

## PROGRAMME OF THE CONFERENCE

### DAY 1

9:00 **Opening session:** dr hab. Katarzyna M. Marzec, dr hab. inż. Tomasz Dudziak,  
mgr inż. Joanna Białoń

#### **Session I: Additive technologies - chair dr inż. Grzegorz Skrabalak**

9:15 COMPARATIVE ANALYSIS OF  
3D PRINTED WALL  
INSULATION SOLUTIONS FOR  
ENHANCED ENERGY  
EFFICIENCY mgr inż. Michał  
Góra Cracow University of  
Technology, Poland

9:30 DIVERSE DIMENSIONS OF  
CONCRETE 3D PRINTING mgr inż. Adam  
Hutyra Cracow University of  
Technology, Poland

9:45 ANALYSIS OF PLASMA  
SPRAYED CO-BASED ALLOY  
WITH HIGH-GLASS FORMING  
ABILITY mgr inż. Anna Kuś  
Wroclaw University of  
Science and  
Technology, Poland

10:00 EXPLORING THE IMPACT OF  
ALUMINIUM POWDER AND  
HYDROGEN PEROXIDE ON  
FOAMED CONCRETE  
BEHAVIOR IN 3D PRINTING  
APPLICATIONS mgr inż.  
Magdalena  
Rudziewicz Cracow University of  
Technology, Poland

10:15-10:30 **Coffee break**

#### **Session II: Medical equipment - chair dr inż. Jędrzej Piątek**

10:30 TELEMEDICAL, WEARABLE  
CARDIAC SURVEILLANCE  
SYSTEM BASED ON A  
TEXTRONIC T-SHIRT mgr inż. Marek  
Czerw Łukasiewicz Research  
Network – Krakow  
Institute of  
Technology, Poland

10:45	MOBILE DEVICE FOR NON-INVASIVE MEASUREMENT OF THE PULMONARY HYDRATION BY BIOIMPEDANCE SPECTROSCOPY	mgr inż. Mirella Kluza	Łukasiewicz Research Network – Krakow Institute of Technology, Poland
11:00	COMPARISON OF THE CONTROL SYSTEMS OF THE ARM-100 AND ARM-200 REHABILITATION ROBOT	mgr inż. Andrzej Michnik	Łukasiewicz Research Network – Krakow Institute of Technology, Poland
11:15	PARAMETERS OF THE PROGRAMMABLE PULSE GENERATOR DEDICATED TO IRREVERSIBLE ELECTROPORATION IN ONCOLOGY THERAPY	mgr inż. Jan Mocha	Łukasiewicz Research Network – Krakow Institute of Technology, Poland
11:30	APPLICATORS FOR TISSUE ABLATION BY IRREVERSIBLE ELECTROPORATION METHOD IN ONCOLOGY APPLICATIONS	mgr inż. Grzegorz Nowak	Łukasiewicz Research Network – Krakow Institute of Technology, Poland
11:45	NUMERICAL ANALYSIS (FEA) OF UPPER LIMB REHABILITATION ROBOT CONSTRUCTION	mgr inż. Mariusz Sobiech	Łukasiewicz Research Network – Krakow Institute of Technology, Poland
12:00-12:15	<i>Coffee break</i>		

### Session III: Advances technologies - chair dr hab. inż. Tomasz Dudziak

12:15	INFLUENCE OF THE ADDITION A NATURAL FIBERS ON THE INSULATING PROPERTIES OF MULTILAYER GEOPOLYMER COMPOSITES	mgr inż. Agnieszka Bąk	Cracow University of Technology, Poland
12:30	MATERIAL VALIDATION FOR HEAT EXCHANGERS IN CONCENTRATION SOLAR POWER PLANTS	Jaime González, , MSc	Complutense University of Madrid, Spain

12:45	A SYSTEMATIC REVIEW OF CELLULOSE NANOFIBRIL DISPERSION METHODS FOR NANOCOMPOSITES PRODUCTION	Lucas Horiuchi, , MSc	<i>TRL9 LAB Ltd., Brasil</i>
13:00	RELATIONSHIP BETWEEN MANUFACTURING METHOD AND MICROSTRUCTURE WITH SELECTED MECHANICAL PROPERTIES ON CEMENTED CARBIDES	mgr inż. Inez Kredowska	Silesian University of Technology, Poland
13:15	A NEW METHOD FOR MEASURING OPEN POROSITY	mgr inż. Aneta Łętocha	Łukasiewicz Research Network – Krakow Institute of Technology, Poland
13:30	ULTRASONIC CASTING OF Zn AND Zn – Bi ALLOY	mgr inż. Aleksandra Szot	AGH University of Krakow, Poland

## DAY 2

### Session IV: Functional materials - chair dr hab. inż. Dorota Wilk-Kołodziejczyk

9:00	MAGNESIUM-BASED BIOMATERIAL	mgr inż. Joanna Białoń	Łukasiewicz Research Network – Krakow Institute of Technology, Poland
9:15	SELF-ASSEMBLED STRUCTURES FORMED BY NON-IONIC SURFACTANT AND POLYMER	mgr inż. Klaudyna Grzela	Łukasiewicz Research Network – Krakow Institute of Technology, Poland
9:30	EXPLORING THE MECHANICAL AND THERMAL PROPERTIES OF BIOCOMPATIBLE Zr – Cu – Ag METALLIC GLASSES	mgr inż. Denis Pikulski	AGH University of Krakow, Poland

9:45	PREPARATION OF HYDROGEL MATERIALS USING A BIO-CROSSLINKING AGENT	mgr inż. Paulina Sypuła	Cracow University of Technology, Poland
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10:00-10:15 *Coffee break*

**Session V: High temperature and high entropy materials – chair dr inż. Rafał Nowak**

10:15	Mo-Si-B ALLOYS AS ULTRA-HIGH MATERIALS BEYOND SUPERALLOYS: FROM SESSILE DROP EXPERIMENTS TO HOT-DIPPING FABRICATION	mgr inż. Grzegorz Bruzda	Łukasiewicz Research Network – Krakow Institute of Technology, Poland
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10:30	IMPACT OF HEAT TREATMENT ON MICROSTRUCTURE AND MECHANICAL PROPERTIES OF HIGH ENTROPY ALLOYS BASED ON AlCoCuFeNi SYSTEM	mgr inż. Konrad Chrzan	Łukasiewicz Research Network – Krakow Institute of Technology, Poland
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10:45	SOLIDIFICATION MECHANISM OF DUPLEX POWDER FROM RECYCLED, MIXED 316L/Z100 STEELS	mgr inż. Filip Kateusz	Łukasiewicz Research Network – Krakow Institute of Technology, Poland
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11:00	USE OF WASTE MATERIALS IN THE PRODUCTION OF ALKALI-ACTIVATED BINDERS	mgr inż. Kinga Setlak	Cracow University of Technology, Poland
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11:15	INTEGRATED DESIGN APPROACH FOR HIGH ENTROPY ALLOY DEVELOPMENT	Suleman Usman, MSc	Silesian University of Technology, Poland
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11:30	<b>Closing session:</b> dr hab. Katarzyna M. Marzec, dr hab. inż. Tomasz Dudziak, mgr inż. Joanna Białoń		
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