



Midland Section Honors Excellence in Science Education! pg. 3

THE MIDLAND CHEMIST

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Chair Column

Tough Challenges Ahead

At this time in history we are facing challenges in the chemical industry, and indeed for Western society as a whole, like none other. These challenges are multifaceted, and each challenge individually poses serious threats to our way of life. In combination, they are paramount to a monumental crisis. There has been considerable dialog over these issues recently. In fact, Bill Carroll, president of the ACS, in his recent visit to our Section, spoke of today's challenges and has initiated a dialog within the Society—Vision 2015. In this issue of *The Midland Chemist*, I'd like to define the challenges and discuss actions we can take at the Section level to enhance our odds of success.



Pat Smith, Chair
ACS Midland Section

The challenges for the West include the unprecedented cost of oil and natural gas that has disadvantaged the U.S. chemical industry, in particular. The immediate cause for the shortages is increased demand (rather than shortages in supply) due to the increased use of natural gas by U.S. utilities and the appetite of China for oil. China has become one of the largest importers of oil, second only to the U.S. Additionally, the plastics industry is becoming mature and commoditized, such that low cost to manufacture has become its credo. Global competition has also increased dramatically, with China becoming a global force in manufacturing, as well as other regions in Southeast Asia. This is in large part due to the low cost of labor and capital, a highly educated workforce, and a relaxed regulatory policy in many areas. For these reasons, manufacturing is shifting to locations of cheap feedstocks and cost to manufacture in order to survive. These trends are also complicated by political instability, which affects financial markets, immigration policy, and the free flow of ideas across political boundaries. Finally, and very troubling to us in the sciences, is the seeming unattractiveness of the sciences to our children. U.S. graduate schools in chemistry have great difficulty recruiting U.S. citizens into their programs, such that over 40% of the Ph.D. degrees in chemistry in 2002 were granted to noncitizens.

So how do we face this monumental list of challenges? First, we must come to grips with the issues and seriously consider solutions. Next, we must begin to prepare ourselves for the future. In my opinion, there are several things we can do to prepare, each of which does not ensure success, but without them we will not succeed.

- We need to recommit ourselves to attracting the best minds into science.
- We must become more active in community outreach, especially to students in the early years of their education and their teachers.
- We need to provide curriculum aids for teachers that emphasize the process of discovery and make science fun. The challenges described earlier create renewed opportunities for exploration and innovation.
- We also need to reward excellence, both in achievement and in instruction. In short, we need to inspire this generation to the challenges before us as “Sputnik” did for many of us. There is a real opportunity for retirees from the chemical enterprise to make a difference in science education and so we need to consider how to enlist their expertise.

Finally, the stakeholders in the chemical enterprise need to come together and recognize that unless we work together, we will not succeed. Areas of tax, trade, and regulation policy must assist U.S. manufacturers to be competitive and provide incentives for scientific research. Those manufacturers must recommit to being good neighbors in areas such as emissions, employment policies, financial transparency, and executive compensation.

I welcome your comments. Let's engage in this dialog.





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Midland Section Honors Excellence in Science Education

By Minghui Chai and Ann Birch

Photos by Debbie Rothe

The 14th Annual Spring Science Education Recognition Dinner was held on April 27. This dinner recognizes students, educators, and volunteers for their achievement in or contribution to science education in the Midland Section area. The dinner was held in the main dining room of Dow 47 Building in Midland and was attended by 99 people. The event began with opening remarks by the 2005 Section Awards Committee chair, Minghui Chai, and 2005 Midland Section chair, Pat Smith. Congratulations to all of the awardees!



Ninety-nine people attended the 14th Annual Spring Science Education Recognition Dinner on April 27.

U.S. National Chemistry Olympiad

Sharyl Majorski-Briggs presented the awards to:

Alexander Millar	Midland High School
Danny Zhao	Mt. Pleasant High School
Nicholas Ahn	Midland H. H. Dow High School
Marc Malone	Midland High School
Mark Bourne	Midland H. H. Dow High School
Luvena Ong	Mt. Pleasant High School
David Sellers	Ogemaw Heights High School
Ryan Schutte	Au Gres-Sims High School
Gang (Daniel) Xu	Heritage High School

Outstanding High School Chemistry Students

Paul Popa presented the awards to:

Daniel Ostahowski	Midland H.H. Dow High School
Adam J. Prescott	Ashley Community High School
Monica Zipp	Mt. Pleasant Sacred Heart Academy
Jeremy Hassen	Bullock Creek High School



(l-r) Chemistry Olympiad award recipients Alexander Miller, Danny Zhao, Nicholas Ahn, Marc Malone, Luvena Ong, Gang Xu.

