OF THE THERMAL INSULATION OF THE RADIANT PANELS
	30	M. Ignjatović, B. Blagojević, M. Stojiljković, M. Stojiljković, A. Anđelković PRIMARY ENERGY CONSUMPTION DURING HEATING SEASON OF AN OFFICE BUILDING WITH ATTACHED DOUBLE SKIN FAÇADE
	31	Kire Popovski, Stojance Nusev, Igor Andreevski RING-TYPE WATER SUPPLY NETWORKS
10.00 : 10.15	Coffee Break	
10.15 : 12.15	32	Djordjevic Z., Jovanovic S., Bojic M., Cvetkovic D., Adamovic D. THE INFLUENCE OF ELECTRICAL APPLIANCES ON SPENDING ENERGY IN HOUSEHOLDS
	33	Milovan Kotur, Franc Kosel, Šajn Viktor THE MATHEMATICAL ALGORITHM FOR A MULTI-CHANNEL CTA ANEMOMETER IN SPHERICAL COORDINATES
	34	Vladimir Čavic, Petar Gvero THE USE OF AGRICULTURAL WASTE FOR A SUSTAINIBLE ENERGY SUPPLY FOR GREENHOUSE PRODUCTION
	35	J. Radulovic, M.Bojic, D. Nikolic, J.Skerlic, D. Taranovic THE USE OF PV IN NET-ZERO ENERGY BUILDINGS: CHALLENGES AND PERSPECTIVES
	36	Vanja Šušteršič, Slobodan Savić, Dušan Gordić THE USE OF WASTE HEAT FROM WASTEWATER TREATMENT PLANT IN RURAL HOUSEHOLDS WITH HEAT PUMP
	37	Predrag Živković, Mladen Tomić, Dušan Petković, Ivan Ćirić, Mirko Dobrnjac, Velimir Stefanović, Žana Stevanović WIND ENERGY POTENTIALS OF VLASINA REGION
	38	Andreja Stefanović, Dušan Gordić ZERO CARBON HOMES, COGENERATION AND ORGANIC AGRICULTURE AS A METHODS OF REDUCING CO2 EMISSIONS
	39	Aida Bogdan DIFFUSION OF COOLING AND REFRESHING TECHNOLOGIES USING THE SOLAR ENERGY RESOURCES IN THE ADRIATIC REGION

