



UNIVERSITY OF CRAIOVA

Faculty of Mechanics  
Department of Engineering and Management  
of Technological Systems

5<sup>th</sup> International Conference

**ADVANCES**  
IN  
**ENGINEERING & MANAGEMENT**



**ADEM 2018**  
**Conference Program**



November 1<sup>st</sup> – 2<sup>nd</sup>, 2018  
Drobeta-Turnu Severin  
ROMANIA



**ADVANCES  
IN  
ENGINEERING & MANAGEMENT**

**ADEM 2018**

Organised by:

**UNIVERSITY of CRAIOVA  
Faculty of Mechanics  
Department of Engineering and Management of Technological Systems  
and PRONANOMAT ASSOCIATION**

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Markus Helfert	School of Computing, Dublin City University

## Program of ADEM 2018

<b>November 01<sup>st</sup>, 2018</b>	
09 <sup>00</sup> – 10 <sup>00</sup>	Registration - Registration Desk, Teodor Costescu Cultural Palace
10 <sup>00</sup> – 10 <sup>30</sup>	Opening Ceremony - Teodor Costescu Cultural Palace, Virgil Ogășanu Hall
10 <sup>30</sup> – 11 <sup>30</sup>	Plenary Lectures - Teodor Costescu Cultural Palace, Virgil Ogășanu Hall
11 <sup>30</sup> – 12 <sup>00</sup>	Coffee break
12 <sup>00</sup> – 13 <sup>00</sup>	Plenary Lectures - Teodor Costescu Cultural Palace, Virgil Ogășanu Hall
13 <sup>30</sup> – 14 <sup>30</sup>	Lunch – <i>Dunărea</i> Restaurant
15 <sup>00</sup> – 16 <sup>30</sup>	Oral & Poster Presentations (I)
16 <sup>30</sup> – 17 <sup>00</sup>	Coffee Break
17 <sup>00</sup> – 18 <sup>00</sup>	Oral & Poster Presentations (II)
19 <sup>00</sup> – 23 <sup>00</sup>	Gala Dinner – <i>Continental Hotel Restaurant</i> , Drobeta-Turnu Severin
<b>November 2<sup>nd</sup>, 2018</b>	
10 <sup>00</sup> – 11 <sup>00</sup>	Round table with the participation of the spaceman – Dumitru Dorin Prunariu Governance of cosmic activities- <i>Continental Hotel</i>
11 <sup>00</sup> - 12 <sup>00</sup>	Departure to the Orșova city
12 <sup>00</sup> – 15 <sup>00</sup>	Cruise on the Danube

## ADEM 2018 – November 1<sup>st</sup>, 2018

### Opening Ceremony – *Teodor Costescu* Cultural Palace

10<sup>00</sup> – 10<sup>30</sup>

*Virgil Ogășanu* Hall

Dorel Berceanu, University of Craiova Staff
Nicolae Dumitru, Dean of the Faculty of Mechanics
Mihai Demian, Vice-Dean of the Faculty of Mechanics
Ștefan Radu, Head of the IMST Department
Mangra Mihail, University of Craiova
Tudor Rățoi, National Archives
Marius Screciu, Mayor of City Hall Drobeta-Turnu Severin
Aladin Georgescu, President of Mehedinți County Council

### Plenary Lectures - *Teodor Costescu* Cultural Palace

10<sup>30</sup> – 11<sup>30</sup>

*Virgil Ogășanu* Hall

10 <sup>30</sup> – 11 <sup>00</sup>	PERSPECTIVES OF POWDER METALLURGY IN THE 2020s	Herbert DANNINGER Technological University of Vienna, AUSTRIA
11 <sup>00</sup> – 11 <sup>30</sup>	STRUCTURAL AND MAGNETIC PROPERTIES OF IRON BASED NANOPARTICLES SYNTHESIZED BY LASER PYROLYSIS	Ion Morjan National Institute for Laser, Plasma & Radiation Physics, Romania

Coffee Break 11<sup>30</sup> – 12<sup>00</sup>

12 <sup>00</sup> – 12 <sup>20</sup>	CARBON NANOTUBES GROWN BY LCVD ON PRE-DEPOSITED CATALYTIC SUBSTRATES	Iuliana Morjan National Institute for Laser, Plasma & Radiation Physics, Romania
12 <sup>20</sup> – 12 <sup>40</sup>	RESEARCH-DEVELOPMENT INNOVATION POLE OF THE ROMANIAN SOUTH-WEST REGION	Oana Gîngu University of Craiova, Romania
12 <sup>40</sup> – 13 <sup>00</sup>	CHARACTERIZATION OF LFG EMISSIONS FACTORS FOR MSW LANDFILLS	Gheorghe VOICU University Politehnica of Bucharest, Romania

