

THE MIDLAND CHEMIST

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From the Chair

Volunteers Form the Heart of ACS

My wife and I recently purchased a copy of the original writings of Charles Darwin in preparation for an upcoming trip to the Galapagos Islands. Many topics are discussed in this book, including the "survival of the species." An animal or plant does not live forever and must have a mechanism for continuing the species through adaptation or "artificial propagation." Suddenly I thought about these theories as they relate to our Midland Section. That is to say, the reason that we have existed since 1919 is because we have "artificially propagated" membership through employer, academic, or peer pressure and prestige or we have adapted to fit the needs or interests. However, each of us can recall worthwhile altruistic organizations that are now extinct.

Therefore, we need a mechanism of "adaptation and artificial propagation" to maintain our existence and that mechanism is simple: Ask friends and family who have an interest or an occupation in chemistry to join us in our pursuit of both promoting science and outreach events in science and doing a survey to find out what unmet needs or interests exist.

Based on Helen Little's *Volunteers: How to Get Them, How to Keep Them*,

in a typical volunteer organization there are 5% leaders, 15% volunteers, 75% occasional volunteers, and 5% who are critics who do not participate. Our goal should be to get the 75% to move up to the regular volunteers!

But how do we do that? The key may be as simple as "JUST ASK!"

However, there are restrictions as to who we ask in order to be successful. One should ask an individual who has the *talent* for the task at hand. This includes the ability to learn how to perform the task. Secondly, they should be *motivated* to accomplish this volunteer task. Anyone can say "yes" they will participate in the event, but simply not show up. And, of course, we need to determine what volunteer tasks are important to the *needs* of our Section.

A recent example of a new volunteer who is talented and motivated, and who fills a Midland Section need is Susan Rhodes, who is our new chair of the Fall Scientific Meeting. Other ex-



Angelo Cassar
Midland Section Chair

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Calendar for June/July

Jun 11	MMTG Brew Tour
Jun 20	Kickin' It in the Park
Jun 15	Board Meeting
Jun 24	Dr. Slime TV Host
Jul 13	Midland Chemist Deadline No July Board Meeting

Click on the Calendar button at <http://www.midlandacs.org> for more details.

cellent examples are the co-chairs of Kids in Chemistry, Gina Malczewski and Lisa Thackery.

Would you like to join us? Our future existence depends on new volunteers like Susan, Gina, Lisa, and you! Call me at 989-631-7128 and let me know what motivates you in altruistic endeavors.

Dale LeCaptain, Alt. Councilor and Student Affiliate Advisor

Kickin' It in the Park Returns!

Saturday, June 20, 2009
10:00 a.m. - 3:00 p.m.
St. Charles Ball Diamonds
Midland, MI

Kickin' It in the Park is back again and ready to raise money for Relay for Life. This fun and worthwhile event brings together teams from many organizations for a day of playing in the sun. Some of the participants include: Younger Chemists Committee, Dow Corning New Hires,

Dow Chemical New Hire Social Group, CMU Student Affiliates of ACS, United Way of Midland County, Jaycees, Young Researcher's Community, Mid-Michigan Technician Group, EDS, Mid-Michigan Health, Dow Co-Ops, and YMEC. If you are a member of one of these groups, check with your group leadership on how to become involved. All proceeds will be donated to Relay for Life! Donations are tax-deductible and receipts are available upon request.

Ann Birch, MC Editor

Help Needed

Community Demos/Mentoring

Contacts: Lisa Thackery,
lisa.thackery@dowcorning.com, or
Gina Malczewski,
gina.malczewski@dowcorning.com

What: Projects/demos/mentoring for children; planning/training activities

Skills: Interest in working with children on science projects

Bradley Fahlman, Awards Committee Chair

Midland Section Recognizes Outstanding Achievements in Science Education

On Thursday, April 23, 2009, the Midland Section of the American Chemical Society (ACS) recognized students and educators throughout the five-county region (Bay, Gratiot, Isabella, Midland, and Saginaw) at its 18th Annual Spring Science Education Awards Banquet held at Dow Corning's Corporate Center in Auburn, MI. Dr. Thomas Lane, President of ACS, provided some opening remarks and assisted with award presentation.

Local high school students who took the Chemistry Olympiad exam and performed well were recognized. The students included: Elesha Schlagel and Kelsey Heinrich (Au Gres Sims), Charles Stibitz and Sarah Buchhorn (H.H. Dow High School), Natasha Golder (Laker High School), Jonathan Lehmann and Anant Balijepalli (Midland High School), as well as Nicholas Triantafillou and Dalton Allan (Saginaw Arts & Sciences Academy).

Additionally, this year featured a large number of local high school students who were selected by their teachers as Outstanding High School Chemistry Students, each awarded certificates of achievement: Kate Weber and Leslie Siegel (Bullock Creek High School), Ryan Deming (Chesaning High School), Sarah Wales (Frankenmuth High School), Dylan Hellus (Freeland High School), Zach Turner (Hemlock High School), Sarah Buchhorn (H. H. Dow High School), Dakota Suchyta (John Glenn High School), Corey Anderson (Midland High School), Dalton Allan (Saginaw Arts and Sciences Academy), Michelle Railling (Swan Valley High School), and Adam Kunding (Valley Lutheran High School).

The Section presented awards to Outstanding College Chemistry Students, as selected by their respective colleges: Joye Kallgren (Alma College, Chemistry), Kelsey Hughes (Alma College, Biochemistry), Gordon Grzybowski (Central Michigan University, Chemistry), Thomas Payne (Central Michigan University, Biochemistry), Hillary Beeckman (Delta College), and Kimberly Oberski (Saginaw Valley State University). Additionally, the MidMichigan Technician Group pre-

sented an award to Kyle Krauseneck of Delta College for Outstanding Achievement While Completing an Associates Degree in Chemical, Chemical Process, or Environmental Technology.

