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ADVANCES IN POLYOLEFINS 2005 * SONOMA DOUBLETREE, CA USA

SUNDAY, SEPTEMBER 25, 2005

- 6:00 p.m. **REGISTRATION AND WELCOME RECEPTION**
- 7:30 p.m. **James E. McGrath, E. Bryan Coughlin, and Pal Arjunan**
Overview and Objectives of the Workshop
- 7:45 p.m. **Faisal H. Syed and Balaji B. Singh, *Chemical Market Resources, Inc.***
"Latest Commercial Trends in Polyolefins Catalyst, Process and Materials" ----- 1

MONDAY, SEPTEMBER 26, 2005

7:30 a.m. **CONTINENTAL BREAKFAST**

INVITED LECTURE SESSION I

Pal Arjunan, Discussion Leader

- 8:15 a.m. **Tobin Marks, *Northwestern University***
"Single versus Multiple Site Olefin Polymerization Catalysts" ----- 2
- 9:00 a.m. **Cynthia Micklatcher, *Symyx Technologies***
"The Discovery and Development of Stereospecific Propylene Polymerization
Catalysts using High-Throughput Techniques" ----- 3
- 9:45 a.m. **Boping Liu, *Japan Advanced Institute of Science and Technology, Japan***
"Experimental and Theoretical Investigations of Physico-Chemical Nature of
Surface Chromate Species on Phillips Cr Catalysts for Ethylene Polymerization" ----- 4

10:30 a.m. **BREAK**

INVITED LECTURE SESSION II

E. Bryan Coughlin, Discussion Leader

- 10:45 a.m. **Dave J. Lohse, *ExxonMobil Research & Engineering Company***
"Predicting Polyolefin Properties from Chemical Architecture" ----- 5
- 11:15 a.m. **William E. Wallace, *National Institute of Standards and Technology***
"Advances in the Mass Spectrometry of Polyolefins" ----- 6
- 11:45 a.m. **Fazle Sibtain, *NOVA Chemicals Corporation***
"Advanced SCLAIRTECH(tm) - A Singular Success: A Chemist's Perspective
from Bench Scale to World Class Commercial Plant" ----- 7
- 12:15 p.m. **LUNCH**



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MONDAY, SEPTEMBER 26, 2005, CONT'D

INVITED LECTURE SESSION III

Dave J. Lohse, Discussion Leader

- 1:30 p.m. **Brian L. Goodall**, *Rohm and Haas Company*
"Challenges and Advances in the Catalytic Copolymerization of Olefins with
Polar Monomers" ----- 8
- 2:15 p.m. **Robert M. Waymouth**, *Stanford University*
"Olefin Polymerization with Monocyclopentadienyl Titanium Nitroxide
Complexes" ----- 9
- 2:45 p.m. **Greg Saunders**, *Polymer Laboratories Ltd., United Kingdom*
"Structural Analysis of Polyolefins by Gel Permeation Chromatography" ----- 10
- 3:15 p.m. **BREAK**

INVITED LECTURE SESSION IV

Robert M. Waymouth, Discussion Leader

- 3:30 p.m. **Minoru Terano**, *Japan Advanced Institute of Science and Technology, Japan*
"Improvement of Molecular Level Stability of Polypropylene" ----- 11
- 4:00 p.m. **Peter Zoricak**, *NOVA Chemical Corporation*
"Ketimine Based Complexes for Olefin Polymerization" ----- 12
- 4:30 p.m. **Francis M. Mirabella**, *Lyondell Chemical Co.*
"Crystallization and Melting of Polyethylene- α -olefin Copolymers: Atomic Force
Microscopy and DSC Studies" ----- 13
- 5:30 p.m. **RECEPTION AND POSTER SESSION**
- 6:30 p.m. **DINNER ON YOUR OWN**

TUESDAY, SEPTEMBER 27, 2005

7:30 a.m. **CONTINENTAL BREAKFAST**

INVITED LECTURE SESSION V

Francis M. Mirabella, Discussion Leader

- 8:15 a.m. **Bernhard Wunderlich**, *The University of Tennessee*
"The Decoupling of Polyolefin Chain Segments on Phase Boundaries and the
Resulting Effects on Thermodynamic and Mechanical Properties" ----- 14
- 8:45 a.m. **Zhibin Guan**, *University of California, Irvine*
"Robust and Versatile Cyclophane-Based Late Transition-Metal Catalysts for
Polyolefin Synthesis" ----- 15



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- 9:15 a.m. **Armenag H. Dekmezian** and **Weiqing Weng**, *ExxonMobil Chemical Company*
"High Melt Strength Polypropylene through α , ω -Diene Incorporation" ----- 16
- 9:45 a.m. **Patricia M. Cotts**, *DuPont CR&D*
"Microstructure and LCB Differences in Tubular and CSTR Polyolefins and Ethylene Copolymers"----- 17
- 10:15 a.m. **BREAK**

