

THE MIDLAND CHEMIST

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Chair Column – Welcome

Robbyn Prange, Chair, Midland Section ACS



“Welcome to 2020” was fresh in my mind as I attended the January 2020 ACS Leadership Institute with Diana Deese and Lauren McCullough. The three-day institute afforded me an opportunity to learn “things you need to know” about ACS such as section numbers and demographics, eRosters, elections, and available grants. I also met many of ACS’s leadership and committee members. However, neither the learning nor the networking stuck with me the most; instead, it was how frequently I heard, “Oh, you’re from the Midland Section,” or “Midland’s CERM was amazing,” or “I’d love to understand how Midland did that.”

Indeed, the [Midland Section of the ACS](#) has a long history and positive reputation for impacting its community and advancing chemistry. The 2020 ChemLuminary Awards recognized the Midland Section with 11 ChemLuminary Awards, including “Outstanding Performance by a Local Section (Medium Size Category).” This recognition recognizes every one of us who plays a role in supporting or leading our

programs, promotes education, and advocates for the Midland Section of the ACS. For that, I am grateful and thank you for your contributions.

As “Welcome to 2021” is fresh in our minds, I encourage you to consider how you will advance our local section ACS efforts this year. How might you approach the opportunities and learnings that lie ahead? Will you be part of [ACS Spring 2021 – Macromolecular Chemistry: The Second Century](#) (abstracts due January 19, 2021)? Will you learn about “[Chemistry in Coronavirus Research](#)”? Will you be part of [Chemists Celebrate Earth Week](#) or become a [Science Coach](#)? Will you say yes to any of these or other volunteer opportunities within the Midland local section, from leadership and outreach to mentoring and networking?

I look forward to working with you in 2021 to ensure an eventful year for our Midland local section. Please always feel welcome to share your insights, ideas, or questions during our monthly Midland Section Board Meeting or by reaching out directly to me at rprange@dow.com.

I wish you, your family and loved ones, good health and joy in 2021.

Call for ACS Fellows Program Nominees

Robbyn Prange, Chair, Midland Section ACS

The Midland Section ACS Board is seeking nominees for the 2021 [ACS Fellows Program](#) which recognizes members for outstanding achievements in and contributions to science, the profession, and the Society. If you know of a local section member that meets these criteria, please submit their name and a brief description of how they meet the criteria to Robbyn Prange (rprange@dow.com). The Board will review all nominees for the selection of a Midland Section ACS member nomination to the ACS Fellows Program (April 1, 2021 deadline).

Midland Section ACS Receives 11 ChemLuminary Awards for 2019 Programs

Amanda Palumbo, 2019 Chair, Midland Section ACS



The Midland Local Section won **11 ChemLuminary Awards** for our **2019 programming** – *record setting!* This includes the award for Outstanding Performance by a Local Section (Medium Size) for the 8th consecutive year! The complete list of categories for which we received awards is shown on page 3. This recognition is a testament to the dedication of our volunteers and commitment to our community.

To my fellow Midland Section ACS Board members, various committee chairs, and esteemed volunteers – **THANK YOU** for your service to the ACS! Please make sure to forward this recognition announcement to your committee members, partners, and participating volunteers and let them know how very much they are appreciated.

The 22nd Annual ChemLuminary Awards ceremony was held as a virtual event on Wednesday, December 9, 2020, beginning at 4:00 PM. A number of our local section leaders and members were able to connect with fellow ACS members from across the country and to cheer ourselves on (and to cheer and congratulate other sections, too) as the awards were announced one after the other over the course of over an hour. You can watch the full ChemLuminary virtual awards ceremony [here](#) or watch the 22-minute [abbreviated version](#) highlighting the 11 awards received by Midland Local Section.



- **Outstanding Performance by a Local Section (Medium Size)** – for the 8th year in a row!
- **Chemists with Disabilities Inclusion Award** – *“Creation of a Tactile 3D Printed Periodic Table in Braille & ASL”*
- **Outstanding Local Section Programming Related to the Promotion of Ethics in Chemistry** – *“Centennial Museum Exhibit – Display on Unintended Consequences”*
- **Outstanding Continuing Public Relations Program of a Local Section** – *“Public Relations for Midland Section 2019 Activities – Midland Chemist, Section Website, Social Media, Marketing Partners, News Outlets, Etc.”*
- **Best Event or Activity Organized by, or Benefiting, the Applied Chemical Technology Professional Community** – *“2019 Central Regional Meeting – Mid-Michigan Technologist Group Programming and Events”*
- **Outstanding Leadership Development Program** – *“Women Chemists Committee, Skills Beyond the Bench”*
- **Local Section Partnership Award/Marinda Li Wu Award** – *“Public Museum Exhibition: Science Paints Our World, Chemistry and Arts”*
- **Most Innovative New Activity or Program** – *“H2O Q – Citizen Science Water Quality Experiment”*
- **MAC Industry Engagement & Outreach** – *“2019 Central Regional Meeting – Technologists in Industry Symposium”*
- **Best New Senior Chemists Activity within a Local Section** – *“Silver Circle Midland Section Centennial Celebration”*
- **Fostering Interactions between Local Sections and Student Chapters** – *“Events and Partnerships with Women Chemists Committee, CERM 2019, Mid-Michigan Technologist Group, CMU/Midland Section Joint Meeting”*

Congratulations to all of our members, volunteers, and community partners for your efforts in 2019. Well done, and thank you, again!

MSU St. Andrews Family Astronomy Night
Clare Light, Project/Event Coordinator, MSU St. Andrews

Family Astronomy Night, *Our Marvelous Moon*, Wednesday, January 13, 2020, 7:00 – 8:30 PM. Free virtual event. For more details, please visit: <https://msu.zoom.us/j/93351955313> and enter the password MSU. For any questions, please contact Clare Light at lightcla@msu.edu or 989-374-9904.

Did you know that both the size and the distance of the Moon were already known to ancient astronomers over two thousand years ago? Why are there "seas" on the Moon when we think that it has no liquid water? Why is the "far side" of the Moon so different from the "near side?" And what about the "dark side" of the Moon? (They're not the same.) What kind of details should you be able to see on the Moon without a telescope, and how and when should you look? Are you aware that numerous countries (not just the USA) have sent space missions to the Moon?



Are you able to find the "Winter Hexagon" and all its parts (like Orion, Gemini, and Taurus) in the sky? Have you heard that January offers the best opportunity to see the planet Mercury since the spring of last year? Join us on Wednesday, January 13, at 7:00 PM EST via Zoom to learn more!

Join Link: <https://msu.zoom.us/j/93351955313> **Password:** MSU

Families with school-age and older children are invited to join us virtually for a presentation focused on our wonderful Moon. Last November, we described a number of interesting things that we can learn about the Moon's orbit just by watching what it does over time, even without a telescope. This month, we will learn more about the Moon itself. We will show how both the size of the Moon, and how far away it is, were first measured thousands of years ago, without any telescopes! We will also show what details you can see on the Moon with your unaided eye and a simple pair of binoculars. We will describe what scientists have learned through telescopic observations and images taken by spacecraft. Finally, we will end with a summary of the most recent missions to the Moon.

As always, we will show you how to find the planets and other cool things in the sky this month and into February. Have you noticed that Jupiter has just passed Saturn in the sky, and Mercury has passed by both of them? Have you seen Mars in the south or brilliant Venus lighting up the morning sky? Are you able to use the Winter Hexagon to unlock the winter sky? We will help you see all of these things for yourself.

Attention students! MSU St. Andrews participants in the Great Lakes Bay Region [STEM Pipeline Passport](#) program.

Also, please like MSU St. Andrews on Facebook: <https://www.facebook.com/MSUStAndrews/>. Thank you.

