

The **16th** International Conference

Innovative Technologies for Joining Advanced Materials

November 06-07, 2025

Organizers



TIMIȘOARA

National R&D Institute for Welding
and Material Testing - ISIM
Timișoara



"Politehnica"
University Timișoara



Technical Sciences Academy of
Romania - Timișoara branch

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Research**



SPONSORS



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Conference Agenda

Information concerning the conference

Face to face participation:

06 and 07 of November
Faculty of Automation and Computers from the University Politehnica
Timisoara -
Bulevardul Vasile Pârvan 2, Timișoara 300223, Romania

Online:

06 and 07 of November
ZOOM platform: Meeting ID: **896 5279 3711** / Password: **160441** or
<https://us02web.zoom.us/j/89652793711?pwd=BHVeo9Nwg8hFT9Vqv3H8VdjR1amGmv.1>

Festive diner:

Evening of 06.11.2025, starting from 6:30 PM
Location: Perla Events Ball Room, Piața Bisericii 8, Timișoara 300226,
Romania

Additional information: tima@isim.ro

Committees

Organizing Committee

- Ph.D. Eng. Nicușor-Alin SÎRBU - National R&D Institute for Welding and Material Testing - ISIM Timișoara, Romania - Conference Chair;
- Assoc. Prof. Ph.D. Eng. Florin DRĂGAN - Politehnica University Timișoara, Romania;
- Prof. Ph.D. Eng. Gheorghe LUCACI - Technical Sciences Academy of Romania - Timișoara Branch, Romania.

Scientific Committee

- Bogdan RADU - Assoc. Prof. Ph.D. Eng. - Politehnica University Timișoara, Romania - Scientific Committee Chair;
- Nicușor-Alin SÎRBU - Ph.D. Eng. - National R&D Institute for Welding and Material Testing - ISIM Timișoara, Romania;
- Viorel-Aurel ȘERBAN - Prof. Ph.D. Eng. Habil. - Politehnica University Timișoara, Romania;
- Ilare BORDEAȘU - Prof. Ph.D. Eng. Habil. - Politehnica University Timișoara, Romania;
- Gabriela MĂRGINEAN - Prof. Ph.D. Eng. - University of Applied Sciences, Gelsenkirchen, Germany;
- Andrei Victor SANDU - Assoc. Prof. Ph.D. Eng. Habil. - "Gheorghe Asachi" Technical University of Iasi, Romania;
- Fernando MAÑAS - Ph.D. Eng. - Asociación Española de Soldadura y Tecnologías de Unión, Spain;
- Aleksandar SEDMAK - Prof. Ph.D. Eng. - University of Belgrade, Serbia;
- Leonid LOBANOV - Ph.D. Eng. - The E.O. Paton Electric Welding Institute, Kiev, Ukraine;
- Liviu MARSAVINA - Prof. Ph.D. Eng. - Politehnica University Timișoara, Romania;
- Viorel UNGUREANU - Prof. Ph.D. Eng. - Politehnica University Timișoara, Romania;
- Alin Constantin MURARIU - Ph.D. Eng. - National R&D Institute for Welding and Material Testing - ISIM Timișoara, Romania;
- Cosmin CODREAN - Assoc. Prof. Ph.D. Eng. - Politehnica University Timișoara, Romania;
- Dorin DEHELEAN - Prof. Ph.D. Eng. Habil. - Romanian Welding Society, Romania;
- Eugen GHITA - Assoc. Prof. Ph.D. Eng. - Politehnica University Timișoara, Romania;
- Monica IORDACHE - Assoc. Prof. Ph.D. Eng. - Politehnica University Pitești, Romania;
- Eduard NIȚU - Prof. Ph.D. Eng. - Politehnica University Pitești, Romania;
- Mihail ȚÎȚU - Prof. Ph.D. Eng. - "Lucian Blaga" University of Sibiu, Romania;
- Adem KURT - Prof. Ph.D. Eng. - Gazi Üniversitesi Teknoloji Fakültesi, Metalurji ve Malzeme Mühendisliği Bölümü, Türkiye;
- Sanja PETRONIC - Ph.D. Eng. - University of Belgrade, Serbia;
- Ionel-Dănuț SAVU - Prof. Ph.D. Eng. Habil. - University of Craiova, Romania;
- Sorin Vasile SAVU - Prof. Ph.D. Eng. Habil. - University of Craiova, Romania;
- Elena SCUTELNICU - Prof. Ph.D. Eng. - "Dunărea de Jos" University of Galați, Romania;
- Dorin BORDEAȘU - Ph.D. Eng. - Politehnica University Timișoara, Romania;
- Christopher SMALLBONE - IIW Fellow, IIW President 2005-2008, Fellow Engineers Australia;
- Ion Dragoș UȚU - Prof. Ph.D. Eng. Habil. - Politehnica University Timișoara, Romania;
- Cristian COSMA - Assoc. Prof. Ph.D. Eng. - Politehnica University Timișoara, Romania;
- Abderrazak BOUTRAMINE - Ph.D. eng. - Ibn Zohr University Agadir, Morocco;
- Judit KOVACS - Ph.D. Eng. Associate research fellow- University of Miskolc, Hungary;

