



**11th International Scientific Conference
IRMES 2025
19. – 21. june 2025. Vrnjačka Banja**

**CONFERENCE PROGRAMME
IRMES 2025**



Day 1, 18.06.2025.		
19³⁰-20¹⁵	Welcome Cocktail	
Day 2, 19.06.2025.		
8⁰⁰-10⁰⁰	Registration	
10⁰⁰-10³⁰	Opening Ceremony <ul style="list-style-type: none"> • Profesor emeritus Radivoje Mitrović, President of ADEKO • Asst. Prof. dr Miodrag Milčić, President of the Organizing Committee • Prof. dr Miloš Simonović, Vice Dean of the Faculty of Mechanical Engineering (FME), University of Niš 	
10³⁰-13¹⁵	Plenary Lecture A	
<i>Keynote lectures</i> <i>Chairs: Dražan Kozak, University of Slavonski Brod, Faculty of Mechanical Engineering</i> <i>Radivoje Mitrović, Faculty of Mechanical Engineering, University of Belgrade, Serbia</i>		
10³⁰-11⁰⁰	Bernd-Robert HÖHN, RESEARCH AT FZG	
11⁰⁰-11³⁰	Jasmin KALJUN, Andrej CUPAR, Klavdija KOPŠE KALJUN, FROM CONCEPT TO CREATION: LEVERAGING ARTIFICIAL INTELLIGENCE IN MECHANICAL DESIGN AND IDEATION	
11³⁰-12⁰⁰	Coffee Break	

12 ⁰⁰ -12 ³⁰	Lorenzo MACCIONI, Franco CONCLI , OPEN-SOURCE CFD FOR LUBRICATED COMPONENTS: MODELING AERATION, CAVITATION, AND NON-NEWTONIAN EFFECTS WITH COMPUTATIONAL EFFICIENCY	
12 ³⁰ -13 ⁰⁰	Milan BANIĆ, Lazar STOJANOVIĆ, Marko PERIĆ, Damjan RANGELOV, Vukašin PAVLOVIĆ, Aleksandar MILTENOVIĆ, Miloš SIMONOVIĆ , AgAR: A MULTIPURPOSE ROBOTIC PLATFORM FOR THE DIGITAL TRANSFORMATION OF AGRICULTURE	
13 ⁰⁰ -13 ¹⁵	DB-RAZVITAK 	
13¹⁵-14³⁰ Lunch Break		
14³⁰-16⁰⁰ Plenary Lecture B		
<p><i>Keynote lectures</i> <i>Chairs: Bernd-Robert Höhn, Technical University of Munich, School of Engineering and Design</i> <i>Milan Banić, Faculty of Mechanical Engineering, University of Niš</i></p>		
14 ³⁰ -15 ⁰⁰	Dražan KOZAK, Damir TOMERLIN, Nenad GUBELJAK, Ivan SAMARDŽIĆ, Pejo KONJATIĆ , EXPERIMENTAL AND NUMERICAL INVESTIGATION OF HSS WELDED JOINTS FRACTURE BEHAVIOR	
15 ⁰⁰ -15 ³⁰	Damjan KLOBČAR, Uroš TRDAN, Mirza IMŠIROVIĆ, Drago BRAČUN, Mohammad REZA GHAVI, Tomaž VUHERER, Marek POLANSKI, Aleksija ĐURIĆ, Matija BUŠIĆ, Miodrag MILČIĆ , ENHANCING THE MECHANICAL PROPERTIES OF DIRECTED ENERGY DEPOSITION ARC (DED-Arc) VIA PROCESSING INNOVATIONS	
15 ³⁰ -16 ⁰⁰	Vladimir MILOVANOVIĆ , STRAIN AND STRESS/FORCE-CONTROLLED FATIGUE TESTING OF METALLIC MATERIALS, POST-PROCESSING OF EXPERIMENTALLY OBTAINED RESULTS AND APPLICATION IN FEA	



