

# ModTech 2018

**The 6<sup>th</sup> International Conference on**  
*Modern Manufacturing Technologies in Industrial Engineering*

## **Book of Abstracts**

**June 13-16, 2018**  
**Constanta, Romania**

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ModTech 2018®

**ModTech Publishing House**

Bldv. Carol I, No. 28A, Bl. E4, Sc. B, Et.1, Ap. 6, 700504 Iasi, Romania  
<http://www.modtech.ro>  
E-mail: [office.modtech@gmail.com](mailto:office.modtech@gmail.com)

**Director:** Professor Octavian Pruteanu, Ph.D., DHC

**Redactor:** Associate Professor Constantin Carausu, Ph.D.

**Scientific Referees:**

Professor Octavian Pruteanu, Ph.D., DHC  
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**ISSN 2286-4369**

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## Content

Conference Committes.....	4
Sponsors.....	9
Program Over View .....	10
Program Sections.....	13
Abstracts – Plenary Session.....	20
Abstracts – Section A .....	31
Abstracts – Section B .....	113
Abstracts – Section C .....	129
Abstracts – Section D .....	191
Abstracts – Section E .....	202
Abstracts – Section F .....	249
Abstracts – Section G .....	257
Author Index .....	287

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Contact person: Lecturer Ciprian Ciofu, Ph.D.

Tel: 0040.0232.278683/2398; Fax: 0040.0232.211667; Email: ciprian.ciofu@gmail.com; <http://www.tuiasi.ro>

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Contact Person: Lecturer Natalia Pinzaru

Tel-Fax: +373.231.52 439; Email: pinzaru.natalia@yahoo.com

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Contact Person: Marek Placzek, Ph.D. Eng.

