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The Midland Chemist is published eight times a year by the Midland Section of the American Chemical Society.

American Chemical Society
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Neither The Midland Chemist, nor the Midland Section, nor the American Chemical Society assumes any responsibility for the statements and opinions advanced by contributors or to The Midland Chemist.

Cover photograph by Angelo Cassar.
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Chair Column

A Word from the Acting Chair

One of the responsibilities of the chair-elect as directed by our bylaws is to serve as acting chair in the absence of the chair. There will be such an absence for a while. Pat is not fully fit at this moment and although there is every expectation of a complete recovery, it is essential that he devote himself wholly to that process. We wish him a speedy return to full health. Meanwhile, I have this earlier-than-usual occasion to make this contribution.

Chairs-elect enjoy a great opportunity to attend an ACS Leadership Conference specifically designed to help us lead our local section. I’m going in March and expect, among many other things, to learn what’s appropriate and what’s not in a column such as this. Until then I’ll be relying on my fellow board members for help and guidance. Thankfully, I’m pleased to report there is more than one past-chair on the board. One obvious thing I can do is to use this column to help fulfill the promises I made as a candidate. In particular, I want your input on ways to broaden involvement of members. I really do want your opinions; please phone (989-631-7339), write, or e-mail me at michaelowen01@chartermi.net.

There is nothing original, of course, about my call for your input. Indeed, the chair of our Long Range Planning Committee, Wendell Dilling, issued an interesting interim report last December on responses to a recent Midland Section ACS survey conducted by that committee. I was particularly struck by the breadth of interests relevant to ACS that members listed, over 100 categories from 200 respondents. No one deficiency sticks out like a sore thumb but there are several issues raised by this survey that I will use as material for future columns. One comment I cannot resist drawing attention to (with apologies to all and fair warning of future transgressions) is a call for chemists to consider becoming unionized. Was this a plea for collective representation or electrical neutrality?

I would also like to hear your views on some recurring issues that we face. One of these came up again at the last board meeting of 2001. We were discussing what to do about displaying the numerous awards we have won as a local section. You may recall the photograph in a recent Midland Chemist of some of our past-chairs holding the eight Outstanding
Local Section Awards we have received. Now what to do with the Section jewels is a nice problem to have, but that’s not the real issue I invite your views on, although you’re very welcome to make an input (some of the awards have been on display at CMU and will have moved this month to Delta College). The bigger issue that re-emerged as part of this discussion is should we have a permanent office somewhere? This would solve a number of problems apart from where best to display our trophies. It is quite an expensive proposition but we are a relatively well-off section and probably could afford it, albeit at the cost of curtailing some of our other activities. I don’t know how many other sections have such offices but some certainly do.

We are not the only ones wrestling with this matter either. I saw a plea in a recent Local Section Officer’s Digest from the DC Local Section to “describe our section’s office and its facilities, e.g. computer, phone lines, fax, Internet access, storage, archives, space for meetings, etc.” You could sense the amazement at such a luxury beyond belief in some of the replies, “We’re supposed to have an office?” Some sections meet in local restaurants or members’ homes, so we are already better off than many, being able to meet at Delta College, CMU, and SVSU, thanks to our active academic participants. Among other aspects of this issue, the Clarke Historical Library at CMU handles our archives (thanks to our historian, Wendell Dilling), and we rent storage space on North Eastman Avenue. Anyway, the present position seems to work much of the time but it is certainly imperfect and inconvenient on occasion. Please let me know your views on the wisdom or otherwise of exploring a more permanent base for our operations.

Before closing I want to welcome all new and old board members. I look forward to working with you throughout the year, mostly, I sincerely hope, as chair-elect rather than acting chair. Get well soon, Pat.

Mike Owen
Sci-Fest 2001 Celebrates Chemistry and Art

By Dave Stickles and Joan Sabourin
Photos by Angelo Cassar and Joan Sabourin

The theme of Sci-Fest 2001 was “Celebrating Chemistry and Art.” This event was held at the Delta College Pioneer Gym on November 3, 2001, from 10:30 a.m. to 2:30 p.m. The celebration consisted of several hands-on activities that continually had about 10 people around each booth. Exhibitors and part of their activities included:

- AIChe (activity with light-sensitive paper)
- Alma College Science Club (colorful sculptured-dough experiment)
- ACS/MMTG Colors of Chemistry (color separations, colorful putter’s putty)
- Delta College Astronomy Club (Sky Theater presentations)
- Delta College Biology Division/Greenhouse (hydroponics)
- Delta College Computer/Internet Lab (web sites pertaining to chemistry and art)
- Delta College Science Division
- Delta College CAD/CAM (production of a colored prototype)
- Delta College Art Department (hands-on student artwork)
- Delta College Graphic Arts (digital coloring and animation)
- Digital Photography (colorful laminated name tags for each child)
- Dow Corning (moldmaking and DOW Corning display helps attendees make putter’s putty.)