Stacy StremLOW

Steven Bawtinheimer

Mark Oliver

Justin Frahm

Derek Yesmunt

Andrew Doyle

Craig Rogers

Marc Malone

Allison Kyle

Connie Birchmeier

Alexandria Padgett

Jacob Veldman

Brandon Cummings

Ryan Thomas

Erica Ziel

Coleman High School

Ithaca High School

Essexville Garber High School

Frankenmuth High School

Shepherd High School

Freeland High School

St. Louis High School

Midland High School

Carrollton High School

Chesaning Union High School

Freeland High School

Clare High School

Saginaw Arthur Hill High School

Bay City John Glenn High School

Swan Valley High School

Outstanding College Chemistry Students

Petar Dvornic presented the awards to:

Brandon McNally

Duston O. Miller

Shane A. Shaffer

Corinne Bell

Alma College

Central Michigan University

Delta College

Saginaw Valley State University



Twelve of the nineteen area high school students who received the Outstanding High School Chemistry Student award for their school.



Petar Dvornic (l) with Outstanding College Chemistry Student awardees, Corinne Bell and Brandon McNally.

Outstanding Achievement in Elementary Level Science Education

Rod Dishaw, principal at Floyd Elementary School in Midland, presented this award to Curt Moses. Curt has taught fifth grade at Floyd for six years. He is also the curriculum coordinator for fourth and fifth grade in the Bullock Creek school district.

According to Mr. Dishaw, Curt's unique style of teaching is truly effective at reaching children. "Each spring Curt teaches his children to identify maple trees, tap them for sap, and then boil the sap to make syrup. This activity alone, while nice, would not be such a unique experience. It is the tremendous

involvement of the students that makes this such a wonderful learning adventure. Curt challenges his children to do many things on their own, and thus they learn many positive and useful skills as a result."

From another support letter: "The leadership qualities which Curt exhibits are an extension of what he does in the classroom. Curt is an innovative and creative teacher. He has the ability to glean the important information that needs to be taught in order to hit the standards and benchmarks and then presents the information to his students, hitting various learning modalities."

A parent who attended a field trip that Curt put together says, "One of the things that impressed me the most was his concern for the students and their individual personalities and learning styles. He treats each student with individual concern, and bases his approach on what they need. I was also impressed by his ability to turn almost any situation into a teachable moment...a refreshing ability in a world where far too much is rehearsed and programmed."

A professor at Saginaw Valley State University sums up: "I believe Curt is one who knows his students, knows his content, and finds a way to approach learning to not only meet his students' immediate academic needs, but also to develop them as lifelong learners who are curious about the world around them. His community is fortunate, indeed, to have him as a member of their district staff."



Curt Moses, Floyd Elementary School

Outstanding Achievement in High School Chemistry Teaching

Petar Dvornic presented this award to Pamela Thompson, Arthur Hill High School, Saginaw. Pam has over 15 years with Saginaw Public Schools, at Saginaw High and Arthur Hill.

According to one student, “(Pam Thompson) has been a priceless teacher in the chemical arts. Everyone enters chemistry class with visions of bubbling beakers and exploding petri dishes. However, the first day in a real chemistry class reveals the scores of problems in the subject that need deep math work and heavy study to comprehend. Despite my (personal) resistance to numbers, she has taught me to work through stoichiometry, combined gas laws, and numerous other numerical problems. Throughout all her effort I have heard no grievance, seen no loss of hope in her eyes, or felt any lack of confidence in her spirit.”

According to one of Pam’s colleagues: “Pam conducts several lab activities per week with her students. I know because my class is next door to hers and I can often smell mothballs, Bunsen burners, and many mystery odors coming from her class. She is a firm believer in hands-on science experiences.”

“Pam is a living proof of a teacher’s dedication. Three days before the 2003–2004 school year started, she was diagnosed with cancer. However, she still managed to come to school and teach her students. Most teachers would choose to stay home and take care of themselves, but she always had her students in mind and was driven by the need to teach them.”

“Pam has kept a positive attitude throughout her whole ordeal and her first order of business was always ‘What’s best for the students?’ She has put them before herself, coming to school using a mask and hoping that she wouldn’t catch a cold during her chemotherapy. She literally put her life on the line for her students because her goal for them is to get the best chemistry education before they go off to college.”



Petar Dvornic (l) presents the Outstanding Achievement in High School Chemistry Teaching award to Pamela Thompson, Arthur Hill High School.

Outstanding Achievement in College Chemistry Teaching

Cynthia Peck presented this award to Ronald Sharp, Delta College. Ron has been an educator at Delta College for 32 years. According to a colleague, “Ron has been a guiding influence on hundreds of students taking general college chemistry courses. He has been able to sustain this achievement through his enthusiasm and love of a wonderful subject. He has a great understanding of the subject and how to make it clear and useful.”



Ronald Sharp (center), recipient of the Outstanding Achievement in College Chemistry Teaching award, with Andrea Alexander (l) and Cynthia Peck (r).

