



# POLYCOM 2008

*Commercial Innovations and Opportunities in Polymer Science*  
March 4-7, 2008

## TABLE OF CONTENTS

### SUNDAY, MAY 4, 2008

2:00 PM	<b>REGISTRATION BEGINS</b>	
<b>SESSION I, Technology Transfer and Commercialization</b> Discussion Leader: DENNIS W. SMITH, JR., Clemson University		
3:15 PM	<b>Dennis W. Smith, Jr.</b> , <i>Clemson University</i> and <b>Kathleen Havelka</b> , <i>Lubrizol Corporation</i> Opening remarks	
3:30 PM	<b>Pat Brant</b> , <i>ExxonMobil Chemical Company</i> ExxonMobil Co-Extrusion Separator Technology Platform for HEV/EV	<b>1</b>
4:00 PM	<b>Eric Lin</b> , <i>NIST</i> Advancing Technology with Measurement Science in the NIST Polymers Division	<b>2</b>
4:30 PM	<b>Chris Christenson</b> , <i>The Dow Chemical Company</i> Predicting Structure-Property Relationship in Segmented Polyurethanes	<b>3</b>
5:00 PM	<b>Earl H. Wagener</b> , <i>Tetramer Technologies, LLC</i> Entrepreneurship or Intrapreneurship: Let's Make <i>Something</i> Happen	<b>12</b>
5:30 PM	<b>Kelli Booth</b> , <i>Noetic Technologies, Inc.</i> University Tech Transfer and Commercialization: Putting the Pieces Together	<b>5</b>
6:30 PM	<b>WELCOMING RECEPTION</b>	
7:30 PM	<b>DINNER ON YOUR OWN</b>	

### MONDAY, MAY 5, 2008

7:00 AM	<b>CONTINENTAL BREAKFAST</b>	
<b>SESSION I, CONT'D, Technology Transfer and Commercialization</b> Discussion Leader: KATHLEEN HAVELKA, Lubrizol Corporation		
8:15 AM	<b>Louis G. Tornatzky</b> , <i>California Polytechnic State University, San Luis Obispo</i> University Technology Transfer: Practices, Policies and Culture	<b>6</b>
8:45 AM	<b>John Pike</b> , <i>Intellectual Property Attorney, Law Offices of John Pike</i> What to Expect When You're Expecting...A Patent	<b>7</b>
9:15 AM	<b>Jerry E. White</b> , <i>The Dow Chemical Company</i> New Epoxy Polymers. Thermoplastic from a Thermoset Gene Pool	<b>8</b>
9:45 AM	<b>Carlos M. Villa</b> , <i>The Dow Chemical Company</i> Reaction Models for Polyether Polyol Processes	<b>9</b>



## TABLE OF CONTENTS

# POLYCOM 2008

*Commercial Innovations and Opportunities in Polymer Science*

*March 4-7, 2008*

### MONDAY, MAY 5, 2008, CONT'D

---

10:15 AM    **BREAK**

---

**SESSION I, CONT'D, Technology Transfer and Commercialization**  
**Discussion Leader KATHLEEN HAVELKA, Lubrizol Corporation**

---

10:30 AM	<b>Peter Zarras</b> , <i>Naval Air Warfare Center</i> Electroactive Polymers from the Laboratory to Demonstration on Military Hardware	<b>10</b>
11:00 AM	<b>George R. Newkome</b> , <i>University of Akron</i> Wealth Creation: Public-Private Interfaces	<b>11</b>
11:30 AM	<b>Richard A. Gross</b> , <i>Polytechnic University</i> Biocatalytic Routes to Bio-based Chemicals	<b>4</b>

---

12:00 noon    **LUNCH**

---

**SESSION II , Elastomer, Plastics, Thermosets, and Fiber Innovations**  
**Discussion Leader: EARL WAGENER, Tetramer Technologies, LLC**

---

1:30 PM	<b>Gerhard Maier</b> , <i>polyMaterials AG</i> Application Specific Thermoplastic Compounds by High Throughput Screening	<b>13</b>
2:00 PM	<b>Maurice J. Marks</b> , <i>The Dow Chemical Company</i> The Effects of Additional Crosslinking by Excess Epoxy Resin on the Structure- Property Relationships in Thermosets Prepared from Bisphenol A Diglycidyl Ether and Ethylenediamine	<b>14</b>
2:30 PM	<b>Mary Ann Meador</b> , <i>NASA Glenn Research Center</i> Recent Advances in Cross-linking Silica-based Aerogels with Polymers	<b>15</b>