At the National Chemistry Week display, Angelo Cassar shows young attendees how guitar music is related to acoustics.
colors of molecular modeling)
- Dr. Slime (fluorescence and phosphorescence)
- Glass Blowing (production of colored glass and objects)
- Gougeon Brothers (epoxy and art)
- Hall of Ideas (art and science of fireworks)
- Society of Plastics Engineering (art display using plastics)
- National Chemistry Week (spin art, colorful ink stamps)
- Guitar Player (art of acoustics)
- Saginaw Zoo (colorful exotic animals)
- Saginaw Valley State University Science Club (liquid nitrogen experiment)
- Sunset Astronomical Society (space models, astrophotography, telescopes)
- Traditional Film Photography

New attractions this year included Delta College Astronomy Club, Delta College CAD/CAM, Delta College Graphic Arts, Delta College Art Department, Dow Corning moldmaking, Dow Corning molecular modeling, and traditional film photography.

Advertising included 8000 4.25-inch x 5.5-inch handbills that were distributed by individual ACS/MMTG members on Halloween. An additional 2000 8.5-inch x 11-inch flyers were produced. Both the handbills and the flyers were distributed to many science teachers in Auburn, Bay City, Freeland, Midland, Mt. Pleasant, and Saginaw by having different people send the flyers to science teachers through their children.

Notices of the event went out on cable access channels for Bay City,
Students create artwork using a “bony friend” as a model. No problem with the model moving at the wrong time!

This budding scientist is intent on his “spin art” experiment at the National Chemistry Week display.

Midland, and Saginaw. A 4-minute video segment regarding the event was aired on CNN Headline Hometown News in Bay City, Midland, and Saginaw. Notices regarding Sci-Fest were sent to the Bay City Times, Midland Daily News, Mt. Pleasant Sun, and Saginaw News for public service announcements. Unfortunately none of the papers ran one for us this year. A volunteer thank-you letter was published in the Bay City Times and the Midland Daily News.

The attendance estimate for the day was about 900 people. The smaller crowd gave more time for the exhibitors to talk with people, and those attending Sci-Fest enjoyed the exhibits much more. Participants did not have to wait to do some of the hands-on experiments, and they asked a lot more questions. Both the workers and the visitors appreciated the continuous flow. Several participants stayed around for the whole 4 hours. Free cider and donuts were also a big hit. Lunch was provided for all presenters and workers. Including the presenters and the ACS and MMTG members, there were at least 83 volunteers. The day was a success!
Call for Nominations

2002 Diversity Award

By Phil Squattrito

This year, the Midland Section of the American Chemical Society will present the “Promotion of Diversity in Chemistry, Related Sciences and Engineering Award” for the first time. This award will be presented biannually to a person or group residing in Midland, Bay, Saginaw, Isabella, or Gratiot County for outstanding achievement in enhancing the participation of underrepresented groups in the study of chemistry, related sciences, and engineering. The inaugural award will be presented at the 2002 Science Education Recognition Dinner on April 24, 2002, at the Dow 47 Building Cafeteria in Midland.

Criteria for candidates for this award include teaching, mentoring, serving as a role model, and active and sustained participation in organizations that support diversity which have had a demonstrable impact on the promotion of diversity in chemistry, related sciences, and engineering. Members of the Midland Section Minority Affairs Committee are not eligible to receive this award.

Recipients of this award will be selected by the Midland Section Awards Committee. Nominators should write a letter describing the attributes of the candidate. Supporting letters from students, colleagues, supervisors, and community leaders are strongly encouraged. The deadline for nominations is March 22, 2002. Electronic and fax submissions are acceptable. All submissions must be accompanied by the name, position, address, and phone number of the nominator.

