

**XI<sup>TH</sup> INTERNATIONAL CONGRESS  
MACHINES.TECHNOLOGIES.MATERIALS'14**



# **PROGRAM**

**ORGANIZER:**

**SCIENTIFIC-TECHNICAL UNION OF MECHANICAL  
ENGINEERING**



*17.09 – 20.09. 2014  
Varna, BULGARIA*

# PROGRAM

## 14.09.2014 (SUNDAY)

16:00 – 20:00	REGISTRATION	IN FRONT OF CONFERENCE HALL №1
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## 15.09.2014 (MONDAY)

08:00 – 17:00	REGISTRATION	IN FRONT OF CONFERENCE HALL №1
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## 16.09.2014 (TUESDAY)

09:00 – 12:00	REGISTRATION	IN FRONT OF CONFERENCE HALL №1
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## 17.09.2014 (WEDNESDAY)

14:00 – 20:00	REGISTRATION	IN FRONT OF CONFERENCE HALL №1
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## 18.09.2014 (THURSDAY)

08:00 – 10:00	REGISTRATION	IN FRONT OF CONFERENCE HALL №1
<b>CONFERENCE HALL №1</b>		
10:00 – 10:15	OPENING OF THE CONGRESS	
10:15 – 11:35	PLENARY SESSION	
11:30 – 13:00	SECTION "TECHNOLOGIES" – FIRST SESSION	
13:00 – 13:15	COMPANY PRESENTATION	

## LUNCH 13:15 - 14:30

	CONFERENCE HALL №1	CONFERENCE HALL №2
14:30 – 16:00	SECTION "TECHNOLOGIES" – SECOND SESSION	SIMPOSIUM "INDUSTRIAL INFORMATIC"
16:00 – 16:30	COFFEE BREAK - CONFERENCE BAR	
16:15 – 18:00	SECTION "TECHNOLOGIES"- THIRD SESSION	SIMPOSIUM "ERGONOMICS & DESIGN" SIMPOSIUM "MANAGENENT"

19:00 – 24:00	<b>"WELCOME" COCKTAIL - CONFERENCE BAR</b>
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## 19.09.2014 (FRIDAY)

	CONFERENCE HALL №1	CONFERENCE HALL №2
09:00 – 10:15	COMPANY PRESENTATION SECTION "MATERIALS" – FIRST SESSION	SECTION "MACHINES" – FIRST SESSION
10:15 – 10:30	COFFEE BREAK - CONFERENCE BAR	
10:45 – 12:30	SECTION "MATERIALS" – SECOND SESSION	SECTION "MACHINES" – SECOND SESSION
12:30	CLOSING OF THE CONFERENCE WINE AND CHEESE PARTY	CONFERENCE BAR

*time for presentation 10-12 minutes,  
questions after each presentation*

# SCIENTIFIC PROGRAM

## FIRST DAY

18.09.2014 10:00 – 10:15	OPENING OF THE CONGRESS	CONFERENCE HALL 1
	CHAIRMAN: PROF.D.SC G. POPOV	

18.09.2014 10:15 – 11:30	PLENARY SESSION	CONFERENCE HALL 1
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CHAIR: PROF.IDILIA BACHKOVA (BG)				
1	THERMOMECHANICAL STRENGTHENING AND STABILITY OF AUSTENITIC CR18NI10N STEEL	D.SC. KAPUTKINA L.M., D.SC. SVYAZHIN A.G., D.SC. KAPUTKIN D.E., PHD SMARYGINA I.V., PHD KINDOP V.E.	103	RU
2	THERMAL STRESSES IN THE BLADES WITH AND WITHOUT TBC BASED ON THE TEMPERATURE DISTRIBUTIONS MEASURED USING THERMAL IMAGING CAMERA	M.SC., ENG. MAŚ K., M.SC. WOŹNY M., PHD. ENG. DUDEK S., PHD. MARCHEWKA M., PHD. PŁOCH D., PHD. BOCHNOWSKI W. AND PROF. SHEREGII E. M.	92	PL
3	USER EVALUATIONS: APPLYING A COST-BENEFIT APPROACH TO HUMAN COMPUTER INTERACTIONS	DR. KATZ, ADI	44	IL
4	SOCIAL RESPONSIVENESS OF RUSSIAN BIG INDUSTRIAL BUSINESS AGAINST THE BACKDROP OF A GLOBAL FINANCIAL CRISIS	PROF. DR. OF ECONOMICS KUZNETSOVA O. ASSOCIATE PROF. PH.D. IN ENGINEERING KUZNETSOV V. ASSOCIATE PROF. PH.D. IN ENGINEERING MAKAROV V.	8	RU
5	PULSED DISCHARGE TECHNOLOGIES OF PROCESSING AND OBTAINMENT OF NEW MATERIALS(Review)	PROF., D.SC SIZONENKO O., PROF., D.SC VOVCHENKO A.	114	UA

