



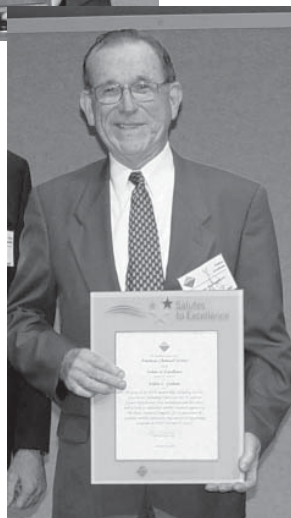
Outstanding
Achievement and
Promotion of the
Chemical Sciences
Mike Owen



Outstanding
Chemical
Technician
Bill Rievert



Outstanding Service
to the American
Chemical Society
Ann Birch



60-Year Member
Eldon Graham

***A busy fall season for the Midland
Section...Fall Scientific Meeting, Awards,
National Chemistry Week, and a lot more!***

THE MIDLAND CHEMIST

Volume 42, Number 6

December 2005

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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 of or to *The Midland Chemist*.

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Chair Column

Let's Get Serious about Energy

In a recent issue of *C&EN*, Rudy Baum described his passionate concern for the energy challenges facing our industry and indeed the world. The recent challenges around oil and natural gas prices due to the catastrophe brought about by Hurricane Katrina highlighted just how fragile the situation is. World energy demand, driven by the emerging economies of China and India, is expected to double by 2050 and triple by 2100. We are approaching the capacity of the world suppliers to produce the oil and gas and the refineries to convert it. The era of cheap oil will end sometime in this century. As Rudy says, we need to “get serious about energy.”



Pat Smith, Chair
ACS Midland Section

We need to work on the supply of energy, encouraging alternate sources of supply such as coal, tar sands, fuel cells, wind, nuclear, and biological sources, to name a few. In my opinion, our federal government should greatly increase its support for research into alternate sources of lignocellulosic biomass for conversion to ethanol. The economic conversion of biomass to ethanol is still many years away, but it is one of the few viable alternatives to supply the vast amount of liquid fuels we consume. Ethanol from corn (starch) and biodiesel are already economically viable, especially with \$70/barrel oil. The infrastructure needs to be built to grow this industry.

On the consumption side, the U.S. needs to get serious about high miles-per-gallon cars. U.S. automakers seem to be still stuck in the high performance, SUV, low miles-per-gallon rut. Hybrids and efficient diesels are getting 50+ miles per gallon. Unfortunately, none of these vehicles are made by the big three automakers. Mass transportation is not as available as it should be. Midland would certainly benefit by some form of transport that would ferry people to Dow and Dow Corning at 8:00 a.m. and return them to their homes at 5:00 p.m.

The chemical industry is also too dependent on conventional fossil fuels for its raw materials. We must look for alternate sources such as those from renewable sources and potentially from technologies that convert used plastics to monomeric building blocks.

These are not new ideas. We have been talking about many of them for a long time. It is time to get serious about them.

A handwritten signature in cursive script that reads "Pat Smith".

2005 ACS Midland Section Fall Scientific Meeting

Another Chance to Marvel at our Local Scientific Community

By Gregg Potter

Well, another Midland Section Fall Scientific Meeting is under our (collective) belt and I, like I'm sure many attendees, had a chance to enjoy and appreciate what a high-quality, enriching, and dedicated local scientific community we have in our Section. Under the theme of Nanotechnology, we had fifteen speakers addressing a range of topics from how to run a start-up company to understanding the nano-machines in our bodies. Forty-six posters, thirteen vendors, and several local association displays led to many good discussions and connections, further knitting the fabric of our technical community. And nowhere is local scientific excellence more evident than in the awards portion where the most tireless volunteers, the most promising students, and the most inspirational local icons were recognized.

Attendance was approximately in-line with last year, and a pretty good match for our preparations. In all, forty-five institutions and businesses were represented. One thing that really helped make preparation easier this year was the *outstanding* number of preregistrations for the meeting: 252. Thank you, attendees, for pre-registering! This gave us a very good idea of attendance beforehand, and helped make Dale LeCaptain's well-oiled lightning-fast registration and name tag check-in procedure go *even faster*. (I didn't think it was possible.) Pre-registrants, give yourselves a pat on the back!

Of course, all of this could not have been done without many dedicated volunteers that made this year's meeting go smoothly. It started with several folks who had been intimately involved with the FSM in the past (much of the volunteer list I will thank below, and Buford Lemon and Pat Smith in particular). They collectively had a complete knowledge base of

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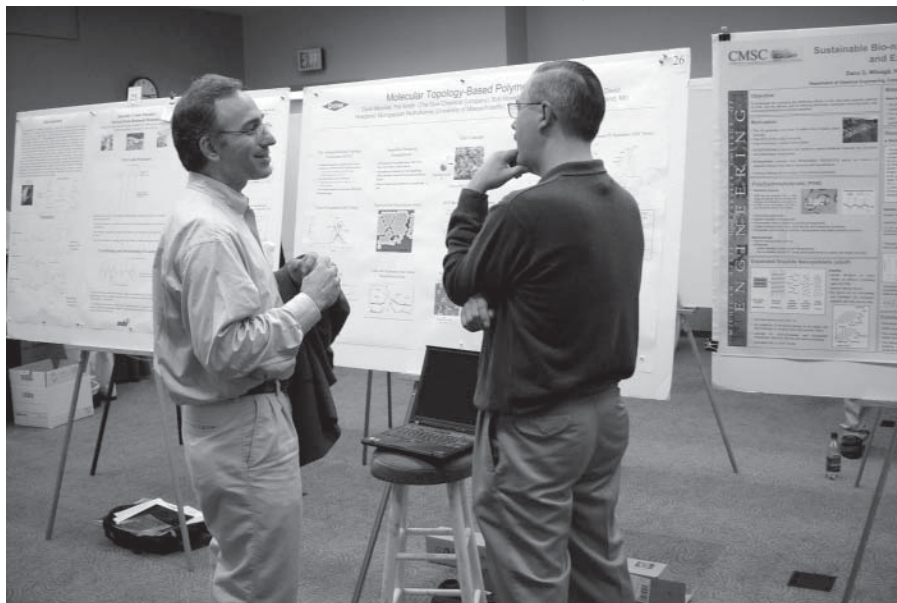
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what to do, when it needed to get done, and who would be good candidates to do it. In the spirit of that tradition, we intend to save relevant electronic documents from this year for use as templates and input for our next FSM.

