



# PPS Newsletter

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May 2013

Information to Polymer Processing Society Members

## PPS-28 International Conference, in Pattaya, Thailand, brought people together from all over the world

Our Annual International Conference, PPS-28, took place in Pattaya, Thailand, in December 11-15, 2012. The venue of the meeting was the superb Royal Cliff Beach Hotel. The meeting was organized by the National Metal and Materials Technology Center (MTEC) of Thailand, under the superb direction of Prof. Krisda Suchiva, assisted by Dr. Witchuda Daud. This 5-day International Conference, the premier event of PPS, brought together about 530 people from around the world, all involved in the polymer processing field. There were 7 plenary talks, 25 keynote, a total of 573 abstracts from 44 countries, (346 oral and 227 posters). Most came from Japan (73), Thailand (68), Germany (51), South Korea (38), etc. The meeting featured a special symposium to honor Prof. Emeritus Musa Kamal (Canada). Prof. Suchiva and his team worked very hard in putting together an excellent and stimulating scientific program. All important sessions on polymer processing were covered in the meeting, while several Asian plastics companies were represented for fruitful collaboration with the Conference attendees.

In keeping with the famous Thailand hospitality and culture, the meeting also offered many exciting cultural events and excursions, while the banquet featured local dances and colorful displays of local customs. Thus, the participants had a unique chance to couple both scientific endeavors with cultural events.



Prof. Krisda Suchiva, organizer of PPS-28 kicks off the meeting in Pattaya, Thailand.



PPS President, Prof. Ica Manas-Zloczower, declares open the PPS-28 meeting in Pattaya, Thailand.



Prof. Kamal was honored for his many achievements at a special symposium during PPS-28.



Prof. Han Meier gives his plenary lecture on engineering aspects of America's cup.



Prof. Avraam Isayev receives his JL White Innovation Award from PPS President Prof. Ica Manas.



Colorful Thailand dancers and entertainers at the banquet.

## The PPS-29 International Conference, July 15-19, 2013 in Nuremberg, Germany, is shaping up as a major world event

The 2013 International Conference of PPS will take place in Nuremberg, Germany on July 15-19 (website <http://www.pps-29.com/>). The Conference venue is the Convention Center on the Fairground, which will guarantee a top modern and generous atmosphere. The PPS-29 Organizer, Prof. Dr.-Ing. Volker Altstaedt, and the Neue Materialien Bayreuth GmbH are putting in their best efforts to organize a memorable conference with scientific quality and a splendid social and cultural program.

8 parallel sessions including more than 400 oral presentations will present a wide variety of cutting-edge research results. 13 general symposia will cover the whole range of polymer processing from material developments for polymer blends, elastomers, composites, nanocomposites and nanostructures; mixing and compounding, reactive processing, polymer foams and injection molding; characterization methods such as rheology; and finally special topics, like natural and biodegradable polymers and the increasingly important topic of modeling and simulation.

Highlights of the PPS-29 are 8 special symposia. For the first time the broad theme of polymers for the future will be discussed. Special topics are situated in the fields of plastic solutions for renewable energy, e-mobility, as well as topics related to construction and housing. Further topics include additive manufacturing for plastics as well as micro-tribology, surface analysis and characterization techniques. It is worth mentioning that members of the German Rheological Society (DRG) will also present their current results on fundamental and applied rheology.

For the plenary lectures, the organizing committee managed to attract a group of reputable speakers from academia and industry. Prof. E. Thomas, Prof. A. Windle and Prof. A. Mueller will present current state-of-the-art topics in academia. Prof. G. Steinbichler, Prof. H. Franz and Dr. J. Krebsler will, on the other hand, give more industrially-oriented lectures about challenges and solutions in polymer processing. Last but not least, Prof. S. Ray, the Morand Lambla Awardee 2013, as well as the representative of the James L. White Innovation Awardees for 2013, Dr. Roland Hingmann, will present their innovative research results.

Besides the scientific symposia and 400 poster sessions, this year's meeting will be enhanced by a typical Bavarian social program presenting a Gardetanz and an evening in a historic beer hall. Special attractions are several industrial plant tours: top polymer companies and institutions in the region will be opening their factory gates to the participants of the conference. Furthermore the program for accompanying persons offers the opportunity to discover the old city of Nuremberg with its rich cultural heritage and the picturesque landscape and old castles of the North of Bavaria.

The full program and further information on all topics (hotel, travel, public transport) are available on (<http://www.pps-29.com/>).



Map of Germany, showing Nuremberg, the site of PPS-29, which is located in northern Bavaria.



The old city of Nuremberg offers exciting medieval sites and many museums to visit.



The newly opened Nuremberg Conference Center is a world-class conference facility and is the venue for PPS-29.

