

THE MIDLAND CHEMIST

A publication of the Midland Section of the American Chemical Society

August 2016, Vol. 53, No. 8

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Picnic at the Garden – Silver Circle Sponsored 2016 Summer Seasonal Event

Joan Sabourin, Silver Circle Co-Chair, Midland Section ACS

Who: Midland Section ACS members and gardeners

What: Light summer lunch and ice cream social event showcasing the Greenhouse and Garden produce, includes Master Gardener, and ACS Ice Cream Chemistry webinar.

When: Monday, August 8, 2016 12:00 noon – 2:00 pm

Where: Creative 360, 1517 Bayliss St, Midland, MI 48640

Invitation and RSVP through Sign-Up Genius, due August 1, 2016.

The event includes lunch and a self-guided tour of the Garden. Identifying labels will be placed around the Greenhouse which includes the vermiculture unit, hydroponics, and solar power. Garden experts will be on hand to answer questions and to interest others for future projects. The ACS Ice Cream Chemistry Webinar, as well as rain option, will take place inside Creative 360.

For more information, please call [989-708-9066](tel:989-708-9066).

Sun, Fun, and Summer Science

Gina Malczewski, Past-Chair and Outreach Committee, Midland Section ACS

The Outreach team has already offered hands-on activities at two SWE summer camps, participated in an "Out of School Time" Network resource fair, and sponsored "Seuss Science" (Oobleck) at the MCFTA "Block Party", all since school let out. We have a number of other opportunities coming up.

There are many ways to help! Training will be planned, as needed, and there is no obligation associated with putting your name on our distribution list. Please contact Gina Malczewski (reginamalczewski@gmail.com) or Michelle Rivard (mlqshadow@yahoo.com) for more information. Thank you.

Date / Location / Event	Time Blocks	Content / Format
8/3; Discovery Museum, Mount Pleasant	10-11 AM	Hands-on Sweet Science: Gum and Marshmallows
8/26; Discovery Museum, Mount Pleasant	10-11 AM	Hands-on "I Love Light": Making Kaleidoscopes
8/31; Bay City Central High School; Teacher In-service	10:15-11:30 AM and/or 12:45-2:00 PM (lunch included)	Density experiments, STEAM activities
All summer long; Creative 360, Midland; Garden and greenhouse activities	Varied, at your convenience	Weeding, watering, setting up vermiculture, hydroponics, and raised beds, harvesting

Call for Nominations for 2017 Officer and Director Candidates

Wenyi Huang, Chair, Nominations and Elections Committee, Midland Section ACS

Here is your opportunity to become more involved in your local ACS section! We need candidates to run for the following positions for 2017:

- Chair-elect (1-year term)
- Secretary (1-year term)
- Treasurer (1-year term)
- Chair, Nominations and Elections Committee (1-year term)
- Councilor (3-year term)
- Alternate Councilor (3-year term)
- Directors (3 open positions, 3-year terms)

If you are interested in running for any of these positions, or if you know of someone who might be interested, please contact Wenyi Huang at whuang1@dow.com or 989-636-5789. If you have any questions regarding the responsibilities of any of the positions listed above, please contact the current officers or Wenyi Huang. You are also encouraged to visit the Midland Section ACS website at www.midlandacs.org.

Nominations from the floor will be accepted at the September 12 Board meeting (MCFTA Board room, 7:00 PM). Please be aware that the nominees will have to accept their nomination prior to the announcement

from the floor. If you are not motivated to run for a board position, there are still many other interesting ways in which you can serve. Please contact the committee chairs or any board member for more information. The Committees are listed below.