In case you haven't guessed by now, I really enjoyed chairing the FSM this year and recommend it as a highly rewarding experience to anyone who might be considering it. First among the reasons this was so enriching was the chance to work with an incredible group of volunteers, and they deserve a big THANK YOU:

- Past FSM chairs Pat Smith and Buford Lemon—they guided my every step.
- Dow EDC Facility coordinator Kayleen Vanwert—her organization and knowledge helped everything go at least 50% easier, and Carol Dudley on behalf of Dow Chemical for donating the use of the EDC facility.
- Vendor exposition chair Eric Joffre—an *outstanding* job with the exposition and creative raffle. Are you in marketing?
- Symposium session chair Greg Meyers and committee Petar Dvornic and John Bedz arranged a top-notch roster of speakers and a very informative pre-session workshop.
- Poster session co-chair Joel Kern—I've never seen anyone set up easels so fast!
- Publicity chair Debbie Rothe—efficiently and effectively got this tough job done, and made it seem effortless. Thank you!



Technical posters at the Fall Scientific Meeting prompted many discussions.

- Vendor social and Speakers' Banquet chair Dee Strand—Dee says it was easy, but I know she's just good.
- Lightning registration process owners Dale LeCaptain, Megan McCallum, and the CMU ACS Student Affiliates—they should really patent that process; it was great.
- Program writer and web-guru Ann Birch—she really showed why she merits this year's Outstanding Service award!
- Day-of volunteers Fred Vance, Drew Davidock, Mindy Keefe, Lisa Callender, Dean Welsh, Steve Rozeveld, Dan Dermody, Brian Landes, Kristen Short, Kylee Wackerle, and Brandon Kern. 'On the day' is where the rubber meets the road, and they delivered. Thank you!



The Speakers' Banquet gave one last opportunity for discussions and networking.

Of course, our FSM would not mean anything without the folks who attended this meeting. On behalf of all of these fine volunteers, we would like to thank *you* for working to maintain our excellent local scientific community and for doing what comes naturally in a healthy organization—making connections.

Winners of the Visit the Vendors drawing:

Steven Nartker - 1st Place - \$75

Sheng Wang - 2nd Place - \$50

Don Liles - 3rd Place - \$25

2005 Midland Section Awards Presented

By Minghui Chai

Congratulations to the individuals honored at the Fall Scientific Meeting with Midland Section awards!

Outstanding Achievement and Promotion of the Chemical Sciences



Dr. Michael Owen

B.Sc 1962, Ph.D 1965, D.Sc 1991, Chemistry, University of Bristol, UK
Joined ACS 1975

Dow Corning Corporation

- 35 years at Dow Corning Corporation
- Joined Midland Silicones Ltd. in Barry, Wales 1965
- Joined Dow Corning Corporation (DCC) when they acquired Midland Silicones 1971
- Served in various R&D positions, including Research Chemist, Research Group Leader, R&D Supervisor, Senior Ts&D Specialist, and Manager, Analytical Sciences Research, Interface Expertise Center, CR&D
- Portrait was added to the Gallery of DCC Scientists 1983
- Appointed Senior Research Scientist 1990
- Appointed Scientist Emeritus 2000

Michigan Molecular Institute

- Adjunct Professor 1997–present
- Research Consultant 2000–present

National Science Foundation

- Volunteer NSF Program Director (Polymers and Solid State Chemistry) 1999–present

Professional Activities

- Editorial board, *Adhesion Science and Technology* 1993–present
- Editorial board, *Silicon Chemistry* 2001–present
- Treasurer Midland Section ACS 1995–1998
- Alternate Councilor Midland Section ACS 1999–2001
- Chair Midland Section ACS 2003
- Director Midland Section ACS 2004–present
- Co-organizer of a number of national and regional polymer and surface chemistry meetings including the last three national ACS symposia on Silicones and Silicone-Modified Materials
- Visiting Faculty Opponent at Ph.D. defenses at the Uppsala University and TKH Stockholm
- Professor for four short courses on various aspects of silicone polymer chemistry

Publications

- 55 journal articles
- 45 conference proceedings
- 23 book chapters
- 8 review articles
- 25 patents
- Editor for two books

Awards

- Fellow of the Royal Society of Chemist and Chartered Chemist
- 1996 and 1998 DCC Technical Achievement Awards
- 1998 Sigma Xi Best Paper Award, Midland Chapter
- 2001 De Bruyne Medal of the Society for Adhesion and Adhesives

Excerpts from nomination and support letters

“To me, it is hard to imagine anyone who would be more worthy of this award than Mike, since as a person and a scientist, he not only fulfills the strictest requirements one could imagine, but his credentials often exceed such requirements.”

“Mike was a champion of the need for better understanding of surface properties, with pioneering work in surface force measurement and surface spectroscopy.”

"I must admit that my students sometimes depended on Mike for guidance much more than they depended on me. This was all right with me as I knew that they were learning from a master!"

"Scientists in academia have eagerly sought Mike to collaborate on their research projects. These collaborations have been far-ranging, spanning Russia, Australia, and here at MMI."

"...(Mike) remains the world's premier expert on the surface properties of poly(dimethylsiloxane) and its analogues. He really does understand 'why silicones behave funny'."

"Above all, Mike Owen is not only an eminent scientist that remains internationally recognized as a leader in his field of research, but also a tireless, kind-hearted, cooperative gentleman who always seems to find the time to help others."

