



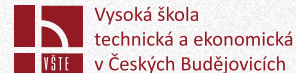
# METAL<sup>®</sup> 2026

## 35<sup>th</sup> International Conference on Metallurgy and Materials

CONFERENCE PROGRAMME

May 5 - 7, 2026

OREA Congress Hotel Brno, Czech Republic, EU



TANGER Ltd.

The Institute of Technology and Business in České Budějovice  
VSB - Technical University of Ostrava  
Škoda Auto University

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<b>Assoc. Prof. Ing. Karel GRYC, MBA, Ph.D.</b>	The Institute of Technology and Business in České Budějovice, Czech Republic, EU

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## PLENARY SPEAKERS

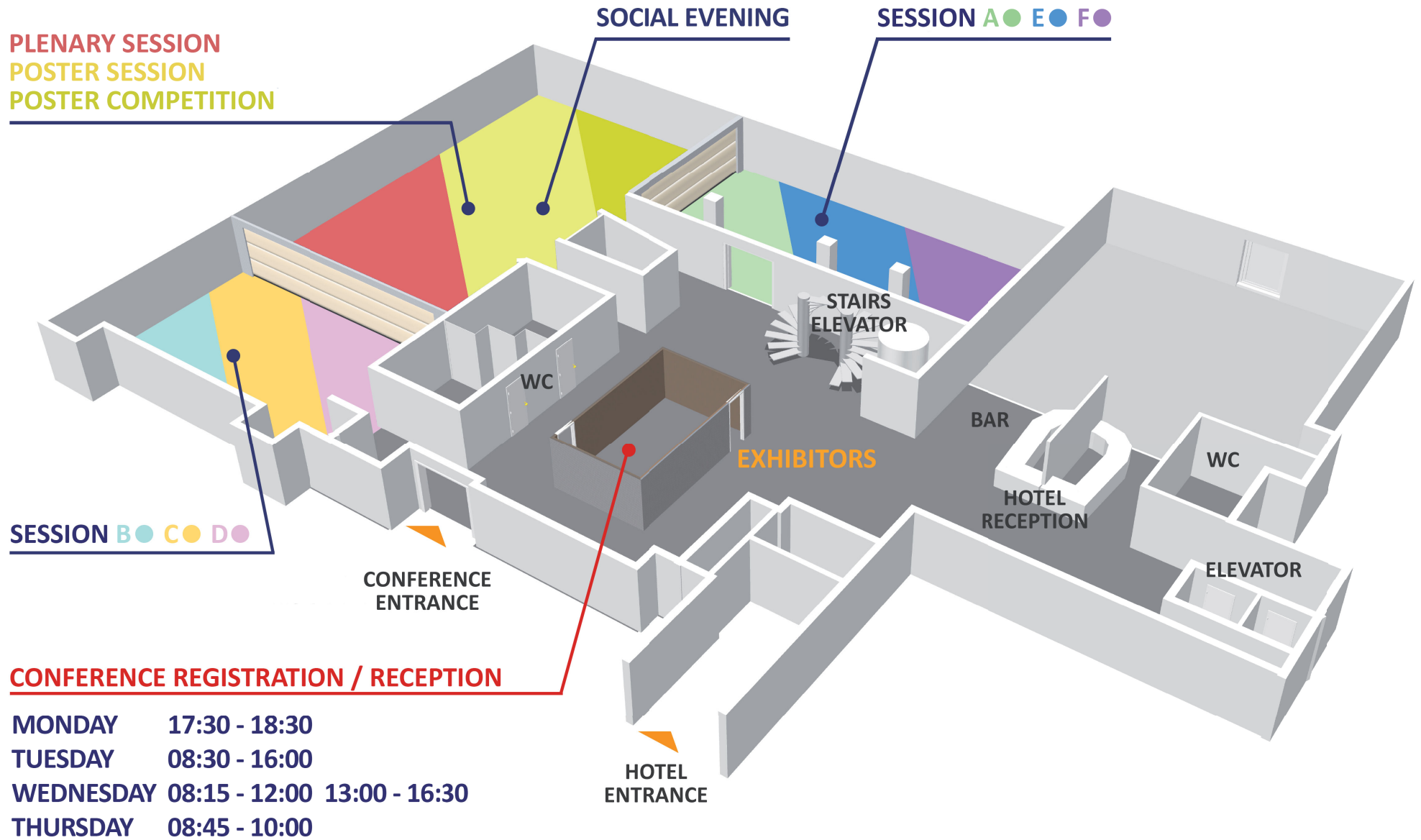
<b>Ing. Šárka MIKMEKOVÁ, Ph.D.</b>	Institute of Scientific Instruments of the CAS, Brno, Czech Republic, EU
<b>prof. dr hab. inž. Mariola SATERNUS</b>	Silesian University of Technology, Katowice, Poland, EU