Another colleague remarks: “I have the opportunity to see the difference he makes for his students. As they become accustomed to his unique sense of humor and direction, they begin to work together and spend time hunting him down between classes so that he can clarify things for them. He guides and pushes them until they accept responsibility for their learning and begin to help each other.”

Of course, the best measure of a teacher is the regard of his students. A former student, Andrea Alexander, testified before the Recognition Dinner attendees: “Through all my years of schooling I have never encountered a teacher with such boundless energy, compassion, and enthusiasm. As a matter of fact, he has so much enthusiasm for his job, it’s contagious. He makes learning such a complex subject easier, and most of all, fun and exciting! I would describe his teaching style as structured, chaotic, and entertaining. (I know that I’ve presented an oxymoron, but if you could experience just one of his classes, you would understand what I mean.)”

Andrea went on to say: “The wonderful experiences that I had in his class inspired me to change my major from medicine to chemistry. In fact, I love chemistry so much that I want to become a chemistry professor in the hopes that I can have the same effect on students as he does. ‘There are two ways of spreading light: to be the candle or the mirror that reflects it.’ (Edith Wharton) Professor Ron Sharp is the candle, and the thousands of students he has touched are the mirrors.”

2005 Science Education Volunteer

Steve Keinath presented this award to Eldon Graham, Saginaw Valley State University. Eldon was a chemical engineer at The Dow Chemical Company for 24 years and has been at Saginaw Valley State University for 35 years, where he was the founder of the engineering and technology programs.

Well-known to ACS members as well as science education in general, Eldon has vol-



Steven Keinath (l) presents the 2005 Science Education Volunteer award to Eldon Graham.

unteered for science education activities for over 50 years. What a legacy!

- | | |
|-----------|---|
| 1951–1953 | Chairman of the Midland Section ACS Radio Committee and announcer on weekly radio program |
| 1954–1955 | Announcer for radio broadcasts of Science Quiz contests |
| 1955–1967 | Director, producer, moderator for Science Quiz television program |
| 1954–1957 | Chairman of Midland Science Fair at HS level |
| 1957–1958 | Chairman of Saginaw Regional Science Fair at HS level |
| 1955–1961 | Member of Delta Community College Science Advisory Planning Committee |
| 1962–1965 | Member of National ACS High School Chemistry Task Force |
| 1964–1970 | Member of Saginaw Valley College Science Advisory Planning Committee |
| 1970–2005 | Served as a judge in science fairs in Isabella, Gratiot, Midland, Bay, Saginaw, and Tuscola counties |
| 1980–1990 | Member, Board of Directors, Mid-Michigan Minority Pre-Engineering Program, and codirector of one-week summer programs held at SVSU for four summers |
| 1990–1993 | Assistant Director of GET-SET Program |
| 1993–1995 | Director of State of Michigan National Science Teachers Association Science Talent Search and judges written science essays and selected awardees. |
| 2005– | Member, ACS Science Scholarship Committee |

The 2005 Midland Section Awards Committee includes the following volunteers:

Minghui Chai (chair)

Petar Dvornic

Mike Ferritto

Steve Kaganove

Steve Keinath

Debra Mendrick

Paul Popa

Pamela Slavings

Mary Tecklenburg

Central Michigan University

Michigan Molecular Institute

Dow Corning Corporation

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Michigan Molecular Institute

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The Dow Chemical Company

Central Michigan University

The Awards Committee would like to thank Keith Freel, a student at Central Michigan University, for his help with the dinner and program.

In Memoriam—Charles F. Kohl, Jr.

Charles F. Kohl, Jr., a member of the American Chemist Society for over 50 years, passed away on April 29. Charlie attended Gettysburg College, from which he graduated with a bachelor of science in chemistry. During World War II, Charlie worked at DuPont and for the Quartermaster Depot, outside Louisville, Ky. making smokeless gunpowder for the U.S. Navy. During that time he met and married Thressa Dale ("Tessie Dale") Sutton, on Jan. 21, 1944. Together, they moved to Pittsburgh, Pa., when Charlie got a job at the (Carnegie) Mellon Institute, working on the fellowship there that eventually became the Dow Corning Corporation. These were some of the happiest working years of his life, working with Rob Roy McGregor, John Speier, Earl Warwick, John Goodwin, and others who developed the starting technologies for that company. He attended graduate school at the University of Pittsburgh. In 1950, they moved to Midland, where Charlie worked at Dow Corning until his retirement in 1985. His major contributions included practical research, patents, and production troubleshooting, mostly in the area of resins and coatings. Charlie's daughter Gretchen and son-in-law Angelo are both members of the Midland Section.



CMU Student Affiliates Rated “Outstanding”!

By Sharyl Majorski-Briggs

The Student Affiliates from Central Michigan University proudly accepted their first-time-ever “Outstanding Rating” award at the National ACS meeting in San Diego on March 13 for the 2003-2004 academic year. Twelve students and their advisor attended the conference.