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16⁰⁰-16³⁰		Coffee Break	
16³⁰-18¹⁵		Panel session	
<p><i>Chairs: Tomaž Vuherer, University of Maribor, Faculty of Mechanical Engineering Milan Rackov, Faculty of Technical Science, University of Novi Sad, Serbia Dragan Milčić, Faculty of Mechanical Engineering, University of Niš</i></p>			
16³⁰-16⁴⁵	<p>Milan BANIĆ, Aleksandar MILTENOVIĆ, Dragan MILČIĆ, CORE COMPETENCIES FOR MECHANICAL ENGINEERS IN MACHINE DESIGN AND PRODUCT DEVELOPMENT OVER THE NEXT DECADE</p>		
<p><i>Moderator: Prof. dr Aleksandar Miltenović, Faculty of Mechanical Engineering, University of Niš Panelists: Emeritus prof. Radivoje Mitrović, prof. dr Dražan Kozak, prof. dr Damjan Klobčar</i></p>			
Mechanical engineering education: Mechanical Engineering in the Age of Artificial Intelligence			
20⁰⁰		Gala Dinner	
Day 3, 20.06.2025.			
09⁰⁰-11¹⁵		Session 1 Mechanical Elements and Systems	
<p><i>Chairs: Biljana Marković, Faculty of Mechanical Engineering of the University of East Sarajevo Lorenzo Maccioni, Free University of Bozen-Bolzano</i></p>			
09⁰⁰-09¹⁵	<p>Jovana ANTIĆ, Žarko MIŠKOVIĆ, Danilo PEJČIĆ, Martin DIX, Alexander PIERER, Jürgen HEIDRICH, Matthias DEMMLER, THE INFLUENCE OF CRYOGENIC TREATMENT ON THE HARDNESS OF ROLLING BEARINGS' BALLS</p>		
09¹⁵-09³⁰	<p>Zorica ĐORĐEVIĆ, Sonja KOSTIĆ, Danijela NIKOLIĆ, Saša JOVANOVIĆ, ANALYSIS OF NATURAL FREQUENCIES OF A HYBRID ALUMINUM/COMPOSITE SHAFT</p>		
09³⁰-09⁴⁵	<p>Miloš MILOVANČEVIĆ, Srđan STOJIČIĆ, Mirjana MILJANOVIĆ, Nikola SIMONOVIĆ, Dragana TRNAVAC, DATA DRIVEN PREDICTION OF SHEAR STRENGTH OF COMPOSITE SLIDER JOINTS</p>		



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09⁴⁵-10⁰⁰	Vojkan NOJNER, Dragan MILČIĆ, Milan BANIĆ, DEVELOPMENT AND THERMAL ASSESSMENT OF A HIGH-POWER GEARBOX	
10⁰⁰-10³⁰	Coffee Break	
<p><i>Chairs: Tatjana Lazović, Faculty of Mechanical Engineering, University of Belgrade, Serbia Jelena Stefanović-Marinović, Faculty of Mechanical Engineering, University of Niš</i></p>		
10³⁰-10⁴⁵	Sanjin TROHA, Jelena STEFANOVIĆ MARINOVIĆ, Željko VRCAN, Kristina MARKOVIĆ, Marko PERIĆ, OPPORTUNITIES FOR THE APPLICATION OF A PLANETARY GEARBOX AS A REVERSING UNIT	
10⁴⁵-11⁰⁰	Natalija MRATINKOVIĆ, Miodrag MILČIĆ, Nataša ZDRAVKOVIĆ, Dragan MILČIĆ, Marko PERIĆ, MECHANICAL PROPERTIES OF BONDED JOINTS MADE OF SLM ADDITIVE MANUFACTURED ADHERENDS	
11⁰⁰-11¹⁵	Dušan PETKOVIĆ, Miloš MADIĆ, GEAR MATERIAL SELECTION BY USING MCDM SOLVER	
11¹⁵-12⁰⁰	Coffee Break	