## INVITED SPEAKERS

<b>dr hab. inž. Tomasz MERDER, prof. PŚ</b>	Silesian University of Technology, Katowice, Poland, EU
<b>Hasan KOTAN, Ph.D.</b>	Bursa Technical University, Turkey
<b>Assoc. Prof. RNDr. František LOFAJ, DrSc.</b>	Slovak Academy of Sciences (IMR SAS) in Kosice, Slovakia, EU
<b>Dr. Praveenkumar KESAVAN</b>	VSB-Technical University of Ostrava, Czech Republic, EU
<b>Dr-Ing Michel Kalenga WA KALENGA</b>	University of Johannesburg, Republic of South Africa

Time	MONDAY, May 4	TUESDAY, May 5	WEDNESDAY, May 6	THURSDAY, May 7
8:00			REGISTRATION 8:15 - 12:00, 13:00 - 16:30	REGISTRATION 8:45 - 10:00
9:00		REGISTRATION 8:30 - 16:00	<b>C</b> (8:40 - 10:20)	<b>E</b> (8:40 - 10:20)
10:00		<b>CONFERENCE OPENING</b>	<b>C</b> (8:40 - 10:20)	<b>B</b> (09:00 - 11:00)
11:00		<b>PLENARY SESSION</b> (10:15 - 11:45)	COFFEE BREAK 10:20 - 10:40	<b>F</b> (09:00 - 10:40)
12:00		LUNCH 11:45 - 13:00	<b>C</b> (10:40 - 12:20)	LUNCH 11:00 - 12:00
13:00			<b>E</b> (10:40 - 12:20)	
14:00		<b>D</b> (13:00 - 14:20)	LUNCH 12:20 - 13:20	
15:00		<b>A</b> (13:00 - 14:40)	<b>C</b> (13:20 - 14:40)	
16:00		COFFEE BREAK 14:20 - 15:00	<b>E</b> (13:20 - 14:40)	
17:00		<b>B</b> (15:00 - 16:40)	COFFEE BREAK 14:40 - 15:00	
18:00	REGISTRATION 17:30 - 18:30	<b>A</b> (15:00 - 16:00) BREAK	<b>D</b> (15:00 - 16:20)	
19:00		<b>E</b> (16:10 - 17:50)	<b>E</b> (15:00 - 16:20)	
20:00			BREAK	
			<b>POSTER SESSION</b> (16:40 - 18:00)	
			<b>BEST POSTER COMPETITION (18:00)</b>	
			DINNER 18:00 - 20:30 Hotel restaurant	
		SOCIAL EVENING - Hotel restaurant 20:00 - 23:00		

SUBJECT TO CHANGE - PLEASE CHECK [WWW.METALCONFERENCE.EU/EN/CONFERENCE-PROGRAMME](http://WWW.METALCONFERENCE.EU/EN/CONFERENCE-PROGRAMME)



10:00

**CONFERENCE OPENING / PLENARY SESSION**

- 10:15 **PS1** Pushing the Limits of SEM in Materials Science: Slow Electrons, Intelligent Signal Filtering, and Next-Generation Detection  
**45'** **MIKMEKOVÁ Šárka** **INVITED**  
Institute of Scientific Instruments of the CAS, Brno, Czech Republic, EU
- 11:00 **PS2** Recovery of Valuable Metals from Waste Electrical and Electronic Equipment: Technologies and Challenges  
**45'** **SATERNUS Mariola** **INVITED**  
Silesian Univeristy of Technology, Gliwice, Poland, EU

