



**INTERNATIONAL CONFERENCE ON MATERIALS SCIENCE & ENGINEERING  
DECEMBER 8-9, 2020, GALATI, ROMANIA**

Tuesday, 8<sup>th</sup> of December 2020

**Preliminary Programme  
UgalMat 2020**

<b><i>On-line Microsoft Teams</i></b> <b>Conference Chair: Daniela Laura Buruiană</b>		
<b>Time</b>	<b>Event</b>	<b>Location</b>
10.00	<b>Conference Opening</b>	<b><i>On-line Microsoft Teams</i></b>
10.05	Lucian Puiu GEORGESCU - Rector, "Dunărea de Jos" University of Galați	
10.20	Ecaterina ANDRONESCU - Professor, Politehnica University of Bucharest	
10.35	Elena SCUTELNICU – Dean, Faculty of Engineering, "Dunărea de Jos" University of Galați	
10.50	Liviu BOGDAN – Head of Training Department, Liberty Galati	
11.15	Ionuț MOCANU - Executive General Director of Tehnopol Galati Association	
11.25	Florentina POTECAȘU - Professor, Faculty of Engineering, "Dunărea de Jos" University of Galați	
11.40	Gheorghe GURĂU - Professor, Faculty of Engineering, "Dunărea de Jos" University of Galați	



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## INVITED PLENARY LECTURES

<i>On-line Microsoft Teams</i> Conference Chair: Daniela Laura Buruiană			
Time	Authors	Title	Affiliation
12.00-12.40	Prof. dr. habil. ing. Alina Adriana MINEA	<b>IPL1. A new perspective on ionic liquid based fluids as candidates for new heat transfer fluids and their applications in solar energy systems</b>	"Gheorghe Asachi" Technical University of Iași, Romania
12.40-13.20	Prof. dr. ing. Iulian RIPOSAN	<b>IPL2. Thermal &amp; Expansion-Contraction Curves specific parameters: connection to the shrinkage sensitiveness of iron castings</b>	POLITEHNICA University of Bucharest
13.20-14.00	Prof. Dr. Leandru-Gheorghe BUJOREANU	<b>IPL3. Abnormal grain growth effects in FeMnAlNi alloys</b>	"Gheorghe Asachi" Technical University of Iași, Romania
14.00-14.40	Narcisa Cela PÎNZARIU	<b>IPL4. Current approaches in fixed ceramic prosthesis on a zirconium support</b>	The University of Sheffield
14.40-15.20	Prof. dr. habil. Kamel EARAR	<b>IPL5. Biomaterials for dental applications</b>	"Dunarea de Jos" University of Galati



Tuesday, 8<sup>th</sup> of December 2020

## SECTION 1

From theory to materials engineering and application

### ORAL PRESENTATION

<i>On-line Microsoft Teams</i>	
Conference Chair : Daniela Laura Buruiană, Herbei Elena Emanuela	
Time	Oral Presentation
15.20-15.35	<u>Florea Marian</u> , Rodica-Mariana Ion <b>OP1. Polysaccharide nanocapsules for drug delivery applications, current status and future perspectives</b>
15.35-15.50	Elena Emanuela Herbei <b>OP2. Hybrid nanostructured materials for dielectric electronics</b>
15.50-16.05	<u>Viorica Plescan Ghisman</u> , Nicoleta Simionescu, Gabriel-Bogdan Carp, Daniela Laura Buruiană <b>OP3. Experimental Studies On The Influence Of Slag On Surface Water</b>



Tuesday, 8<sup>th</sup> of December 2020

## SECTION 1

### From theory to materials engineering and application POSTER PRESENTATION SESSION

<b>On-line Microsoft Teams</b>		
<b>Conference Chair : Daniela Laura Buruiană, Herbei Elena Emanuela</b>		
<b>Time</b>	<b>Poster</b>	<b>Poster Presentation</b>
<b>16.10-16.15</b>	<b>P1.1</b>	<u>Achitei Dragos Cristian, Vizureanu Petrica, Baltatu Simona</u> <b>The analysis of heat treated Cu-Zn alloy</b>
<b>16.15-16.20</b>	<b>P1.2</b>	<u>Daniel LEPADATU, Loredana JUDELE, Ciprian ALECU, Vasile CAUNII</u> <b>Numerical and experimental studies for thermal conductivities determination of synthetic wood with recyclable waste</b>
<b>16.20-16.25</b>	<b>P1.3</b>	<u>Florentina Potecasu</u> <b>Obtaining nitinol with ultrafine structures</b>
<b>16.25-16.30</b>	<b>P1.4</b>	<u>Florentina Potecasu</u> <b>Mechanical characteristics in the cross section of thick sheets intended for the realization of metal structures from low alloy steel</b>

