

THE MIDLAND CHEMIST

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YCC “Year of Beer” Tour Event, March 18

Wendy Flory, Younger Chemists Committee, Midland Section ACS

The Younger Chemists Committee will be hosting a series of “Year of Beer” tours of local breweries, with a brewing competition as the final event. The first brewery tour will be held at the Tri-City Brewing Company, 4170 Shrestha Drive, Bay City, on Monday, March 18, from 6:00-8:00 PM. Please contact Wendy Flory at WCFlory@dow.com to RSVP for a free beer ticket, and for any questions.

Announcing the ACS 2019 Central Regional Meeting, June 4-8

Dimi Katsoulis, General Chair, 2019 Central Regional Meeting



June 4-8, 2019 | Midland, MI | www.acscerm2019.org

The Midland Section of the American Chemical Society (ACS) is excited to announce the [ACS 2019 Central Region Meeting](http://www.acscerm2019.org) (CERM 2019), to be held in Midland, MI on June 4-8, 2019.

2019 marks the 50th CERM meeting and the 100th anniversary of the Midland ACS section. To celebrate, CERM 2019 boasts a lineup of world class speakers, an expanded technical program, and a host of networking, educational, and community outreach events.

CERM 2019 will be the premier scientific meeting in the Midwest this year, bringing together Industry, Academic, and Government researchers for a meeting that is both personal—with ample opportunities to connect with speakers, vendors, and fellow attendees—and high impact—featuring participants from leading companies, colleges & universities, and government laboratories.

[Registration](#) and [abstract submission](#) are currently open, with **March 11, 2019** being the deadline for abstracts. Listed below are some of the exciting speakers, symposia, and events at CERM 2019. We hope to see you there!

CERM 2019 Plenary Speakers:

- Prof. Tobin Marks (Northwestern Univ.)
- Prof. Craig Hawker (UC Santa Barbara)
- Prof. Melanie Sanford (Univ. of Michigan)
- Dr. A.N. Sreeram (CTO, DOW)

CERM 2019 Featured Events:

- Astronaut Capt. Scott Kelly (NASA) Lecture
- Chemistry & the Arts Expo @ MCFTA
- Art Conservation Lecture by Mark Golden
- Citizen Experiment on Water Quality
- Melanie Cooper (Education – MSU) Lecture
- Mentoring Panel & STEM Night at the Minor League Baseball Game
- Joseph DeSimone (NC State & CEO of Carbon): Lecture on Entrepreneurship
- National Historic Chemical Landmark Dedication: Mass Spectrometer
- Excellence in Chemistry Awards and Banquet
- National ACS Board of Directors Tour of Dow Labs
- ACS Leadership Institute Workshop
- Vendor Expo

CERM 2019 Technical Program Symposia:

- Adhesion, Surfaces, and Interfaces
- Advances in Catalysis and Computation in Inorganic Chemistry
- Advances in Process Chemistry, Development, and Analysis
- Analytical Chemistry
- Art Conservation Science
- Bioinorganic: Metalloproteins, Model Complexes, and Metals in Medicine
- Chemical Tools for Investigating Biological Systems
- Chemistry and Transportation
- Central Region Chemical Heritage
- Colloids, Nanomaterials, and Self-Assembly
- Coordination Chemistry: Characterization and Applications
- Cosmetic Chemistry: The Science Beyond Beauty
- Developing Sustainable Chemistries – Principles, Tools, Drivers, and Case Studies
- Development and Use of Kinetic Models to Design, Scale-up, or Optimize Industrial Reactors
- Development in Chemical Education and Educational Research
- Development of Advanced Materials: From Laboratory to Industrial Scale
- Development Paths Towards Process Intensification

- Enabling Chemical Synthesis – From Methods to Molecules
- Feedstock and Energy Related Catalysis
- Growing with Project SEED: Continuing the Journey
- Heterogeneous Catalysis
- Industrial Applications of Polymers
- Innovations in Process Separation Technology
- Materials for Advanced Separations
- Mechanisms in Homogenous Catalysis
- Novel Chemistries Enabling High Performance Buildings
- Polymer Theory and Modeling
- Synthesis and Characterization of Advanced Polymeric Materials
- Target-Oriented Synthesis at Scale: Leveraging Catalytic and Continuous Flow Systems
- Technologist in Industry: From Molecules to Materials
- The Central Nature of Diversity in Organic Chemistry
- Transition Metal Chemistry
- Using Data Science in Chemical Research

STEM Education Opportunities at CERM, June 6-8

Gina Malczewski and Michelle Rivard, Midland Section ACS

You are invited to attend a unique set of STEM education opportunities at CERM in Midland, MI, on June 6-8, 2019. Please register now for local and free long-distance workshops at <https://acscerm2019.org/>.

Four Midland Locations

- **H Hotel**
 - Educator posters – June 6 and 7, 12:00-2:00 PM. Submit your abstracts on-line at <https://acscerm2019.org/>.
 - Educator presentations – June 6 and 7, 2:00-5:00 PM. Submit your abstracts on-line at <https://acscerm2019.org/>.
- **Central Park STEM Elementary School** – June 6, 1:00-4:30 PM
 - Facility tour
 - Project Lead the Way training
 - Family engineering workshop
- **Michigan State University St. Andrews**
 - Hands-on K-16 workshops and 3-D printing classes – June 7 and 8
 - 2YC3 track – June 7
- **Grace A. Dow Memorial Library**
 - 2YC3 symposia – June 8

Invited Guest Speakers

- *Holistic Science Education*, by Dr. Mark Bourgeios, dinner, and tour of the Chippewa Nature Center – June 7
- *Chemistry, Life, the Universe & Everything: A High School Chemistry Course Aligned with the NGSS*, by Prof. Melanie Cooper – June 8

Professional Education Credits Available

Long Distance Learning Opportunities

Some of the workshops are available as interactive broadcasts from other locations around the region, and there also opportunities for individuals to link in to select programs.

