

Engineering Conferences International (ECI) sponsored Polymer Reaction Engineering VIII (PRE 8), the 8th in this continuing series of triennial conferences, which was held in beautiful Cancun, Mexico, in May 2012. PRE 8 was chaired by Prof. Marc A. Dubé (Univ. of Ottawa, Canada), Dr. Marco Villalobos (Cabot Corp., USA) and Prof. Eduardo Vivaldo-Lima (UNAM, Mexico). The conference, the major North American conference on emerging technologies and scientific advancements in the area of polymer reaction engineering, provided an update on several core and emerging aspects of PRE, organized into the following six lecture sessions and two poster sessions:

- New Trends in Polymer Reaction Engineering, co-chaired by Dr. Philipp Mueller (DuPont, Wilmington, USA) and Prof. Giuseppe Storti (ETH Zurich, Switzerland).
- Polymer Process Monitoring, Control and Simulation, co-chaired by Dr. Klaus-Dieter Hungenberg (BASF, Germany) and Prof. Alex Penlidis (U. Waterloo).
- Sustainable Polymer Reaction Engineering, co-chaired by Dr. John Eng (DuPont, Wilmington, USA) and Prof. Mike Cunningham (Queen's U.).
- Industrial Process Innovation in Polymer Reaction Engineering, co-chaired by the late Dr. George Kalfas (DuPont, Wilmington, USA) and Dr. Min Zhang (Dow, USA).
- Novel Polymer Applications, co-chaired by Dr. Oihana Elizalde (BASF, USA) (replaced at the conference by Dr. Timothy Klots (BASF, USA)) and Prof. Tim Bender (U. Toronto, Canada).
- Recent Advances in Heterogeneous Polymerization, co-chaired by Dr. Isabel Saenz de Buruaga (Comex, Mexico) and Prof. Jose Ramon Leiza (Basque U., Spain).

- Poster Sessions (two), with a total of 80 poster presentations selected among 163 submissions (includes invited presentations) co-chaired by Dr. Jon Debling (BASF, USA), Prof. Milan Maric (McGill Univ., Canada) and Prof. Davide Moscatelli (Politecnico di Milano, Italy).

In PRE 8, there were three to four invited oral presentations per session along with oral contributions selected from poster presenters for a total of six presentations per session, on average. A carefully balanced program ensured a more or less equal number of industrial and academic presenters. A strong emphasis was placed on inviting new faces in order to promote the influence of PRE worldwide while expanding the knowledge of our conference participants by stretching the boundaries of PRE. The session topics, lectures and posters reflected the developing trends in PRE and contained a strong, emerging emphasis on sustainable polymerization methods and new polymer applications.

The plenary lecture at the conference banquet was presented by Prof. Jesús Álvarez-Calderón, Universidad Autónoma Metropolitana, Plantel Iztapalapa (UAM-I), Mexico City, Mexico. National Researcher, Level III, Sistema Nacional de Investigadores (S.N.I.), México. Prof. Alvarez was invited to talk about the growing polymer community in Mexico. He spoke briefly to this while presenting an overview of his work entitled "Control of batch emulsion polymerization reactors".

Among the 80 poster presentations, three were awarded poster prizes (consisting of a free one-year subscription to *Macromolecular Reaction Engineering* and a book voucher to the value of 200 Euros (approx. \$ 300)), generously provided by the *Macromolecular Journals*; Wiley-VCH. The poster prizes, for posters presented by graduate students, went to Ms. Rebekka Siegmann (Potsdam Univ.,

Germany), Ms. Ruzica Kasalo, Darmstadt Univ., Germany) and Mr. Pouyan Sardashti (Univ. of Waterloo, Canada). In addition, the financial support from Sulzer Chemtech Ltd., CiT, Sabic, BASF, Univ. of Ottawa, CIQA, CONACYT, Facultad de Quimica at UNAM, and UNAM post-graduate engineering program, was an essential component in assembling a very strong technical program.

PRE 8 continued the mandate of the PRE conference series to bring together the leading researchers from academia, industry and other research organizations to discuss a broad range of practical, theoretical and new topics in the area. The two poster sessions, an extremely popular and successful part of the conference, were an important aspect of the conference not only because of the technical information they conveyed but also for the invaluable interactions and the important 'social' component they provided. Among the 105 attendees, ~35 were from industry (continuing the strong academia/industry interactions in the PRE community), 30 were graduate students and the remainder (40) was from academia. The number of attendees was consistent with previous PRE conferences (PRE 7, Niagara Falls -98; PRE 6, Halifax – 119; PRE 5, Quebec – 102. Although the number of industrial participants has dropped somewhat, it was encouraging to see many new faces and companies attending the conference. A total of 19 countries were represented, with 20 participants from Germany, 19 from Canada, 14 from USA, 9 from Mexico, and the others from Brazil, the Netherlands, France, Saudi Arabia, Argentina, Czech Republic, Switzerland, Italy, Belgium, Spain, Japan, Slovenia, Venezuela, Norway.