<b>16.30-16.35</b>	<b>P1.5</b>	<u>Florentina Potecasu</u> <b>Microstructure of the diffusion zone formed after the recrystallization treatment at the Cu/Al interface</b>
<b>16.35-16.40</b>	<b>P1.6</b>	<u>Florentina Potecasu</u> <b>Mechanical strength and creep resistance of some materials with lead base mass</b>
<b>16.40-16.45</b>	<b>P1.7</b>	<u>Loredana JUDELE, Daniel LEPADATU, Bogdan ISTRATE</u> <b>Scanning electron microscopy investigation of the synthetic wood with recyclable waste</b>
<b>16.45-16.50</b>	<b>P1.8</b>	<u>Carmela Gurau, Gheorghe Gurău, Petrică Alexandru, Felicia Țolea</u> <b>Severe plastic deformation of CoZr-based magnetic composites</b>
<b>16.50-16.55</b>	<b>P1.9</b>	<u>Elisabeta Vasilescu</u> <b>Considerations on the characteristics of steels used in the manufacture of flat products for the manufacture of welded pressure pipes</b>
<b>16.55-17.00</b>	<b>P1.10</b>	<u>Elisabeta Vasilescu, Vlad Gabriel Vasilescu</u> <b>Dental implant design and the role of biosurface topography in the biointegration process</b>
<b>17.00-17.05</b>	<b>P1.11</b>	<u>Gheorghe Gurau, Carmela Gurau, Vedamanikam Sampath, Felicia Tolea and Francisco Manuel Braz Fernandes</u> <b>Multilayered composites fabricated by HSHPT</b>
<b>17.05-17.10</b>	<b>P1.12</b>	<u>Gina Genoveva Istrate, Alina Crina Mureșan</u> <b>Corrosion behavior of materials AL5083, 316L and A681 in seawater</b>
<b>17.10-17.15</b>	<b>P1.13</b>	<u>Stefan Catalin PINTILIE, Geanina Laurentia PINTILIE</u> <b>Using a smartphone light sensor for studying light transmission during the fabrication of polymeric membranes</b>
<b>17.15-17.20</b>	<b>P1.14</b>	<u>Tudor Beatrice</u> <b>The applying software programs, for technological design, and simulation of the casting process, in optimizing the technology of making castings</b>
<b>17.20-17.25</b>	<b>P1.15</b>	<u>Basliu Vasile</u> <b>Research on a 3D finite element modeling of a longitudinally rolled aluminum alloy</b>
<b>17.25-17.30</b>	<b>P1.16</b>	<u>Basliu Vasile</u>

		<b>Research on 2D numerical simulation of the longitudinal rolling of some metal materials</b>
<b>17.30-17.35</b>	<b>P1.17</b>	<u>Rodica CHIHAI (PETU)</u> , Claudia Veronica UNGUREANU, Vasile BRIA, Adrian CÎRCIUMARU <b>Inorganic modified polymer mixtures. Mechanical properties</b>
<b>17.35-17.40</b>	<b>P1.18</b>	<u>Rodica CHIHAI (PETU)</u> , Gabriel Săracu, Claudia Veronica UNGUREANU, Vasile BRIA <b>Studies regarding the properties of tryptophan modified epoxy resins</b>
<b>17.40-17.45</b>	<b>P1.19</b>	<u>Marin Florin Bogdan</u> <b>GPS-denied geo-localisation using visual odometry for drone navigation</b>
<b>17.45-17.50</b>	<b>P1.20</b>	<u>Marin Florin Bogdan</u> , Marin Mihaela, Gurau Gheorghe, Gurau Carmela <b>Drone identification using computer vision based on deep learning algorithm</b>
<b>17.50-17.55</b>	<b>P1.21</b>	<u>Mihaela Marin</u> , Marin Florin Bogdan <b>Ants identification using convolutional neural networks</b>
<b>17.55-18.00</b>	<b>P1.22</b>	<u>Ionel Petrea</u> , Marian Neacsu <b>Research on the rolling of microalloy steel strips</b>



