



Programme of the Conference

3-4 March 2025

Day 1

9:00	Opening session	
	Chair of the Session I – dr hab. inż. Dorota Wilk-Kołodziejczyk	
9:15	Influence of laser-related process parameters on austenitic steel microstructure	Adam Fabry
9:30	Ultra-high heating rate FAST/SPS of WC-(Ti,W)C tool materials: process optimization and sustainability considerations	Jakub Wiśniewski
9:45	Influence of spraying distance on selected properties of Fe-based novelty plasma sprayed coatings	Inez Kredowska
10:00	Synthesis and characterization of Cu-Zr-Al alloys: enhancing mechanical properties through amorphous-crystalline composites	Denis Pikulski
10:15	Discussion	
10:30	Coffe break	



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**Chair of the Session II –
dr hab. inż. Piotr Klimczyk**

10:45	Hybrid Epoxy Composites Based on Basalt Fabric: A Case Study of Low-Temperature Plasma Treatment and Reduced Graphene Oxide Flakes Addition	Stefan Marynowicz
11:00	Challenges and Opportunities for the Use of Machine Learning, Image Segmentation, and Image Processing in the Automated Identification of Carbides in the Microstructure of Gray Cast Iron	Lukasz Marcjan
11:15	Machine learning methods used to identify ferrite, pearlite and graphite in the microstructure of cast iron	Sandra Gajoch
11:30	Thermal shock resistance of additively produced maraging steel material	Marcin Małysza
11:45	Discussion	
12:00	Coffe break	

Chair of the Session III – dr inż. Wojciech Polkowski

12:15	Mxenes application for lead determination in aquatic environments	Ilya Navitski
12:30	Sensitized Functionalized mxene for the Colorimetric Sensing of Glycolic Acid and Its Derivatives	Saqib Ali



12:45	3D-printed conductive materials – research and applications in biomedical engineering	Mariusz Sobiech
13:00	Exploring the impact of temperatures on photothermal signal using optical photothermal infrared spectroscopy (o-ptir)	Karolina Kadela
13:15	Discussion	

Day 2

Chair of the Session IV – dr inż. Jędrzej Piątek/
dr inż. Anna Górska-Ratusznik

9:00	Magnesium-based biomaterial for medical applications	Joanna Białoń
9:15	In search of biomaterials supporting bone tissue regeneration and vascularization	Zuzanna Pawlak-Likus
9:30	Sustainable Leaching of Lithium-Ion Battery Black Mass: Evaluating Levulinic Acid as a Green Alternative	Karolina Charzewska
9:45	Corrosion behaviour of HEA alloys based on AlCoCuFeNi system	Konrad Chrzan
10:00	Discussion	
10:15	Coffe break	

Chair of the Session V – dr Barbara Pucelik

10:30	Application of discrete wavelet transform in impedance cardiography signal denoising	Mirella Kluza
10:45	Combination antimicrobial therapy for the treatment of diabetic foot infections	Artur Blat
11:00	Protein-based drug delivery systems for the treatment of peritoneal cancer	Klaudyna Grzela
11:15	Design of a safe and insulated applicator handle for tissue ablation by irreversible electroporation method in oncology applications	Grzegorz Nowak
11:30	Discussion	
11:45	Closing session	