18.09.2014 11:30 – 13:00	FIRST SESSION "TECHNOLOGY"	CONFERENCE HALL 1
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CHAIR: ASSOC. PROF. DR DIKOVA TS. (BG)		CO-CHAIR: PROF. DR. ENG. BAGLIUK G. A., (UA)		
6	APPLYING ULTRASONIC PRESSING IN MANUFACTURING SLIP BEARINGS MADE OF COMPOSITE MATERIAL BASED ON POLYTETRAFLUROETHYLEN	PROF., DR. OF TECHN. SCIENCES EREMIN E., DOC., CAND.OF TECHN.SCIENCES NEGROV D.	9	RU
7	ANALYSIS OF THE PROCESS OF BENDING A TWO-LAYER SHEET PASCAGE	PROF. DR.ENG. NAZARYAN E. A., PHD ARAKELYAN M. M., STUDENT PHD SIMONYAN A.S.	50	AM
8	EXPERIMENTAL INVESTIGATION ON THE EFFECT OF COOLING AND LUBRICATION ON SURFACE ROUGHNESS IN HIGH SPEED MILLING	PROF. T. LEPPERT	61	PL
9	HOT FORGING OF ALUMINA-MATRIX COMPOSITE MATERIALS	PROF. DR. ENG. BAGLIUK G. A., ENG. SHISHKINA YU. A, ENG. KURIKHIN V. S., ENG. GOLOVKOVA M. E.	24	UA
10	ALUMINIUM BIMETAL STRUCTURE PRODUCTION BY LOST FOAM CASTING WITH LIQUID-LIQUID PROCESS	M.SC. KISASOZ A., ASST. PROF. M.SC. GULER K.A. PHD PROF. M.SC. KARAASLAN A. PHD.	64	TR
11	THERMAL STRESSES IN THE BLADES WITH AND WITHOUT TBC BASED ON THE TEMPERATURE DISTRIBUTIONS MEASURED USING THERMAL IMAGING CAMERA	M.SC., ENG. MAŚ K., M.SC. WOŹNY M., PHD. ENG. DUDEK S., PHD. MARCHEWKA M., PHD. PŁOCH D., PHD. BOCHNOWSKI W. AND PROF. SHEREGII E. M.	92	PL
13:00-13:15	UMT COMPANY PRESENTATION	ENG. PANAYOT SLAVOV		BG

time for presentation 10-12 minutes,  
questions after each presentation

<b>18.09.2014</b> <b>14:30 – 16:00</b>		<b>SECOND SESSION “TECHNOLOGY”</b>		<b>CONFERENCE HALL 1</b>	
<b>CHAIRMAN: PROF. T. LEPPERT (PL)</b>			<b>CO-CHAIR: PROF.DR.ENG.ADEL MAHMOUD (IQ)</b>		
<b>12</b>	DISSIMILAR WELDING AUSTENITIC STAINLESS STEEL S316 WITH FERRITIC STRUCTURAL STEEL GRADE 300N2S	PROF.DR.CVETKOVSKI S, DR.ENG. BRKOVSKI D	122	MK	
<b>13</b>	PVD DEPOSITION OF HAFNIUM IN ALUMINIDE COATINGS	PHD.ENG.JOLANTA ROMANOWSKA	94	PL	
<b>14</b>	APPLICATION OF EA SIGNAL TO EVALUATE THE DEGRADATION OF X6CRNIT18-10 STEEL DURING TENSILE TEST	DR BOCHNOWSKI W., DR DZIEDZIC A., DR ADAMIAK S., PROF. SZEREGIJ E.	93	PL	
<b>15</b>	METHOD FOR DETERMINING THE THEORETICAL FORM OF AN INVOLUTE GEAR WITH TOOTH UNDERCUT	ASSOC. PROF. PHD G.NIKOLCHEVA	118	BG	
<b>16</b>	THE SCANNING NOZZLE HOT AIR SYSTEM FOR THERMOGRAPHIC DETECTION OF THE SURFACE INCORPORATED HIDDEN DEFECTS	PHD. PROKHORENKO S., M.SC. ENG. MAŚ K., M.SC. WOŻNY M., AND PROF. SHEREGIJ E.M.	97	PL	
<b>17</b>	ANALYSIS OF THE APPROACHES FOR IMPROVEMENT OF THE ENERGY EFFICIENCY OF ELECTRIC RESISTANCE FURNACES	ASSOC. PROF. ENG. PH.D BORISLAV DIMITROV , ASISST. PROF. ENG. OGNJAN ZHEKOV	109	BG	
<b>18</b>	FABRICATION OF AL/STEEL COMPOSITES BY VACUUM ASSISTED BLOCK MOULD INVESTMENT CASTING TECHNIQUE	ASST. PROF. M.SC. GULER K.A. PHD, M.SC. KISASOZ A., PROF. M.SC. KARAASLAN A. PHD.	65	TR	

