



MINISTERUL CERCETĂRII,
INOVĂRII ȘI DIGITIZĂRII



6th INTERNATIONAL CONFERENCE PROGRAMME Emerging Technologies in Materials Engineering – EmergeMAT

Day 1 (09.11.2023) Chairs: Roxana -Mioara Piticescu (IMNR,Romania), Adrian Mihail Motoc(IMNR,Romania)	
8.30-09.00	REGISTRATION AND COFFEE
09:00-09:30	WELCOME AND OPENING OF THE CONFERENCE SPONSORS PRESENTATIONS
09:30-10:00	CHALLENGES REGARDING TRANSITION TO HYDROGEN-ORIENTED ECONOMY Tudor Prisecaru, State Secretary at Ministry of Research, Innovation and Digitisation, Romania
10:00-10:30	THE EU S KEY FUNDING PROGRAMME FOR RESEARCH AND INNOVATION HORIZONT EUROPE, CHALLENGING OUR FUTURE Iulia Mihail, Ministry of Research, Innovation and Digitalisation, Romania
10:30-11:00	EVOLUTION OF MATERIALS ENGINEERING: CURRENT AND FUTURE DIRECTIONS IN EUROPEAN RESEARCH AND INNOVATION Antoaneta Folea, UEFISCDI, Romania
11:00-11:30	METALS IN THE AGE OF DECARBONIZATION Roxana-Mioara Piticescu, IMNR, Romania
11:30-11:50	COFFEE BREAK
11:50-12:20	FAST AND NANO-ENABLED SMART MATERIALS, STRUCTURES AND SYSTEMS FOR ENERGY HARVESTING Yi Qin, University of Strathclyde, UK (on line)
12:20-12:50	ENSURING A SUSTAINABLE SUPPLY OF RAW MATERIALS FOR THE DIGITAL AND GREEN TRANSITION Dina Charrilho, ERAMIN3 project coordinator, Foundation for Science and Technology, Portugal (on line)
12:50-13:20	HIGH-ENTROPY ALLOYS AND COATINGS: APPLICATIONS OVERVIEW AND POTENTIAL AGAINST MICROBIOLOGICALLY INFLUENCED CORROSION Bogdan Postolnyi (IFIMUP ,Portugal); Alexander Pogrebnyak, IMNR, Romania STU-MTF, Slovacia)
13:20-14:30	LUNCH BREAK



MINISTERUL CERCETĂRII,
INOVĂRII ȘI DIGITIZĂRII



14:30-15:00	MAGNETIC HYBRID IRON OXIDES-BASED NANOPARTICLES AND THIN FILMS WITH NANOSORPTION AND PHOTOCATALYTIC ACTIVITIES Viorica Mușat , UGAL ,Romania
15:30-16:00	ADVANCED SURFACE COATINGS FOR OXIDATION PROTECTION OF THERMOELECTRICAL MATERIALS Hanshan Dong, University of Birmingham, UK (online)
16:00-16:30	ROLE OF MECHANOCHEMISTRY FOR GREEN AND SUSTAINABLE WEEE RECYCLING, REDUCE AND REUSE OF REEs FOR ADVANCED MATERIALS PREPARATION Zara Cherkezova-Zheleva (ICBAS, Bulgaria) ; D.Paneva (ICBAS, Bulgaria); R.R. Piticescu (IMNR, Romania)
16:30-17:00	AVIATION INDUSTRY : FROM MATERIALS TO HIGH-TECH TECHNOLOGY Adriana Ștefan, INCAS, Romania (online)
17:00-17:30	TOWARDS THE GREEN DEAL : ENEA ACTIVITIES IN THE FIELD OF DECARBONISATION AND HYDROGEN PRODUCTION Maria Luisa Grilli, U.P.Laverdura, ENEA, Italia (online)
Day 2 (10.11.2023)	
08:30-09:00	COFFEE AND REGISTRATION OF PARTICIPANTS*
09:00-09:20	OPENING SESSION <i>Note: Online access is available from 08:45. Participants are encouraged to log in as early as possible.</i>
SECTION 1: MATERIALS FOR ENERGY Chairs: Adriana- Gabriela Schiopu (Univ.Pitesti,Romania), Laura -Madalina Cursaru (IMNR,Romania)	
09:20-10:00	STUDY OF ELECTROCHEMICAL CORROSION RESISTANCE OF PIEZOELECTRIC MATERIALS FOR ENERGY HARVESTING Myrto. M. Dardavila, Costas.A. Charitidis - NTUA, Greece (online)
10:00-10:15	TRANSFORMATIVE PROSPECTS OF METAL-ORGANIC FRAMEWORK (MOF)-BASED NANOMATERIALS FOR ADVANCED ENERGY STORAGE APPLICATIONS Cezar Comanescu, P. Palade, N. Iacob, G. Schinteie, V. Kuncser - INCDFM, Romania
10:15-10:35	RF DIELECTRIC SPECTRUM ANALYSIS OF SOME NANOCOMPOSITES MADE FROM RARE EARTH DOPED ZNO AND GRAPHENE Titus Sandu, M.Gologanu, M. Sucheaa, O. T. Nedelcu, P. Pascariu, E. Koudoumas - IMT, Romania