Meghann Vanslager, president of the affiliates, accepted the award on behalf of the group. The CMU Student Affiliates also received a National



Front (l-r): Megan McCallum (Vice-President), Nikki Hendricks; Middle (l-r): Gordon Grzybowski, Meghann Vanslager (President), Sharyl Majorski-Briggs (Advisor), Jordan Cepala, Melissa Ogg, Carrie McCambridge; Back (l-r): Laura Lentz (PR Chair), Jennifer Ryan (Treasurer), Jessica Moyer

Travel Grant for presenting a workshop on “How to Recruit Volunteers and Keep Them,” which took place during the conference as well.

The student affiliates had participated in a wide variety of projects ranging from performing chemical demonstrations at various schools throughout the semester, to having an action-packed National Chemistry Week, to presenting scientific research at local and national conferences. A huge accomplishment of the group was the growth in membership and involvement. The CMU group had a mere five members in 2001. The group now boasts 40+ active members with an e-mail listserv of nearly 100 interested students. We are proud of our accomplishments and would like to do even more!

We still have a lot of activities to come. This year we are participating in the campus Relay for Life. To promote our organization, our team name is “Chemists in Search of a Cure.” We are also planning an end of the year picnic with our faculty, staff, and families, a guest speaker on forensic science, and a “Day at the SAC” social event.

2005 Fall Scientific Meeting

By Gregg Potter

Each abstract should contain title, author(s) and author(s) affiliations, and abstract body text. An example is shown below. The format specifics include:

- Single spacing with blank line between title and author and between author and abstract body text.
- Times New Roman typeface in 12-point size (or comparable).
- Submitted as an e-mail attachment in Microsoft Word (preferred) or other conventional word processor format.
- 225 words or fewer.
- Presenting author's name underlined. (Note: The e-mail address of the submitter will be the default contact person for all additional information.)

The Title of Your Abstract Is Displayed Here

John Doe and Joe Smith

Department of Chemistry, Saginaw Valley State University
University Center, MI 48410

[illegible]

E-mail all abstracts to gpotter@dow.com. Address questions to Gregg Potter, Dow Chemical, 989-636-6310.

Do you want to help plan this year's meeting? Contact either Gregg or Pat and we'll get you involved.

Gregg Potter

The Dow Chemical Company

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Pat Smith

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989-636-5080

POLY to Cosponsor FSM

By Bob Howell

At its meeting during the 229th National ACS meeting in San Diego, the Board of Directors of the Division of Polymer Chemistry strongly endorsed a proposal to cosponsor the 2005 Midland Section Fall Scientific Meeting. It was noted that polymers have long been central to the Midland Section and its activities. The industry of mid-Michigan is preeminently the chemical industry. Both Dow Chemical and Dow Corning Corporation have research laboratories, major production facilities, and global headquarters here. In addition, Central Michigan University has a strong polymer program, and the Michigan Molecular Institute is dedicated to polymer research.

This year's meeting emphasizes this tradition. The theme for the meeting is "Nanomaterials" and will focus on new materials, applications, and characterization. The general chair for the meeting is Gregg Potter, long active in the field of surface analysis, and the program chair is Greg Meyers, a leader in scanning probe microscopy.

This represents the first formal cooperation between POLY and the Midland Section but there are numerous areas in which cooperation could benefit both entities. In particular, outreach to high school teachers is an area in which POLY would be willing to provide assistance to the Section.

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Councilor Reports on San Diego Meeting

By Bob Howell

The 229th National Meeting of the American Chemical Society was held in San Diego, March 11–17. Despite rain during the early part of the week the meeting was a major success with 15,385 attendees (the second highest number to attend a national meeting), including 8,437 full members and 4,160 students (about 1000 more than had attended the fall meeting in Philadelphia). Students are having an increasing impact on national meetings. The number of undergraduates presenting poster papers has grown strongly over the past several years. This year there were 48 papers in the polymer science section alone. The outstanding paper in this section entitled, “Synthesis of Poly(styrene)/Poly(butadiene) Block Copolymers *via* an Anionic Polymerization to Atom Transfer Radical Polymerization Crossover Technique,” was presented by Paul Clark of Pacific Lutheran University. Midland Section student affiliate groups did well at this meeting. At the awards ceremony on Sunday, the SVSU group received an honorable mention designation and the CMU group an award as an outstanding student affiliate. Meghann Vanslager, president of the group, received the plaque. The faculty advisor is Sharyl Majorski. Tom Lane, Midland Section councilor, on behalf of the ACS Corporation Associates, presented the opening address at the awards ceremony.

