



5TH INTERNATIONAL CONFERENCE PROGRAMME

Emerging Technologies in Materials Engineering – EmergeMAT

Note: EET (Eastern European Time)

Day 1 (27.10.2022)	
08:45-09:00	WELCOME AND OPENING OF THE CONFERENCE <i>Note: Online access is available from 08.30 EET.</i>
PLENARY SESSION <i>Chair: Roxana Mioara PITICESCU, IMNR, Romania</i>	
09.00-09.30	Preliminary constraints concerning a large scale hydrogen utilisation. Prof.Dr. Tudor Prisecaru - State Secretary at Ministry of Research, Innovation and Digitalisation, Romania
09.30-10.00	Research and Innovation in the National Plan for Recovery and Resilience Antonio Rădoi - Director Unity for Implementation of Reforms-PSF, Ministry of Research, Innovation and Digitalisation, Romania
10.00-10.30	European Alliance for Batteries Noshim Omar, Avesta Batteries & Energy Engineering
10.30-11.00	<i>Coffee Break</i>
TRAINING WORKSHOP RETECH <i>Chairs: Belma Soydas Sozer; Radu-Robert Piticescu</i>	
11.00-11.30	Presentation of RETECH PROJECT and its partners Belma Soydas Sozer, Turkish Energy, Nuclear and Mineral Research Agency Rare Earth Elements Research Institute (TENMAK NATEN), Turkiye
11.30-12.30	Solvent extraction of REEs Marius Zlagnean, ICPMRR
12.30-13.30	HIGH TECH APPLICATIONS OF REEs Radu-Robert Piticescu, IMNR
13.00-13:30	DISCUSSIONS WITH YOUNG RESEARCHERS, CONCLUSIONS All
13.30-14.30	<i>Lunch Break</i>



Entrepreneurship and Circular Economy in Materials Engineering <i>Moderators: Piticescu Roxana Mioara, Simina Lakatos</i>	
14:30-15:00	Plenary presentation EU FUNDING OPPORTUNITIES IN HORIZON EUROPE Iulia Mihail, ROST-EU, Brussels
15:00-15:30	Plenary presentation RESEARCH AND INNOVATION IN THE EUROPEAN PROCESS INDUSTRY – THE CASE OF A.SPIRE AND THE PROCESSES4PLANET PARTNERSHIP Bruno Mesquita, SPIRE Association, Brussels
15.30-17.30	Panel Discussion Participants: Oana Mariuca Cosug - Ministry of Research, Innovation and Digitalizing Flaviana Rotaru - President ROHEALTH Cluster Simina Lakatos-IRCEM Sorin Mircea Axinte Parvu Gabriela - CLUSTERO Bogdan Ciocanel - IRECSON Vasile Somoghi - CBRNE Cluster

Day 2 (28.10.2022)

09.00-09.10	WELCOME AND OPENING OF THE CONFERENCE – Day 2 <i>Note: Online access is available from 08.45 EET.</i>
SECTION 1: MATERIALS FOR ENERGY <i>Chairs: Alain Largeteau-CNRS ICMCB France, Dumitru MITRICA, IMNR, Romania</i>	
09.10-09.30	STUDIES ON THE POTENTIAL OF ZEOLITES FROM SOLID FUEL COMBUSTION BY-PRODUCTS FOR EFFECTIVE HEAT STORAGE <u>S. Boycheva</u> , E. Zabov, E. R, Schöfbänker, F. Winter
09.30-09.50	GROWTH OF CARBON-BASED NANOMATERIALS ON HALF-HEUSLER ALLOYS <u>E.P. Typa</u> , S. Termine, A. Alexandratou, A.F. Trompeta, S. Maset, A. Bianchin, C.A. Charitidis
9.50-10.10	TRANSITION METAL FERRITES – EFFICIENT TOOLS FOR ENERGY STORAGE, ENVIRONMENT REMEDIATION AND BIOMEDICAL APPLICATIONS <u>C. COMANESCU</u> , P. PALADE, N. Iacob, V. Kuncser



