



## 4<sup>TH</sup> INTERNATIONAL CONFERENCE PROGRAMME

### Emerging Technologies in Materials Engineering – EmergeMAT

**Note: EET (Eastern European Time)**

Day 1 (04.11.2021)	
09.00-09.10	<b>WELCOME AND OPENING OF THE CONFERENCE</b> <i>Note: Online access is available from 08.45 EET.</i>
09.10-09.40	<b>IMNR 55<sup>th</sup> Anniversary</b> Roxana Mioara PITICESCU, IMNR, Romania
<b>PLENARY SESSION</b> <i>Chair: Roxana Mioara PITICESCU, IMNR, Romania</i>	
09.40-10.10	<b>FROM RESEARCH TO INNOVATION</b> Oana CRAIOVEANU, Ministry of Research, Innovation and Digitalisation, Romania
10.10-10.40	<b>TOWARDS 2022 WITH HORIZON EUROPE IN MATERIALS ENGINEERING</b> Iulia MIHAIL, ROST-EU, Belgium
10.40-11.10	<b>UPB: EDUCATION AND RESEARCH OPPORTUNITIES</b> Anton FICAI, Politehnica University of Bucharest, Romania
11.10-11.40	<b>CERAMIC AND COMPOSITE BIOMATERIALS FOR BONE REGENERATION</b> Florin MICULESCU, Politehnica University of Bucharest, Romania
11.40-12.10	<b>ROHEALTH – CLUSTER FOR HEALTH AND BIOECONOMY</b> Flaviana ROTARU, ROHEALTH, Romania
12.10-12.40	<b>DEVELOPMENT OF SMART MATERIALS, STRUCTURES AND SYSTEMS FOR ENERGY HARVESTING APPLICATIONS</b> Yi QIN, University of Strathclyde, UK
12.40-13.00	<i>Break</i>
<b>SESSION 1 – INVITED TALKS</b> <i>Chair: Radu Robert PITICESCU, Laura Mădălina CURSARU, IMNR, Romania</i>	
13.00-13.20	<b>ELECTROCALORIC CERAMICS FOR EMERGING SOLID-STATE COOLING TECHNOLOGIES</b> Barbara Malič, Institut Jožef Stefan, Slovenia



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| 13.20-13.40 | <b>ADVANCED CHARACTERISATION TECHNIQUES ENSURING THE QUALITY OF RECYCLED THERMOELECTRIC MATERIALS</b><br>Aikaterini TROMPETA, A. ALEXANDRATOU, Constantinos CHARITIDIS*, National Technical University of Athens, Greece  |
| 13.40-14.00 | <b>EMERGING TECHNIQUES FOR IN SITU MONITORING OF LASER WELDING PROCESS</b><br>Andrei POPESCU*, Sabin MIHAI, Diana CHIOIBASU, Muhammad Arif MAHMOOD, Marc LEPAROUX, Mihai IOVEA, Ion N. MIHAILESCU, INFLPR, Romania / EMPA, Switzerland / Accent Pro 2000 SRL, Romania           |
| 14.00-14.20 | <b>FAST CERAMIC CONVERSION TREATMENT OF TI-6AL-2SN-4ZR-2MO TITANIUM ALLOY</b><br>Zhenxue ZHANG*, Yue XIAO, Chen LIU, Xiaoying LI, Hanshan DONG, University of Birmingham, UK  |
| 14.20-14.40 | <b>INNOVATIVE IDEAS IN VALORISING AND RE-USE OF RARE EARTHS METALS FOR RENEWABLE ENERGY APPLICATIONS</b><br>Radu Robert PITICESCU, IMNR, Romania  |
| 14.40-15.00 | <b>APPLICATION OF PLASMA SPHEROIDIZATION FOR PRODUCTION OF Ti ALLOYS POWDERS FROM SCRAPS</b><br>Jacek MAZUR*, Marcin LIS, Adriana WRONA, Maurizio VEDANI, Tomi LINDROOS, Grzegorz WIĘCŁAW, Luuk WISSINK, Łukasiewicz Research Network – Institute of Non-ferrous Metals, Poland |
| 15.00-15.20 | <b>MATERIALS DESIGN BY ADDITIVE MANUFACTURING</b><br>Vladimir POPOV, Technion R&D Foundation, Israel  |
| 15.20-16.00 | <b>CONCLUSIONS OF THE DAY &amp; DISCUSSIONS</b>   |