MINISTERUL CERCETĂRII,
INOVĂRII ȘI DIGITIZĂRII



10:35-10:50	<p>NOVEL COATING APPROACHES FOR SOLAR THERMAL COLLECTORS: A STUDY ON MECHANICAL AND OPTICAL PROPERTIES</p> <p>Iulian Pana, A.C.Parau, M.Dinu, L.R. Constantin, A.E. Kiss, A. Vladescu (Dragomir), C. Vitelaru - INOE, Romania</p>
10:50-11:05	<p>TWO-DIMENSIONAL HEXAGONAL BORON NITRIDE NANOSHEETS DECORATED WITH SILVER NANOPARTICLES FOR HIGH-PERFORMANCE, SELF-POWERED, SUPER-BROAD BAND UV-VISIBLE PHOTODETECTORS</p> <p>Wilber Ortiz Lago, - University of Puerto Rico, Recinto de Rio (online)</p>
11:05-11:20	<p>EMERGING OXIDES NANOPARTICLES: GROWTH MECHANISM, MORPHOLOGIES AND PROPERTIES</p> <p>Adriana Gabriela Schiopu, M. Oproescu, G.V. Iana, Univ Pitesti, Romania</p>
11:20-11:40	COFFEE BREAK
<p>SECTION 2: CRITICAL RAW MATERIALS</p> <p>Chairs: Radu-Robert Piticescu (IMNR,Romania), Sebastian Balos(UNS,Serbia)</p>	
11:40-12:10	<p>INFLUENCE OF NON-EVAPORABLE SOLVENT ON THE PERFORMANCE OF ACTIVATED FLUX IN GTAW WELDING</p> <p>Sebastian Balos, M.Dramicanin, P. Janjatovic, I. Zabunov, M.Knezevic, UNS, Serbia</p>
12:10-12:25	<p>FROM PLASMA PARAMETERS TO MATERIAL PROPERTIES: ATMOSPHERIC PRESSURE PLASMA PROCESSING OF COMMERCIAL POLYMER FILAMENTS</p> <p>Andrei.V. Nastuta, A. Stratu, I. Dumitru, R. Fuior, M. Asandulesa, F. Doroftei, V. O. Potolinca, I. Mihaila, I. Topala, V. Tiron, UMF Iasi, Romania</p>
12:25-12:40	<p>STUDY ON THE CORROSION BEHAVIOUR OF MULTILAYER OXIDE COATINGS APPLIED ON STAINLESS STEEL USING THE EB-PVD METHOD IN 1N H₂SO₄ SOLUTION</p> <p>Laurentiu F. Mosinoiu, A. Sobetkii, L.M. Cursaru, I.A. Tudor, A.C. Matei, B.S.Vasile, A. Surdu, R.R Piticescu., IMNR, Romania</p>
12:40-12:55	<p>BIO-BASED COATINGS VERSUS CONVENTIONAL ONES: SYNTHESIS AND COMPARISON OF PROPERTIES</p> <p>Oana Ursache, M.V. Dinu, C. Gaina, V. Gaina, ICMPP, Romania (online)</p>
12:55-13:05	<p>NEW BIOMATERIALS PRODUCED BY HALOARCHAEA WITH A ROLE IN ENVIRONMENTAL DEPOLLUTION</p> <p>Gabriela Teodosiu Beleuta – IBB, Romania</p>