## The PPS-2013 Asia-Australasia Regional Meeting, December 4-7, 2013 in Mumbai, India, gets under way

The 2013 Asia-Australasia Regional Meeting of PPS will take place in Mumbai, India, on December 4-7 (website <http://www.pps2013mumbai.com/>). The Conference venue is the Ramada Powai Hotel and Convention Center in Mumbai, which guarantees all the necessary details for a successful meeting. The venue is located only 6 km from the Mumbai International Airport and 10 km from the domestic airport. The PPS-2013 Organizer, Prof. Anup Ghosh, aided by IIT-Mumbai and IIT-Delhi, and the Polymer Processing Academy in Mumbai, is working very hard to make this event a truly memorable one, in line with the previous PPS-25 organized by him in Goa. The scientific program includes conventional processing technologies, sustainable processing, morphology and structure development, nanocomposite processing technologies, rheology and process modeling and simulation, among others. Submission of abstracts has as deadline August 31, 2013. Final submission of papers is set for October 31, 2013.



Mumbai and its exciting coastline in western India is the site for the 2013 Asia-Australasia Regional Meeting of PPS.



Another view of Mumbai, site of the 2013 Asia-Australasia Regional Meeting of PPS.



The conference venue for PPS-2013 is the Ramada Powai Hotel in Mumbai.

## Future Meetings

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.

### 2014 Meetings

International Conference (PPS-30), Cleveland, OH, USA, June

Conference Chairs: Profs. Jana, Maia

Europe/Africa Conference PPS-2014, Tel Aviv, Israel, mid-October

Conference Chair: Prof. Kenig

### 2015 Meetings

International Conference (PPS-31), Jeju Island, KOREA, May

Conference Chair: Prof. J.K. Kim

Europe/Africa Conference PPS-2015, Graz, Austria, October

Conference Chair: Prof. Holzer

## Other Meetings of Interest to PPS Members

### 2013

#### 85th Annual Meeting of the Society of Rheology

October 13-17, Montreal, CANADA

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

#### 2013 K-Show, International Trade Fair for Plastics and Rubber

October 16-23, Düsseldorf, GERMANY

For information visit: <http://www.k-online.de>

### 2014

#### 86th Annual Meeting of the Society of Rheology

October 5-9, Philadelphia, PA, USA

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

#### SPE-ANTEC® 2014

April 27-May 1, Las Vegas, Nevada, USA

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

## Lambla Award winner for 2013 is Prof. Suprakas Sinha Ray of the Council for Scientific and Industrial Research, Pretoria, South Africa



**Suprakas Sinha Ray** is the Lambla Award Winner of PPS for 2013. Sinha Ray is Chief Researcher and Director of the DST/CSIR National Centre for Nanostructured Materials (NCNSM), Pretoria, South Africa. He received his PhD degree in Physical Chemistry at the University of Calcutta, India, in 2001 and was a recipient of the “*Prestigious Sir P.C. Ray Research Award*” for the best PhD work. After three years of postdoctoral research at the Toyota Technological Institute in Japan, he spent two and half years as postdoctoral scientist at the Chemical Engineering Department, Laval University, Canada. Towards the end of 2006, he joined the CSIR Materials Science and Manufacturing group as Nanoscience Group Leader, in South Africa. In November 2007, he was promoted to Chief Researcher and founder Director of the DST/CSIR NCNSM, CSIR, South Africa. Recently, he has

been appointed as Distinguished Professor, King Abdulaziz University, Kingdom of Saudi Arabia; Extraordinary Professor, University of Pretoria, South Africa; Visiting Professor, University of Johannesburg, South Africa.

Sinha Ray’s current research projects are aiming to overcome the boundary between fundamental research and industrial applications and to get direct benefit by strengthening both worlds. His team research focuses on several types of multi-phase and multi-component polymeric systems, such as polymer alloys, blends, composites and nanocomposites, biomaterials, conducting polymers, engineering plastics, etc. However, the main objective of his



research is to establish structure-processing-property relationship of nanoclay-filled polymeric systems.

He is one of the highly cited authors in the field of polymer nanocomposite materials, and his work has been featured on various international journal cover pages on 13 different occasions. Recently, he has been rated as a Top 50 high impact chemist in the world in the last decade (Feb. 2011, Thomson-Reuters). Over the last few years, he has given more than 20 plenary/keynote/invited presentations in various international conferences and organized/co-organized a number of international conferences. Sinha Ray is the co-author of 3 edited books, 10 book chapters on various aspects of polymer-based nanostructured materials and their applications, and author and co-author of 140 articles in high-impact international journals; 14 articles in peer-review international conference proceedings; 30 articles in national and international conference proceedings, as well as holder of several patents. Currently, he is serving as an Associate Editor of the Journal of Nanoscience and Nanotechnology, Advanced Science Letters, International Journal of Plastic Films and Sheeting, Applied Nanoscience, and Journal of Nanomaterials.

## **JLWhite Innovation Award for 2013 goes to the BASF SE, polymer processing team, Ludwigshafen, GERMANY**



The winner of the James L. White Innovation Award for 2013 is the polymer processing team of BASF SE, Germany. The research group, which is part of BASF's global Advanced Materials & Systems Research, is headed, since 2006, by **Dr. Roland Hingmann** (shown in the picture) and includes **Dr. Holger Ruckdäschel**, **Dr. Anne Thümen** and **Dr. Xin Yang**. The award is given for the development of innovative polymer processing technologies leading to a portfolio of new products, together with design and start-up of the respective manufacturing lines.