11:45 - 13:00 **LUNCH****SESSION D****SURFACE ENGINEERING**

- 13:00 **D1** Structure, Mechanical, Electrical, Thermal and Tribological Properties of the Compositionally Complex DC Magnetron Sputtered (NbMoTaW)<sub>100-z</sub>-(Cn)<sub>z</sub> Coatings  
**LOFAJ František** **INVITED**  
Institute of Materials Research of the SAS, Košice, Slovakia, EU
- 13:20 **D2** Effect of Cycling and Stirring Parameters on Surface Evolution of Ti-6Al-4V Alloys by Plasma Electrolytic Polishing  
**BOLAT Çağın**  
Samsun University, Samsun, Turkey
- 13:40 **D3** Production of Nickel and Copper-Containing PETG and PLA Polymers for Electromagnetic Interference Shielding  
**YENER Suayb Cagri**  
Sakarya University, Sakarya, Turkey
- 14:00 **D4** Effect of Aluminizing on the Surface Performance of Zr-Added CoCrFeNi High-Entropy Alloys  
**YENER Tuba**  
Sakarya University, Sakarya, Turkey

**SESSION A****ADVANCED TECHNOLOGIES IN IRON, STEEL AND FOUNDRY PRODUCTION**

- A1** Research of Porous Plug Slot-Type of a New Design - Physical and Numerical Modeling  
**MERDER Tomasz** **INVITED**  
Silesian University of Technology, Katowice, Poland, EU
- A2** Improving the Design of a 6-Strand Tundish for Production of Clean Steels through Virtual Prototyping and Simulations  
**KRISHNAPISHARODY Krishnakumar**  
Saarstahl AG, Völklingen, Germany, EU
- A3** Modeling Scrap Composition in EAF and BOF Steelmaking Using State Space Models  
**ZHOU Yiqing**  
KU Leuven, Leuven, Belgium, EU
- A4** Pore-Scale Simulation of Liquid Metal Infiltration into Ceramic Foam Filters  
**WERZNER Eric**  
TU Bergakademie Freiberg, Freiberg, Germany, EU
- 14:20 **A5** Characterization of Dust from Pig Iron Desulphurization Units  
**LANZERSTORFER Christof**  
University of Applied Sciences Upper Austria, Wels, Austria, EU

## 14:20 - 15:00 COFFEE BREAK

## SESSION B

## METAL FORMING

- 15:00 **B1** Experimental and Numerical Investigation of Strain-Rate and Temperature-Dependent Flow Behaviour of 1.7139 and 1.1303 Steel Alloys  
**HAMMES Matthias**  
Leibniz University Hannover, Institute of Forming Technology and Machines, Hanover/Garbsen, Germany, EU
- 15:20 **B2** Metal Surface Quality Drastically Changes Cooling Rate  
**POHANKA Michal**  
Brno University of Technology, Brno, Czech Republic, EU
- 15:40 **B3** Modeling Jominy End-Quench Behaviour of Rail Steel and Aluminothermic Weld Metal  
**ERNST Christian**  
TU Bergakademie Freiberg, Institute of Thermal Engineering, Freiberg, Germany, EU
- 16:00 **B4** Phase-Transformation-Driven Thermomechanical Processing of Novel Zirconium Alloys  
**STRNAD Adam**  
Charles University, Prague, Czech Republic, EU
- 16:20 **B5** Improving FEM Accuracy in Hot Forging Simulations through Hydraulic Press Power Limit Curve Characterisation  
**MAGHINI Davide**  
University of Ferrara, Ferrara, Italy, EU

- 15:00 **A6** Improvement of the Technology for Extracting Zinc Compounds from Steel Smelting Dust  
**MATKARIMOV Sokhibjon**  
Tashkent State Technical University, Tashkent, Uzbekistan
- 15:20 **A7** Recycling of Fine Scrap and High-Alloy Steel Waste by Electroslag Melting  
**KOSTETSKYI Yurii**  
E.O. Paton Electric Welding Institute, Kyiv, Ukraine
- 15:40 **A8** New Parameters Discovery Using AI-Artificial-Intelligence, High Performance Computing – Robotics Titanium Bi-Phasic Extrusion  
**OLARU Paul** - SCO Consulting CH-Luzern, Luzern, Switzerland