Please submit your nomination to:
Phillip J. Squattrito
Chair, ACS Awards Committee
Department of Chemistry
Central Michigan University
Mt. Pleasant, MI 48859
Phone: 989-774-4407; fax: 989-774-3883
p.squattrito@cmich.edu
Midland Section Elects Officers for 2002

By Steve Keinath

Editor’s note: There were several errors in this article as printed in Vol. 38, No. 8. The article below has been corrected.

The 2001 Nominations & Elections Committee is pleased to announce the following Midland Section ACS 2002 officers:

**Chair-Elect** (1-year term)
Mike Owen Retired

**Secretary** (1-year term)
Cynthia N. Peck Delta

**Treasurer** (1-year term)
Douglas E. Beyer The Dow Chemical Company

**Chair, Nominations & Elections Committee** (1-year term)
Kermit S. Kwan Dow Corning Corporation

**Councilor** (3-year term)
Gretchen Kohl Dow Corning Corporation

**Alternate Councilor** (3-year term)
Steven E. Keinath Michigan Molecular Institute

**Board of Directors** (3-year terms)
Ann F. Birch Editech
Wendell L. Dilling Retired
Joan Sabourin Delta College

The Nominations & Elections Committee would like to express its sincere thanks to all of the candidates who agreed to run for positions and to the Midland Section ACS members who voted. The N&E Committee received 127 valid ballots.

—2001 Nominations & Elections Committee: Steve Keinath (Chair), Pat Cannady, Wendell Dilling, Bob Howell, and Gretchen Kohl
As the outgoing chair for the Mid-Michigan Technician Group (MMTG), this will be the last article I will write for <i>The Midland Chemist</i>. I would like to take this opportunity to thank the people affiliated with the Midland Section ACS for including me in their monthly business meetings. I have been really impressed by the amount of work that is done by a handful of people. The Midland Section truly deserves the Outstanding Performance by a Local Section Award. All of the effort by the Section that goes into offering our community exposure to the wonderful world of science is truly outstanding and greatly appreciated by the youth in the area.

For me, being 2001 chair of MMTG was a learning experience and one that I enjoyed thoroughly. In addition to being able to hone my presentation and meeting organization skills, I certainly learned to be more tolerant of other people’s viewpoints. This was totally unexpected, and was the biggest eye opener. I developed a new respect for people who do these things day in and day out.

The MMTG held a much deserved year-end celebration. We accomplished a lot this year. We organized three lunch seminars and two evening fun events, presented the Outstanding Chemical Technology Student Award, and participated in the Midland County Fair and the annual Sci-Fest. Several of our members were able to travel and participate in national meetings. There are also several members who serve as committee members at local colleges who have or are interested in adding chemical technology to their curriculum. Our membership increased from 38 to 76, a whopping 100%. The highlight of the year was receiving the 2000 award for the Best Overall Technician Affiliate Group at the National ACS Meeting held last fall in Chicago.

The chair for 2002 is Deb Bailey from Dow Corning Corporation. I am sure she will enjoy the experience as much as I have.
ACS Fellowships Offer Opportunity to Work in Government

Ready for a sabbatical or career-changing opportunity? The ACS is calling all chemists—senior professionals and graduate students—to apply for one of the two American Chemical Society Congressional Fellowships and a Science Policy Fellowship. This is a great opportunity to work in the Congress or ACS using your scientific and technical expertise, gain first-hand knowledge of the government, and contribute to decision-making.

The application deadline is January 10, 2003. For a brochure contact: ACS Office of Society Services, 1155 16th Street, NW, Washington, DC 20036; phone: 1-800-227-5558; e-mail: congfellow@acs.org; information on the Internet at http://www.chemistry.org/government.

Committee Reports at Board Meetings in 2002

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ACS Members Get Discounts at Major Hotels

The American Chemical Society recently announced a new benefit for members. You can receive a discount on your next stay at any of the following hotels: Ameri-Host, Days Inn, Knights Inn, Ramada Inn, Travelodge, Villager, and Wingate Hotels. Call 1-877-670-7088 to make your reservation, or call the hotel directly, mention the Society’s discount #62871 and receive up to 20% off your next visit at any of the previously mentioned hotels.
I would like to introduce myself as the 2002 chair of the Mid-Michigan Technician Group (MMTG). I have been actively involved in MMTG for the last 3 years. I have been in the technical world for approximately 12 years. I started out as a co-op at The Dow Chemical Company, then became a contractor, and finally moved to my full-time technician position at Dow Corning, which I have held for approximately 5 years.

