ILLINOIS INSTITUTE OF TECHNOLOGY

In association with the

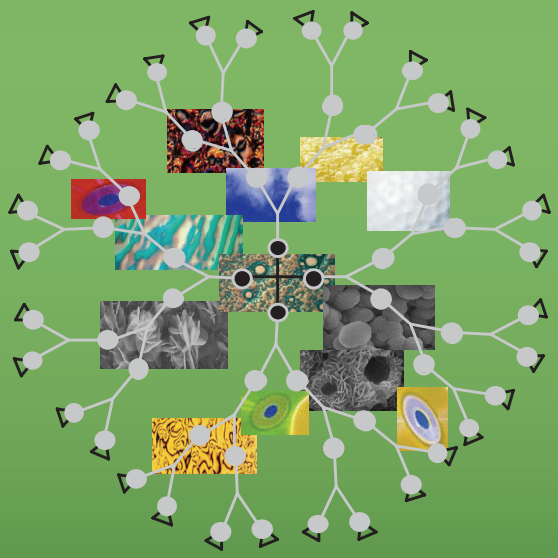
American Chemical Society Chicago Chapter

presents

Kilpatrick Lecture Series 2010

Friday, February 19, 2010

Recent Advances in Polymer Science and Technology

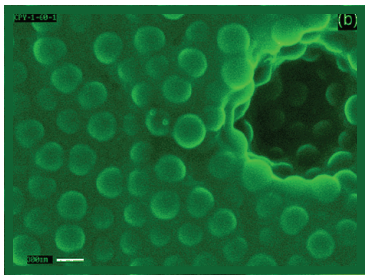


Featuring

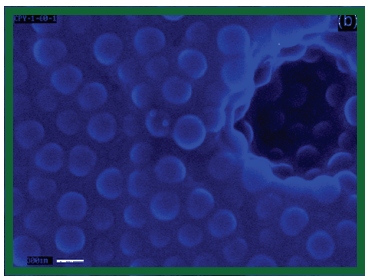
Prof. Tobin Marks, Northwestern University
Prof. Ian Manners, University of Bristol, U.K.
Prof. Jeffrey Moore, UIUC, Urbana-Champaign
Prof. Samuel Stupp, Northwestern University
Prof. Steven Zimmerman, UIUC, Urbana-Champaign
Prof. Braja Mandal, Illinois Institute of Technology

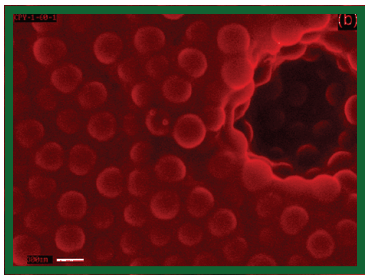
AGENDA

Friday, February 19, 2010
McCormick Tribune Campus Center (MTCC)
Illinois Institute of Technology
3201 South State Street, Chicago, IL 60616



10:15-10:30am	**Welcome**
10:30-11:30am	**Impact of metallocenes/nonmetallocenes in polyolefin technology** Prof. Tobin Marks, Northwestern University
11:30am-1:00pm	**Lunch Break**
1:00-2:00pm	**Inorganic polymers** Prof. Ian Manners, University of Bristol, U.K.
2:00-3:00pm	**Smart polymeric materials-I** Prof. Jeffrey Moore, UIUC, Urbana-Champaign
3:00-3:30pm	**Coffee Break**
3:30-4:30pm	**Smart polymeric materials-II** Prof. Samuel Stupp, Northwestern University
4:30-5:30pm	**Smart polymeric materials-III** Prof. Steven Zimmerman, UIUC, Urbana-Champaign
5:30-6:00pm	**Reception**
6:00-7:30pm	**Banquet**
7:30-7:45pm	**ACS Event Introduction**
7:45-8:30pm	**Recent advances in polymer science and technology** Prof. Braja Mandal, Illinois Institute of Technology





Registration: Admission is FREE. A short online registration at http://www.iit.edu/csl/che/kilpatrick_lecture/ will be highly appreciated. All online registered attendees will receive a free parking permit.

Lunch: Can be purchased at the IIT cafeteria located in the MTCC.

Coffee: Complimentary to all attendees registered online.

Reception: Complimentary to all attendees registered online.

Dinner: Can be purchased at the IIT cafeteria located in the MTCC.

Banquet: Advance online reservation along with fee of $30 is required for the banquet. A personal check or money order must be received by Monday, February 12, 2010. Please send your check, payable to Illinois Institute of Technology, to Mr. Todd Kersh, Department of BCPS, 3101 S. Dearborn St., Illinois Institute of Technology, Chicago, IL 60616. Phone: 312-567-7986.