Over the last couple of years, special emphasis was put on grouping together researchers having different expertise, covering polymer, material science and polymer engineering. Furthermore, intensive international exchange and cooperation both with academia and machine manufacturers was established and fostered.

Common denominator is the twin screw extrusion technology, which offers numerous degrees of freedom in configuration and process conditions. The team targeted the exploitation of several opportunities based on this workhorse of polymer processing. As a result, new advanced materials for both engineering applications as well as environmentally friendly solutions were developed.

Conventional extrusion technology is well established for dispersion of e.g. mineral fillers in polymeric matrices as well as for proper morphology control in blends. In the extreme case of nano-scale, however, modification of polymers remains a major challenge. Here, technology was developed for proper dispersion of carbon nanotubes (CNT) in POM. This included extruder design, processing parameter determination and feeding technology development for safe handling of CNTs on commercial scale.

For the extension of BASF's portfolio with biodegradable plastics, special focus on the respective extrusion technology was necessary. Control of molecular weight via reactive extrusion, control of blend morphology through appropriate mixing, and for some of the grades, homogeneous dispersion and distribution of fillers had to be realized. Ultimately, scale-up from pilot plant to a respective production extruder was implemented.

For effective transfer of results from R&D to commercial scale, scale-up rules for twin screw extrusion processes are required. Here, the group established a set of numerical tools for

industrial purposes, allowing a reliable scale-up from pilot plant trials to large-scale production units.

Finally, a novel technology for fabrication of particle foams was developed, combining sophisticated thermoplastic processing equipment. Completely new foams can be made, since the new versatile process can handle a variety of polymers, allows incorporation of additives, and is flexible with respect to different blowing agents. The technology is currently running on industrial scale at Ludwigshafen.

## **China's Representative Prof. Xi Xu passes away at 93**

The distinguished PPS international representative, Professor Xi Xu, passed away on Saturday, February 16<sup>th</sup>, 2013, at the age of 93. Professor Xi Xu was an Academician of the Chinese Academy of Sciences, the Director of Polymer Research Institute of Sichuan University, China, and the Director of Polymer Materials Research Institute of Shanghai Jiao Tong University.

Prof. Xu was recognized as one of the pioneers and founders of Chinese polymer materials science and engineering discipline and had earned the respect of his peers around the world during his distinguished career. He served in the organization of Polymer Processing Society (PPS) as an international representative from 1986. He delivered 16 invited lectures in the PPS conferences from 1986-2007. He was the Chairman of PPS-16 conference in 2000, and the Chairman of Asia/Australia regional meetings of PPS in 1991 and 2007. Under his leadership, more and more Chinese colleagues knew about PPS and joined it as members.

Prof. Xu was born in Nanjing, Jiangsu, and graduated with a BSc from Zhejiang University in 1944, then got his MSc degree from Lehigh University, USA, in 1948. He was also a Fellow of the Royal Society of Chemistry (UK), a board member of International Materials Information Society, an editorial board member of the Journal of International Materials Reviews and the Journal of Materials Science Technology. He was also the editor-in-chief of the Journal of Polymeric Materials Science and Engineering (China) and Oil Field Chemicals (China).

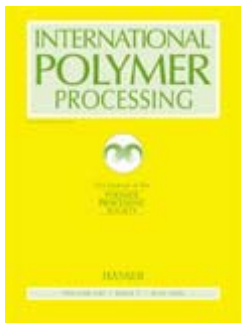
His research interests expanded in the fields of polymer mechanochemistry, polymer materials processing, green polymer chemistry, radiation chemistry, etc. He had long been engaged in research on ultrasonic degradation and polymer composites, macromolecular complexes through hydrogen bonding, the compatibility of polymer blends and composites. He published more than 300 papers and was awarded 30 patents. He won 20 national, provincial and ministerial Science and Technology Awards, such as the National Natural Science Prize and the National Technology Innovation Prize. He was the founder of State Key Laboratory of Polymer Materials Engineering at Sichuan University.

Prof. Xu was not only admired by his colleagues for his outstanding research, but much loved by his past and present students, to whom he generously gave both his time and knowledge. He won the National Outstanding Teaching Achievement Awards of High-level Qualified Personnel's Training of Polymer Science, and the Yucai (Bringing up Talents) Award of Polymer Science.

Professor Xu will be remembered by all who knew him, and particularly by his friends and former colleagues. His passing away is a great loss to his family and his friends as well as the broader polymer community. Professor Xu is survived by his two sons and one daughter. Colleagues across the PPS organization are extending their deepest sympathies to his family.

(adapted from a text sent by Prof. Qi Wang, the new China PPS Representative)

## **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.polymer-process.com>. To download papers from this site, use your PPS membership number. 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 2013**

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 2013.