12⁰⁰-13⁴⁵ Session 2 Product Development Process		
<i>Chairs: Mirko Blagojević, Faculty of Engineering, University of Kragujevac, Serbia Radoslav Tomović, University of Montenegro, Faculty of Mechanical Engineering</i>		
12⁰⁰-12¹⁵	Radivoje MITROVIĆ, Zarko MISKOVIĆ, Vidosav D. MAJSTOROVIĆ, TOWARDS SMART ENGINEERING PRODUCTS	
12¹⁵-12³⁰	Biljana MARKOVIĆ, Vidak ČAJEVIĆ, Aleksija ĐURIĆ, Srđan SAMARDŽIĆ, SELECTING OF SOLUTIONS IN DEVELOPING THE BOBCAT E62 EXCAVATOR CONTROL HANDLE	
12³⁰-12⁴⁵	Srđan SAMARDŽIĆ, Damjan KLOBČAR, Aleksija ĐURIĆ, Biljana MARKOVIĆ, APPLICATION OF FIXTURES PRODUCED WITH FDM TECHNOLOGY IN THE ADHESIVE BONDING OF PARTS IN THE RAILROAD INDUSTRY	
12⁴⁵-13⁰⁰	Aleksandar TOMOVIĆ, Remzo DEDIĆ, Adisa VUČINA, Nebojša RAŠOVIĆ, Radoslav TOMOVIĆ, Milanko DAMJANOVIĆ, ANALYSIS OF PROGRESS IN THE DEVELOPMENT OF HYDRAULIC ACTUATOR-BASED ABOVE-KNEE PROSTHESIS AND FUTURE GUIDELINES	
13⁰⁰-13¹⁵	Radoslav TOMOVIĆ, Aleksandar TOMOVIĆ, DEVELOPMENT OF THE CRNOJEVIC PRINTING MACHINE REPLICA	
13¹⁵-13³⁰	Nenad KOSTIĆ, Nenad PETROVIĆ, Vesna MARJANOVIĆ, Nenad MARJANOVIĆ, ASSESSING ACHIEVED SAVINGS USING OPTIMIZED TRUSSES WITH CARDINALITY CONSTRAINTS	



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13³⁰-13⁴⁵	Tanasije JOJIĆ, Jovan VLADIĆ, Radomir ĐOKIĆ, Nikola ILANKOVIĆ, Mirko KATONA, MEASUREMENT OF THE KINEMATIC CHARACTERISTICS OF ZIPLINE PASSENGERS	
13⁴⁵-15⁰⁰	Lunch Break	
15⁰⁰-17¹⁵	Session 3 Advanced Technologies in Mechanical Engineering	
<i>Chairs: Žarko Mišković, Faculty of Mechanical Engineering, University of Belgrade, Serbia Aleksandar Miltenović, Faculty of Mechanical Engineering, University of Niš</i>		
15⁰⁰-15¹⁵	Vladimir SINĐELIĆ, Snežana ĆIRIĆ-KOSTIĆ, Aleksandar NIKOLIĆ, Nebojša BOGOJEVIĆ, NUMERICAL ANALYSIS OF FOUR TYPES OF ARC STAR SHAPED AUXETIC STRUCTURES	
15¹⁵-15³⁰	Eleonora DESNICA, Ivan PALINKAŠ, Dejan LANDUP, Mića ĐURĐEV, Borivoj NOVAKOVIĆ, Luka ĐORĐEVIĆ, COMPARISON OF CONVENTIONAL AND IMACHINING STRATEGIES USING THE SOLIDCAM SOFTWARE	
15³⁰-15⁴⁵	Pavle LJUBOJEVIĆ, Tatjana LAZOVIĆ, Marina DOJČINOVIĆ, CAVITATION EROSION PARAMETERS OF LASER SINTERED MS1 STEEL TESTED ACCORDING TO ASTM G32 STANDARD	
15⁴⁵-16⁰⁰	Danilo PEJČIĆ, Žarko MIŠKOVIĆ, Jovana ANTIĆ, Radivoje MITROVIĆ, Lubos MAGDOLEN, Tomas MILESICH, Jan DANKO, VAT PHOTOPOLYMERIZATION RISK ASSESSMENT USING THE KINNEY METHOD	
16⁰⁰-16¹⁵	Coffee Break	