Programming Changed

An innovation in programming was initiated at this meeting. Focus areas were selected and papers from all divisions reflecting these areas were clustered so that individuals interested in a particular topic could readily access all the papers. For this meeting the focus areas were nanotechnology and biotechnology. This concept will be expanded for future meetings. It reflects the increasingly interdisciplinary nature of chemistry.

Councilor Activities

The Midland Section Councilors were busy as usual. Howell continues as a member of the Patents and Related Matters Committee and the Organic Examination Committee. The momentum for patent policy harmonization seems to be building. This effort has largely involved the U.S., the European Patent Office, and the Japanese. Longer term, as both India and China begin to develop technology of their own, it is likely that these nations will want to be included. The three issues being debated at this time are 1) a first-to-file system (the U.S. is the only nation with a first-to-invent system), 2) a grace period (the U.S. had a one-year grace period), and 3) a requirement to describe the best mode of practice (again, that is

unique to the U.S.). It is almost certain that a first-to-file system will become universal. The U.S. strategy is to try to retain a grace period (perhaps, shortened) in return for accepting a first-to-file system.

Other patent issues are also moving to the forefront. The ACS Petroleum Research Fund charter contains a requirement that all patents generated by funded research be made freely available to the public. This policy is being examined with an intent to bring it into closer alignment with the requirements of other major funding agencies. Increasingly, universities are insisting that research results be screened for patentability prior to publication. Many have established tech transfer offices to manage this process and to market technology developed at the university. Some institutions are altering procedures to recognize patents as a component of scholarly productivity. The preparation of a standardized examination for first-term organic chemistry was begun at this meeting.

For some time, Tom Lane has been a prominent member of Corporation Associates. He is now chair of that group and, as noted above, opened the student awards ceremony. Howell attended the Polymer Division Board meeting to present a request that POLY cosponsor the Midland Section Fall Scientific Meeting. This request was strongly endorsed by the POLY Board. The influence of polymers in the Section and the quality of the fall meeting were both recognized by the Board. There would seem to be opportunity for further cooperation between the two groups in the future. In particular, the polymer component of the Section outreach to high school teachers could be an area where a joint effort might be possible.

ACS Finances

ACS finances have improved considerably. Several cost-saving measures, as well as the sale of the Belmont property (\$2.6 M gain), have contributed to this. In 2004 the net increase from continuing operations was \$5.1 M, the best since 2000. Unrestricted net assets were \$207 M in 2000, dipped to \$135 M in 2002, and rebounded to \$185 M in 2004. The relatively large loss of \$6.5 M in 2001 was attributed to 1) IT expenditures, 2) a sharp decline in investment income, and 3) initiation of new Society programs. Member dues for 2006 were set at the fully escalated value of \$127. In addition there will be a special assessment of \$5 to keep the allotments to divisions at an acceptable level. This assessment was scheduled to be \$6 but the Society was able to find funds to permit a reduction to \$5.

ACS Membership

ACS membership at the end of 2004 stood at 158,127, reflecting a 1% decrease from the previous year. This despite the fact that more than 13,000 new members joined ACS in 2004. Membership requirements are being

reviewed so that the Society will be able to respond more adequately to the broadening of chemistry.

The employment clearing house was again an area of high activity. The number of registered job seekers was 1,344 (down from recent meetings). There were 189 available positions posted and 1,410 interviews conducted. While the employment situation may have improved slightly, it is still not good with seven candidates for every position available.

Innovative Grants Program

The local section innovative grants program was extremely successful in 2004 with \$99,000 awarded to 44 local sections. There are many activities in the Midland Section that could benefit from this program. Two areas on which local sections are encouraged to focus in 2005 are teacher affiliate groups (an attempt to bring high school teachers fully into section activities; membership guidelines are being reviewed to determine how these individuals can access full membership) and retiree groups. A starter kit for Silver Circle groups is available to assist local sections in responding to the needs of older members.

Enterprise 2015

Enterprise 2015 was the focus of discussion at the Council meeting. It is clear that the field of chemistry is entering a period of great change which is generating areas of stress, particularly for traditional chemistry departments. Although there are already several innovative programs designed to respond to the changing nature for chemistry, there are many departments that have not yet been able to respond. (Tradition and momentum have firm hold on the faculty in many departments.) The fundamental question remains, "How do we train students to function in the world in which they will work?"

Graduates are increasingly expected to be interdisciplinary and to function more broadly than is anticipated by traditional chemistry programs. Successful chemistry programs must find ways to adjust to the broadening of the discipline. It is also clear that training in science must be addressed at a stage earlier than the university. Elementary science teachers continue to be poorly trained and often fearful of the subject. The education requirements for such teachers need to be strengthened. This can be most effectively addressed by the governmental affairs committees of local sections since the setting of standards are state government activities and vary widely across the country. In some states retired or displaced chemists can acquire emergency certification to teach science in the public schools. In others it is virtually impossible because of rigid requirements for education courses before certification can be granted. Local

sections have been encouraged to develop “train the teachers” programs to assist local elementary teachers. This is an area in which the Midland Section (Gretchen Kohl, John Blizzard, and others) has been in the forefront.