Awards	Technology	Teacher Support
Chemistry Olympiad	Project SEED	Fall Scientific Meeting
Publicity	Finance	Program
Outreach/Kids and Chemistry	Midland Chemist	Silver Circle/Senior Chemists
Long Range Planning	Diversity and Multicultural Committee	Nominations and Elections
Historian	Women Chemists Committee	Membership
Younger Chemists Committee	SciFest/NCW	Sustainability/Environmental Affairs
MMTG	Scholarship Committee	

There are a variety of compelling reasons to take advantage of the chance to become involved as an officer, director, or committee leader/member for our award-winning Section – networking beyond your workplace, an opportunity to provide vision and voice to your local scientific community, and a chance to hone your interpersonal and leadership skills. Please consider getting involved with the Midland Section ACS.

Invitation to Chemists Without Borders Symposium and Mixer at the National ACS Meeting ***Ronda Grosse, Board Member, Chemists Without Borders***

Chemists Without Borders will be hosting an all-day symposium at the Fall ACS meeting in Philadelphia, *Mobilizing Chemistry Expertise to Solve*



Humanitarian Problems, followed by a social hour. We have 10 excellent speakers lined up from academia, industry, government and non-profit organizations on **Sunday, August 21, 2016**. We will highlight efforts to apply chemistry to improve the lives of those across the globe. Presentation topics include clean water initiatives, expanding access to quality medicines, science education, and advancements in inexpensive analytical methodologies that can be readily applied in developing countries.

Directly following the presentations, we will have a mixer with refreshments at **Philadelphia Chutney Company, from 3:30-5:30 PM**. This will be a great opportunity for those interested in using chemistry to help others. We look forward to fruitful discussions regarding the far-reaching benefits of these efforts, and ideas toward addressing challenges associated with this type of humanitarian work. Please join us!

If you have any questions or suggestions, or want to contribute to this event, please contact Ronda Grosse at 989-496-3097 or rondagrosse@chemistswithoutborders.org. Thank you.

Boys & Girls Clubs Members Simulate Oil Spills with the American Chemical Society

Submitted by Michelle Rivard, Outreach Committee, Midland Section ACS

Editor's note: This article is reprinted from *The 4-1-1*, a weekly online newsletter for Boys & Girls Clubs of the GLBR. The article was originally posted as a letter of appreciation for Gina Malczewski and Dave Stickles of the Midland Section of the ACS, for presenting a hands-on science session in July for children of Boys & Girls Clubs.



According to the Environmental Protection Agency (EPA), in the United States alone, there are approximately 20,000 oil spills each year. With every spill, there is considerable degradation of the marine environment, as well as harm to humans and wildlife, both on land and in the water.

It is due to the widespread and adverse effects of this pollution that the Midland Section of the American Chemical Society (ACS) has dedicated their time to educating youth on the science of oil spills.

As part of their Green Science curriculum, ACS members travel to schools and youth agencies throughout the region to offer free lessons on how oil spills occur, what happens when they do, and efforts to clean them up.

"Environmental stewardship is an important value to instill at a young age," says Gina Malczewski, past chair and current outreach coordinator for ACS of Midland. "During our hands-on science sessions, we relate the chemistries of water, oil, surfactants, and sorbents and physical factors like wind and currents to oil spill clean-up."

Last Thursday, Gina and her team came to our Essexville site, where they ran an hour-long program on oil pollution. The kids began by breaking into groups and simulating their own oil spills by filling two tubs with water - one with fresh water, one with salt water - and dropping samples of heavy and light oil into each. They noted that water is more dense than oil, and light oil is more easily dispersed than heavy oil.



The kids then tested different materials to see which was most effective in picking up the oil. Available materials included a sponge, wood, cotton, a plastic scrubber, and more. Members found that porous items like the cotton ball and the sponge proved best at getting the oil to stick.

Gina took some time during the session to explain how Mother Nature works to clean up oil spills. She noted that some oil evaporates with the water, and some is dispersed by physical forces such as wind, waves, and currents. The pollution can also be broken down by sunlight, or it leaves the water by sticking to rocks and other surrounding objects.