Outstanding Service to the American Chemical Society



Ann F. Birch

B.S. Chemistry, South Dakota School of Mines and Technology
Joined ACS 1976

Work experience (The Dow Chemical Company)

- Joined The Dow Chemical Company in 1973 and worked for 11 years in various capacities within polymer R&D: research chemist, pilot plant superintendent, project leader

Work experience (Editech)

- Established Editech, a technical communications firm, in 1984.
- Free-lance technical writer and editor for industry and academia
- Develops technical writing and formatting workshops and specialized technical templates
- Volunteers writing and editing expertise to local charitable organizations

ACS activities

- Provided layout for ACS Teachers' Affiliate Newsletter 1992
- Secretary Midland Section ACS 1997–1998
- Manager of Membership Database Midland Section ACS 1998–present
- Webmaster Midland Section ACS 1998–1999, 2005–present
- Director Midland Section ACS 1999–2004
- Executive Committee Midland Section ACS 1999–2001, 2003–2004
- Editor of *The Midland Chemist* 2000–present

Excerpts from nomination and support letters

“Ann has done an outstanding job in every position she has held in the Midland Section. She not only has been very reliable in her duties but she has the ability to do those jobs in a very professional manner.”

“(Ann) has been the driving force that has made this publication (The Midland Chemist) the central unifying voice for the Section. It is always done professionally and with excellence.”

“Ann has contributed distinguished service to the Section in a sustained manner spanning several years. Recognition for this effort is long overdue.”

“Ann has demonstrated outstanding leadership, professionalism, and teamwork. She is an absolute pleasure to work with. It is always nice to know that if you call Ann for an ACS subject, you will get an excellent answer which will usually go beyond your expectations.”



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“(Ann’s) major contribution to the Midland Section has been nearly six years as editor of The Midland Chemist, and the end of her service in that position is thankfully not yet in sight....She has made The Midland Chemist a top-flight local section publication.”

Outstanding Chemical Technician



Bill Rievert

Work experience

- A2 Technologist, The Dow Chemical Company, Core R&D/Chemical Science
- Catalysis Reactor Build/Operation
- Head of the Reactor Build Team, specially skilled at continuous flow reactor systems (Camile programming, reactor design, analytical automation, safety)
- Member of Chemical Sciences in the projects of the Dow Business R&D group
- Projects involved from 2002–present: Ethylene Oxide/Ethylene Glycol, Propylene Oxide/Propylene Glycol, Dow Haltermann, Hydrocarbon & Energy, Dow Automotive, Dow AgroSciences, Dow Venture, Epoxy Products & Intermediates
- Three Six Sigma projects in the R&D Six Sigma program
- Training other technologists
- Active member of the Dow MRDTG (Midland R&D Technologist Group) and served as chairman for 2002

Selected accomplishments

- Co-authored 12 internal Dow technical reports 2002–present
- Green Belt certificate in 2003 in R&D Six Sigma program
- Catalysis reactor design/build expert in the organization
- Completed projects with almost no purchase costs
- Developed a web-based resource in reactor design/build
- Pressure Vessel Compliance 2003
- Supervised day-to-day activities of numerous co-ops and contractors

Excerpts from nomination and support letters

“The high level of performance is manifest throughout all aspects of Bill’s job, including not only his key job responsibilities but also in the expanded role he fills within the organization.”

“Bill has demonstrated a wide range of skills and competencies ranging from having a clear understanding of the underlying principles behind the processes in question to building lab- and pilot-scale reactor systems.”

“Bill has strong people skills, is very easy to work with, gives clear and accurate information, and has obvious leadership skills.”

“Bill has demonstrated superior knowledge in the specific area of epoxide hydrolysis and in the general area of laboratory evaluation of catalytic systems.”

“Bill is recognized widely in the R&D community as being singularly capable of executing all aspects of catalytic reactor system development.”

Fifty and Sixty-Year Members and Scholarship Award Winner Honored

Seven fifty-year members were honored at the Fall Scientific Meeting: Mou Shu Chao, Leroy Hampton, Eric Larsen, John R. Moyer, Robert M. Nowak, Carl P. Zupic, and William Rogers Jr. These gentlemen were featured in the October issue of *The Midland Chemist*. Eldon Graham, a long-time active member of ACS, was recognized with a 60-year award. Eldon is featured on page 11 of this issue of *The Midland Chemist*. Also honored at the Fall Scientific Meeting was the winner of the first Midland Section scholarship, Andrea Alexander. Andrea was featured in the October issue of *The Midland Chemist*.

Eldon Graham Receives 60-Year Award

By Debbie Rothe

Eldon Graham received the 60-year membership award from the Midland Section of the American Chemical Society at the Fall Scientific Meeting on October 14. The award was in recognition of Eldon's years of service in the Society and leadership in the scientific community in general. Eldon has been instrumental in attracting young people to careers in science and engineering by his dedication to educational activities such as curriculum development, radio and television broadcasts, workshops, and science fairs.

Eldon is chair of the Technical Society Interface Committee and is a member of the Scholarship Committee of the Midland Section. He is a strong advocate for ACS. "I value my ACS membership very highly," Graham said in a brief address to FSM attendees. "I can't imagine anyone trained in the central science of



Eldon Graham, center, with his 60-year award.

chemistry not being a member. The annual membership cost is such a small percentage of our total compensation that education and training have made possible. Also, it is a way for us individually to pay back those pioneers and leaders of the chemical profession and educators."

Eldon worked at The Dow Chemical Company for 24 years as a chemical engineer and has spent 35 years at Saginaw Valley State University where he founded the engineering and technology programs.

Sci-Fest 2005 Celebrates NCW with 'Joy of Toys'

By Joan Sabourin and Dave Stickles

Delta College was a flurry of activity as over 1500 participants passed through Delta College's Pioneer Gym celebrating the 18th anniversary of National Chemistry Week: "The Joy of Toys." Sci-Fest 2005 was held Saturday, October 15, 2005, from 10:30 a.m. to 2:30 p.m., and was sponsored by the Midland Section of the American Chemical Society, Delta College, and the Mid-Michigan Technician Group. Admission was free, with donut holes and apple cider for all.

Patricia Moore, author of *You Can Be a Chemist*, autographed hundreds of copies of her book for the young people attending, speaking individually with each one. Pat is a chemist at Dow Corning Corporation in Midland. She earned her B.S. degree in chemistry from Central State University in Wilberforce, Ohio. This children's book portrays the adventure in learning what things are made of and how they are put together in the world of chemical reactions. The book ends with three science lesson plans that can be performed and discussed in the home.

