



# PPS Newsletter

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May 2015

Information to Polymer Processing Society Members

## The PPS-31 International Conference, June 7-11, 2015 in Jeju Island, Korea, is coming on strong on polymer processing

The 2015 International Conference of PPS will take place in Jeju Island, Korea on June 7-11 (website <http://www.pps-31.com/>). The Conference venue is the International Convention Center (ICC), which is an excellent place for a world conference. Many flights daily exist from Seoul and other places to the Jeju International Airport. The PPS-31 Organizers, Profs. Jae Wook Lee (Sogang University) and Jin Kon Kim (Pohang University of Science and Technology, Korea), are putting in their best efforts to organize a memorable conference with scientific quality and a splendid social and cultural program.

PPS-31 promises to maintain a good balance of programs to serve the attendees from academia and industry. The conference focuses on more than 13 technical topics and 5 special symposia, and will host 5 plenary speakers, two award lectures, and many keynote lectures.

The island of Jeju, the largest island of Korea, is located off the southern side of Korea. The island contains the natural World Heritage Site Jeju Volcanic Island and Lava Tubes. Jeju island has a temperate climate the whole year round and lovely beaches and scenery. It has a population of about 600,000 inhabitants.



Map of North Pacific, showing Jeju Island, the site of PPS-31, which is located off the southern tip of Korea.



A remarkable site on Jeju Island, which offers exciting places and beaches to visit.



A typical Korean landscape + building on Jeju Island, where PPS-31 will take place.

## The PPS-2015 Europe-Africa Conference, September 21-24, 2015 in Graz, Austria, sure to be a great success

The 2015 Europe-Africa Conference of PPS will take place in Graz, Austria, on September 21-24. This conference takes place in Austria for the first time and will cover all aspects of polymer engineering and science reaching from material science over process engineering to product development covering all top-research topics including recent advances in nanotechnology as well as functional and smart materials.

Furthermore, PPS-2015 will give you a special chance to discover the city of Graz, which is the second largest city in Austria. Graz can be seen as a pivot between western and eastern Europe and therefore as a gate to the most emerging markets worldwide. Graz, with its around 300,000

inhabitants, houses several universities with over 50,000 students, is the first human-rights city of Europe, and has several world famous UNESCO World Heritage Sites.

The Conference venue is the Messecongress Graz and it guarantees all the necessary details for a successful meeting. The PPS-2015 Organizer, Prof. Clemens Holzer, of the Montanuniversitaet Leoben, and his co-chairs, Stephan Laske (Montanuniversitaet, Leoben) and Martin Payer (Polymer Competence Center Leoben GmbH), and their team at Kunststoff Technik, are working very hard to make this event a truly memorable one. The scientific program includes injection molding and molds, extrusion and compounding, nanocomposite materials and processing, modeling and simulation, natural based and biodegradable polymers, rheology and advanced characterization, blends, reactive systems and elastomers, foams and lightweight structures. Special symposia include additive manufacturing, materials for medicine, textiles and fibres, polymer processing in pharmacy. The Conference will comprise of plenary, keynote, and regular symposia papers as well as posters.



Map of Austria, showing Graz, the site of PPS-2015.



Down town Graz with its castle hill.



Down town Graz with the river Mur passing through it.

## PPS Conferences

In its continuing effort to be a truly international society, PPS strives to have meetings every year in different parts of the world. The following list of upcoming meetings is a good indication of these efforts.

### 2016 Meetings

International Conference (PPS-32), Lyon, FRANCE, July 25-29

Conference Chair: Prof. A. Maazouz

Asia/Australasia Conference PPS-2016, Chengdu, CHINA, October 11-14

Conference Chair: Prof. Qi Wang

### 2017 Meetings

International Conference (PPS-33), Cancun, MEXICO, December

Conference Chair: Prof. O. Manero

Europe/Africa Conference PPS-2017, Dresden, GERMANY, May 16-18

Conference Chair: Prof. U. Wagenknecht

## Other Meetings of Interest to PPS Members

### 2015

87th Annual Meeting of the Society of Rheology

October 11-15, Baltimore, Maryland, USA

For information visit: <http://www.rheology.org>

European ANTEC® Brussels 2015  
September 3-4, Brussels, BELGIUM

For information visit: <http://www.4spe.org>

## 2016

XVIIth International Congress on Rheology  
August 8-13, Kyoto, JAPAN

For information visit: <http://www.rheology.org>

### Lambla Award winner for 2015 is Roberto Pantani of the University of Salerno, Italy



Born in 1971, **Prof. Roberto Pantani** graduated "cum laude" in Chemical Engineering in 1995. He received the PhD degree in February 2000 from the University of Palermo, defending a thesis entitled "Analysis of Shrinkage Development in Injection Molded Samples". From 1999 to 2001 he was a Research Fellow at the University of Salerno (UNISA). From 2001 to 2007 he was an Assistant Professor of Transport Phenomena at UNISA, Dept. of Chemical Engineering; since October 2007 he is an Associate Professor in the same Department, which is now named "Department of Industrial Engineering" (DIIn). His main research interests focus on the analysis and simulation of injection molding of thermoplastics, of structure development in polymer processing, of mechanisms of cooling stresses development, of volume accuracy and stability during polymer

processing, of processing and degradation of biodegradable polymers. His activity is characterized by the application of innovative devices, methods and original models, designed and developed with the specific purpose of characterizing polymer behavior in processing conditions, always searching for an integration of theoretical and experimental work.