Contacts: Gina Malczewski (reginamalczewski@gmail.com) and Michelle Rivard (michelle.rivard@dow.com).

Science Café: The Science of Syrup, March 14

Gina Malczewski, Outreach Committee, Midland Section ACS

Join Interpretive Naturalist Michelle Fournier of the Chippewa Nature Center as she dives into the science of syrup. A short indoor program will explore the science behind sap and syrup production. Then the group will head to the sugar bush to see the process in action. Participants will work together to tap a tree, collect sap (weather conditions permitting), and see the process of turning sap into syrup.

This is a Science Café program sponsored by the Midland Section of the American Chemical Society. Location: Chippewa Nature Center, 400 South Badour Road, Midland, phone 989-631-0830. Date and time: Thursday, March 14, 6:30-7:30 PM. Suggested ages: 10 and up, and plan to come dressed for the weather.

The program is free, but pre-registration is required, as space is limited to the first 40 people who sign up. To register, please go to [The Science of Syrup](#).



**SYRUP
Science**

**FREE and open to
the public, but you
must sign up!
Limit 40**

Botany and chemistry,
and a trip to the
sugarhouse! See tree -
tapping and syrup-
making. **Free maple
syrup treat included.**

**Ages: 10 and up
Come dressed for the
weather.**

The Midland Section of the American Chemical Society presents:

A science café at the Chippewa Nature Center
400 S Badour Rd, Midland March 14, 2019 6:30-7:30 pm

2019 MSU St. Andrews Summer Internship Program

Melanie Kauffman, Senior Communications Manager, Michigan State University

The application process for the 2019 MSU St. Andrews summer internship program for high school students will open on March 15, 2019. The application deadline is April 15, and the selected participants for this year's program will be notified by mid-May.

Program eligibility is limited to current high school juniors who: (a) Will be seniors in the fall of 2019, (b) Are eligible to work in the US and comply with State of Michigan minor guidelines for work, (c) Are able to commute daily to MSU St. Andrews in Midland (housing is not provided), and (d) Are able to commit to missing no more than one week of the program due to other obligations.

The summer internships will be eight-week, forty-hour per week, paid positions. The dates are tentatively scheduled from June 17 through August 19, 2019. MSU St. Andrews is located at 1910 West St. Andrews Road, Midland, MI 48640.

The following webpage offers additional details on the 2019 summer internship program: <https://standrews.msu.edu/2019/02/13/summer-internship-application-to-open-march-15/>. For any other questions, please contact Melanie Kauffman at kauffman59@msu.edu or 517-432-4499.

Turner Alfrey Visiting Professor Lecture, June 3

Melanie Kauffman, Senior Communications Manager, Michigan State University

MSU St. Andrews in Midland will once again host the Turner Alfrey Visiting Professor lecture, on Monday, June 3, 2019. Professor Craig J. Hawker will be our guest and main lecturer. Other speakers from Dow are being lined up as well.



The **Professor Craig Hawker** (photo at left) research group is an interdisciplinary group involved in a wide range of fundamental and applied materials chemistry and molecular engineering challenges. Current topics span the development of new polymer synthesis strategies to the fabrication of nanostructured materials for applications in biomaterials and energy research.

Craig J. Hawker is the Director of the California Nanosystems Institute (CNSI), Dow Materials Institute, and Facility Director of the Materials Research Lab at the University of California, Santa Barbara (UCSB). He holds the Alan and Ruth Heeger Chair in Interdisciplinary Science and is the Clarke Professor within CNSI.

Hawker is a member of the Materials Department and the Department of Chemistry and Biochemistry at UCSB and came to UCSB in 2004 after eleven years as a Research Staff Member at the IBM Almaden Research Center in San Jose, CA.

Here is the save the date webpage for the 2019 program: <https://standrews.msu.edu/2019/02/13/craig-hawker-to-visit-for-the-turner-j-alfrey-visiting-professorship-on-june-3/>. More details are forthcoming. For any questions, please contact Melanie Kauffman at kauffman59@msu.edu.

Announcing the 2019 Spring Awards Banquet and Call for Nominations

Diana Deese, Awards Committee Chair, Midland Section ACS

Please note: The Spring Awards Banquet date has been changed to Wednesday, May 1, 2019.

The Awards Committee is busy putting together the program for our event on May 1st where we will be recognizing outstanding educators, volunteers, and colleagues that **YOU** have graciously taken the time to nominate. 2019 is a momentous occasion as the Midland Section ACS will celebrate its 100th year. We hope to have some special commemorative items for the award recipients. I would encourage you to check out all the special events the Midland Section is hosting this year.

Please consider joining us for a night of good food and great fun! To celebrate our section's centennial, my goal is to have a representative outstanding student from each of the high schools our area represents and to have a nominee for each award offered this year. I am counting on you to help make this happen as I know we have very deserving people in every category!

Consider getting your colleagues together for lunch and assembling a packet. If you are in a managerial role and are worried about favoritism, consider nominating 2-3 qualified persons (you will remain anonymous, if requested). If you feel you deserve an award, you can nominate yourself, or, consider having an outright discussion with your colleagues or supervisor. If you are a parent: Does your child have a great science teacher? If so, consider nominating him/her.

The nomination process is very easy. Nomination packets for all awards (except outstanding high school and collegiate student awards) must, at a minimum, consist of a current resume or equivalent, and at least one supporting letter in addition to your letter of nomination, all stating why the nominee is deserving of the award with specific examples of professional involvement/growth, contributions to industry, and outside affiliations. It is highly recommended that the nomination include a publications and patent list where applicable. Additional letters of support can come from students, parents, community members, and/or administrators.