<b>16:00 – 16:30</b>	<b>COFFEE BREAK - CONFERENCE BAR</b>
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<b>18.09.2014</b> <b>16:30 – 18:00</b>		<b>THIRD SESSION “TECHNOLOGY”</b>		<b>CONFERENCE HALL 1</b>	
<b>CHAIR: PROF., D.SC SIZONENKO O. (UA)</b>			<b>CO-CHAIR: PROF.DR.CVETKOVSKI S, (MK)</b>		
<b>19</b>	POLYSTRUCTURAL TECHNOLOGY FOR DESIGN OF DRIVE MECHANISM	PROF. DR. EN. ANTAMOSHKIN, PROF. PHD ANTAMOSHKINA O.	13	RU	
<b>20</b>	VIBRATION MONITORING FOR FAULT DETECTION AND PROCESS CONTROL OF THE MOTOR-MIXER AGREGATE IN FENI INDUSTRY-MACEDONIA	PROF. GERAMITCHIOSKI T. PHD., DOC.TRAJCEVSKI LJ. PHD.	37	MK	
<b>21</b>	CVD AND EB-PVD AS A METHODS OF THE ZIRCONIUM INTRODUCING TO THE ALUMINIDE COATINGS	PHD M. ZAGULA-YAVORSKA, PROF. J. SIENIAWSKI	95	PL	
<b>22</b>	SIMULTANEOUS THERMAL ANALYSIS INVESTIGATION ON PLASMA-AIDED FLAME RETARDANCY OF WOOD	ASSIST. PROF. IVANOV I., ASSOC. PROF. GOSPODINOVA D. PH.D. , PROF. DINEFF P. PH.D., PROF. VELEVA (MULESHKOVA) L. PH.D.	43	BG	
<b>23</b>	THE TERMOGRAPHIC ANALYSIS OF THE WELDING BY TIG	M.SC., ENG. MAŚ K., M.SC. WOŻNY M., PHD. MARCHEWKA M. , PHD. PŁOCH D. AND PROF. DR.SHEREGIJ E.M.	96	PL	
<b>24</b>	PRODUCTION OF ALUMINA NANOPARTICLES (AL2O3) USING PULSED LASER ABLATION TECHNIQUE IN ETHANOL SOLUTION	PROF.DR.ENG.ADEL MAHMOUD	67	IQ	
<b>25</b>	DETERMINING THE CATEGORY OF WELDED JOINTS FOR THE NON-REGULATED AREA OF MACHINE BUILDING	PROF. DR.SC.TECHN. A.ZHELEV, M.SC. T.OSIKOVSKI	53	BG	
<b>26</b>	EFFECTIVENESS WORK ANALYSIS OF VAPOUR POWER PLANT OPERATING WITH WET WORKING FLUID POWERED BY BIOMASS ENERGY	ASSIST. PROF. ROKSANA MAZUREK	26	PL	

<b>THURSDAY (18.09)</b>	<b>10:00 – 19:00</b>	<b>POSTER SESSION “TECHNOLOGY”</b>	<b>CONFERENCE HALL 1</b>
<b>FRIDAY (19.09)</b>	<b>09:00 – 13:00</b>		
<b>27</b>	COMPUTER AND PHYSICAL SIMULATION OF ANGULAR	PROF.SOSENUSHKIN E.N.,	38 RU