- Fatima ZORRO - PhD. Eng. Project Manager, European Federation for Welding, Joining and Cutting (EWF), Belgium;
- Boshra SALEM - PhD Environmental Sciences -Faculty of Science- Alexandria University, Egypt;
- Marwa HALMY - PhD Environmental Sciences -Faculty of Science- Alexandria University, Egypt;
- Mohamed ESSID - PhD Lecturer - Faculty ISET SFAX, Tunis;
- Samar KAILANI - MSC Architecture, General's Secretary's assistant for Training and Qualification Director of Engineers Academy for Training and Development/ Jordan Engineers Association, Jordan;
- Emam YASSIN - Master of Business Administrator (MBA), Head of Training & studies Department, Jordan Engineers Association, Jordan.

Editor

PhD. Eng. Nicușor-Alin SÎRBU - National R&D Institute for Welding and Material Testing - ISIM Timișoara, Romania

Secretary

PhD. student Jur. Aurelia-Ioana BIHOLAR

PhD. Eng. Gabriela-Victoria MNERIE

Ximea Maximiliana BOTIZ

PROGRAM

Thursday, November 06, 2025

	TIME	Hall A101	Hall A105	Hall A110	Faculty Hall innoCENTA			
AGENDA	09:00 - 09:45	Participants registration						
	10:00 - 10:30	Opening						
	10:30 - 11:30	TIMA - Session 1		COVE-WENDT project meeting	innoCENTA Festival 2 nd edition	Entrepreneurial Discovery Workshop		
	11:30 - 12:00	Workshop Innovation						
	12:00 - 12:15						Coffee break	
	12:15 - 12:35	Workshop OSIM						
	12:15 - 13:30	TIMA - Session 1						
	13:00 - 13:30						Lunch break	
	13:30 - 16:00							
	16:00 - 16:30	TIMA - Session 2					Awarding medals and diplomas	
	16:30 - 16:40						innoCENTA Festival 2 nd edition	
	16:40 - 17:00	Workshop ISIM						
	17:00 - 18:00	Open day at ISIM Timisoara						
	18:30	Festive diner - Perla Events Ball Room						

Friday, November 07, 2025

AGENDA	TIME	Hall A101	Hall A105	Hall A110	Faculty AC Hall innoCENTA	Entrepreneurial Discovery
	08:30 - 09:00		Workshop COVE-WENDT	COVE-WENDT project meeting	innoCENTA Festival 2 nd edition	
	09:00 - 10:00	TIMA - Session 1	Workshop PN 401			
	10:00 - 11:00					
	11:00 - 11:15	Coffee break	Workshop HINTS			
	11:15 - 12:00	TIMA - Session 1	Workshop VR-VET			
	12:00 - 13:00					
	13:00 - 13:30		Lunch break			
	13:30 - 14:00	TIMA - Session 2			Special Awards and the Grand Prize	
	14:00 - 15:00				innoCENTA Festival 2 nd edition	
	15:00 - 16:00					
	16:00		Closing of the conference works			

CONFERENCE PAPERS

Thursday, November 06, 2025

09:00 - 09:45 Participants registration

10:00 - 10:30 Conference opening

Welcome of participants

Organisators

- Dr. eng. Nicușor-Alin SÎRBU, General Director of ISIM Timișoara
- Assoc. Prof. Dr. eng. Florin DRĂGAN, Rector of Politehnica University Timișoara
- Prof. Dr. eng. Gheorghe LUCACI, President of ASTR Timișoara branch