## SESSION E

## NON-FERROUS METALS AND ALLOYS

- 16:10 **E1** Tribocorrosion Behaviour of Additively Manufactured Titanium Alloys: Mechanisms, Damage Evolution, and Mitigation  
**KESAVAN Praveenkumar** **INVITED**  
VSB – Technical University of Ostrava, Ostrava, Czech Republic, EU
- 16:30 **E2** TEM Study of Rapidly Solidified Al–Li-Based Alloys  
**CIESLAR Miroslav**  
Charles University, Prague, Czech Republic, EU
- 16:50 **E3** Inhomogeneity in Continuous Casting of EN AW 1050A Aluminum Alloy with a Small Zr Addition  
**SEDLÁČEK Jan** - Brno University of Technology, Brno, Czech Republic, EU
- 17:10 **E4** Numerical Investigation of Solidification Behavior of Al-4.5Cu Alloy Using a Zn-graphite Foam Composite PCM Chiller  
**NOOHI Zohrehsadat**  
University of Padova, Vicenza, Italy, EU
- 17:30 **E5** Fracture Mechanisms of Metallo-Ceramic Functionally Graded Material Based on Numerical Simulations  
**SZYMKIEWICZ Krzysztof**  
Cracow University of Technology, Cracow, Poland, EU

20:00 - 23:00 SOCIAL EVENING WITH TASTING OF WINES FROM SOUTH MORAVIA - HOTEL RESTAURANT

**SESSION C****STEELS, PROPERTIES, STEEL PRODUCTS, TESTING**

- 08:40 **C1** Influence of Solute Element and Ceramic Particle Additions on Grain Growth and Hardness of Nanocrystalline 304L Stainless Steel  
**KOTAN Hasan** **INVITED**  
Bursa Technical University, Bursa, Turkey
- 09:00 **C2** The Process of Damage Accumulation Construction Materials Produced Using Additive Manufacturing Technologies  
**SKÓRA Cyprian** - Opole University of Technology, Opole, Poland, EU
- 09:20 **C3** Investigating Microstructural Influences on Edge Cracking during Cold Rolling of DP980 Dual-Phase Steels: A Combined Deep Learning and Micro-Finite Element Study  
**THOOL Khushahal** - Sunchon National University, Suncheon-Si, Republic of Korea
- 09:40 **C4** Temperature-Dependent Displacement Efficiency in Resonance-Controlled Ultrasonic VHCF Testing of Duplex Stainless Steel EN 1.4462  
**GARALIS Lukas** - Vilnius Gediminas Technical University, Vilnius, Lithuania, EU

**SESSION E****NON-FERROUS METALS AND ALLOYS**

- E6** Tuning the SERS Performance of Nanoporous Copper via Electrodeposition Parameters  
**SCAGLIONE Federico**  
University of Turin, Turin, Italy, EU
- E7** Harmonic Grain Structure in Zinc Alloy Containing Magnesium and Silver  
**MINÁRIK Peter**  
Charles University, Prague, Czech Republic, EU
- E8** Room-Temperature Superplasticity in a Biodegradable Zn-based Alloy  
**SAKSL Karel**  
Technical University of Košice, Košice, Slovakia, EU
- E9** Energy and Environmental Study of Lead Smelting via Ausmelt Process  
**PATRONOV Georgi**  
Paisii Hilendarski University of Plovdiv, Plovdiv, Bulgaria, EU

**SESSION C****STEELS, PROPERTIES, STEEL PRODUCTS, TESTING**

- 10:00 **C5** Dynamic Recrystallisation Kinetics Effect on the Mechanical Properties of 2205 Duplex Stainless Steel (DSS)  
**GONYA Elvis**  
University Johannesburg, Johannesburg, South Africa

10:20 - 10:40 **COFFEE BREAK**

- 10:40 **C6** Comparative Studies of the Properties of Protective Coatings on Steel Sheets  
**DROZD Kazimierz**  
Lublin University of Technology, Lublin, Poland, EU
- 11:00 **C7** AI Image Transformation Application: LOM to SEM  
**ZOUHAR Martin**  
Institute of Scientific Instruments of the CAS, v. v. i., Brno, Czech Republic, EU
- 11:20 **C8** Optical Microscopy With a Large Field of View, Using Primary Data from a Camera Sensor: A Practical Approach  
**STYS Dalibor** - Institute of Technology and Business in České Budějovice, České Budějovice, Czech Republic, EU
- 11:40 **C9** Application of Small Punch Test for Monitoring Thermal Ageing of Austenitic Primary-Circuit Piping Material of Nuclear Power Plant  
**ŘURICA Juraj** - VUJE a.s., Trnava, Slovakia, EU
- 12:00 **C10** Innovative Heat Treatment Approach to Recover the Microstructure and Mechanical Properties of Cr-Mo-v Rotor Steel  
**KANDULA Muni Kumar** - Triveni Turbine Limited, Bangalore, India

