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Matyjaszewski To Be 2004 Turney Alfrey Visiting Professor at MMI

Professor Krzysztof Matyjaszewski, J.C. Warner Professor of Natural Sciences, Department of Chemistry and Center for Macromolecular Engineering, Carnegie Mellon University, Pittsburgh, is the 2004 Turner Alfrey Visiting Professor at Michigan Molecular Institute, see pg. 2.

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In This Issue...

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Please submit all articles and photographs to the editor, Ann Birch. Instructions for article submission are on the Midland Section web site, as is contact information for other staff members. Authors can also contact Ann directly with any questions.

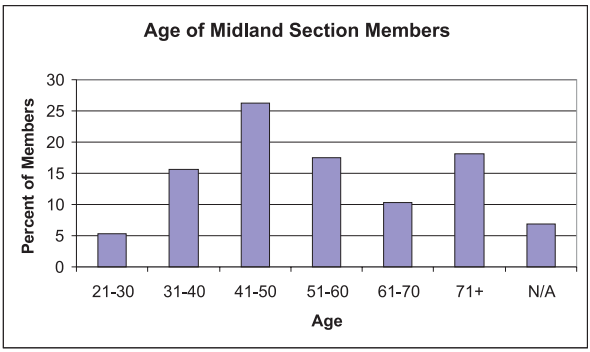
Chair Column

The Midland Chemist Celebrates a Birthday

Joe Ceraso, Chair
ACS Midland Section

According to research by Section historian Wendell Dilling, the April 1964 issue of *The Midland Chemist* was the first issue published, making our Section publication 40 years old this month. In his editorial, "Introducing the Midland Chemist," founding editor Dr. Joseph E. Dunbar commented "Many changes in the professional character of the American Chemical Society have come about during the past five or six years. These changes have resulted in a better Society, more representative of its professional members. In such an organization good communication between the formal organizational structure and the members is paramount. Therefore it is intended that *The Midland Chemist* will function not only as a broadcaster of news and announcements but that it can also serve as a sounding board for comments and opinions on professional matters by individual members. It is hoped that a regular communications column containing brief letters can be maintained."

Well, *The Midland Chemist* is still going strong, despite its entry into middle-age, just like many of our Section members. Section demographics for 2003 exhibit a strong showing for the 41–60 age group, but the 20s and 30s are catching up, and we've seen more and more new members becoming active in Section events in the last few years. We welcome their participation and fresh ideas! And those members over 60, many approaching the 50-year membership milestone... where would the Midland Section be without them? Altogether, a great mix of knowledge, experience, and enthusiasm!



Joseph M. Ceraso

MMI Announces 2004 Turner Alfrey Visiting Professor Short Course

By Steve Keinath

Macromolecular Engineering: Designing New Materials by Controlled/Living Radical Polymerization

May 3–7, 2004, Monday–Friday, 3:00–6:00 p.m.

Professor Krzysztof Matyjaszewski, J.C. Warner Professor of Natural Sciences, Department of Chemistry and Center for Macromolecular Engineering, Carnegie Mellon University, Pittsburgh, is the 2004 Turner Alfrey Visiting Professor at Michigan Molecular Institute. An outline of the course topics is given below.

1. Quest for New Materials and Controlled/Living Polymerization
   a) Importance of search for new polymeric materials and nanotechnology. Structure-property correlation and retro-design of new materials.
   b) Fundamentals of controlled/living polymerization (C/LP). Ranking living systems. Meaning of polydispersity. Examples of C/LP (ionic, coordination, radical …). Achieving control of basic molecular parameters: topology, composition, and functionality via C/LP.
2. Free Radical Systems and Principles of Controlled/Living Radical Polymerization
   a) Chemistry of elementary reactions in free radical reactions: structure, selectivity, reactivities.
   b) Foundations of controlled/living radical polymerization (CRP). Similarities and differences between conventional RP and CRP. Persistent radical effect. Most common CRP systems and their comparative advantages and limitations.
3. Mechanistic Aspects of Atom Transfer Radical Polymerization and other CRPs
   a) Typical kinetic features of ATRP. Catalyst structure and reactivity. Model reactions.
   b) Radical nature of ATRP. Controlling microstructure?
   c) ATRP processes: bulk, solution, emulsion.…
4. New Polymeric Materials Made by ATRP and CRP
   a) Block and graft copolymers. Random and gradient copolymers.
   b) Linear, star, and branched polymers. Molecular brushes.

c) Terminal and pendant functionalities.
d) Mechanistic and molecular hybrids.