As a new entry in the program from previous years, students from Delta College were recognized for receiving Technology Student Recognition Awards from the National

ACS. This award was established by the ACS Committee on Technician Affairs (CTA) in 2004 to help highlight the wide range of skills and accomplishments of graduates to potential employers. Awards are given to outstanding upper level chemical technology students who demonstrate a high level of performance in the laboratory and the classroom, excellent oral and written communication skills, integrity, and reliability. This year's honorees included: Sarah Barcia, Steven Crain, David Hagan, David Hand, Scott McCann, Candace

Robinette, Daniel Warren, Alissa Czeiszperger, and Lisa Douglas.

Outstanding teachers were also recognized. **Carla Piazza** (Saginaw Arts & Sciences Academy) was presented the Outstanding Achievement in Middle School Science Education Award.

From a nominating letter: "Carla is our gateway 6th-grade instructor for this highly demanding program for

(Continued on page 3)



ACS President Tom Lane addresses students and educators at the Science Education Awards Banquet.



Chemistry Olympiad (l-r): Tom Lane (ACS President), Charles Stibitz (H.H. Dow HS), Dalton Allan (Saginaw Arts & Sciences Acad.), Sarah Buckhorns (H.H. Dow HS), Natasha Golder (Laker HS), Nicholas Triantafillou (Saginaw Arts & Sciences Acad.), Janice Tomasik (Midland Section Olympiad Chair, CMU)

(Continued from page 2)
 gifted and talented students; she is a wonderful guide and role model for students in learning to prepare for a successful experience in the sciences at Saginaw Arts & Sciences Academy and beyond. Carla makes hands-on activities an ongoing part of her instructional planning and our students approach her class each day with enthusiasm and excitement. From quiz bowl activities to the River Project to the creation of unit cubes, her students are challenged to learn science in a variety of ways that keep it interesting and challenging."

Nancy Vossen (Windover Alternative High School) was presented the Outstanding



Achievement in High School Science Education Award. From a nominating letter:

"Nancy has been an inspiration to her students, the Midland Section ACS high school program, and her peers. At Windover Alternative High School there were no chemistry classes being offered. Nancy was a leader in working with the Midland Section Project Science Literacy team to develop a high school chemistry program for at-risk students. This is a first in the State of Michigan for this type of a program.... Nancy was the ideal, highly motivated teacher to accomplish this task. The program she developed may very well be a model for State of Michigan alternative high schools and could transform science instruction for our most challenged students...."

Dave Stickles, retired from Dow Corning, was presented the 2009 Science Education Volunteer Award.

From a nominating letter: "Dave has played a key role in many science outreach activities



Outstanding HS Students (front, l-r): Tom Lane (ACS President), Dakota Suchyta (John Glenn HS), Dylan Hellus (Freeland HS), Kate Weber (Bullock Creek HS), Leslie Siegle (Bullock Creek HS), Sarah Buchhorn (HH Dow HS), Ryan Deming (Chesaning HS), Michelle Railling (Swan Valley HS), Jennifer Dingman (Midland Section Director, Dow Corning); (back, l-r): Zach Turner (Hemlock HS), Corey Anderson (Midland HS), Dalton Allan (Saginaw Arts & Sciences), Sarah Wales (Frankenmuth HS), Adam Kundinger (Valley Lutheran HS).



Outstanding College Students (l-r): Tom Lane (ACS President), Kimberly Oberski (SVSU), Hillary Beeckman (Delta), Thomas Payne (CMU, Biochemistry), Joye Kallgren (Alma, Chemistry).

for countless years. He has served as co-chair of SciFest for 11 years as well as organized and participated in numerous science education outreach events. Activities involved in co-chairing SciFest include advertising the event at the local schools, contacting local businesses and organizations that are willing to participate, organizing science demonstrations, and arranging for volunteers to help the day of the event, among many others. He

has been an active participant on the Delta College Chemical Technology Advisory Committee. In this committee, local professionals work with the college to give feedback and help set guidelines for the Chemical Technology program at Delta College. This has a tremendous impact on the students enrolled in the program by allowing them to be prepared to transition directly from a student to an employee in local and national industry."

David Baker, MC Staff Writer

Student Affiliates at CMU Share Science with Others

Editor's Note: This is the second in a series of articles on student affiliate groups at colleges and universities in the Midland Section area. The Student Affiliates of the American Chemical Society is the official ACS organization for undergraduate chemical science majors. Members participate in a wide range of programs and activities that enhance their college experience and prepare them for successful careers.

The Central Michigan University American Chemical Society Student Affiliates (ACSSA) have been involved in a variety of community activities over the past year. Their community service activities included performing a series of demonstrations at Pullen Elementary School to engage an interest in chemistry. Some of the demonstrations included a density column, dissolving a polystyrene foam cup, freezing various items in liquid nitrogen, and making elephant's toothpaste.

As part of March to College Day to increase the interest of middle school students in attending college, the group put on demonstrations on green chemistry practices which they learned while volunteering at the National Meeting in New Orleans, LA. During Earth Day celebrations on the CMU campus the ACSSA distributed pamphlets highlighting the twelve principles of green chemistry to better educate the community about the ways chemists are actively involved in protecting the environment. They also presented a poster on making bio-diesel from used cooking oil, explaining its effectiveness as a renewable source of energy.

The affiliates assisted in mailing and proctoring the Chemistry Olympiad 2008, which was given to 230 area high school students in the Midland Section. They proctored the exam and brought in food for the attendees over a two-day period. The ACSSA also offered tutoring sessions to undergraduate chemistry students throughout the year in both general and organic chemistry. During the late spring and early summer they helped in rewriting a laboratory manual to remove experiments that used heavy metals and replace them with safe household chemicals. The initial step involved reviewing the book and iden-

tifying experiments that needed to be changed. The second phase of the project was to develop new experiments before writing them up in a laboratory manual format.