Opening word of Invited participants and Sponsors

- Dr. eng. Andrei ALEXANDRU, President of National Research Authority (ANC)
- Dr. eng. Rosario RUSSO, Administrative and Communication Specialist of International Institute of Welding (IIW)
- Eng. Alin Augustin Florin POPOVICIU, Vice-President of Timiș County Council
- Dr. eng. Gheorghe BALA, Advisor and director in the field of technology transfer, innovation, research infrastructures at the National Research Authority (ANC)
- Jur. Liliana ONET, Sub-prefect of Prefect Institution Timiș County
- Eng. Antigona PETRESCU, Examiner of State Office for Inventions and Trademarks
- Assoc. Prof. Dr. Eng. Ovidiu BANIAȘ - Vice-Dean of Automation and Computers Faculty, UPT
- Prof. Dr. eng. Tudor ICLĂNZAN, President of the innoCENTA Jury
- Drd. Eng. Cristina KAIZLER SPOREA, COO, Eng. Bogdan TECULEȚ, Operations Manager, Leman Industrie
- Remarks of Sponsors (Leman Industrie, Fundația Politehnica Timișoara, Cad Works; CM Metal Trading; NAMICON, ARTN, MRC Welding, ASR CertPers)

10:30 - 13:30 Session 1 / Moderator: Assoc. Prof. Dr. eng. Bogdan RADU

- 1. The Hardness of CGHAZ as a Function of the t_{8/5} Cooling Time in Structural Steels**
Marcell GÁSPÁR, Sahm ALDEN
- 2. UV Durability of Unfired Clay with Natural Fibers**
Alexandrina Elena ANDON, Alexandru BUCĂLĂU, Adrian-Alexandru CIOBANU, Daniel GHERGHEL
- 3. Comparative Experimental Analysis on Mechanical Characteristics of Friction Welded and Electron Beam Welded Joints Made by 20VNiMoCr120 Steel**
Gabriela IANCULESCU, Camil TUDOR, Marian-Andrei GURĂU
- 4. Preparation and Characterisation of Porous Composite Filter for PM10 Retention**
György DEÁK, Cristina Rodica DUMITRESCU, Florina-Diana GHEORGHE, Monica MATEI, Teodor Catalin DIACONU, Madalina BOBOC
- 5. How to deal With Micro-cracks in Welded Joints**
Simon SEDMAK, Branislav ĐORĐEVIĆ, Stefan DIKIĆ, Mihajlo ARANĐELOVIĆ, Aleksandar SEDMAK, Radomir JOVIČIĆ, Horia DAȘCĂU
- 6. Mechanical Behavior of Traditional Dovetail Joints Under Horizontal Loading**
Alexandru BUCĂLĂU, Alexandrina Elena ANDON
- 7. Analysing Coating Technologies and Their Application in the Purpose of Increasing Operational Life of Ventilation Mill Components**
Marko RISTIĆ, Ivana Vasović MAKSIMOVIĆ, Aleksandar STEPANOVIĆ, Ljubomir NEŠOVANOVIĆ, Mirko MAKSIMOVIĆ

8. **Thermal Simulation of Cu-TiC-Gr Powder Compacts Under Hybrid Microwave Heating Conditions**
Iulian ȘTEFAN, Sorin Vasile SAVU, Ionel Dănuț SAVU, Nicușor-Alin SIRBU

11:30 - 12:00 Workshop: Invențiile din universități și cercetare în sprijinul IMM-urilor
Metoda innoCENTA i3

Presents: **Prof. Dr. eng. Tudor ICLĂNZAN**

12:00 - 12:15 Coffee break

12:15 - 12:30 Workshop: Cercetarea și documentarea în ESPACE.NET

Presents: **Eng. Antigona PETRESCU**

12:30 - 12:50 Sponsors Presentations (Leman Industrie, Fundația Politehnică Timișoara, Cad Works; CM Metal Trading; NAMICON, ARTN, MRC Welding, ASR CertPers)

9. **Numerical Simulation of Heat Generation of Friction Stir Welded T-Joints Made of AA2024 T3**
Aleksandar SEDMAK, Darko VELJIĆ, Bojan MEDJO, Horia DAȘCĂU, Srdjan TADIC
10. **Failure Analysis of Ring R4 Pipe Support - Initial Stages**
Mihajlo ARANDELOVIĆ, Stefan DIKIĆ, Simon SEDMAK, Aleksandar SEDMAK
11. **Influence of Laser Shock Peening on AW6060 Welded by BTFSW**
Albert HAUCK, Milan PECANAC, Igor BARENYI, Henrieta CHOCHLIKOVA, Juraj MAJERIK, Sebastian BALOS, Horia DAȘCĂU, Vencislav GRABULOV
12. **Improved Graded Ni-Fe Coatings Deposited by DED-L Method**
Marco BRAND, Ion-Dragoș UȚU, Nicușor-Alin ȘIRBU, Ion-Aurel PERIANU, Denis PREDU, Gabriela MĂRGINEAN
13. **Validation of Powder Feedstock Quality for Reliable Processing**
Marco BRAND, Ion-Dragoș UȚU, Nicușor-Alin ȘIRBU, Gabriela MĂRGINEAN
14. **Sulfur-Induced Microbiological Influenced Corrosion and Localized Pitting in Stainless Steel Pipes**
Maximilian HÜLSEWEDE, Jona WEIBLEN, Ion-Aurel PERIANU, Marco BRAND, Gabriela MĂRGINEAN