Tel.: 0048.32.237.24.37; Fax.: 0048.32.237.16.24; Email: marek.placzek@polsl.pl

Web page: <http://www.polsl.pl>

#### **"Vasile Alexandri" University of Bacau, Romania:**

Contact Person: Lecturer Eugen Herghelegiu

Tel-Fax: +40.269.21 72 78; Email: Eugen.herghelegiu@ub.ro

Web page: <http://www.ub.ro>

#### **"Dunarea de Jos" University of Galati, Romania:**

Contact Person: Professor Viorel Paunoiu

Email: viorel.paunoiu@ugal.ro

#### **"Stefan cel Mare" University of Suceava, Romania:**

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7 <sup>00</sup>	15'		BREAKFAST Complex Bulevard Hotel Restaurant	BREAKFAST Complex Bulevard Hotel Restaurant	BREAKFAST Complex Bulevard Hotel Restaurant						
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8 <sup>00</sup>	15'			OPENING CEREMONY.WELCOME ADDRESSES. <i>Caragiale Room, Complex Bulevard Hotel</i>		Sections: A <i>Caragiale Room, Complex Bulevard Hotel</i> Sections: B:C <i>Piano Room, Complex Bulevard Hotel</i> Sections: D, E <i>Terasa Room, Complex Bulevard Hotel</i> Sections: F, G <i>Agentia Room, Complex Bulevard Hotel</i>					
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9 <sup>00</sup>	15'				<b>PLENARY SESSION</b> <i>Caragiale Room, Complex Bulevard Hotel</i>  <b>Chairman</b> <b>Prof. Remus Zagan</b> Constanta Maritime University, Romania  <b>Prof. Makio Naito</b> Osaka University, Joining and Welding Research Institute, Osaka, Japan SMART POWDER PROCESSING FOR ADVANCED FUNCTIONAL MATERIALS  <b>Prof. Hong Seok Park</b> University of Ulsan, South Korea NUMERICAL INVESTIGATION AND AN EFFECTIVE PREDICTING SYSTEM ON THE SELECTIVE LASER MELTING (SLM) PROCESS WITH Ti6Al4V ALLOY  <b>Prof. Alina Minea</b> "Gheorghe Asachi" Technical University of Iasi, Romania NEW NANOPARTICLE ENHANCED HEAT TRANSFER FLUIDS AND THEIR USE IN VARIOUS ENGINEERING AREAS  <b>Prof. Alin Dănișor</b> Maritime Constanta University, Romania ESTIMATION OF TERRAIN'S LINEAR DEFORMATION RATES USING SYNTHETIC APERTURE RADAR SYSTEMS	<b>PLENARY SESSION</b> <i>Caragiale Room, Complex Bulevard Hotel</i>  <b>Chairman</b> <b>Prof. Gabriel Frumușanu</b> "Dunărea de Jos" University, Galati, Romania  <b>Anete Ashton</b> IOP Publishing, Bristol, United Kingdom IS THERE VALUE IN PUBLISHING A PROCEEDING?  <b>Prof. Rainer Gadov</b> University of Stuttgart, Germany PROCESS TECHNOLOGY AND APPLICATIONS OF BASALT FIBER REINFORCED SILOXANE BASED COMPOSITES: FROM POLYMER PROCESS TECHNOLOGIES TO CERAMIC-LIKE COMPOSITE  <b>Prof. Marcel Van de Voorde</b> Delft University of Technology, Netherlands NANOTECHNOLOGY FOR MECHANICAL ENGINEERING	<b>PLENARY SESSION</b> <i>Caragiale Room, Complex Bulevard Hotel</i>  <b>Chairman</b> <b>Prof. Milko Angelov</b> Nanotech Group Ltd, Plovdiv, Bulgaria	Oral Presentation Abstract ID: A-52÷A-77; (A52, A54, A58, A62, A69, A74) (10'/paper) Oral Presentation Abstract ID: B-9÷B-13; C-30÷C-55 (B9, B10, B13, C31, C39, C40, C43, C44, C47, C53, C55) (10'/paper) Oral Presentation Abstract ID: D-6÷D-8; E-32÷E-47 (D6, E34) (10'/paper) Oral Presentation Abstract ID: F-5÷F-7; G-20÷G-29 (F5, G25, G26) (10'/paper)  Poster Presentation A57, A58, A59, A61, A66, A73 Poster Presentation B11, C30, C32, C48, C51, C52, C54  COFFEE BREAK  Sections: A <i>Caragiale Room, Complex Bulevard Hotel</i> Sections: B:C <i>Piano Room, Complex Bulevard Hotel</i> Sections: D, E <i>Terasa Room, Complex Bulevard Hotel</i> Sections: F, G <i>Agentia Room, Complex Bulevard Hotel</i>  Oral Presentation Abstract ID: A-78÷A-96; (A81, A82, A93, A96) Oral Presentation Abstract ID: B-14÷B-16; C-56÷C-73 (B15, B16, C56, C59, C61, C69) Oral Presentation Abstract ID: D-9÷D-10; E-48÷E-55 (D9) (10'/paper)  Poster Presentation A78, A79, A80, A85 Poster Presentation C62, C64, C69, C72  CLOSING CEREMONY /PAPERS AWARDS <i>Caragiale Room, Complex Bulevard Hotel</i>			
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REGISTRATION	15'					<b>PLENARY SESSION</b> <i>Caragiale Room, Complex Bulevard Hotel</i>  <b>Chairman</b> <b>Prof. Milko Angelov</b> Nanotech Group Ltd, Plovdiv, Bulgaria	Viișoara trip	Oral Presentation Abstract ID: A-78÷A-96; (A81, A82, A93, A96) Oral Presentation Abstract ID: B-14÷B-16; C-56÷C-73 (B15, B16, C56, C59, C61, C69) Oral Presentation Abstract ID: D-9÷D-10; E-48÷E-55 (D9) (10'/paper)  Poster Presentation A78, A79, A80, A85 Poster Presentation C62, C64, C69, C72  CLOSING CEREMONY /PAPERS AWARDS <i>Caragiale Room, Complex Bulevard Hotel</i>			
	30'										
	45'										
	60'										