As for how human beings clean up oil spills? Often, we take care of oil pollution by creating "booms" -- temporary floating barriers which contain oil spills in one setting. Sometimes, the contained oil is set on fire, which generates further pollution.



After Club members tested the effects of oil spills in water, they took their experimentation to the land by looking at the effects of oil on both fine and coarse sand. Participants noticed that, when mixed with water, the oil created clumps in the sand, making it very difficult to clean up.

Finally, our kids examined the impact of oil spills on wildlife. Each group was given a feather and told to dip it into the oily water. When the feathers were lifted, members saw that they had picked up a lot of oil, covering all areas of the feather that were submersed. This is what occurs when wild birds and other animals are exposed to oil spills. Many birds become completely blanketed in the oil and are unable to fly and hunt for fish.

As was made clear, oil spills are not just a minor inconvenience. They can be deadly, and often they disrupt the entire ecosystem.

While this portion of the class was particularly sobering, overall, members had a lot of fun experimenting with oil spills and discovering the science behind oil pollution. At the end of the session, the kids were given American Chemical Society bracelets to show off their participation in the program.

Thank you to the Midland Section of ACS for presenting this important program to our youth! We appreciate your enthusiasm for educating the next generation and working to achieve a sustainable future.

Call for Abstracts for 2016 Fall Scientific Meeting

Michael Vagnini, Chair, 2016 Fall Scientific Meeting, Midland Section ACS

Mark your calendars for the Midland Section's 72nd Fall Scientific Meeting! This year's event – with a theme of *Solving Mysteries through Chemistry* – will be held on Saturday, October 22, at Saginaw Valley State University. For the first time in several years, there will be concurrent sessions of oral presentations, offering more local scientists and students the opportunity to present their work. The poster session is also being expanded, and the Mid-Michigan Technicians Group is hosting a networking reception following the main Fall Scientific Meeting event. Our keynote speaker will be Dr. Christopher S. Palenik, VP and Senior Research Microscopist at Microtrace.

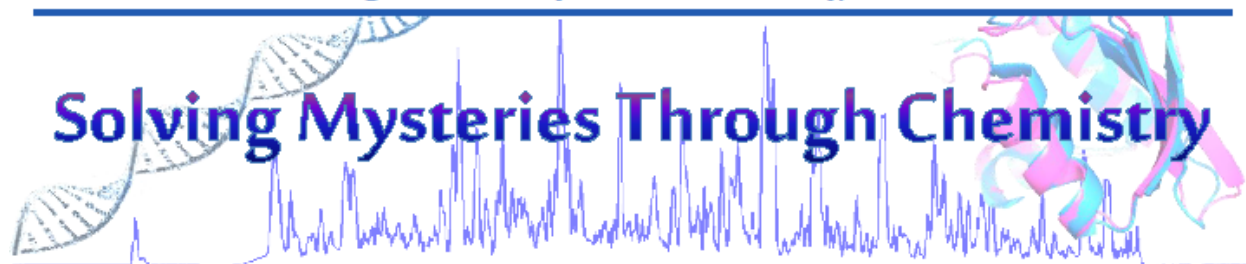
Registration details will be announced soon, but we are now accepting abstracts for oral and poster presentations! Please e-mail abstracts to Peter Bai (PJBai@dow.com), indicating your preference for an oral or poster presentation. There are a limited number of oral presentation time slots, but all abstracts will be considered for the poster session. The abstract submission deadline for industry professionals is August 13, and the deadline for academic researchers and students is September 17. Please contact Fall Scientific Meeting Chair Mike Vagnini (MTVagnini@dow.com) with any questions.



ACS Fall Scientific Meeting

Saturday, October 22, 2016

Saginaw Valley State University, Curtiss Hall



New highlights for the 2016 meeting:

Expanded oral presentation sessions and a larger poster session!

More opportunities for industry professionals, academic researchers, and students to present in both formats.

Networking reception held with the Mid-Michigan Technicians Group!