Center Stage featured a teen performance of segments from "Crash, Boom, Bang!" presented through the Saginaw's Pit and Balcony playhouse. This performance transformed pots and pans, brooms and dustpans, and aluminum pie plates, the kinds of things that most toddlers turn into toys, into musical instruments with help from the young audience.

The following activities provided a continuum of fun hands-on chemistry/science experiments: Seeing Bacteria on Toys, Dental Health, Dr. Slime, Glassblowing (making glass tops), Field Neurological Institute Buckle Your Brain (included games that provided free bike helmets for 250 winners), Kitchen Chemistry, Blood Drive and Blood Typing, Solar Cars, Straw Rockets, Paper Airplane Contest, Plastics, Making Cartesian Divers, Investigating Tops, Model Airplanes, Astronomy Lab, Smoke Cannon,



Sci-Fest 2005 attracted over 1500 participants from the Midland Section area.

Toys That Teach, Earth Tunnel, Water Tunnel, and many more.

The following groups provided the above activities: Alden B. Dow Museum of Science and Art, American Chemical Society Midland Section, Bangor Christa McAuliffe Middle School, Children's Zoo at Celebration Square, Delta College Astronomy

Club, Delta College Microbiology Club, Delta College Dental Assisting Partners, Delta College Chemistry Department/Dr. Slime, Dow Corning, Field Neuroscience Institute, Tim Drier, Michigan Community Blood Center, Mid-Michigan Technician Group, Midland Radio Controlled Modelers Club, Midland Conservation District, National Chemistry Week Booth, Pit and Balcony Theater, Jamie McGee, Saginaw Valley State University Chemistry Club, Science Literacy, Society of Plastics Engineers Mid-Michigan Section, Sunset Astronomical Society, The Salvation Army, Toys That Teach, Inc. Sponsors included The Dow Chemical Co. and Dow Corning Corp.

Over 22,000 fliers were distributed to public and private schools in the Bay City, Midland, Mt. Pleasant, and Saginaw areas. Calls have already come in from schools wishing to have their name on the list for next year. A segment giving a taste of what was to come appeared several times on Hometown News on CNN. The event was also covered in the Saginaw, Bay City, and Midland daily newspapers, on the Delta College home page, Dow Corning internal web bulletin, and Midland Public Access Bulletin. A segment on ABC's Channel 12 News gave an interview with Patricia Moore, the author of the book *You Can Be a Chemist*.

Co-directors of Sci-Fest 2005 were Dave Stickles and Joan Sabourin with much support from Gretchen Kohl and Angelo Cassar.



Call for Papers

ACS Central Regional Meeting Focuses on 'Diverse Interactions'

By Kurt Brandstadt

The 2006 Central Regional Meeting (CRM), hosted by the Midland (Michigan) Section of ACS, will be held in Frankenmuth, MI, May 16–20. In keeping with the meeting's theme "Diverse Interactions: The Elements of Success," abstracts are being sought for symposia that represent a wide variety of scientific interests. The online abstract submittal program opened November 21, 2005, and runs through March 10, 2006. Advance registration also opened November 21.



To promote interaction between disciplines as well as areas of application, major symposia will cover emerging, traditional, regional, and special topics. Two areas featured include nanotechnology with a workshop titled "It's a Small, Small World," and the 39th Annual Silicon Symposium, which has been built into the CRM meeting. Attendees will be offered daily plenary lectures supplemented by nine parallel sessions over the four-day meeting. Workshops will cover science literacy, bringing science to life in the classroom, innovation, nanotechnology, brewing science, and career services.

Technical papers being sought for each symposium include:

- **Emerging Areas:** Advance lithography, advance materials for portable energy devices, alternative feedstocks, biotechnology, defense applications of nanotechnology, environmental challenges, nanocomposites, optoelectronics, and photonics.
- **Traditional Areas:** Catalysts and advanced materials for clean energy, chemical education, computational and theoretical science, emulsion polymerization and latex technology, olefin catalysis and plastic materials, polymer characterization, surface characterization, undergraduate program.
- **Regional Interests:** Coatings technology, personal care, pharma, rubber/elastomers technology.
- **Special Symposia:** Analyzing the World Around Us Technician Symposium, Brewing Science, Functionalized Polymer Interfaces and Adhesion, History of Chemistry in the Midland Area, Knowledge Management/Data Mining, Silicon Symposium, Small Chemical Business.

Please submit abstracts online through the CRM 2006 website at www.crm2006.org and visit the website for periodic program updates. For more information, contact the program chairs at admin@crm2006.org.

CRM 2006 will open the meeting with an exciting plenary presentation "Ecology, Economy, and the Sea" by Jean-Michel Cousteau. Legendary for his intimate knowledge of the sea, Cousteau is committed to preserving clean water and the ocean's quality of life for all creatures.

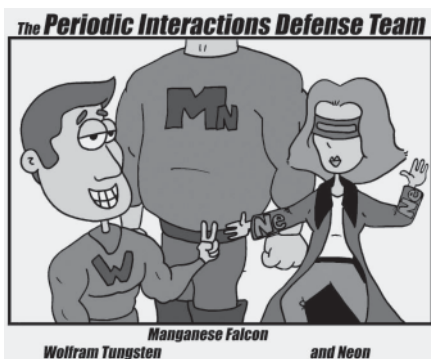
Special events throughout the week include the Women in Chemistry Luncheon plus local, regional, and national ACS award celebrations. The 2006 Kipping award honoree for significant contributions to the field of silicon chemistry will be announced. Both local and regional ACS awards will celebrate the contributions of teachers, students, and volunteers for their contributions to chemistry education.



Jean-Michel Cousteau.

Frankenmuth, a Bavarian city north of Flint, Michigan, will be hosting its annual "World Expo of Beer" from May 19–20. Master brewers and representatives from a number of beer companies will be on hand with samples of their best brews. In the spirit of the event, CRM 2006 is offering a special Brewing Science Symposium and workshop to complement the event.

Early hotel registration is strongly recommended for CRM 2006 to ensure your lodging at the negotiated meeting rate at the Bavarian Inn Lodge, the principal meeting location. You may book your reservation on-line beginning November 21, 2005, through the CRM website, www.CRM2006.org.