13 <sup>00</sup>	15 <sup>00</sup>		<p><b>Prof. Jun Ni</b>                  Shien-Ming Wu Collegiate Professor of Manufacturing Science,                  College of Engineering, The University of Michigan, USA                  Honorary Dean of UM-SJTU Joint Institute                  Shanghai Jiao Tong University, China                  INTELLIGENT MAINTENANCE SOLUTIONS FOR SMART                  MANUFACTURING</p> <p><b>Prof. Marcin Adamiak</b>                  Silesian University of Technology, Gliwice, Poland                  FORMING OF STRUCTURE AND PROPERTIES OF AL BASED                  COMPOSITE MATERIALS REINFORCED WITH TiAl AND Ti3Al                  INTERMETALLICS</p> <p><b>Prof. Demofilo Maldonado Cortes</b>                  University of Monterrey, Mexico                  DEVELOPMENT OF LASER SURFACE TEXTURING FOR                  TRIBOLOGICAL APPLICATIONS</p>				<p>GENERAL MEETING                  MODTECH PROFESSIONAL ASSOCIATION  <i>Caragiale Room, Complex Bulevard Hotel</i></p>
			LUNCH Complex Bulevard Hotel Restaurant				
14 <sup>00</sup>	15 <sup>00</sup>						
15 <sup>00</sup>	16 <sup>00</sup>	Constanta Maritime University: visit of two laboratories	Sections: A <i>Caragiale Room, Complex Bulevard Hotel</i>	Sections: B;C <i>Piano Room, Complex Bulevard Hotel</i>	Sections: D, E <i>Terasa Room, Complex Bulevard Hotel</i>	Sections: F, G <i>Agentia Room, Complex Bulevard Hotel</i>	
			<i>Oral Presentation</i> Abstract ID: A-1÷A-26 (A1, A2, A3, A10, A11, A17, A18, A19) (10 <sup>0</sup> /paper)	<i>Oral Presentation</i> Abstract ID: B-1÷B-4; C-1÷C-14 (B1, B3, B4, C1, C3, C5, C7, C9, C10, C13) (10 <sup>0</sup> /paper)	<i>Oral Presentation</i> Abstract ID: D-1÷D-3; E-1÷E-15 (D1, D3, E1, E7, E10) (10 <sup>0</sup> /paper)	<i>Oral Presentation</i> Abstract ID: F-1÷F-2; G-1÷G-9 (F1, G1, G3) (10 <sup>0</sup> /paper)	
			<i>Poster Presentation</i> A12, A13, A14, A20, A22, A24, A25, A26	<i>Poster Presentation</i> B2, C2	<i>Poster Presentation</i> D6, E2, E3, E9	<i>Poster Presentation</i> G4, G6÷G9	
			COFFEE BREAK				
17 <sup>00</sup>	30 <sup>00</sup>		Sections: A	Sections: B;C	Sections: D, E	Sections: F, G	