Call for abstracts!

Deadline for industry professionals: August 13, 2016

Deadline for academic researchers and students: Sept. 17, 2016

E-mail PJBai@dow.com, indicating oral or poster presentation.

For any questions, please contact the Chair at MTVagnini@dow.com!



Keynote Speaker
Dr. Christopher S. Palenik
*VP and Senior Research
Microscopist at Microtrace*

Mid-Michigan Technician Group Announces 25th Anniversary Celebration Event and Joint Symposium at this Year's Fall Scientific Meeting

Jeff Seifferly, MMTG Co-Chair

The Mid-Michigan Technician Group (MMTG), which is an affiliated group of the Midland ACS section, is hosting a symposium at our local Fall Scientific Meeting (FSM) in celebration of our 25th year Anniversary. Our symposium will run parallel with the FSM program. This year's FSM theme is Forensics – *Solving Mysteries through Chemistry* – and is being held on October 22nd at SVSU. We have chosen our Keynote Speaker, Christopher Palenik of Microtrace, a forensic analytical scientist.

Along with the symposium, we will feature a historical presentation on the inception of MMTG in 1991, including our mission and goals, the 13 ChemLuminary Awards MMTG has received, and detail the various awards we have given out, such as the Outstanding Chemical Technology Student Award. We will also honor members of MMTG that have received awards as a Local Section Outstanding Chemical Technician or have won the National ACS Chemical Technician award (we have 6 ACS National awardees) at an award/celebration reception with MMTG member participants and local students enrolled in Delta College's Associate Degree programs (Chemical, Chemical Process, or Environmental Technology).

Our symposium/25th Anniversary celebration is a joint effort by MMTG (industry technicians) and Delta's two-year Chemical Tech program. We will be partnered with Dr. Dave Baker of Delta College. He is the Chemical Tech program chair at Delta College and MMTG's liaison to the Chemical Tech students. He will be coordinating the student involvement in the symposium and celebration. We also hope to encourage the students and technicians to participate in the FSM afternoon poster session.

For more information, please contact Jeff Seifferly, 2016 MMTG Co-Chair, at jeff.seifferly@dowcorning.com or call 989-496-4239.

The Midland Chemist Trivia Challenge

Vickie Langer, Co-Editor, *The Midland Chemist*

A trivia challenge featured in the July issue of *The Midland Chemist* asked, "On what date did the Midland Section receive its charter as a local section of the American Chemical Society?" The answer, as posted on the Midland Section website at <http://www.midlandacs.org/>, is December 8, 1919. The winner of the July trivia challenge, drawn at random from among those submitting the correct answer by July 31, will be contacted by e-mail to receive an ACS Periodic Table pen.

Do you have a trivia question related to the Midland Section, the National ACS, or chemistry in general, that you would like to see printed in a future issue of *The Midland Chemist*? If you do, please submit your suggestions to the editors at newseditor@midlandacs.org, and watch for a new trivia challenge in next month's issue of *The Midland Chemist*! Winners' names will be published in future issues of *The Chemist*, unless the winner prefers to remain anonymous (permission will be requested prior to publication).



Dow to Shut Down Solar Shingle Business

Melody M. Bomgardner, Senior Editor, C&EN

Editor's note: This article is reprinted from the July 11, 2016 issue of *C&EN* (Volume 94, Issue 28, p. 13). Copyright © 2016 American Chemical Society.



Dow's solar shingles were designed to blend in with traditional roofs.

Photo credit: Dow Chemical.

Dow Chemical will stop producing its Powerhouse-brand solar shingles, which the firm has been manufacturing at sites in Michigan and California. The change, which will result in the loss of roughly 130 positions, is part of a larger restructuring Dow announced after completing its absorption of Dow Corning.

