SVEUČILIŠTE U ZAGREBU METALURŠKI FAKULTET
UNIVERSITY OF ZAGREB FACULTY OF METALLURGY
SISAK

SIMTECH

1st INTERNATIONAL CONFERENCE ON METALLURGY, MATERIALS AND OCCUPATIONAL SAFETY
Materials as the Foundation of Engineering Safety
22–23 October 2026, Sisak, Croatia

CONFERENCE PROGRAMME

WEDNESDAY 21 October 2026

Venue **Knowledge Centre and Planetarium Munjara**, Mihanovićeva obala 10, Sisak

18:30–22:00	**Welcome reception**
20:00	**Planetarium projection**

THURSDAY 22 October 2026

Venue **County Centre with Congress Hall (Županijski centar s kongresnom dvoranom)**, Ul. Ivana Kukuljevića Sakcinskog 26, 44000 Sisak

08:30–09:30	***Registration***
09:30–10:00	**Opening ceremony** I. Ivanić, Dean of the University of Zagreb Faculty of Metallurgy and Chair of the Organising Committee Welcome addresses
10:00–10:45	**Round table** **Green Transition or Deindustrialisation of Europe? The Future of Metallurgy and Manufacturing in New Geopolitical Circumstances** Moderator: J. Baleta, University of Zagreb Faculty of Metallurgy Participants: D. Balić, Energy Institute Hrvoje Požar D. Vulina, University of Zagreb Faculty of Mining, Geology and Petroleum Engineering T. Pakasin, ABS Sisak d.o.o.
10:45–11:15	**Plenary lecture** **Occupational Kinesiology for the Preservation of Work Ability** J. Nakić, University of Zagreb Faculty of Kinesiology
11:15–11:45	**Workshop** **Movement at Work, Practical Kinesiology for Sedentary Jobs** Led by J. Nakić
11:45–11:55	**Company presentation** **IDEF d.o.o., Zagreb** J. Hodžajev
11:55–12:05	**Institution presentation** **CTZ Lifelong Learning Institution, Zagreb** A. Škrinjar, Đ. Katranček
12:05–12:15	**Company presentation** **Dräger Croatia d.o.o., Zagreb** M. Sinković
12:15–12:45	***Coffee break***

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12:45–13:15	**SESSION 1 Occupational Health and Safety in Practice** Chairs: Antun Škrinjar, Gvozden Jovanović
12:45–13:00	**Work-Related Mental Health Conditions and Croatia's Occupational Disease List: A Qualitative Study of Expert Views on a Regulatory Blind Spot** H. Brborović, M. Milošević, R. Žaja, O. Brborović
13:00–13:15	**Assessment of External Reactor Vessel Cooling Implementation in Generation II Pressurized Water Reactors with Emphasis on Actuation Time Constraints** M. Mihalina, D. R. Schneider
13:15–14:15	**SESSION 2 Durability and Performance of Engineering Materials** Chairs: Gordana Marković Prljević, Almaida Gigović-Gekić
13:15–13:30	**General Corrosion Resistance of S21800 Austenitic Stainless Steel in a 3.5% NaCl Solution** A. Gigović-Gekić, D. Kasapović, F. Bikić, H. Avdušinović
13:30–13:45	**Effect of Magnetron Sputtering Power on the Hardness and Tribological Properties of FeCoCrNi High-Entropy Coatings** N. Čatipović, J. Krolo, I. Peko, M. Kljajo, A. Zavdoveev, D. Jurić, M. Čatelov
13:45–14:00	**Performance of Concrete Incorporating Calcined Klokoti Clay as a Supplementary Cementitious Material** A. Mujkanović, E. Spahić, M. Jovanović, N. Bušatlić, N. Merdić, N. Haračić
14:00–14:15	**Corrosion Behaviour of CuAlMn Shape Memory Alloy** D. Dumenčić, L. Vrsalović, I. Ivanić, S. Gudić, S. Kožuh
14:15	***Lunch***
19:00	**Gala dinner** Restaurant Cocktail, Mije Goričkog 58, Sisak

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FRIDAY 23 October 2026

Venue **County Centre with Congress Hall (Županijski centar s kongresnom dvoranom)**, Ul. Ivana Kukuljevića Sakcinskog 26, 44000 Sisak

