



**PPE 2015**



**International Conference on  
Polymer Processing in Engineering**

Galati, Romania  
September 24-26, 2015



**Conference Chairmen**

**Loredana SANTO**

University of Rome Tor Vergata, Italy

**Technical Program Chair**

**Catalin FETECAU**

Dunarea de Jos University of Galati, Romania



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## **Foreword**

Polymer Processing in Engineering (PPE) Conference, held every two years, aims to gather academic researchers and industrial partners involved in the field of polymers.

The PPE 2015 conference covers all of the important areas in the field, from state-of-the-art research and development to characterization, fabrication, technology development, numerical modeling and many new and emerging applications of polymeric materials.

The Polymer Processing in Engineering Proceedings is scheduled to be published in the periodical Key Engineering Materials.

## **Main Topics of the Conference**

Members of industry and scientific community are invited to contribute with presentations on any of the conference topics. Specific topics include, but are not limited to:

- Polymer processing, rheology & rheometry
- Biopolymers & biotechnologies
- Nanopolymers & nanotechnologies
- Polymers, functional surfaces and bio-material interfaces
- Properties of polymers, including thermal, surface and adhesion
- Surface modification of polymers
- Green polymers, reprocessing & recycling
- Mechanical behavior of polymers and polymer composites
- Fracture mechanics of polymers & polymer composites
- Reliability & testing methods
- Product, mould design, & manufacturing processes
- Applications of polymers in industry
- Computational polymers & polymer composites

# Polymer Processing in Engineering Conference

Galati, 24-26 September 2015



## PPE 2015 Technical Program

### Thursday, September 24, 2015

Time	Event	Location
1:00 PM - 5:30 PM	Registration	Hall D 2 <sup>nd</sup> floor
1:00 PM - 5:30 PM	Exhibition Setup	Hall D 2 <sup>nd</sup> floor
1:30 PM - 3:00 PM	Tutorial: Capillary Rheometry	H 03
3:30 PM - 5:00 PM	Tutorial: Indentation of Polymers	D 04
5:30 PM - 7:00 PM	Welcome Reception	Hall D 2 <sup>nd</sup> floor

### Friday, September 25, 2015

Time	Event	Location
8:00 AM - 1:00 PM	Registration	Hall D 2 <sup>nd</sup> floor
9:00 AM - 9:15 AM	Welcome	D 12
9:15 AM - 9:50 AM	<b>PPE 2015 Keynote</b> <b>Recent Developments in the Field of Shape Memory Polymer Foams and Composites</b> Prof. Loredana Santo, University of Rome Tor Vergata	D 12
9:00 AM – 5:30 PM	Exhibition	Hall D 2 <sup>nd</sup> floor
10:00 AM – 11:00 AM	Processing and Testing of Polymers and Composites I	D 12
11:00 AM - 11:30 AM	Morning Break	Hall D 2 <sup>nd</sup> floor
11:30 AM - 12:30 PM	Processing and Testing of Polymers and Composites II	D 12
12:30 PM – 1:00 PM	<b>PPE 2015 Industry Presentation</b> <b>New Trends in Polymer Characterization Using TA Instruments Technologies</b> Ph.D. Eng. CHEM. Paul Lazar	D 12
1:00 PM – 2:00 PM	Lunch	Hall D 2 <sup>nd</sup> floor
2:00 PM - 2:30 PM	<b>2015 PPE Plenary Lecture</b> <b>Rheology – Trends and Challenges in the Training and Research Platform of the “Gheorghe Asachi” Technical University of Iasi</b> Prof. Constanta Ibanescu, “Gheorghe Asachi” Technical University of Iasi, Acad. Bogdan C. Simionescu “Gheorghe Asachi” Technical University of Iasi, Vice-President of the Romanian Academy	D 12
2:30 PM - 3:30 PM	Polymers Rheology and Rheometry	D 12
	Manufacturing Systems – Design for Manufacturing	D 11
3:30 PM - 4:00 PM	Afternoon break	Hall D 2 <sup>nd</sup> floor
4:00 PM - 5:45 PM	Polymers, Functional Surfaces and Interfaces	D 12
	Indentation of Polymers and Composites	D 11
7:00 PM - 9:00 PM	Dinner HOTEL GALATI CENTRUM	Off-site

### Saturday, September 26, 2015

Time	Event	Location
10:30 AM – 13:00 PM	Danube River Tour (Boat leaves at 11:00 AM)	Meeting point Hotel Galati

