

Lecture Table of Contents

SUNDAY, SEPTEMBER 24

2:00 PM *REGISTRATION BEGINS*

MCGRATH LECTURE SERIES

Introduction: Pal Arjunan, Ken Wagener, Geoff Coates, and Jerzy Klosin

3:00 PM	Pal Arjunan	Welcome Address: General Overview of APO 2017	
3:15 PM	01. MCGRATH LECTURER: Robert H. Grubbs, California Institute of Technology	Synthesis of Polymers with Designed Structures.....	11
4:15 PM	02. Julia Kornfield, California Institute of Technology	How Do Oriented Precursors Form During Processing Flows?	12
4:45 PM	03. Robert Waymouth, Stanford University	Catalytic Monomer and Polymer Synthesis.....	13
5:15 PM	04. Frank Bates, University of Minnesota	Thermodynamics and Properties of Polyolefin Blends	14
5:45 PM	05. Anusha Kothandraman, Braskem Americas	Trends in North American Polyolefin Markets.....	15
6:15 PM	<i>SESSION ENDS</i>		
6:30 PM	<i>WELCOME RECEPTION</i>		

MONDAY, SEPTEMBER 25

7:00 AM *CONTINENTAL BREAKFAST*

INVITED LECTURE SESSION I

Discussion Leader: Geoff Coates, Cornell University

8:00 AM	06. Tobin Marks, Northwestern University	Symbiosis and Cooperativity in Single-Site Olefin Polymerization Catalysis on Surfaces and in Solution	16
8:30 AM	07. Susannah Scott, University of California at Santa Barbara	Self-Activating Heterogeneous Catalysts for Olefin Polymerization: How Mechanisms Can Lead to Better Formulations	17
9:00 AM	08. Rick King, BASF Corporation	Polyolefin Stabilization: Update on Activities, Trends, and Sustainability	18
9:30 AM	09. T.C. Mike Chung, Pennsylvania State University	Polypropylene Containing Cross-linkable Antioxidant; Exhibiting Excellent Thermal/Oxidative Stability in Air under Elevated Temperature Conditions	19
10:00 AM	<i>BREAK</i>		



MONDAY, SEPTEMBER 25, CONT'D

INVITED LECTURE SESSION II

Discussion Leader: Pat Brant, ExxonMobil Chemical Company

10:30 AM	10.	Eric Baer and Andrew Olah, Case Western Reserve University Co-Extrusion of Polyolefins for Enhanced Performance Applications	20
11:00 AM	11.	Kenneth Wagener and Mike Bill, University of Florida High Temperature Metathesis Chemistry For Precision Polyolefins	21
11:30 AM	12.	Chip Few, Braskem Americas New Polypropylene Compositions for Automotive & Packaging Markets	22
12:00 PM	13.	Stefan Mecking, University of Konstanz, GERMANY Unconventional Polyolefin Architectures and Nanostructures from Functional Group Tolerant Catalysis	23
12:30 PM		<i>LUNCH</i>	

INVITED LECTURE SESSION III

Discussion Leader: Jerzy Klosin, Dow Chemical Company

1:30 PM	14.	John Severn, DSM, THE NETHERLANDS Pulling the Strings of the World's Strongest Fiber™	24
2:00 PM	15.	Clark Landis, University of Wisconsin, Madison New Methods for Kinetic Modeling of Catalytic Alkene Polymerization and Chain Transfer Processes	25
2:30 PM	16.	Roger Kuhlman, Univation Technologies Complex Polyethylene Compositions from Molecular Catalysts.....	26
3:00 PM		<i>BREAK</i>	

INVITED LECTURE SESSION IV

Discussion Leader: Ken Wagener, University of Florida

3:30 PM	17.	Glenn Fredrickson, University of California at Santa Barbara Extreme Morphologies in Polymer Alloys by Molecular Design: Can Hard, Tough, and Elastic Coexist?	27
4:00 PM	18.	Rufina Alamo, Florida State University Peculiar Homogeneous Nucleation of Crystalline Polyolefins	28
4:30 PM	19.	Antonio Vittoria, R. Cipullo, F. D. Cannavacciuolo, and V. Busico, Federico II University, Naples, ITALY A Mechanistic HTE Approach To Olefin Chain Shuttling Polymerizations	29
5:00 PM	20.	Takeshi Shiono, Hiroshima University, JAPAN Novel Cycloolefin Copolymers Possessing Pendant Functional Groups Synthesized by <i>ansa</i> -Fluorenylamide-Ligated Dimethyltitanium Catalyst	30
5:30 PM		<i>SESSION ENDS</i>	
6:00 PM		<i>RECEPTION AND POSTER SESSION</i>	



TUESDAY, SEPTEMBER 26

7:00 AM CONTINENTAL BREAKFAST

INVITED LECTURE SESSION V

Discussion Leader: Raj Krishnasamy, Braskem Americas

8:00 AM	21.	Lawrence Sita, University of Maryland Design and Characterization of New Classes of Nanostructured Polyolefin Block Copolymers.....	31
8:30 PM	33.	Nikos Hadjichristidis, KAUST, SAUDI ARABIA Polyethylene-Based Complex Macromolecular Architectures	44
9:00 AM	23.	Maxence Valla, ARLANXEO, THE NETHERLANDS Keltan ACE™ Technology: Quantitative Structure Activity Relationship (QSAR) for EP(D)M Catalyst Design.....	33
9:30 AM	24.	Taylor Vozniak, The Catalyst Group Resources (TCGR) Polyolefin Catalysts and Processes: Technological and Commercial Impacts on PE and PP, 2015–2025	34
10:00 AM	BREAK		