CMU Department of Chemistry and Biochemistry Spring 2021 Seminar Series
Ben Swarts, Associate Professor, Central Michigan University

The Department of Chemistry and Biochemistry of Central Michigan University is pleased announce its virtual seminar series this semester with some great speakers lined up, including a couple of C&EN's Talented Twelve, Steven Townsend from Vanderbilt University and Alison Narayan from the University of Michigan. In addition, a CMU MS alum, Jennifer Shomaker, now at the University of Wisconsin, Madison, will be one of the speakers. Although the schedule is still being filled in, the table below includes the plans that are in place today.

All are welcome and encouraged to join in these virtual WebEx seminars. Just click on the following link: <http://cmich.webex.com/meet/swart1bm>. All of the seminars are scheduled for 4:00-5:00 PM on Mondays on the dates indicated below. For any questions, please contact Ben Swarts at ben.swarts@cmich.edu.

Date	Speaker	Institution	Title
2/1/2021	Prof. Steven Townsend	Vanderbilt University	TBA
2/15/2021	---	---	---
3/1/2021	---	---	---
3/15/2021	Prof. Jennifer Schomaker	University of Wisconsin Madison	TBA
3/29/2021	---	---	---
4/12/2021	Prof. Marcos Pires	University of Virginia	TBA
4/26/2021	Prof. Alison Narayan	University of Michigan	TBA

Scholarships Available from Midland Area Community Foundation (Fund #399)

Gina Malczewski, Outreach, Midland Section ACS

The Midland Section ACS is once again offering two scholarships of \$1,500 each to students who apply to Fund #399 at the Midland Area Community Foundation. Officially, the fund is intended to "Provide financial support to college students seeking academic degrees in the chemical sciences at colleges and universities in the state of Michigan. The local section's area is Midland, Bay, Saginaw, Gratiot, and Isabella Counties as of this writing, but may be expanded. Eligible students will be those majoring in a chemical science who are entering the sophomore, junior, or senior level of study, and are a high school graduate from the section's geographical area. The requirements for receiving a scholarship will be based on academic achievement and potential for contributions to the chemical sciences."

Applications are now being accepted through February 15, 2021. Applicants will need transcripts and recommendation letters, as well as an essay about their reasons for studying in a chemical field and their thoughts about future plans. The link to apply is <https://www.midlandfoundation.org/scholarships/>

And, yes, you CAN contribute to the scholarship fund! To do so, please go to:

<https://www.midlandfoundation.org/fund/midland-section-american-chemical-society-endowed-scholarship-fund-399/>

Considerations/recommendations for applicants: More lengthy academic records are easier to assess, so upper classmen may have an advantage. Recommendation letters should be strong and positive! Examples of “Chemical Sciences” are chemistry, biochemistry, and chemical engineering. It is advisable to “get personal” in your essay and describe your career/life goals.

If you have any questions (about applications or donations), please contact Gina Malczewski at reginamalczewski@gmail.com or Heather Crowl at the Midland Area Community Foundation.

Calling All Science Coaches

Gina Malczewski, Outreach, Midland Section ACS

First suggested by our own Tom Lane when he was National ACS president in 2009, the ACS Science Coaching program has been going strong for about 10 years now. Midland was part of the initial pilot program. Several of us have been coaches the entire time and enjoy the opportunity to interact with local educators.

The premise of the program is that teachers may benefit from a relationship with a professional scientist in several ways – personal support to build a “comfort level” with curriculum topics, assistance with chemical hazards (think old stock rooms), help with science fairs, or visits to classrooms. The teacher determines the form the “coaching” will take. Any area educator can participate, once they join AACT (the ACS American Association of Chemistry Teachers, covering all K-12 teachers of science) for \$50/year. Membership allows the educator access to online resources added by teachers themselves, including activities with curriculum alignment, and associated worksheets. Coaching is a school year-long commitment, requiring at least six meetings between the coach and teacher. The program provides \$500 of cash support or in-kind science supplies for the participating teacher.

Due to privacy concerns, the National ACS cannot notify us of all our local fellow coaches. If you are a coach, contact Gina Malczewski at reginamalczewski@gmail.com if you wish to pool resources, or get ideas from other coaches. One effort being considered area-wide in this time of COVID-19 restrictions is a virtual teacher workshop, so we would like to recruit as many educators as possible to participate (and you could help!).

If you are not currently a coach or a participating teacher and are interested in becoming one for the 2020-2021 school year, please feel free to contact Gina and/or visit these related websites:

<https://teachchemistry.org/>

<https://www.acs.org/content/acs/en/education/outreach/science-coaches.html>

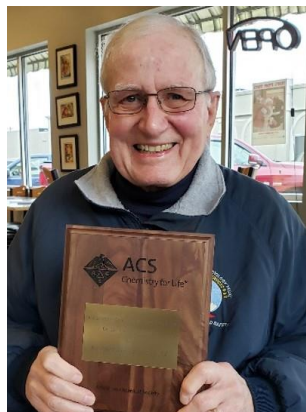
Thanks to all our participants – for your enthusiasm, and for your patience – as we work through creative ways to help our education community during this unusually challenging time. Those of us who coach really enjoy these special connections!

2020 Midland Local Section Awards ... It's a Wrap!

Diana Deese, Awards Committee Chair, Midland Section ACS

Well, 2020 was certainly a challenging year! We were not able to hold the annual awards banquet in May, but we were able to present (in a proper social distancing manner) the usual suite of awards to some very well-deserving individuals and teams, as follows.

Outstanding Achievement and Promotion of the Chemical Sciences (Two recipients in 2020)



Dr. Christian Goralski, Dow Chemical Company (Retired)

Dr. Goralski is perhaps best known in the academic circle for his work on the use of achiral and chiral hydroborating agents in organic synthesis. His research has led to the discovery of an array of reactions using Boron chemistry: asymmetric synthesis of β -amino alcohols, HPLC separation of β -amino alcohols, discovery of selective and powerful reducing agents, and chiral auxiliaries synthesized from terpene epoxides, just to name a few.

Chris has contributed to the Midland local section through his service as treasurer, secretary, chair-elect, and section chair, one of the few members to have held all of these positions. A few of the programs organized by Chris and the program committee during 1977 were "Chemistry and Analysis of Materials Utilized in Laser Fusion Research" by Robert Nolan, KMS Industries, Ann Arbor MI; "Occupational Stress Among Chemists" by Professor Joy V. Reeves, Stephen F. Austin State University, Nacogdoches, TX; and "Chemistry and Art" by Alfred Bader, President, Aldrich Chemical Co., Milwaukee, WI.

In 1982, Chris was the chair of the ACS Central Regional Meeting and brought in several Nobel prize recipients as speakers, and the XVI Organosilicon Symposium, which included every one of the previous National Kipping Award winners as a speaker or session chair.

Chris served on the Editorial Advisory Board of *Organic Process Research and Development* and as a reviewer for 16 years (2000-2015) helping this journal to become the leading journal in organic process chemistry.



Dr. Bradley Fahlman, Central Michigan University

Dr. Fahlman joined the CMU Department of Chemistry and Biochemistry in 2002 and was promoted to the rank of Associate Professor in 2005 and Full Professor in 2010. He is an internationally recognized chemist in the field of inorganic energetic nanomaterials research accomplishing a record of peer-reviewed scientific publications in high impact journals including but not limited to *Journal of the American Chemical Society (JACS)*, *Carbon*, *ACS Nano*, and *Chem. Mater.* He has coauthored over 72 peer-reviewed publications with an h-index of 21 and 1920 citations. Dr. Fahlman has continuously received peer-reviewed nationally competitive research awards from an impressive list of various funding agencies.