The CRM website offers a wealth of information. Submit an abstract, reserve your hotel room, check on the program updates, workshops, and special events. Visit often to keep up with the adventures of the Periodic Diverse Interactions Defense Team (PDIDT), the first comic strip offered by a regional meeting! New strips will be added between now and next May chronicling the

adventures of General Tungsten Wolfram, and superheroes Neon and the Manganese Falcon as they battle their archenemy, Dr. Einsteinium.

This conference is expected to draw 1,300 attendees from the Central Region. Exhibitors may still reserve booth space by contacting the Expo Chair at admin@crm2006.org.

Call for Nominations

Central Region High School Teacher of the Year Awards

By Minghui Chai

The purpose of the Central Region High School Teacher of the Year award is to recognize, encourage, and stimulate outstanding teachers of high school chemistry in the Central Region. The Central Region of the ACS consists of Local Sections in Indiana, Michigan, Ohio, Pennsylvania, and West Virginia. Because of the cancellation of the 2005 Central Regional Meeting, two awards will be presented at the 2006 CRM.

The regional award consists of a cash award and a plaque. The awards will be presented at the 2006 ACS Central Regional Meeting & 39th Silicon Symposium in Frankenmuth, MI (May 16–20, 2006) where the awardees will be asked to participate in the symposium. Reasonable travel expenses to the meeting will be reimbursed.

Any individual, except a member of the award selection committee or currently enrolled student of the nominee, may submit one nomination or support form in any given year. Local sections within the region are especially encouraged to submit nominations for the award. The nominee must be actively engaged in the teaching of chemistry or a chemical science in a high school (grades 9-12) at least half time. The nomination should clearly demonstrate as many of the following attributes as possible:

- The quality of the nominee's teaching, including any uniquely effective presentation practices.
- The nominee's ability to challenge and inspire students.
- Extracurricular work in chemistry or a chemical science by the nominee, including science fairs, science clubs, and activities that stimulate the interest of young people in chemistry and related sciences.
- A willingness to keep up-to-date in the field, as evidenced by the pursuit of a higher degree in chemistry or a chemical science, enrollment in refresher courses and summer institutions, regular attendance at scientific meetings, membership in professional organizations, and other means of self-improvement.
- Evidence of leadership and/or active involvement within the profession.

Required Components

1. A recommendation of not more than 1,000 words featuring the nominee's attributes (as detailed above).
2. A curriculum vitae or resume that includes a list of the nominee's hon-

- ors, professional activities, and additional evidence of service to the profession.
3. At least one, but not more than three, letters of support. One must be from the teacher's current principal or supervisor. Colleagues, members of the Society who are familiar with the nominee's achievements, or former students and parents of former students may send additional letters of support.
 4. Nominee and nominator contact information.

Please submit nominations by December 12, 2005 to:

Dow Corning Corporation
Attention: Margo McIvor
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NCW Features the 'Joy of Toys'

By John Blizzard

This year's National Chemistry Week topic was the "Joy of Toys." To begin the NCW program in the Midland Section ACS, on October 15th, retired astronaut Donald R. McMonagle (Michigan native) gave two presentations about his trips in the space shuttle and his experiences as an astronaut. This included videotape and slides of his time in space. There was also a question and answer time provided. There was also a presentation in the Ogemaw Heights High School auditorium. This presentation was geared for students. The presentation provided demonstrations and explanations of his experiments in outerspace using toys. The presentation displayed how some toys react in zero gravity and the explanation of their behavior. The toys used and demonstrated in the space experiments provided impetus for the high school students' science investigations and demonstrations using toys.

Another presentation was given at Forwards Conference Center in West Branch that was adult-oriented. Again the presentation demonstrated the scientific principles of motion, gravity, and zero gravity to the adult audience. Part of the presentation dealt with why government spending on the space program is such a good thing for our country and the type of benefits that society obtains from the space program. The presentation included some items that were placed in a silent auction. All proceeds from the silent auction went to the Ogemaw County Humane Society.

At West Branch, Michigan, the Midland Section ACS used the Ogemaw Heights High School advanced science students to put on sci-



Student posters provide information on science investigations.

ence demonstrations at National City Bank for the general public and for classes of K-12 students that visited the bank. At the high school level, students chose a toy and designed a poster explaining some scientific principle that was demonstrated by that toy and performed an experiment on some aspect of the toy. They worked in groups of up to three students per each poster/demonstration. The students also wrote a scientific paper explaining what was depicted in their poster and the toy demonstration. Some of the many toys investigated by the chemistry and physics classes included music boxes, kites, Frisbees, baseballs, footballs, basketballs, hula-hoops, tops, gyroscopes, toy tractors, Hot Wheels cars, toy trains, gears on bikes, and many, many more. From the toys investigated, eighteen were chosen for display and demonstration to the public.

The toys, posters and demonstrations included:

- Ball and Cup (with video of this toy in zero gravity in space)
- Tops Gravitron (with video of this toy in zero gravity in space)
- Weighted Bike Wheel Momentum
- Cartesian Divers (with stuff for kids to take home and make their own)
- Colored Tops to show combination of primary colors
- String and Button

Toys to show
combination of
primary colors

- Mirage and Real Images
- Gyroscopes
- Magnets on a Stick (with video of this toy in zero gravity in space)
- Kacker Balls



(with video of this toy in zero gravity in space)

- Happy and Unhappy Bouncy Balls
- Hot Wheels Car and The Loop (with video of this toy in zero gravity in space)
- Silly Putty
- Rattle Back Toy (with video of this toy in zero gravity in space)
- Injection Mold Polymer Toy Making
- Gears in Action
- Nerf Basketball (with video of this toy in zero gravity in space)
- Ring of Rings

During National Chemistry Week, 60 high school students demonstrated these science toys to over 1300 area school students. This repre-

sents over 95% of the Ogemaw County school population. Five demonstration stations were set up at National City Bank in West Branch. An entire class (15 to 35 students) of students would proceed to each station where the high school students would demonstrate the toy and the science behind the toy. A different class would proceed through the bank every 30 minutes for the entire week. Each class that participated was provided a "kit" containing enough materials to build a number of toys, such as the Cartesian diver and color tops, in their classrooms. The kit also contained the NCW newspaper for each student and information on toys. Radio station WBMI broadcast live from the National City Bank event for two days during the school tours. They interviewed students, the public, bank employees, and ACS members during the live broadcasts.