5. Applications for ATRP and other CRPs
   a) Thermoplastic elastomers, adhesives, and coatings.
   b) Amphiphiles, surfactants, lubricants, and additives.
   c) Materials for electronics and biomedical systems.
   d) Future of CRP systems.

Details Concerning the 2004 Turner Alfrey Visiting Professor Short Course

Course 1031: Macromolecular Engineering: Designing New Materials by Controlled/Living Radical Polymerization

Lecturer: Prof. Krzysztof Matyjaszewski, J.C. Warner Professor of Natural Sciences, Department of Chemistry and Center for Macromolecular Engineering, Carnegie Mellon University, Pittsburgh, PA 15213

Location: Lecture Hall (Room 101), Michigan Molecular Institute, 1910 West St. Andrews Road, Midland, MI 48640

Time: Formal lectures: Monday through Friday, May 3–7, 2004, 3:00–6:00 p.m.

Fee: There is no fee for auditors if they belong to organizations that are financial sponsors of the Turner Alfrey Visiting Professor program: Dow Chemical, Dow Corning, Saginaw Valley State University, Central Michigan University, Michigan State University, and Mid-Michigan Section of the SPE. For all others, a course fee of $300 will be required at registration. *All participants, however, must register.*

Registration: Pre-registration is required one week in advance with the Registrar by calling (989) 832-5555, ext. 555 or by e-mail at *registrar@mmi.org.*

Professor Krzysztof Matyjaszewski

Carnegie Mellon University, Department of Chemistry, 4400 Fifth Avenue, Pittsburgh, PA 15213. Phone (412) 268-3209; fax (412) 268-6897; e-mail km3b@andrew.cmu.edu; http://polymer.chem.cmu.edu

Education

Polytechnic University of Lodz, Poland, Habilitation, 1985; Polish Academy of Sciences, Ph.D., 1976 (Prof. S. Penczek, Thesis Advisor); Technical University of Moscow, B.S./M.S., 1972

Professional Experience

06/1998–present	J.C. Warner Professor of Natural Sciences, Carnegie Mellon University
07/1994–06/1998	Head, Department of Chemistry, Carnegie Mellon University
10/1985–06/1998	Assistant, Associate, and Full Professor, Carnegie Mellon University
04/1984–10/1985	Research Associate & Invited Professor, University of Paris, France
03/1978–04/1984	Research Associate, Polish Academy of Sciences
03/1977–03/1978	Postdoctoral Fellow, University of Florida

Research Interests

1. Synthesis of well-defined macromolecules via living and controlled polymerizations. Radical, cationic, and anionic polymerization of alkenes and heterocyclics. Block, graft, and gradient copolymers. Control of chain microstructure and topology. Functional polymers and telechelics.
2. Catalysis. Homogeneous and heterogeneous catalysis.
3. Organometallic polymers. Polysilanes and polyphosphazenes.
4. Preparation of well-defined polymers and hybrids for optoelectronics, ceramics, and biomedical applications.

Current research group at Carnegie Mellon University consists of 11 graduate students and seven postdoctoral fellows.

Publications and Patents

- Co-author/editor of eight books, 54 book chapters, and more than 600 scientific papers.
- 25 US patents, 46 international patents, and 14 pending US patent applications.

Other details of Prof. Matyjaszewski's career can be found at http://polymer.chem.cmu.edu.

SPE/ACS/AIChE Joint Technical Society Dinner Meeting

The Art of Atom Transfer Radical Polymerization

Professor Krzysztof Matyjaszewski
Department of Chemistry and Center for Macromolecular Engineering
Carnegie Mellon University

Atom transfer radical polymerization (ATRP) has evolved and emerged as one of the most versatile of synthetic polymerization chemistry techniques. A deeper insight into this polymerization process and the fine-tuning of reaction parameters in order to enhance polymerization control will be presented. The resulting materials with controlled regio-, stereo-, and chemoselectivities self-organize, or can be pre-organized, into regular nano-structured morphologies. The potential applications of these interesting and unique materials will also be discussed.

Professor Krzysztof Matyjaszewski is the J.C. Warner Professor of Natural Sciences, Department of Chemistry and Center for Macromolecular Engineering, Carnegie Mellon University, and 2004 MMI Turner Alfrey Visiting Professor.