18 <sup>00</sup>	15 <sup>00</sup>		<i>Caragiale Room, Complex Bulevard Hotel</i>	<i>Piano Room, Complex Bulevard Hotel</i>	<i>Terasa Room, Complex Bulevard Hotel</i>	<i>Agentia Room, Complex Bulevard Hotel</i>	
	30 <sup>00</sup>						
	45 <sup>00</sup>						
	60 <sup>00</sup>						
	75 <sup>00</sup>						
19 <sup>00</sup>	15 <sup>00</sup>		<i>Oral Presentation Abstract ID: A-27÷A-51 (A27, A31, A35, A38, A39, A41, A42, A43, A44, A48, A51) (10<sup>00</sup>/paper)</i>	<i>Oral Presentation Abstract ID: B-5÷B-9; C-15÷C-29 (B5÷B8, C15, C17÷C20, C23÷C27) (10<sup>00</sup>/paper)</i>	<i>Oral Presentation Abstract ID: D-4÷D-5; E-16÷E-31 (E20, E21, E23, E26, E31) (10<sup>00</sup>/paper)</i>	<i>Oral Presentation Abstract ID: F-3÷F-4 (G-10÷G-19 F3, F4, G10, G11, G12) (10<sup>00</sup>/paper)</i>	
	30 <sup>00</sup>						
	45 <sup>00</sup>						
	60 <sup>00</sup>						
	75 <sup>00</sup>						
	90 <sup>00</sup>						
	105 <sup>00</sup>						
	120 <sup>00</sup>						
	135 <sup>00</sup>						
	150 <sup>00</sup>						
20 <sup>00</sup>	15 <sup>00</sup>	WELCOME RECEPTION Complex Bulevard Hotel Restaurant					
	30 <sup>00</sup>						
	45 <sup>00</sup>						
	60 <sup>00</sup>						
	75 <sup>00</sup>						
21 <sup>00</sup>	15 <sup>00</sup>						
	30 <sup>00</sup>						
	45 <sup>00</sup>						
	60 <sup>00</sup>						
	75 <sup>00</sup>						
22 <sup>00</sup>	15 <sup>00</sup>						
	30 <sup>00</sup>						
	45 <sup>00</sup>						
	60 <sup>00</sup>						
	75 <sup>00</sup>						

## Program Sections

***Caragiale Room, Complex Bulevard Hotel: Plenary Session / Keynote Speakers***

**Thursday, June 14, 2018**

9<sup>00</sup>-11<sup>00</sup>

**Chairman, Prof. Gabriel Frumușanu**

"Dunărea de Jos" University, Galati, Romania



**Prof. Anete Ashton**

IOP Publishing, Bristol, United Kingdom

**IS THERE VALUE IN PUBLISHING A PROCEEDING?**



**Prof. Rainer Gadow**

University of Stuttgart, Germany

**PROCESS TECHNOLOGY AND APPLICATIONS OF BASALT FIBER REINFORCED SILOXANE BASED COMPOSITES: FROM POLYMER PROCESS TECHNOLOGIES TO CERAMIC-LIKE COMPOSITE PERFORMANCE**



**Prof. Marcel Van de Voorde**

Delft University of Technology, Netherlands

**NANOTECHNOLOGY FOR MECHANICAL ENGINEERING**

11<sup>00</sup>-11<sup>15</sup>

Coffee Break

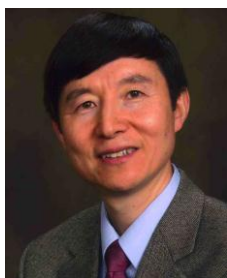
**Caragiale Room, Complex Boulevard Hotel: Plenary Session / Keynote Speakers**

**Thursday, June 14, 2018**

11<sup>15</sup>-13<sup>15</sup>

**Chairman, Prof. Milko Angelov**

Nanotech Group Ltd, Plovdiv, Bulgaria



**Prof. Jun Ni**

Shien-Ming Wu Collegiate Professor of Manufacturing Science,  
College of Engineering, The University of Michigan, USA  
Honorary Dean of UM-SJTU Joint Institute  
Shanghai Jiao Tong University, China

INTELLIGENT MAINTENANCE SOLUTIONS FOR SMART  
MANUFACTURING



**Prof. Marcin Adamiak**

Silesian University of Technology, Gliwice, Poland

FORMING OF STRUCTURE AND PROPERTIES OF AL  
BASED COMPOSITE MATERIALS REINFORCED WITH  
TiAl AND Ti<sub>3</sub>Al INTERMETALLICS