The shingles, which debuted in 2011, featured a slim profile thanks to their use of thin-film copper indium gallium selenide—or CIGS—photovoltaics. They were marketed to home builders looking to build energy-efficient homes with a more elegant roofline than is created by the bulky racks required for traditional polysilicon panels. Dow CEO Andrew N. Liveris touted the product as transformative for the company and part of its strategy to invent new technologies.

But the shingles were commercialized during a time when many solar firms were falling into bankruptcy due to an influx of low-cost polysilicon panels from manufacturers in China. When Nuvosun, Dow's CIGS supplier, faced financial problems in 2013, Dow acquired the company.

Dow had planned to roll out an updated version of the shingles this year, but the company now says it has seen a clear shift in costs and demand for solar products in the housing market. Thin-film solar materials such as CIGS have lower efficiencies and higher costs compared with traditional silicon panels—and that difference has widened in recent years.

A European Union-backed organization called [PVsites](#) is working to produce building-integrated photovoltaic products that are both cost-effective and attractive to builders and homeowners. Although appearance is important, PVsites says customers expect the same efficiency as conventional panels and require that the technology fully pay for itself within five to seven years.

Dow will still be significantly invested in materials used to make photovoltaics, albeit mainly traditional polysilicon versions. It sells metallization pastes and chemicals used for imaging, cleaning, and texturizing solar cells. And its purchase of Dow Corning added to its ownership interest in Hemlock Semiconductor, a leading manufacturer of polysilicon. Hemlock is a joint venture of Dow, Corning, and Shin-Etsu Handotai.

MMTG Day at the Midland County Fair
Michelle Rivard, Outreach Committee, Midland Section ACS

Discounted Ride Tickets for Midland County Fair, August 14-20

Offered by the Mid-Michigan Technician Group



Ride 'til you drop!
Discounted ride bands
are good for a Single-day,
All-day, Any-day of Fun!
Just **\$16.00!**

Discounted ride tickets go on sale starting July 11 and must be purchased before August 18
(Regular price \$20-25 for a half day)

For more information and to purchase discounted ride tickets, contact:
Deb dmendrick1@dow.com or Jeanette jeanette.young@dowcorning.com

In Past Issues of *The Midland Chemist*
Wendell L. Dilling, Director and Historian, Midland Section ACS

50 Years Ago, *The Midland Chemist* 1966, 3, No. 3 (Sept.), 6.

In *Britton Symposium Set for Oct. 13 - 14*: "The Midland Section of the American Chemical Society will be holding its Fifth Annual E. C. Britton Symposium on Industrial Chemistry on October 13 and 14, 1966.

This annual symposium is designed to acquaint firsthand the chemistry faculties of various Midwestern schools with research in the chemical industry. Approximately twenty-seven professors are being invited from universities in Michigan, Ohio, Indiana, Illinois and Wisconsin. In order to provide better opportunity for personal acquaintances to develop between academic and industrial members of the chemical profession, the visiting professors will be housed in the homes of local section members."

40 Years Ago, *The Midland Chemist* 1976, 13, No. 6, 8.

In *Chemistry Explorer Post* by Nancy Hemmer: "The Chemistry Explorer Post (CEP) has evolved in the past year to have a core of five people: Mike L. Williams, advisor; Sanford Siegel, co-advisor; Bob DeKoch, co-advisor (recently left Midland); Cliff Ball, committee chairman; and myself, Nancy Hemmer, institutional representative. ACS, the institution which sponsors this post, pays the Explorer fees for the above core and

gives advice for CEP improvement. Month to month planning sessions are held with the CEP committee which includes the core and five others, Bob Belfit, Louise Rainey, Chuck Schmitt, John Schneider, and Bruce Thill. Home base for activities is 1710 Bldg., Dow Chemical, Midland Division, thanks to Don Morehouse and others. The activities from Sept.'75 - July '76 have included lectures, tours, trips, and, of course, lab experiments - specifically, a safety indoctrination by the Dow Safety Dept., aspirin synthesis and analysis using a computer linked gas chromatograph, a tour of the technical service and development facilities for aspirin, a lecture on the toxicology of aspirin and a tour of 1803 Bldg., mini-chemistry experiments, synthesis and purity check of methyl salicylate, a tour of the Michigan State University and University of Michigan chemistry facilities, a ski trip, and most recently a canoe trip, which involved collecting water samples for purity analysis and having lots of fun."