---

3:00 PM    **BREAK**

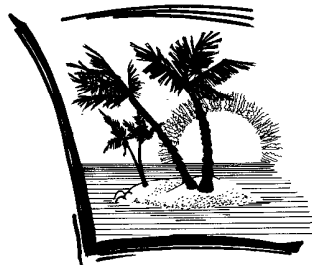
---

**SESSION II, CONT'D Elastomer, Plastics, Thermosets, and Fiber Innovations**  
**Discussion Leader: EARL WAGENER, Tetramer Technologies, LLC**

---

3:15 PM	<b>Charles L. McCormick</b> , <i>University of Southern Mississippi</i> Aqueous RAFT Polymerization: A Technology with a Bright Future in Biomedicine	<b>16</b>
3:45 PM	<b>Victor Nasreddine</b> , <i>LANXESS Corporation</i> THERBAN (HNBR): A High Performance Elastomer for Demanding Engineering Applications	<b>17</b>

---

**POLYCOM 2008***Commercial Innovations and Opportunities in Polymer Science**March 4-7, 2008***MONDAY, MAY 5, 2008, CONT'D**

4:15 PM	<b>A.K. Nagpal</b> , <i>Harcourt Butler Technological Institute INDIA</i> A Comparative Study of Swelling Behavior of Superabsorbent Hydrogels Prepared by Gamma Radiation and Solution Polymerization	<b>18</b>
4:45 PM	<b>Patrick E. Cassidy</b> , <i>Texas State University</i> Challenges and Successes of Commercialization – Ballistic-resistant Polyesters to Polyimides for Gas Separation	<b>19</b>
5:30 PM	<b>POSTER SESSION AND RECEPTION</b>	
6:30 pm	<b>DINNER ON YOUR OWN</b>	

**TUESDAY, MAY 6, 2008**

7:00 AM	<b>CONTINENTAL BREAKFAST</b>	
---------	------------------------------	--

**SESSION III, Synthetic and Structure / Property Innovations**  
**Discussion Leader: ABHIMANYU PATIL, Exxon-Mobil Research & Engineering Company**

8:15 AM	<b>Fred Wudl</b> , <i>University of California, Santa Barbara</i> Non-Classical Cyclopentadiene Polymers: From Staudinger to Re-Mending	<b>20</b>
8:45 AM	<b>Marek W. Urban</b> , <i>University of Southern Mississippi</i> Attachment of Antibiotics to Polymeric Surfaces Inhibiting Proliferation of Bacterial Growth	<b>38</b>
9:15 AM	<b>Allan S. Hay</b> , <i>McGill University, CANADA</i> Polymers Containing DI(1 <i>H</i> -BENZO[D]IMIDAZOL-2-YL)ARENE Moieties: Polymerization <i>via</i> N-C Coupling Reactions	<b>22</b>
9:45 AM	<b>BREAK</b>	

**SESSION III, CONT'D, Synthetic and Structure / Property Innovations**  
**Discussion Leader: ABHIMANYU PATIL, Exxon-Mobil Research & Engineering Company**

10:00 AM	<b>Angela Taha</b> , <i>The Dow Chemical Company</i> INFUSE™ Olefin Block Copolymers: From Molecular Design to Market Introduction	<b>23</b>
10:30 AM	<b>Chatterjee Ganguly</b> , <i>Sak Chem, AUSTRALIA</i> Macrocyclic Containing Polymers and Macrocycles of Future Interest	<b>24</b>
11:00 AM	<b>Carl McAfee</b> , <i>Lehigh Technologies, Inc.</i> Novel Applications of Ultrafine Particle Size Ground Elastomers in Polymer Alloys	<b>25</b>
11:30 AM	<b>David J. Lohse</b> , <i>ExxonMobil Research &amp; Engineering Company</i> Relating Polymer Rheology and Miscibility to Chemical Architecture	<b>26</b>



## TABLE OF CONTENTS

# POLYCOM 2008

*Commercial Innovations and Opportunities in Polymer Science*  
March 4-7, 2008

### TUESDAY, MAY 6, 2008, CONT'D

---

12:00 Noon **LUNCH**

---

**SESSION IV, CONT'D, Biological, Renewable Materials and Recycling Innovations**  
**Discussion Leader: PATRICK B. SMITH, Archer Daniels Midland Research**

1:30 PM	<b>Steven J. Gluck</b> , <i>The Dow Chemical Company</i> Feedstocks and Fuels from Algae: Separating the Claims from the Facts	<b>27</b>
2:00 PM	<b>Bronco Gordon</b> , <i>Polymer Innovations, Inc.</i> TBA	<b>28</b>
2:30 AM	<b>Robert G. Bryant</b> , <i>NASA Langley Research Center</i> Commercialization of LARC™-SI Polyimide Technology	<b>29</b>
3:00 PM	<b>Ike Latham</b> , <i>The Dow Chemical Company</i> Soy-Based Polyols for Polyurethane Applications	<b>30</b>

