

CIE/C2I 2025
International Conference on Integrated Engineering
Timisoara, Romania, May 5-6, 2025

CONFERENCE PROGRAM

May 4			
Restaurant UPT CASA POLI 2, Bd. Mihai Eminescu no.11			
19:00 – 21:00	Welcome cocktail		
May 5			
Conference Center of Politehnica University Timișoara, Bd. Vasile Pârvan no. 2			
08:30 – 09:00	Registration		
09:00 – 09:20	Opening ceremony (Onsite and Online: Link 1)		
09:20 – 10:30	Plenary session (Onsite and Online: Link 1) George Drăghici – MANUFACTURING IN INDUSTRY 4.0 TOWARD 5.0 Stelian Brad – AI-ASSISTED DESIGN AND INNOVATION FOR INDUSTRY 5.0		
10:30 – 11:00	Coffee break		
11:00 – 13:00	Parallel session 1 (onsite and online)		
	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; vertical-align: top;"> ONSITE and Online: Link 1 Chair: Adriana Săvescu, Anca Draghici ID 2: Adriana Săvescu, Jonathan Savin, Gabin Personeni and Bruno Daille-Lefèvre - COLLABORATIVE ROBOTICS: CASE STUDY, OPPORTUNITY AND CHALLENGES ID 27: Alin Florin Pop, Florin-Sandu Blaga, Vlad Stefan Năpârlică, Voichița Ionela Hule, Claudiu-Ioan Indre and Lajos Vereș - THE USE OF HIERARCHICAL MODELS WITH </td> <td style="width: 50%; vertical-align: top;"> ONLINE: Link 2 Chair: Oana Dodun, Adrian Dume ID 8: Laurentiu Slătineanu, Marian Gheorghe, Oana Dodun, Margareta Coteață, Gheorghe Nagiț, Alexei Toca, Vitalie Beșliu and Adelina Hrițuc - POSTPONING DEEP DOCUMENTATION TO GENERATE INNOVATIVE SOLUTIONS </td> </tr> </table>	ONSITE and Online: Link 1 Chair: Adriana Săvescu, Anca Draghici ID 2: Adriana Săvescu, Jonathan Savin, Gabin Personeni and Bruno Daille-Lefèvre - COLLABORATIVE ROBOTICS: CASE STUDY, OPPORTUNITY AND CHALLENGES ID 27: Alin Florin Pop, Florin-Sandu Blaga, Vlad Stefan Năpârlică, Voichița Ionela Hule, Claudiu-Ioan Indre and Lajos Vereș - THE USE OF HIERARCHICAL MODELS WITH	ONLINE: Link 2 Chair: Oana Dodun, Adrian Dume ID 8: Laurentiu Slătineanu, Marian Gheorghe, Oana Dodun, Margareta Coteață, Gheorghe Nagiț, Alexei Toca, Vitalie Beșliu and Adelina Hrițuc - POSTPONING DEEP DOCUMENTATION TO GENERATE INNOVATIVE SOLUTIONS
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	<p>COLORED PETRI NETS IN THE STUDY OF ROBOTIC MANUFACTURING PERFORMANCE</p> <p>ID 33: Anca Draghici, Jorg Niemann, Elif Ocakci, Alin Gaureanu and Aurel Tulcan - A STANDARDS TAXONOMY SUPPORTING MANUFACTURING IN INDUSTRY 4.0 TOWARD 5.0</p> <p>ID 35: Stelian Brad, Emilia Brad, Bogdan Balog, Dragoş Bartoş and Alexandru Cirlejan - EXPLORATIVE AI FOR CONCEPTUAL DESIGN AND SPECIFICATION ENGINEERING OF A MULTI-FUNCTIONAL AUTONOMOUS ROBOTIC PLATFORM FOR SMART URBAN SERVICES</p> <p>ID 36: Ramona-Raluca Stoia, Marius Mihut and Anca Drăghici - DIGITAL MONITORING SYSTEMS IN THE FOOD