Brad has published two textbooks for promoting chemical sciences: *Chemistry in Context* (ACS/McGraw Hill, 9th & 10th eds., 2017 and 2020), and *Materials Chemistry*, Fahlman, B.D., Springer Nature: New York, 3rd ed., 815 pp., 2018 ... which received the 2008 Textbook Excellence Award by the Text and Academic Authors Association, demonstrating his diligent effort and significant achievement in promoting the chemical sciences.

Some of the other awards that Brad has received include the IUPAC Young Observer (Istanbul, Turkey, 2013), the recipient of the College of Science and Engineering Award for Outstanding Teaching (2017), the CMU Provost's Award for Research Excellence (2005), and CMU Research Excellence Fund (2003).

It goes without saying that Brad is a consummate mentor to a broad spectrum of chemistry enthusiasts, and it is because of Brad that I am the current chair of the awards committee as he convinced me to take over the position when he left for a sabbatical ... over a decade ago!

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



Dr. Anja Mueller, Central Michigan University

Dr. Mueller joined the CMU Department of Chemistry and Biochemistry in 2005 and became the third tenured female faculty member within the department.

She was a co-PI for NSF grants titled “Enhancing STEM Education with Environmental Experiments: A Multi-Institution, Cross-Curricular, and Cross-Disciplinary Initiative,” and, “CCLI Type 1: Enhancing Undergraduate Chemistry Education through Incorporation of Research-Based Environmental Experiments.” She has always worked diligently to secure research and educational grants to enhance CMU’s STEM education programs.

Dr. Mueller has mentored seven economically disadvantaged high school students during the last 13 years through the ACS SEED program. A majority of these SEED students were female and/or minority. It is to be noted that most of her female students have either joined the professional workplace or top-ranking Ph.D. or professional programs, such as Dow Chemical, Michigan State University, Baylor College of Medicine, etc. Many of them have also received scholarships and awards (e.g., Sophie Bedford, Capitol Scholars in 2018; Ashley Plank, Undergraduate Presentation Grant in 2018; Leighla Line, Best Poster Award, 3rd prize, CERM 2013; and Lia Koski, Outstanding Student Paper in 2009). Her intensive effort on mentoring includes junior female faculty members and is clearly outside the scope of her formal faculty job responsibilities.

Anja has actively participated in events that address gender equity and women in the professional workplace, such as “Women Professors at CMU,” a panel organized by the RSO “Society of Women in STEM” (2015). Dr. Mueller also served/serves as the college active learning mentor, active learning committee secretary and chair, and the departmental curriculum committee chair, reflecting her academic leadership spirit. Through these service activities, she has gained a reputation for creating a positive and inclusive environment for broad participation. She also demonstrates how women in academia can push the boundaries of gender equality and take a significant leadership role in a traditionally male-dominated academic field.

Outstanding Elementary Level Science Teaching



Amy Crosby, Kolb Elementary, Bay City

The repeated words used to describe Amy are amazing, inspiring, and encouraging! The fun her students have learning about science topics spills over to subsequent grade levels and teachers pay respect to the passion for science she instills in her students. She did a “Save The Earth” theme for this year’s Christmas tinsel tree using all recycled materials that her students found from the playground or brought from home. It was hands-on and used science to teach important life-skills while demonstrating ways to improve our planet.

She is great at integrating science with art and math to further make lessons fun. Amy’s imaginative, engaging, and dedicated teaching style results in students that have a joy for learning and are excited to be a part of the STEM pipeline! Not only are they learning about how to be scientists, but engineers and technology specialists, too!

Science Education Volunteer of the Year



Michelle Rivard, Dow

Michelle is simply a one-woman powerhouse for promoting chemistry within the local and national community. Michelle’s various positions on the Mid-Michigan Technician Group include Director, Treasurer, Co-Chair, and Chair.

Michelle has been the Program Committee Chair responsible for technician education programs including Science Cafés, dinner lectures, career development seminars and Lunch-and-Learns, ACS Day at the Midland County Fair Committee Chair for almost 10 years, the Co-Chair of the Kids and Chemistry/Outreach Committee, and Camp Coordinator for “Science Works!” (a four-day STEM camp at Delta College). She always ensures that the programs are interactive and entertaining ... and they have been instrumental in the local section receiving dozens of ChemLuminary awards over the years. Michelle is also involved with scholarship committees, writes CCA grants, is part of the Delta College Chemical Technology Advisory Board, and is involved with the evolution of the criteria and rubrics for the committees on which she serves in an effort to keep them relevant, current, and viable.

On the national stage, Michelle is involved with Project SEED (serves as the local chair) and she serves as liaison to the Committee on Corporation Associates. Michelle has been an invited presenter at Pittcon (conducting teacher workshops at Science Week since 2013) and has been involved with the ACS “Science Coach” program since 2010. Annually, Michelle easily serves over 300 hours volunteering for chemistry outreach and programs to promote chemistry and the related sciences. Michelle had received the MMTG Outstanding Volunteer Award multiple times and was honored with the ACS National Chemical Technician Award in 2018.

She is a diligent volunteer, often being the person who ultimately ensures that every single task is assigned or completed to perfection. Michelle is innovative, anticipates problems, suggests solutions, and finds ways to get things done, often while being under the constraints of very challenging budgets. She is very approachable and has a well-deserved reputation for being dependable and interested in new challenges. Her tireless energy and enthusiasm and her ability to excel at any task she undertakes is exemplary.

Outstanding Chemical Technician



Heidi Clements, Dow

Beginning as a technician working in the Dow core team responsible for heterogeneous catalyst development and characterization, Heidi is now the leader for the polyolefin and alkoxylation high throughput analytical laboratory. She has a reputation for rigorous questioning of results, high quality data, organization, and a tremendous aptitude for the analytical sciences. Her primary responsibilities include leadership of the analytical workflows and supporting high-throughput synthetic equipment for which the duties are multifold, including prep, analysis, and archiving of over 25,000 samples per year, complex maintenance of tools as well as identification of new assets or upgraded capabilities, and oversight of supporting lab personnel. Heidi navigates these elements flawlessly.

Heidi has become the lab point person, learns new characterization techniques, establishes protocols for data integrity, as well as expertly executing routine analyses. Her skills and initiative have proved to better the organization. For example, she emplaced a sample submission file-storage system to allow analysts to better understand the samples, their hazards, and the data being sought by the customer. Project team members regularly express that they get their results faster and with better reproducibility than ever before in the HTR capability's 15-year history. This improvement in efficiency is a direct result of Heidi's relentless efforts and strong organizational leadership skills.

Heidi proactively engages colleagues and other subject-matter experts from across Dow to help improve on lab best practices and analytical techniques. Her initiative is second-to-none, and her creativity and innovative problem-solving skills ensure that our solutions are robust and effective. Further, she works well with external vendors to identify cutting-edge new equipment that allows expansion of capabilities, and she has led several capital projects to purchase and install these new analytical tools in the labs. Despite some of the significant challenges faced during install and networking of these tools, Heidi remains a positive and upbeat influence, refusing to back down despite the difficulties. She works with colleagues in Chemical Science and across Dow to find solutions to those challenges, and several of our newest pieces of equipment are delivering critical project results precisely because of her tenacity.

Outstanding College Chemistry Teaching



Dr. Choon Young Lee, Central Michigan University

Dr. Lee has successfully taught general chemistry, survey of organic chemistry (for students in health professions and dietetics), organic chemistry I and II and lab (for chemistry, biochemistry, and biology majors), and advanced and graduate level organic reactions and synthesis courses. Dr. Lee also teaches students by involving them in research. They are trained in organic synthesis and she guides them in learning to write in the scientific style and mentors them through their thesis. She encourages and guides her students to make research posters and practice presenting them before sending them to CMU's annual Student Research and Creative Endeavors Exhibition (SRCEE), and then also to present at local and national ACS meetings.