time for presentation 10-12 minutes,  
questions after each presentation

	PRESSING	ASSOC.PROF.YANOVSKAYA E.A., DR.SOSENUSHKIN A.E.		
28	DIFFUSION BONDING MACHINERY FOR MANUFACTURING AEROSPACE PARTS	PHD., PROF. LEE HO-SUNG, PHD., YOON, JONG-HOON, PHD. , YOO, JOON-TAE	57	KR
29	PERSPECTIVES OF APPLICATION CONTACT THERMOGRAPHY FOR MONITORING TEMPERATURE FIELDS IN OPTOELECTRONIC DEVICES RESPONSIBLE UNITS	DR. OF SCI. MASLOV V., KACHUR N., ENG. TURU T.	59	UA
30	AN AGENT BASED PROCESS PLANNING SYSTEM FOR PRISMATIC PARTS	ASS. PROF. DR. G. ANDREADIS	60	EL
31	ADVANCED DESIGN AND TECHNOLOGY FOR PRODUCTION OF SENSOR ELEMENTS IN DEVICES BASED ON SURFACE PLASMON RESONANCE	DOC.SC. MASLOV V.P., PHD- STUDENT DOROZINSKY G.V.	72	UA
32	CASTING TECHNOLOGY OF USING THE GRIMP PROCESS OF LIQUID METAL	PROF.DR.KOROSTELEV, VLADIMIR FEDOROVICH	81	RU
33	THERMAL STABILITY OF HARDENING PHASES IN DIE AND HIGH SPEED STEEL	PROF.DR.KOROSTELEV, VLADIMIR FEDOROVICH	82	RU
34	IN-SITU STRESS-STRAIN TESTING OF STEELS IN CO2- CONTAINING SALINE SOLUTIONS	PROF. DR.-ING. PFENNIG A., TRENNER S., WOLF M., BORK C. P.	107	DE
35	NUMERICAL SIMULATION AND EXPERIMENTAL INVESTIGATION OF EQUAL-CHANNEL ANGULAR PRESSING OF POROUS POWDER BILLETS	FULL PROF., DR. TECH. SCIENCE RYABICHEVA L., PH.D USATYUK D., DYADICHEV A.	111	UA
36	APPLICATION OF LASER WELDING-ON TECHNOLOGY FOR REPAIRING OF DIE CASTING DIES	PHD. VLADIMIR SHTARBAKOV	10	BG
37	PLASMA SURFACE TECHNOLOGY PROMOTING CAPILLARY IMPREGNATION OF WOOD: XPS ANALYSIS OF DIFFERENT PLASMA PRE-TREATED WOOD SURFACES	ASSIST. PROF. IVANOV I., ASSOC. PROF. GOSPODINOVA D. PH.D., PROF. DINEFF P. PH.D., PROF. VELEVA L. PH.D.	73	BG
38	AUTOMATION OF THICKENING PROCESS	ASSOC. PROF. PARASCHEVOVA D. ASSIST. PROF. STOYKOVA L.	86	BG
39	DETECTION OF THE FATIGUE OPERATING LIFE OF THE WELDED JOINT OF AN ALUMINIUM ALMGSI07 ALLOY AT UNIAXIAL TORSION STRESS OF THE SPECIMENS	ING. MIROSLAV BLATNICKÝ, PHD., ING. ANDREJ KOVALČÍK, PHD.	87	SK

<b>18.09.2014</b> <b>14:30 – 16:00</b>		<b>SIMPOSIUM “INDUSTRIAL INFORMATICS”</b>		<b>CONFERENCE HALL 2</b>	
<b>CHAIR: PROF. BACHKOVA I. (BG)</b>			<b>CO-CHAIR: ASSOC. PROF. ATANASSOV A.(BG)</b>		
40	DEVELOPMENT OF IEC-61499 BASED APPLICATION FOR CONTROL OF FESTO MPS SORTING STATION	HRISTO KARAMISHEV	6	BG	
41	COMBINED APPROACH FOR MODELING OF MANUFACTURING EXECUTION SYSTEMS	ASSOC. PROF. DR. ENG. ANTONOVA I. D.	126	BG	
42	AN APPROACH FOR GENERATING THE WORKSPACE OF A DELTA ROBOT WITH SIX DEGREES OF FREEDOM	EDELVAYS CHERCHELANOV, HRISTO KARAMISHEV, GEORGI POPOV	124	BG	
43	AN APPROACH TO CALCULATE THE POSITIONING TORQUES OF DELTA ROBOT WITH MSC ADAMS	HRISTO KARAMISHEV, EDELVAYS CHERCHELANOV, GEORGI POPOV	125	BG	
44	USER AUTHENTICATION BASED ON THE BIOMETRIC PARAMETERS OF TIME THEIR DYNAMIC SIGNATURES	M.SC. NABOTOV, Y. PHD., ASSOC. PROF. ATANASSOV A.	127	BG/T	
45	SEMANTICS METHODS FOR INTEROPERABILITY OF ENTERPRISES	ASSIST. PROF. GOICHEVA D., PROF. BACHKOVA I.	128	BG	
46	WEB BASED SYSTEM FOR MAILPIECE DIAGNOSTIC INTENDED TO USPS	ASSOC. PROF. ATANASSOV A.	129	BG	