INDUSTRY: A REVOLUTION IN QUALITY AND EFFICIENCY</p> <p>ID 39: Kenza Belkhiri and Viorel Ungureanu - INTEGRATING SMART TECHNOLOGIES INTO MODULAR AND FLEXIBLE ARCHITECTURE</p> <p>ID 47: Cristian Marius Bacican, Cristian Moldovan and Mihai Micea - STUDY ON THE POSITIONING ACCURACY FOR A NEURAL NETWORK CONTROLLED ROBOTIC ARM END-EFFECTOR</p>	<p>ID 24: Mihaela Nicolau and Oana Dodun - CONSIDERATIONS ABOUT COST ESTIMATES IN PRODUCT DESIGN OF A CUTTING TOOL</p> <p>ID 37: Roxana Santa and Sorin Popescu - UNLOCKING POTENTIAL: HOLISTIC AUTOMOTIVE RISK BREAKDOWN STRUCTURE MODEL IN CHALLENGING TIMES</p> <p>ID 10: Andreea Istrate and Oana Dodun - SHEET METAL ASSEMBLY DESIGN METHODS ANALYSIS</p> <p>ID 19: Emanuel Bădulescu, Daniela Monica Iordache, Eduard Laurențiu Nițu and Claudiu Bădulescu - RESEARCH ON THE NUMERICAL MODELING OF THE INCREMENTAL PLASTIC DEFORMATION PROCESS USING A HEMISPHERICAL TOOL</p> <p>ID 29: Gabriel Prada, Mihai Tămășan, Raul Lucaciu and Florin Blaga - THE IMPLEMENTATION OF A DECISION-MAKING SYSTEM BASED ON FUZZY LOGIC FOR OPTIMIZING PRODUCTION SCHEDULING OF PLASTIC PARTS MANUFACTURED BY INJECTION MOLDING</p> <p>ID 26: Gabriela Severin, Sorin Ilie and Alin Pop - SUSTAINABILITY IN ENGINEERING. EVALUATING THE MECHANICAL BEHAVIOR OF POLYOXYMETHYLENE THROUGH REPEATED INJECTION CYCLES</p>
13:00 – 14:15	Lunch (Restaurant MV, Faculty of Mechanical Engineering, Bd. Mihai Viteazu no. 1)	
14:30 – 16:30	Parallel session 2 (onsite and online)	
	<p>ONSITE and Online: Link 1</p> <p>Chair: Iulian Stanasel, Bogdan Nita</p>	<p>ONLINE: Link 2</p> <p>Chair: Ioana Ionel, Adrian Dume</p>
	<p>ID 6: Bogdan Nita, Carol Schnakovszky, Bogdan Chirita, Eugen Herghelegiu, Raluca Ioana Tampu and Catalin Tampu - INFLUENCE OF CUTTING PARAMETERS ON SURFACE QUALITY OF AL7075 ALLOY UNDER DRY AND LN2 COOLING CONDITIONS</p> <p>ID 12: Flaviu Corb, Caius Stanasel and Iulian Stanasel - MULTI-OBJECTIVE OPTIMIZATION OF LASER</p>	<p>ID 3: Alexandru-Ionut Irimia, Cristiana Grigoruță, Vasile Ermolai and Gheorghe Nagiț - INNOVATIVE REPRESENTATION OF DOUBLE ORTHOGRAPHIC PROJECTION USING 3D PRINTING TECHNOLOGY</p> <p>ID 55: Demetrius Petrescu Dubic, Oana Roxana Chivu, Anamaria Ioana Feier and Marilena Gheorghe - FLEXIBLE, SMART MANUFACTURING SYSTEMS AND INDUSTRIAL ENERGY MANAGEMENT SYSTEM IN AUTOMOTIVE FIELD</p>