From the 8th grade through kindergarten classes that visited National City Bank for the demonstrations, each class produced anywhere from one



to four posters (per class) along the theme of toys. Prizes were awarded for the first, second, and third place in the elementary, intermediate, and high school posters that were selected. Posters from the schools were displayed throughout National City Bank and the

community for the public to enjoy.

Since this year's topic involves toys and because it is our belief that kids need to see us all as working towards the good of charities, we decided to tie this year's activity in with the Toys for Tots program. Each class that came to the bank and each science class at the high school and middle schools held change and pop can drives to put together enough money to buy a new toy to bring to the bank. These were put together and given to the Toys for Tots program in the name of the schools in the county. Although this was not a requirement to have the classes participate in the bank program, the classes and students made this happen. It also reinforced the students' need to see us helping others in our communities so that they will model that behavior later in life. This program of Toys for Tots will continue at National City Bank through November and into December where the public can participate with the schools.

The students were also able to complete a worksheet about what they learned from the demonstrations for extra credit. They were asked to pick

their ten favorite posters and write a sentence about what they learned from the poster. They also had to write about what they learned about their five favorite toy demonstrations. The students registered at the Bank and were given the worksheet. The students that participated received an extra credit grade if they wrote a research paper.

The visits to the bank precipitated a variety of questions from students when they got back to their classrooms. On the one hand this was good because we were able to get the students thinking about and questioning what happened with the toy experiments. That is what we wanted. On the other hand we did not want to add to the teacher work load, so the physics and chemistry students came up with an idea. Specific questions from the students about how the toys work were e-mailed to the high school. The high school students would then take those e-mails and within one week try to get back to the class with e-mailed answers that the teacher could read to the students and hopefully answer those questions without the teachers needing to research the answers. This precipitated a "science pen pal" program where the advanced students were helpful to area teachers and younger students.

The entire event was completed with an awards and recognition program. Four ACS Salutes to Excellence awards were presented by the Midland Section Chair, Pat Smith, to teachers and community leaders. Pat also had the opportunity to present the ACS to a crowd of Michigan State legislators, City Council, business leaders, students, and public at this event. Pat stressed the opportunities that ACS has to offer for education, community outreach, and legislative involvement in the sciences. Michigan State Senator Tony Stamas's staff presented a flag that flew over the Michigan State Capital for display in Ogemaw Heights High School. In closing, the Ogemaw Heights High School chemistry teacher, Doug Grezeszak, said it best when he closed with "Let's face it. Chemistry week belongs to the *whole world*, not just the chemists."

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‘Salutes to Excellence’ Presented during NCW

By Gretchen Kohl

Pictured below are the recipients of “Salutes to Excellence” awards. Congratulations and thanks for all your efforts!

“Water Warriors” of Ogemaw Heights High School (Sean Eagan, Greg Hisscock, Eric Marshall, Jim McGrail, David Sellers): First place in the Michigan Regional and the State Canon Envirothon Competitions, and 31st in the International Competition, in the school’s first year of competition.



(l-r): Chris Powley (advisor), Doug Grezeszak (teacher), two current Water Warriors with “Salute”, Midland Section chair and past-chair Pat Smith and Joe Ceraso. Chris was also presented with a “Salute”.

Chris Powley: Advising and assisting the “Water Warriors” for the Canon International Envirothon competition and the Saginaw Bay watershed testing program. An avid ACS proponent, his leadership and dedication to his students and to his school is a model for other teachers.

Debra Green, Ogemaw Conservation District Executive Director: Being instrumental in assisting the “Water Warriors” in entering and preparing for the Canon International Envirothon. An ardent environmental supporter, Debra not only provided support to the team by her words, but also by her actions.



Debra Green with her “Salute” presented by Pat Smith and Joe Ceraso.

Anne DeBoer and the Dow Corning Foundation: Envisioning the ability of students to tackle the watershed project and for providing the monetary means to make it happen, with a generous four-year grant. In addition to providing a learning experience, for teachers and students, it is providing necessary baseline data for the Saginaw Bay watershed.

Different-Sized Opportunities: A Letter from the 2005 Chair-Elect

By Buford Lemon

Greetings! I'd like to get a few words in before my tenure as chair-elect ends and time as chair begins. I've spent the last year under the tutelage of Pat Smith (actually *most* of the active members of the rest of the Section, thank you very much) preparing for my time as chair. In addition to getting to better know the people in our Section, I've been listening to what *you* have to say about the Section's status and direction and what *you'd* like to see happen, and balancing that against my "campaign promises." (I invite you to review the challenges I promised to focus on in the October 2004 issue of *The Midland Chemist* which can be found at <http://membership.acs.org/M/Midl/midchemist/issues/>.) While I'll roll out what I've heard from you and what I plan to accomplish next year, I'd like to focus on an important transformation I underwent a few weeks ago and how it applies to our Section.

The two primary issues I saw the Section facing were stated as: 1) we all feel 'pinched' and see decreased participation in ACS activities, and 2) deemphasized scientific focus. While both of these issues are highly complex and beyond the scope of what a single chair or Section can hope to fully resolve, an important paradigm shift was presented to me during a casual conversation with Marvin Tegen at this year's Fall Scientific Meeting (once again, an excellent meeting which I hope you were able to attend). While discussing my frustration with what I felt to be lower-than-expected turnouts for a variety of events (ACS and non-ACS), Marvin presented me with the idea of "different-sized opportunities" and, after a few minutes of discussion, I was (and still am) convinced that he'd hit on something.

In my experiences as a volunteer, a recruiter of volunteers, and while attending training sessions on how to effectively recruit and reward volunteer efforts, I've learned much about setting clear goals and timelines, appropriate levels of reward and thanks, and approaching individuals far enough in advance that they're comfortable with doing what they're being asked to do. What I hadn't thought much about (or realized, I'm slow like that sometimes), is that one large obstacle to rewarding, effective, high-turnout volunteers and events is that the *size* of the opportunity isn't clearly defined. We often assume how large the job is going to be and which volunteers are the heavy-lifters or the multi-taskers or the tight-deadliners and try to slot appropriately, but rarely are volunteer slots conceived as, and clearly communicated as, small, medium, or large opportunities.