Ethics Committee

A proposal to establish an ethics committee was approved by the Council. A proposal to modify election procedures was withdrawn from consideration and will be further revised before being resubmitted for Council action. Catherine T. Hunt and John W. Kozarich were chosen by Council as candidates for 2006 president-elect. George E. Heinze will be a petition candidate on that ballot. Much concern was expressed about the way in which petition candidates get on the ballot (without any review by Council as the regular candidates must face). To some it seems that this is a “back-door” route to candidacy. The Nominations and Elections committee will consider this situation and issue a recommendation.

Matching Gift Program

The matching gift program which has been popular with many local sections is being phased out. Apparently, it is legally inappropriate for a non-profit organization to use reserves for a matching gift program. In lieu of this program the ACS is initiating a challenge fund program in which major donations from foundations or corporate bodies will be matched by donations from others. Funding raised in this way will be used to support 1) ACS Scholars, 2) Project SEED, 3) outreach to teachers, and 4) green chemistry. The ACS scholars program and Project SEED have been effective in bringing talented but economically disadvantaged students into chemistry or other areas of science.

Other Topics

In 2005 a hybrid election will be held—both electronic and paper balloting will be used. This is intended as an intermediate step in a move to all-electronic balloting in subsequent elections.

As reflected by the number of chemistry graduates that accept employment in other areas of science, it is clear that chemistry remains central to function in the sciences. How does ACS respond to the broadening of chemistry? Should these individuals who naturally view another organization their primary affiliation be retained as ACS members? How should membership requirements be altered to permit this? How should the chemistry curriculum be altered to respond to the changing nature of chemistry? We would welcome your views on these issues (or any other): Bob Howell (989-774-3582; bob.a.howell@cmich.edu), Tom Lane (989-496-4181; tom.lane@dowcorning.com).

Call for 2006 Officer Candidates

By Anne Shim

Here is your chance to become more involved in your local ACS section. We need candidates to run for the following positions for 2006:

One-Year Terms

Chair-elect
Secretary
Treasurer
Chair, Nominations & Elections

Three-Year Terms

Councilors (1 slot open)
Alternate councilors (1 slot open)
Directors (3 slots open)

If you are interested in running for any of these positions or know someone who might be interested, please contact Anne Shim at 989-496-3067 or anne.shim@dowcorning.com. If you have any questions regarding what the positions entail, contact your current officers on the Leaders & Contacts page of the Midland Section web site <http://membership.acs.org/M/Midl/>. There is also information available on roles and responsibilities.



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*Call for Nominations***2005 Midland Section Awards***By Minghui Chai***Outstanding Achievement and Promotion of the Chemical Sciences**

Each year the Midland Section honors an individual residing within the Section's geographical area who has demonstrated outstanding achievement and promotion of the chemical sciences. This award recognizes dedication and service to the chemical profession. The recipient need not be an ACS member. Nominations should include a biographical sketch, list of pertinent publications, evidence of professional growth and involvement, and letters of support from colleagues. Previous recipients are:

1976	Turner Alfrey, Jr.	1991	Thomas H. Lane
1977	Etcyl H. Blair	1992	Donald A. Tomalia
1978	David C. Young	1993	Dale J. Meier
1979	Vernon A. Stenger	1994	Philip T. Delassus
1980	Daniel R. Stull	1995	Duane B. Priddy
1981	Bob A. Howell	1996	Hans G. Elias
1982	Wendell L. Dilling	1997	Ludo K. Frevel
1983	Donald R. Weyenberg	1998	Patrick B. Smith
1984	Edwin P. Plueddemann	1999	David E. Henton
1985	Raymond P. Boyer	2000	Steven J. Martin
1986	Stanley P. Klesney	2001	Edwin C. Steiner
1987	Warren B. Crummett	2002	Thomas J. Delia
1988	A. Lee Smith	2003	Robert M. Nowak
1989	Do Ik Lee	2004	Herbert D. (Ted) Doan
1990	Joseph E. Dunbar		

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Outstanding Service to the American Chemical Society

The Section sponsors an annual award to recognize outstanding service to the Midland Section of the ACS. This award recognizes achievement in the promotion of the goals of ACS. Nominees shall be members of the Midland Section. Nominations should include a biographical sketch, a history of service to the Midland Section, and supporting letters from fellow ACS members. Previous recipients are:

1989	David C. Young	1997	Thomas H. Lane
1990	Linneaus C. Dorman	1998	Vicky S. Cobb
1991	Donald R. Petersen	1999	Theodore E. Tabor
1992	Wendell L. Dilling	2000	Peter and Patricia Dreyfuss
1993	Bob A. Howell	2001	George W. Eastland, Jr.
1994	Eldon L. Graham	2002	Joan Sabourin
1995	Gretchen S. Kohl	2003	John Blizzard
1996	Fran K. Voci	2004	Steven Keinath