Choon also connects with her students and invites them to be a part of her "family." She reaches out to students who don't know what to do with their future and helps them find their path, whether it takes them to a graduate program, a professional program, or job in a large or small company. She has mentored students in the McNair program for underrepresented/economically disadvantaged undergraduate students and helped them prepare to apply to graduate programs. She mentors students who are just beginning to think about their future and helps them to find their way. In just the past five years, Choon has mentored the undergraduate theses of nine students and the graduate theses of six students who gave eight presentations at CMU and at ACS conferences. In her career, Choon has taught students chemistry through research to 75 undergraduate students and 12 Masters students. Many a times when I entered her office for a research question, I have observed several students in her office happily learning the material from a smiling professor in a positive atmosphere. Mind you when I say material, I mean Organic Chemistry, a subject that most students dread! Choon is able to do wonders with her students!

2020 Midland Local Section Team Innovation Awards

Diana Deese, Awards Committee Chair, Midland Section ACS

In 2020, the Midland Local Section introduced a new award category, the "Team Innovation Award" which recognizes teams responsible for commercialized innovation through new products or processes within the current or two previous years. Up to three awards will be presented, reserving one award for organizations with less than 300 employees. Recently, I just finalized presenting the awards to the following entities, and hopefully, I will have pictures for next month's issue:

- Dow Consumer Solutions: Hand Sanitizer for COVID-19 Response
- Dow Performance Silicones: SILASTIC™ Moldable Optical Silicone
- Impact Analytical: Leachable and Extractable Studies

The following include excerpts from the award nomination materials for the first two awards, followed by a nice article published by the *Midland Daily News* on the Team Innovation Award to Impact Analytical.

Dow Consumer Solutions: Hand Sanitizer for COVID-19 Response

Hand Sanitizer is an ethanol-based formulation prepared according to WHO and FDA guidelines for local production. Ethanol from Dow Michigan Operations in Midland was supplied to Dow Auburn Operations and processed into hand sanitizer. The sanitizer was then provided to the State of Michigan and to community partner, [THRIVE](#), for distribution to Great Lakes Bay Region hospitals and first responders during the COVID-19 outbreak. Some sanitizer was also distributed internally for use by critical infrastructure workers at Dow plants.

As COVID-19 case numbers began to accelerate in March 2020, the virus became a real and immediate danger across the US. In response, the CDC provided several recommendations to prevent the spread of COVID-19 such as avoiding close contact with others, washing hands frequently, and using alcohol-based hand sanitizer. Due to extremely high demand, supply shortages of hand sanitizer quickly developed and even resulted in limited availability for some hospitals and first responders. By promptly establishing production of hand sanitizer, this team was able to provide a stopgap supply for local hospitals, first responders, and critical infrastructure workers.

Solutions with high alcohol content are known to kill viruses via denaturation and coagulation of proteins and are commonly used as hand sanitizers. The uniqueness of this project is that the team navigated several scope changes – due to raw material availability and coordination across multiple government agencies – to achieve commercial-scale production of an FDA-compliant sanitizer within eight days of project initiation and within three weeks of the first confirmed COVID-19 case in Michigan. Ethanol was ultimately chosen as the alcohol after USP-grade isopropanol supply was delayed and a vendor confirmed that a grade of ethanol available in Midland met FDA requirements. A procedure was developed to transfer ethanol from Midland bulk storage to drums for further processing in Auburn. In Auburn, within-drum mixing was selected for bulk sanitizer production to minimize contamination risk. This use of vessels not intended for pressurization – and hydrogen peroxide only being available in concentrated form – required careful review due to reactive chemistry concerns, which were ultimately mitigated by specific order of addition and handling. An opportunity was identified to load the required amount of ethanol into each drum in Midland to simplify finishing in Auburn and reduce opportunities for error and contamination. The team had to work with both the FDA and ATF to legally transport the Midland ethanol without denaturant and to agree on a denaturant package for the sanitizer considering supply constraints, leading to additional formulation changes. The team initially expected to provide the product in drums, but it was determined after further discussion with the Michigan National Guard that down-packaging into ½-gallon jugs would be required, resulting in additional procurement challenges and procedure development. All preparations and production took place with many COVID-19 safeguards in place; only critical-to-operations staff were able to access the plants, and several team members completed their work remotely.

Many small companies across the country have attempted to make sanitizer during the pandemic, but several likely faced limitations such as equipment scale or raw material access and flexibility. Some may have proceeded without full awareness of flammables handling and process safety risks, Good Manufacturing Practices (GMP), quality assurance methods, environmental regulations, and specific FDA requirements including labeling and raw material quality. The cross-functional collaboration by this team fully leveraged Dow's procurement, quality, regulatory, process technology, reactive chemistry, safety, packaging, business process, and operations capabilities and subject matter expertise to make sanitizer in a way that ensured the safety of both Dow employees and those who will use the sanitizer and complied with government regulations. In addition to the many scope changes mentioned above, a manual production management

process was used to expedite manufacturing while the recipes, compositions, and stock-keeping units (SKUs) were set up in Dow's enterprise resource planning (ERP) system. System setup for all raw materials and products was completed within 12 days of project initiation, allowing record keeping to be transitioned to that more efficient system. To offer some perspective on the magnitude of the team's achievement, these commercialization workflows that were completed in days can often take months!

The project was completed very quickly to get sanitizer to those who needed it when they needed it the most. Auburn Operations has produced, packaged, and donated about 25 tons of hand sanitizer – or nearly 160 pallets – as part of this effort. If it is assumed that each kilogram of sanitizer equates to 300 uses, then the amount donated is enough for roughly 7,500,000 uses. Based on this, the prevalence of COVID-19 in Michigan (over 56,000 confirmed cases as of May 29, 2020), and the use of the product by front-line healthcare workers, it is plausible that this supply of sanitizer helped prevent some transmission of the virus. The governor's comments and media interest provided additional perspective on the community impact.

Dow Performance Silicones: SILASTIC™ Moldable Optical Silicone

Market launch for the MS-40xx series was scheduled for several trade shows in 2020 which were delayed. SILASTIC™ MS-4007 won an R&D 100 award in 2019 for implementation in a sports stadium lighting application.

These two-part, heat-cured injection moldable products lead the secondary optics market in product quality, processing, and application performance. SILASTIC™ Moldable Optical Silicone enables high power applications (in both general and automotive lighting applications) and can accommodate the heat generated by the LED, its immediate environment, or other challenging environments where the mechanical and chemical stability of silicones enable long product life as compared to thermoplastic incumbents. Delivering higher optical performance by demonstrating high optical clarity with sustained optical performance after exposure to harsh environmental conditions, including high temperature and high humidity, make them ideal for outdoor type applications. This also gives customers increased design flexibility to bring innovative solutions to the lighting market to meet the high demands of color consistency and excellent performance over the lifetime of the LED.

The use of LEDs in combination with revolutionary lens designs enabled by SILASTIC™ Moldable Optical Silicone provide illumination precision while reducing technical barriers and cost of ownership encountered with incumbent materials such as thermoplastics and glass. These materials are also differentiated from traditional LSRs due to their optical clarity and robust performance under fast processing conditions. Fumed silica is used in traditional LSRs to provide mechanical toughness and tear resistance, however due to a refractive index mismatch between the silica ($n = 1.48$) and the silicone matrix ($n = 1.41$) traditional LSRs are hazy in appearance and not suited for optical applications. New silicone molecular designs were necessary in order to achieve desired mechanical attributes while also delivering the desired optical clarity. Siloxane resins developed by scientists at Dow Corning in the 1980s and 1990s combine the SiO_2 structure of silica to provide mechanical reinforcement with sufficient organic functionality to enable refractive index matching with linear polydimethylsiloxanes. Most recently, further development of processing methods for siloxane resins and siloxane polymer as well as refinement of reactive functionality achieved an injection moldable formulation that provided the best combination of optical performance, design flexibility, and production throughput.