The MMTG is an affiliate group of the Midland Section of ACS and is associated with TECH, a national organization for technicians. The only requirement for joining MMTG is an interest in science. At the local level, members have the opportunity to network with technicians from local chemical companies, attend seminars/workshops, and participate in public outreach programs and social events. In 2001, MMTG participated in or chaired events such as:

- Sci-Fest at Delta College
- Kitchen chemistry demonstrations at Midland County Fair
- Lunchtime seminars on fireworks, chemistry in movies, “Life is Too Important to be Taken Seriously”
- Karaoke night at Tucson Jack in Bay City (membership drive)
- A night of “stars” at the Delta Planetarium
- Outstanding Student Technician Award given to a Delta college student in the Chem Tech program

MMTG focus for 2002 is

- Giving back to the members by exploring opportunities for technicians through workshops, seminars, networking, mentoring, etc.
- Continuing to provide informative meetings that allow for idea exchange and member interaction
- Continuing our strong community outreach programs in conjunction with ACS
- Encouraging technician participation in the local ACS, as well as TECH and national ACS
- Continuing to increase our membership

The activities of MMTG for this year will be planned at monthly meetings, usually held the first Wednesday of every month. This year, meetings will be held at Dow Corning and The Dow Chemical Company. Please refer to http://membership.acs.org/t/tag/meetings.html for the location of the meetings. I would personally like to invite anyone interested in
becoming a member to attend one of these planning sessions and/or to at-

tend one of our many events.

The first event this year will be a lunchtime seminar on “Weighing the

Pros and Cons of a Career Switch for Chem Techs: Is the Grass Really

Greener?” Two MMTG members, Tina Leaym and Janet Smith, will give

this presentation on February 20 at the Dow Corning DC40 building main

conference room. Seating is limited so please RSVP by February 15 to
d.k.bailey@dowcorning.com.

If you would like further information, please contact me (989-496-

6337 or d.k.bailey@dowcorning.com) or any of the members of the

MMTG Executive Committee.

Welcome to New Midland Section Members!

By Connie Murphy

Welcome! to the following people who have recently either joined the

American Chemical Society or transferred to the Midland Section:

Tim Cabelka  Dorothy B. Kurland  Woo Min Song
Mark Cubberley  Vickie Langer  Richard Strittmatter
Sandeep Dhingra  David Malotky  Lamont Terrell
Ora Flaningam  Sanjay Mandal  Traci Vansickle
Paul Foley  Margo L. McIvor  Chun Wang
Karen Guhr  Shelly McKenney  Paul M. Welch
Martin Johnson  Jodi Milhaupt  Sara G Wilkinson
Melinda Keefe  Nichole Nickel  Min Zhang
Paul Kehl  Didem Oner  Robin Ziebarth
Jonathan Kurland  Aaron Sanders

Midland Section Board of Directors Meetings

Schedule 2002

Feb. 4  Midland  Delta College Midland Center  Room 12
Mar. 4  Midland  Delta College Midland Center  Room 12
Apr. 1  Midland  Delta College Midland Center  Room 12
May 6  Delta College  Room D, 135
Jun. 3  CMU  Dow Science Building  Room 264
Aug. 5  SVSU  Science East  Room 205
Sept. 9  Midland  Delta College Midland Center  Room 12
Oct. 7  Midland  Delta College Midland Center  Room 12
Nov. 4  Midland  Delta College Midland Center  Room 12
Dec. 2  Midland  Delta College Midland Center  Room 12
ACS Midland Section Board of Directors

Voting Members for 2002

Chair
Pat Cannady* pat.cannady@dowcorning.com Dow Corning 496-6471

Chair-Elect
Mike Owen* michaelowen01@chartermi.net Retired 631-7339

Secretary
Cynthia Peck* cnpeck@alpha.delta.edu Delta College 686-9270

Treasurer
Doug Beyer* debeyer@dow.com Dow Chemical 636-4083

Past-Chair
George Eastland* gwe@svsu.edu SVSU 790-4321

Councilors
Gretchen Kohl (04) gretchen.kohl@dowcorning.com Dow Corning 496-8200
Bob Howell (02) bob.a.howell@cmich.edu CMU 774-3582

Alternate Councilors
Steve Keinath (02) skeinath@mmi.org MMI 832-5555 X588
Tom Lane (02) tom.lane@dowcorning.com Dow Corning 496-4181