	<p>ENGRAVING PARAMETERS USING GREY RELATIONAL ANALYSIS</p> <p>ID 13: Petrica Radu, Nicolae-Catalin Tampu, Eugen Herghelegiu, Carol Schnakovszky and Maria-Crina Radu - STUDY OF THE CUTTING FORCES AND QUALITY PARAMETERS OF THIN-WALLED PARTS MACHINED BY MILLING</p> <p>ID 14: Bogdan Ionut Popa and Gheorghe Oancea - SOFTWARE TOOL FOR DETERMINING OF METAL MILLING PARAMETERS</p> <p>ID 18: Caius Stanasel and Iulian Stanasel - PARAMETRIC MODELLING OF INVOLUTE GEARS WITH CURVILINEAR SHAPED TEETH</p> <p>ID 50: Aylín Pupo Pérez, Luminita Parv and Gheorghe Oancea - LEAN AND SUSTAINABLE MANUFACTURING IN AGGREGATE PRODUCTION: A CASE STUDY</p> <p>ID 21: Dorian Stef - ARCHITECTURE PROPOSAL FOR IMPLEMENTATION OF ARTIFICIAL INTELLIGENCE ON CNC MACHINE TOOLS</p>	<p>ID 9: Viorel Bostan and Andrei Petco - ANALYSIS OF CAVITATION PHENOMENON AS A CRITERION FOR OPTIMIZATION OF CENTRIFUGAL PUMP DESIGN</p> <p>ID 11: Sandra Melovic, Darko Stefanovic, Aco Antic and Dusanka Dakic - E-VOTING IN THE DIGITAL AGE: A SYSTEMATIC REVIEW OF GLOBAL IMPLEMENTATION STRATEGIES AND CHALLENGES</p> <p>ID 41: Cosmin Constantin Suciu, Virgil Stoica, Mariana Ilie and Ioana Ionel - A NOVEL APPROACH TO REAL-TIME TORQUE MEASUREMENT THROUGH IOT-INTEGRATED STRAIN GAUGES AND NEURAL NETWORK CALIBRATION</p> <p>ID 44: Adriana Madalina Turcanu Constantinescu, Felicia Stan and Catalin Fetecau - EVALUATION OF THE MECHANICAL BEHAVIOR OF G-AENIAL RESTORATIVE COMPOSITES USING MULTI-CYCLING INDENTATION</p> <p>ID 45: Marian-Vasile Baban, Alexandru-Viorel Coşa and Emanoil Linul - INFLUENCE OF PHOTOPOLYMER RESIN MIXTURES ON PHYSICAL AND FRACTURE PROPERTIES</p>
16:30 – 17:00	Coffee break	
17:00 – 19:00	Parallel session 3 (onsite and online)	
	<p>ONSITE and Online: Link 1</p> <p>Chair: Jörg Niemann, Ileana Pascu</p>	<p>ONLINE: Link 2</p> <p>Chair: Petru Duşa, Adrin Dume</p>
	<p>ID 17: Ionut Tone and Ileana Pascu - IMPROVING THE FUNCTIONAL TESTING PROCESS BY APPLYING THE 6 SIGMA METHODOLOGY IN THE AUTOMOTIVE FIELD</p> <p>ID 40: Jörg Niemann, George Draghici and Elif Ocakci - A METHOD TO EVALUATE THE LIFE CYCE SUSTAINABILITY VALUE OF ALTERNATIVE SOLUTION DESIGNS</p> <p>ID 22: Beatrice Arvinti and Florina Pop - WAVELET SYSTEM FOR INTELLIGENT MEASURING, DESIGNED TO ENHANCE THE MANUFACTURING PROCESS OF A PHOTOVOLTAIC MODULE. PRELIMINARY RESULTS</p>	<p>ID 25: Laurențiu Crețu and Petru Duşa - STUDIES ON THE DESIGN AND PERFORMANCE OF A MAGNETIC PLANETARY GEAR</p> <p>ID 4: Nicolae Razvan Mititelu, Roxana Hobjâlă, Vasile Ermolai, Marius Ionuț Rîpanu and Cristian Bişog - USE OF AI LANGUAGE MODELS IN GENERATING 3D PRINTABLE MODELS</p> <p>ID 5: Cristian Bisog, Nicolae-Răzvan Mititelu and Roxana Hobjală - 3D DESIGN TECHNIQUE TO REDUCE REDESIGN TIMING</p> <p>ID 23: Alexandru Ionuț Toma, Younes Demmouche, Matthieu Dhondt, Claudiu Bădulescu, Eduard Laurențiu Nițu and Daniela Monica Iordache - NUMERICAL SIMULATION OF DISSIMILAR FRICTION</p>