13:30 - 14:00 Lunch break

14:00 - 17:00 Session 2 / Moderator: Prof. Dr. eng. Sorin Vasile SAVU

15. **Influence of Heat Input MIG welding on the Ballistic Performance of Armor Steel Weldments**
Aleksandar ČABRILLO, Nenad JANJIĆ, Branko SAVIĆ, Ninoslava TIHI, Gabriela-Victoria MNERIE
16. **Investigation of the Suitability of Polymer Packaging Materials for Thermal Treatment and Their Application in the Packaging of Food Products**
Petra TANOVIĆ, Gabriela-Victoria MNERIE, Dumitru MNERIE
17. **Preliminary Research on Temperature Distribution in Microwave Composite Metal-Ceramic Susceptors**
Marin Andretti CIUNGU, Sorin Vasile SAVU, Mihai CISMARU, Nicușor Alin ȘIRBU
18. **Preliminary Research on Non-Contact Monitoring of Weld-Induced Deformation Using Laser Displacement Sensor**
Angelo Andrei MIDAN, Sorin Vasile SAVU, Andrei Dănuț SAVU, Nicușor Alin ȘIRBU
19. **Applications of Weld Brazing in Joining Galvanized Steel and Metallic Composite Materials**
Aurelian MAGDA, Cristian COSMA, Ștefan Adrian ȚÎMPEA, Alexandru-Viorel COȘA, Ion-Aurel PERIANU
20. **Characterization of the Interface Layer of Hot-rolling Bonded Stainless Steel and Carbon Steel**
Henri TERVO, Duy NGUYEN, Ali MOSHIRI, Juha PAAVOLA, Jukka KÖMI
21. **Electron Backscatter Diffraction (EBSD) characterization of physically simulated heat-affected zones of a weld metal used with 500 MPa offshore steels**
Henri TERVO, Marcell GÁSPÁR, Judit KOVÁCS, Vahid JAVAHERI, Johannes SAINIO, Jukka KÖMI, Antti KAIJALAINEN
22. **The Effect of Alloying Contents on Impact Toughness and Microstructure of Physically Simulated Heat-Affected Zones of 500MPa Structural Steels**
Henrik AUVINEN, Henri TERVO, Johannes SAINIO, Jukka KÖMI, Antti KAIJALAINEN
23. **Dissimilar Welding Technological Flow Between a Low Alloy Steel Material S355J2+N and 42CrMo04 Used in the Aviation Field**
Elena Stela MUNCUȚ (WISZNOVSZKY), Lavinia Ioana CULDA, Ion-Aurel PERIANU

24. Static Analysis Simulation

Adriana MICȘA, Nicușor-Alin ȘÎRBU

25. Austenitic Stainless Steel and Hydrogen Embrittlement

János FAJGER, Raghawendra P.S. SISODIA

26. The Influence of Caffeine on Corrosion Processes of Stainless Steels in the Energy Drink Industry

Voicu LIBRIMIR, George DIMA, Nataliia RUDENKO, Delia DUCA, Cristian VASZILCSIN, Mircea DAN

27. Corrosion Studies of Incoloy 800 Stainless Steel used as Fuel Cells Electrodes in Neutral Media with Sulfite Ions

Nataliia RUDENKO, Mihaela LABOSEL, George DIMA, Mircea DAN, Nicolae VASZILCSIN

28. Spent Garnets Valorization as Partial Fine Grain Replacement in Concrete Paving Blocks

Ana-Cristina VASILE, Cornelia BAERĂ, Aurelian GRUIN, Ion-Aurel PERIANU, Raul ZAHARIA, Bogdan BOLBOREA, Iasmina Kasandra PETRIȘOR, Alexandru ION