<i>Chairs: Nenad Marjanović, Faculty of Engineering, University of Kragujevac, Serbia Aleksija Đurić, Faculty of Mechanical Engineering of the University of East Sarajevo</i>		
16¹⁵-16³⁰	Aleksija ĐURIĆ, Biljana MARKOVIĆ, Srđan SAMARDŽIĆ, Dragan MILČIĆ, Damjan KLOBČAR, Miodrag MILČIĆ, APPLICATIONS AND ANALYSIS OF NANOSTRUCTURED ADHESIVES: A REVIEW	
16³⁰-16⁴⁵	Andela PEROVIĆ, Mirko BLAGOJECIĆ, Miloš MATEJIĆ, Lozica IVANOVIĆ, Ivan MILETIĆ, EXPERIMENT PREPARATION FOR LASER-CUT SPUR GEARS EFFICIENCY TESTING	
16⁴⁵-17⁰⁰	Miloš MILOVANČEVIĆ, Srđan STOJIČIĆ, Mirjana MILJANOVIĆ, Nikola SIMONOVIĆ, Dragana TRNAVAC, ANALYSIS NETWORK INFRASTRUCTURE IMPACT ON INFORMATION – COMMUNICATION TECHNOLOGY (ICT) DEVELOPMENT	
17⁰⁰-17¹⁵	Vladislav KRSTIĆ, Dragan MILČIĆ, Miodrag MILČIĆ, OPTIMIZATION OF PREDICTIVE MODELS FOR THE THERMAL BEHAVIOR OF LEADING AND THREADED SPINDLES AND THEIR CORRESPONDING ROLLING BEARINGS USING AI AND BIG DATA	
17¹⁵-18⁰⁰ <i>Poster Presentation /Coffee Break</i>		
	Sandra GAJEVIĆ, Aleksandar SKULIĆ, Andela ŽIVKOVIĆ, Slavica MILADINOVIĆ, Stefan ČUKIĆ, Milan BUKVIĆ, Blaža STOJANOVIĆ, EFFICIENCY OPTIMIZATION OF A WORM GEAR TRANSMISSION USING THE CCD METHOD AND ANOVA	
	Nataša ZDRAVKOVIĆ, Milan BANIĆ, Damjan KLOBČAR, Miodrag MILČIĆ, Szabolcs FISCHER, EXPERIMENTAL AND NUMERICAL ANALYSIS OF SINGLE LAP ALUMINIUM JOINTS BONDED WITH DIFFERENT EPOXY ADHESIVES	

	Marko PERIĆ, Aleksandar MILTENOVIĆ, Jelena STEFANOVIĆ-MARINOVIĆ, Damjan RANGELOV, Lazar STOJANOVIĆ, Saša PAVLOVIĆ, Daniela ALIC, FINITE ELEMENT ANALYSIS OF THREE-STAGE PLANETARY GEAR TRAIN FOR ROAD VEHICLE WINCH	
	Damjan RANGELOV, Lazar STOJANOVIĆ, Aleksandar MILTENOVIĆ, Jovan ARANĐELOVIĆ, Marko PERIĆ, AN EXPERIMENTAL STUDY ON LAYER ADHESION IN FDM 3D PRINTING: COMPARING CONVENTIONAL AND BRICK-LAYER DEPOSITION PATTERNS	
	Ivan KNEŽEVIĆ, Milan RACKOV, Aleksandar ŽIVKOVIĆ, Mirjana BOJANIĆ ŠEJAT, Željko KANOVIĆ, ANALYSIS OF THE INFLUENCE OF WAVINESS AND AXIAL LOAD ON THE DYNAMIC BEHAVIOR OF BALL BEARINGS	
	Amir ALSAMMARRAIE, Abdul SALAM Y. OBAID, PREDICTION OF TRIBOLOGICAL PROPERTIES OF ALUMINUM WELDED BY FRICTION STIR WELDING (FSW), A REVIEW	
	Goran MIHAJLOVIĆ, Marina KARIĆ, Jelena ERIĆ OBUĆINA, Zvonko PETROVIĆ, METHODOLOGY FOR CALCULATING SURFACE PRESSURE ON THE CONTACT SURFACES OF CONICAL CLAMPING RINGS	
18⁰⁰-19⁰⁰	MEETING ADEKO	
19⁰⁰	Closing Ceremony	
Day 4, 21.06.2025.		
10⁰⁰-11³⁰	WORKING MEETING: Connecting Mechanical Engineering Faculties of Serbia and the EU: Mobility, Joint Programs, and Research Collaboration	

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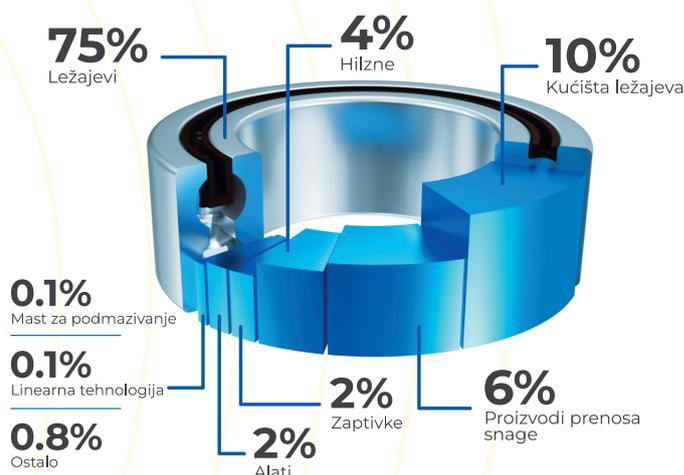
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Edicija 2025