	<p>ID 43: Andreia-Iulia Juravle, Andrei Crişan and Radu Băncilă - WELDED STEEL BRIDGE INTEGRITY ENABLED BY SMART INFORMATION MANAGEMENT ACROSS THE ASSET LIFECYCLE</p> <p>ID 15: Firu Adrian Ciprian and George Draghici - PRODUCT CONFIGURATION FOR MASS PERSONALIZATION</p> <p>ID 46: Alexandru-Viorel Coşa, Marian-Vasile Baban, Radu-Marcel Negru and Dan-Andrei Şerban - INFLUENCE OF LAYER THICKNESS ON COMPRESSIVE BEHAVIOR OF KAGOME STRUCTURES</p>	<p>STIR WELDING OF ALUMINUM ALLOYS AA7075 AND AA2024: INFLUENCE OF TOOL GEOMETRY ON TEMPERATURE DISTRIBUTION</p> <p>ID 1: Cristina Roxana Popa, Cărbureanu Madalina and Bogdan Doicin - APPLICATION OF MACHINE LEARNING TECHNIQUES FOR MODELING THE REACTOR OF THE CATALYTIC CRACKING PROCESS</p> <p>ID 38: Dinu Iacob Poiana, Ioana Ionel, Mircea Dorin Vasilescu and Maria-Monica Borleanu - INFLUENCE OF CONSTRUCTIVE PARAMETERS OF FDM 3D PRINTING IN THE PIPE WITH HOLL FABRICATION</p> <p>ID 53: Dinu Iacob Poiana, Mircea Dorin Vasilescu, Sergiu Valentin Galatanu and Ioana Ionel - DESIGN AND MANUFACTURE OF A PIPE-CLAMPING DEVICE FOR EXPERIMENTAL ANALYSIS OF LONG THIN-WALLED-TUBULAR PARTS</p>
19:30 – 22:30	Gala dinner (Restaurant UPT CASA POLI 2, Bd. Mihai Eminescu no.11)	
<p>May 6</p> <p>Faculty of Mechanical Engineering, Bd. Mihai Viteazu no. 1, IMF Department, SPM Building, Room 105</p>		
09:00 – 11:00	<p>Papers session 4 (ONSITE and Online: Link 3)</p> <p>Chair: Mircea Dorin Vasilescu, Adrian But</p> <p>ID 20: Viorel Coşa, Alexandra-Florina Ususan, Cristian Cosma and Dan-Andrei Şerban - SIZE AND BUILD ORIENTATION EFFECT ON THE TENSILE PROPERTIES OF POLYMERS MANUFACTURED THROUGH STEREOLITHOGRAPHY</p> <p>ID 34: Diana Ticudean, Emilia Brad, Vasile Dragos Bartos and Adrian Ionut Chis - EVALUATING 3D PRINTING AS A PERFORMANCE-DRIVEN ALTERNATIVE IN MEDICAL RECONSTRUCTIONS</p> <p>ID 52: Cristian Pop, Carmen Sticlaru, Florina Pop, Aurel Tulcan and Liliana Tulcan - STUDY ON AI-GENERATED 3D PRINTED ABS PARTS: INFLUENCE OF INFILL TYPE AND PERCENTAGE USING FACTORIAL ANOVA, REGRESSION, AND MULTI-OBJECTIVE OPTIMIZATION</p> <p>ID 54: Mircea Dorin Vasilescu and Doru-Alexandru Luca - MULTI-CRITERIA ANALYSIS OF FDM ADDITIVE MANUFACTURING PROCESS FOR COMPONENTS WITH CYLINDRICAL GEOMETRY</p> <p>ID 49: Adrian But and Cristian-Eusebiu Popescu - OPTIMIZATION OF MANUFACTURING PROCESSES, THE NEW CNC TECHNOLOGIES IMPLEMENTATION</p>	

	<p>ID 51: Cristian-Eusebiu Popescu, Aurel Tulcan and Adrian But - STUDY ON THE MEASUREMENT ERROR ANALYSIS OF AN OMM MEASUREMENT SYSTEM USING A PROBING MODULE CAD-CAM SOFTWARE</p> <p>ID 56: Ștefan Adrian Țimpea, Adrian Dume, Vasile Dzitac, Cristian Cosma, Viorel-Aurel Șerban - DESIGN METHODOLOGY FOR A RADIUS IMPLANT USING CATIA V5 R19</p>
11:00 – 11:30	Coffee break
11:30 – 12:45	Visiting the IMF Department
13:00 – 14:15	Lunch (Restaurant MV, Bd. Mihai Viteazu no. 1)