**Prof. Demofilo Maldonado Cortes**

University of Monterrey, Mexico

DEVELOPMENT OF LASER SURFACE TEXTURING FOR  
TRIBOLOGICAL APPLICATIONS



**Caragiale Room, Complex Bulevard Hotel: Plenary Session / Keynote Speakers**

**Friday, June 15, 2018**

9<sup>00</sup>-11<sup>00</sup>

**Chairman**, Prof. Remus Zagan,  
Constanta Maritime University, Romania



**Prof. Makio Naito**

Osaka University, Joining and Welding Research Institute, Osaka, Japan

SMART POWDER PROCESSING FOR ADVANCED  
FUNCTIONAL MATERIALS



**Prof. Hong Seok Park**

University of Ulsan, South Korea

NUMERICAL INVESTIGATION AND AN EFFECTIVE  
PREDICTING SYSTEM ON THE SELECTIVE LASER  
MELTING (SLM) PROCESS WITH TI6AL4V ALLOY



**Prof. Alina Minea**

“Gheorghe Asachi” Technical University of Iasi, Romania

NEW NANOPARTICLE ENHANCED HEAT TRANSFER  
FLUIDS AND THEIR USE IN VARIOUS ENGINEERING  
AREAS



**Prof. Alin Dănișor**

Maritime Constanta University, Romania

ESTIMATION OF TERRAIN'S LINEAR DEFORMATION RATES USING  
SYNTHETIC APERTURE RADAR SYSTEMS

## **Section A**

**Oral Presentation:** Caragiale Room, Complex Bulevard Hotel

**Poster Presentation:** Main Hall, Complex Bulevard Hotel

**A. Engineering of Manufacturing Processes:** Novel Manufacturing Methods; Advances in Nontraditional Manufacturing Processes; Virtual Manufacturing; Advanced Methods and Tools for Computer Integrated Manufacturing; New Industrial Applications; Smart Manufacturing; Energy Efficiency in Manufacturing.

### **Presidents:**

**Prof. Krzysztof Foit**, Silesian University of Technology, Poland

**Prof. Viorel Paunoiu**, “Dunarea de Jos” University of Galati, Romania

### **Secretary:**

**PhD. Georgiana Vetrice**, Transilvania University, Romania

<b>Thursday, June 14, 2018</b>	<b>Friday, June 15, 2018</b>	<b>Saturday, June 16, 2018</b>
<b>15<sup>30</sup> -17<sup>30</sup></b> <i>Oral Presentation</i> Abstract ID: A-1÷A-26 A1(invited-15 <sup>30</sup> ), (A2, A3, A10, A11, A17, A18, A19) (10 <sup>7</sup> /paper) <i>Poster Presentatio</i> A12, A13, A14, A20, A22, A24, A25, A26	-	<b>8<sup>30</sup> -10<sup>30</sup></b> <i>Oral Presentation</i> Abstract ID: A-52÷A-77; A52, A54, A58, A62, A69, A74 (10 <sup>7</sup> /paper) <i>Poster Presentation</i> A57, A58, A59, A61, A66, A73
<b>17<sup>30</sup> -17<sup>45</sup></b> <b>Coffee Break</b>	-	<b>10<sup>30</sup> -10<sup>45</sup></b> <b>Coffeek Break</b>
<b>17<sup>45</sup> -19<sup>30</sup></b> <i>Oral Presentation</i> Abstract ID: A-27÷A-51; A27, A31, A35, A38, A39, A41, A42, A43, A44, A48, A51 (10 <sup>7</sup> /paper) <i>Poster Presentation</i> A28, A29, A30, A33, A34, A37, A40, A49	-	<b>10<sup>45</sup> -12<sup>30</sup></b> <i>Oral Presentation</i> Abstract ID: A-78÷A-96; A81, A82, A93, A9 A81, A82, A93, A96 (10 <sup>7</sup> /paper) <i>Poster Presentation</i> A78, A79, A80, A8585

**Please follow the steps:**

- 1) Check the author index (Book of Abstracts) for the page number; 2) Go to your abstract and note the ID; 3) Check the day and room of your presentation.