During last year's Relay for Life, the ACSSA set up a table to promote the usefulness of chemistry research in looking for a cure as well as participating in fundraisers to support this worthy cause. They also made liquid nitrogen ice cream. Their Relay team raised almost \$1,000. The ACSSA also arranged to put on a magic show for families of Camp Quality of Michigan when they hosted a weekend at Central Michigan University. Camp Quality is a camp that services children with cancer.

The CMU ACSSA hosted a number of visiting speakers, including faculty from Wayne State University and Clemson University graduate schools who gave presentations about research opportunities at their respective institutions. Two student representatives also spoke about their education choices and admission requirements to Central Michigan's physical therapy school and Central Michigan's physician's assistant school. There were also a number of other presentations, including one on brewing by the owner of Tri-City Brewing and another on alternative energy sources by Dr. Pavlath.

Chris Finch, CMU Student Affiliate

CMU SAG Receives National Award

Central Michigan University's American Chemical Society Student Affiliates Chapter received its fifth consecutive Outstanding ACS Chapter Award and their second Green Chemistry Award on March 22 at the ACS National Meeting in Salt Lake City, Utah. There are 1000+ college/university student affiliate chapters in the U.S. and approximately 30 student chapters received this prestigious recognition. Jason Mann, President of the ACS Student Affiliates of CMU, accepted the award on behalf of the chapter. Seven students and the faculty advisor attended the awards presentation. This award is given to chapters that have had solid year-round programming.

The CMU Student Affiliates brought in various speakers in chemistry and were very actively involved in community outreach projects. Activities included participation in Relay for Life, performing chemistry demos at local schools, as well as educating the community about Earth day and

promoting National Chemistry Week to the general public. Attending and presenting at chemistry conferences also helped CMU's student affiliates earn this recognition. It is our goal to continue with excellent programming in the upcoming year and we are accepting new members. Anyone with an interest in chemistry is welcome and encouraged to contact us at acssa@cmich.edu. Additional contacts include Chris Finch, ACS Public Relations, 616-302-5899, and Sharyl Majorski, ACS Faculty Advisor, 989-774-3416.



Back row (l-r): Chris Finch, Ashley Morgan, Ryan Stajniak, Erynn Hill, Katie Austin, Advisor Sharyl Majorski; front row (l-r): Jason Mann, Holly Miller

Bob Howell, Midland Section Councilor

237th National ACS Meeting, Salt Lake City, March 19-26

The 237th National Meeting of the American Chemical Society was held March 19-26, 2009, in Salt Lake City. The meeting attracted 10,668 total attendees: 5,781 regular registrants, 3,439 students, 780 exhibitors, 411 exposition-only registrants, and 257 guests. Obviously, this meeting was quite a bit smaller than those of the recent past. There may have been several factors which contributed to the low attendance including, most prominently, the state of the U.S. economy, a location in the mountain West, and early spring weather. The exposition was also somewhat smaller than usual with 228 exhibitors occupying 256 booths and presenting 14 workshops. The Jobs Center attracted only 32 employers, the smallest number in many years, who posted 176 jobs. Vying for the available positions were 611 job seekers.

As usual, Midland Section councilors were extremely busy at this meeting. Both serve on several important committees (Howell—Committee on Professional Training (CPT); Organic I Examinations Committee; Committee on Patents and Related Matters (CPRM); Committee on Nomenclature, Terminology and Symbols; Polymer Education Committee (PolyEd). Brandstadt—Corporation Associates; Project SEED Committee) and, of course, participated in the council meeting.

A concern of both CPT and PolyEd continues to be the incorporation of aspects of “macromolecular science” into the foundational courses for ACS-certified B.S. programs in chemistry. Patent reform has been reintroduced in Congress but, as always, faces an uncertain future. A symposium on nanoscience nomenclature was held at this meeting. (The theme for the meeting set by President Tom Lane was nanoscience.) Despite the difficult economic times, Project SEED programs are fully funded for this year. This reflects both the creative efforts of the SEED Committee and the dedication of donors. Project SEED has a great impact on the lives of young people and is one of the most important and successful programs that ACS offers.

President Tom Lane presided over the council meeting and introduced electronic balloting—a timely and wel-

come innovation. Actions of Council are summarized below.

Election Results

The Committee on Nominations and Elections presented to the Council the following nominees for selection as candidates for President-Elect, 2010: Berkeley W. Cue, Jr., Nancy B. Jackson, Cheryl A. Martin, and Dorothy J. Phillips. By electronic ballot, the Council selected Nancy B. Jackson and Cheryl A. Martin as candidates for 2010 President-Elect. These two candidates, along with any candidates selected via petitions, will stand for election in the Fall National Election.

Change in Committee Charge

The Council voted to permit the Committee on Chemistry and Public Affairs to amend a portion of its charge from: “a. Identify and analyze legislative, regulatory, research and other science policy issues that impact upon the chemical sciences and technologies” to “a. Identify and analyze legislative; regulatory; research; Science, Technology, Engineering, and Math (STEM) education funding; and other science policy issues that impact upon the chemical sciences and technologies.”

The Society's Finances

The Council and Board of Directors received extensive briefings on the Society's finances, which showed that, despite the economic challenges faced in 2008, the Society's operating performance held up well. Total revenue was approximately \$450 million, up just over 3% from 2007. The Society's Net from Operations was \$9.7 million, and \$560,000 favorable to budget. This is the fifth consecutive year of positive operating results.

However, in 2008 ACS was adversely impacted by the historic collapse in the capital markets, which resulted in a sharp decline in the Society's unrestricted net assets from \$212 million at December 31, 2007, to \$60 million at December 31, 2008. There were two factors driving this decrease, both related to the poor performance in the capital markets. These are substantial investment losses and a sizable increase in pension liability from the Society's Defined Benefit Pension Plan. For this and other reasons, action was taken in 2007 to close the Defined Benefit Pen-

sion Plan and, in 2008, to freeze benefit accruals for all Defined Benefit Pension Plan participants in 2009.

