Engineering Conferences International (ECI) sponsored Polymer Reaction Engineering VII (PRE VII, PRE 7), the 7th in this continuing series of triennial conferences, which was held in beautiful Niagara Falls, Ontario, in May 2009. PRE 7 was chaired by Prof. Alexander Penlidis, Univ. of Waterloo, Canada, Dr. John Richards, DuPont, USA, and Prof. Marc Dubé, Univ. of Ottawa, Canada. 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:

Mathematical Modeling and Scale-up of Copolymerization Processes (co-chaired by Dr. Klaus-Dieter Hungenberg, BASF, Germany, and Prof. Eduardo Vivaldo-Lima, UNAM, Mexico)

Emulsion and Suspension Polymerization: New Developments and Issues for PRE (co-chaired by Prof. Giuseppe Storti, ETH, Switzerland, and Dr. John Congalidis, DuPont, USA)

PRE of Controlled Radical Polymerization: Practical Manufacturing Issues (co-chaired by Prof. Shiping Zhu, McMaster Univ., Canada, and Dr. Marco Apostolo, Solvay-Solexis, Italy)

Reactive Processing and Modification: Interactions with PRE (chaired by Prof. Costas Tzoganakis, Univ. of Waterloo, Canada)

Nano-structured Polymer Materials and Nano-particles: Reactions and Processing Issues (co-chaired by Prof. Donald Sundberg, Univ. of New Hampshire, USA and Dr. Dean Millar, Dow Chemical, USA)

Polymers from Renewable Sources, Biopolymers and Biologically Degradable Polymers (chaired by Prof. Ramani Narayan, Michigan State, USA)

Poster Sessions (two), with a total of 76 poster presentations, selected among 175 submissions (co-chaired by Prof. Michael Cunningham, Queen's Univ., Canada, Dr. Daryoosh Beigzadeh, Dow Chemical, USA, and Dr. Jon Debling, BASF, USA)

In PRE 7, there were six papers presented per session, one more paper per session than in previous PRE conferences. From these six papers, three were invited lectures and the other three were contributed, selected from the ones that were accepted as posters. Half of the invited lectures were from industrial groups. Session topics, lectures and posters reflected the developing trends of applying PRE principles and problem-solving skills not only to improvement of polymerization processes, but also to the design and development of new materials and polymer products.

The plenary lecture at the conference banquet was presented by Dr. Thomas Connelly, Jr., Executive Vice President and Chief Innovation Officer of E. I. du Pont de Nemours and Company. Entitled ''DuPont Innovation in the World of Polymers'', it was followed by a vivid discussion between the banquet speaker and the audience, confirming the important role of PRE in industrial process innovation.

The first four sessions (following the same sequence as shown above) of the conference covered 'core' PRE topics, especially the first two with the ever popular topics on mathematical modeling and heterophase polymerizations, respectively.

The last two sessions of PRE 7 represented rather new areas for polymer reaction engineers and brand new sessions for the PRE conference series. As such, they generated many interesting discussions, and kept the audience enthralled until the very end of the conference on Friday, May 8, 2009, at noon. The eighteen peer-reviewed papers of this special issue represent every session of PRE 7 and hence provide a very good 'taste' of the whole conference.

The two extremely popular poster sessions, with 76 posters, covered a wide variety of topics and complemented beautifully the PRE 7 lectures. Presentations ranged from high throughput polymer synthesis, water-soluble polymers, fluidized

bed hydrodynamics, process safety, in-line monitoring, relevance of backbiting reactions, elastomer cross-linking by organic peroxides, copolymer sequence distributions in controlled radical polymerizations, polymerizations in supercritical carbon dioxide, degradation kinetics, performance indicators of pressure-sensitive adhesives, and scale-up of polycondensation reactions, all the way to mixing analysis in emulsion reactors, depropagation kinetics in multicomponent systems, model-based transfer from batch to continuous operation, hydrogels for tissue engineering applications, nitrile rubber/carbon nano-tube nano-composites, simulation of tubular LDPE reactors, polymerization kinetics in ionic liquids, precipitation polymerization of vinyl imidazole and vinyl pyrrolidone, copolymerizations with cross-linking, impact resistance and morphology evolution of high-impact polystyrene, process intensification by spray polymerization, dendronized polymers, and emulsion polymerization in micro-reactors.

Among the 76 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. Sandhya Santanakrishnan, Queen's Univ., Canada, Mr. Thomas Kroner, Fraunhofer Polymer Pilot Plant Centre, Germany, and Ms. Eleonore Moller, Potsdam Univ., Germany. In addition, the financial support from Chemspeed Technologies, Nova Chemical Company, Sulzer Chemtech Ltd., Institute for Polymer Research (IPR), Univ. of Waterloo, Canada, and Xerox Research Corporation of Canada, was an essential component in assembling a very strong technical program.

PRE VII 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, are an important aspect of the conference not only because of the technical information they convey but also for the invaluable interactions and the important 'social' component they provide. Among the 100 attendees, 45% were from academia, 30% were graduate students or from other research organizations/institutes, and 25% were from industry (continuing the strong academia/industry interactions in the PRE community, despite the adverse international financial climate in 2008/2009). A total of 19 countries were represented, with 24 participants from USA, 21 from Canada, 16 from Germany, 7 from Mexico, 6 from Switzerland, and 5 from France, with the 13 other countries (as far away as China and Taiwan) participating with 1 or 2 attendees. 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. The beautiful Falls and the surrounding wineries provided ample entertainment between sessions.

All agreed that the meeting was a resounding success. We now look forward to PRE VIII (PRE 8) in 2012, to be chaired by Prof. Marc Dubé, Univ. of Ottawa, Canada, and co-chaired by Prof. Eduardo Vivaldo-Lima, UNAM, Mexico, and Dr. Marco Villalobos, BASF, USA.

On behalf of the PRE VII Conference Chairs, we hope that you will enjoy this special issue as well!

Alexander Penlidis