12:20 - 13:20 **LUNCH**

- 13:20 **C11** Development and Characterization of Functionally Graded MoNiCr-316L Materials for Energy Applications  
**DUCHEK Michal**  
University of West Bohemia in Pilsen, Pilsen, Czech Republic, EU

**SESSION E****NON-FERROUS METALS AND ALLOYS**

- E10** Elemental Assessment of Lead-bismuth Sludge from Copper Smelting With Emphasis on Tellurium Recovery  
**MATKARIMOV Sokhibjon**  
Tashkent State Technical University, Tashkent, Uzbekistan
- E11** Graded Titanium Alloys as a Promising Route for Improved Biomedical Materials  
**BARTHA Kristína**  
Charles University, Prague, Czech Republic, EU
- E12** Improving Structural Homogeneity and Wear Resistance of FeSi-NiAl Composites by Directional Solidification  
**KALOČ Václav**  
VSB - Technical University of Ostrava, Ostrava, Czech Republic, EU
- E13** Radiofrequency Plasma Spheroidization of Complex Concentrated Superalloy AlNbTiVzr Purified by Hydride Powder Addition  
**LUKÁČ František**  
Institute of Plasma Physics of the CAS, Prague, Czech Republic, EU
- E14** Avalanche Plasticity Across Scales: From Simple Crystals to High-Entropy Alloys  
**KNAPEK Michal**  
Charles University, Prague, Czech Republic, EU
- E15** Scale-Invariant Plasticity and Dynamic Strain Aging in Fe-Al-Ni-Based High-Entropy Alloys  
**TAYARI Tomáš** - Charles University, Prague, Czech Republic, EU
- E16** Combined Theoretical and Experimental Study of Miscibility of Sn in LaNi5  
**FRIÁK Martin**  
Institute of Physics of Materials of the CAS, Brno, Czech Republic, EU

**SESSION C****STEELS, PROPERTIES, STEEL PRODUCTS, TESTING**

- 13:40 **C12** Study of Cladded Bimetals Combinations for H<sub>2</sub> Storage and Transport in High-Pressure H<sub>2</sub> Applications  
**OSTROUSHKO Dmytro**  
University of West Bohemia in Pilsen, Plzeň, Czech Republic, EU
- 14:00 **C13** TRIP in Metastable Austenitic Steels: A Combined Synchrotron XRD and MTEX Approach  
**ČAPEK Jan** - Charles University, Prague, Czech Republic, EU
- 14:20 **C14** Two-Stage Isothermal Transformation of Austenite into Nanobainite in a Chemically Inhomogeneous Medium-Alloy Steel Containing 0.5 wt% C  
**MARCISZ Jarosław** - Łukasiewicz - GIT, Gliwice, Poland, EU

14:40 - 15:00 **COFFEE BREAK****SESSION D****SURFACE ENGINEERING**

- 15:00 **D5** Biodegradable Surface Layer of Magnesium Alloys Based on Plasma Electrolytic Oxidation and Polymer Deposition  
**VERTAĽ Jakob** - Charles University, Prague, Czech Republic, EU
- 15:20 **D6** Structural and Thermal Properties of 3D Pillared Graphene Architectures for Thermal Energy Storage  
**MOORTHI Dharma Rooban**  
VSB - Technical University of Ostrava, Ostrava, Czech Republic, EU
- 15:40 **D7** Analysis of the Effect of Shot Peening on the Properties of FSW Welded Joints for Aluminum Alloy en AW-2024-T3  
**BUCIOR Magdalena**  
Rzeszow University of Technology, Rzeszow, Poland, EU
- 16:00 **D8** A Neural Network Surrogate Model for Predicting Fusion and Heat-Affected Zones in Aluminothermic Rail Welding Based on CFD Simulations  
**KEWALRAMANI Ravi Govindram**  
TU Bergakademie Freiberg, Freiberg, Germany, EU