## Oral & Poster Presentations

15<sup>00</sup> – 18<sup>00</sup>



### ADVANCED MATERIALS AND PROCESSING TECHNOLOGIES

Chairman: Oana Gîngu, University of Craiova

Co-chairman: Iulian ȘTEFAN, University of Craiova

Oral Presentations: Room B11 - IMST

15 <sup>00</sup> – 15 <sup>15</sup>	The importance of nitrogen in heat treating of ferrous and non ferrous metals and alloys	M. DOBRESCU, M. VASILESCU
15 <sup>15</sup> – 15 <sup>30</sup>	Iron oxide structure changes by annealing and milling of the quartz sand	F. POPA, A. COTAL, T. F. MARINCA, I. CHICINAȘ
15 <sup>30</sup> – 15 <sup>45</sup>	3D printed dental implant models – evaluation of the material structures and technological capabilities	O. GINGU, M. FIAKAIFONU, L. M. CIUREZU, C. NICOLICESCU
15 <sup>45</sup> – 16 <sup>00</sup>	On the surface roughness for superfinishing process of carbide inserts	N. CRACIUNOIU, D. TARATA, C. MIRITOIU, E. N. PATRU, D. PANDURU
16 <sup>00</sup> – 16 <sup>15</sup>	Influence of cutting parameters on the temperature in turning process of titanium	D. PANDURU, E. N. PATRU, M. BICA, N. CRACIUNOIU
16 <sup>15</sup> – 16 <sup>30</sup>	Influence of cutting parameters on the temperature in milling process of aluminum alloys	E. N. PATRU, M. BICA, D. PANDURU, N. CRACIUNOIU
16 <sup>30</sup> – 17 <sup>00</sup>	COFFEE BREAK	

P01	The influence of build orientation on the mechanical properties of 3D-printed parts	M. A. POP, T. PENG, A. NITOI, T. BEDO, S. I. MUNTEANU, I.GHIUTA, D. MUNTEANU
P02	Roughness measurements using optical coherence tomography (OCT)	Gh. HUTIU, A. DIMB, V.F. DUMA, D. DEMIAN, A. BRADU, A. PODOLEANU
P03	Using electron beam to the surface heat treatment of the carbon steels	A. ZARA, M. STOICANESCU, I. GIACOMELLI
P04	Corrosion behaviour of sintered titanium in SBF – In vitro preliminary studies	C. R. ROMAN, L. A. SORCOI, M. A. MOLDOVAN, M. SUCIU
P05	Study regarding the properties of a knife from a grinding mill obtained from metallic powders	M. DEMIAN, C. NICOLICESCU, G. DEMIAN, Șt. RADU
P06	The influence of the feedstock quality on the physical properties of the biocomposite green parts processed by the medium pressure injection moulding technology	G. SIMA, B. DAIGUEBONNE, L. M. CIUREZU, I. BUCSE, M. SCHWARZ, T. HAJSZ
P07	Preparation and identification of barium monoferrite by solid state reaction method	I. STEFAN
P08	Wear behavior of Fe-Cr-C sintered steels	C. NICOLICESCU, V.-H. NICOARĂ, I. N. POPESCU
P09	The effect of “GCS” on some mechanical properties of sintered steels	M.C. CRIVEANU, C. NICOLICESCU, M.C. MANGRA, M. ACTIS- GRANDE, M. ROSSO
P10	Studies regarding machining process behaviour with removable plates made of recovered HSS powders	Șt. RADU, Gabriela DEMIAN, Mihai DEMIAN