29. Influence of Printing Parameters on the Mechanical Strength of Ultrafuse PA Filament: A Comparative Study of Different Infill Types in 3D Printing

Doru-Alexandru LUCA, Alin-Nicușor ȘÎRBU, Denis-Andrei PREDU, Raluca FAUR

16:40 - 17:00 Workshop - Proiecte ISIM și parteneriatele sale

Descoperire antreprenorială - Workshop, derulat pe toată perioada festivalului

17:00 - 18:00 Open day at ISIM Timisoara - Visiting the capability of ISIM Timisoara by implementing INFRATECH research infrastructure, SMIS code: 126804

Festive diner - Evening of 06.11.2025, starting from 6:30 PM, Location: Perla Events Ball Room, Piața Bisericii 8, Timișoara 300226, Romania

Friday, November 07, 2025

9:00 - 13:00

Session 3 / Moderator: Dr.Eng. Victor VERBIȚCHI

30. **Studies Regarding the Laminated Carbon-Epoxy Composite Hexply 1458 Used in Aerospace Industry Subjected to Shear Loads**
Alin NANI, Liviu MARȘAVINA, Călin GIOSAN, Mark ȘULEA
31. **Reverse Engineering Process: Scanning and Modifying the Shaft of a Metal Shredder**
Ștefan Adrian ȚÎMPEA, Cristian COSMA, Aurelian MAGDA, Cristian FARKAS, Alexandru-Viorel COȘA, Vlad CONSTANTIN
32. **Incorporation of LaMnO₃-Ag Perovskite into Montmorillonite via Sonication: Effects on Structure and Morphology**
Paula SFÎRLOAGA, Ionel BALCU, Paula SVERA, Corina MACARIE, Aurelia-Ioana BIHOLAR, Nicușor-Alin ȘÎRBU, Doru BUZATU
33. **Exploring the Behaviour of Zn Layer During the Roll Ultrasonic Welding of Galvanised Steel Sheets**
Dorin STAN, Anca Daniela COSMA, Ionel-Dănuț SAVU, Nicușor-Alin ȘÎRBU, Iuliana DUMA
34. **Innovative Method for Friction Stir Welding (FSW) of 2mm Thick Sheets of the AW 1200 Aluminium Alloy, on Additional Vibration Damping Sets**
Victor VERBIȚCHI, Nicușor-Alin ȘÎRBU, Miomir VLASCICI, Lia-Nicoleta BOȚILĂ, Iuliana DUMA, Ion-Aurel PERIANU
35. **Increasing the Quality of Sheet Metal Embossing Process for Car Door Caissons Manufacturing**
Gabriel Daniel STANCA, Andrada Ioana HĂBUC, Miron ZAPCIU
36. **Real-Time Monitoring and Anomaly Detection in Resistance Welding Using Traceability-Driven Predictive Control**
Cristina Sporea KAIZLER, Aurel TULCAN
37. **Feasibility of Ultrasonic Welding Between 3D-Printed Onyx Composites and Cotton Fabrics**
Leonard-Casian TUCE, Cristian-Ilie VALUȘESCU, Raluca FAUR, Denis PREDU, Andrei BUCUR
38. **Comparative Analysis of the Fracture Surfaces for FSP and SFSP Processed EN AC 5083 Cast Aluminium Alloy**
Angelo-Ovidiu-Daniel RAIA, Lia-Nicoleta BOȚILĂ, Andrei-Christian BUCUR, Alexandru CAZACU
39. **DILAFAC: A Digital Twin-Driven Software Platform for Sustainable Laser-Based Manufacturing**
Ana QUEIRÓS BARBOSA, Dermot BRABAZON, Eanna MCCARTHY, Memad MONU; Riccardo TONELLO, Magdalena MULLER, Sankhya MOHANTY; Valentin KAULMANN, Ahmed RASSILI, Nils KNOFIUS, Bernard REVAZ
40. **Study on the Optimization of TIG Welding Applied to the Welded Construction of the Exhaust Manifold from Thermal Engines**
Voicu Ioan SAFTA, Dumitru MNERIE, Gabriela-Victoria MNERIE
41. **Behavior of a welded joint of high-alloy steel for elevated temperatures under variable load conditions**
Zijah BURZIĆ, Vencislav GRABULOV, Horia DASCAU, Dženana GAČO
42. **Using Simul8 Software in Manufacturing System Simulation**
George BELGIU, Maria LAPADAT
43. **Design And Development of an Experimental Test Stand for Analysing Rotating-Flow Instabilities in Radial-Axial Hydraulic Turbines Using Additive Manufacturing**
George BELGIU, Constantin TĂNASĂ