- ***First Course:*** Mixed Greens Salad with Candied Walnuts, Dried Cranberries, Pepper Crusted Goat Cheese with Balsamic Vinaigrette. Assorted Dinner Rolls with Butter and Red/White wine.
- ***Second Course:*** Stuffed Chicken Breast Florentine with Spinach and Sun Dried Tomatoes, topped with a Wild Mushroom Sauce and served with 2 Grilled Shrimp, Saffron Rice, and Haricot Verts OR Grilled Portobello Mushroom Stack layered with Tofu, Red Bell Pepper and Zucchini, served with Saffron Rice OR Honey-Soy Broiled Salmon served with Saffron Rice and Haricot Verts.
- ***Third Course:*** Raspberry Almond Cream Cake

WELCOME

Braja K. Mandal
Chair, Kilpatrick
Lecture Series 2010

MTCC at IIT

As you may know, since 1965, the Department of Chemistry at IIT has been sponsoring the prestigious Kilpatrick Lecture Series, which has included individual lecturers or symposia with leading scientists from the U.S. and abroad. This year's lecture series is very special to me because my colleagues have requested that I host this symposium to celebrate the recent publication of my book, ***Polymer Synthesis: strategies and tactics***. As a consequence, the central theme of the symposium will be "Recent Advances in Polymer Science and Technology." We are delighted to host this symposium jointly with the ACS Chicago Section. The program features five world-renowned speakers in this field, covering highlights of metallocene-derived polyolefins, metal-containing polymers and smart polymeric materials. The symposium venue is Rem Koolhaas's McCormick Tribune Campus Center (MTCC) at the IIT main campus. If you would like to know more about this center, start with Ludwig Mies van der Rohe. This legendary architect served as head of IIT's architecture department (known then as the Armour Institute of Technology) beginning in 1938 and was appointed to design a master plan for the campus. Thereafter his signature "less is more" steel and glass structures dominated IIT's aesthetic. Please join us at the symposium and enjoy a full day with the wonders of polymers. We look forward to seeing alumni and old friends from previous Kilpatrick Lectures and ACS Section meetings and, of course, welcoming new ones.

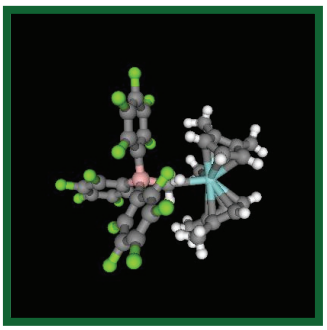
On behalf of the Chicago Section of the American Chemical Society, I would like to add my welcome to the participants and guests of the 2010 Kilpatrick Lecture Series. This is the third year that the Chicago Section has cosponsored the Kilpatrick Lectures. If you live in the Chicago area or are visiting, you are always welcome to attend the ACS Chicago Section dinner meetings. Our dinner meetings include one or two presentations on topics of interest to chemists and chemical engineers. For our February meeting, Professor Braja Mandal of IIT will make a presentation after dinner on the evening of the Kilpatrick Lectures. At this time, I would also like to remind you of the annual Willard Gibbs Medal program each May. The 2010 Gibbs Medal recipient is Professor Maurice Brookhart of the University of North Carolina. We also have outreach programs for the Illinois State Fair and Chemistry Day. You can learn about all of our activities by visiting our website at www.chicagoacs.org.

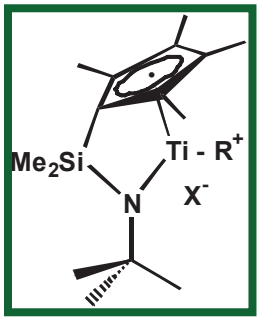
Ken Fivizzani
2010 Chair, ACS
Chicago Section

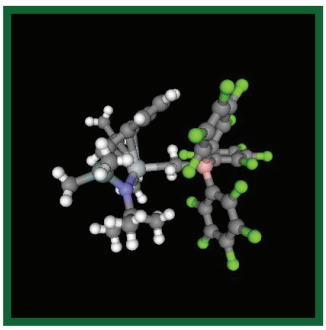
TOBIN J. MARKS

Harnessing Center-surface and Center-center Cooperative Effects for the Catalytic Synthesis of New Polymeric Materials

When chemisorbed upon certain metal oxide surfaces, the reactivity of many organometallic molecules is dramatically enhanced. Very high activity for olefin polymerization is an illustrative consequence of this altered reactivity. This lecture describes chemical and spectroscopic studies using the molecule-surface coordination chemistry, to understand the reasons for the enhanced reactivity, and to use this information for new types of homogeneous polymerization catalysts. This information leads to design rules for the synthesis and spectroscopic/crystallographic/catalytic characterization of functional ion-paired homogeneous phase organometallic models for the surface species. These studies afford a better understanding of the surface organometallic chemistry and catalysis, but also design rules for new classes of "single-site and "multiple-site" homogeneous olefin polymerization catalysts. These latter catalysts embody many of the characteristics of metalloenzyme active sites and engineered cooperativity effects between different catalytic centers can produce new types of macromolecules.