09:30–10:00	***Registration and poster mounting***
10:00–10:30	**Plenary lecture** **ONLINE** **Micromechanical Ranking of Pore Characteristics for Tensile Damage in LPBF Ti–6Al–4V Using a Crystal Plasticity Framework** M. Liu, N. Li, Z. Liu, B. Li, Northeastern University, School of Metallurgy, China
10:30–11:15	**MDPI workshop** **Review Process in Focus** Led by F. Kostić and T. Stepanov, MDPI d.o.o.
11:15–11:45	***Coffee break***
11:45–13:00	**SESSION 3 Processing, Modelling and Characterisation of Metallic Materials** Chairs: Ivan Jandrlić, Nikša Čatipović
11:45–12:00	**Numerical Simulation of C and Mn Macrosegregation in 16MnNiV Steel during Electroslag Remelting** C. Ma, F. Wang, Z. Liu, X. Huang, J. Baleta, B. Li
12:00–12:15	**Comparative Casting Simulation of High-Strength Alloy Steel Pellet Mill Shaft Using Finite Volume Method** G. Jovanović, V. Manojlović, A. Delić, S. Dikić, M. Sokić
12:15–12:30	**Microstructural Examination of a Joint between Carbon and Low-Alloy Steels Brazed with an Mn-Fe-B Alloy** M. Zorc, A. Nagode, B. Zorc
12:30–12:45	**Influence of Nanoindentation Load on the Measured Reduced Elastic Modulus of an α-Ti Alloy** G. Marković Prljević, J. Ružić, M. Sokić
12:45–13:00	**Psychological Support Programs after Stress Events at Work – Good Practice in International Institutions** B. Knežević, H. Knežević Krajina
13:00–13:30	**POSTER SESSION Posters P01 to P16, see the list below**
13:30–13:35	**Closing remarks**
13:35	***Lunch, SIMET Foundry Centre*** University of Zagreb Faculty of Metallurgy, Aleja narodnih heroja 3, 44000 Sisak
15:30	**Visit to the SIMET Foundry Centre** University of Zagreb Faculty of Metallurgy, Aleja narodnih heroja 3, 44000 Sisak

Oral presentations last 15 minutes including discussion. The presenting author is underlined. Lectures marked ONLINE are delivered remotely.

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POSTER SESSION

Friday, 23 October 2026, 13:00–13:30. The poster number corresponds to the panel number.

Steels, Corrosion and Forming	
P01	**Evaluation of the Localized Corrosion Resistance of X19NiCrMo4 Tool Steel in Different Corrosive Media** A. Begić Hadžipašić, S. Brajčinović, P. Brajenić, F. Kozina
P02	**Electrochemical Assessment of Artichoke Extract as an Alternative Corrosion Inhibitor for K110 Tool Steel from the Perspective of Metal Protection and Human Health** S. Brajčinović, A. Begić Hadžipašić
P03	**Effect of Austenitization on the Hardness and Microstructure of C35 Steel after Heat Treatment** U. Černe, A. Samodurova, B. Kosec, A. Nagode
P04	**Microstructure, Texture and Mechanical Properties of DC07 Deep-Drawing Steel** N. Rokavec, J. Arbeiter, M. Zorc, B. Šetina, B. Kosec, B. Žužek, A. Nagode
P05	**Characterization and Reuse Potential of Recovered Reinforcing Steel from a Demolished Building: A Circular Economy Approach** I. Jandrlić, A. Čehok, M. Vučenović, L. Voloder, Lj. Srečec
P06	**Numerical Evaluation of a Modified Press Brake Tool for Sharp-Angle Bending of a Complex Sheet-Metal Profile** Z. Keran, R. Sinković, P. Piljek
P07	**High Heat Flux (HHF) Effects on 316L Steel Compacts, and Synthesis of the ODS Steel by Powder Metallurgy** J. Ružić, J. Stašić, M. Simić, A. Žekić, B. Vučetić, D. Božić
Non-Ferrous Alloys and Advanced Materials	
P08	**Effect of Rare Earth (RE) Element Lanthanum and Cerium Addition on Phase Equilibria and Microstructure of AlSi10MgMn Casting Alloy** E. Kavčič, T. Balaško, J. Medved, M. Vončina
P09	**Characterization of Transformation Behavior in a Cu–Al–Mn–Ni Shape Memory Alloy** L. Cigić, A. Nagode, B. Kosec, B. Karpe
P10	**Welding Potential of Copper Based Shape Memory Alloys** S. Perič, B. Karpe, D. Klobčar, A. Pevc, M. Zorc, B. Kosec, L. Cigić
P11	**Innovative Biomaterials** M. Jajčinović, Lj. Slokar Benić, F. Rosspacher, A. Carek
P12	**Effect of Internal Structure on Tensile and Impact Behaviour of SLS-Printed PA2200 Components** G. Filipan, D. Pavlović, J. Baleta, M. Lovrenić-Jugović
P13	**Comparison of Primary Radiation Damage in 1421 Al-Li Alloy under H, He and Fe Irradiation** F. Kozina, Z. Zovko Brodarac, M. Kuprešak, M. Petrič
Occupational Safety and Education	
P14	**Stationary Motorcycle Noise Measurements and Ergonomic Assessment of Body Posture During Riding** N. Dolić, M. Lovrenić-Jugović, M. Bakarić
P15	**Development of Occupational Safety Competencies through Microcredentials** A. Škrinjar, Đ. Katranček

P16 **Residual Mechanical Performance of In-Service Firefighter PPE for Rope Rescue**

M. Rušpić, M. Kršulja, L. Liverić, D. Bognolo