10.10-10.30	SnO ₂ MESOPOROUS BASED MATERIALS AS ELECTROCATALYSTS <u>F. Neațu</u> , Ș. Neațu, V. C. Diculescu, M. M. Trandafir, N. Petrea, S. Somacescu, V. Somoghi, M. Florea
10.30-10.50	INVESTIGATION OF STRUCTURAL AND MAGNETIC PROPERTIES OF THE 3F3 FERRITE MATERIAL <u>A. Okos</u> , C. D. Sau, V. Somoghi, C. Bogdănescu, P. Stanciu, M. Ghita, A.-M. Mocioiu, M. Corban, A. Sobetkii, A. I. Tudor, R. R. Piticescu.
10.50-11.10	<i>Coffee Break</i>
SECTION 2: CRITICAL RAW MATERIALS <i>Chairs: Maria Luisa Grilli - ENEA Rome, Italy, Radu-Robert Piticescu, IMNR, Romania</i>	
11.10-11.30	APPLICATION OF THE LAYER-BY-LAYER METHOD FOR TEXTILES <u>Dawid Stawski</u>
11.30-11.50	DESIGN, SYNTHESIS AND CHARACTERIZATION OF EB-PVD THERMAL BARRIER COATINGS BASED ON RARE EARTH ZIRCONATES FOR AEROSPACE APPLICATIONS <u>R. R. Piticescu</u> , A. Sobetkii, A. E. Slobozeanu, A. Ghiță, M. Corban, L. F. Mosinoiu, C. Bogdanescu, M. Botan
11.50-12.10	XPS STUDY OF TERNARY MULTILAYERS TiAlN/MEN WITH ME=AL, TI BY DEPTH PROFILING <u>L. Mirengji</u> , A. Rizzo, S. Guastella
12.10-12.30	AN EXAMINATION INTO THE LEVELLING BEHAVIOUR OF ELECTROLESS NICKEL BORON DEPOSITION FOR THE SURFACE DEFECT MITIGATION ON ADDITIVELY MANUFACTURED PARTS <u>A. Jolly</u> , V. Vitry, G. T. Pourian Azar, A. Coblely
12.30-12.50	DEVELOPMENT OF ADVANCED FILLER WIRE FOR AL7075 WELDING PROCESS <u>A. Kovalevsky</u> , A. Mats
12.50-13.10	ELECTROCHEMICAL EVALUATION OF LOW CARBON AND NITROGEN CONTAINING MULTICOMPONENT ALLOYS <u>M. Dinu</u> , A. C. Parau, I. Pana, A. E. Kiss, A. Sobetkii, M. Mondragon, C. E. A. Grigorescu, X. Almandoz, A. H. Alaa, A. López-Ortega, A.-M. Iordache, J. M. Izurrategi, M. I. Rusu, L. R. Constantin, V. Capatana, C. Bidalach, N. C. Zoita
13.10-13.30	PLASMA JET TREATMENT OF POLYMER FILAMENTS FOR INCREASED ADHESION: CORRELATION OF PLASMA PARAMETERS AND SURFACE PROPERTIES <u>A. V. Nastuta</u> , I. Topala, V. Tiron
13.30-13.45	<i>Break</i>



13.45-15.00	WORKSHOP NOVEL TECHNOLOGY FOR MANUFACTURING A MULTIFUNCTIONAL HYBRID MEMBRANE FOR ADVANCED PURIFICATION OF WASTEWATERS-NYMPH <i>Chairs: Madalina Laura Cursaru, Marius Sandru</i>
	Moderators: Piticescu Radu-Robert-IMNR Marius Sandru-SINTEF Madalina Laura Cursaru-IMNR AKVAFRESH Catalin Ducu-Global Research srl
	SECTION 3: NEW MATERIALS FOR ENVIRONMENTAL PROTECTION <i>Chair: Adrian Mihail MOTO, Mihai GHIȚĂ, IMNR, Romania</i>
15.00-15.20	Sn DOPED TiO ₂ COMPOSITE NANOFIBERS WITH IMPROVED PHOTOCATALYTIC PERFORMANCE UNDER VISIBLE LIGHT IRRADIATION FOR WATER PURIFICATION <u>P. Pascariu</u> , P. Samoila, C. Cojocaru
15.20-15.40	MAPLE FABRICATION OF IMPLANT COATINGS BASED ON LOW-COST SUSTAINABLE NATURAL RESOURCES FOR INFECTION PREVENTION <u>A. I. Visan</u> , S. Gabriel, R. Cristescu, G. Pelin-Popescu, L. I. Jinga, C. E. Matei, M. Popa, M. C. Chifiriuc
15.40-16:00	PURE AND DOPED TiO ₂ /HDPE 3D PRINTED COMPOSITE MATERIALS WITH ANTIFOULING PROPERTIES FOR AQUACULTURE APPLICATIONS <u>M. P. Suche</u> a, A. Bouranta, I. V. Tudose, L. Georgescu, N. R. Vrithias, G. Kenanakis, E. Sfakaki, N. Mitrizakis, G. Strakantounas, N. Papandroulakis, C. Romanitan, C. Pachiu, O. Brincoveanu, E. Koudoumas
16.00-16.20	ARTIFICIAL INTELLIGENCE AND BIG-DATA ANALYTICS IN MATERIALS ENGINEERING FOR NON-FERROUS AND RARE METALS INDUSTRY <u>S. E. Ionescu</u> , N. Nacioiu
16.20-18:00	YOUNG RESEARCHERS AWARDS COMPETITION <i>Chair: Maria Luiza GRILLI, ENEA Casaccia Research Centre, Italy</i>
	YOUNG RESEARCHERS' PRIZES Questions and Answers CONFERENCE CONCLUSIONS AND CLOSING