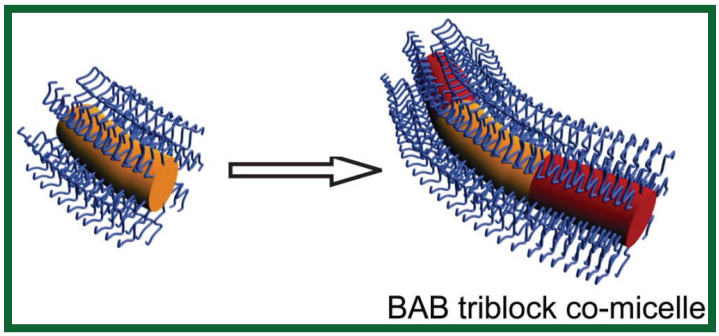


Tobin J. Marks
Northwestern University

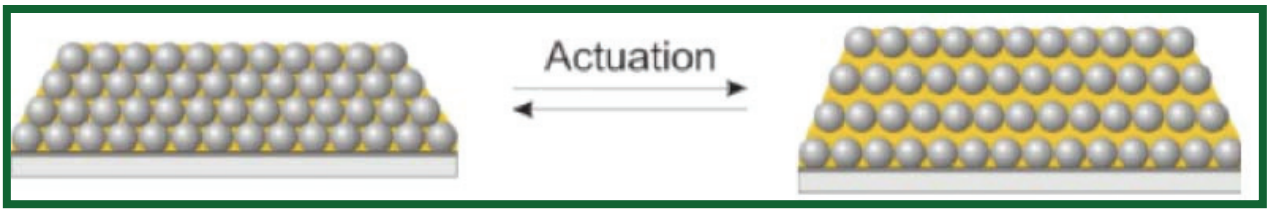
Tobin J. Marks is the Vladimir N. Ipatieff Professor of Chemistry and Professor of Materials Science and Engineering at Northwestern University. He received his B.S. from the University of Maryland (1966) and Ph.D. from MIT (1971), and came to Northwestern immediately thereafter. Of his 90 named lectureships and awards, he has received American Chemical Society Awards in Polymeric Materials, 1983; Organometallic Chemistry, 1989; Inorganic Chemistry, 1994; the Chemistry of Materials, 2001; and for Distinguished Service in the Advancement of Inorganic Chemistry, 2008. He was awarded the 2000 F. Albert Cotton Medal, Texas A&M American Chemical Society Section; 2001 Willard Gibbs Medal, Chicago American Chemical Society Section; 2001 North American Catalysis Society Burwell Award; 2001 Linus Pauling Medal, Pacific Northwest American Chemical Society Sections; 2002 American Institute of Chemists Gold Medal; 2003 German Chemical Society Karl Ziegler Prize; 2003 Ohio State University Evans Medal; 2004 Royal Society of Chemistry Frankland Medal, 2005 Bailar Medal, Champaign-Urbana Section of the American Chemical Society, Fellow, American Academy of Arts and Sciences, 1993. He is a Member, U. S. National Academy of Sciences (1993); Member, German National Academy of Sciences (2005); Fellow, Royal Society of Chemistry (2005); Fellow Chemical Research Society of India (2008); Fellow, Materials Research Society (2009). In 2008 he received the Spanish Principe de Asturias Prize for Technical and Scientific Research, in 2009 the Herman Pines Award, Chicago Catalysis Society; the 2009 Nelson W. Taylor Award in Materials Research, Penn. State U.; the 2009 von Hippel Medal, Materials Research Society; the 2010 William H. Nichols Medal, ACS New York Section. In 2007, he was awarded the United States National Medal of Science. Marks is on the editorial boards of 9 major journals; technical consultant or advisor for 6 major corporations and start-ups, and has published 945 research articles (h-index = 104) and holds 94 U.S. patents.

IAN MANNERS

Functional and Supramolecular Metallopolymers



Polymers containing metal centers are attracting increasing attention as they offer access to new functional macromolecular and supramolecular materials with interesting properties. Our group has developed ring-opening polymerization routes from strained precursors to form metallopolymers such as polymetallocenes with high molecular weights that allows easy processing. Well-defined architectures (e.g. block copolymers) are available through living polymerization processes, including a remarkable recently developed photocontrolled method. This talk will focus on recent efforts to use these metallopolymers to create, for example, photonic crystal devices with application in displays, and self-assembled supramolecular materials in the form of thin films, which can be used in nanolithographic applications and catalysis.