It is in this context that the Board received a detailed briefing from management at this meeting on the framework of the 2009 Contingency Plan. In 2006, the Society had the foresight to develop a robust Contingency Plan that contemplated potential threats from many different sources, their probability of occurrence, likely duration, and financial impact. The updated 2009 Plan covers all operating and administrative units as well as member programs, and identifies new and emerging threats. ACS management has also updated the mitigation strategies to respond to the threats and ensure the Society's long-term financial sustainability.

Society management and the Board of Directors are closely monitoring financial performance versus the budget. In addition, significant reductions in discretionary spending have already been implemented and additional cost control measures are under consideration. However, despite the adverse impact of the economic downturn, the Society remains highly liquid with more than \$275 million in cash and investments and limited debt of \$30 million.

2010 Member Dues

After a lengthy discussion and rejection of two amendments, the Council voted to set the member dues for 2010 at the fully escalated rate of \$145. This rate is established pursuant to an inflation-adjustment formula in the ACS Constitution and Bylaws. The vote was 348 to 70.

Member Statistics

At the close of 2008, Society membership totaled 154,024, compared to 160,052 for year-end 2007. In 2008, ACS completed the transition of its 15-year-old membership fulfillment system to a new, more robust system. The year-end 2008 membership numbers reflect a drop in membership of approximately 2% due to the economy and a correction to the counts of 2,589 Emeritus members whom ACS has not been able to reach for many years. Compared to its sister societies, ACS experienced a smaller loss of

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members in 2008.

Special Discussion Item

A special discussion item was again put on the Council agenda for this meeting. ACS President Thomas H. Lane invited the Chair of the Committee on Membership Affairs to present the results of a Councilor survey as a preface to the discussion on what can ACS do to attract new members while better serving our membership during these challenging economic times. Following the presentation, President Lane led Councilors in a lively discussion that focused on the value of ACS membership and on growth opportunities among students, international scientists, high school teachers, technicians, diverse ethnic groups, and others.

Professional Employment Guidelines

The Council voted to approve the Professional Employment Guidelines, as submitted by the Committee on Economic and Professional Affairs. These guidelines offer a broad spectrum of recommended practices in employment for professional scientists and their employers.

Presidential Challenge—Member Recruitment

ACS membership (see above) has declined somewhat from 2007 levels. In fact, approximately 16,500 members are lost each year, most as non-renewals. These losses are normally offset by new member applications but obviously constant attention is required to maintain membership at a constant level, let alone increase it.

Currently, only one in three chemists in the U.S. is an ACS member. According to the U.S. Department of Labor, the number of chemists and allied professionals working in the U.S. is approximately 427,000. Why are not all of these ACS members? Additionally, the definition of "chemist" has been considerably broadened in recent years so that there is an even larger pool of professionals eligible for membership. How can these individuals be attracted to the ACS? The Nashville Section ran a very effective "Each One, Reach One" recruitment campaign last year. Each member of the section was asked to recruit one new member and it worked wonderfully.

President Lane has set a goal of 10,000 new members before December 31, 2009, and has challenged each

ACS division and local section to recruit a portion of these with the number to depend on the size of the unit. The expectation of the Midland Section is 80 new members. A \$1,000 appreciation grant will be awarded to each section and division that reaches its target. This is in addition to the Division and Local Section Recruiting Program award (\$15 per accepted application).

Regional Meetings

During 2008, 6,140 people attended regional ACS meetings and presented 4,020 papers.

Division of Chemical Technicians

The Division Activities Committee (DAC) has recommended that the Division of Chemical Technicians be dissolved. The Midland Section is home to a very active chemical technicians group. Many in this unit are very much opposed to this action.

Branding

The ACS has established a logo to become a readily recognized brand for the Society. The Midland Section website was used as a model to illustrate how this should be done.

General Chemistry

The Division of Chemical Education is examining the role/purpose of general chemistry in the chemistry curriculum. Questions raised include: Why teach general chemistry? What are the essential elements of the general chemistry course? Why does it take two semesters to teach? Would one semester be better, with nonessentials eliminated? How can the course be made attractive to students?

ACS Fellows Program

This will be the initial year for the ACS Fellows Program. The program was created by the Board of Directors in December 2008 to honor members of the American Chemical Society for their outstanding achievements in and contributions to the science and the profession and service to the Society. Unlike ACS national awards, the distinguished honor of a Fellows designation will go to those members who have achieved excellence in chemistry and service within the Society. Ultimately, the body of Fellows is intended to reach approximately 1 to 2% of ACS membership. Each local section may nominate up to the number of Councilors from the local section. The primary nominator must be an officer of the local section.

There were many items of note

outside the Council meeting. The ACS Examinations Institute has several exciting developments underway and will soon have the ability to provide assessment of student progress at all levels of development within the chemistry curriculum. The "Diagnostic of Undergraduate Chemistry Knowledge" (DUCK) exam has just been released. This is intended as an exit exam for individuals completing a B.S. degree program in chemistry.

President Tom Lane was extremely busy at this meeting. He was everywhere. The presidential theme for this meeting was nanoscience and he opened the Presidential Symposium featuring Angela Belcher from MIT. He gave an excellent and very inspiring keynote address at the student affiliates award program. He introduced Greg Zank, this year's recipient of the ACS Earle B. Barnes Award for Leadership in Chemical Research Management, at a symposium held in Zank's honor. He, of course, presided over Council and demonstrated adeptness with parliamentary procedure as well as electronic balloting. He even fed hungry students. All the members of the Midland Section can take pride in Tom's role as ACS President.

Steve Keinath, Director

MMI Announces 2009 TAVP

The Michigan Molecular Institute has announced the 2009 Turner Alfrey Visiting Professor as Professor Joseph M. DeSimone, Chancellor's Eminent Professor of Chemistry, University of North Carolina at Chapel Hill, and William R. Kenan, Jr. Distinguished Professor of Chemical Engineering, North Carolina State University, Raleigh, North Carolina. Professor DeSimone will give a series of lectures on "Advanced Applications of Fluoropolymers: From Green Chemistry to Nanomedicine" beginning September 14 through September 17. There will also be a dinner meeting on September 16 when Professor DeSimone will give a talk on "Commercializing Academic Research." More details will be forthcoming in the August issue of *The Midland Chemist*. For advance information, visit <http://www.mmi.org>.