Date: Tuesday, May 4, 2004

Time: Social 6:30 p.m.
Dinner 7:00 p.m.
Program 8:00 p.m.

Location: Griswold Communication Center, Northwood University, 4000 Whiting Drive, Midland, MI 48640, 989-837-4200

Cost: $23.00 for SPE, ACS, and AIChE members with reservations
$13.00 for SPE, ACS, and AIChE student members with reservations
$15.00 for other students with reservations
$25.00 for others or SPE, ACS, and AIChE members without reservations

Reservations: Reservations can be made via phone, fax, or e-mail to Randi Merrington at MMI. They must be received no later than Friday, April 30, 2004. Phone: 989-832-5555, ext. 555, Fax: 989-832-5560. E-mail: merringtonr@mmi.org

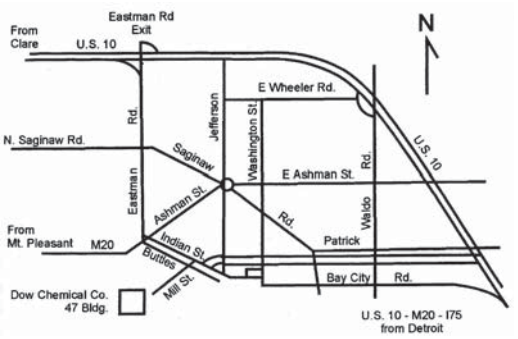
Spring Science Education Recognition Dinner

Thursday, April 22, 2004
6:00 p.m. to 9:00 p.m.
47 Building Cafeteria, The Dow Chemical Company
Midland, Michigan

Program: 6:00 p.m. Reception
6:30 p.m. Buffet Dinner
7:30 p.m. Awards Presentations

Teachers and students will be recognized for their outstanding achievements in science education at this thirteenth annual event.

The cost of the dinner is $15.00 per person and includes appetizers, dinner, dessert, and beverage. Please respond by mail using the form below. Your dinner reservation request must be received by April 13, 2004. You may also register by email (dvornic@mmi.org) and pay at the door. This event is sponsored by the Midland Section of the American Chemical Society and underwritten by grants from The Dow Chemical Company and Dow Corning Corporation. For further information, contact Petar Dvornic at (989) 832-5555, ext. 550.



To reserve a place at the 2003 Spring Science Education Recognition Dinner, return this form with payment by **April 13, 2004,** to Petar Dvornic, Michigan Molecular Institute, 1910 W. St. Andrews Road, Midland, MI 48640-2696

Name(s): _____

Affiliation: _____

Address: _____

Phone/Email: _____ ACS member? Y N

Enclose payment of $15.00 per person. Checks should be payable to "Midland Section ACS"

New Patent Act Passes U.S. House

From National ACS

House Resolution 1561, the U.S. Patent and Trademark Modernization Act passed overwhelmingly in the House with a vote of 379 to 28 on March 4. Although H.R. 1561 would raise PTO user fees by 15 to 25 percent, it garnered broad support in the intellectual property users' community, which accepted the fee increases in exchange for the end of the re-routing of PTO funds. The increased funding would also be used to modernize the PTO and address problems plaguing the patent agency. The ACS has endorsed H.R. 1561, which was sponsored by Representative Lamar Smith (R-TX), chair of the House Subcommittee on the Courts, the Internet, and Intellectual Property.

Previous efforts to end fee diversion ran into resistance from congressional appropriators who rely on PTO fees to fill funding gaps in other parts of the government, but House Judiciary Committee Chair James Sensenbrenner (R-WI) successfully negotiated a compromise amendment for the bill. The Sensenbrenner amendment would create a fee "refund" program so that if fees collected in a given fiscal year exceed the amount appropriated to the agency, the amount would be deposited in a reserve fund for rebate to PTO users. This would eliminate the incentive for appropriators to redirect fees, while still maintaining their oversight over the agency.

H.R. 1561 would enable the PTO to implement a strategic plan first unveiled in 2003. The strategic plan also contained a proposal to outsource patent searches, which came under heated criticism by legislators. To address this issue, the bill was amended to limit outsourcing to a pilot program, which would place restrictions on who could perform the outsourced patent searches and the fees charged for such searches.

The next step to ending PTO fee diversion will be passage of a Senate companion bill, introduced by Senator Norman Coleman (R-MN).