Ian Manners was born in London, England in 1961. After receiving his Ph.D. from the University of Bristol in 1985 in the area of transition metal chemistry he conducted postdoctoral work in Germany in main group chemistry and in the USA on polymeric materials. He joined the University of Toronto, Canada in 1990 and after 15 years returned to his Alma Mater to take up a Chair in Inorganic, Macromolecular and Materials Chemistry, supported by the award of a Marie Curie Chair from the European Union and a Wolfson Research Merit Award from the Royal Society. His research interests focus on the development of new synthetic reactions in inorganic chemistry and their applications in molecular synthesis, polymer and materials science, supramolecular chemistry, and nanoscience.

Ian Manners
University of Bristol, U.K.

JEFFREY S. MOORE

Mechanoresponsive Materials

Damage-prone regions in polymeric and composite materials are difficult to detect and even harder to repair. Damage is preceded by complex spatial and temporal changes in stress state, and it is therefore desirable to utilize these mechanical changes to activate — without human intervention — chemical changes that favorably alter materials properties when and where needed. Desirable properties brought about in response to damage or high-stress conditions include: (1) signal generation to warn of ensuing failure, (2) molecular structure modification to slow the rate of damage and extend lifetime (e.g. stress-induced crosslinking), and (3) repair of damage to avoid catastrophic failure (e.g., crack-filling and interface rebounding). Several approaches have been taken to realize these functions including composites that incorporate compartmentalized healing agents and solvents or composites embedded with microvascular networks. These kinetic approaches to "healing" are triggered by damage in the form of microcracking. Molecular mechanisms are also needed in which a kinetic barrier can be surmounted by stress-induced activation of a mechanophore — the putative mechanically active unit. An experimental approach to develop new mechanophores will be discussed and examples involving electrocyclic ring-openings and hemolytic bond cleavage will be presented.

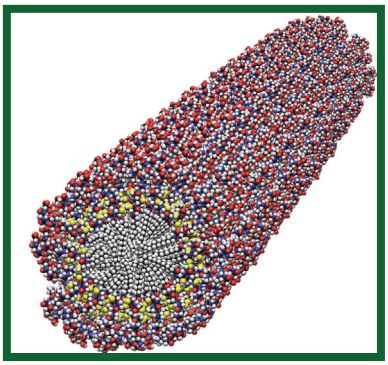
Jeffrey S. Moore
The University of Illinois
at Urbana-Champaign

Jeffrey Moore was born outside of Joliet, IL in 1962. He received his B.S. in chemistry (1984) and Ph.D. in Materials Science and Engineering with Samuel Stupp (1989), both from the University of Illinois. He then went to Caltech as an NSF postdoctoral fellow working with Robert Grubbs. In 1990 he joined the chemistry faculty at the University of Michigan in Ann Arbor, and then in 1993 returned to the University of Illinois where he is currently the Murchison-Mallory Chair in the Department of Chemistry. In 1995 he became a part-time Beckman Institute faculty member. His awards include an Alfred P. Sloan Fellowship, Arthur C. Cope Scholar Award, and Fellow of the American Association for the Advancement of Science, the Royal Society of Chemistry, and the American Academy of Arts & Sciences. He has served as an Associate Editor for the *Journal of American Chemical Society* since July of 1999. Professor Moore is internationally recognized for his work in the field of organic materials and polymer chemistry. His early work established the utility of the phenylacetylene moiety in the construction of a broad range of important nanoscale structures, including macrocycles, dendrimers, and abiotic mimics of protein secondary structure. Working with colleagues in engineering, he played a central role in the development and demonstration of a self-healing polymeric material and has shown recently that mechanical energy can be used to direct chemical reactions. Moore has published more than 260 manuscripts, he holds 19 patents, and has been an invited guest speaker to over 275 national and international lecture series and conferences.

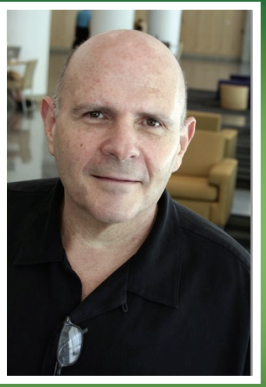
SAMUEL I. STUPP

Bioactive One-Dimensional Supramolecular Polymers

Our laboratory has developed a broad class of molecules known as peptide amphiphiles programmed to self-assemble into high aspect ratio one-dimensional nanostructures. Filaments formed with these molecules form through hydrogen bonding as well as hydration and hydrophobic forces leading to nanostructures that display on the surfaces biological signals. Some of these supramolecular aggregates can undergo crystallization at long range based on repulsive forces, organize with orientation order over macroscopic scales, and form hierarchical structures with oppositely charged macromolecules. Bioactive examples of these nanostructures crafted to signal cells have great potential in advanced therapies for regenerative medicine and cancer. The supramolecular chemistry of such nanostructures should allow them to interact specifically with cell receptors or intracellular targets. This lecture will describe the development of the self assembly code that led to these bioactive nanostructures and also illustrate the use of these systems in the regeneration of neurons, the growth of blood vessels, bone and cartilage regeneration, among other therapeutic targets for advanced medicine.