Wednesday, 9<sup>th</sup> of December 2020

## SECTION 2

### Advanced Materials and Innovative Technologies

#### ORAL PRESENTATION

<b>On-line Microsoft Teams</b>	
<b>Conference Chair : Daniela Laura Buruiană, Herbei Elena Emanuela</b>	
<b>Time</b>	<b>Oral Presentation</b>
10.00-10.15	<u>Tatyana Mechkarova, Yaroslav Argirov, Daniela Spasova, Aneliya Stoyanova</u> <b>OP1. Structural changes of nitrogen-ferrite after aging in temperature interval up to 100 ° C</b>
10.20-10.35	<u>Ancuta Dinu, Constantin Apetrei</u> <b>OP2. Sensitive properties of screen printed carbon electrode modified with polypyrrole and various doping agents for the voltammetric detection of different amino acids</b>
10.40-10.55	<u>Ana - Alexandra Sorescu, Alexandrina Nuta, Ioana - Raluca Suica - Bunghez</u> <b>OP3. Temperature – dependent eco – friendly synthesis of gold nanoparticles from <i>sambucus nigra</i></b>
11.00-11.15	<u>Gy. Thalmaier, I. Vida-Simiti N.A. Sechel, A. Moisescu D. Gherghel</u> <b>OP4. Low density nickel bases superalloy foams</b>
11.20-11.35	<u>Alina Crina Muresan, Anisoara Petruta Decianu Cozman</u> <b>OP5. Biomaterials Used for Dental Bone Augmentation</b>
11.40-11.55	<u>Balasan Daniela – Lavinia, Buhociu Florin – Marian</u> <b>OP6. Analysis of Development, Research and Innovation in the Rural Space of the South East Region</b>



Wednesday, 9<sup>th</sup> of December 2020

**POSTER PRESENTATION SESSION  
SECTION 2**

**Advanced Materials and Innovative Technologies**

<b>On-line Microsoft Teams</b>		
<b>Conference Chair: Daniela Laura Buruiană, Herbei Elena Emanuela</b>		
<b>Time</b>	<b>Poster</b>	<b>Poster Presentation</b>
<b>12.00-12.05</b>	<b>P2.1</b>	<u>Ioana- Raluca Suica-Bunghez, Cristina Covaliu, Ana-Alexandra Sorescu, Rodica-Mariana Ion</u> <b>Green synthesis of metallic nanoparticles, phytochemical compounds and antioxidant activity using two types of algae plants</b>
<b>12.05-12.10</b>	<b>P2.2</b>	<u>Iulian Paduraru, Vasile Bria, Adrian Cîrciumaru</u> <b>Manufacturing technology of some impact resistant materials</b>
<b>12.10-12.15</b>	<b>P2.3</b>	<u>Liviu Olteanu, Rodica Mariana Ion, Sofia Teodorescu, Ioana Daniela Dulama, Raluca Maria Stirbescu, Nicolae Mihail Stirbescu</u> <b>Spectral and microscopic characterization of macro-heterocyclic compound RhTMPyP / ZnTSPc</b>
<b>12.15-12.20</b>	<b>P2.4</b>	<u>Madalina Elena David Ramona Marina Grigorescu, Lorena Iancu, Elena Ramona Andrei, Rodica-Mariana Ion</u> <b>Poly(3-HydroxyButyrate-co-3-HydroxyValerate) based Inorganic Consolidate for Firwood Preservation</b>
<b>12.20-12.25</b>	<b>P2.5</b>	<u>Marian Iulian Neacsu</u>