**Symposium 1:**  
**Processing and Testing of Polymer and Composites**

<b>Session 1: Processing and Testing of Polymers and Composites I (Friday, 10:00 – 11:00, D12)</b> Session chair: <i>Felicia Stan, Dunarea de Jos University of Galati</i>		
Paper #	Authors	Title
PPE2015-11	Donatella Gagliardi, Fabrizio Quadrini, Loredana Santo	Substituting Die-Cast Products by Injection Molded High Performance Polymers
PPE2015-12	Laurentiu Sandu, Razvan Rosculet, Catalin Fetecau	Effect of Thermal Annealing on the Mechanical and Electrical Behavior of Polyurethane/Multi-Walled Carbon Nanotube Composites
<b>Session 2: Processing and Testing of Polymers and Composites II (Friday, 11:30 – 12:30, D12)</b> Session chair: <i>Lidia Benea, Dunarea de Jos University of Galati</i>		
PPE2015-13	Loredana Santo, Fabrizio Quadrini, Denise Bellisario	Multilayered Composite Plates with Shape Memory Properties
PPE2015-14	Eduard Chirila, Ionel Chirica, Doina Boazu, Elena Felicia Beznea	MRE Damping Characteristics Evaluation
PPE2015-15	Georgiana-Luminita Enachescu, Mariana Florentina Stefanescu	Acoustical Determinations on a Composite Materials (Expanded Vs Extruded Polystyrene)
<b>Session 3: Indentation of Polymers and Composites (Friday, 4:00 – 5:20, D11)</b> Session chair: <i>Felicia Stan, Dunarea de Jos University of Galati</i>		
PPE2015-16	Martin Ovsik, David Manas, Miroslav Manas, Michael Stanek, Martin Reznicek	The Effect of Cross-Linking on Nanomechanical Properties of Polyamide
PPE2015-17	David Manas, Miroslav Manas, Martin Ovsik, Michael Stanek, Martin Mizera, Lenka Hylova	Evaluation of Mechanical Properties of Surface Layer Injection Molded Polypropylene by Nanoindentation Test
PPE2015-18	Martin Ovsik, David Manas, Miroslav Manas, Michael Stanek, Adam Strobak, Vojtech Stenkerik	The Behaviour of Cross-Linking Filled PA66 to Micro-Indentation Test
PPE2015-19	Alina Cantaragiu, Catalin Fetecau	An Experimental Investigation of Creep Properties of Polymer Composites Using Sharp Indentation Technique

**Symposium 2:**  
**Polymers Rheology and Rheometry**

<b>Session 1: Polymers Rheology and Rheometry (Friday, 2:30 – 3:30, D12)</b> Session chair: <i>Loredana Santo, University of Tome Tor Vergata</i>		
<b>Paper #</b>	<b>Authors</b>	<b>Title</b>
PPE2015-21	Maricel Danu, Anca Daniela Rusu, L. Rocha, Nicolae Hurduc, Bogdan C. Simionescu, Constanta Ibanescu	Rheological Study of Thermo-Sensitive Polymers
PPE2015-22	Laurentiu Sandu, Razvan Rosculet, Catalin Fetecau	Rheological Properties of Thermoplastic Polyurethane/Multi-Walled Carbon Nanotube Composites
PPE2015-23	Nicoleta Teodorescu, Mariana-Florentina Stefanescu, Cosmin Jinescu, Iuliana-Marlena Prodea, Iolanda Panait	Extruder Functioning Parameters Modification in PE Recycling

**Symposium 3:**  
**Polymers, Functional Surfaces and Interfaces**

<b>Session 1: Polymers, Functional Surface and Interfaces I (Friday, 4:00 – 5:45, D12)</b> Session chair: <i>Nicoleta Teodorescu, University Politehnica of Bucharest</i>		
<b>Paper #</b>	<b>Authors</b>	<b>Title</b>
PPE2015-31	Giovanni Matteo Tedde, Denise Bellisario, Loredana Santo, Fabrizio Quadrini	Microsculpturing of Polymeric Surfaces by Compression Molding
PPE2015-32	Lidia Benea, Eliza Dănaïlă	Electrochemical Codeposition of UHMWPE Biopolymer into Cobalt Matrix for Biomedical Applications
PPE2015-33	Simona Plavanesc, Dumitru Nedelcu, Denise Bellisario, Constantin Cărăușu	Surface Analyses of Arboform Samples
<b>Session 2: Polymers, Functional Surface and Interfaces II (Friday, 4:00 – 5:45, D12)</b> Session chair: <i>Constanta Ibanescu, Gheorghe Asachi” Technical University of Iasi</i>		
<b>Paper #</b>	<b>Authors</b>	<b>Title</b>
PPE2015-34	Alina Crina Ciubotariu, Lidia Benea, Pierre Ponthiaux	Phenol – Formaldehyde Resin to Improve Corrosion Resistance of Zinc Layers
PPE2015-35	Laurentiu Mardare, Lidia Benea, Valentin Dumitrascu, Eliza Dănaïlă	Polymeric Coatings Used Against Marine Corrosion of Naval Steel EN32

**Symposium 4:**  
**Manufacturing Systems – Design for Manufacturing**

<b>Session 1: Manufacturing Systems – Design for Manufacturing (Friday, 2:30 – 3:30, D12)</b> Session chair: <i>Catalin Fetecau, Dunarea de Jos University of Galati</i>		
<b>Paper #</b>	<b>Authors</b>	<b>Title</b>
PPE2015-41	Laurentiu Slatineanu, Oana Dodun, Margareta Coteata, Gheorghe Nagit, Irina Besliu	Simplified Version of the Polymer Rotational Molding Manufacturing Method of Plastic Part
PPE2015-42	Simion Haragas, Iuliu Negrean, Dumitru Pop, Ovidiu Buiga, Florina Rusu	Demolding Moment Calculation for Injected Parts with Internal Trapezoidal Thread
PPE2015-43	Razvan Rosculeț, Dorin Ionita, Savin Timofte, Felicia Stan, Catalin Fetecau	Design for Additive Manufacturing – Spatial and Temporal Control of Material Properties



## Conference venue

Dunarea de Jos University of Galati  
Faculty of Engineering, Domneasca 111, Galati 800 201



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