Samuel Stupp earned his B.S. in chemistry from the University of California at Los Angeles and his Ph.D. in materials science and engineering from Northwestern University in 1977. He was a member of the faculty at Northwestern until 1980 and then spent 18 years at the University of Illinois at Urbana-Champaign where he was appointed in 1996 Swanlund Professor of Materials Science and Engineering, Chemistry, and Bioengineering. In 1999, he returned to Northwestern as a Board of Trustees Professor of Materials Science, Chemistry, and Medicine, and later was appointed Director of Northwestern's Institute for BioNanotechnology in Medicine. Professor Stupp is a member of the American Academy of Arts and Sciences, and fellow of the American Physical Society, American Association for the Advancement of Science, World Technology Network, and World Biomaterials Congress. His awards include the Department of Energy Prize for Outstanding Achievement in Materials Chemistry, a Humboldt Senior Award, the Materials Research Society's Medal Award, and the American Chemical Society Award in Polymer Chemistry for his work on supramolecular self-assembly. Over the past few years, his invited lectures and visits to other institutions include, the Sir Edward Youde Memorial Visiting Professorship at Hong Kong University of Science and Technology, the Joliot Curie Professorship at Ecole Supérieure de Physique et de Chemie Industrielles in Paris, The Merck-Karl Pfister Visiting Professorship in Organic Chemistry at MIT, a Visiting Professorship at the Institut de Science et d'Ingenierie Supramoléculaires in Strasbourg, and the Israel Pollack Distinguished Lectures Award at the Technion in Israel. This year, he was elected fellow of the Materials Research Society and also received an honorary doctorate from the Eindhoven University of Technology in the Netherlands for revolutionary research in complex molecular systems. His research is focused on self-assembly and supramolecular materials with special emphasis in regenerative medicine, organic electronics, solar energy, and cancer therapies.

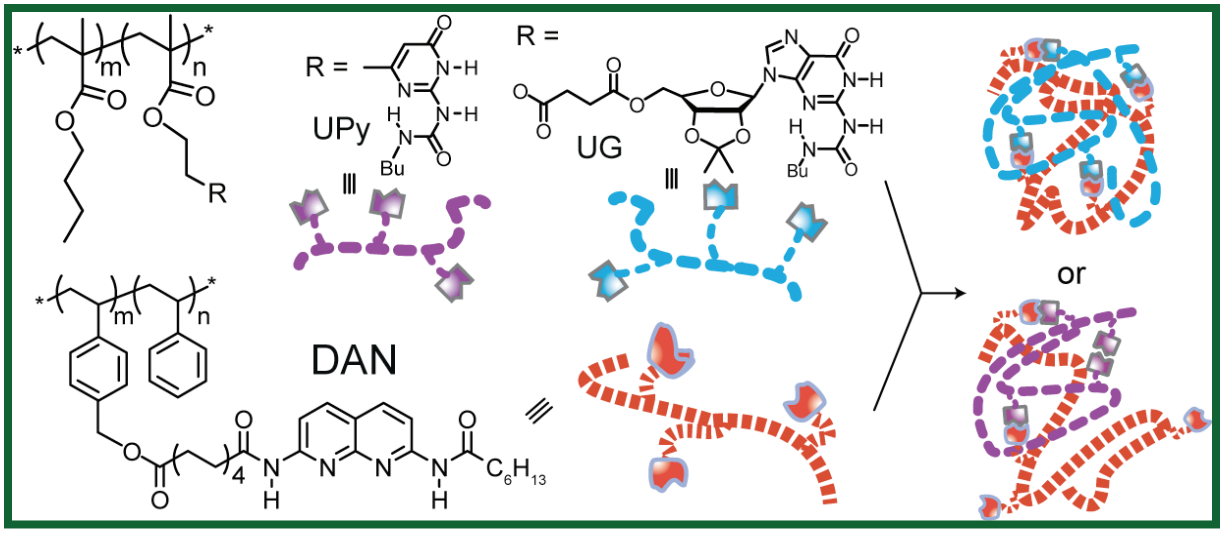


Samuel I. Stupp
Northwestern University

STEVEN ZIMMERMAN

Bioinspired Supramolecular Polymer Chemistry

The high fidelity of DNA replication is partly due to base-pairing specificity. Inspired by DNA we have developed a series of artificial base-pairs that form hydrogen-bonded complexes that exhibit significantly higher stability and higher fidelity relative to their natural counterparts. Particularly useful is a urea of guanosine (UG unit) which pairs with 2,7-diamidobaphthyridine DAN unit). These units can be readily incorporated into small molecules and macromolecules, and attached to nanoparticles and surfaces, in some cases using "click chemistry." This talk will describe these nanoscale adhesion promoters and the broad range of supramolecular structures that can be produced. Applications possible with these very high affinity recognition units will be introduced as a way to turn the recognition on and off. The ability to orthogonally address recognition events at the molecular level provides a degree of control necessary to replicate the biocomplexity of naturally occurring systems.