<b>16:00 – 16:30</b>	<b>COFFEE BREAK - CONFERENCE BAR</b>
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<b>18.09.2014</b> <b>16:30 – 18:00</b>		<b>SIMPOSIUM “ERGONOMICS &amp; DESIGN”</b>		<b>CONFERENCE HALL 2</b>	
<b>CHAIR: PROF. DR. OF ECONOMICS KUZNETSOVA O. (RU)</b>			<b>CO-CHAIR: M.SC. IVANOVA MILKA (BG)</b>		
47	INTELLIGENT DECISION-MAKING FOR ENERGY AND	M.SC. GRZELAK D., DIPL.-WIRT.-INF.	89	DE	

time for presentation 10-12 minutes,  
questions after each presentation

	ECONOMIC EFFICIENCY OF INNOVATIVE MANUFACTURING PROCESSES BASED ON MULTI-ATTRIBUTE KEY PERFORMANCE INDICATORS	FREUND R., DR. WIEMER H., PROF. GROßMANN K.		
48	FEASIBILITY CRITERIA COMMERCIAL IMPLEMENTATION OF NEW TECHNOLOGIES	USKOVA I., CHEKUNOVA-TOMASCEVA N.	16	RU
49	REASONING AND DEVELOPMENT OF SUPPLEMENTARY MANUFACTURABILITY INDICATORS IN PROCESS PLANNING SYSTEM	PH.D, ASSOC. PROF. MITIN S., DR. SC., PROF. BOCHKAREV P. PH.D, ASSOC. PROF. BOKOVA L.	123	RU
50	COMPARISON BETWEEN PROJECT MANAGEMENT AND SOFTWARE PROJECT MANAGEMENT	M.SC. IVANOVA MILKA	75	BG
51	PROBLEMS IN THE DESIGN OF ORTHOGONAL INTERSECTING CYLINDRICAL SURFACES	ASST. PROF. TSONEVA ZOYA PHD	102	BG
52	SYNERGY BETWEEN THE SYSTEM IMAGING METHODS AND TECHNIQUES IN DESIGN	ASSOC. PROF. MARIA EFTIMOVA	106	BG

<b>THURSDAY (18.09)</b>	<b>10:00 – 19:00</b>	<b>POSTER SESSION SYMPOSIUM “ERGONOMICS &amp; DESIGN” SYMPOSIUM “MANAGEMENT”</b>	<b>CONFERENCE HALL 1</b>		
<b>FRIDAY (19.09)</b>	<b>09:00 – 13:00</b>				
53	RISK MANAGEMENT IN INDUSTRIAL ENTERPRISES	ASSOS.PROF. TONI MIHOVA , PHD, ASSOS.PROF.VALENTINA NIKOLOVA – ALEXIEVA, PHD. ASSISTANT PROF. TANIA GIGOVA	27	BG	
54	RAPID PROTOTYPING – DEFINITION OF TERMS AND HOW TO APPLY DURING A STUDENT PROJECT	DIPL.-ING. POINTNER A.,BSC; DIPL.-ING. SCHNÖLL H.P.; DIPL.-ING. FRIESSNIG M.,BSC; HEINZLE P., BSC	35	AT	
55	CREATING AND RESEARCHING SUSTAINABLE DESIGN OF CORRUGATED CARDBOARD FURNITURE WITH ADVANCED TECHNOLOGICAL MEANS	PHD TIHOMIR DOVRAMADJIEV, PROF. PHD PLAMEN BRATANOV, PHD KREMENA CANKOVA, PHD GINKA JECHEVA	110	BG	
56	RISK MANAGEMENT IN INDUSTRIAL ENTERPRISES	ASSOC.PROF. PH.D. VALENTINA NIKOLOVA-ALEXIEVA	28	BG	

<b>19:00 – 24:00</b>	<b>“WELCOME” COCKTAIL</b>	<b>CONFERENCE BAR</b>
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*time for presentation 10-12 minutes,  
questions after each presentation*

# DAY TWO

## SECTION "MATERIALS"

19.09.2014 09:00 – 10:15		FIRST SESSION "MATERIALS"	CONFERENCE HALL 1		
CHAIRMAN: <i>PROF. D.SC. KAPUTKINA L. (RU)</i>		CO-CHAIR: <i>PROF. DR. ENG. V.I. SEMENOV (RU)</i>			
09:00 - 09:15	<b>MAKSTIL COMPANY PRESENTATION</b> TRANSITIONAL EXPERIENCES AND CHALLENGES OF MACEDONIAN STEEL INDUSTRY THROUGH THE EXAMPLE OF MAKSTIL, MEMBER OF DUFERCO GROUP AS A LEADING BRANCH CAPACITY	ENG. IVAN BANOVSKI GENERAL MANAGER OF MAKSTIL SKOPJE			MK
57	CORROSION RESISTANCE OF LASER WELDED JOINTS OF TP347HFG AND VM12-SHC STAINLESS STEELS	PROF.UJK DR HAB. SCENDO M., PROF. DR HAB. ANTOSZEWSKI B., M.SC.TRELA J., M.SC.ENG. TOFIL S.	14		PL
58	SURFACE MORPHOLOGY OF PURE TITANIUM AFTER ANODIZATION	ASSOC. PROF. DR DIKOVA TS.	121		BG
59	COMMERCIALY PURE COPPER AND LOW-ALLOYED CHROME BRONZE IN TRIBOLOGICAL CONTACT WITH GRAPHITIFEROUS MATERIAL	DR. ENG. V.I. SEMENOV, PROF. L.SH. SHUSTER, PROF. S.-J. HUANG, PHD STUD. P.-CH. LIN, PROF. R. RAJENDRAN	33		RU
60	IMPROVING THE UNIFORMITY OF PROPERTY DISTRIBUTION ALONG THE SURFACE OF FILTER MATERIALS OBTAINED USING POROGENS	PROF. DR. ENG., ILYUSHCHENKO A, CAND. ENG., DOC. KUSIN R, HEAD OF THE LAB. CHARNIAK I., RES. KUSIN A., RES. ZHEHZDRYN D. CHARNIAK I. M.	56		BY