Tom Lane, President ACS

Awards Acknowledge Many Accomplishments

Photo Credit: Peter Cutts Photography



It's hard to believe but I'm nearly halfway through my presidency; a great honor and a wonderful experience. During the national

meeting in March, one of my responsibilities as president was announcing and presenting 58 ACS National Awards on behalf of the Society to seventy-four of our most distinguished members for their contributions to science. One of these acknowledgements was especially poignant, when I presented the Earl B. Barnes Award for Leadership in Chemical Research Management to the Midland Section's very own Dr. Gregg Zank.

As president, I am the public face of chemistry—an awesome responsibility that I take extremely seriously. One of my platforms as ACS president is building relationships. I have been able to interact with a number of our sister societies, including NOBCChE (National Organization for the Professional Advancement of Black Chemists and Chemical Engineers). During the NOBCChE conference in April, ACS was recognized for its continued contributions and outstanding dedication to the NOBCChE National Science



Gregg Zank (second from the right) receives the Earl B. Barnes Award for Leadership in Chemical Research Management. Photo credit: Peter Cutts Photography

Competition. I was also presented with a Kente Cloth by the NOBCChE president Dr. Victor McCrary during their awards ceremony as a traditional sign of welcome into the NOBCChE family. It was a tremendous honor for me and a visible statement of our commitment to work together for science and chemistry.

Each year ACS recognizes national policy leaders for advancing science and technology in support of this country's national and global strategic objectives. In May, at a ceremony on

Capitol Hill, the 2009 ACS Public Service Awards (PSA) were presented to Congressmen Mike Honda (D-CA) and Phil Gingrey (R-GA), and Norman R. Augustine, retired Chairman and CEO of Lockheed Martin Corp for their vision and leadership in science and engineering policy. In conjunction with the PSAs was the Council on Undergraduate Research's (CUR) annual "Posters on the Hill" event. The post-

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Tom Lane, ACS President (center), with members of the National Organization for the Professional Advancement of Black Chemists and Chemical Engineers (NOBCChE). Photo Credit: Alicia Chambers

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ers represented a sampling of the latest, cutting-edge research from undergraduate students in science, mathematics, and the humanities. Two schools from Michigan participated in this event; Central Michigan University and Hope College. All the students were great and including them as part of the program underscored the importance of STEM education in this country. Finally, at a dinner sponsored by the National Science Board and the National Science Foundation at the U.S. Department of State, the American Chemical Society's Project SEED program was recognized with the 2009 National Science Board Public Service Award for contributions that have increased the public understanding of science and engineering. The specific citation for

the Project SEED award stated: "For the outstanding and decades-long contributions of the Project SEED program in fostering interest in chemistry as a career and encouraging achievement in science, mathematics, and engineering among students from economically disadvantaged backgrounds." It was an incredible honor to accept this award on behalf of ACS. More information about the SEED program can be found at www.acs.org/projectseed.



ACS President Tom Lane (r) with Congressman Mike Honda (D-CA).
Photo credit: Peter Cutts Photography

Connie Murphy, ACS Member

Visit Legislators!

The American Chemical Society in conjunction with its fall 2009 National Meeting in Washington, DC, is inviting ACS members to schedule meetings with their legislator's Capitol Hill office on August 17, 18, or 19.

The focus of these meetings will be supporting science funding in this year's congressional spending bills. ACS staff will provide the talking points and leave behind materials.

If you will be attending the National ACS meeting and would like to join other members of the Midland Section in legislative visits, contact:

Connie Murphy
(cjmurphy_acs@charter.net) or
Bob Howell
(bob.a.howell@cmich.edu).

To begin preparing for these meetings now, go to www.acs.org/policy and click on the link to the "Speaking for Science" video to learn the proper techniques of meeting a legislator and go to www.act4chemistry.org to learn about the latest science policy news and information.

David Baker, MC Staff Writer

Mike Garlick aka Dr. Slime Makes Guest Appearance

Mike Garlick, a local science educator and familiar face at the annual SciFest event, was asked in early May to be a guest host on *Time Warp*, a program on the Discovery Channel. He flew to Boston and within two hours he was filming a show on how a container can be crushed by the force of air on a vacuum. *Time Warp* features MIT scientist and teacher Jeff Lieberman, along with Zoz Brooks of MIT, who use new high speed photographic technologies to bring truly never-before-seen wonders into a form that the audience can view.

Initially Mike ran through the standard collapsing of a soda can experiment, which can be done at home. This is achieved when the pressure outside is greater than the pressure inside, and the pressure difference is greater than the can is able to withstand.

The next demonstration was to crush a 55-gallon drum, which raised the danger level to moderate. For this

a steam-flow generator was used to charge the barrel with steam. The pressure in the barrel started to fall toward zero, and the barrel imploded. The air pressure crushed that barrel so fast, that under the high speed camera's 5-20K frames per second, the barrel disappeared as super-chilled water was poured slowly onto the barrel and...WHAM!!

The ultimate experiment involved the implosion of a 4700-gallon stainless steel dairy tank. The tank was charged with 230° steam, then the inflow was cut off to allow the pressure to drop to near atmospheric, and then the second valve was closed. The tank was then cooled using a Boston Fire Department blitz gun, a chilled



fire hose packed in ice, dry ice, and salt. The tank groaned and then folded up.

The show is expected to air on Wednesday, June 24, on the Discovery Channel at 8:00 p.m.

Gina Malczewski, Kids & Chemistry Co-chair

Midland Section Participates in Pittcon 2009

With the third time evidently a charm, Pittcon's Science Week was a special experience for the Midland Section of the American Chemical Society, which has had significant involvement in this activity for three consecutive years. Science Week is a local educational outreach effort sponsored by the Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy at its annual meeting, held this year in Chicago. A variety of science-related activities for teachers as well as children were hosted from March 8-12.