30 Years Ago, *The Midland Chemist* 1986, 23, No. 5, 3.

In *Chairman's Corner* by Tom Lane, Chairman, Midland Section, ACS, 1986: "The next major activity will be the Annual Guests' Night/Speakers' Banquet which precedes the Fall Scientific Meeting. This year the banquet will be held at Bay Valley Inn, at Heatherfields. Although the arrangements chairperson, Linda Merrill, has refused to disclose the menu, she has assured me that the dinner will satisfy any hunger. The evening will be highlighted by the presentation of 50 year membership awards and the after dinner speaker will be Prof. H.C. Brown. The following morning, November 8, 1986, the Annual Fall Scientific Meeting will begin at the H.H. Dow High School gymnasium. The technical keynote address will be given by H.C. Brown, his topic: Asymmetric Synthesis. For those interested in presenting their work at this meeting, the deadline for papers is August 29, 1986."

20 Years Ago, *The Midland Chemist* 1996, 33, No. 5, 11.

In *Dow Chemical Number One in Sales* by Bob Howell: "Although The Dow Chemical Company has long been prominent in mid-Michigan it has traditionally not placed first nationally. For the past several years, it has ranked second to DuPont in chemical sales. This year, for the first time, Dow sits at the top of the listing of the largest 100 chemical producers in the U.S. (*Chemical & Engineering News* 74 (19), May 6, p. 15) with sales of \$19.2 billion in 1995. DuPont which has lead this listing since its inception had sales of \$18.4 billion – good, but only for second place. Dow's performance represents a 21.8% growth in sales over 1994. Achieving number one status is a major milestone and all in the company are to be congratulated."

10 Years Ago, *The Midland Chemist* 2006, 43, No. 4, 2.

In *A Thank You to the Midland Section* by Kurt F. Brandstadt, Ph.D., 2006 ACS Central Regional Meeting & 39th Silicon Symposium General Chair: "Thank you for your support of the 2006 American Chemical Society (ACS) Central Regional Meeting & 39th Silicon Symposium. The conference was organized to promote science, chemical education, and the diverse interactions between the scientific disciplines, and it represented a unique opportunity for researchers, scientists, educators, and students from around the region and the world to participate and interact.

This was a world-class meeting featuring plenary lectures, technical sessions, workshops, an award program, an exposition, special events, and educational outreach activities. All activities were aligned to further promote our theme-*Diverse Interactions: The Elements of Success.*"