Luminaire manufacturers use a range of optical materials, including glass or optical plastics such as epoxy, polycarbonate, and poly(methyl methacrylate) for producing optical elements. Increases in LED power output for high lumen applications results in a significant increase of local heat generation near the LED. High temperature exposure degrades the optical plastics and reduces their performance. Thermal degradation results in discoloration or cracking, distorting the light output from the luminaire. SILASTIC™ Moldable Optical Silicones resolve these negative issues.

Dow's SILASTIC™ Moldable Optical Silicone enables advanced headlighting concepts that reduce the number of roadway collisions and increase automotive safety. Dark and low-light conditions on roadways, in parking lots, or sidewalks increase the likelihood of accidents. Recently, AAA reported that 25% of all automotive travel is done in the dark. During these times, 52% of all driver fatalities and 71% of all pedestrian fatalities occur. The use of new adaptive driving beam headlamps already embraced in Europe reduces visibility related crashes by 6-7%. Adaptive driving beam headlamps are enabled by SILASTIC™ Moldable Optical Silicone. Collectively, over 20,000 combined vehicle related deaths, injuries, and collisions with a total economic savings of nearly \$1.8 billion annually are avoided. The flexibility, durability, and carefully tuned cure profile enables the complex optics required for adaptive lighting concepts to be reliably molded, impossible with existing options, like optical glasses or plastics.

The adoption of LED based technologies to increase roadway, parking lot, or sidewalk illumination has benefits beyond providing adequate visibility. LED solutions provide significant energy savings and longer lifetimes. LEDs provide a 75% daytime and 50% nighttime power savings compared to traditional lighting systems in vehicles and a 75% energy reduction in general lighting. LEDs can last 3-25 times longer than traditional incandescent lighting in these applications, saving cost. These benefits are profound and well documented by the Department of Energy. Illumination is also a critical part of modern entertainment, bringing what happens on the field or stage to our eyes even in the cheap seats at the stadium or on the TV at home. Dow Performance Silicones launched a next generation optical moldable silicone, SILASTIC™ MS-4007, in conjunction with Eaton's Ephesus LumAdapt 8 optical system allowing stadium lights to perform reliably in harsh environmental conditions 365 days a year.

Impact Analytical Wins 2020 Midland Section American Chemical Society Award

Diana Deese, Chair, Midland Section ACS Awards Committee

Editor's note: This article is reprinted, in part, from the Wednesday, December 16, 2021 issue of the *Midland Daily News*. Victoria Ritter (vritter@mdn.net) processed the original article for the *Midland Daily News*.

The Midland Local Section of the American Chemical Society grants three awards per year recognizing the companies responsible for successful product or process innovation in the Midland area. One of the awards is reserved for organizations with less than 300 employees in the region. Impact Analytical was the recipient of this particular Midland Local Section Team Innovation Award in 2020.

This award recognizes the team responsible for a commercialized innovation. Innovations can be either new products or new processes; Impact Analytical developed a new test method for the analysis of drug product contaminants.

Impact Analytical utilized High Pressure Liquid Chromatography, Ultra Liquid Chromatography, and Liquid Chromatography Mass Spectrometry technologies to analyze vaccine samples and determine that the product was contaminant-free. Impact Analytical developed a test method to perform the sample analysis in an expedited manner using a validated method.

Although the innovation cited for the client's needs were based on liquid chromatography technology, the customer focus of the laboratory was exemplary and requires recognition. The team at Impact Analytical did not hesitate to offer weekend and after-hours support knowing that the high value of their efforts could result in saving lives. The work performed in an expeditious manner enabled the client to approve the shipment of their products to Europe at a time when it was needed the most. Had the analysis not been completed in an expedited manner, the vaccines would not have shipped in a timely manner, potentially resulting in more lives lost.

The Impact Analytical lab, located on Stark Road employs about 32 people, the majority of whom have a scientific background. These individuals all live in the Midland area and are strong members of the community. Impact Analytical continues to support its client base (manufacturers of pharmaceuticals, medical devices, specialty chemicals, and consumer products) by providing a multitude of analytical chemistry services, ensuring that there are no interruptions in the supply chain due to a concern with a product's quality.

Impact Analytical can be reached by phone at 855-427-6583 or by e-mail at info@impactanalytical.com.



Congratulations to all of the 2020 award recipients! Since we were unable to hold an in-person recognition banquet in 2020, in the event that the planned 2021 spring awards banquet is a go, you will all receive an invitation to attend that banquet and be recognized.

With the beginning of 2021, we look forward to bestowing awards upon a whole new crop of deserving recipients, but we cannot achieve this without your input. I have tentatively set the 2021 Annual Spring Awards Banquet for May 6, 2021 at the Great Hall Banquet and Convention Center in Midland. We will see what the continuing progress of the COVID-19 vaccines and political mandates dictate regarding larger gatherings. As some newscasters say, "Watch this Space" for continued updates.



Announcing the 2021 Spring Awards Banquet and Call for Nominations

Diana Deese, Awards Committee Chair, Midland Section ACS

The date for the 30th annual American Chemical Society Midland Section Spring Awards Banquet has been set for Thursday, May 6, at the Great Hall Banquet & Convention Center in Midland, when we will, again, be recognizing outstanding educators, volunteers, and colleagues that you will have graciously taken the time to nominate.

The awards banquet is a great way to connect with others in chemistry and the related sciences. We will recognize students and those in education and industry, ... those who have gone before us, those who teach the next generation, and those who will be following in our footsteps. Please consider joining us for a night of good food and great fun! ***However, please watch this space for COVID-19 restriction updates that may impact the date and venue of the spring awards banquet event.***

The process of nominating is very easy. The minimum submission criteria for nominations are a quality nominating letter extolling the virtues of your nominee and supporting the criteria of the award, along with one supporting letter of recommendation (two letters are even better). Consider getting your colleagues together for lunch and putting together 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 required, and nominations are considered for three years). If you would like to be considered for an award, there is the option to self-nominate. If you are a parent, consider nominating your child's outstanding science or chemistry teacher, or a science volunteer you know.

It only takes about one hour to put together an award-winning letter and an additional 15 minutes soliciting supporting letters. Think of what it will mean to that person and how good you will feel about your good deed.

Nomination packets for all awards (except outstanding high school and collegiate 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 includes a publications and patent list where applicable. Additional letters of support can come from students, parents, community members, and/or administrators. An example nomination letter can be requested from the awards chair via e-mail. I have listed previous award recipients at the end of this article as 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 March 26, 2021 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).

Call for Nominations: 2021 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 2021 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 **(Not offered this year; awarded every other year)**
- Outstanding Achievement and Promotion of the Chemical Sciences
- Outstanding Service to the American Chemical Society
- Outstanding Chemical Technician
- Outstanding High School / College Chemistry Students
- Team Innovation Award

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 (Not offered this year; awarded every other year)

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.*

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 are needed.

Team Innovation Award

Up to three awards per year recognizing the teams responsible for successful, commercialized product or process innovation taking place in the Midland Section area within the current or previous two calendar years. One award will be reserved for organizations with less than 300 employees. ACS membership is not required. Nominations will be judged on inventiveness, impact (economic, environmental, societal), and connection to the Great Lakes Bay Region. Work done outside the area will be considered provided that the contributions of Midland area-based team members are significant. Press releases or other public announcements are expected to be included with the nomination packets for commercialized products or processes (support letters from company leadership will be accepted in lieu of press releases). A \$60 submission fee is required for each team innovation award nomination.

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.