Chair, Committee on Nominations and Elections
Kermit Kwan k.s.kwan@dowcorning.com Dow Corning 496-8516

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Art Smith (02) agsmith@alpha.delta.edu Retired 631-4619
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Deb Bergstrom (03) d.f.bergstrom@dowcorning.com Dow Corning 496-6951
Dave Stickles (03)* d.stickles@dowcorning.com Dow Corning 496-5626
New director to be appointed for remainder of one term (03)
Ann Birch (04) ann.birch@editech-mi.com Editech 832-7485
Joan Sabourin (04)* jmsabour@alpha.delta.edu Delta College 686-9249
Wendell Dilling (04)* dilli1wl@cmich.edu CMU 631-1621

*Member of Executive Committee

Committee Chairs for 2002

Committees on Internal Matters
Executive
Pat Cannady pat.cannady@dowcorning.com Dow Corning 496-6471

Membership Growth & Retention
Connie Murphy cjmurphy@dow.com Dow Chemical 636-2961

Long Range Planning
George Eastland gwe@svsu.edu SVSU 790-4321

Corporate Agent
Patricia Dreyfuss p2drey@aol.com Retired 832-7651

Historian
Wendell Dilling wendell.l.dilling@cmich.edu CMU 631-1621

MMTG
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### Committees on Communications

**Publicity/Public Relations**

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angelo.cassar@dowcorning.com  
Dow Corning  
496-6196

**The Midland Chemist**

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ann.birch@editech-mi.com  
Editech  
832-7485

**Government Affairs**

Walter E. Rupprecht  
wrupp@concentric.net  
Retired  
631-8945

**Environmental Affairs**

John Oleson  
johnoleson@chartermi.net  
Retired  
631-1442

**Technical Society Interface**

Eldon Graham  
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SVSU  
790-4127

**Midland Section Annual Report**

Tom Delia  
thomas.j.delia@cmich.edu  
CMU  
774-4098

**Web Site**

Fred Vance  
fvwance@dow.com  
Dow Chemical  
636-0390

---

### Committees on Member Assistance and Recognition

**Careers & Professional Relations**

Don Miller  
donmiller@dm.net  
Retired  
832-8270

**Awards**

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CMU  
774-4407

---

### Committees on Member Programs and Activities

**Program**

Mike Owen  
michaelowen01@chartermi.net  
Retired  
631-7339

**Fall Scientific Meeting**

position open

---

### Committees on Public Education and Student Programs

**National Chemistry Week**

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gretchen.kohl@dowcorning.com  
Dow Corning  
496-8200

Angelo Cassar  
angelo.cassar@dowcorning.com  
Dow Corning  
496-6196

**Project Science Literacy**

position open

**Project SEED**

Margaret Hill  
hill1mr@cmich.edu  
CMU  
774-3143

**Chemistry Olympiad**

position open

**County Fair Booth**

Dave Swenson  
swenson@svsu.edu  
SVSU  
790-4292

**Sci-Fest**

Dave Stickles  
d.stickles@dowcorning.com  
Dow Corning  
496-5626

Joan Sabourin  
jmsabour@alpha.delta.edu  
Delta College  
686-9249

**Minority Affairs**

Lin Dorman  
lcdorman@aol.com  
Retired  
631-0213

**Kids and Chemistry**

Pat & Peter Dreyfuss  
p2drey@aol.com  
Retired  
832-7651

**Science Promotions**

position open
Mid-Michigan Technician Group Contacts for 2002

Chair
Debbie Bailey d.k.bailey@dowcorning.com Dow Corning 496-6337

Chair Elect
Amy Betz albetz@dow.com Dow Chemical 636-9549

Past Chair
Phyllis Anderson pkanderson@dow.com Dow Chemical 638-6006

Secretary
Sarah Kushon srkushon@dow.com Dow Chemical 636-5314

Treasurer
Nate Malowinski namalowinski@dow.com Dow Chemical 636-6275

Directors
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Wendy Mathews wemathews@dow.com Dow Chemical 638-5981
Janet Smith janet.smith@dowcorning.com Dow Corning 496-6860
Pam Slavings pjslavings@dow.com Dow Chemical 638-9482

Delegates
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Dave Stickles d.stickles@dowcorning.com Dow Corning 496-5626

We’re responsible . . .