Yes, we know that the gracious soul who chairs our Fall Scientific Meeting is looking at about 100 to 150 hours of selfless, long hours, but where do we have a ‘job scope’ or ‘opportunity landscape’ for that position? I should know, and should be the one to blame, as I’ve co-chaired the meeting twice and been involved with the meeting five times, but until now I’ve never thought to clearly scope the position so that the person involved knows *exactly what he or she is getting into*.

Now that I’ve been infected with this new paradigm, I think we have at least a partial solution to the “we’re all feeling pinched” issue. By clearly defining “different-sized opportunities,” we should be able to increase Section participation. By clearly defining newer, smaller roles more appropriate to our Section members’ time constraints, I feel confident that we’ll better utilize our Section’s human resources and increase overall participation. *And*, by concomitantly clearly redefining our larger volunteer roles (Councilors, FSM Chair, Treasurer, Secretary, etc.), all of our volunteers will have a much better idea of what we’re asking of them, and what they’re getting themselves into.

I welcome any and all comments and efforts to help me with this endeavor, as well as more ideas about where we’re going to go next year. Anybody have any bright ideas on how to get all of us to fight the general “deemphasized scientific focus”?

Welcome to New Midland Section Members!

By Connie Murphy

Welcome! to the following people who have either joined the American Chemical Society or transferred into the Midland Section during the past few months.

Joseph A. Affholter
David Ash
William F. Banholzer
Mary Lou Benecke
John Bruno
Xiuhua Cui
Christopher W. Derstine
Daming Fan

Harry Huaqiang Luo
Wei-Jun Peng
Simon G. Podkolzin
Michelle L. Quigley
Steven J. Smith
Rebecca A. Swanson
Grant Thomas
Mary Kay Tomalia

In Memoriam

Adapted with permission from the Midland Daily News

Dr. Harold E. Graves

Dr. Harold E. Graves, 96, of Midland, died Friday, Oct. 7, 2005. Harold joined the American Chemical Society in 1937.

Harold attended Hamline University in St. Paul, Minnesota for two years, then transferred to the University of Minnesota where he received his bachelor's and master's degrees in chemical engineering in 1932 and his doctorate in 1935.

He came to The Dow Chemical Company as a senior process engineer in 1956 and was named chief process engineer in 1964. In 1967 he was named staff assistant to the director of Midland Division Research and Development. Previously, he was with the Jackson and Church Co. of Saginaw from 1952 to 1956. He had been on the chemical engineering faculties of Mississippi State University, Yale University, and Worchester Polytechnic Institute. He headed the Department of Chemical Engineering at the University of Rhode Island from 1948 to 1952.

Harold was a member of the American Chemical Society, American Institute of Chemical Engineers, Sigma Xi, Alpha Chi Sigma fraternity, and the Memorial Presbyterian Church in Midland.

Those planning an expression of sympathy are asked to consider The American Diabetes Association or the Memorial Presbyterian Church.

Dr. W. Brock Neely

Dr. W. Brock Neely, 79, of Midland, died Nov. 8, 2005, at the Eisenhower Medical Center in Rancho Mirage, California. Brock joined the American Chemical Society in 1952.

Brock graduated from the University of Toronto at Guelph in 1948 with a bachelor of science degree in agricultural chemistry. He received his Ph.D. from Michigan State University in 1952, majoring in biochemistry and mathematics. He then attended Ohio State University and the University of Birmingham, England, for two years of post-doctoral training. After returning from England, two years were spent in the U.S. Army.

Brock worked at The Dow Chemical Company in various capacities from 1957 until his retirement as a research scientist in 1986. On retirement he formed EnviroSoft, a company devoted to writing computer software packages and providing consulting services to the chemical industry in environmental affairs. He published over 100 scientific articles, authored two books dealing with environmental problems, coauthored two volumes on environmental exposure from chemicals, and wrote a

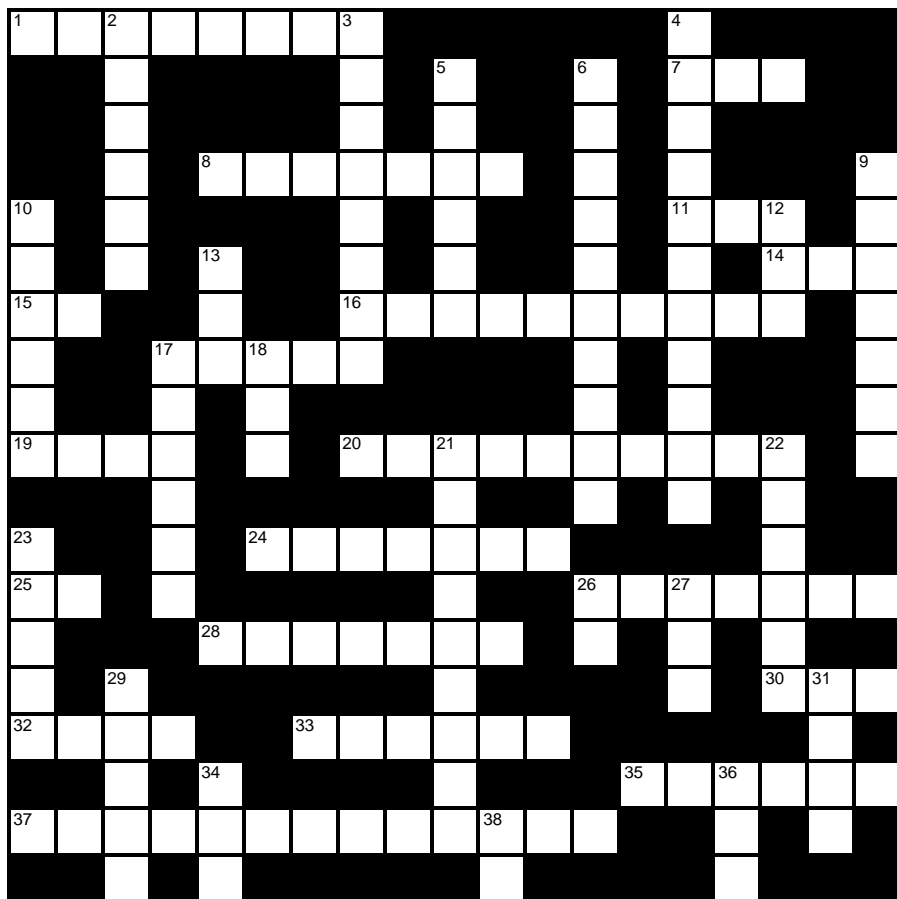
software program that estimated concentrations resulting from chemical spills in rivers. He was a member of the EPA's Science Advisory Board and received the Synthetic Organic Manufacturer's Association gold medal for outstanding work in environmental science.