**SESSION E****NON-FERROUS METALS AND ALLOYS**

- E17** Experimental Study of Hydrogen Absorption and Desorption in LaNi<sub>5</sub> Alloys with Indium Addition  
**ZOBAČ Ondřej**  
Institute of Physics of Materials of the CAS, Brno, Czech Republic, EU
- E18** In Situ Study of Phase Transformations in Metastable  $\beta$  Zr–Nb Alloys  
**VEVERKOVÁ Anna**  
Charles University, Prague, Czech Republic, EU
- E19** Ti<sub>x</sub>Si<sub>y</sub>C<sub>z</sub> (x/y/z = 1, 2, 3) MAX Phases: Synthesis via Powder Metallurgy, Characterization and MXene Conversion  
**SÜZER-ÇIÇEK İlayda** - Istanbul Technical University, Istanbul, Turkey

**SESSION E****NON-FERROUS METALS AND ALLOYS**

- E20** Numerical Investigation of Hybrid Metal and Fibre-Reinforced Plastic Structures Using a Multidirectional Forming Process  
**HOLT Johannes** - Leibniz University Hannover, Hannover, Germany, EU
- E22** Influence of Ambient Storage on the Microstructure and Surface Chemistry of NMC811 Cathode Material  
**ĎURIŠKA Libor**  
Slovak University of Technology in Bratislava, Trnava, Slovakia, EU
- E23** Characterization, Growth Kinetics, and Mechanical Properties of Boride Layers on Ti6Al4V Titanium Alloy  
**KAOUKA Alaeddine**  
ENSLaghouat, Laghouat, Algeria

WEDNESDAY, MAY 6

METAL<sup>®</sup>  
2026

16:40 - 18:00

**POSTER SESSION**

Poster presentation

18:00

**BEST POSTER COMPETITION**

Announcement of the winner

18:00 - 20:30

**DINNER - HOTEL RESTAURANT**



**SESSION B****METAL FORMING**

- 09:00 **B6** Effect of Shot Peening on the Microstructure, Hardness and Surface Roughness Properties of Ti6Al4V Alloys Produced by SLM and EBM  
**DEMIR Mert Can**  
Kocaeli University, Kocaeli, Turkey
- 09:20 **B7** Numerical Study on the Burr Formation in Blanking Processes  
**STOCKBURGER Eugen**  
Euscher GmbH & Co. KG, Bielefeld, Germany, EU
- 09:40 **B8** Variable Cross Section Draw Bending of Sheet Metal With Flexible Tools  
**MIRANDA SILVA Diego Ignacio**  
Leibniz University Hannover, Hannover, Germany, EU
- 10:00 **B9** Numerical Modelling and Validation of a Coupled Inductive Heating and Forging Process for the Production of Joint Crosses  
**SEBASTIAN Sona**  
Leibniz University Hannover, Garbsen, Hannover, Germany, EU
- 10:20 **B10** Modelling of Process Variations in a Powder Metallurgical Process Chain Consisting of Sinter Pressing and Forging  
**MIRANDA SILVA Diego Ignacio**  
Leibniz University Hannover, Hannover, Germany, EU
- 10:40 **B11** Microstructure-Texture-Property Correlation in Mg-3Al-0.2Ce Alloy Processed by Symmetric, Asymmetric reverse rolling, and Extrusion with asymmetric reverse rolling  
**PAKKI VAMSI KRISHNA**  
Indian Institute of Science Bangalore(IISc)-India, BANGALORE, India

11:00 - 12:00 **LUNCH****SESSION F****ECONOMICS AND PRODUCTION MANAGEMENT IN THE METALLURGICAL, STEEL AND RELATED INDUSTRIES**

- F1** Review on the Calcium Carbide Production Using Low-Rank Coal  
**WA KALENGA Michel Kalenga** **INVITED**  
University of Johannesburg, Johannesburg, South Africa
- F2** Energy Flow and Process Hotspots in Forged Steel Shaft Manufacturing: A Product-Level Analysis of Upstream and Downstream Operations  
**OSORIO BAENA Mary** - EurA AG, Ellwangen, Germany, EU
- F3** Effect of Temperature and Time on the Weight Loss and Phases During Carbothermic Reduction of Basic Manganese Ore in Presence of PKS Hydrogen  
**WA KALENGA Michel Kalenga**  
University of Johannesburg, Johannesburg, South Africa
- F4** Smart Guidance System for Manual Welding Processes: Sequential Surface Mapping and Real-Time Torch Orientation  
**REIS Murat**  
Bursa Uludag University, Bursa, Turkey
- F5** Selective Germanium Recovery from Fayalitic Copper Slag Using Bioleaching  
**SUBRUMUNY Kyle**  
University of Johannesburg, Germiston, South Africa

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