On March 8, the Midland Section held a workshop based on its "Bringing Science to Life" program, in which 22 teachers participated. Four presenters (John Blizzard, Gretchen Kohl, Angelo Cassar, and Gina Malczewski) coached these educators through 16 hands-on experiments, and each teacher received a \$500 grant for his/her school. The workshop was rated highly in participant evaluations, receiving comments like "This was fantastic—I loved it all!"

Monday through Wednesday, the

Midland ACS volunteers taught "Chromatography" to children pre-K through 8th grade in 30 min sessions, where students, teachers, and parent chaperones learned some basic chemistry, successfully separated pigment mixtures, and produced personal artworks. Over 500 students participated.

Another highlight of the week was the Pittcon Awards Dinner, at which Angelo Cassar, Midland Section Chair, presented an ACS "Salute to Excellence" Award to Jim and Laura Faith Bock. The Bocks organized a highly successful Science Week in New Orleans in 2008, with great personal investment and untiring dedication to the teachers still recovering from hardships caused by Hurricane Katrina. Jim and Laura Faith made visits to local schools and determined specific needs, and they arranged for \$125,000 in grant money to New



Gina, Angelo, and John at Pittcon 2009.

Orleans educators. The Bocks were surprised and delighted by this recognition, and they received a standing ovation from the others present at the dinner.

Midland ACS looks forward to continuing these activities, and we have already been invited to participate in the 2010 conference in Orlando.

Ann Birch, MC Editor

Amy Tesolin-Gee Named Assistant MC Editor

We're pleased to announce that Amy Tesolin-Gee has been named assistant editor for *The Midland Chemist*. Amy's broad technical background and editing



experience will be valuable assets as Midland Section communications continue to expand. Amy graduated in 1994 with a B.S. in biology from the University of Michigan, Ann Arbor. After graduation, she spent 5 years on the East Coast working for the National Marine Fisheries Service (NMFS). In her role with NMFS, Amy participated on several ocean-going research cruises to survey larval fish and plankton, as well as analyses for organic contaminants in marine biological and sediment samples. During

that time, Amy was based in Woods Hole, MA, and then in Sandy Hook, NJ. Although this was a very exciting opportunity, family ties drew Amy back to her home state of Michigan.

Amy then spent a year and a half as a research assistant with Dr. James Ferrara's group at the University of Michigan Cancer Center in Ann Arbor. There they investigated the effects of various substances on the severity of graft-versus-host disease for bone marrow transplant patients, utilizing mouse models.

The opportunity then arose to join The Dow Chemical Company in Midland as a technologist in the Reactive Chemicals (RC) group. Through this, her current role, Amy has had the opportunity to support various kinds of calorimetry testing, as well as partnering with and learning from subject matter experts who provide consultation within Dow, ensuring Dow chemical processes remain safe.

While at Dow, Amy attended

classes at Saginaw Valley State University to earn a second B.S. degree in chemistry (2007).

Since 2001, Amy has enjoyed membership in the Mid-Michigan Technician Group (MMTG) and also the Midland Research and Development Technologists Group (MRDTG). Amy served as the editor for the MRDTG newsletter in 2008 and co-editor in 2007. Her editing and writing experiences go back to her high school newspaper days where some of her articles made it into the hometown newspaper.

Amy is in her second year of volunteering at MidMichigan Medical Center as a patient care ambassador. As a MidMichigan Medical Center volunteer, Amy also assists with many of the stroke screening clinics offered at minimal cost to participants.

Amy says she is looking forward to expanding her writing and editing skills and learning more about ACS by assisting with *The Midland Chemist*.

Lisa Thackery and Gina Malczewski, Kids & Chemistry Co-chairs

Kids & Chemistry Committee in Full Swing

Kids & Chemistry Meeting
Friday, June 19, 2009
11:30 to 1:30 p.m.

Riverside Restaurant, Freeland, MI

The Kids and Chemistry Committee has completed a first inventory of supplies and has successfully conducted several events so far this year, two of which are highlighted below.

We are also busy recruiting volunteers for next "season" and have planned the first of a series of summer organizing sessions on June 19. Please contact Lisa or Gina if you are interested in helping!

Contacts:

lisa.thackery@dowcorning.com

gina.malczewski@dowcorning.com

Girl Scouts Make Great Forensic Chemists

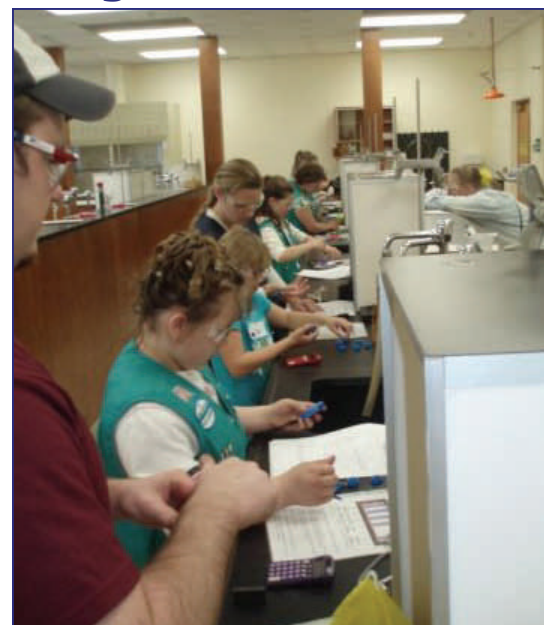
When young girls participate in a chemistry program and make comments that include, "I learned I can be pretty and smart," "I learned I can do science," and "I want to go to college here," the program can be considered a success. These were just some of the positive statements received after a pilot workshop that took place on April 18, 2009, at Central Michigan University organized by the Midland Section in partnership with the CMU ACS-Student Affiliate Group and Girl Scouts Heart of Michigan (GSHOM).