## **Section B & Section C**

**Oral Presentation:** Piano Room, Complex Bulevard Hotel

**Poster Presentation:** Main Hall, Complex Bulevard Hotel

**B. Advances in Composite Materials and Technologies:** Advanced Metals, Ceramics and Polymers; Bio-Materials; Recycling of Materials

### **Presidents:**

**Lecturer Marek Placzek**, Silesian University of Technology, Poland

**Lecturer Radu Căliman**, "Vasile Alecsandri" University of Bacau, Romania

### **Secretary:**

**M.Sc. Eng. Michał Sobek**, Silesian University of Technology, Poland

**C. Characterization, Modeling and Simulation of Mechanical Processes:** Mechanical, Structural, Physical and Geometrical Characterization; Probabilistic Modeling and Analysis

### **Presidents:**

**Lecturer Sergiu Spinu**, "Stefan cel Mare" University of Suceava

**Dr. Oana Dumitrescu**, National Research and Development Institute for Gas Turbines COMOTI, Romania

### **Secretary:**

**Dr. Adham S. Bekhit**, "Dunarea de Jos" University of Galati, Romania

<b>Thursday, June 14, 2018</b>	<b>Friday, June 15, 2018</b>	<b>Saturday, June 16, 2018</b>
<b>15<sup>30</sup> -17<sup>30</sup></b> <i>Oral Presentation</i> Abstract ID: B-1÷B-4; C-1÷C-14 B1(invited-15'), C1(invited-15'); B3, B4, C3, C5, C7, C9, C10, C13 (10'/paper) <i>Poster Presentation</i> B2, C2	-	<b>8<sup>30</sup> -10<sup>30</sup></b> <i>Oral Presentation</i> Abstract ID: B-9÷B-13; C-30÷C-55 B9, B10, B13, C31, C39, C40, C43, C44, C47, C53, C55 (10'/paper) <i>Poster Presentation</i> B11, C30, C32, C48, C51, C52, C54
<b>17<sup>30</sup> -17<sup>45</sup></b> <b>Coffee Break</b>	-	<b>10<sup>30</sup> -10<sup>45</sup></b> <b>Coffee Break</b>
<b>17<sup>45</sup> -19<sup>30</sup></b> <i>Oral Presentation</i> Abstract ID: B-5÷B-9; C-15÷C-29 B5÷B8, C15, C17÷C20, C23÷C27 (10'/paper) <i>Poster Presentation</i> C22	-	<b>10<sup>45</sup> -12<sup>30</sup></b> <i>Oral Presentation</i> Abstract ID: B-14÷B-16; C-56÷C-73 B15, B16, C56, C59, C61, C69 (10'/paper) <i>Poster Presentation</i> C62, C64, C72

**Please follow the steps:**

- 1) Check the author index (Book of Abstracts) for the page number; 2) Go to your abstract and note the ID; 3) Check the day and room of your presentation.

**Section D & Section E**

**Oral Presentation:** Terasa Room, Complex Bulevard Hotel

**Poster Presentation:** Main Hall, Complex Bulevard Hotel

**D. Robotics and Computer Integrated Manufacturing:** Industrial Robots, CIM Systems, Biological Inspired Robotics, Social Robotics, Entertainment Robotics

**Presidents:**

**Prof. Mircea-Petru Ursu**, University of Oradea, Romania

**Dr. Waclaw Banaś**, Silesian University of Technology, Poland

**Secretary:**

**PhD. Eng. Piotr Michalski**, Silesian University of Technology, Poland

**E. Technology Transfer:** Knowledge Management Case Studies; Knowledge Communication; Knowledge Portals, Innovation and Engineering Education; Business Intelligence; Business Process Modeling and Analysis, Process Planning and Flexible Workflow; Security in Business Process