Midland Section Submits Annual Report

By Mike Owen

Our 2003 Annual Report was completed and submitted to National ACS before the February 15, 2004, deadline. I would like to thank all the many contributors for their splendid efforts. It weighed in at a shade less than 3 lb and was a little over 1 inch thick, about the same size as the 2002 annual report. It was shipped on February 10 and arrived safely in Washington, DC, two days later. Receipt of the complete report by the deadline is a prerequisite for timely payment of our section's annual allotment from National ACS. This allotment is geared to membership numbers and amounts to over $7,000, so it is an important source of income for us.

The report consists of four parts:

- Part I is a questionnaire.
- Part II is a narrative section with extensive appendices.
- Part III is the financial section (skillfully prepared by our experienced treasurer, Doug Beyer).
- Part IV is a set of ChemLuminary Award self-nominations.

Only Parts I and III are mandatory, but omitting Part II would have two unsatisfactory consequences. It would do little justice to the fine contributions of our many volunteers whose detailed activities form the bulk of this part of the report, and it would mean we could not be considered for a Local Section Outstanding Performance Award. The appendices to this section contain 29 reports on activities and programs of remarkable richness and diversity in my opinion. The narrative is structured to force a ranked highlighting of up to ten of these activities. I selected the following activities:

- Formation of our Younger Chemist's Committee
- Fall Scientific Meeting
- National Chemistry Week
- *The Midland Chemist*
- Launch of the new, endowed scholarship fund
- SciFest
- Mid-Michigan Technician Group
- Science Demos and Professional Day at Midland County Fair
- Initiation of 2006 Regional Meeting Planning
- Spring Awards Banquet

Some of these activities also provided the basis for several ChemLuminary Award self-nominations in Part IV.

National ACS allows electronic or hardcopy submission. I chose the latter for the mundane reason that several of the reports were not submit-

ted in electronic form or had hardcopy attachments, and I had no easy access to a scanner. However, I have formed the opinion during this exercise that electronic submission is the better and easier way to go. Certainly, National ACS is encouraging this, particularly by providing access for several people to make direct inputs. I would suggest that all committee chairs give thought to submitting their reports this year in wholly electronic form so that the 2004 report could be the first of the new generation of electronic annual reports. A hardcopy would still be needed for archival purposes but this could readily be done after submission.

Although somewhat of a chore, the report preparation was an opportunity to review the many varied activities of the section that I was happy to undertake. I feel we had a good year in 2003, and I very much appreciate the fine contributions of so many of our members. Thank you all for making 2003 so memorable and pleasant.

Schedule Set for 2004 Regional Meetings

From National ACS

The Office of Regional Meetings (ORM) has released its schedule for 2004. Please visit the ORM website to link with the individual meetings for more details at www.acs.org/meetings/regional.

- 36th Central Regional Meeting (CRM 2004)
  June 2–5, Indiana-Purdue Univ., Indianapolis, IN
- 59th Northwest/18th Rocky Mountain Regional Meeting (NORM/RMRM 2004)
  June 6–9, Utah State Univ., Logan, UT
- 60th Southwest Regional Meeting (SWRM 2004)
  Sept. 29–Oct. 2, Fort Worth, TX
- 36th Great Lakes Regional Meeting (GLRM 2004)
  Oct. 17–20, Hotel Père Marquette, Peoria, IL
- 39th Midwest Regional Meeting (MWRM 2004)
  Oct. 19–22, Kansas State Univ., Manhattan, KS
- 40th Western Regional Meeting (WERM 2004)
  Oct. 27–30, Doubletree Hotel, Sacramento, CA
- 33rd Northeast Regional Meeting (NERM 2004)
  Oct.31–Nov. 3, Hyatt Regency, Rochester, NY
- 56th Southeast (SERMACS 2004)
  Nov. 10–13, Raleigh/Durham, NC

Toastmasters—Can You Benefit?

By Kristine Danowski

Have you ever attended a conference in which a presenter monotonously read to his audience directly from his notes? Or a presenter stood with her back to her audience and talked to her slides? How many times have you heard that someone is a terrific scientist but a lousy speaker? We all have probably given a less-than-stellar presentation in our own careers. However, if you see yourself regularly in these examples, or if you know you tend to mumble, your mind goes blank, or you have an inordinate feeling of doom when you speak in front of groups, then Toastmasters is for you.