In 1988, the American Chemistry Council (ACC) launched Responsible Care® to respond to public concerns about the manufacture and use of Chemicals.

Through this initiative, Dow Corning Corporation and other ACC members and partners are committed to continually improving our responsible management of chemicals.

We’re responsible because we care.
The Adopt-A-Family program, coordinated by the Salvation Army, matches needy families in our community with willing sponsors who “adopt” them for the holidays. The Salvation Army screens families that apply to be adopted to ensure that the families meet necessary low-income guidelines, then contacts sponsors and gives them the names and address for the family they are to adopt. The sponsor then contacts their family, informs them that they’ve been adopted, and makes arrangements to supply their family with gifts and provide for a nice holiday meal. This can be done in a variety of ways, depending on the needs and wants of the family. Some families choose to make wish lists, and let the sponsor do the shopping so that the gifts can be a surprise. Other families may want to come with the sponsor to do the shopping so they can be involved and pick out exactly what they want.

Thanks to the generosity of MMTG members, $281 was raised for this program. This was enough money to spend the Salvation Army suggested limit of $50 per person on gifts and provide a $50 Meijer grocery gift certificate for their holiday meal and other groceries. After the adopted family was provided for, $32.12 was left over, which was donated to the Salvation Army to benefit other needy families.

This year, the family MMTG adopted consisted of a father, mother, and two very young boys (ages 14 months and 9 weeks). I had the privilege of spearheading the Adopt-A-Family effort on behalf of MMTG. At their request, I took the entire family shopping and the parents were able to pick out their own gifts and the gifts for their children themselves to make sure each person got what they needed. The parents selected clothing for themselves and both clothing and toys for the youngsters.

Thank you to MMTG members for their generosity in reaching out to a family in need in our community. Thanks to them, a family received not only much-needed clothing and appreciated toys, but also the more important gifts of kindness, compassion, and hope. It is my privilege to be a member of such a caring group of professionals.
How many times have you had that urge to write to your elected officials then realized you weren’t even sure who they were? The ACS web site not only gives you an easy way to determine who is representing you, but lets you know what pending issues are of particular interest to chemists. In addition, it provides the means of contacting elected officials and expressing your opinion.

Simply visit the ACS home page at http://www.chemistry.org. Click on the “Quick Find” and go to Government Affairs. Recent topics include:

• Agricultural Biotechnology
• ACS Comments on NSF Math and Science Partnerships Initiative
• ACS Comments on EPA Proposed Hazardous Waste Management System
• The Status of EPA Science
• Public Policy Priorities 2001-2002
• Key Science and Technology Issues for the President and the New Congress
Former Dow Corning Executive Addresses Section Leadership

By Ann Birch

At a dinner meeting on December 7, 2001, retired Dow Corning executive Jim Falender addressed Midland Section leaders on the relationship between the local ACS and local corporations. He offered the presentation as a catalyst for discussion of future directions.

He first gave his observations on what the Midland Section has done very well in the past, including:

- Promoting the importance of chemistry as a career and as a skill for everyone
- Integrating industrial, academic, government, and nonprofit organizations
- Encouraging special initiatives to improve society
- Developing and using professional skills
- Providing professional outlets that complement employment
- Sharing best practices
- Fun!

He then addressed the changes that have taken place in chemical corporations that affect the way corporations view and work with organizations such as ACS. Such changes include:

- Chemical corporations do not see their home office as the center of the world. Even the name American Chemical Society may have unintended implications to those in other parts of the world.
- Chemical corporations do not see chemistry as the only center of their world. Biology, physics, electronics, marketing, and law have become of critical importance. Most projects have activities that cross discipline lines.
- The special awe for chemists within chemical corporations in the past has been attacked as being arrogant.
- The concept of corporations needing to have their employees do all important work has been superceded by partnerships, collaborations, outsourcing, and joint ventures.
- Cost pressures can appear to be in conflict with professionalism.
- Skills seem to become obsolete at an accelerating pace. It can be unclear whether it is best to persist with the application of old skills, develop new skills, or move on to another organization.

The ensuing discussion on “where do we go from here?” concluded that although the Midland Section will continue to have close ties to local corporations, the relationship itself will need to change with the changing times.
Polylactic Acid (PLA)

By David Baker

Polylactic acid (PLA) is a new resin derived from lactic acid, which is obtained from the fermentation of corn sugars. The production of this resin is being developed by Cargill Dow, a joint venture between The Dow Chemical Company and Cargill Incorporated. A new production plant in Blair, Nebraska, was opened in early 2002 to manufacture these resins from readily available corn supplies.