**Presidents:**

**Prof. Traian Mazilu**, Politehnica University of Bucharest, Romania

**Dr. Robert Waszkowski**, Military University of Technology, Poland

**Secretary:**

**Prof. Ionel Barbu**, “Aurel Vlaicu” University Arad, Romania

Thursday, June 14, 2018	Friday, June 15, 2018	Saturday, June 16, 2018
<b>15<sup>30</sup> -17<sup>30</sup></b> <i>Oral Presentation</i> Abstract ID: D-1÷D-3; E-1÷E-15 D1(invited-15'); E1 (invited-15'); D3, E7, E10 (10'/paper) <i>Poster Presentation</i> D6, E2, E3, E9	-	<b>8<sup>30</sup> -10<sup>30</sup></b> <i>Oral Presentation</i> Abstract ID: D-6÷D-8; E-32÷E-47 D6, E34 (10'/paper) <i>Poster Presentation</i> E35
<b>17<sup>30</sup> -17<sup>45</sup></b> <b>Coffee Break</b>	-	<b>10<sup>30</sup> -10<sup>45</sup></b> <b>Coffee Break</b>
<b>17<sup>45</sup> -19<sup>30</sup></b> <i>Oral Presentation</i> Abstract ID: D-4÷D-5; E-16÷E-31 E20, E21, E23, E26, E31 (10'/paper) <i>Poster Presentation</i> D4, E18, E22, E24	-	<b>10<sup>45</sup> -12<sup>30</sup></b> <i>Oral Presentation</i> Abstract ID: D-9÷D-10; E-48÷E-55 D9 (10'/paper) <i>Poster Presentation</i> E48, E53

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- 1) Check the author index (Book of Abstracts) for the page number; 2) Go to your abstract and note the ID; 3) Check the day and room of your presentation.

## **Section F & Section G**

**Oral Presentation:** Agentia Room, Complex Bulevard Hotel

**Poster Presentation:** Main Hall, Complex Bulevard Hotel

**F. Micro- and Nano- Technologies:** New Developments in Micro/Nano Scale Processes; Fabrication of Nanostructure and Materials: Nanofilms, Nano-bubbles, Nano-droplets, Nanofluids

### **Presidents:**

**Dr. Gabriela Strnad,** "Petru Maior" University of Tirgu Mures, Romania

**Dr. Ciprian Ciofu,** "Gheorghe Asachi" Technical University of Iasi, Romania

### **Secretary:**

**Dr. Alin Marian Cazac,** "Gheorghe Asachi" Technical University of Iasi, Romania

**G. Maritime Engineering and Navigation:** Maritime Engineering and Technologies, Maritime Transport and Economics.

### **Presidents:**

**Prof. Liviu Constantin Stan,** Maritime University of Constanta, Romania

**Prof. Leonard Domnisoru,** "Dunarea de Jos" University of Galati, Romania

### **Secretary:**

**Dr. Cosmin-Laurentiu Dumitrache,** Constanta Maritime University, Romania

<b>Thursday, June 14, 2018</b>	<b>Friday, June 15, 2018</b>	<b>Saturday, June 16, 2018</b>
<b>15<sup>30</sup> -17<sup>30</sup></b> <i>Oral Presentation</i> Abstract ID: F-1÷F-2; G-1÷G-9 F1(invited-15'), G1 (invited-15'), G3 (10'/paper) <i>Poster Presentation</i> G4, G6÷G9	-	<b>8<sup>30</sup> -10<sup>30</sup></b> <i>Oral Presentation</i> Abstract ID: F-5÷F-7; G-20÷G-29 F5, G25, G26 (10'/paper) <i>Poster Presentation</i>
<b>17<sup>30</sup> -17<sup>45</sup></b> <b>Coffee Break</b>	-	<b>10<sup>30</sup> -10<sup>45</sup></b> <b>Coffee Break</b>
<b>17<sup>45</sup> -19<sup>30</sup></b> <i>Oral Presentation</i> Abstract ID: F-3÷F-4 G-10÷G-19 F3, F4, G10÷G12 (10'/paper) <i>Poster Presentation</i> G14÷G16	-	<b>10<sup>45</sup> -12<sup>30</sup></b> <i>Oral Presentation</i> Abstract ID: G-30÷G-35 (10'/paper) <i>Poster Presentation</i> G28÷G30

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