I have listed previous award recipients in the January 2019 issue of *The Midland Chemist*, for nominees must not have received the award that they are being nominated for, within the past 10 years.

Nominations not meeting the minimum requirements, and submissions received after the April 1, 2019 deadline, will not be considered.

For those of you sequestered in labs who feel you might not be able to attend unless you nominate someone, I say save the date and come on out for a night of food, fun, and fraternization! Watch for more detailed information right here in *The Midland Chemist*!

As always, contact me if you have any questions: Diana Deese, Midland Section ACS Awards Committee Chair (dkdeese@dow.com).

Final Call for Nominations: 2019 Teaching, Volunteer, Education, Chemical Sciences Awards
Diana Deese, Awards Committee Chair, Midland Section ACS

Each year, the Midland Section of the American Chemical Society presents awards to recognize outstanding achievement in the chemical sciences. Nominations for the 2019 awards are invited for the following areas:

- Outstanding Elementary Level Science Teaching
- Outstanding Middle Level Science Teaching
- Outstanding High School Chemistry Teaching
- Outstanding College Chemistry Teaching
- Science Education Volunteer of the Year
- Outstanding Achievement in the Promotion of Diversity in Chemistry, Related Sciences, and Engineering
- Outstanding Achievement and Promotion of the Chemical Sciences
- Outstanding Service to the American Chemical Society
- Outstanding Chemical Technician
- Outstanding High School / College Chemistry Students

Outstanding Science / Chemistry Teaching Awards

Candidates for the teaching awards must be educators at schools in the five-county geographical area of the Midland Section: Bay, Gratiot, Isabella, Midland, and Saginaw counties. One candidate will be recognized for their teaching contributions in each of the following categories: Elementary, Middle Level, High School, and College.

Science Education Volunteer of the Year

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

Outstanding Achievement in the Promotion of Diversity in Chemistry, Related Sciences, and Engineering

This award recognizes a person or group residing in Midland, Bay, Saginaw, Isabella, or Gratiot County for outstanding achievement in enhancing the participation of under-represented groups in the study of chemistry, related sciences, and engineering. The nomination must come from a Midland Section ACS member. The criteria for this award include teaching, mentoring, serving as a role model, and active and sustained participation in organizations that support diversity which have had a demonstrable impact on the promotion of diversity in chemistry, related sciences, and engineering. Members of the Midland Section Minority Affairs Committee are ineligible to receive this award.

Outstanding Achievement and Promotion of the Chemical Sciences

Each year the Midland Section honors an individual residing within the Section's geographical area who has demonstrated outstanding achievement and promotion of the chemical sciences. This award recognizes dedication and service to the chemical profession, but the recipient need not be an ACS member.

Outstanding Service to the American Chemical Society

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

Outstanding Chemical Technician

The Section presents an annual Outstanding Chemical Technician Award to an individual who has demonstrated an extremely high degree of professionalism as a chemical technician. Nominees must have worked for five years as a chemical technician, or in a related field, and whose primary job includes conducting experimentation or correlating information to help solve chemical problems or discover new chemical knowledge. The nominee must have successfully completed a two-year post-high school level chemistry curriculum leading to an associate degree, the equivalent course in a baccalaureate program, or equivalent experience. Chemical technicians do not need to be an ACS member to be eligible for this award. Nominations should include outside affiliations. *Request the National ACS nomination form from the awards chair to nominate in this category.*

Recipients of all awards will be selected by the Awards Committee with the exception of the Outstanding Achievement and Promotion of the Chemical Sciences award which is submitted to the Midland Section ACS Executive Committee for approval. Nominators should write a letter indicating the award and describing the attributes of the candidate.

The deadline for nominations is Monday, April 1st, 2019. Nominations not meeting the minimum requirements, and submissions received after this deadline, will not be considered. Mail or fax submissions are acceptable; *electronic (e-mail) submissions are preferred*. All submissions must be accompanied by the name, position, address and phone number of the nominator.

Outstanding High School / College Chemistry Students

The Awards Committee also recognizes outstanding chemistry students at the high school and collegiate levels. Those students should be selected by their respective departments, and their names forwarded to the Awards Committee using the form attached to this call for nominations. One selection per school; no supporting letters needed.

Award recipients as well as Chemistry Olympiad winners and Fifty/Sixty/Seventy Year ACS Members will be honored at the 2019 ACS Spring Recognition Dinner at the Great Hall Banquet & Convention Center, in Midland, on Wednesday evening, May 1st, 2019.

The Awards Committee greatly appreciates the efforts involved in nominating someone, and wishes to thank you for helping to recognize deserving students, colleagues, and educators in our local section. Please pass this information along to anyone involved in our local science programs!

Now that you realize how exciting it is to nominate someone at the local level and you want to do more, I invite you to peruse the veritable cornucopia of awards the American Chemical Society offers at the national level. I have listed the web addresses where you can find the list of awards and the criteria for nomination in the January 2019 issue of *The Midland Chemist*. Now is the time to begin nominations for National ACS awards for 2019-2020 as most annual reviews have a deadline of around November 1. Please see <https://www.acs.org/content/acs/en/funding-and-awards/awards/national>.

For example nominations or more detail on any award, please contact Diana Deese. *Electronic submissions are acceptable and preferred.*

Diana K. Deese, Chair, Midland Section ACS Awards Committee
Phone: (989) 636-9915, E-mail: dkdeese@dow.com or awards@midlandacs.org



American Chemical Society – Midland Section

Nomination Form for 2019 Outstanding High School / Collegiate Chemistry Student (One per school)

Dept. Chair or other Nominator: _____

Telephone number: _____

E-mail address (required): _____

School: _____

Student's name: (Mr./Ms.) _____
(Indicate) (Please print legibly)

Home address: _____

Telephone number: _____

E-mail address (required): _____

Student's career/postgraduate plans (if known):

Please return this form to the following address no later than **April 1st, 2019:**

Diana K. Deese
ACS Awards Committee Chair, Midland Section
Phone: (989) 636-9915
E-mail: dkdeese@dow.com

ACS Spring Awards Recognition Dinner – RSVP Deadline, April 25
Diana Deese, Awards Committee Chair, Midland Section ACS

ACS Recognition Dinner

Wednesday, May 1, 2019, 5:30 p.m. to 9:00 p.m.