INVITED LECTURE SESSION VI

Hans-Werner Schmidt, Discussion Leader

- 10:30 a.m. **Leonardo C. Simon**, *University of Waterloo, Canada*
"Hybrid Nanocomposites Prepared by In Situ Polymerization" ----- 18
- 11:00 a.m. **Hans Thomann**, *ExxonMobil Corporate Research Lab*
"Advances in Optical and Magnetic Resonance Techniques for Activated Metallocene Characterization"----- 19
- 11:30 a.m. **Edward Zhao**, *Milliken*
"Recent Advances in Nucleation and Clarification of Polyolefins"----- 20
- 12:00 p.m. **LUNCH**

INVITED LECTURE SESSION VII

R. E. King III, Discussion Leader

- 1:30 p.m. **Rajen M. Patel**, *The Dow Chemical Company*
"Advances in Application of Polyolefins in Non-wovens" ----- 21
- 2:00 p.m. **Pal Arjunan**, *ExxonMobil Chemical Company*
"Radiation Resistant PP Copolymers" ----- 22
- 2:30 p.m. **Todd Emrick**, *University of Massachusetts at Amherst*
"Polyolefins in Water and at Oil-Water Interfaces: Studies in ROMP and Interfacial Assembly"----- 23
- 3:00 p.m. **BREAK**

INVITED LECTURE SESSION VIII

Brian L. Goodall, Discussion Leader

- 3:15 p.m. **P. S. Ravishankar**, *ExxonMobil Chemical Company*
"Ethylene Elastomers Process/Product Overview - Metallocene vs Z-N Catalyst" ----- 24
- 3:45 p.m. **Bob Lee**, *Shell Global Solution USA*
"The Evaluation of Alpha Olefin Comonomers on Polymerization of Ethylene Prepared by Metallocene Catalyst " ----- 25



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- 4:15 p.m. **Hans-Werner Schmidt**, *University of Bayreuth, Germany*
"Efficient Nucleating Agents and Clarifiers for Isotactic Polypropylene" ----- 26
- 4:45 p.m. **João Soares**, *University of Waterloo, Canada*
"Mathematical Modeling of Dual Metallocene Catalysts for the Production of
Branched Polyolefins with Complex Architectures – The Role of the *Cross*
Product Fraction"----- 27
- 5:30 p.m. **DINNER ON YOUR OWN**

WEDNESDAY, SEPTEMBER 28, 2005

7:30 a.m. **CONTINENTAL BREAKFAST**

INVITED LECTURE SESSION IX

Pal Arjunan, Discussion Leader

- 8:15 a.m. **E. Bryan Coughlin**, *University of Massachusetts, Amherst*
"Kinetic Modeling and Parameter Estimation of The Metallocene Catalyzed
Slurry Polymerization of Propylene: Effect Of Mao/Zr Ratio" ----- 28
- 8:45 a.m. **Donald G. Baird**, *Virginia Tech*
"The Effect of Sparse Long Chain Branching on the Rheology and Processing
Stability of Metallocene Catalyzed Polyethylene"----- 29
- 9:15 a.m. **R.E. King, III**, *Ciba Specialty Chemicals*
"Stabilization of Polyolefins: Chemistry and Effects" ----- 30
- 9:45 a.m. **T. C. Mike Chung**, *The Pennsylvania State University*
"Novel Reactive Ethylene-based Rubber Particles with Well-defined Structure;
Synthesis and Application in Toughening Rigid Plastics" ----- 31
- 10:15 a.m. **BREAK**

INVITED LECTURE SESSION X

James E. McGrath, Discussion Leader

- 10:30 a.m. **Pierre J. Lutz**, *University of Strasbourg, France*
"Calix[4]Arenes: New Platforms for the Synthesis of Highly Efficient Late
Transition Metal Catalysts" ----- 32
- 11:00 a.m. **Klaus H. Theopold**, *University of Delaware*
"Homogeneous Chromium Model Chemistry for the Phillips Catalyst" ----- 33
- 11:30 a.m. **Scott Collins**, *The University of Akron*
"Dinuclear Activators. Their Use in Cationic Polymerization" ----- 34



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12:00 p.m. **LUNCH**

INVITED LECTURE SESSION XI

E. Bryan Coughlin, Discussion Leader

- 1:30 p.m. **Stephen A. Miller**, *Texas A&M University*
"Sterically Expanded Transition Metal Catalysts for Olefin Polymerization" ----- 35
- 2:00 p.m. **Ioan Tincul**, *retired, The Tshwane University of Technology, South Africa*
"The Influence of the Type of Short Chain Branching on Ethylene/ Higher Alpha
Olefin Polymer Properties" ----- 36
- 2:30 p.m. **John M. Torkelson**, *Northwestern University*
"Polyolefin Nanocomposites for the Real World: Achieving Well-Dispersed
Nanofiller Sheets, Nanotubes, and Nanoparticles by Solid-State Shear
Pulverization" ----- 37
- 3:00 p.m. **Béla Iván**, *Hungarian Academy of Sciences, Hungary*
"Unprecedented Structural Dependence of Blending Efficiency of Well-Defined
Poly(Propylene-g-Styrene) Graft Copolymers Obtained by the Combination of
ATRP, Carbocationic and Metallocene Chemistries" ----- 38
- 3:45 p.m. **James E. McGrath, E. Bryan Coughlin and Pal Arjunan**
Closing Remarks