10:15 – 10:30	COFFEE BREAK - CONFERENCE BAR
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19.09.2014 10:30 – 11:30		SECOND SESSION "MATERIALS"	CONFERENCE HALL 1		
CHAIRMAN: <i>PROF. DR. NAZARYAN E. (AM)</i>		CO-CHAIR: <i>ASSOC. PROF. DR CHARNIAK I., (BY)</i>			
61	SCIENTIFIC BASES OF CREATION OF HIGHLY EFFECTIVE BIOACTIVE COATINGS FOR BONE IMPLANTS	PROF.DR.END.LYASNIK V., ASS.PROF. SPERANSKY S.	32		RU
62	INFLUENCE OF NITROGEN ADDITION ON PHYSICAL - CHEMICAL PROPERTIES AND CORROSION RESISTANCE OF STAINLESS STEELS	D.SC. KAPUTKINA L.M., PHD SMARYGINA I.V., D.SC. KAPUTKIN D.E., D.SC. SVYAZHIN A.G., BOBKOV T.V.	104		RU
63	THE ROLE OF SEVERE PLASTIC DEFORMATION IN THE FORMATION OF HIGH ELECTRICAL PROPERTIES OF ALUMINUM ALLOY	PROF. RAAB G.I., PHD STUD. FAKHRETDINOVA E.I.	120		RU
64	STRUCTURE AND CHARACTERISTICS COMPLEX DIFFUSION LAYERS AFTER SATURATION BORON AND COPPER ON STEEL	PROF. DR. CHERNEGA S., POLIAKOV I., RASOVSKY M., GRYNENKO K.	62		UA
65	THE FEATURES OF POWDER BRIQUETTED MODIFIERS FORMING AND DISSOLUTION IN CAST IRON MELT	PROF. DR. ENG. BAGLIUK G. A., ENG. KUROVSKYI V., DR TERESCENKO N.	115		UA

THURSDAY (18.09)	10:00 – 19:00	POSTER SESSION "MATERIALS"	CONFERENCE HALL 1		
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time for presentation 10-12 minutes,  
questions after each presentation