INVITED LECTURE SESSION VI

Discussion Leader: João B. P. Soares, University of Alberta, CANADA

10:30 AM	25.	Timothy F. L. McKenna, R. Alves, and F. Andrade, Université de Lyon, FRANCE Towards a Better Understanding of Condensed Mode Cooling.....	35
11:00 AM	26.	Mirian Diop, E. Morris, T. Boller, and J. Brinen, ExxonMobil Chemical Company Gas Phase Scale-Up Fundamentals: Drawing Critical Insights from Lab-Scale Reactors	36
11:30 AM	27.	João B. P. Soares, University of Alberta, CANADA Using Monte Carlo Simulation to Understand Multi-Reactor Polyolefins.....	37
12:00 PM	28.	Enrique Saldívar-Guerra, CIQA, MEXICO Mechanistic Understanding of the High Pressure LDPE Process in Multizone Autoclave Reactors.....	38
12:30 PM	LUNCH		

INVITED LECTURE SESSION VII

Discussion Leader: Hamid AL-Megren, KACST

1:30 PM	29.	Gail Blakley, Albemarle Corporation Metallocene Catalyst Activation for Polymerization: Aspects and New Insights	39
2:00 PM	30.	Richard A. Register, Princeton University Melt Miscibility of Polyethylene with Hydrogenated ROMP Poly(x-norbornene)s.....	40
2:30 PM	31.	Kazuo Takaoki, Sumitomo Chemical, JAPAN C8 Ring Bridged <i>ansa</i> -[OSSO] Catalysts: A Wide Variety of Properties through Ligand Design	42
3:00 PM	BREAK		



TUESDAY, SEPTEMBER 26, CONT'D

INVITED LECTURE SESSION VIII

Discussion Leader: Donald Morrison, Norquay Technology, Inc.

3:30 AM	22. Donald Baird, Virginia Tech	Novel Polypropylene Composite Filaments for Fused Filament Fabrication (3-D Printing)	32
4:00 PM	32. Fumihiko Shimizu, Mitsubishi Chemical Corporation, JAPAN	A New Approach toward Functional Polyolefins	43
4:30 PM	34. Colin Li Pi Shan, E. Carnahan, Y. Hu, L. Madenjian, and J. Munro, Dow Chemical	Generational Development of Olefin Block Copolymers	45
5:00 PM	35. Josef Jancar, Brno University of Technology, CZECH REPUBLIC	Structurally Gradient Impact Resistant ICP/HNT Nano-Composite Foams for Automotive Applications	46
5:30 PM	36. Virendra K. Gupta, R/D Reliance Industries Ltd, INDIA	Specialty Polyolefins Using Relcat™ Catalyst Technology	47
6:00 PM	<i>END DAILY SESSIONS</i>		
7:00 PM	<i>DINNER BANQUET, Sonoma Ballroom</i>		

WEDNESDAY, SEPTEMBER 27

7:00 AM *CONTINENTAL BREAKFAST*

INVITED LECTURE SESSION IX

Discussion Leader: Rick King, BASF

8:00 AM	37. Jerzy Klosin, Dow Chemical Company	Chromium-Catalyzed Ethylene Selective Oligomerization Using Phospholane-Based Ligands	48
8:30 AM	38. Christian Paulik, Johannes Kepler University, AUSTRIA	Effects of Ziegler-Natta Catalyst Alterations on Kinetics and Co-monomer Incorporation	49
9:00 AM	39. Gurmeet Singh, Indian Oil Corporation Ltd., INDIA	Transforming Magnesium Metal to High Performance Polypropylene Catalysts	50
9:30 AM	40. Christian Hilty, Texas A&M University	Probing Kinetics, Mechanisms, and Product Structures in Polymerization Reactions Using Hyperpolarized NMR	51
10:00 AM	<i>BREAK</i>		

INVITED LECTURE SESSION X

Discussion Leader: Jerzy Klosin, Dow Chemical Company

10:30 AM	41. Robert Brüll, LBF, GERMANY	Liquid Chromatography – Unravelling Molecular Heterogeneities	52
11:00 AM	42. Adam Veige, University of Florida	Synthesis of Cyclic Polyolefins	53
11:30 AM	43. Vasileios Touloupidis, Borealis, AUSTRIA	Polymer Reaction Engineering and Kinetic Parameters Estimation: From Catalytic to Free-radical Polymerizations	54
12:00 PM	44. Steve Davis, LyondellBasell Technology Business, Equistar	Megatrends Impacting the Polyolefin Industry - LyondellBasell's Innovation Approach for Sustainable Growth	55
12:30 PM	Pal Arjunan, Ken Wagener, Geoff Coates, and Jerzy Klosin, Closing Remarks		