10:40 - 11:00 *Sponsors Presentations (Leman Industrie, Fundația Politehnica Timișoara, Cad Works; CM Metal Trading; NAMICON, ARTN, MRC Welding, ASR CertPers)*

11:00 - 11:15 **Coffee break**

44. **Comparative Analysis of Friction Stir Processing in Ambient and Submerged Conditions of EN AW 6082 Aluminum Alloy**
Lia-Nicoleta BOȚILĂ, Ion-Aurel PERIANU, Iuliana DUMA, Emilia DOBRIN, Radu-Nicolae POPESCU
45. **Statistical Analysis of Pulse Frequency Effects on Weld Spot Formation in Fiber Laser Welding of**

Ni-Al Dissimilar Joints

Vlad-Ştefan CONSTANTIN, Adelina-Alina HAN, Ion-Aurel PERIANU, Raluca FAUR, Doru-Alexandru LUCA

46. Tests on Laser Welding of Thin Plates of Austenitic Stainless Steel 304L

Silviu-Ionuţ SARAOLU, Alin-Constantin POPESCU, Vlad-Ştefan CONSTANTIN, Nicolae TRIHENEA, Ştefan BENZAR

47. Development of Innovative Ultrasonic Welding Technologies in the Automotive Industry

Octavian -Victor OANCA, Nicuşor-Alin SÎRBU, Cristian-Ilie VALUDESCU, Claudia-Amalia CIUREL

48. Ultrasonic Welding of Multi-Wire Conductors for Electric Cars

Octavian -Victor OANCA, Nicuşor-Alin SÎRBU, Cristian-Ilie VALUDESCU, Claudia-Amalia CIUREL

49. Nanocoatings in Biomedical Applications

Mihai FLOREA, Raluca FAUR, Iuliana DUMA, Doru-Alexandru LUCA

50. Microstructural Characterization of Dissimilar Ni-Al Joints Produced by Fiber Laser Spot Welding

Vlad-Ştefan CONSTANTIN, LUCA Doru-Alexandru, NANI Alin, FAUR Raluca

51. Effect of Infill Density on Tensile Performance of Ultrasonically Welded 3D-Printed TPU-Onyx Assemblies

Cristian STATE, Denis-Andrei PREDU, Andrei-Christian BUCUR, Cristian-Ilie VĂLUŞESCU

52. Development of a Biomechanical Prototype for Flat Foot Support Made Through 3D Printing

Elena-Domnica-Aurelia BONTEA, Denis-Andrei PREDU, David-Mihai LUPSA

53. Investigation of Ultrasonic Welding in the joining of electronic components on PCBs

Darius GURAN, Octavian OANCA, Cristian-Ilie VALUDESCU

54. SEM and EDX Analysis of the Fracture Surface of the Submerged Friction Stir Processed EN AW 7075 Aluminum Alloy

Radu-Raul HERCI, Lia-Nicoleta BOŢILĂ, Lavinia-Ileana SÎRBU, Raluca FAUR

55. Microstructural and Mechanical Analysis of Ultrasonically Welded Copper-Aluminium Sheets Using SEM and Alloy Composition Mapping

Raul-Carol KLOBUCARIC, Denis-Andrei PREDU, Gabriela-Victoria MNERIE, Emilia DOBRIN

56. Recycling Gypsum Waste as Ammonium Sulfate and Calcium Carbonate

Cristian-Ilie VALUDESCU, Anita BACSI, Bogdan PASCU, Petru NEGREA

57. From Tire to Raw Material: Rubber Devulcanization by Ultrasonic Cavitation and Reintegration into Elastomeric Compounds

Cristian-Ilie VALUDESCU, Nicuşor-Alin SÎRBU Octavian-Victor OANCA

13:00 - 13:30 Lunch break

13:30 - 16:00

Session 2 / Moderator: IDT I Drd. eng. Ion-Aurel PERIANU

58. Green Recycling of Polystyrene Through Ultrasonic Cavitation: from Waste to Water-Based Adhesive

Cristian-Ilie VALUDESCU, Claudia-Amalia CIUREL

59. Innovations in Reverse Engineering: A Focus on 3D Scanning and Fused Deposition Modeling

Andrei-Christian BUCUR, Denis-Andrei PREDU, Raluca FAUR

60. Tensile Strength Analysis of SLA 3D Printed Resin Components at Different Orientations

Răzvan ARDELEAN, Denis-Andrei PREDU, Andrei-Christian BUCUR, Alexandru CAZACU

61. Structural and Mechanical Characterization of Forged Grinding Balls of Different Sizes for Industrial Applications

Raluca FAUR, Ion-Aurel PERIANU, Iuliana DUMA, Nicolae-Radu POPESCU

62. The Influence of Processing Conditions on the Microstructure and Hardness of Aluminum Alloy EN AW 5754 Processed by FSP and SFSP