Great Hall Banquet & Convention Center at Valley Plaza Resort
5121 Bay City Road, Midland, Michigan

Program:

5:30 p.m. Cash Bar and Social Time

6:00 p.m. Dinner

7:00 p.m. Awards Presentations

Educators, students, ACS members, industry colleagues, and 50-, 60-, 70-year ACS members/retirees will be recognized for their outstanding achievements at this 28th annual event. Our special guest speaker will be **Prof. Byungil Ahn**, Associate Professor of History at Saginaw Valley State University, presenting a talk on the “Tale of the Chopsticks and the Fork – A Story of Innovation and Cultural Exchange at our Table.”

Mark your calendar and join us in support of our award recipients, to connect with colleagues, or just to mingle with a diverse group of people passionate about science! The cost of the dinner is \$16.00 per person and includes a plated chicken dinner, dessert, and beverage. A pre-dinner cash bar will be available. Your dinner reservation request must be received by April 25, 2019.

Payment options will be via the ACS Midland Section website www.midlandacs.org and using the SignUpGenius button to RSVP and conveniently pay ahead of time, at the door, or by mail using the address indicated below. Dress is business casual. This event is sponsored by the Midland Section of the American Chemical Society. For further information, contact Diana Deese at (989) 636-9915.



To reserve your spot by mail, return this form with payment (\$16.00/person) by **April 25, 2019**, to Diana Deese, The Dow Chemical Company, 1897 Building, E-bay East: E65, Midland, MI 48667, or RSVP via e-mail to dkdeese@dow.com. If paying at the door, you must still RSVP to Diana by April 25.

Name(s): _____

Affiliation: _____

Address: _____

Phone/E-mail: _____

ACS member? Yes / No (indicate by circling your member status)

Dietary Considerations: _____

Enclose payment of \$16.00 per person. Checks should be made payable to “Midland Section ACS”.

The CMU Centennial Connection

Gina Malczewski, Chair, 2019 Centennial Committee, Midland Section ACS

The Midland Section ACS centennial exhibit team has been fortunate to benefit from the expertise of Dr. Jay Martin, Director of the CMU Museum and the Museum Studies Program, and his students. Jay, Marc Van Horn (graduate student) and two undergraduates (Casey Peacock and Nathan Bublitz) are a vital part of our effort to provide an experience that will celebrate our history, as well as inform and engage ACS members and non-chemists alike. Jay has been consulting for us since early 2017. Funding sources such as the Doan Family Foundation are providing some compensation for his students (and his supervisory time) as they help us build



the centennial website and finalize content for the museum exhibit panels. The CMU group is also assisting us with oral histories and social media.

This project is potentially a unique experience for the students – they are able to work directly with senior citizens who have first-hand knowledge of the subject matter – and the exposure to chemistry and chemistry topics is also unusual and unique for them.

(Photo: Left to right, Casey Peacock, Dr. Jay Martin, and Nathan Bublitz. Photo courtesy of John Metcalf)

Dr. Martin is from Jonesville, MI, and he has been teaching in the Museum Studies Program at CMU for nine years. Relative to his decision to work with the Midland local section, Jay says (with a twinkle in his eye), “I met with the group and I found we had good chemistry.” He continues, “I learn new things every time we meet.”

Marc Van Horn (not shown in the CMU group photo) hails from Mt. Pleasant and he is a Cultural Resource Management Master's Candidate; he plans ultimately to design educational programs at a historic site. His grandfather, Myron Johnson, worked at the Midland Chemical Warfare Service plant during World War II, transitioned to Dow in the 1940s and then worked in marketing there for about 30 years – so Marc feels a direct connection to the project. “It has been a challenge to try to bridge the gap between an exhibit designed for chemists by chemists and one for a general audience,” Marc states. In addition, he finds that “Midland's transition from being a relatively small logging and farming town to a powerhouse of industry and innovation has been very interesting to research.”

From Fairgrove, Nathan Bublitz is studying Public History and Museum Studies. “I have learned how to do a website,” he says about his experience with the project. “I have enjoyed making connections and getting to know all of the wonderful people involved in the project.” Nathan wants to eventually work for the National Parks as a historical interpreter.

Casey Peacock comes from Harrison, and she also is majoring in Public History. Casey took advantage of the opportunity to work on the exhibit because she considered it “a valuable learning experience – I have had the chance to talk with interesting people who have decades of knowledge.” She wants to do educational programming for museums.

Bringing various Michiganders together to work on this Midland Section ACS project has been a challenging, but interesting experience for all. Much remains to be done, but the last two years of effort are finally showing some results. We owe a great deal of thanks to the experts from CMU, whose help and direction has been invaluable, and we are looking forward to seeing it all come together this May when the exhibit opens.

Midland Section ACS Centennial – Request for Historical Items

Gina Malczewski and Gretchen Kohl, 2019 Centennial Committee, Midland Section ACS

MIDLAND ACS MEMBERS OR FAMILY:

As we work on the historical exhibit to celebrate the centennial of our Section in 2019, we need **YOUR HELP**:

- Do you have any artifacts from the past around your house that you would consider loaning to us for the exhibit:
 - Photos of any ACS event or activity? (Science Fairs? Dinners?...)
 - Photos of people at work doing chemistry or using equipment?
 - Actual equipment
 - Awards?
- Look for our “Centennial SLEUTH” Features in the newsletter and elsewhere to help us identify people, places, and events to document for our dedicated website as well as the exhibit.