Nomination packets for all awards (except outstanding high school and collegiate 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 includes a publications and patent list where applicable. Additional letters of support can come from students, parents, community members, and/or administrators.

The deadline for nominations is Friday, March 26, 2021. Nominations not meeting the minimum requirements, and submissions received after the March 26 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.

Award recipients as well as Chemistry Olympiad winners and Fifty/Sixty/Seventy Year ACS Members will be honored at the 2021 ACS Spring Recognition Dinner at the Great Hall Banquet & Convention Center, in Midland, on Thursday evening, May 6, 2021.

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 that the American Chemical Society offers at the national level. I have listed the web addresses where you can find out more information relative to each award and the criteria for nomination. Now is the time to begin nominations for National ACS awards for 2021-2022 as most annual reviews have a deadline of around November 1.

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 2021 Outstanding High School / Collegiate Chemistry Student

(Note: One nominee per school, please)

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 **March 26, 2021**:

Diana K. Deese, ACS Awards Committee Chair, Midland Section

Phone: (989) 636-9915 E-mail: dkdeese@dow.com

Previous Recipients of Midland Section ACS Awards

Diana Deese, Awards Committee Chair, Midland Section ACS

Elementary Level Science Education

1992 Karen Ziemelis
1993 Lela Wade
1994 Constance A. Dullock
1995 Joan Klopccic
1996 Mark Hackbarth
1997 Denise Koppelerberger, Cheryl Ruthig
1998 Barbara McGivern
1999 John Clark
2000 Sue Burtch, Robin Harshman-Rogers,
Vicki Richard, Clare Jorgensen
2001 Cathy Egerer, Amy Hindbaugh-Marr
2002 Maureen Becker
2003 Leon Katzinger
2004 Joan Roels
2005 Curt Moses
2006 Robin Allen
2007 Diane Huckins
2008 Rachel Pappas
2009 No Recipient
2010 No Recipient
2011 Beth Quimby
2012 No Recipient
2013 No Recipient
2014 No Recipient
2015 Molly Kelsey
2016 No Recipient
2017 Rebecca Field
2018 Suzanne Billette
2019 Nicole Roberts
2020 Amy Crosby

Middle Level Science Education

1992 Derrell Steffen
1993 Laurie Hepinstall
1994 JoAnn Kraut
1995 No Recipient
1996 Barbara J. Bibbee
1997 Gary J. Johnson
1998 No Recipient
1999 No Recipient
2000 No Recipient
2001 No Recipient
2002 Joel Mikusko
2003 No Recipient
2004 Christine Brillhart
2005 No Recipient
2006 Matthew Miller
2007 John Hoving
2008 Mark Koschmann
2009 Carla Piazza
2010 Melinda Coyle
2011 Jennifer Lenon
2012 Jayme Swanson
2013 John Barnes
2014 No Recipient
2015 Mark Hackbarth
2016 No Recipient
2017 Allison Vandriessche
2018 No Recipient
2019 Darci Merillat
2020 No Recipient

High School Chemistry Teaching

1989 Robert Wallace
1990 Gary Ronk
1991 No Recipient
1992 John Clark, Edna Konwinski
1993 Mary Irons
1994 Jo Ann Pelkki
1995 No Recipient
1996 Sandra Schafer
1997 Mary Fredell
1998 Dale Ressler
1999 Robert Enszer
2000 Steven Kelly
2001 William Stokes
2002 Robert Hansen
2003 No Recipient
2004 Doug Grezeszak
2005 Pamela Thompson
2006 Daniel Sealy
2007 No Recipient
2008 No Recipient
2009 Nancy Vossen
2010 Sandra Schafer
2011 David Allan
2012 David Bruessow
2013 Tom Short, Sarah Beery
2014 No Recipient
2015 Jeff Yoder
2016 Lisa Parsons
2017 Kenneth Quackenbush
2018 Jason Brown
2019 Rick Cahoon
2020 No Recipient

College Chemistry Teaching

1989 Joan Sabourin
1990 Bob Howell
1991 Robert Kohrman
1992 Scott Hill
1993 Ajit Sharma
1994 Laura Vosejpka
1995 George Eastland
1996 Martin Spartz
1997 Philip Squattrito
1998 Thomas Delia
1999 Steven E. Keinath
2000 James Hutchison
2001 Sandra Smith
2002 Margaret Hill
2003 Dale Meier
2004 Katherine Blystone
2005 Ronald Sharp
2006 Arthur G. Smith
2007 Cynthia N. Peck
2008 No Recipient
2009 No Recipient
2010 Anton Jenson
2011 No Recipient
2012 David S. Karpovich
2013 No Recipient
2014 David Baker
2015 Estelle Lebeau
2016 Angela McGuirk
2017 Joel & Nancy Dopke
2018 No Recipient
2019 Jeffery A. Turk
2020 Choon Young Lee

Science Education Volunteer of the Year

1992	Gregg Young	2002	Joan McMahon	2012	Estelle Lebeau
1993	Peter Bonk	2003	John Blizzard	2013	No Recipient
1994	Peter Moehs	2004	Jan Zanyk	2014	Charles Nielsen
1995	Gretchen Kohl	2005	Eldon Graham	2015	Gina Malczewski
1996	John Blizzard, Richard Van Effen	2006	Tom Chamberlin	2016	Dennis Klipa
1997	Marvin Tegen	2007	Teri Bickmore, Cal Goeders	2017	Nalayini Kogulan
1998	Carlton Beyer	2008	Tim Drier	2018	Wendell Dilling
1999	William Albe	2009	Dave Stickles	2019	Jennifer Reil
2000	Karol Childs	2010	Lisa Thackery	2020	Michelle Rivard
2001	Donald Petersen	2011	Charles & Barbara Roth		

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

(Awarded every other year)

2002	George Gant, Richard Stringfield	2010	Theophilus Leapheart	2019	Karen Carter (CERM Award)
2004	Smallwood Holoman, Jr.	2012	Linneaus Dorman	2020	Anja Mueller
2006	Joan Sabourin	2014	Victor Atiemo-Obeng		
2008	Sandra Parker	2016	Roland Wallace		

Outstanding Chemical Technician

1997	Connie J. Murphy	2007	Debbie Bailey	2017	Stephanie Hughes
1998	David Stickles	2008	Sue Perz	2018	Joseph Harris
1999	Ronald L. Good	2009	Diana Deese	2019	Weston Tulloch, Matthew Yonkey
2000	Kurt A. Bell	2010	No Recipient	2020	Heidi Clements
2001	Gordon R. Roof	2011	Amy Tesolin-Gee		
2002	Cynthia J. Gould	2012	Amber Wallace		
2003	Robert Krystosek	2013	No Recipient		
2004	Sherry Allen	2014	Jeff Seifferly		
2005	Bill Rievert	2015	Brian Scherzer		
2006	Margo Mclvor	2016	Dana Fuerst		