## ROOM 29

THURSDAY, May 30, 2013

Section E. TRANSPORT AND MEANS OF TRANSPORT		
TIME	NUM.	PAPER
15.00 : 17.00	Keynote Lectures	Josip Vlahović LIGHTWEIGHT-IMPERATIVE AT THE TIME
		Stevan Veinović, Snežana Petković, Božidar Nikolić, Emil Hnatko, Đuro Borak FUEL QUALITY AND ROAD TRANSPORT CHALLENGES AND PRESSURES
	1	Velimir Petrovic, Vladan Popovic, Branka Grozdanic, Zlata Bracanovic, Slobodan Jankovic A NEW METHOD FOR PARTICLE APPROVAL TYPE TESTING FOR HEAVY DUTY DIESEL ENGINE
	2	Vladimir Pajkovic, Mirjana Grdinic AN ANALYSIS OF YOUNG DRIVER ACCIDENTS IN ROAD TRAFFIC USING IN DEPTH CRASH INVESTIGATION DATA
	3	Mirsad Trobradović, Boran Pikula, Ivan Filipović, Dževad Bibić AUTOMATED TRANSMISSION – A CHALLENGE FOR THE FUTURE
	4	Hristijan Mickoski ANALYZE OF INFLUENCE OF VARIOUS FACTORS TO THE BRAKING ROAD OF RAIL VEHICLES, MODELLING AND SIMULATION IN MATLAB/SIMULINK
	5	Izudin Delić, Izet Alić, Midhat Osmić FD ANALYSIS OF STREAMING CHARACTERISTICS OF VARIABLE GEOMETRY TURBOCHARGER
	6	Predrag Mrdja, Vladimir Petrovic, Nenad Miljic, Slobodan Popovic, Marko Kitanovic COMBUSTION PARAMETERS CALIBRATION AND INTAKE MANIFOLD REDESIGN FOR FORMULA STUDENT YAMAHA YZF-R6 ENGINE
	7	Riste Temjanovski COMPETITIVENESS TRANSPORT SYSTEM AS A NECESSARY PRE-CONDITION FOR A SUCCESSFUL EUROPEAN INTEGRATION: MACEDONIAN CASE
	8	Saša Milojević, Jovanka Lukić, Radivoje Pešić CONTRIBUTION TO THE REDUCTION OF TRAFFIC NOISE BY APPLICATION OF THE CNG BUSES
	9	Radivoje Pešić, Aleksandar Davinić, Dragan Taranović ECOLOGICAL AND ENERGY ENGINE CHARACTERISTICS WHEN THE ENGINE APPLIES DIFFERENT WORKING PROCESSES
	10	Slobodan Mišanović EXPERIENCES OF PUBLIC TRANSPORT COMPANY "BELGRADE" IN THE USE OF ALTERNATIVE FUELS AND ENVIRONMENTALLY CLEAN VEHICLES IN URBAN PUBLIC TRANSPORT
	11	Slobodan Popović, Nenad Miljić, Marko Kitanović, Predrag Mrđa, Miroljub Tomić HIGH-FIDELITY, ANGLE-RESOLVED SIMULATION MODEL FOR PREDICTIONS OF MULTI-CYLINDER ENGINE INSTANTANEOUS SPEED AND TORQUE
	12	Jasmin Lučkin, Miroslav Grubišić IMPACT OF HARDWARE FAULTS ON CAN BUS ON VEHICLE DISTRIBUTED ELECTRICAL SYSTEM
17.00 : 17.15	Coffee Break	

17.15 : 18.45	13	Zdravko Božičković, Dragoslav Dobraš, Valentina Golubović-Bugarski INFLUENTIAL FACTORS ON THE BRAKING FORCE INTENSITY DURING FORCE CONTROL ON A DEVICE WITH ROTARY ROLLERS
	14	Drago Soldat, Robert Molnar, Marija Matotek INTEGRATION OF GEOGRAPHIC INFORMATION SYSTEM (GIS) AND LOGISTICS IN ORDER TO GENERATE VEHICLE ROUTES
	15	Nenad Miljić, Slobodan Popović, Marko Kitanović, Predrag Mrđa, Miroljub Tomić NEURAL NETWORKS MODELS USAGE IN METHODS FOR COMBUSTION PROCESS INFORMATION EXTRACTION IN IC ENGINES
	16	Dobrivoje Ninkovic ON THE USE OF THE DISCHARGE COEFFICIENT CONCEPT IN THE IC ENGINE VALVE MASS FLOW RATE CALCULATIONS
	17	Milanko Damjanović, Sreten Simović IMPACT OF CLEARANCE ON POWER TRANSMISSION DYNAMIC LOAD
	18	Marko Kitanović, Slobodan J. Popović, Nenad Miljić, Predrag Mrđa, Miroljub Tomić SIMULATION STUDY OF A TRANSIT BUS EQUIPPED WITH AN ULTRACAPACITOR-BASED HYBRID SYSTEM
	19	Jasna Glišović, Jovanka Lukić, Danijela Miloradović STABILITY ANALYSIS OF DISC BRAKE MODEL: A PARAMETRIC STUDY
	20	Dragan Taranović, Radivoje Pešić, Aleksandar Davinić, Saša Milojević THERMODYNAMIC CHARACTERISTICS OF RECIPROCATING COMPRESSORS FOR MOTOR VEHICLES
	21	Blažević Almir, Bibić Dževad, Filipović Ivan TURBOCHARGERS PERFORMANCE TESTING WITH SPECIAL EMPHASIS ON THE COMPRESSOR MAP
	22	Rajko Radonjic, Dragoljub Radonjic, Aleksandra Jankovic VEHICLE DYNAMICS INVESTIGATION
	23	Milan Milovanović A RISK OR CONVENIENCE OF APPLYING AVAILABLE GAS SYSTEMS