CONTACTS:
gretchen.kohl@att.net
reginamalczewski@gmail.com



Countdown to 2019: Your Story Can Be a Part of the Centennial Exhibit

Gina Malczewski, Chair, 2019 Centennial Committee, Midland Section ACS

As we collect information to share in the Midland Section ACS centennial exhibit, one of our focus areas is inter-scientist communication. Patents, books, and journal articles are an important part of this. Collecting 100 years of contributions made by Midland Section members is a daunting task, so we are asking you to share your own story. If you are or have been an ACS member, please tell us about any books or patents to which you have contributed (patent type and number designation and any other information is helpful). We also are interested in your bibliography. You can send data for a relative as well (just make sure that you identify him or her).

Please send your material to reginamalczewski@gmail.com and we will do our best to collectively celebrate all of the knowledge that Midland Section ACS members have shared with the world. Thank you.

Centennial Exhibit Designer John Metcalf: Envisioning the Experience

Gina Malczewski, Chair, 2019 Centennial Committee, Midland Section ACS

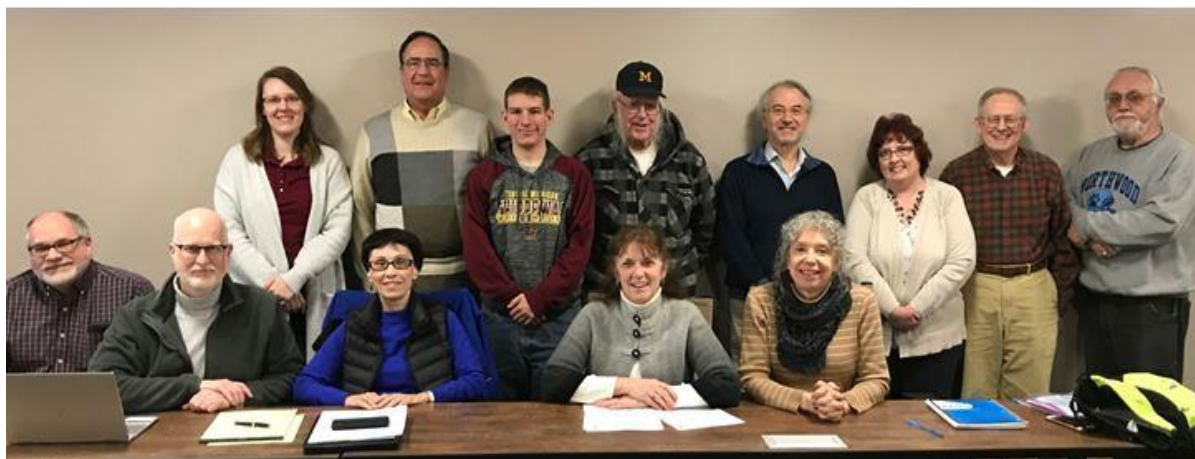
The “look and feel” of the Midland Section ACS centennial exhibit will largely be the work of our designer, John Metcalf. John is an Ohio native, and after he received a BS in Industrial Design at the University of Cincinnati, he worked in Japan and then locally for Design Craftsmen. He began the Good Design Group in 2006; he is based in Midland, and his partner, Jennifer Beyer, is based in Ypsilanti. They have done exhibits throughout Michigan, including several award-winning projects for the Detroit Historical Museum. The most recent of these, *Detroit 67: Perspectives*, won the 2018 National Medal for Museum and Library services.



Janet Danek of CMU’s Park Library contacted John about the opportunity to help design the exhibit for the ACS Midland Section's 100th anniversary. The challenge that John enjoys is “helping a group with no exhibit experience figure out the best way to share their story with the public.”

(Photo: John Metcalf of Good Design Group. Photo courtesy of John Metcalf)

John’s efforts have helped us develop a vision, have given our ideas and words power, and have made us optimistic that we can achieve our goals and inspire new generations to continue the work of the last century. “I hope that people who come to the centennial exhibit realize the many hours of volunteer time that was put into its creation,” John says. “The committee members who have stuck with this project for over two years deserve a lot of credit for making it happen – from finding funding to tracking down the story elements that will make this exhibit resonate with visitors. It takes a good team to make a good exhibit, and we have the right formula to make this a great one.”



– The 2019 Midland Section ACS Centennial Exhibit Team –

*Front row, left to right, Jay Martin, John Metcalf, Joan Sabourin, Gina Malczewski, and Gretchen Kohl.
Back row, left to right, Casey Peacock, Steve Keinath, Nathan Bublitz, Stacy Daniels, Angelo Cassar,
Julie Johnson, Wendell Dilling, and Jim Malek. Not pictured, Gary Skory and Marc Van Horn.*

Lapel Pins Are Available to Commemorate the 2019 Centennial Year and 50th CERM Meeting
Gina Malczewski, Chair, 2019 Centennial Committee, Midland Section ACS

Three sets of lapel pins are available for purchase to celebrate the Midland Section ACS Centennial Year and the 50th ACS Central Regional Meeting. The single ACS logo pin is \$3.00, the double logo pins are \$5.00 each, and the whole set of all three pins is \$12.00.

Our centennial designer, John Metcalf of Good Design Group, is responsible for the artwork. The pins are metal with an enamel finish and butterfly pin back. Proceeds will go toward the building and running of the centennial exhibit, including related educational programs in 2019. The dimensions of the single logo pin are 1 inch x 1 inch.



Contact Gina Malczewski (reginamalczewski@gmail.com) if you are interested in purchasing one or more pins, or the entire set. Thank you.