Forty Girl Scouts, grade levels 4 to 6, from across mid-Michigan, traveled to Mount Pleasant where the girls were able to experience a college campus laboratory and act as forensic investigators for this all-day Saturday workshop. They used clues to individually complete a series of hands-on chemistry experiments and solve a mystery called "The Case of the Unsigned Letter."

To solve the mystery, participants were introduced to the "crime scene" where a note had been left from a relative at a family reunion. The letter was unsigned but promised a gift. The girls needed to determine who left the note from a group of potential suspects, Aunt Io Dine, Aunt Ruth Enium, Uncle Ben Zene, and Uncle Al D. Hyde (characters played by CMU ACS-SAs) in order to receive their gift. Clues included ink samples from the letter, soil samples taken from a dirty footprint nearby, a sticky substance on

the letter, and a white powder on the desk next to the note. The participants kept track of their data in laboratory notebooks and each was able to perform her own analysis of the clues using paper chromatography, viscosity, and chemical reactions in order to compare samples from the crime scene to samples from the suspects.

In the laboratory, ACS-SA volunteers gave the Girl Scouts direction and discussed lab safety, performed demos to reinforce the scientific concepts, and assisted the girls with their experiments. In the lecture hall, the Girl Scouts were able to interact with a guest speaker, Dr. Janet Miller, who gave a talk about additional types of forensic evidence, including DNA. She closed the case by discussing results from the final clue as the DNA analysis of saliva from the envelope. She also discussed notable women scientists and had a dialogue with the girls about other science career opportunities. Dr. Miller is a research scientist in the Biology Department and is also the DNA Sequencing and Analysis Coordinator at CMU and was a perfect fit as a positive female role model for this program.



The busy day also included lunch in a campus dining hall. Liquid nitrogen ice cream and demos ended the day and were provided by the CMU ACS-SA Group. Girl Scouts received a chemistry participation patch, a "Camp Chemistry" T-shirt, a gift bag with ACS newspapers, giveaways, and CMU admissions promotions. As an additional Earth Day bonus, girls that

(Continued on page 11)



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brought either batteries or old tennis shoes to recycle received an Earth Day patch.

This workshop was based upon the Magic of Chemistry™ program developed by Dr. Sheryl Tucker at Missouri University. Dr. Tucker, who is currently Associate Dean to the Graduate School at MU, has been biannually offering a rotation of three different workshops to Girl Scouts Heart of Missouri for over a decade. She has generously shared her program with the Midland Section, and "The Case of the Unsigned Letter" represents our local pilot of one of the workshops from her program.

The Midland Section was recently awarded a \$2500 Innovation Grant from ACS to fund starting materials to expand and continue similar workshops and put together mobile kits so that such workshops can be easily repeated. Plans are underway with the Girl Scouts Heart of Michigan to offer another workshop to middle school girls in the fall called "Camp Chemistry: Color!" This again is based on Dr. Tucker's successful program in which participants will explore colorimetric chemistry. Experimental rotations will include chromatography of M&M candy coatings, pH "color charting" using a red cabbage indicator, secret writing using gold indicator paper, and a lesson on fiber-reactive dyes while tie-dyeing T-shirts.

The goal is to keep young girls interested in science by providing a fun, inquiry-based learning experience in which each girl can individually partici-



pate. The Kids & Chemistry Committee of the Midland Section hopes to create a sustainable program in their partnership with Girl Scouts and through the combination of a college campus experience, the relevant explorations of chemistry and how it impacts our daily lives, and the positive interaction with the volunteers. The foundation of such programming will allow us to continue to expand our outreach to other groups as well.

Special thanks go out to ACS President, Dr. Tom Lane, and the Dow Corning Foundation for sponsorship of the pilot of "Camp Chemistry" and to John Blizzard, Midland Section Chair-elect for enabling the purchase of program T-shirts. This program was also made possible by the hard work of volunteers from CMU, especially Jason Mann, ACS-SA President, and Sharyl Majorski, ACS-SA Advisor and Chemistry Lab Coordinator, as well as Rachel Sherwood and Jean Holland from the GSHOM Saginaw Regional Office.

Big Brothers/Big Sisters Teaming Up With YOUth and ACS

Members of the Kids & Chemistry Committee recently met with Big Brothers Big Sisters Heart of Michigan to discuss possible ways to incorporate science programming into the Teaming Up With YOUth programs at elementary and middle schools in Midland and Isabella counties. These programs are offered during the school year either during a lunch hour or after school where students are matched one-on-one with a volunteer with whom they meet weekly in a group setting. The students have been identified as those who would benefit from motivation to achieve, enhanced decision-making and social skills, relationship building, and self-esteem.

A \$500 Partnership mini-grant was recently awarded to the Midland Section to apply specifically towards our interaction with BBBS. The plan for the partnership includes regular facilitation of laboratory-type activities for the student/volunteer BBBS matches by members of the local Section and training of specific volunteers to expand the program. Multiple experiments would be performed with the students through a rotation to the various schools beginning in the 2009-2010 school year. These could include, for example, experiments such as extraction of iron from cereal, chromatography of pigments from spinach leaves, or solving a mystery using simple indicator tests. As mentioned,

ACS members would also work with the BBBS staff so that basic experiments and chemistry concepts could be taught at other program locations.

An initial program was run at Central Intermediate in Midland on April 22, 2009, where nine matches enrolled in the Teaming Up With YOUth Program this school year were able to experience an abbreviated version of the "Camp Chemistry: Case of the Unsigned Letter" program that had been previously offered to Girl Scouts. Even without all the "extras", the basic program where four hands-on experiments were performed in order to solve a mystery was well-received by the students who participated. Students and their mentors were fully engaged in the experiments and expressed interest in doing more.

Kids & Chemistry would like to especially thank Kati Yorks for her help in facilitating this program.

Dana Fuerst, MMTG Past Chair

MMTG Offers Brew Tour and Dinner

Thursday, June 11
6:00 to 9:00 p.m.