Outstanding Achievement and Promotion of the Chemical Sciences

1976	Dr. Turner Alfrey, Jr.	1992	Dr. Donald A. Tomalia	2008	Dr. Jack Kruper
1977	Dr. Etcyl H. Blair	1993	Dr. Dale J. Meier	2009	No Recipient
1978	Dr. David C. Young	1994	Dr. Philip T. Delassus	2010	No Recipient
1979	Dr. Vernon A. Stenger	1995	Dr. Duane B. Priddy	2011	Dr. James Falender
1980	Dr. Daniel R. Stull	1996	Dr. Hans G. Elias	2012	No Recipient
1981	Dr. Bob A. Howell	1997	Dr. Ludo K. Frevel	2013	No Recipient
1982	Dr. Wendell L. Dilling	1998	Dr. Patrick B. Smith	2014	No Recipient
1983	Dr. Donald R. Weyenberg	1999	Dr. David E. Henton	2015	Dr. James Tonge
1984	Dr. Edwin P. Plueddemann	2000	Dr. Steven J. Martin	2016	Dr. Ronda L. Grosse
1985	Dr. Raymond P. Boyer	2001	Dr. Edwin C. Steiner	2017	Dr. Mike Ferritto
1986	Stanley P. Klesney	2002	Dr. Thomas J. Delia	2018	No Recipient
1987	Dr. Warren B. Crummett	2003	Dr. Robert M. Nowak	2019	Dr. Jerzy Klosin
1988	Dr. A. Lee Smith	2004	Herbert D. (Ted) Doan	2020	Dr. Chris Goralski, Dr. Brad Fahlman
1989	Dr. Do Ik Lee	2005	Dr. Michael J. Owen		
1990	Dr. Joseph E. Dunbar	2006	Dr. Robert E. Kohnman		
1991	Dr. Thomas H. Lane	2007	Dr. Petar R. Dvornic		

Outstanding Service to the American Chemical Society

1989	Dr. David C. Young	2000	Dr. Peter & Dr. Patricia Dreyfuss	2011	No Recipient
1990	Dr. Linneaus C. Dorman	2001	Dr. George W. Eastland, Jr.	2012	No Recipient
1991	Dr. Donald R. Petersen	2002	Joan Sabourin	2013	No Recipient
1992	Dr. Wendell L. Dilling	2003	John Blizzard	2014	No Recipient
1993	Dr. Bob A. Howell	2004	Dr. Steven E. Keinath	2015	Amy Tesolin-Gee
1994	Eldon L. Graham	2005	Ann Birch	2016	Dr. Bob A. Howell
1995	Gretchen S. Kohl	2006	Dr. Philip Squatrito	2017	Diana Deese
1996	Fran K. Voci	2007	David L. Stickle	2018	Dr. Regina Malczewski
1997	Dr. Thomas H. Lane	2008	Connie Murphy	2019	Dr. Dale LeCaptain
1998	Vicky S. Cobb	2009	No Recipient	2020	No Recipient
1999	Dr. Theodore E. Tabor	2010	No Recipient		

Team Innovation Awards

2020 Dow Consumer Solutions: Hand Sanitizer for COVID-19 Response
Dow Performance Silicones: SILASTIC™ Moldable Optical Silicone
Impact Analytical: Leachable and Extractable Studies

Additional, Special Awards

2016	Corporate Leadership Award	Andrew N. Liveris	Dow Chemical Company
2017	Special Recognition (Kaliapparatt)	Steven E. Keinath	Michigan Molecular Institute (retired)
2018	Special Recognition (Through a Different Lens)	Thomas H. Lane	Dow Corning Corporation (retired)
2019	Special Recognition (Chair, 2019 CERM)	Dimi Katsoulis	Dow
2019	Special Recognition (Chair, 100th Anniv. Cmte.)	Gina Malczewski	Dow Corning Corporation (retired)
2019	Special Recognition (Hospitality Star)	Emily Deese	Michigan State University
2019	Special Recognition (Section Centennial Cert.)	David Young	Dow Chemical Company (retired)
2019	MI Governor's Senior Volunteer Service Award	Gina Malczewski	Midland Section ACS

Midland Section ACS Salutes to Excellence Awards

2001	Thomas Lane
2005	Water Warriors (Ogemaw Heights High School), Eldon L. Graham, Chris Powley, Debra Green, Anne DeBoer, Richard Anderson, Max Bottomley, Harold Moll, Russel Tree, Jr.
2006	Norman Delisle, John Safranski, Jr., Richard Anderson, Max Bottomley
2008	Harold Moll, Russel Tree, Jr., Norman Delisle, John Safranski, Jr.
2009	Saginaw Spirit Hockey Club, Bob Moyer, Nancy Vossen, Vicki Behe, Steve Gribble
2010	Linda K. Dielman
2013	David Allan
2015	Sue Perz, Anatoliy Sokolov, Jaime Curtis-Fisk, Aaron Gaertner
2016	Dow Corning Corporation, Cassie Phaner, Wendy Flory, Gretchen Kohl, Diana Deese
2017	Mike Garlick (Dr. Slime), Michael Tulchinsky, Adrienne Cole, Brian Brutyn, Sean V. Murray
2018	Dorian Phelps, John Blizzard, Tim Drier, Art Ferruzzi
2019	John Metcalf, Jay Martin, Valentina Woodcraft, Clifford Todd, Patrick Smith, Bernadette Harkness A.N. Sreeram, Congressman John Moolenaar (CERM presentations)

Mid-Michigan Technicians Group (MMTG) Outstanding Chemical Technology Student

1998	Rebecca Hall	2007	Laura Jaska	2016	Dave Starr
1999	Debbie Beuthin	2008	Gerald Rupprecht	2017	No Recipient
2000	Sara Shinavar	2009	Kyle Krauseneck	2018	Calyx Moore
2001	Dana Bitzer	2010	No Recipient	2019	Lindsay Alarie
2002	Sarah Bottke	2011	David Gutowski	2020	No Recipient
2003	No Recipient	2012	Jeremy Marchand		
2004	Fred Jackson	2013	Chadwick Roland		
2005	Chris Eicher	2014	James Nemeth		
2006	Phillip Jerewski	2015	Kelly Setula		

ACS National Awards for 2021–2022 Nomination

Diana Deese, Awards Committee Chair, Midland Section ACS

Editor's note: Several Midland Section ACS members have received various National ACS awards over the years. Please see their names, as noted, below.

[ACS Award for Achievement in Research for the Teaching and Learning of Chemistry](#)

[ACS Award for Affordable Green Chemistry](#)

2012 William J. Kruper

[ACS Award for Computers in Chemical and Pharmaceutical Research](#)

[ACS Award for Creative Advances in Environmental Science and Technology](#)

1986 Eugene E. Kenaga

[ACS Award for Creative Invention](#)

1984 Edwin P. Plueddemann

[ACS Award for Creative Research and Applications of Iodine Chemistry](#)

[ACS Award for Creative Work in Fluorine Chemistry](#)

[ACS Award for Creative Work in Synthetic Organic Chemistry](#)

[ACS Award for Distinguished Service in the Advancement of Inorganic Chemistry](#)

[ACS Award for Encouraging Disadvantaged Students into Careers in the Chemical Sciences](#)

[ACS Award for Encouraging Women into Careers in the Chemical Sciences](#)

[ACS Award for Research at an Undergraduate Institution](#)

[ACS Award for Team Innovation](#)

2015 Ryan Gaston, James R. Keenihan, Abhijit A. Namjoshi, Stephen Pisklak, Jason A. Reese

2017 Robert A. DeVries, Philip Garrou, Carol E. Mohler, Theodore M. Stokich, Jr., Eric S. Moyer

[ACS Award in Analytical Chemistry](#)

[ACS Award in Applied Polymer Science](#)

1970 Raymond F. Boyer

[ACS Award in Chromatography](#)

1991 Hamish Small

[ACS Award in Colloid Chemistry](#)

[ACS Award in Industrial Chemistry](#)

[ACS Award in Inorganic Chemistry](#)

[ACS Award in Organometallic Chemistry](#)

[ACS Award in Polymer Chemistry](#)

1973 Turner Alfrey, Jr.

[ACS Award in Pure Chemistry](#)

[ACS Award in Separations Science and Technology](#)
[ACS Award in Surface Chemistry](#)
[ACS Award in the Chemistry of Materials](#)
[ACS Award in Theoretical Chemistry](#)
[Award for Volunteer Service to the American Chemical Society](#)
[Roger Adams Award in Organic Chemistry](#)
[Alfred Bader Award in Bioinorganic or Bioorganic Chemistry](#)
[Earle B. Barnes Award for Leadership in Chemical Research Management](#)