16th Annual ChEMS Research Forum, May 9
ChEMS Department, Michigan State University

The Department of Chemical Engineering and Materials Science (ChEMS) at Michigan State University would like to invite you to join us at the 16th annual ChEMS Research Forum on Thursday, May 9, 2019. The forum is a full-day event, running from 8:30 AM to 5:00 PM, and will be held at the Huntington Club at Spartan Stadium, 325 West Shaw Lane, East Lansing, on the campus of MSU.

The 16th annual ChEMS Research Forum will showcase departmental research advances in the areas of:

- Energy and Sustainability
- Nanotechnology and Materials
- Biotechnology and Biomedical Engineering

The one-day program will feature invited plenary speakers, oral presentations from faculty and students, and an extended poster session describing the latest department research results.

If you or your company shares an interest in chemical engineering and materials science, then this event offers a uniquely personal and informal view into the general research directions of the MSU ChEMS department, its current research projects, and most importantly, an opportunity to get to know the many talented graduate students that are at the heart of it all.

We hope to see you on May 9. Registration, lunch, and refreshments are complimentary.

Keynote Speakers:



- **Linsey Seitz** – Chemical & Biological Engineering, Northwestern University
- **Alexandra Zevalkink** – Chemical Engineering and Materials Science, Michigan State University
- **Xanthippi Chatzistavrou** – Chemical Engineering and Materials Science, Michigan State University
- **Bea Braun** – The Dow Chemical Company
- **Elizabeth Sendich** – US Energy Information Administration

Keynote Topics:

- **Developing enhanced electrochemical catalysts using spectroscopic insights**
Renewable sources, such as wind and sun, supply more than enough energy to meet the increasing global demand and are promising solutions to shift our dependence away from fossil fuels, as long as challenges with intermittency, scale, and cost-effectiveness can be overcome. While recent developments have improved capture efficiencies for these sources, effective processes to convert and store this energy are needed. Chemical storage of energy using optimized catalytic reactions can produce high energy density fuels and commodity chemicals while allowing for spatiotemporal decoupling of the energy production and consumption processes. This talk will cover some recent work pursuing fundamental understanding of such catalytic reactions towards the production of renewable fuels and chemicals as well as the vision for future activities of the new Seitz Lab at Northwestern. This work includes studies of controlled catalyst surfaces with an emphasis on determining intrinsic catalyst activity coupled with insights from advanced characterization techniques, such as x-ray absorption and x-ray emission spectroscopy, which are invaluable for investigating the electronic, chemical, and geometric structures of materials.
- **Thermoelectric energy generation: Improving efficiency through crystal chemistry**
Thermoelectric devices, which directly convert thermal energy into electrical energy, have the potential to play a significant role in our global energy infrastructure. While thermoelectric generators are currently indispensable in space exploration and other specialized applications, further improvements in efficiency are required for them to be widely used in automotive and industrial waste heat recovery. In this talk, I will introduce a class of thermoelectrics known as Zintl compounds, which crystallize in an astounding variety of complex structural arrangements. Zintl compounds enable unique strategies for achieving high thermoelectric efficiency; for example, we recently showed that the layered compound Mg_3Sb_2 has unexpectedly soft interlayer bonding, leading to anomalously low thermal conductivity. In a second example, the highly anisotropic behavior of the 1D compound, $\text{Ca}_5\text{Ga}_2\text{Sb}_6$, can be exploited for high electrical conductivity along its covalently bonded sub-lattice. By exploring structurally complex Zintl phases as novel thermoelectric materials, we gain a window into the relationship between crystal structure and

transport properties in complex semiconductors and open new routes to improved thermoelectric performance.

- **Multifunctional glass-ceramic biomaterials: An effective tool for combating bacterial resistance**

- **Industry 4.0 – Generating value from analytics**

The manufacturing sector is currently undergoing a transformation towards increased automation, higher connectivity within machines, assets and business, and extensive use of generated data. This poses new and exciting challenges and opportunities for technical researchers at the interface of data analytics and technology. In this space, successful and valuable applications of data analytics require an understanding of scientific fundamentals and process control impact. This talk highlights examples of data-driven modeling approaches in polyethylene manufacturing, but the concepts are universally applicable. One case study focuses on the challenges encountered in implementing and maintaining infrared based chemometric models for polyethylene property predictions on a global scale. Establishing a reliable performance monitoring system utilizing diverse data sources together with meaningful metrics is key to ensuring trustworthy product release data. Another example showcases the performance of various analytics approaches, such as principal component analysis, random forest ensemble and deep learning models, for pellet shape classification. Embracing the imminent changes from Industry 4.0 and complementing scientific skills with abilities to translate the abundance of data into valuable insight will be a key factor for success for the upcoming generation of chemical engineers. This talk aims at sharing the excitement of the chemical industry in light of new value-generating opportunities with future industry professionals.

- **Service through chemical engineering: Work at the Energy Information Administration**

Research is the way this Chemical Engineer serves the public, providing information about a variety of topics through her work at the U.S. Energy Information Administration (EIA). EIA collects, analyzes, and disseminates independent and impartial energy information to promote sound policymaking, efficient markets, and public understanding of energy and its interaction with the economy and the environment. The Department of Energy Organization Act of 1977 established EIA as the primary federal government authority on energy statistics and analysis, building upon systems and organizations first established in 1974 following the oil market disruption of 1973. Located in Washington, DC, EIA is an organization of about 370 federal employees, many of whom are chemical engineers. Through the EIA website, we offer policy makers and the public daily, monthly, quarterly, and annual energy data and analysis products. EIA has won awards for its plain language style and accessibility. Products such as the State Energy Portal, Energy Explained, or the International Energy Outlook speak directly to those wrestling with complex energy problems, and our API and Excel add-in allow everyone instant access to everything they need for sound decision making. EIA also performs special analyses at the direct request of America's lawmakers.

