Aggarwal Lectures - Polymer Science

Spring 2018

Jeffrey Moore, University of Illinois

- May 21: Probing Reaction Pathways in Dynamic Covalent Chemistry
- May 22: Organic Chemistry at the Interface of Materials and Mechanics

Spring 2017

Tim Swager, Massachusetts Institute of Technology

- April 19: Molecular Electronics for Chemical Sensors
- April 20: Dynamic Droplets

Spring 2016

E.W. (Bert) Meijer, Eindhoven University of Technology

- April 18: From Supramolecular Polymers to Functional Systems
- April 19: Folding of Macromolecules: Functional Single-Chain Polymer Nanoparticles

Spring 2010

Fraser Stoddart, Northwestern University

- February 25: Polyrotaxanes
- February 26: Polycatenanes

Spring 2008

Olli Ikkala, Helsinki University of Technology, Finland

- May 20: Combining Biological Structural Units Within Polymer Self-Assemblies: A Materials Scientist's Perspective
- May 21: Block Copolymer Templating for Nano-Objects and Hierarchical Porous Materials
- May 22: Model Studies on Fullerene/Polymer Nanocomposites as Memory Elements

Spring 2007

Edward Kramer, University of California at Santa Barbara

- May 21: Block Copolymer Melting in Two Dimensions: Order, Disorder and Defects in Block Copolymer Monolayers
- May 22: Nanoparticles Covered with Polymer Brushes: Positioning in, and Influence, on Block Copolymer Morphology
- May 23: Probing and Simulating the Structure of Block Copolymer Multilayers and Monolayers
Spring 2006

Jean Fréchet, University of California at Berkeley

- May 22: Polymers and “Plastics Electronics”
- May 23: Polymers in Chemo- and Immuno-Therapy

Spring 2005

Glenn Fredrickson, University of California at Santa Barbara

- May 23: Field-Theoretic Polymer Simulations: An Introduction
- May 24: Field-Theoretic Polymer Simulations: Applications
- May 25: Field-Theoretic Polymer Simulations: Attack on the Sign Problem

Spring 2004

Timothy Lodge, University of Minnesota

- May 24: Martensitic Transformations in Block Copolymer Solutions
- May 25: The Viscosity of Polymer Mixtures: A Simple Explanation for a Complicated Phenomenon
- May 26: Design of Tryptych Polymeric Surfactants for Internally Structured Micelles

Spring 2003

Matthew Tirrell, University of California at Santa Barbara

- May 19: Forces Between Layers of Polyelectrolyte Chains Tethered to Surfaces
- May 20: Biofunctionalization of Interfaces with Peptide-Lipid Conjugates
- May 21: Issues in Chemical Processing by Self-Assembly

Spring 2002

Andrew B. Holmes, University of Cambridge, UK

- May 20: Conjugated Polymers for Optoelectronic Applications
- May 21: Synthesis in Supercritical Carbon Dioxide

Spring 2001

Mitsuo Sawamoto, Kyoto University

- May 21: Metal-Catalyzed Living Radical Polymerizations Towards Precision Polymer Synthesis
- May 22: Lewis Acid-Catalyzed Living Cationic Polymerizations Towards Precision Polymer Synthesis
- May 23: Precision Polymer Synthesis via Living Polymerizations
Spring 2000

Robert Waymouth, Stanford University

- May 22: **Designer Polyolefins: Stereospecific Olefin Polymerization with Well-Defined Catalysts**
- May 23: **Elastomeric Polypropylene: Structure and Properties of Stereoblock Polypropylene**
- May 24: **Control of Sequence Distribution in Olefin Copolymerization**

Spring 1999

Frank Bates, University of Minnesota

- May 24: **Block Copolymers – Designer Soft Materials**;
- May 25: **Interfacial Entanglements – A New Approach to Toughening Polyolefins**

Spring 1998

Rolf Mülhaupt, Institut für Makromolekulare Chemie, Albert-Ludwigs-Universität Freiburg

- May 19: **ew Routes to Engineering Polymers: Supramolecular Assemblies**
- May 20: **New Routes to Engineering Polymers: Nanostructures and Hybrid Materials**
- May 21: **Tailor-Made Polyolefins and New Polymer Architectures via Catalytic Polymerization**

Spring 1997

Virgil Percec, Case Western Reserve University

- May 19: **Design of 3-Dimensional Polymers. Reaching the Limits of Conventional Organic and Polymer Chemistry**
- May 20: **Nature as Model for the Design of New Supramolecular and Macromolecular Functional Systems**
- May 21: **New Metal Catalyzed Living Radical and Step Polymerizations Using Sulfonyls and Sulfonates as Initiators and Leaving Groups**

Spring 1996

Helmut Ringsdorf, University of Mainz, Germany

- May 20: **What Do Multienzyme Complexes and Highly Photoconductive Discotic Liquid Crystals Have in Common?**
- May 21: **Tailoring of Bioreactive Surfaces: What Can We Learn From the Immuncascade?**
- May 22: **Function Based on Self-Organization and Molecular Recognition**

Fall 1995

Robert H. Grubbs, California Institute of Technology

- September 20: **The Development of Catalysts for the Ring-Opening Metathesis Polymerization of Cyclic Olefins**
- September 21: **The Use of Transition Metal Catalysts in the Synthesis of Polymers and Other Organic Molecules**
C. Grant Willson, University of Texas at Austin

- May 23: Specialty Polymers for the Electronics Industry: Where Will They Come From Now?