Iuliana DUMA, Lia-Nicoleta BOŢILĂ, Raluca FAUR, Ion-Aurel PERIANU, Nicolae-Radu POPESCU, Andrei-Christian BUCUR

63. Deposition of Inconel Coating on Steel by Direct Energy Deposition and Evaluation of Cavitation Resistance under Ultrasonic Testing

Denis-Andrei PREDU, Ilare BORDEAŞU, Nicuşor-Alin SÎRBU, Raluca FAUR, Doru-Alexandru LUCA

64. Study of Differences in Behavior and Resistance to Vibratory Cavitation Erosion Between GTAW

Hardened and Artificially Aged Structures of Cast Aluminum Alloy 5083

Denis-Andrei PREDU, Ilare BORDEAȘU, Alexandru Nicolae LUCA, Raulca FAUR, Nicușor-Alin SÎRBU

65. Comparative Study on the Behavior and Vibratory Cavitation Erosion Resistance of GTAW Hardened Versus Artificially Aged (180°C, 1-Hour) Structures of Rolled Aluminum Alloy 5083

Denis-Andrei PREDU, Ilare BORDEAȘU, Cristian GHERA, Cornelia-Laura SALCIANU, Raluca FAUR

66. Ultrasound Welding of 3D Printed Parts

Alexandru CAZACU, Șerban DOHAN, Răzvan ARDELEAN

67. Anti-Reflective Glass Layers in Multilayer High-Temperature Coatings: Optimization of Porous Microstructure for High-Temperature Applications

Claudia CIUREL, Alin-Constantin MURARIU

68. Fracture Surface Aspects of EN AW 1200 Aluminium Alloy Specimens, FSP and SFSP Processed

Emilia DOBRIN, Lia-Nicoleta BOȚILĂ, Gabriela-Victoria MNERIE, Ileana-Lavinia SÎRBU, Raluca FAUR

69. Calcium Phosphate Layers Produced by a Thermal Plasma Spray Source at Atmospheric Pressure

Andreea GROZA, Sasa Alexandra YEHA-ALEXE, Bogdan BUTOI, Corneliu POROSNICU, Maria HURJUI, Emilia DOBRIN

70. Fracture Behaviour of the FSP and SFSP Processed EN AW 6082 Aluminium Alloy

Lavinia-Ileana SÎRBU, Lia-Nicoleta BOȚILĂ, Iuliana DUMA, Raluca FAUR, Gabriela-Victoria MNERIE, Emilia DOBRIN

71. Influence of Processing Speed on the Fracture Behaviour of Aluminium Alloy EN AW 5754 Processed by FSP

Gabriela-Victoria MNERIE, Lia-Nicoleta BOȚILĂ, Emilia DOBRIN, Victor VERBIȚCHI, Raluca FAUR

8:30 - 13:00: Workshop

8:30 - 10:00: *Centre of Vocational Excellence in Welding and Non-Destructive Testing (COVE-WENDT)*

Project 101143944 - COVE-WENDT - ERASMUS-EDU-2023-PEX-COVE

Workshop: New trends in welding sector

Dr. Eng. Alin Constantin MURARIU, Project Manager - ISIM Timișoara

10:00 - 11:00: *Fundamental-applied research into the sustainable development of construction products (materials, elements, and structures, as well as methods and technologies)*

Project PN 23 35 04 01 - NUCLEU Programme of the National Research Development and Innovation

Workshop: Collaborative research on eco-innovative and sustainable development of Romania's civil and transport infrastructure through the valorization of local resources

Cornelia BAERĂ, Aurelian GRUIN, Ana-Cristina VASILE, Bogdan BOLBOREA, Alexandru ION, Ion-Aurel PERIANU

11:00 - 12:00: *High Innovative VET for green and digital Transformations*

Project 101129017 - HINTS - ERASMUS-EDU-2023-CB-VET

Workshop: Best practice in digital training and on green technologies for industry