Founded in 1924, Toastmasters is an organization devoted to improving oral communication and leadership. It has clubs worldwide that meet regularly. The Toastmasters program is very user-friendly. It is self-paced so you can work as fast or as slow as you want. It is non-judgmental so you don't feel threatened or self-conscious. It focuses on the positives but encourages improvement.

New Toastmasters members receive materials on speech proficiency and the basic program manual. This manual contains ten 5- to 7-minute speeches covering a variety of essential speaking skills such as organization, vocal variety, body language, humor, persuasiveness, sincerity, and use of props. All these skills are necessary in a good technical presentation. You choose the topic of each speech and prepare it according to the guidelines in the manual. Then you deliver your speech to your club at a regular meeting. One club member formally evaluates your speech according to guidelines in the basic manual. In addition, the other club members offer their feedback on your speech, so you hear from everyone. The formal evaluation and feedback reinforces your strengths while providing insight into your problem areas.

Your Toastmasters club will also assign you a mentor. A mentor is someone who has been in Toastmasters a long time and has completed the basic communication manual and sometimes an advanced manual. Your mentor can help you prepare your speeches, listen to your rehearsals, and focus more on your problem areas. The more speeches you give, the more confidence you gain, and the better your technical presentations will be.

Most members of your Toastmasters club are working their way through different communication manuals. Many are using the basic manual, some are using a leadership manual, while some are using an advanced communication manual. You benefit from observing the speaking styles of other people and offering them feedback. Observing other talented speakers motivates you to expand your own abilities. As a side ben-

efit, since everyone has different interests and hobbies, you will also learn about many different subjects as well as diverse perspectives from your fellow Toastmasters.

After you complete the basic manual, you become a Competent Toastmaster. Once you have mastered the basics, you can then study advanced manuals on specific professional topics such as management speeches, public relations, leading discussions, or technical presentations.

In addition to delivering prepared speeches, Toastmasters provides other benefits. At club meetings you can practice extemporaneous speaking by giving 2-minute speeches on an unknown topic. This is good practice for question answering during your own presentations or oral exams. You can practice injecting humor into a meeting or presentation by volunteering to be the meeting's raconteur. Serving as a club officer provides leadership opportunities in financing, organizing, goal setting, and goal achieving for your club. You also gain valuable experience giving constructive criticism to your fellow Toastmasters. This is vital if you supervise people or work on teams.

Communication can be the essence of science. You can do your experiments alone in your lab, but if you are too nervous or intimidated to communicate with your colleagues at meetings and conferences, no one will know about your data and theories but you. In that case you are really not advancing the body of scientific knowledge, and, after all, most scientists want to be recognized for their work. Once you publish that ground-breaking paper in *Science* or *Nature*, you'll probably want to accept some of those invitations to give keynote addresses. Both you and your audience want to enjoy your speech. You definitely want to be at your best! Public speaking is a skill you can develop. The earlier you start the better you'll be. Toastmasters can show you the way. To find a Toastmasters club near you, go to http://www.toastmasters.org and click on Find a Club.

Editor's Note: The author is a Competent Toastmaster and the VP of Membership for the local Toastmasters Wednesday Speakers Circle.

Letter to the Editor

Do ACS Voting Procedures Need Reform?

In a recent ACS election, newly elected Director-at-Large Kent Voorhees received 155 votes (47%) while candidates Kathleen Taylor and Allen Bard received 95 (29%) and 78 (24%) votes, respectively (*C&EN*, Feb. 23, 2004, page 8). Thus the new director was elected by a minority of the voters (councilors). ACS Bylaw V, Sec. 3 specifies that the winner is the candidate who receives the most votes regardless of the number of candidates. In contrast, sections 2 and 4 of Bylaw V relating to the election of the president-elect and district (formerly regional) directors, respectively, specify that if there are three or more candidates for an office, voters may vote for a second choice, or a run-off election may be held. These procedures ensure that these officers are elected by a majority of the voters. A bylaw change is needed to ensure directors-at-large are also elected by a majority of the voters. The simplest procedure would be to have a multiple-choice election—voters select first, second, and third choices if there are four candidates, and thus avoid needing a separate run-off election.