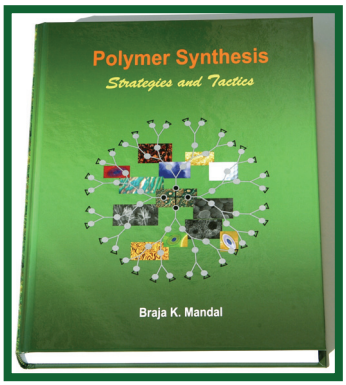


Steven Zimmerman
University of Illinois at Urbana–Champaign

Steven Zimmerman is an organic chemist on the faculty of the Department of Chemistry, University of Illinois at Urbana-Champaign. He was born in Chicago in 1957, the second son of the well known organic chemist Howard E. Zimmerman. He attended public schools in Madison, Wisconsin where he received a B.S. degree in 1979 working for Hans J. Reich. In 1983 he received a Ph.D. at Columbia University in New York City where he worked with Ronald Breslow on pyridoxamine enzyme analogs. After an NSF-NATO Postdoctoral Fellowship at the University of Cambridge with Sir Alan R. Battersby, he joined the faculty at the University of Illinois (1985). He was appointed the Roger Adams Professor of Chemistry at the University of Illinois at Urbana-Champaign in 2004, having previously held a William H. and Janet G. Lycan Professorship. He currently serves as the Head of the University of Illinois Department of Chemistry. His early research was focused on molecular recognition, models of serine proteases, and topologically novel DNA intercalators. He and his coworkers pioneered the development of a new class of nonmacrocyclic molecular hosts called molecular tweezers, also called more recently, molecular clips. His current work focuses on dendrimers, including their supramolecular chemistry and the supramolecular chemistry of other polymers (supramolecular polymer chemistry). Academic awards and achievements include: Fellow, American Association for the Advancement of Science; Arthur C. Cope Scholar Award, American Chemical Society; Buck-Whitney Award, Eastern New York Section of American Chemical Society; Presidential Young Investigator Award, National Science Foundation; Alfred P. Sloan Fellowship; Camille and Henry Dreyfus Teacher-Scholar Award; Cyanamid Academic Award; Eli Lilly Grantee; American Cancer Society Junior Faculty Award.

BRAJA K. MANDAL

An Excursion in Polymer Chemistry with Selected Highlights of the Last Half-Century



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Library of Congress: 2009907367
covalentpress.com

In the past half-century, there has been remarkable growth in polymer science, from the development of convenient synthetic protocols for complex polymer architectures to novel monomers and new polymerization reactions. These advances have offered polymer chemists unprecedented confidence to realize the potential of synthesizing polymeric materials with intended properties and well-defined structures. These developments have provided indispensable building blocks to cope with a myriad of technological challenges in fields ranging from food storage, personal care and agricultural applications to microelectronics, automobiles, biomedical science and space research. When it comes to telling this success story in a monograph or a handy quick guide to polymer synthesis for students and educators, it seemed apparent that a comprehensive book describing recent achievements would be most beneficial. To meet this need, I have written a book which presents the most up-to-date developments in polymer chemistry with special emphasis on synthesis of specialty monomers and polymers, and devising new approaches to polymerization reactions. Salient features include five chapters, which contain over 500 illustrations and 900 references. The book is designed to accommodate the needs of both advanced undergraduates and graduate students who have a good background in organic chemistry, as well as a stand-alone handy polymer synthesis reference guide. This lecture will be a very general guided tour covering highlights of polymer chemistry in the last fifty years. Therefore, I take this opportunity to tell you what motivated me to write this book, what can be learned from it with emphasis on highlights of polymer chemistry, including a few excerpts from our recent research.