		<b>Mathematical modeling in view of property prediction of DD11 steel laminated in LBC Liberty Galati</b>
<b>12.25-12.30</b>	<b>P2.6</b>	<u>Marian Iulian Neacsu</u> <b>Development of the graphic interface for prediction of mechanical properties, based on the mathematical model, for cold laminated steel strips brand DC01</b>
<b>12.30-12.35</b>	<b>P2.7</b>	<u>Marian Iulian Neacsu</u> <b>Optimization of the heat treatment process applied to the ALZn4,5Mg alloy using the mathematical model and the energy consumed</b>
<b>12.35-12.40</b>	<b>P2.8</b>	<u>Vlad Gabriel Vasilescu</u> , Elisabeta Vasilescu <b>Research of the M-C interface by SEM Analysis of prosthetic restorations with metal substructure from different experimental titanium bioalloys.</b>
<b>12.40-12.45</b>	<b>P2.9</b>	<u>Vlad Gabriel Vasilescu</u> , Elisabeta Vasilescu <b>Considerations on the properties of titanium bioalloys used in implantology in relation to the characteristics of hard tissue to ensure bone biointegration.</b>
<b>12.45-12.50</b>	<b>P2.10</b>	<u>Herbei Elena Emanuela</u> <b>Sensors based on nanoparticles oxide for dopamine detection</b>
<b>12.50-12.55</b>	<b>P2.11</b>	<u>Violeta Dediu</u> , Cosmin Romanitan, Gabriel Craciun, Florentina Bucur, Leontina Grigore-Gurgu, Ileana Cernica, Daniela Laura Buriana, Mariana Busila <b>Antibacterial activity of gold nanoparticles decorated zinc oxide nanorods</b>
<b>12.55-13.00</b>	<b>P2.12</b>	<u>Laurentia Geanina Pintilie</u> , Stefan Catalin Pintilie, Stefan Balta <b>The influence of the coagulation bath temperature on the polymeric membranes properties</b>
<b>13.00-13.05</b>	<b>P2.13</b>	<u>Marin Laurentiu</u> <b>SEM Microscopy for identification of spatial formations fullerenes type, made up of carbon atoms, obtained by applying discharges pulsed electric process – EDI - over metallic surfaces, with graphite cathode</b>
<b>13.05-13.10</b>	<b>P2.14</b>	<u>Marin Laurentiu</u> <b>Increasing the thermal stability of a polyether polyol by nanomodifying it with bentonite type laminated aluminosilicate</b>

<b>13.10-13.15</b>	<b>P2.15</b>	<u>Cazacu Nelu</u> <b>Behavior of an experimental model of s-rotor turbine with two pairs of aerodynamically coupled cups in tests in the wind tunnel</b>
<b>13.15-13.20</b>	<b>P2.16</b>	<u>Cazacu Nelu</u> <b>Characterization of transition zones to the operation of adjacent fluidized beds</b>
<b>13.20-13.25</b>	<b>P2.17</b>	<u>Cazacu Nelu</u> <b>Correlation of fluidized layer operation with surface dynamics tracked with a sonar system</b>
<b>13.25-13.30</b>	<b>P2.18</b>	<u>Cazacu Nelu</u> <b>The influence of the number of cup pairs semispheric on the behavior of a wind wind with vertical axis S-rotor</b>
<b>13.30-13.35</b>	<b>P2.19</b>	<u>Stavăr Vasilica Paraschiva, Herbei Elena Emanuela</u> <b>History and importance of aerogels over time</b>
<b>13.35-13.40</b>	<b>P2.20</b>	<u>Ionel Petrea</u> <b>Analysis of the own vibration frequencies of the metallic constructions</b>
<b>13.40-13.45</b>	<b>P2.21</b>	<u>Liliana Andone, Andrada Gabriela Alexandru, Marius Bodor</u> <b>Research regarding the partial replacement of aggregates in concrete with a by-product of steel industry</b>
<b>13.45-13.50</b>	<b>P2.22</b>	<u>Alina – Diana Genes</u> <b>Obtaining Biogas</b>
<b>13.50-13.55</b>	<b>P2.23</b>	<u>Georgiana Ghisman, Viorica Ghisman, Gabriel-Bogdan Carp, Mariana Bușilă</u> <b>Magnetic hydroxyapatite nanoparticles in fire resistance and antimicrobial applications: a review</b>
<b>13.55-14.00</b>	<b>P2.24</b>	<u>Giulia Nechita</u> <b>State of the art composites</b>
<b>14.00-14.05</b>	<b>P2.25</b>	<u>Adam Andreea Daniela</u> <b>Titanium And Titanium Alloys In Dental Implantology</b>



**Award Ceremony-Potecașu Florentina, Bușilă Mariana**

**14.05-14.20**





## SPECIAL THANKS TO OUR PARTNERS



**organized by**

**Department of Materials and Environmental Engineering, Faculty of Engineering,  
“Dunarea de Jos” University of Galati, Romania**