Upcoming Dates, Events, and Other Updates

- August 3 (10:00 – 11:00 AM) – Hands-on *Sweet Science: Gum and Marshmallows* science demos offered by the Outreach Team, Discovery Museum, Mount Pleasant. For more information, or to volunteer to help, please contact Gina Malczewski (reginamalczewski@gmail.com) or Michelle Rivard (mlqshadow@yahoo.com).
- August 8 (12:00 – 2:00 PM) – Silver Circle Sponsored Summer Seasonal Event *Picnic at the Garden*. Lunch and ice cream social, showcasing the Greenhouse and Garden at Creative 360, 1517 Bayliss Street, Midland. For more information, please call 989-708-9066.
- August 13 – Deadline for submission of abstracts from industry professionals for the 2016 Fall Scientific Meeting. Abstracts should be submitted by e-mail to PJBai@dow.com, indicating your preference for an oral or a poster presentation. For any questions, please contact Mike Vagnini (MTVagnini@dow.com), Chair, 2016 Fall Scientific Meeting.
- August 21–25 – 252nd ACS National Meeting & Exposition, Philadelphia, PA. For more information, see <https://www.acs.org/content/acs/en/meetings/fall-2016.html>.
- August 21 – All-day symposium on the topic, *Mobilizing Chemistry Expertise to Solve Humanitarian Problems*, hosted by Chemists Without Borders, followed by a social mixer event at Philadelphia Chutney Company from 3:30 to 5:30 PM. The symposium is being held in conjunction with the 252nd ACS National Meeting & Exposition, Philadelphia, PA. For more information, please contact Ronda Grosse at 989-496-3097 or rondagrosse@chemistswithoutborders.org.
- August 23 – Winners of ACS ChemLuminary Awards for Outstanding 2015 Activities will be recognized at the 252nd ACS National Meeting in Philadelphia, PA, on Tuesday, August 23, at the Pennsylvania Convention Center in Terrace Ballroom One. The Midland Section has received nominations for many of the awards, as detailed in the July issue of *The Midland Chemist*.
- August 26 (10:00 – 11:00 AM) – Hands-on *I Love Light: Making Kaleidoscopes* science learning session offered by the Outreach Team, Discovery Museum, Mount Pleasant. For more information, or to volunteer to help, please contact Gina Malczewski (reginamalczewski@gmail.com) or Michelle Rivard (mlqshadow@yahoo.com).
- August 31 (10:15-11:30 AM and/or 12:45-2:00 PM, lunch included) – *Density experiments and STEAM activities* teacher in-service training event, Bay City Central High School. For more information, or to volunteer to help, please contact Gina Malczewski (reginamalczewski@gmail.com) or Michelle Rivard (mlqshadow@yahoo.com).
- September 12 (7:00 – 9:00 PM) – ACS Board meeting, MCFTA Board Room (in person), or via a WebEx conference call connection at [Midland Section WebEx Board Meeting](#), phone number: 866-299-7945, participant code: 9837036#.
- September 17 – Deadline for submission of abstracts from academic researchers and students for the 2016 Fall Scientific Meeting. Abstracts should be submitted by e-mail to PJBai@dow.com, indicating your preference for an oral or a poster presentation. For any questions, please contact Mike Vagnini (MTVagnini@dow.com), Chair, 2016 Fall Scientific Meeting.
- October 3 (7:00 – 9:00 PM) – ACS Board meeting, MCFTA Board Room (in person), or via a WebEx conference call connection at [Midland Section WebEx Board Meeting](#), phone number: 866-299-7945, participant code: 9837036#.
- October 22 (8:30 AM – 3:15 PM) – 2016 Midland Section ACS Fall Scientific Meeting, Curtiss Hall, Saginaw Valley State University. For more information, or any questions, please contact Mike Vagnini (MTVagnini@dow.com), Chair, 2016 Fall Scientific Meeting.

- October 22 – Mid-Michigan Technician Group (MMTG) Symposium and 25th Anniversary Celebration, to run parallel with the 2016 Midland Section ACS Fall Scientific Meeting, Curtiss Hall, Saginaw Valley State University. For more information, please contact Jeff Seifferly, 2016 MMTG Co-Chair, at jeff.seifferly@dowcorning.com or 989-496-4239.
- November 7 (7:00 – 9:00 PM) – ACS Board meeting, MCFTA Board Room (in person), or via a WebEx conference call connection at [Midland Section WebEx Board Meeting](#), phone number: 866-299-7945, participant code: 9837036#.
- December 5 (7:00 – 9:00 PM) – ACS Board meeting, MCFTA Board Room (in person), or via a WebEx conference call connection at [Midland Section WebEx Board Meeting](#), phone number: 866-299-7945, participant code: 9837036#.

The Midland Chemist is published twelve times a year by the Midland Section of the American Chemical Society, P.O. Box 2695, Midland, MI 48641-2695, <http://www.midlandacs.org>.

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