The overall conference program and poster sessions were structured to promote the informal and collegial atmosphere that makes this conference highly valued in the research and industrial community.

It is also worth noting that the location of the conference was a great hit with parti-

cipants. The facilities and staff at the Gran Melia were top-notch. Holding the conference in a more "captive" setting such as a resort, was highly conducive to participant interaction. Other changes to the conference format such as compressing the conference to four days from five and bookending the conference with intensive days leaving more relaxed days in between was also well received. The tour of Chichen Itza was also a highlight.

All agreed that the meeting was a resounding success. The on-line feedback forms showed an overwhelmingly positive response to the conference. We now look forward to PRE 9 in 2015, to be chaired by Prof. Eduardo Vivaldo-Lima (UNAM, Mexico) and Prof. John Tsavalas (Univ. of New Hampshire, USA). An industrial co-chair will be named in the coming months.

This special issue is dedicated in memoriam to Drs. George Kalfas (co-chair of one of our sessions) and Tuyu Xie (presenter at PRE 7). Drs. Kalfas and Xie passed away since the PRE 7 conference and each was given a brief memorial presentation at PRE 8. Participants who knew both very well, greatly appreciated the touching comments offered by their colleagues.

On behalf of the PRE 8 Conference Chairs, we hope that you will enjoy this very special issue.



George A. Kalfas (1963–2011)

Dr. George Kalfas obtained his Diploma in Chemical Engineering from the Aristotle University of Thessaloniki, Greece in 1986

and then went on to the University of Wisconsin where he obtained his PhD under Professor W. Harmon Ray in 1992. His dissertation focused on experimental studies and mathematical modeling of aqueous suspension polymerization reactors. After a two year service in the Greek Army he joined DuPont in 1994.

During his fifteen years with DuPont he worked in various assignments in Central Research, Polyester Technologies and Performance Coatings. He proposed a kinetic mechanism for the depolymerization of Nylon mixtures and developed a fundamental dynamic model for the depolymerization of post-consumer Nylon. He developed a detailed process model for polyester polymerization lines and applied it to demonstrate improvements in equipment design and process operation through fundamental understanding of the polymerization process. He was instrumental in the development of fundamental process models for polymer manufacturing processes for DuPont Performance Coatings. He demonstrated the use of these models in safety screening, process control check-out, operator training, process scale-up and process optimization resulting in significant financial benefit to DuPont. Furthermore, he managed a critical-to-operations process safety program, developed standards, audited operating areas for compliance, compiled leading indicators, developed training material, performed risk evaluations, and provided technical leadership to twelve manufacturing sites.

He was active in external collaborations and initiated and managed collaborations with Professors Robin Hutchinson (fundamental understanding of acrylic copolymerizations) and Masoud Soroush (high temperature polymerizations, process control and optimization). He published 15 papers in refereed journals and conference proceedings and was chosen as a Session Chair for the 8th Polymer Reaction Engineering Conference in 2012.

George will be remembered by his family, friends, and coworkers, for his

intellectual capabilities, deep knowledge of polymerization Systems, professionalism, integrity, passion for detailed modeling and most importantly for his love of his family and his joy of living.



Tuyu Xie

Tuyu Xie died from cancer on Dec. 9, 2010 in Kingston, Ontario, Canada at the age of 55. Tuyu was a talented Polymer Reaction Engineer who was much admired by his colleagues at DuPont and his collaborators at Queen's University. He will be greatly missed by his sons Edward and James, and his wife Xichun Miao. Tuyu Xie completed his B.Eng. and M.Eng. degrees at Zhejiang University in Hongzhou, China before coming to McMaster University in Hamilton, Canada in 1985. At McMaster, his Ph.D. research on vinyl chloride polymerization was supervised by Profs. Archie Hamielec, Phil Wood and Don Woods. Following his Ph.D., Tuyu was a postdoctoral fellow at McMaster, where he wrote a series of influential papers on modeling of copolymerization kinetics with Archie Hamielec, and then at Queen's University where he worked with Kim McAuley, Jim Hsu and David Bacon on product property modeling in ethylene polymerization. Tuyu joined DuPont Canada in 1994 where he worked for 16 years on a diverse range of products including development and licensing of DuPont's Versipol[®] linear alpha olefins technology, development and scale up of

Cerenol[®] polyols, optimizing the process for a key crop protection chemical, and process modeling for fuel cells. Tuyu Xie is a co-inventor for 10 DuPont patents. One of Tuyu's strengths was his knowledge of process fundamentals and the ability to develop process models to guide the development of science. He applied a data-driven approach to problem solving and was much admired at DuPont for his logic,

rigour and honesty. He was highly effective in gaining acceptance and buy-in regarding his conclusions. At the time of his death, Tuyu was the industrial supervisor for a Queen's Ph.D. student developing improved models for Cerenol[®] polyols. This work is continuing, benefitting greatly from the insightful experiments performed by Tuyu and his colleagues. Tuyu Xie was a valued colleague, mentor and friend.