He has taken part in several research projects at European, National, Regional and Local level, in many of them as the Principal Investigator.

He has collaborated with companies and research centers involved in polymer processing on the optimization of polymer processes, on the choice of materials, on polymer characterization, on the improvement of the properties of the produced parts. He is the author of 2 patents, of about 75 publications on international peer reviewed scientific journals, of 5 book chapters, and of more than 100 publications on proceedings of international conferences.

As coordinator of the laboratories of "Polymer Technology" and of "Thermodynamic and Transport Properties of Polymers" of the DIIn, he is involved in the training of undergraduate, graduate and post-graduate researchers in the field of polymer processing, many of them coming from other European Countries in the framework of several exchange programs. He is also deeply involved in training and educational activities on polymer processing subjects devoted to industrial groups and to graduate students in International Polymer Processing Intensive Courses within the European Erasmus Program.

He has been frequently asked to act as reviewer for many of the main scientific journals in the area of Polymer Processing and Polymer Science, and he is also in the Editorial Advisory Board of the Journal of Applied Polymer Science. He is often invited to join the organization and to participate as keynote speaker in international conferences.

## **JLWhite Innovation Award for 2015 goes to Dr. RY Chang and his team at CoreTech System (Moldex3D) of TAIWAN**



The James L White Award will be given at PPS-31 at Jeju Island, Korea, to Dr. RY Chang and his team, including Dr. Venny Yang, Dr. David Hsu, Mr. Jimmy Chien, and Dr. Ivor Tseng, for the development of mathematical models and injection molding simulation software.

With the increasing complexity of polymer processing operations, traditional trial-and-error approaches are gradually being replaced by computer simulations in order to meet the growing industrial demands effectively. Over a period of three decades, Dr. RY Chang and his team have developed various fundamental 3D injection molding simulation core technologies to deal with the complex thermo-mechanical interactions. They developed a powerful control volume method for injection molding simulation, created high capability solvers to handle various 3D mesh types, and developed automatic meshing generation technologies. They have made significant innovations in 3D transient cooling technology to have higher capability for visualization of the dynamic features inside the mold, extended and completed approaches for predicting the fundamental polymer thermodynamic and rheological properties using molecular dynamics, and developed a patented method involving mathematical models for predictive fiber orientation of short and long fibers, including fiber breakage and concentration effects.

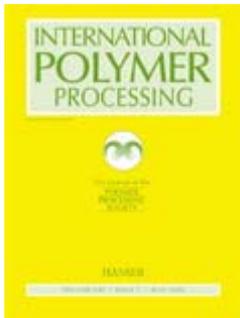
For meeting design and manufacturing demands, they have made innovations in interface technologies for CAD and CAE, taking into account process-induced material variation for virtual life cycle management of injection molding product development. These include Finite Element Analysis (FEA) interfaces with Ansys, Abaqus, Ls-dyna, and Nastran, to offer seamless integration from injection molding to structural analysis (downstream technology), developed interfaces to offer seamless integration from injection molding to micromechanics material properties and completed a seamless integration from CAE to CAD (upstream technology).

The CAE innovations of Dr RY Chang's team include various thermal simulation technologies, such as hot runner simulation technology, conformal cooling simulation technology, long/short fiber micro-mechanical properties simulation technology, microcellular injection molding simulation technology, 3D water-assisted and gas-

assisted simulation technology, multi-component molding simulation technologies (such as over-molding, insert molding, co-injection, bi-injection simulation technology), injection compression molding simulation technology, compression molding simulation technology, and powder injection molding simulation technology.

Dr. RY Chang founded CoreTech System Co Ltd. in 1995. CoreTech is a leading CAE software provider for injection molding, with more than 2,500 companies using its flagship product Moldex3D around the world.

## **IPP Journal – All Previous Issues Now Available on Line**



All issues of IPP from its inception in 1985 are now available on-line at:

<http://www.hanser-elibrary.com/loi/ipp>. To download papers from this site, visit [www.tpps.org](http://www.tpps.org). In response to PPS member requests, papers in IPP will now have a DOI number, as well as a Hanser document number, which allows quick access to a paper for the on-line journal website.

## **Next Newsletter – November 2015**

If you have comments on how to improve this newsletter or want to share some information in the next one, please contact the Newsletter Editor Prof. Evan Mitsoulis at [mitsouli@metal.ntua.gr](mailto:mitsouli@metal.ntua.gr). The next issue of the Newsletter is due in November 2015.