Braja Mandal was born in the eastern part (West Bengal) of India. He obtained his B.Sc. degree with honors in chemistry from the University of Calcutta (now Kolkata). After receiving higher degrees (M.Sc., M.Tech. and Ph.D.) from the Indian Institute of Technology at Kharagpur, he joined the photolithography group of Indian Telephone Industries and worked there for two years. Subsequently, he held two postdoctoral positions, one as an *Alexander von Humboldt* fellow at the University of Tübingen in Germany. In 1991, he began his academic career as an assistant professor of chemistry at the Illinois Institute of Technology, Chicago and now serves as professor of chemistry. His active research areas include solid polymer electrolytes, polymeric hydrogen storage media, high dielectric constant polymer films, low lattice energy lithium salts, and artificial photosynthetic molecules.

Braja K. Mandal
Illinois Institute of Technology

THE KILPATRICK LECTURE SERIES

The Kilpatrick Lecture Series honors Illinois Institute of Technology chemistry educators and researchers Martin Kilpatrick (1895-1982) and Mary Kilpatrick (1899-1988). From 1947 to 1960, Martin served as chair of the university's chemistry department and Mary as professor. As chair, Martin guided the department during a period of vigorous growth and development in both teaching and research. Before coming to IIT in 1947, Martin was a professor at the University of Pennsylvania and assisted Harold Urey in the Manhattan Project at Columbia University. Both Kilpatricks were research scholars who studied in Denmark under the legendary J. N. Bronsted.

In recognition of the Kilpatricks' achievements at IIT, the department created this lecture series in 1965. Subsequently, an endowment was established in perpetuity by Professor Mary Kilpatrick to support the lecture series that bears their name.

PAST SPEAKERS

1965	Ronald Percy Bell
1966	Lord Wynne-Jones
1967	Henry Eyring
1968	Martin Karplus
1969	John D. Roberts
1970	Manfred Eigen
1970	George B. Kistiakowsky
1971	John R. Platt
1972	George C. Pimentel
1973	Roald Hoffman
1974	Richard B. Bernstein
1975	Henry Taube
1976	William N. Lipscomb
1977	Melvin Calvin
1978	Symposium: Fast Time Spectroscopy and Chemistry
1981	Symposium: Carbenes, Carbenoids, Cyclopropanes in Organic Synthesis
1982	Symposium: Chemistry at Metal Surfaces
1984	Jack Halpern
1985	David L. Beveridge
1986	Symposium: Polymers (in memory of Paul Flory)
1989	Jaqueline K. Barton
1991	Mark S. Wrighton
1992	Symposium: Conducting Polymers (Alan G. Macdiarmid, Richard Friends)
1993	Marye Anne Fox
1995	Symposium: Synchroton Radiation in Chemistry
1996	Symposium: Host-Guest Interactions and Supramolecular Structures (Tobin J. Marks, Julius Rebek, Jr., John Armor, Geoffrey Ozin)
1997	K. C. Nicolaou
1999	Wolfgang Gopel
2000	Symposium: Computational Chemistry (John Pople, Larry Curtiss, Martin Head-Gordon, Krishnan Raghavachari)
2001	Symposium: Nanoscience and Nanotechnology (Chad A. Mirkin, Charles M. Lieber, Paul Alivistatos)
2003	Barry M. Trost
2004	Symposium: Enzyme Dynamics (Kendall N. Houk, Thomas C. Bruice, Stephen J. Benkovic, Donald F. Truhlar)
2006	Thomas J. Meade, Olke C. Uhlenbeck
2008	Fraser Stoddart
2009	Susan V. Olesik

THE KILPATRICK LEGACY

The Martin and Mary Kilpatrick legacy extends beyond showcasing breakthrough chemistry research in the annual Kilpatrick Lecture Series. The Kilpatricks devoted their lives to the critical and creative study of chemistry and its teaching. Their commitment to excellence is evident today, as chemistry majors at IIT graduate with solid underpinnings in all aspects of chemistry and supporting science and math disciplines.

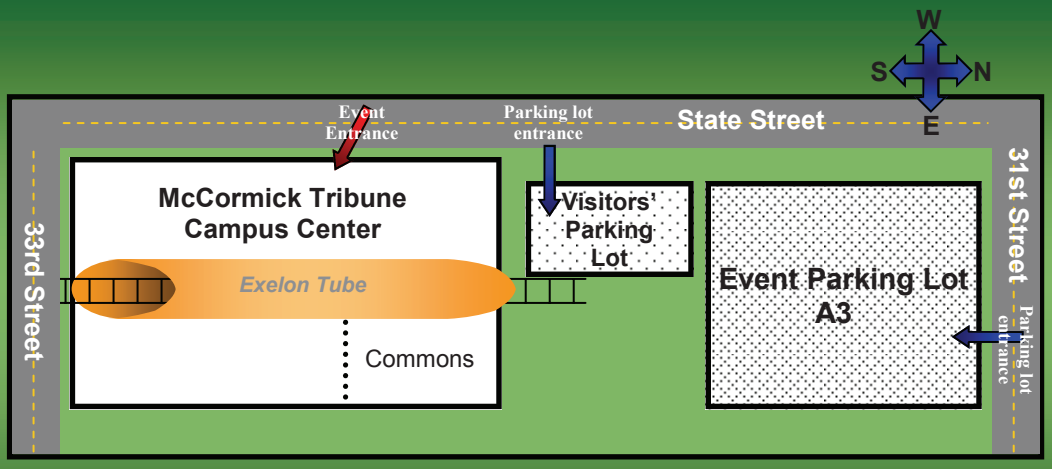
The Kilpatricks believed that chemistry is first—and foremost—an experimental science. This belief was reflected in the demanding and rigorous curricula Martin established during his tenure. Martin also started the graduate program in chemistry at IIT—long before federal support for research was available. The Kilpatricks offered their carriage house as lodging for the first graduate students. Mindful of the need for student support, they also endowed undergraduate scholarships and graduate fellowships that continue to this day.