The PLA is produced under the trademark Natureworks®. The web site states: “Natureworks fibers are the first fibers to have the feel of nature with the performance of synthetics.” Early last year Cargill Dow signed a collaboration agreement with Mitsui Chemicals to develop new applications for these biodegradable polymers. Currently PLA is being blended with cotton for clothing in Japan. When used for packaging, this plant-derived polymer is fully degradable.

In the manufacturing process, the corn is milled and the starch extracted. The starch is hydrolyzed to D-glucose, which is subsequently fermented to yield lactic acid. Further processing of lactic acid results in dimerization to produce lactide. This material is then converted by a solvent-free melt polymerization to produce PLA resin. The outline of this process is shown in the scheme below.

Corn starches are initially being used to produce PLA, but researchers are working on obtaining lactic acid from other sources of starch such as sugar beets and agricultural waste. In a few years we could have a production facility right here in the tri-city area from the readily available source of starch in sugar beets.

More information about Natureworks products and the production process can be found at the web site www.cargilldow.com/natureworks. It is very well organized and very informative.
Each year the Midland Section of the American Chemical Society presents awards to recognize outstanding achievement in the teaching of the chemical sciences. Nominations for the 2002 awards are invited.

Awards are presented for outstanding achievement in the following areas:

- Elementary Level Science Education
- Middle Level Science Education
- High School Chemistry Teaching
- College Chemistry Teaching

Candidates for these awards must be educators at schools in the five-county geographical area of the Midland Section: Bay, Gratiot, Isabella, Midland and Saginaw Counties.

The Science Education Volunteer of the Year Award is also presented to an individual who makes a substantial contribution to science learning in the Midland Section through voluntary efforts.

Previous recipients of the awards are as follows:

<table>
<thead>
<tr>
<th>Elementary Level</th>
<th>Middle Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>1992</td>
<td>Derrell Steffen</td>
</tr>
<tr>
<td>Karen Ziemelis</td>
<td>Laurie Hepinstall</td>
</tr>
<tr>
<td>1993</td>
<td>JoAnn Kraut</td>
</tr>
<tr>
<td>Lela Wade</td>
<td>not awarded</td>
</tr>
<tr>
<td>1994</td>
<td>Barbara J. Bibbee</td>
</tr>
<tr>
<td>Constance A. Dullock</td>
<td>not awarded</td>
</tr>
<tr>
<td>1995</td>
<td>Gary J. Johnson</td>
</tr>
<tr>
<td>Joan Klopcic</td>
<td>not awarded</td>
</tr>
<tr>
<td>1996</td>
<td>not awarded</td>
</tr>
<tr>
<td>Mark Hackbarth</td>
<td>Vicki Richard, Clare Jorgensen</td>
</tr>
<tr>
<td>1997</td>
<td>not awarded</td>
</tr>
<tr>
<td>Denise Koppleberger, Cheryl Ruthig</td>
<td>not awarded</td>
</tr>
<tr>
<td>1998</td>
<td></td>
</tr>
<tr>
<td>Barbara McGivern</td>
<td></td>
</tr>
<tr>
<td>1999</td>
<td></td>
</tr>
<tr>
<td>John Clark</td>
<td></td>
</tr>
<tr>
<td>2000</td>
<td></td>
</tr>
<tr>
<td>Sue Burtch, Robin Harshman-Rogers, Vicki Richard, Clare Jorgensen</td>
<td>not awarded</td>
</tr>
<tr>
<td>2001</td>
<td></td>
</tr>
<tr>
<td>Cathy Egerer, Amy Hindbaugh-Marr</td>
<td>not awarded</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>High School Teaching</th>
<th>College Teaching</th>
</tr>
</thead>
<tbody>
<tr>
<td>1989</td>
<td>Joan Sabourin</td>
</tr>
<tr>
<td>Robert Wallace</td>
<td>Bob Howell</td>
</tr>
<tr>
<td>1990</td>
<td>Robert Kohrman</td>
</tr>
<tr>
<td>Gary Ronk</td>
<td>Scott Hill</td>
</tr>
<tr>
<td>1991</td>
<td>Ajit Sharma</td>
</tr>
<tr>
<td>not awarded</td>
<td>Laura Vosejpka</td>
</tr>
<tr>
<td>1992</td>
<td>George Eastland</td>
</tr>
<tr>
<td>John Clark, Edna Konwinski</td>
<td>not awarded</td>
</tr>
<tr>
<td>1993</td>
<td>Martin Spartz</td>
</tr>
<tr>
<td>Mary Irons</td>
<td></td>
</tr>
<tr>
<td>1994</td>
<td></td>
</tr>
<tr>
<td>Jo Ann Pelkki</td>
<td></td>
</tr>
<tr>
<td>1995</td>
<td></td>
</tr>
<tr>
<td>not awarded</td>
<td></td>
</tr>
<tr>
<td>1996</td>
<td></td>
</tr>
<tr>
<td>Sandra Schafer</td>
<td></td>
</tr>
</tbody>
</table>
Recipients of all awards will be selected by the Awards Committee. Nominators should write a letter indicating the award and describing the attributes of the candidate. Supporting letters from students, colleagues, supervisors, and community leaders are strongly encouraged. The deadline for nominations is March 22, 2002. Electronic and fax submissions are acceptable. All submissions must be accompanied by the name, position, address, and phone number of the nominator.