FRIDAY (19.09)		09:00 – 13:00		
66	MECHANICAL SCHEMES AND SUSTAINABILITY OF PLASTIC FLOW METAL	PROF.SOSENUSHKIN E.N., ASSOC.PROF.YANOVSKAYA E.A., DR.SOSENUSHKIN A.E.	39	RU
67	THE STUDY OF THE PROCESS OF COMPLEX DIFFUSION SATURATION WITH BORON AND VANADIUM ON THE CARBON STEELS	PROF. PHD LYGDENOV B., PROF. PHD GURIEV A., PROF. PHD SITNIKOV A., PROF. PHD MEI SHUNQI, PROF. PHD KHRARAEV Y., POSTGRADUATE BUTUKHANOV V., POSTGRADUATE TSYRETOROV B.	40	RU
68	STRUCTURE AND PROPERTIES OF CAST HIGH SPEED STEEL AFTER TEMPERATURE CYCLING ANNEALING	PROF. DR. ENG. KHARAIEV Y., PROF. DR. ENG. GURIEV A., PROF. DR. ENG. LYGDENOV B., ASS. LYSYKH S.	41	RU
69	STUDY OF ALUMINUM ALLOYS COMPRESSIBILITY IN THE PROCESS OF APPLYING PRESSURE CRYSTALLIZING METAL	DENISOV MAXIM SERGEEVICH	79	RU
71	MODELING AND OPTIMIZATION OF THE PROPERTIES AND COMPOSITION OF TITANIUM-BASED ALLOYS	NIKOLAY TONTCHEV YORDAN KALEV RUMYANA LAZAROVA	88	BG
71	DEVELOPMENT OF A NEURAL NETWORK MODEL FOR CONTROL CHANGE IN THE PROPERTIES OF ALLOYS	STUDENT ENG. BOLSHAKOV A.	78	RU
72	INVESTIGATION OF MECHANICAL PROPERTIES OF TITANIUM ALLOYS BASED ON GENETIC OPTIMIZATION AND PARETO FRONT	PHD.ENG. MARTIN IVANOV, PHD.ENG. NIKOLAY TONTCHEV	90	BG
73	SOFTWARE MODEL FOR SELECTION OF THE APPROPRIATE CHEMICAL COMPOSITION OF TITANIUM ALLOYS UNDER DEFINES REQUIREMENTS FOR MECHANICAL CHARACTERISTICS	PHD.ENG. MARTIN IVANOV	91	BG
74	ROBUST BI-CRITERIA APPROACH TO OPTIMIZE THE COMPOSITION AND PROPERTIES OF TITANIUM ALLOY	NIKOLAY TONTCHEV, YORDAN KALEV	108	BG
75	POLYMERIC COMPOSITES OF CONSTRUCTIONAL APPLICATION BASED ON THERMOSETTING MATRIX AND CHEMICAL FIBERS	PROF. DR. ENG. A.I. BURYA, DR. ENG. N.G. CHERCASOVA, DR. ENG. O.I. PILIPENKO, GR. ST. O.A. NABEREZHNYAYA	113	UA
76	PENETRATION KINETICS OF BISMUTH MELT INTO COPPER POLYCRYSTALLINE STRUCTURE	M.SC. APYHTINA I.V. PHD., M.SC. NOVIKOV A.A., M.SC. NOVIKOVA E.A. PHD., M.SC. ORELKINA D.I., PROF. M.SC. PETELIN A.L.	22	RU
77	DEVELOPMENT OF ECONOMICALLY ALLOYED SACRIFICIAL ALLOYS FOR PROTECTION OF METAL CONSTRUCTIONS AGAINST ELECTROCHEMICAL CORROSION	DOCTOR OF SCIENCE, FULL PROFESSOR KECHIN, VLADIMIR ANDREEVICH	80	RU

## SECTION “MACHINES”

19.09.2014 09:00 – 10:15		FIRST SESSION “MACHINESS”	CONFERENCE HALL 2	
CHAIRMAN: ASS. PROF. DR. ENG. ŠTIMAC GRANDIĆ, IVANA ( HR)		CO-CHAIRMAN: ASSOC. PROF., DR.SC. SHARKOV O. (RU)		
78	SATELLITE PUMP AND MOTOR	PHD. ENG. SLIWINSKI P.	5	PL
79	COMPACT SATELLITE HYDRAULIC UNIT	M.SC. PATROSZ P., PHD. ŚLIWINSKI. P.	12	PL
80	COMPLEX ANALYSIS OF PERFORMANCE CHARACTERISTICS OF SINGLE PHASE SHADED POLE MOTOR	DOC. D-R VASILIJ SARAC	45	MK
81	APPLICATION OF NUMERICAL METHODS IN CALCULATION OF ELECTROMAGNETIC FIELDS IN ELECTRICAL MACHINES	DOC. D-R VASILIJ SARAC, GORAN GALVINCEV	46	MK
82	INSTALLATION FOR AUTOMATED DETERMINATION OF THE GEOMETRIC PARAMETERS OF EGG-BASED MACHINE VISION SYSTEM.	ASSOC.PROF.ALIHANOV D.M. , PHD. ENG. MOLDAJANOVA.K.	68	KZ

*time for presentation 10-12 minutes,  
questions after each presentation*



83	PLATE HEAT EXCHANGER WITH POROUS STRUCTURE FOR POTENTIAL USE IN ORC SYSTEM	DR.ENG. WAJS J., PROF. MIKIELEWICZ D., DR.ENG. FORMALIK-WAJS E.	71	PL
84	INFLUENCE OF THE POSITION OF THE SWASH PLATE ROTATION AXIS ON THE VOLUMETRIC EFFICIENCY OF THE AXIAL PISTONS PUMPS	MSC. ENG. PAWEŁ ZAŁUSKI	85	PL