<b>Day 2 (05.11.2021)</b>	
09.00-09.10	<b>WELCOME AND OPENING OF THE CONFERENCE – Day 2</b> <i>Note: Online access is available from 08.45 EET.</i>
<b>SESSION 2</b> <i>Chair: Adrian Mihail MOTOC, Ana-Maria MOCIOIU, IMNR, Romania</i>	
09.10-09.30	<b>THE SMART SPECIALIZATION STRATEGY OF BUCHAREST-ILFOV REGION AND FINANCING THROUGH POR BI 2021-2027</b> Dan NICULA, Bucharest-Ilfov Regional Development Agency, Romania
09.30-09.50	<b>ADDITIVE MANUFACTURING OF HYBRID MATERIALS</b> Mădălina Laura CURSARU, IMNR, Romania
09.50-10.10	<b>PRE-PROCESSED CARBON BASED NANOMATERIALS FOR THERMOSETTING COMPOSITES WITH ELECTRICAL CONDUCTIVITY</b> Maria Dolores ROMERO SANCHEZ, Applynano Solutions, Spain
10.10-10.30	<b>APPLICATIVE RESEARCH REGARDING HIGH PERFORMANCE COMPOSITES BASED ON COMPOSITIONALLY COMPLEX ALLOYS</b> Dumitru MITRICA*, Thomas SCHUBERT, Andreas STORZ, Ioan CARCEA, Beatrice Adriana SERBAN, Johannes TRAPP, IMNR, Romania / IFAM, Germany / Sigma Materials GmbH, Germany / RANCON SRL, Romania
10.30-10.50	<b>OBTAINING AND STRUCTURAL CHARACTERIZATION OF Ni-P-Al<sub>2</sub>O<sub>3</sub> NANOCOMPOSITE LAYERS BY ELECTROLESS DEPOSITION</b> Eniko VOLCEANOV*, Alina MELINESCU, Mihai EFTIMIE, Adrian VOLCEANOV, Emanuil Cristian COMAN, Lavinia Gabriela POPESCU, ICEM SA, Romania / UPB, Romania
<b>SESSION 3</b> <i>Chair: Adrian Mihail MOTOC, Dumitru MITRICĂ, IMNR, Romania</i>	
10.50-11.10	<b>EB-PVD DEPOSITION OF PROTECTIVE COATINGS</b> Arcadii SOBETKII, IMNR, Romania
11.10-11.30	<b>PRELIMINARY STUDIES ON ZIRCONIA CERAMICS DOPED WITH MIXED RARE EARTH OXIDES FOR APPLICATION IN TBC AND POTENTIAL MARKETING STUDY</b> Anca Elena SLOBOZEANU*, Radu Robert PITICESCU, Sorina-Nicoleta VÂLSAN, Andreea-Nicoleta GHIȚĂ, IMNR, Romania; Maria Luisa GRILLI, Daniele VALERINI, ENEA, Italy; Mythili PRAKASAM, Alain LARGETEAU, CNRS, France; Arcadie SOBETKII, MGM STAR CONSTRUCT SRL, Romania
11.30-11.50	<b>NOVEL 3D SELF-ASSEMBLED SrTi<sub>1-x</sub>AlxO<sub>3</sub>/FeOOH HETEROSTRUCTURE FOR EFFECTIVE PHOTOCATALYTIC WATER SPLITTING</b> Adrian Iulian BORHAN*, Daniel GHERCĂ, Aurel PUI, Ioana RADU, Marius Adrian HUȘANU, C. BORCA, UAIC, Romania / IFM, Romania / SLS, Switzerland
11.50-12.10	<i>Break</i>



<b>SESSION 4</b>	
<i>Chair: Adrian Mihail MOTOC, Mihai GHIȚĂ, IMNR, Romania</i>	
12.10-12.30	<b>RESEARCH ON IMPROVING THE DENTAL IMPLANT SURFACE AND OSSEOINTEGRATION</b> Vlad Gabriel VASILESCU, Elisabeta VASILESCU*, Lucian Toma CIOCAN, UMFCO, Romania / UGAL, Romania
12.30-12.50	<b>VIS-ACTIVE TiO<sub>2</sub> – g-C<sub>3</sub>N<sub>4</sub> COMPOSITES FOR PHOTOCATALYTIC APPLICATIONS</b> Silvioara GHEORGHITA*, C. BOGATU, A. DUTA, UNITBV, Romania
12.50-13.10	<b>INDIGENOUS BENTONITE AS REMEDIATOR FOR URANIUM CONTAMINATED WATERS</b> Ioana POPESCU*, Aura Daniela RADU, ICPMRR, Romania
13.10-13.30	<b>CONDUCTIVE MEMBRANES FOR SENSORS</b> Raluca Maria AILENI*, Laura CHIRIAC, Irina SANDULACHE, INCDTP, Romania
13.30-13.50	<b>VITREOUS MATERIALS WITH OPTICAL AND ANTICORROZIVE PROPERTIES</b> Oana Catalina MOCIOIU*, Ana-Maria MOCIOIU, ICF, Romania / IMNR, Romania
13.50-14.10	<b>SKILLS ALLIANCE FOR INDUSTRIAL SYMBIOSIS – A CROSS-SECTORAL BLUEPRINT FOR A SUSTAINABLE PROCESS INDUSTRY</b> Ioana VLAICU*, Radu Robert PITICESCU, Simona Elena BEJAN, Mirela PETRICEANU, Georgia Mihaela SIMA, Constantin CIOATES, IMNR, Romania
14.10-14.40	<b>YOUNG RESEARCHERS AWARDS COMPETITION</b> Chair: Radu Robert PITICESCU, IMNR, Romania
<b>YOUNG RESEARCHERS' PRIZES</b>	
<b>CONFERENCE CONCLUSIONS AND CLOSING</b>	