Award recipients, as well as high school and college student award recipients and Chemistry Olympiad winners, will be honored at the 2002 Science Education Recognition Dinner on April 24, 2002, at the Dow 47 Building Cafeteria in Midland.

The Awards Committee greatly appreciates the efforts involved in nominating someone and thanks you for helping to recognize deserving educators in our section. Parents: Does your child have a great science teacher? If so, consider nominating him/her and pass this flier along to that teacher's principal or section head. Please submit nominations to:

Philip J. Squattrito
Chair, ACS Awards Committee
Department of Chemistry
Central Michigan University
Mt. Pleasant MI 48859
Phone: 989-774-4407; fax: 989-774-3883
p.squattrito@cmich.edu
On February 25, Professor Lawrence F. Dahl will present an animated 10-minute “psychedelic” video on “Symmetry” together with pictures to illustrate the principles of symmetry both in art and science. The presentation will introduce and apply the basic concepts of point group symmetry to describe a wide variety of intriguing molecular architectures and crystal morphologies. It will also introduce and illustrate the use of one- and two-dimensional space-group symmetries to analyze the symmetry aspects of Hungarian folk needlework and M.C. Escher’s periodic drawings. This talk will not assume any prior knowledge or background on symmetry, and all of the basic principles of symmetry will be developed from a conceptual viewpoint.

Recent results of his research on the preparation and physical/chemical characterization of new nanosized transition metal carbonyl clusters will also be included to emphasize the importance of symmetry in modern x-ray diffraction analyses of crystalline materials to obtain and describe the ultimate structures.

Anyone wishing to have dinner with the speaker at The Embers in Mt. Pleasant should contact Dr. Anton Jensen at jenselaw@cmich.edu or 989-774-3125. RSVP by February 22. Dinner will begin at approximately 5:30 p.m. Meals may be ordered from the menu at your own expense.

About the speaker: Dr. Lawrence Dahl earned his B.S. in chemistry from the University of Louisville (1951) and his Ph.D. in physical/inorganic chemistry from Iowa State University (1956). He has been on the faculty of the University of Wisconsin—Madison since 1957, where he currently holds the R.E. Rundle Chair in Chemistry and is a Hilldale Professor. He has been elected to the National Academy of Sciences (1988) and to the American Academy of Arts and Sciences (1992). Recently he received the J. Willard Gibbs Medal (1999) from the Chicago ACS Section and a Chemical Pioneer Award (2000) from the American Institute of Chemists. Since 1957, 93 students have received their Ph.D. degrees in inorganic and/or physical chemistry under his guidance.
Important Dates on the ACS Midland Section Calendar

February 25  Professor Lawrence F. Dahl, “Symmetry,” CMU Seminar Series and ACS Tour Speaker, Dow 175, 4:00 p.m., reception preceding in Dow 264 at 3:30 p.m. (Anton Jensen, 989-774-3125).

March 4    Midland Section board meeting, Delta College Midland Center, Room 12, 7:00 p.m.

March 4    Deadline for April issue of *The Midland Chemist*

March 22  Deadline for nominations for 2002 Science Teaching and Education Volunteer Awards and 2002 Diversity Award (Phil Squattrito, 989-774-4407)