---

3:30 PM **BREAK**

---

**SESSION IV, CONT'D, Biological, Renewable Materials and Recycling Innovations**  
**Discussion Leader: DAVID BABB, The Dow Chemical Company**

3:45 PM	<b>Jim Millis</b> , <i>Draths</i> Biological Routes to Aromatic Building Blocks	<b>31</b>
4:15 PM	<b>Patrick B. Smith</b> , <i>Archer Daniels Midland Research</i> ADM: Building a Future in Renewable Industrial Chemicals	<b>32</b>
4:45 PM	<b>Partha Majumdar</b> , <i>North Dakota State University</i> Polysiloxanes Containing Tethered Quaternary Ammonium Salts for Marine and Medical Device Coatings	<b>33</b>
5:15 pm	<b>H. N. Cheng</b> , <i>Hercules, Incorporated</i> Green Chemistry in an Industrial Context	<b>34</b>
5:45 PM	<b>Dan Graiver</b> , <i>Michigan State University</i> TBA	<b>35</b>

---

6:15 PM **END DAILY SESSIONS**  
**DINNER ON YOUR OWN**

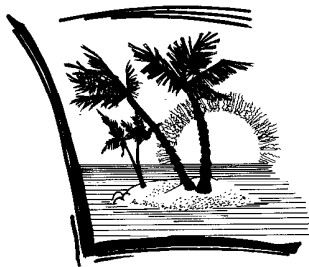
---

### WEDNESDAY, MAY 7, 2008

---

7:00 AM **CONTINENTAL BREAKFAST**

---



## TABLE OF CONTENTS

# POLYCOM 2008

*Commercial Innovations and Opportunities in Polymer Science*

*March 4-7, 2008*

### WEDNESDAY, MAY 7, 2008, CONT'D

#### SESSION V, Membrane and Energy Conversion Innovations Discussion Leader: RIGOBERTO C. ADVINCULA, University of Houston

8:15 AM	<b>Richard Kotek</b> , <i>North Carolina State University</i> New Cellulose Membranes	<b>36</b>
8:45 AM	<b>Brian C. Benicewicz</b> , <i>Rensselaer Polytechnic Institute</i> Polymer Membranes for Electrochemical Hydrogen Pumping	<b>37</b>
9:15 AM	<b>Frank Harris</b> , <i>Akron Polymer Systems, Inc.</i> TBA	<b>21</b>
9:45 AM	<b>BREAK</b>	

#### SESSION VI, Optical and Other Innovations Discussion Leader: FRANK HARRIS, Akron Polymer Systems, Inc.

10:00 AM	<b>Larry R. Dalton</b> , <i>University of Washington</i> Theory-Inspired Supramolecular Engineering of Extraordinary Organic Electro-Optic Materials and Integration with Silicon Nanophotonics	<b>39</b>
10:30 AM	<b>Ramanathan S. Lalgudi</b> , <i>Battelle Memorial Institute</i> High Refractive Index Organic-Inorganic Hybrids for Optical Applications	<b>40</b>
11:00 AM	<b>Sam Verbrugghe</b> , <i>Ghent University, BELGIUM</i> Easy Preparation of Specialty Polymers Containing Poly(Acrylic Acid)	<b>41</b>
11:30 PM	<b>Joe Mabry</b> , <i>Air Force Research Laboratory</i> TBA	<b>42</b>
12:00 noon	<b>LUNCH</b>	

#### SESSION VII, Film, Coatings, Composites and Surface Innovations Discussion Leader: BRONCO GORDON, Polymer Innovations, Inc.

1:30 PM	<b>Richard M. Laine</b> , <i>University of Michigan</i> Perfect and Nearly Perfect Silsesquioxane for Polyfunctional Nanoparticles and Nanocomposites, and Janus Cubes	<b>43</b>
2:00 PM	<b>Rigoberto C. Advincula</b> , <i>University of Houston</i> Polymer Brushes and Nanocomposites: Surface Initiated Polymerization Protocols	<b>44</b>
2:30 PM	<b>David E. Bergbreiter</b> , <i>Texas A&amp;M University</i> Solute Responsive Surfaces from Solute Responsive Polymers	<b>45</b>



## TABLE OF CONTENTS

# POLYCOM 2008

*Commercial Innovations and Opportunities in Polymer Science*

*March 4-7, 2008*

### WEDNESDAY, MAY 7, 2008, CONT'D

---

3:00 PM	<b>Bret J. Chisholm</b> , <i>North Dakota State University</i> The Use of Combinatorial/High-Throughput Methods for the Rapid Development of Novel Surface Coatings	<b>46</b>
---------	--	-----------

---

---

3:30 PM	<b>CLOSING REMARKS</b>	
---------	------------------------	--

---