

Program

Polymer Reaction Engineering V

May 18-23, 2003

***Hotel Radisson
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Conference Chair

João B.P. Soares
University of Waterloo

Conference Co-Chairs

Rafael Galvan
Johnson Polymer

Robin A. Hutchinson
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Organizing Committee

Conferences Organizers

**Joao B.P. Soares
Robin A. Hutchinson
Rafael Galvan**

Session Chairs

**Jose Asua
Daryoosh Beigzadeh
John Dealy
Klaus-Dieter Hungenberg
Timothy McKenna
Massimo Morbidelli
Michael Muhle
Kevin Peil
Alexander Penlidis
W. Harmon Ray
Leonardo Simon
Fouad Teymour
Paula Wood-Adams**

The conference chairs and organizers would like to thank the following for their generous support of this conference:

Autoclave Engineers

BASF

Basell Polyolefine GmbH

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ExxonMobil Chemical

Institute for Polymer Research (U. of Waterloo)

Johnson Polymer

NOVA Chemicals

Politeno

Progression, Inc.

Ticona GmbH

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Sunday, May 18, 2003

16:00 – 18:00	Registration
18:00 – 18:30	Welcome Reception
18:30 – 20:00	Dinner
20:00 – 21:00	Social Hour

Notes

All meals will be in the Duquesne Room.

All technical sessions will be in the Jonquerre/Lauzon Roms.

All ECI conferences technical sessions, meals, and socials are smoke-free.

Please turn your cell phone to vibrate and have any telephone conversations outside the meeting room.

Monday, May 19, 2003

- 07:00 – 08:15 Breakfast
- 08:15 – 08:30 Conference Welcome and Overview
Conference Chair and ECI Representative

Session I: New Mathematical Modeling Techniques

Chairs: M. Muhle and A. Penlidis

- 08:30 – 09:15 *A new arithmetic for linear free radical polymerization*
Fouad Teymour
Illinois Institute of Technology, Chicago
- 09:15 – 10:00 *Use of CFD in reaction schemes for polymerization in multi-particle systems*
Rodney O Fox
Iowa State University
- 10:00 – 10:30 Coffee Break
- 10:30 – 11:15 *Aggregation processes in emulsion polymerization*
Massimo Morbidelli
Lab. fur Technische Chemie/LTC, Zurich
- 11:15 – 12:00 *The use of high throughput screening tools in polymer reaction engineering*
Kevin Peil
Dow Chemical
- 12:00 – 12:20 *Simulating polymerization reactions: benefits within laboratory investigations and technical applications*
Markus Busch, Matthias Müller, M. Wulkow
University of Gottingen
- 12:20 – 17:00 Lunch on your own
ad hoc discussions, free time

Session II: Structure Property Relationships

Chairs: P. Wood-Adams and J. Dealy

- 16:30 – 17:00 Afternoon Coffee
- 17:00 – 17:50 *Structure-property relationships in ethylene copolymers*
Anne Hiltner
Case Western University
- 17:50 – 18:40 *Using structure-property models to accelerate the development of industrially significant applications for polyolefins*
Steve Chum
Dow Chemical Company

Monday, May 19, 2003 (continued)

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| 18:40 – 19:00 | <i>High solids butyl acrylate/methyl methacrylate latexes: adhesive properties</i>
Marc A. Dubé
University of Ottawa |
| 19:00 – 20:30 | Dinner |
| 20:30 – 21:30 | Social Hour |

Tuesday, May 20, 2003

07:00 – 08:30 Breakfast

Session III: New Polymerization Systems

Chairs: W.H. Ray and M. Morbidelli

08:30 – 09:15 *Synthesis and processing of polymers in supercritical fluids*
A. I. Cooper
University of Liverpool

09:15 – 10:00 *Late transition metal catalysts as the new frontier in co-polymerization of α -olefins and polar monomers with ethylene: A computational exploration*
T Ziegler and Artur Michalak
University of Calgary

10:00 – 10:30 Coffee Break

10:30 – 11:15 *Microemulsion polymerization for producing fluorinated structured materials*
Marco Apostolo
Solvay-Solexis

11:15 – 12:00 *Controlled free-radical polymerization for performance coatings*
Mike Grady
Dupont

12:00 – 12:20 *Ultrasound-induced polymerization of methyl methacrylate in liquid carbon dioxide*
Maartje Kemmere
Eindhoven University

12:20 – 14:00 Lunch

14:00 – 17:00 **Poster Session** with dessert and coffee

Evening on your own

Wednesday, May 21, 2003

07:00 – 08:30 Breakfast

Session IV: Polymer Fundamentals

Chairs: J. Asua and M. Grady

08:30 – 09:15 *Novel photopolymerization methods and their exploitation for emerging applications*
Chris Bowman
University of Colorado

09:15 – 10:00 *Branching and crosslinking in emulsion polymerization*
J.R. Leiza
University of the Basque Country

10:00 – 10:30 Coffee Break

10:30 – 11:15 *Fundamentals of RAFT*
Graeme Moad
CSIRO

11:15 – 12:00 *Prediction of thermodynamic properties of polymer systems*
Gabriele Sadowski
University of Dortmund

12:00 – 12:20 *Achieving high conversions in nitroxide-mediated living/controlled minemulsion polymerizations*
Michael Cunningham
Queen's University

12:20 – 14:00 Lunch

14:00 – 17:00 **Poster Session** with dessert and coffee

Evening on your own

Thursday, May 22, 2003

07:00 – 08:30 Breakfast

Session V: Industrial Applications of PRE

Chairs: K. Peil and D. Beigzadeh

08:30 – 09:15 *Modeling of long chain branching: Application of new products from gas phase reactors*
Robert Pannell
Univation Technologies

09:15 – 10:00 *Particle formation under monomer-starved conditions in emulsion polymerization reactors*
Shahriar Sajjadi
King's College London

10:00 – 10:30 Coffee Break

10:30 – 11:15 *Continuous high temperature polymerization for the production of hyperbranched polystyrene*
David Campbell
Johnson Polymer

11:15 – 12:00 *Process modeling for the development of optimization strategies for industrial polystyrene production processes*
J Gao, K Hungenberg & K Zollner
BASF

12:00 – 12:20 *The advanced Sclairtech polyethylene process*
Steve Brown
NOVA Chemicals

12:20 – 18:30 Lunch on your own
ad hoc discussions, free time

18:30 – 19:00 Social Hour

19:00 **Conference Banquet and Plenary Talk** (W.H. Ray)
Followed by Social Hour

Friday, May 23, 2003

07:00 – 08:30 Breakfast

Session VI: Process Monitoring and Control

Chair: K.D. Hungenberg and F. Teymour

- 08:30 – 09:15 *Monitoring and control of polymerization reactors using NIRS*
José Carlos C. da Silva Pinto
COPPE/UFRJ
- 09:15 – 10:00 *Batch process monitoring and diagnosis: Applications to polymerization systems*
Ali Cinar
ITT
- 10:00 – 10:30 Coffee Break
- 10:30 – 11:15 *Comparing near infrared and raman spectroscopy for on line monitoring of emulsion copolymerization reactions*
Reinaldo Giudici, Department of Chemical Engineering
University of São Paulo
- 11:15 – 12:00 *Hydrodynamics in horizontal slurry loop reactors*
Ton Kroezen
SABIC EuroPetroChemicals
- 12:00 – 12:20 *Training simulator for PP multizone circulating reactor process (the spherizone process)*
Christian-Ulrich Schmidt
Basell
- 12:20 Conference Close and Departure