10:15 – 10:30	COFFEE BREAK - CONFERENCE BAR
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18.09.2014 10:30 – 12:00	SECOND SESSION "MACHINES"	CONFERENCE HALL 2		
CHAIR: <i>DOC. D-R VASILIJ SARAC (MK)</i>		CO-CHAIRMAN: <i>PHD. ENG. SLIWINSKI P. (PL)</i>		
85	BELT CONVEYOR DESIGN AND ANALYSIS	ASSOC.PROF. I.GERDEMELI, ASSOC.PROF. S. KURT, E. T. DAYAN	98	TR
86	DAMAGE QUANTIFICATION RELIABILITY IN BEAMS USING INCOMPLETE STATIC INFORMATION	ASS. PROF. DR. ENG. ŠTIMAC GRANDIĆ, IVANA., ASS. PROF. DR. ENG. GRANDIĆ, DAVOR.	4	HR
87	LATTICE (CAGE) BEAM DESIGN AND FINITE ELEMENT ANALYSIS OF GANTRY CRANE	I. GERDEMELI, S. KURT AND B. BIGE	99	TR
88	GEOMETRICAL SYNTHESIS OF FINE-MODULE RATCHET TOOTHING	ASSOC. PROF., DR.SC.(ENG.) SHARKOV O.	54	RU

THURSDAY (18.09)	10:00 – 19:00	POSTER SESSION "MACHINES"	CONFERENCE HALL 1	
FRIDAY (19.09)	09:00 – 13:00			
89	DETERMINATION OF THE ENERGY NECESSARY FOR CARS BODY DEFORMATION BY APPLICATION OF THE NHTSA STIFNESS COEFFICIENT	PH.D. ENG. KUBIAK P., PH.D. ENG. WOZNIAK M., PROF. M.SC. OZUNA G.	77	PL MX
90	PROBABILITY STRESS CONDITIONS IN MACHINE ELEMENTS	ASSOC. PROF. PHD POPOV A.	21	BG
91	DYNAMIC PARAMETERS OF A CHAIN TRANSMISSION IN METAL AND POLYMER DESIGN	DR. SC. PILIPENKO O., PHD STUDENT ENG. POLUYAN A.	34	UA

11:30	CLOSING OF THE CONFERENCE WINE AND CHEESE PARTY	CONFERENCE BAR
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**NEXT CONGRESS "MACHINES. TECHNOLOGIES. MATERIALS"**  
**16.09-19.09.2015, VARNA, HOTEL "AQUA AZUR"**

*time for presentation 10-12 minutes,  
questions after each presentation*

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questions after each presentation*

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*time for presentation 10-12 minutes,  
questions after each presentation*

# SCIENTIFIC TECHNICAL CONFERENCES

**ORGANIZER:**

## SCIENTIFIC TECHNICAL UNION OF MECHANICAL ENGINEERING

BULGARIA, 1000 Sofia, Rakovski Str.108, phone/fax (+359 2) 986-22-40, phone (+359 2) 987-72-90



### XXII SCIENTIFIC - TECHNICAL CONFERENCE FOUNDRY 2015

16-17 APRIL 2015 - PLEVEN

[www.metalcasting.eu](http://www.metalcasting.eu)



### SCIENTIFIC - TECHNICAL CONGRESS WELDING 2015

14-15 MAY 2015 - SOFIA

[www.welding-bg.com](http://www.welding-bg.com)



### III SCIENTIFIC - TECHNICAL CONFERENCE

**ENGINEERING. TECHNOLOGIES. EDUCATION. SECURITY**

28 – 29 MAY, 2015 - VELIKO TARNOVO

[www.techtos.net](http://www.techtos.net)



### III SCIENTIFIC - TECHNICAL CONFERENCE

**AGRICULTURAL MACHINERY**

22 - 23 JUNE 2015 - VARNA

[www.agrimachinery.net](http://www.agrimachinery.net)

**trans &  
MOTAUTO**

### XXIII SCIENTIFIC-TECHNICAL CONFERENCE

**trans&MOTAUTO'15**

25-26 JUNE 2015 - VARNA

[www.trans-motauto.com](http://www.trans-motauto.com)



### SCIENTIFIC - TECHNICAL CONFERENCE MATERIAL SCIENCE

**NONEQUILIBRIUM PHASE TRANSFORMATIONS**

14 -15 SEPTEMBER 2015 - VARNA

[www.mech-ing.com](http://www.mech-ing.com)



### XII INTERNATIONAL CONGRESS

**MACHINES, TECHNOLOGIES, MATERIALS**

16 -19 SEPTEMBER 2015 - VARNA

[www.mtmcongress.com](http://www.mtmcongress.com)



### IX INTERNATIONAL SCIENCE CONFERENCE FOR YOUNG RESEARCHERS

**TECHNICAL SCIENCE AND INDUSTRIAL MANAGEMENT**

8 - 9 SEPTEMBER 2015 BURGAS

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**NEOMANAGEMENT 2015**

15-16 OCTOBER 2015 - SOFIA

[www.mech-ing.com](http://www.mech-ing.com)

*time for presentation 10-12 minutes,  
questions after each presentation*