## MODELING AND SIMULATION

Chairman: Luminița GRECU, University of Craiova, ROMANIA

Co-chairman: Mariana CIOBANU, University of Craiova, ROMANIA

Oral Presentations: Room B13 - IMST

15 <sup>00</sup> – 15 <sup>15</sup>	Study of dynamic behavior of arresting mechanism used on aircraft carrier	M. COTRUMBĂ, A. PINTILIE, B.RĂDOIU
15 <sup>15</sup> – 15 <sup>30</sup>	Study on shape of dental implants	S-M. CROITORU, M. INȚĂ
15 <sup>30</sup> – 15 <sup>45</sup>	Virtual implantology system used for long bones simulation studies	I-L. PETROVICI, M-C. TENOVICI, R-C. VADUVA, D-N. TARNITA, D-L. POPA
15 <sup>45</sup> – 16 <sup>00</sup>	Three-dimensional virtual model used to analyze a normal and prosthetic human joint	M-C. TENOVICI, I-L. PETROVICI, R-C. VADUVA, D-N. TARNITA, D-L.POPA
16 <sup>00</sup> – 16 <sup>15</sup>	A three dimensional virtual system used to analyze the normal and prosthetic joint of the hip	R-C. VADUVA I-L. PETROVICI, M-C. TENOVICI, D-N. TARNITA, D-L.POPA

16 <sup>15</sup> – 16 <sup>30</sup>	Experimental researches and finite element analysis of stress distribution and deformations of Al based powders during compaction	I. N. POPESCU, A. D. NEGREA, M.N. ARDELEANU, C. NICOLICESCU, C. O. RUSANESCU
16 <sup>30</sup> -17 <sup>00</sup>	COFFEE BREAK	
17 <sup>00</sup> – 17 <sup>15</sup>	Multiple Attribute Decision Making Methods for modeling global air pollution level	L. GRECU
17 <sup>15</sup> – 17 <sup>30</sup>	Using the reliability logic schemes to preview the vehicles systems reliability based on the reliability models of the components	O. ALSSADI, M. ISTRATE, M. BÂLDEA, A. BOROIU
17 <sup>30</sup> – 17 <sup>45</sup>	The modeling of the equipment reliability using the fuzzy logic, based on the functional performances	O. ALSSADI, M. BÂLDEA, M. ISTRATE, N. POPA

Poster Presentations: IMST HALL

P11	Quantitative modeling and optimizing decisions in portfolio management	D.SIMION, D. BERCEANU
P12	Experimental study, modeling and virtual simulations of car part realized from composite materials	A. BOLCU, N. DUMITRU, M. M. STANESCU, D. BOLCU
P13	Researches and finite element simulation of radial loading deformations applied to steel ball bearings	A. D. NEGREA, I. N. POPESCU, M.N. ARDELEANU, C. NICOLICESCU, C. O. RUSANESCU
P14	Simulations using finite element method made on a personalized dental system	M. VATU, D.VINTILA, D-L. POPA, R. MERCUT, S. M. POPESCU
P15	On the dynamic problems of locomotion for a jumping robot	M. FLORESCU
P16	Dynamic systems. Applications in technical	D. BĂLĂ



## ENVIRONMENTAL ENGINEERING

Poster Presentations: IMST HALL

P17	The Potential of the Mehedinți County to Transform Waste into Resources	Cristian Ghermec, Olimpia Ghermec
P18	Research on the Rational Use of Water in Mehedini County	Olimpia Ghermec, Cristian Ghermec, Ionela Gabriela Bucșe
P19	Climate change impact on water resources in Mehedinți county. Case study	Ionela Gabriela Bucse, Olimpia Ghermec, Mariana Ciobanu
P20	Ecotreatment for hemp/cotton materials to reduce wastewater pollution	Mihaela Dochia, Simona Gavrilaş
P21	Study on the actual energy potential of renewable sources of energy in Romania	Mariana Ciobanu, Ionela Gabriela Bucse, Stefan Radu