MINISTERUL CERCETĂRII,
INOVĂRII ȘI DIGITIZĂRII



SECTION 3: NEW MATERIALS FOR ENVIRONMENTAL PROTECTION	
<i>Chairs:</i> Viorica Musat (UGAL,Romania), Ana Maria Mocioiu(IMNR,Romania)	
13:05-13:20	VULNERABILITIES AND PREDICTIVE MAINTENANCE OF SYSTEMS FOR ADVANCED ANOMALY DETECTION IN SMART MICROGRIDS Teodora Mîndra, L. Ocheană, L.Toma, - SIS SA, Romania
13:20-13:35	PHOTOCATALYSTS OBTAINED FROM BLACK SANDS FOR VISIBLE-LIGHT-DRIVEN PHENOL PHOTODEGRADATION Salomé Galeas, C. S. Valdivieso-Ramírez, P. I. Pontón, V.Goetz, P.I Vargas, P. Zárate, V. H. Guerrero - UPVD, France
13:35-13:55	HYBRID SILVER-CARBON MATERIALS FOR METILENE BLUE ADSORPTION Ioana Ion, A Caramitu, M. Marin, V. E. Marinescu, I. B. Lungu, E. Stancu, N.O. Nicula - ICPE-CA, Romania
13:55-15:05	LUNCH BREAK
SECTION 4: MATERIALS MODELING AND SIMULATION	
<i>Chairs:</i> Dumitru Mitrica (IMNR,Romania), Viorel Chihaiia (INFLPR,Romania)	
15:05-15:35	FIRST PRINCIPLES INVESTIGATIONS ON MAGNESIUM-BASED MATERIALS OF INTEREST FOR HYDROGEN STORAGE Viorel Chihaiia, V. Alexiev D.A. Neacsu - INFDLPR, Romania
15:35-15:55	DENSITY FUNCTIONAL THEORY OF INTERFACES BETWEEN MAGNESIUM, ALPHA AND GAMMA POLYMORPHS OF MAGNESIUM HYDRIDE Viorel Chihaiia, V. Alexiev,D. A. Neacsu - INFLPR, Romania
15:55-16:15	FIRST-PRINCIPLES AND KINETIC MONTE CARLO INVESTIGATIONS OF HYDROGEN DIFFUSION IN WURTZITE-TYPE ZINC OXIDE NANOWIRES Viorel Chihaiia, D. A. Neacsu, A. Marcu - INFLPR, Romania
16:15-16:30	THE DIGITAL BIRTH OF INNOVATIVE MATERIALS Ciprian Neagoe - IMNR, Romania
16:30-16:45	METHODS FOR ELEMENT SELECTION OF COMPLEX CONCENTRATED ALLOYS FOR RESISTANCE TO MICROBIAL CORROSION Dumitru Mitrica, B. A. Serban, L. M. Cursaru, B. Postolnyi, A. Pogrebnjak , R. R. Piticescu - IMNR, Romania
16:45-17:40	YOUNG SCIENTISTS AWARD COMPETITION: BEST POSTERS AWARDS

- Note: EET (Eastern European Time)
- Note: Online access is available from 08.45. Participants are encouraged to log in as early as possible.