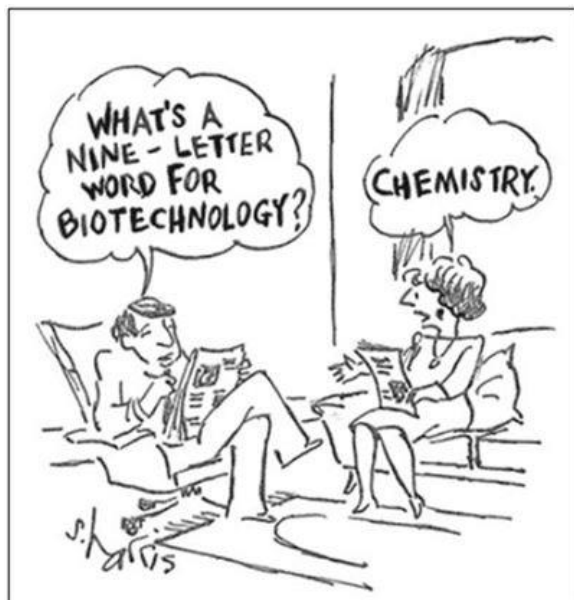
Registration, lunch, and refreshments are complimentary, but pre-registration for the forum is requested. Please register for the event at [2019 ChEMS Research Forum](#).

For more information, call the MSU ChEMS Department at 517-355-5135, or send an inquiry by e-mail to chems@egr.msu.edu.

Sidney Harris Cartoons Provided by the Division of the History of Chemistry

Submitted by Jeff Seeman, Department of Chemistry, University of Richmond

Editor's note: The Division of the History of Chemistry has received an ACS Innovative Grant that will provide 12 free Sidney Harris cartoons to ACS local sections for their use in newsletters or monthly communications or on their website.



There is a healthy debate among scientists about which discipline can provide the best tools for solving key societal problems. This cartoon pokes fun at the sometimes-contentious relationship between chemists and biologists. Chemists are often the inventors and early developers of materials and techniques that drive biotechnology. Is this area (arguably biology's most useful side) then really just chemistry in disguise? Can chemists lay claim to the most impactful discoveries within it? Whether you'd argue yes or no to these questions, it could be the biology community that gets the last laugh. Another clue in the man's crossword puzzle: "A biologist who has made seminal discoveries in his or her field, perhaps (4 words)." The answer: N-O-B-E-L-L-A-U-R-E-A-T-E-I-N-C-H-E-M-I-S-T-R-Y.

-- Chad Mirkin, Northwestern

Sidney Harris Cartoon Caption Contest

Submitted by Jeff Seeman, Department of Chemistry, University of Richmond

Win your own Sidney Harris original cartoon! A contest will be held in which ACS members only can submit "one original cartoon caption" of 35 words or less. Cartoonist Sidney Harris will draw a cartoon based on the winning caption. The grand prize winner will receive the original cartoon based on his/her winning caption. The runner-up will receive a personally autographed copy of one of Harris's most famous cartoons chosen by Harris.

For more information and the official entry form, go to: <http://acshist.scs.illinois.edu/index.php>. The deadline for receipt of original cartoon captions is Monday, April 1, 2019.

Jennifer Larimer, 2019 Fall Scientific Committee, Midland Section ACS

Jennifer Larimer, 2019 Fall Scientific Committee, Midland Section ACS



Upcoming Dates, Events, and Other Updates

- March 4 (7:00 – 8:00 PM) – Midland Section ACS Board meeting, MCFTA Board Room (in person), or via a WebEx conference call connection at [Midland Section WebEx Board Meeting March 2019](#), meeting number/access code 711 738 100, phone number: 989-633-1166.
- March 11 – **Deadline for submission of 2019 CERM abstracts.** For more information, or to submit an abstract, go to <https://callforpapers.acs.org/cerm2019>.
- March 14 (6:30 – 7:30 PM) – Science Café: *The Science of Syrup*, Chippewa Nature Center, 400 South Badour Road, Midland. Suggested for ages 10 and up, and plan to come dressed for the weather. Free program, but pre-registration is required, as space is limited to the first 40 people who sign up. To register, go to [The Science of Syrup](#). For any questions, please call the Chippewa Nature Center at 989-631-0830.
- March 15 – Application process opens for 2019 MSU St. Andrews summer internship program for high school students. Tentative summer internship dates are June 17 through August 19. The following webpage offers additional details: <https://standrews.msu.edu/2019/02/13/summer-internship-application-to-open-march-15/>. The application deadline is April 15. For any other questions, please contact Melanie Kauffman at kauffman59@msu.edu or 517-432-4499.
- March 18 (6:00 – 8:00 PM) – Younger Chemists Committee “Year of Beer” local brewery tour event, Tri-City Brewing Company, 4170 Shrestha Drive, Bay City. Contact Wendy Flory at WCFlory@dow.com to RSVP for a free beer ticket, and for any questions.

