

The 8th International Conference

Innovative Technologies for Joining Advanced Materials

Topics

- New joining technologies
- Coatings: advanced materials & innovative technologies
- Modelling and simulation of welding and allied processes
- Specific problems in advanced materials joining
- Quality of welded joints and welded structures

Organizers



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



“Politehnica”
University of
Timișoara



Academy of Technical Sciences
of Romania – Timișoara
Subsidiary

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June 2-3, 2016
Timișoara
Romania

www.isim.ro/tima



Circular 2

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ORGANISATION

Since the year 2007, ISIM Timișoara has organized the annual international conference on welding under the topic “Innovative technologies for joining advanced materials”, a very important field, involved in all industrial sectors and where research plays an avant-garde role. The present edition, the 8th, will take place during June 02 - 03, 2016 in Timișoara.

The event is organizing in co-operation with “Politehnica” University of Timișoara and Academy of Technical Sciences of Romania – Timișoara Subsidiary.

Venue: **Hotel PERLA (02.06.2016)** – 9 Protopop George Dragomir Str.



Official languages: English

Registration to the event will be made by filling in the attached **Registration Form** and sending it to the conference secretariat or using the electronic form on the conference site (www.isim.ro/tima). The registration form contains information about participation fees and other important details as well.

PROGRAMME

Thursday, June 02, 2016

8:30 - 9:00 Registration of participants

9:00 - 9:15 Conference opening

- **Welcome of participants**

- Dr.eng. Alin Constantin MURARIU, Conference Chairman
- Dr.eng. Nicușor Alin SÎRBU, General Director of ISIM Timișoara
- Prof.dr.eng. Viorel-Aurel Șerban, Rector of Politehnica University Timișoara
- Prof.dr.eng. Vladimir-Ioan Crețu, President of the Timișoara Subsidiary of ASTR

09:15 - 10:45 **Session 1: New joining technologies (I)**

Moderator: Dr.eng. Alin Constantin Murariu

- SRM Stud Welding - An Innovative Electric Arc Stud Welding Variant With Potential for Larger Stud Diameters
A. Jenicek, H. Cramer, G. Forster, K. Hartz-Behrend, A. Jilg, M. Mueller, J. Schein, H. Soyer – Germany
- Rutile Electrodes Enhanced with TiO₂ Nanoparticles
S. Balos, L. Sidjanin, M. Dramicanin, D. Labus, B. Pilic – Serbia
- Repair Welding Technology of a Crane Wheel in Zelezara Smederevo, with a Reference to Techno-Economical Analysis
D. Tanasković, B. Đorđević, M. Arandelović, S. Sedmak, A. Sedmak, M. Đukić, U. Tatić – Serbia
- Technological Aspects Regarding Manual Metal Arc Welding Using Pulsed Current for Fillet Joints Applications
M. Burcă, A. Magda I. Lucaciu – Romania
- Possibilities for Application of Friction Stir Welding Process to Titanium TiGr₂
R. Cojocar, L. N. Boțilă, C. Ciucă, V. Verbițchi – Romania
- Ultrasonic Joining of Multiple Core Conductors for Automotive Industry
O. Oancă, I.A. Perianu – Romania

10:45 - 11:00 **Coffee break**

11:00 - 12:00 **Session 1: New joining technologies (II)**

Moderator: Dr.eng. Victor Verbițchi

- Issues in Manufacture and Qualification of Specialty Brazed Joints for Nuclear Applications
C. Truță, M. Ciocanescu, A. Amzoi – Romania

- Intra Oral Welding of Titanium Implants 40 Years of Proven Clinical Success
G.I. Lăzărescu, C.A. Rațiu – Romania
- Pulsed LASER-(micro)TIG Welding of Automotive Dissimilar Zn-Coated Advanced High Strength Steels Thin Sheets in Overlap Configuration
A.-V. Bîrdeanu – Romania
- Latest Developments in Solid-state Diffusion Bonding of Un-weldable Alloys and their Applications In Jet Engines, Electric Cars, Vacuum Systems and Nuclear Power Plants
A.A. Shirzadi – United Kingdom

12:00 - 12:45 Session 2: Modelling and simulation of welding processes (I)

Moderator: Assoc.prof.dr.eng. Bogdan Radu

- Using of Welding Virtual Numerical Simulation as the Technical Support for Industry
M. Slováček, J. Tej, M. Vaněk – Czech Republic
- Exploring Possibilities of Implementation of Special Rutile Electrodes for Welding Microalloyed Steels
M. Mrdak, N. Bajić, M. Rakin, D. Veljić, Z. Karastojković, Z. Radosavljević – Serbia
- Seismic Strengthening of Masonry Using some Advanced Composite Materials
C.S. Dragomir, D. Dobre, E.S. Georgescu – Romania

12:45- 14:00 Lunch break at PERLA Timisoara Hotel's Restaurant

14:00 - 15:15 Session 2: Modelling and simulation of welding processes (II)

Moderator: Assoc.prof.dr.eng. Danuț Savu

- Welding Aerosols, Both in Powder Form and Incorporated in Synthetic Fibrous Materials, as Catalysts of Ozone Decomposition
T.L. Rakitskaya, A.S.Truba, A.A. Ennan, V.Ya., Volkova – Ukraine
- Quality Control of Thin Films Deposited on Special Steels Used in Hydraulic Blades
C.A. Țugui, P. Vizureanu, A. Savin, N. Iftimie, M.C. Perju, N. Cimpoesu, C. Nejneru – Romania
- Research on the Use of Robotized Tandem MAG Welding in Steel Plates Destined for the Manufacture of Pipelines
D.M. Iovănaș, C. Toma, R. Iovănaș – Romania
- HVOF Thermal Spray Alternative for Hard Chrome Plating Process
I.A. Perianu – Romania
- Examination of Noxious Emissions of the Welding Process "Cold Metal Transfer (CMT)"
V. Verbițchi , R. Cojocaru, L.N. Boțilă, C. Ciucă – Romania