Memorials are suggested to First United Methodist Church, Delta College Scholarship Fund, or the MidMichigan Medical Center Love Light Trees.

ChemPuzzler

A Bit of Everything

Arnold B, a Midland Section puzzlemeister who wishes to remain Anonymous, has submitted the words and clues to the puzzle below. But be careful! It's not all about chemistry and it's not all obvious. Look for a link to the solution on the Midland Section web site in January.



Across

1. Hip joint metal
7. Mt. Pleasant university
8. Infrared output
11. Alkane source
14. Type of laser
15. Lanthanum
16. Erbium, for example
17. NH_2
19. Very small
20. Dow archives location
24. Acetyl salicylic acid
25. Xenon
26. Future fuel source?
28. A product of electrolysis
30. Unit for atomic mass
32. Vinyl alcohol
33. Carrier gas
35. _____ blue
37. cis and trans

Down

2. Midland river crossing
3. Liquids that mix
4. Wave function
5. C
6. Tungsten ore
9. Eye protection
10. British mathematician and physicist
12. Caustic
13. Dad's partner
17. (D) and (L)
18. Charged particle
21. Gives a red flame
22. Russian trio
23. Oxygen derivative
26. Helium
27. Midland chemical company
29. Stockholm scientist
31. Quantity measurement
34. Fructose worker
36. Midland Section county
38. European Union

Editor's Note

We try very hard to get *The Midland Chemist* in members' hands by the end of the month before it is due, but this time we didn't make it. By the time Thanksgiving week came along and I was still putting stories together I knew it was hopeless. I apologize for any inconvenience this may have caused. However, it does give me the opportunity to address a problem that several people have mentioned in the surveys they have returned. There are several institutions where members have received their newsletter up to a week or two late even though the newsletter was received by other members on time. So there are some problems with the way some organizations handle third-class mail.

If you are having consistent problems with the newsletter being late, I suggest that you change your mailing address for the newsletter to your home address. Just contact me at ann.birch@editech-mi.com and I'll take care of it. Also, you can always check out *The Midland Chemist* page on the web site <http://membership.acs.org/m/midl>. The pdf of the issue is always there by the due date. Thank you!

Ann F. Birch

2006 Board Members Announced

By Pat Smith

On behalf of the Nominations and Elections Committee, I would like to thank all the candidates for agreeing to run this year for an elected position in the ACS Midland Section. To remain strong and vibrant, our society depends on volunteers. Your willingness to consider giving of your time and talent in the leadership of the Midland Section is a perfect example of this spirit.

Board members for 2006 are shown below, with those elected this year in bold type. The director, councilor, and alternate councilor positions carry a term of three years; all others carry a one-year term.

Chair	Buford Lemon
Chair-Elect	Dee Strand
Secretary	Aneta Clark
Treasurer	Csillar Kollar
Chair, NEC	Brett Zimmerman
Councilor	Bob Howell (08) Tom Lane (07)
Alt. Councilor	Dale LeCaptain (08) Gretchen Kohl (07)
Directors	Ann Birch (08) John Blizzard (08) Connie Murphy (08) Wendell Dilling (07) Steve Keinath (07) Mike Owen (07) Jennifer Dingman (06) Petar Dvornic (06) Dave Stickles (06)

The 2006 term of office begins January 1, 2006. All elected officers can obtain additional information on the bylaws and on their role and responsibilities on the Midland Section web site at <http://membership.acs.org/m/midl/leaders.htm>. A list of 2005 officers and committee chairs can also be found on that page.

For those who ran as candidates but were not elected (and for all members), please consider other volunteer opportunities within the Midland Section. Also, please consider running for elected office in the future!

In Past Issues of *The Midland Chemist*

By Wendell L. Dilling, Midland Section Historian

- **40 Years Ago This Month**—Alma College—Science Program Flourishes in Modern Laboratory Building, by Prof. Howard Potter. Before the Dow Science Building at Alma College, biology was taught in a building designed to be a museum, the chemistry lab was a remodeled gymnasium, and physics was in the basement of the administration building.
- **30 Years Ago This Month**—Selections from minutes of October 6 Midland Section ACS—Election Problem, by B.P. Thill, Secretary. It was brought to the Board's attention that the candidates for section councilor were inadvertently omitted from the official ballot sent to the membership in the October *Midland Chemist*.
- **20 Years Ago This Month**—Eugene E. Kenaga was named to receive the 1986 ACS Award for Creative Advances in Environmental Science & Technology, sponsored by Air Products & Chemicals Inc. Kenaga has a long list of contributions to environmental science, including 30 patents, more than 100 scientific publications and some 60 publications on the migration, nesting, and natural history of birds.
- **10 Years Ago This Month**—5th Annual Midland County Fairbooth a Continuing Success!!, by Donald Kadlec and Bill Inman. The Midland County Fair was held during the week of August 13–19, 1995, and marked the 5th annual showing of the Midland County Fair Booth. Sponsored by the ACS's Midland Section, the fair booth is part of a public outreach program designed to educate and arouse interest and enthusiasm in the scientific field.



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Important Dates on the ACS Midland Section Calendar

The 2006 calendar is not yet assembled. Please check the Midland Section website for January events. <http://membership.acs.org/M/Midl>

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