- March 31 - April 4 – 257th ACS National Meeting & Exposition, Orlando, FL. For more information, see <https://www.acs.org/content/acs/en/meetings/national-meeting.html>.
- April 1 – **Deadline for Midland Section ACS Spring Awards nominations** to honor outstanding educators, volunteers, and colleagues. For more information, contact Diana Deese, Midland Section ACS Awards Committee Chair, at dkdeese@dow.com or 989-636-9915.
- April 1 – **Deadline for submission of Sidney Harris original cartoon captions.** For more information about this contest, see <http://acshist.scs.illinois.edu/index.php>.
- April 8 (5:00 – 7:00 PM) – Midland Section ACS Board meeting pre-meeting pizza and networking session sponsored by the ACS CMU Student Chapter, The Cabin Restaurant, 930 West Broomfield Road, Mount Pleasant. For more information or questions, please contact Dale LeCaptain at dale.lecaptain@cmich.edu or 989-774-3993.
- April 8 (7:00 – 8:00 PM) – Midland Section ACS Board meeting, CMU Chemistry Department, Dow Science Building, Room 108, Mount Pleasant (in person), or via a WebEx conference call connection (TBD), phone number: 989-633-1166. **Please note the change of venue from MCFTA to CMU.** For more information or questions, please contact Dale LeCaptain at dale.lecaptain@cmich.edu or 989-774-3993.
- April 15 – **Deadline for MSU St. Andrews Summer Internship program applications.** Tentative summer internship dates are June 17 through August 19. The following webpage offers additional details: <https://standrews.msu.edu/2019/02/13/summer-internship-application-to-open-march-15/>. For any other questions, please contact Melanie Kauffman at kauffman59@msu.edu or 517-432-4499.
- April 25 – **RSVP deadline for ACS Spring Awards Recognition Banquet**, to be held May 1. See RSVP details on page 10 of this newsletter. Contact: Diana Deese at dkdeese@dow.com or 989-636-9915.
- May 1 (5:30 – 9:00 PM) – Midland Section ACS Spring Awards Banquet, Great Hall Banquet & Convention Center, 5121 Bay City Road, Midland. Cost: \$16.00 per person. For more information, contact Diana Deese, Midland Section ACS Awards Committee Chair, at dkdeese@dow.com or 989-636-9915.
- May 1-4 – ACS Great Lakes Regional Meeting (2019 GLRM), Sheraton Hotel, Lisle, IL. For more information, see <https://www.acs.org/content/acs/en/meetings/regional/great-lakes.html>.
- May 6 (7:00 – 8:00 PM) – Midland Section ACS Board meeting, MCFTA Board Room (in person), or via a WebEx conference call connection (TBD), phone number: 989-633-1166.
- May 9 (8:30 AM – 5:00 PM) – 16th Annual ChEMS Research Forum, Huntington Club at Spartan Stadium, 325 West Shaw Lane, East Lansing, on the campus of Michigan State University. Registration, lunch, and refreshments are complimentary, but pre-registration for the forum is requested. Please register for the event at [2019 ChEMS Research Forum](https://2019chemsresearchforum.org). For more information, call the MSU ChEMS Department at 517-355-5135, or send an inquiry by e-mail to chems@egr.msu.edu.
- June 3 (Save the Date) – Turner Alfrey Visiting Professor lecture, MSU St. Andrews, Midland. Professor Craig J. Hawker will be the main lecturer. Other speakers from Dow are also being lined up. More details are forthcoming, but please see: <https://standrews.msu.edu/2019/02/13/craig-hawker-to-visit-for-the-turner-j-alfrey-visiting-professorship-on-june-3/>. For any questions, please contact Melanie Kauffman at kauffman59@msu.edu or 517-432-4499.
- June 4-8 (7:30 AM – 5:30 PM) – 50th ACS Central Regional Meeting (2019 CERM), The H Hotel, Midland. Celebrating the 50th Central Regional Meeting of the ACS and the 100th anniversary of the Midland Section of the ACS. For more information about 2019 CERM, go to <https://acscerm2019.org/>. To register to attend 2019 CERM, go to <https://acscerm2019.org/meeting-registration/>. To submit an abstract for 2019 CERM, go to <https://callforpapers.acs.org/cerm2019>. **Please note the March 11, 2019 deadline for 2019 CERM abstract submissions.**
- June 5 (6:30 – 8:30 PM) – 2019 CERM Awards Banquet, The H Hotel Ballroom, Midland. For more information, see <https://acscerm2019.org/>.

- June 6-8 – STEM Education Opportunities at CERM. To register for local and free long-distance workshops, go to <https://acscerm2019.org/>. For more information or any questions, please contact Gina Malczewski (reginamalczewski@gmail.com) or Michelle Rivard (michelle.rivard@dow.com).
- June 6 (7:05 – 10:00 PM) – Great Lakes Loons Baseball Game, Dow Diamond, Midland, in conjunction with the 2019 CERM meeting. For more information, please see <https://acscerm2019.org/>.
- June 8 (6:00 – 7:00 PM) – National Historic Chemical Landmark dedication event, Founders Park, Midland, in conjunction with the 2019 CERM meeting. For more information, see <https://acscerm2019.org/>.
- June 10 (7:00 – 8:00 PM) – Midland Section ACS Board meeting, MCFTA Board Room (in person), or via a WebEx conference call connection (TBD), phone number: 989-633-1166.
- August 5 (7:00 – 8:00 PM) – Midland Section ACS Board meeting, MCFTA Board Room (in person), or via a WebEx conference call connection (TBD), phone number: 989-633-1166.
- August 25-29 (Save the Date) – 258th ACS National Meeting & Exposition, San Diego, CA.
- September 9 (7:00 – 8:00 PM) – Midland Section ACS Board meeting, MCFTA Board Room (in person), or via a WebEx conference call connection (TBD), phone number: 989-633-1166.
- October 7 (7:00 – 8:00 PM) – Midland Section ACS Board meeting, MCFTA Board Room (in person), or via a WebEx conference call connection (TBD), phone number: 989-633-1166.
- October 26 (Save the Date) – 2019 Midland Section ACS Fall Scientific Meeting, Saginaw Valley State University. Meeting theme: *Marvelous Metals*.
- November 4 (7:00 – 8:00 PM) – Midland Section ACS Board meeting, MCFTA Board Room (in person), or via a WebEx conference call connection (TBD), phone number: 989-633-1166.
- December 2 (7:00 – 8:00 PM) – Midland Section ACS Board meeting, MCFTA Board Room (in person), or via a WebEx conference call connection (TBD), phone number: 989-633-1166.

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