## NAVIGATION AND MARITIME AND INLAND TRANSPORT SYSTEMS

**Chairman: Gabriel-Constantin BENGA, University of Craiova, ROMANIA**

**Co-chairman: Adrian OLEI, University of Craiova, ROMANIA**

**Oral Presentations: Room B8 - IMST**

15 <sup>00</sup> – 15 <sup>15</sup>	<b>Assessment of trends in inland waterway transport within European union</b>	<b>G.C. BENGA, I.D. SAVU, S.V. SAVU, B.A. OLEI, R.I. IACOBICI</b>
15 <sup>15</sup> – 15 <sup>30</sup>	<b>Warehousing in Romania</b>	<b>I.D. SAVU, B.A. OLEI, S.V. SAVU, G.C. BENGA, R.I. IACOBICI</b>
15 <sup>30</sup> – 15 <sup>45</sup>	<b>Emission control technologies and certification test methods for inland vessel engines</b>	<b>S.V. SAVU, I.D. SAVU, G.C. BENGA, B.A. OLEI, R.I. IACOBICI</b>
15 <sup>45</sup> – 16 <sup>00</sup>	<b>The technique of using RIS corridor data for the logistic integration of inland waterway transport</b>	<b>M.G. GHIBA, B.A. OLEI</b>
16 <sup>00</sup> – 16 <sup>15</sup>	<b>The Romanian freight transportation market</b>	<b>B.A. OLEI</b>
16 <sup>15</sup> – 16 <sup>30</sup>	<b>Logistic and transportation challenges in education</b>	<b>B.A. OLEI, R.I. IACOBICI</b>
16 <sup>30</sup> – 17 <sup>00</sup>	<b>COFFEE BREAK</b>	

**Poster Presentations: IMST HALL**

P22	<b>The impact of human behavior on cyber security of the maritime systems</b>	<b>R. HANZU-PAZARA, G. RAICU, R. ZĂGAN</b>
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## MANAGEMENT AND INDUSTRIAL ENGINEERING

**Chairman: Mihai DEMIAN, University of Craiova, ROMANIA**

**Co-chairman: Ionela-Gabriela BUCȘE, University of Craiova, ROMANIA**

**Oral Presentations: Room B6 - IMST**

15 <sup>00</sup> – 15 <sup>15</sup>	<b>Evaluation of own pulses in the event of free vibrations of a multiparker type parking machine lifting machine</b>	<b>C. E. RADU, E. RĂȘCHITOR</b>
15 <sup>15</sup> – 15 <sup>30</sup>	<b>The risk concept and the impact on the organizational performance of maritime shiprepairs shipyards</b>	<b>E. MANEA, M.-G. MANEA</b>
15 <sup>30</sup> – 15 <sup>45</sup>	<b>The influence of the deadweight in the projection of the duration of the maritime ships mentenancy works</b>	<b>E. MANEA, M.-G. MANEA</b>
15 <sup>45</sup> – 16 <sup>00</sup>	<b>A framework for managing the relation between an organization and its employees</b>	<b>T. V. POPESCU, L. DUBOVAN, S. DUBOVAN</b>
16 <sup>00</sup> – 16 <sup>15</sup>	<b>A study regarding human perception of a company through social media</b>	<b>M. A.-M. POPESCU, O. D. NEGOIȚĂ, A. A. PURCĂREA, M. HELFERT</b>



16 <sup>15</sup> – 16 <sup>30</sup>	Analysis of different change types of change in the management process of an organization	P. C. SIMION, M. A.-M. POPESCU, O. M. C. BUCOVETCHI
16 <sup>30</sup> – 16 <sup>45</sup>	Robotic system for determination of the carbohydrates content in fruits and vegetables	A.-E. MICU, I. TEMPEA, G. AȚÎR, M. NEACȘA

Poster Presentations: IMST HALL

P23	Use of financial and non-financial information in communication of economic entities	C. D. AVRAM, M. AVRAM
P24	Novel biopsy needle design with custom-made force sensor for interventional MRI procedures	D. UZUNA, O. ULGENA, O. KOCATURKA
P25	Management criteria and principles, applicable in education and scientific research	D. TUFEANU, A. SEMENESCU A. IOANA
P26	Statistical-mathematical methods used in analysis of trade in industrial products	T. VASILE, C. I. DĂNIAȘĂ, L. POPESCU, A. IANCU, V. D. POPESCU
P27	Study on the increasing the energy efficiency of artificial lighting systems	G. DEMIAN, M. DEMIAN, C. FILIP
P28	Managerial approach to the main risks associated with the use of catalytic cracking plants	M. ALBU
P29	Study of measurement system analysis for destructive testing	A. A. DRAGOMIR, C. D. MOTTAICEK

**19<sup>00</sup>-23<sup>00</sup> Gala Dinner**  
**Continental Hotel Restaurant, Drobeta-Turnu Severin**



**ADEM 2018 – November 2<sup>nd</sup>, 2018**

**Round table - Dumitru Dorin Prunariu - Governance of cosmic activities**  
**Closing Ceremony**

**10<sup>00</sup> – 11<sup>00</sup>**

*Hotel Continental Room*

**Cruise on the Danube**

**12<sup>00</sup> – 15<sup>00</sup>**