The procedures currently used for electing a president-elect and district directors when there are three or more candidates (see *C&EN*, Nov. 24, 2003, page 8 for an example) have made a difference in the past. In 1983 president-elect candidate Clayton Callis received the most first-choice votes but lost the election. Regional director candidates Alan Nixon in 1978, Attila Pavlath in 1984, Louis Sacco, Jr. in 1985 and 1987, and Robert Fox in 1986 each received the most first-choice votes but lost the elections.

Multiple-choice has several advantages over single-choice voting:

- The election of a candidate by a minority of voters is avoided.
- Voters do not feel they are wasting their vote by voting for a candidate who has little chance of being elected.
- Candidates who have little chance of winning are not discouraged from running because of a concern they might draw votes away from another candidate.

The above comments should not be construed to imply that I think Kent Voohees should not have been elected, only that he might not have been elected if second-choice voting had been used.

These comments concerning multiple-choice voting also apply to Midland Section elections. However little chance exists that this procedure would be needed because we rarely have more than two candidates for any office.

—Wendell L. Dilling

In Past Issues of *The Midland Chemist*

By Wendell L. Dilling, Midland Section Historian

- **40 Years Ago This Month**—In the first issue of *The Midland Chemist*, April 1964, the Section chairman, Dr. Carleton W. Roberts, in his "Chairman's Column" wrote "...I would like to offer the membership's sincere and appreciative thanks to those who have persevered over the years in the plans for *The Midland Chemist*. Many of you will remember the growth of our means of communication from a primitive one to this the beginnings of a really effective means of communication."
- **30 Years Ago This Month**—The Tenth Anniversary Edition front cover shows a photo of Joseph Dunbar with the caption, "This issue is dedicated to Dr. Joseph Dunbar who created *The Midland Chemist* in April 10 years ago." The announcement of a seminar by Dr. Richard H. Reitz on "Compound DH-524: A Way to Kick the Habit (Potential Antidote for Barbituate and Ethanol Abuse) on April 22, 1974, at the Dow Conference Room, 566 Bldg., is overprinted in large letters **Cancelled** (because of a labor strike against The Dow Chemical Company).
- **20 Years Ago This Month**—The 40th Fall Scientific Meeting sponsored by the Midland Section of the American Chemical Society, in cooperation with the Dow Chemical Company and Dow Corning Corporation, will be held at Herbert H. Dow High School on Saturday, October 27, 1984.
- **10 Years Ago This Month**—The officers and board of the Midland Section, and the Midland County Historical Society invite you and your guests to join us in opening the historical exhibit commemorating the 75th Anniversary of the Midland Section American Chemical Society. A brief opening ceremony will be held along with the presentation of the 1994 50-year membership awards. A reception will follow.

Important Dates on the ACS Midland Section Calendar

Apr. 12	Midland Section board meeting, Delta College Midland Center, Rm. 12, 7:00 p.m.
Apr. 13	Deadline for reservations for Science Education Recognition Dinner (Petar Dvornic, dvornic@mmi.org)
Apr. 19	Ann Mary Nefcy, Environmental Consultant from Washington, DC, "Today's Environmental Chemistry: What are we doing? Where are we going?" (ACS Tour Speaker), Central Michigan University, Dow 175, 4:00 p.m., reception preceding in Dow 264 at 3:30 p.m. (Anton Jensen, 989-774-3125).
Apr. 22	2004 Science Education Recognition Dinner, Dow 47 Building Cafeteria, Midland (Petar Dvornic, dvornic@mmi.org).
Apr. 28	Deadline for registering for Turner Alfrey Short Course.
Apr. 30	Dealine for registering for SPE/ACS/AIChE Joint Technical Society Dinner Meeting.
May 3	Deadline for June issue of *The Midland Chemist*.
May 3-7	Prof. Krzysztof Matyjaszewski, MMI Turner Alfrey Visiting Professor, "Macromolecular Engineering: Designing New Materials by Controlled/Living Radical Polymerization," Lecture Hall (Room 101), Michigan Molecular Institute, 3:00-6:00 p.m. (989-832-5555, ext. 555)
May 4	Prof. Krzysztof Matyjaszewski, MMI Turner Alfrey Visiting Professor, SPE/ACS/AIChE Joint Technical Society Dinner Meeting, "The Art of Atom Transfer Radical Polymerization," Griswold Communication Center, Northwood University, Social 6:30 p.m., Dinner 7:00 p.m., Program 8:00 p.m. (989-832-5555, ext. 555)
May 10	Midland Section board meeting, Delta College, University Center, location TBD, 7:00 p.m.

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