Outstanding Chemical Technician

The Section presents an annual Outstanding Chemical Technician Award to an individual who has demonstrated an extremely high degree of professionalism as a chemical technician. The ACS defines a chemical technician as a person whose training includes successful completion of a two-year post-high school level chemistry curriculum leading to an Associates Degree, or the equivalent course work in a Baccalaureate program, or the equivalent knowledge gained by experience. The primary work of a chemical technician is conducting experimentation and/or correlating information to help solve chemical problems and/or discover new chemical knowledge. Criteria used to judge the award include job skills, safety, teamwork, leadership, publications and presentations, reliability, communication skills, and additional professional and community activities. Nominees must have worked for five years as a chemical technician. Chemical technicians do not need to be a TECH Division Affiliate or ACS member to be eligible for this award. Nominations should include a biographical sketch and supporting letters that address each of the criteria above. Previous recipients are:

1997	Connie J. Murphy	2001	Gordon R. Roof
1998	David Stickles	2002	Cynthia J. Gould
1999	Ronald L. Good	2003	Robert D. Krystosek
2000	Kurt A. Bell	2004	Sharon Allen

Nominations for **all three** awards are invited. The deadline for receipt of nominations and all supporting materials is **September 2, 2005**. Nominations should be sent to:

Minghui Chai
Central Michigan University
Department of Chemistry
Mt. Pleasant, MI 48859

Fax 989-774-3883 or electronic nominations are also welcome. If you have questions or need additional information, please contact Minghui at 989-774-3955 or chai1m@cmich.edu. Nominators should provide their address and phone number in case the committee needs to contact them. The Awards Committee encourages all section members to nominate deserving colleagues and appreciates your efforts in helping these individuals receive recognition for their efforts. We look forward to hearing from you!

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MMI Announces 2005 Turner Alfrey Visiting Professor Course

By Steve Keinath

Polymers and the Mesoscale: Rational Approaches toward Materials with Nanoscale Order and Improved Properties

June 6–10, 2005, Monday–Friday, 3:00–6:00 p.m.

Professor Markus Antonietti, director at the Max Planck Institute of Colloids and Interfaces, Golm Research Campus, and professor at the University of Potsdam, Germany, is the 2005 Turner Alfrey Visiting Professor at Michigan Molecular Institute. Prof. Antonietti will offer a course on “Polymers and the Mesoscale: Rational Approaches toward Materials with Nanoscale Order and Improved Properties.” The general motivation for the course and an outline of the course topics are given below.



General Motivation

In recent years both basic research and industry have learned that the control of material mesostructure offers the most promise for improving material properties based on conventional starting materials. This is the application of the principle of biomimetics. Nature makes optimal use of every molecule by controlling structure over all scales. Today, materials chemistry is slowly able to follow this path.

It is the purpose of this course to introduce recent chemical approaches that allow rational control of at least the next length scale beyond the molecule—the mesoscale—which usually covers structural features from 2 nm to 100 nm. Although polymeric systems play a central role in these approaches, the extension to inorganic materials and nanohybrid formation follows naturally.

Course Outline

1. Introduction
 - a. Why meso, or from biomimetics to Japanese swords
2. Heterophase Reactions
 - a. Microgels: Simple mimics of dendrimers
 - b. Novel techniques of emulsion polymerization
 - c. Polymerization of microemulsions
 - d. Materials synthesis using miniemulsions

3. Polymer Self Assembly
 - a. Amphiphilic block copolymers
 - b. Ionic self-assembly (ISA)
 - c. Chimera polymers: Hybrid structures with peptides
4. Inorganic Building Blocks
 - a. Synthesis of inorganic particles in organic solvents
 - b. Ionic liquids
 - c. Polymer controlled crystallization
 - d. Biomineralization
5. Mesoporous Materials
 - a. Nanocasting
 - b. Nanocoating
 - c. Crystalline thin functional oxides by evaporation induced self-assembly (EISA)
6. Vision and Outlook
 - a. Nanochemistry: New reactions by compartmentalization
 - b. New surfactant structures: Dead end of an industrial evolution?

Details for 2005 Turner Alfrey Visiting Professor Course

- Course 1032: Polymers and the Mesoscale: Rational Approaches toward Materials with Nanoscale Order and Improved Properties
- Lecturer: Prof. Markus Antonietti, Director at the Max Planck Institute of Colloids and Interfaces, Golm Research Campus, and Professor at the University of Potsdam, D-14424 Potsdam, Germany
- Location: Lecture Hall (Room 101), Michigan Molecular Institute, 1910 West St. Andrews Road, Midland, MI 48640
- Time: Formal lectures: Monday-Friday, June 6-10, 2005, 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: Preregistration is required one week in advance with the Registrar by calling (989) 832-5555, ext. 555 or by e-mail at registrar@mmi.org.