15:15 - 15:30 Coffee break

15:30 – 17.00 Session 3: Coatings: advanced materials & innovative technologies

Moderator: Dr.eng. Valentin Bîrdeanu

- Development of Resistant Spot Welding Technology for Automotive Ferrite-Martensitic Dual-Phase Steels with Joint Application of Finite Element Modelling and Experimental Research
L. Prém, Z. Bézi, A. Balogh – Hungary
- Modelling of Welding Fume Evolution
A.A. Ennan – Ukraine
- Charging Aerosol Particles for Collecting by Grid-Type Electrostatic Filters
S. A. Kiro, M.V. Oprya, V.I. Vishnyakov – Ukraine
- Prediction of Stress Distribution of Pressure Vessel Shell Using Numerical Simulation
M. Prvulovic, M. Ristic, S. Budimir, M. Prokolab, Z. Milutinovic – Serbia
- Numerical Simulation of Temperature Field and Residual Stresses in Butt Welded Joint
I. Vasović, M. Maksimović, K. Maksimović, M. Ristić – Serbia
- Evaluation of Thermal Distribution in Friction Stir Welding on Dissimilar Materials (Cu-Al) Using Infrared Thermography and Numerical Simulation
M. Iordache, E. Nitu, C. Badulescu, D. Iacomi, L.N. Boțilă – Romania

Friday, June 03, 2016

09:30 - 11:00 Session 4: Specific problems in advanced materials joining

Moderator: Dr.eng. Horia Dașcău

- Contributions Regarding Working Environment Impact of Submerged Arc Welding
G. Amza, G. Iacobescu, D.F. Nițoi, C.G. Amza, Z. Apostolescu – Romania
- Contributions to the Environmental Impact of the Process of Welding Work in the Environment of Protective Gases
G. Amza, G. Iacobescu, D.F. Nițoi, C.G. Amza, Z. Apostolescu – Romania
- GMAW Welding of MPM Sheets in Active Gas
S. Balos, M. Dramicanin, D. Labus, P. Janjatovic, L. Sidjanin – Serbia
- Composite Materials for Mechanized Brazing
E. Binchiciu, T. Fleser, I. Voiculescu, T.D. Tihanov, A. Dragomir – Romania
- Weldability of High Hardness Armour Steel
A. Cabrilo, K. Geric – Serbia
- Heat Affected Zone in Microwave Polymer Welding
S.V. Savu, I.D. Savu, G.C. Benga – Romania

11:00 - 11:30 Coffee break

11:30 - 13:00 Session 5: Quality of welded joints and welded structures

Moderator: Dr.eng. Doru Romulus Pascu

- Repair Welding Methodology for the Glasses of the Kaplan Turbine Runner at the Hydro Power Plant "Djerdap 1"
M. Arsić, S. Bošnjak, V. Grabulov, M. Mladenović, Z. Savič – Serbia
- Experimental Study on Friction Welded and Electron Beam Welded Joints made by 20VNiMoCr120 Steel
G. Ianculescu , L.V. Melnic, M.A. Gurău – Romania
- Micro Hardness in the Welded Area at Resistance Spot Welding
M. Boca, G. Nagit, L. Slatineanu – Romania
- Corrosion Behaviour of Duplex Treated En 42CrMo4 Steel by Gas Nitriding and TiAlN PAPVD Deposition
R.M. Buzdugan , M. Dan, I.Hulka,M. Dome, A. Feier, D. R. Pascu, N. Simon – Romania
- Welding Process Influence on the Basic Materials and Welded Seam Structure in Heterogeneous Joints of Carbon Steel S235JR + Ar with Stainless Steel X2CrNiMo17-12-2
M.C. Dijmărescu, D.T. Cicic, C. Rontescu, G. Solomon – Romania
- Suggestions and Proposals for the Application of the European Standard SR-EN-1090 in the Design and Execution of Steel Structures Especially Bridges
R. Bancilă, A. Feier, E. Petzek – Romania

13:00 – 14.30 Visit the exhibition at ISIM Timisoara



Conference Secretariat



National R&D Institute for Welding and Material Testing

30 Mihai Viteazu Bv.
300222 Timișoara, ROMANIA
Tel.: +40 256 491835 ;
Fax: +40 256 492797
E-mail: tima@isim.ro

Hotel Accommodation



| Hotel | Reservation |
|---------------------|--|
| PERLA ^{a)} | www.perlahotel.ro |
| Continental**** | www.hotelcontinental.ro |
| Timisoara**** | www.hoteltimisoara.ro |
| Central** | www.hotel-central.ro |

a) **PERLA Hotel - Special prices for conference's participants**

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|------|-----------------|-----------------|
| *** | single standard | 175 lei / night |
| | single business | 220 lei / night |
| | double standard | 210 lei / night |
| | double business | 260 lei / night |
| **** | single | 240 lei / night |
| | double | 280 lei / night |

Note: - Breakfast and all taxes are included

- Please forward your accommodation request through e-mail: office@perlahotel.ro and mention that you will participate at ISIM's Conference.