Tri-City Brewing Company
3020 N. Water St., Bay City, MI

Would you like to taste the nine different beers that are currently being brewed by the Tri-City Brewing Company and discuss the different flavor notes with the experts? Would you like the opportunity to purchase take-out beer at a discount? Then join us as the Mid-Michigan Technician Group (MMTG) tours Tri-City Brewing Company with Kevin Peil, Brewmaster/President.

The cost is \$10 for MMTG members, \$15 for non-members (or join MMTG for \$2 and pay the \$10 member price!). Here's what you get for your money: a brewery tour, a guided beer tasting session, a free Tri-City Brewing Company souvenir glass with unlimited fills of beer for the evening (must be 21 years of age to receive beer), and dinner.

RSVP to Gerard Nowaczyk at gerard.s.nowaczyk@dowcorning.com by Monday, June 8. Please inform us of any special dietary needs when you RSVP.

Wendell Dilling, Director and Historian

In Past Issues of *The Midland Chemist*

40 Years Ago This Month

In *Midland Section to Celebrate Its 50th Anniversary* by Dr. Bill E.

Burgert: "The anniversary committee, under the general chairmanship of Dr. W. E. Wallis, announces that the celebration of the fiftieth anniversary of the Midland Section of the ACS will be held October 15, 16 and 17, 1969. The event, sponsored by MFAR, will include a technical program titled "Perspectives in Macromolecular Science." The program will provide the local membership with lectures by a number of well known polymer scientists. Prof. Herman Mark will be the keynote speaker. Prof. C.G. Overberger will deal with the organic chemistry of polymers, and Prof. P.J. Flory will present some of the physical chemical aspects of polymer science. The tentative program will also include well-known scientists in the areas of physics, rheology, biopolymers and polymer characterization."

30 Years Ago This Month

In *A.C.S. Symposium Alternate Energy*

Sources ... In Midland!!: "Sponsored by the Midland Chapter of the American Chemical Society. Speakers: Fossil Fuel, Ed Nussbaum, Coal Liquefaction; Larry Washington, Shale Oil; Solar Energy, Bill Wallis, Solar Distillation, John Catenacci, Solar Retrofitters; Moderator: Art Smith, Delta College. Content: There will be an initial presentation (and question period) by each speaker (each 20 minutes) in his area of expertise. This will be followed by open ended informal panel discussions. The topics to be discussed are very timely and should be of interest to a wide variety of people."

20 Years Ago This Month

In *Chairman's Column* by Gretchen Kohl: "It was a night of celebration! Over eighty people attended our celebration of the 25th Anniversary of the first publication of *The Midland Chemist*. And, despite the gloomy weather outside, the atrium in the Dow 47 Building was quite elegantly decorated, and was laden with hors d'oeuvres and an anniversary cake. I ac-

cepted a letter of congratulations for the Section from the National Office, specifically from Clayton Callis, as presented by our Section member and National Director, Dave Young. The letter is reproduced in this issue of the Chemist. Chair-elect Bill Pike introduced our guest speaker, Dow President Frank Popoff. His speech was on "Dow--Performance and Prospectives."

10 Years Ago This Month

In *Current Events From The Mid-Michigan Technician Affiliate Group* by Brian Murdoch: "First off, the MMTG will be sponsoring the Fair Booth at the Midland County Fair being held August 15-21. As in the past, we need volunteers to assist in the demonstrations and hands-on experimentation. Our theme this year will be "Colors of Chemistry". Volunteers will receive a free T-shirt and personal gratification by instilling interest in and curiosity about chemistry in children and grownups alike."

Susan Rhodes, 2009 FSM Committee Chair

Call for Fall Scientific Meeting Posters

Please consider presenting a poster at the Fall Scientific Meeting, which will be held in October 2009 (date to be determined). Abstracts are being accepted now through September 11, 2009. All areas of chemistry, chemistry-related, and science education topics are invited. Address questions and e-mail all abstracts to David Witker, 989-496-8268, david.witker@dowcorning.com. A poster template is available at <http://midlandacs.org/uploads/images/members/fsm/FSMPosterTemplate.doc>.

Each abstract should contain title, author(s), author(s) affiliation and location, and abstract text. The format specifics include:

- Single spacing with blank line between title and author(s) and between author and abstract text.
- Times New Roman typeface in 11-point size (or comparable).
- Submitted by e-mail attachment as a Microsoft Word (or comparable) document. Please include the pre-

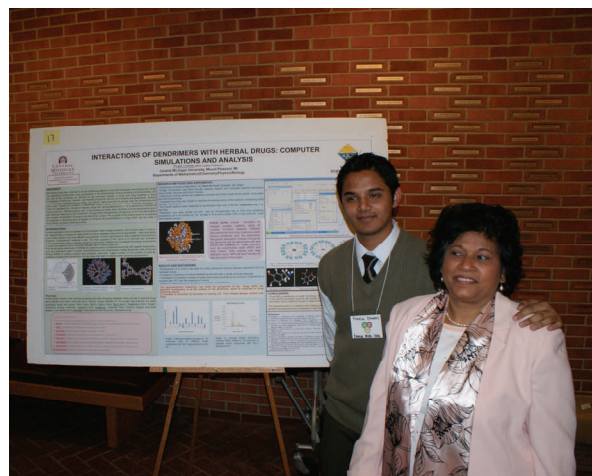
sender's last name in the file name (ex: Smith JA 2009 FSM.doc).


- 250 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 Fall Scientific Meeting is the premier science and technology meeting for the Section. The meeting has been held, excepting one year, since 1945. It is organized by Section members and attended by scientists, college faculty, high school teachers, college students, and other people from a variety of organizations such as Central Michigan University, Saginaw Valley State University, Alma College, Delta College, and Michigan Molecular Institute in addition to Dow Chemi-

cal and Dow Corning. More information will be available soon on the Midland Section website and in the August issue of *The Midland Chemist*.


Special Note: Dow Corning is sponsoring a cash prize for the best undergraduate poster!





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