SPE/ACS Joint Technical Society Dinner Meeting

Polymeric Nanoparticles: Future Challenges and Possibilities

Professor Markus Antonietti

Director, Max Planck Institute of Colloids and Interfaces, Golm Research Campus, and Professor, University of Potsdam

Heterophase polymerization techniques (HPTs) have not only created a significant share of industrial wealth, but up to now they have also experienced an unbroken renaissance in terms of basic research. This is driven on one hand by the use of water as a very favorable and environmentally friendly “solvent” or production aid. On the other hand, HPTs inherently make use of most actual and some of the most fashionable concepts in materials science today, such as “structure formation by self-assembly” (e.g., in film formation), “nanotechnology” (provided by the inner structure of latexes and their nanoscale size), and “nanocomposites and hybrid materials” (the addition of inorganic nanostructures into emulsion polymerization recipes). HPTs indeed represent the most feasible and nearest term approach of nanotechnology toward supplying new concepts and promises for materials research and for providing for the needs of society. This presentation will offer a personal outlook on some of the challenges and perspectives of the field.

Date: Tuesday, June 7, 2005

Time: Social 6:30 p.m.

Dinner 7:00 p.m.

Program 8:00 p.m.

Location: NADA Center, Northwood University, 4000 Whiting Drive, Midland, MI 48640, 989-837-4277

Cost: \$23.00 for SPE and ACS members with reservations
\$13.00 for SPE and ACS student members with reservations

\$15.00 for other students with reservations

\$25.00 for others or SPE and ACS 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 June 2, 2005. Phone: 989-832-5555, ext. 555; Fax: 989-832-5560; E-mail: merringtonr@mmi.org

Points to be covered in the presentation include:

- The extension of HPTs to other polymer reactions, such as ionic and coordination polymerization, polyaddition, and other types of polymer reactions.
- The control of HPT processing by on-line techniques leading to “latex synthesizers”, robots designed to generate the colloidal counterpart of sequenced peptides.
- New, continuous latex synthesis technologies.
- The generation of high value polymers via latexes, such as block co-polymers and polymeric amphiphiles.
- The generation of colloidal hybrid particles that cross the borderline between polymer latexes and inorganics, dyes, and other active compounds.
- Latex-based electronic inks for functional microprinting.

In Past Issues of *The Midland Chemist*

By Wendell L. Dilling, Midland Section Historian

- **40 Years Ago This Month**—W. Brock Neely, in a letter to the editor responding to a discussion of retirement programs in the preceding issue, commented, “It seems that there is a debate as to who should be responsible for the retirement program of Industrial Chemists—the Company or the National ACS. I would like to suggest that there is a third alternative; namely, the individual chemist. Have we gone so far that we no longer can look after ourselves? Why do we need some organized group to take care of us? For my money, one of the marks of a professional is a person with enough intelligence and foresight to take care of his own retirement needs.”
- **30 Years Ago This Month**—David C. Young, in his councilor’s report, noted, “the Council Committee on Professional Relations recommended a new document: Professional Employment Guidelines. For the first time the document includes statements of the duties and responsibilities of the professional employee, as well as those of the employer.”
- **20 Years Ago This Month**—Raymond F. Boyer has been named Honorary Chairman of the 17th MMI International Symposium, “Order in the Amorphous ‘State’ of Polymers,” in recognition of his pioneering research work in this area. The Symposium will be held at the Michigan Molecular Institute, in Midland, Michigan, August 18-21, 1985.
- **10 Years Ago This Month**—Janel Davidson in her TECH TALK column reported “Our first open meeting/activity for 1995, ‘Giving More Effective Presentations’ by Gene Anderson, was a tremendous success.”

Important Dates on the ACS Midland Section Calendar

- May 30 Deadline for preregistration for Turner Alfrey Short Course (Registrar, 989-832-5555, x555, registrar@mmi.org)
- June 6-10 Turner Alfrey Visiting Professor Course, Professor Markus Antonietti, "Polymers and the Mesoscale: Rational Approaches toward Materials with Nanoscale Order and Improved Properties," Michigan Molecular Institute, 989-832-5555, x555.
- June 7 SPE/ACS Joint Technical Society Dinner Meeting, Professor Markus Antonietti, "Polymeric Nanoparticles: Future Challenges and Possibilities," NADA Center, Northwood University, 4000 Whiting Drive, Midland, 989-832-5555, x555; merringtonr@mmi.org
- June 13 Midland Section board meeting, Central Michigan University, 7:00 p.m., Dow 264
- July 11 No July board meeting
- July 11 Deadline for August issue of *The Midland Chemist*

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