The foundation laid by Martin Kilpatrick has inspired changes at institutions beyond IIT. In 1959, IIT was the nation's first university to make programming a computer a requirement within a required course in a major discipline. This curriculum innovation eventually led to the creation of the College Board's Advanced Placement Examination in Computer Science. In 1985, an IIT faculty member championed an initiative with the American Chemical Society Committee on Professional Training to allow universities to expand undergraduate chemistry programs to include optional degree program offerings acknowledging the growing interdisciplinary nature of chemistry.

These sweeping curriculum changes have been expanded further at IIT in the form of a fully revised undergraduate curriculum in chemistry, which was launched in fall 2004. A key feature of the changes is the expanded chemistry degree options in six sub-disciplines: Biological Chemistry, Materials Chemistry, Pharmaceutical Chemistry, Chemical Physics, Polymer Chemistry, and Chemical Education. The flexibility of the new degree options sets the stage for future expansion into other areas (such as environmental and computational chemistry) or graduate programs that result in five-year dual bachelor's and master's degree programs.

The Kilpatricks' legacy lives on at IIT-- through innovative research, inspired teaching, and the vigorous discussion of today's vital chemistry issues.

Free parking will be available **only for online registered attendees** in Lot A3, located on the corner of State and 31st Street. A limited number of metered parking places will be available in the visitors' parking lot.



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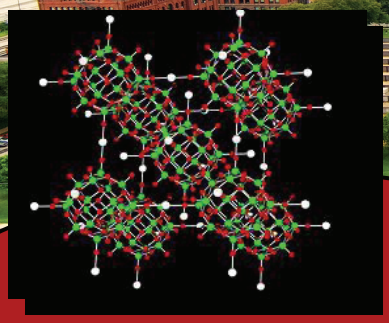
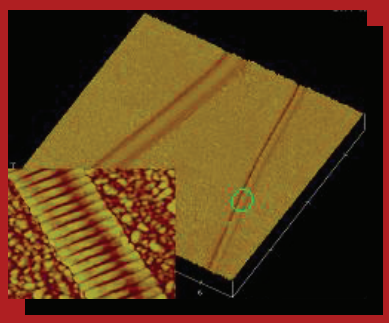
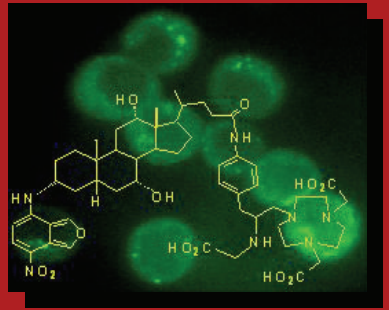
ILLINOIS INSTITUTE OF TECHNOLOGY



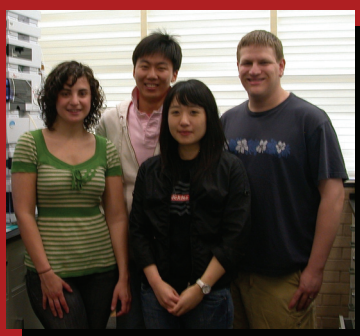
Chemistry at IIT





IIT Chemistry Faculty's commitment to frontier teaching and research in:

- Bio-nano Technology
- Magnetic Biomaterials
- Nanostructured Material Synthesis
- Organic Solar Cells and Electroactive Polymers
- Pharmaceutical and Biomedical Chemistry
- Probe Scanning Microscopy
- Protein/Cell Functions and Dynamics
- Synthetic Organic Chemistry
- Theoretical Modeling



An Excellent Place for Graduate Study....

- Outstanding Multidisciplinary Research Environment
- Interaction with Argonne National Laboratory and other research Institutions in the Chicago area
- Vibrant Recreational and Cultural Opportunities in Chicago
- Competitive Fellowships and Assistantships

Biological, Chemical and Physical Sciences