Dr. Eng. Alin Constantin MURARIU, Project Manager - ISIM Timișoara

12:00 - 13:00: *VR-VET Project: Virtual Reality network for VET providers,*

Project 101132959 - (VR-VET) - ERASMUS-EDU-2023-PI-FORWARD

Workshop: VR-VET Non-Destructive Testing

PhD Student. Eng. PERIANU Ion Aurel, Project Manager - ISIM Timișoara

16:00 Closing of the conference works

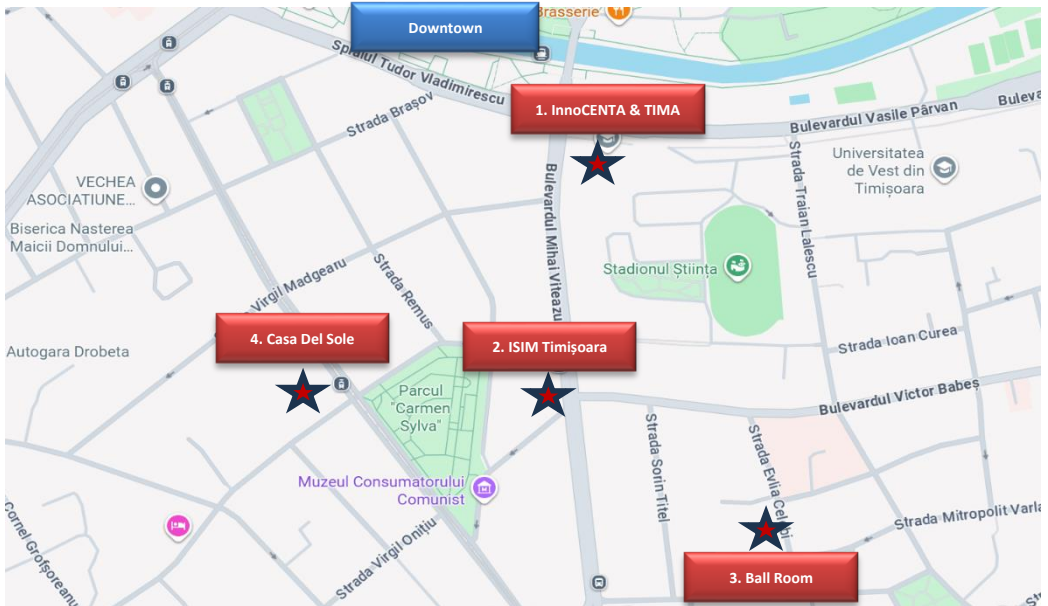
November 10-12, 2025

09:00 - 17:00: *INTERNATIONAL WELDING AND NON-DESTRUCTIVE EXAMINATIONS CONTEST*

Project 101143944 - COVE-WENDT - ERASMUS-EDU-2023-PEX-COVE

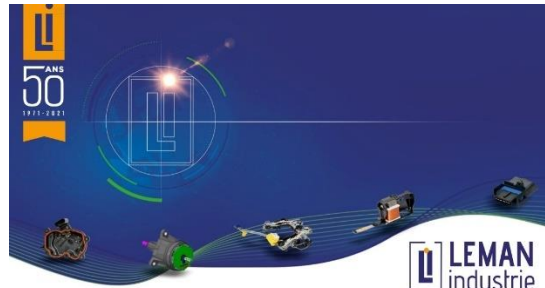
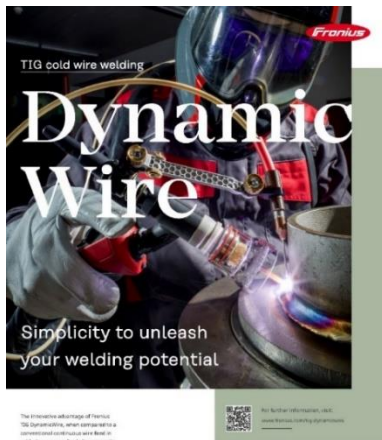
Venue: INCD ISIM Timisoara, Bd. Mihai Viteazu 30, Timisoara, Romania

ORIENTATION INFORMATION



1. *Facultatea de Automatică și Calculatoare, Universitatea Politehnica Timișoara, Bulevardul Vasile Pârvan 2, Timișoara 300223, Romania;*
2. *ISIM Timișoara;*
3. *Perla Events Ball Room, Piața Bisericii 8, Timișoara 300226, Romania;*
4. *Hotel Casa Del Sole - preț redus cu 10% pentru participanți, sunând la numărul de telefon 0770422720 - Liliana DOBRE.*

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