1987 Malcolm E. Pruitt
2009 Gregg A. Zank
2014 William F. Banholzer

[Ronald Breslow Award for Achievement in Biomimetic Chemistry](#)
[Herbert C. Brown Award for Creative Research in Synthetic Methods](#)
[Alfred Burger Award in Medicinal Chemistry](#)
[James Bryant Conant Award in High School Chemistry Teaching](#)
[Arthur C. Cope Award](#)
[Arthur C. Cope Scholar Awards](#)
[Elias J. Corey Award for Outstanding Original Contribution in Organic Synthesis by a Young Investigator](#)
[F. Albert Cotton Award in Synthetic Inorganic Chemistry](#)
[Peter Debye Award in Physical Chemistry](#)
[Frank H. Field and Joe L. Franklin Award for Outstanding Achievement in Mass Spectrometry](#)
[Francis P. Garvan - John M. Olin Medal](#)
[James T. Grady - James H. Stack Award for Interpreting Chemistry for the Public](#)
[Harry Gray Award for Creative Work in Inorganic Chemistry by a Young Investigator](#)
[Ernest Guenther Award in the Chemistry of Natural Products](#)
[Kathryn C. Hach Award for Entrepreneurial Success](#)
[M. Frederick Hawthorne Award in Main Group Inorganic Chemistry](#)
[E. B. Hershberg Award for Important Discoveries in Medicinally Active Substances](#)
[Joel Henry Hildebrand Award in the Theoretical and Experimental Chemistry of Liquids](#)
[Ralph F. Hirschmann Award in Peptide Chemistry](#)
[Ipatieff Prize](#)
[Frederic Stanley Kipping Award in Silicon Chemistry](#)
1990 John L. Speier, Jr.
[Irving Langmuir Award in Chemical Physics](#)
[Josef Michl ACS Award in Photochemistry](#)
[E. V. Murphree Award in Industrial and Engineering Chemistry](#)
[Nakanishi Prize](#)
[Nobel Laureate Signature Award for Graduate Education in Chemistry](#)
[James Flack Norris Award in Physical Organic Chemistry](#)
[George A. Olah Award in Hydrocarbon or Petroleum Chemistry](#)
[Charles Lathrop Parsons Award](#)
[George C. Pimentel Award in Chemical Education](#)
[Priestley Medal](#)
[Glenn T. Seaborg Award for Nuclear Chemistry](#)
[Gabor A. Somorjai Award for Creative Research in Catalysis](#)
[George and Christine Sosnovsky Award for Cancer Research](#)
[Henry H. Storch Award in Energy Chemistry](#)

[E. Bright Wilson Award in Spectroscopy](#)

[Ahmed Zewail Award in Ultrafast Science and Technology](#)

Criteria and deadlines for the National ACS awards, and other grants and considerations, can be found at <http://www.acs.org/content/acs/en/funding-and-awards/awards/national/nominations.html>

The full list of National ACS awards by title can be found at <https://www.acs.org/content/acs/en/funding-and-awards/awards/national/bytopic.html>

Midland Section Recipients of National, Division, and Regional ACS Awards

Diana Deese, Awards Committee Chair, Midland Section ACS

[National ACS Fellows](#)

2010	Wendell L. Dilling, Michael J. Owen
2011	Bob A. Howell, Thomas H. Lane, Connie J. Murphy
2013	Patrick B. Smith
2014	Janet M. Smith
2015	Gretchen S. Kohl
2016	Joan M. Sabourin
2017	Mark E. Jones
2018	Susan Beda Butts
2019	Jerzy Klosin, Regina Malczewski
2020	Christian T. Goralski

[National ACS Heroes of Chemistry](#)

1999	Etcyl Blair, Ray Rigterink, Art Sexton
2000	L.C. Rubens
2015	David Devore, David Neithamer, Peter Nickias, Jasson Patton, James Stevens, David Wilson
2017	James Bohling, Stan Brownell

[National ACS Helen M. Free Award for Public Outreach](#)

2015	Regina Malczewski
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[National ACS Local Section Outreach Volunteer of the Year Award](#)

2014	Regina M. Malczewski
2015	Michelle L. Rivard
2016	Dave Stickles
2017	Diana Deese
2018	Michael Tulchinsky
2019	Lauren McCullough
2020	Dimi Katsoulis

[National ACS Women Chemists Committee \(WCC\) Rising Star Award](#)

2015	Jaime Curtis-Fisk
2017	Beata A. Kilos

[ACS Division of Business Development and Management Henry F. Whalen, Jr. Award for Excellence in Business Development and Management in the Chemical Enterprise](#)

2018 Thomas Lane

[ACS Division of Chemical Technicians National Chemical Technician Award](#)

2000 David L. Stickle
2001 Susan Youngs
2006 Robert Krystosek
2007 Margo McIver
2008 Janet Smith
2014 Diana Deese
2015 Jeff Seifferly
2018 Michelle Rivard

[ACS Division of Industrial & Engineering Chemistry Applied Chemical Technology \(ACT\) Award](#)

2014 Janet M. Smith
2017 Michelle Cummings

[ACS Division of Industrial & Engineering Chemistry Early Career Fellow Award](#)

2018 Beata Kilos

[ACS Division of Professional Relations Henry Hill Award](#)

2016 Thomas Lane

[Stanley C. Israel Regional Award for Advancing Diversity in the Chemical Sciences](#)

2016 Thomas Lane (CERM, Covington, KY)
2019 Jim Fitterling (CERM, Midland, MI)

[E. Ann Nalley Regional Award for Volunteer Service to the American Chemical Society](#)

2013 Bob Howell (CERM, Mount Pleasant, MI)
2014 Patrick B. Smith (CERM, Pittsburgh, PA)
2019 Michelle Rivard (CERM, Midland, MI)

[Commitment to Diversity and Inclusion Award – Midland Local Section Inclusion & Diversity Committee](#)

2020 James Walker

[Encouraging Women in the Chemical Sciences Award – Midland Local Section Women Chemists Committee](#)

2019 Beata Kilos-Reaume

[Shirley B. Radding Award – Santa Clara Valley Local Section](#)

2015 Connie Murphy

Upcoming Dates, Events, and Other Updates

- January 4 (7:00 – 8:00 PM) – Midland Section ACS Board meeting (**WebEx only meeting**) via a WebEx conference call connection at [Cisco Webex Meeting - January 2021](#), phone number: 989-633-1166.
- January 13 (7:00 – 8:30 PM) – Free MSU Family Astronomy Night Zoom meeting event on the topic of *Our Marvelous Moon*. All are welcome to join. Just click on <https://msu.zoom.us/j/93351955313> and enter the password MSU. For any questions, please contact Clare Light at lightcla@msu.edu or 989-374-9904.
- February 1 (4:00 – 5:00 PM) – CMU Spring 2021 Virtual Seminar Series, featuring Prof. Steven Townsend from Vanderbilt University. All are welcome and encouraged to join in this virtual WebEx seminar. Just click on the following link: <http://cmich.webex.com/meet/swart1bm>. For any questions, please contact Ben Swarts at ben.swarts@cmich.edu.
- February 1 (7:00 – 8:00 PM) – Midland Section ACS Board meeting, MCFTA Board Room (anticipated location, in person), or via a WebEx conference call connection at [Cisco Webex Meeting - February 2021](#), phone number: 989-633-1166.
- February 15 – **Deadline for applications for Midland Section ACS scholarships** available through the Midland Area Community Foundation (Fund #399). For any questions, please contact Gina Malczewski at reginamalczewski@gmail.com or Heather Crowl at the Midland Area Community Foundation.
- March 1 (7:00 – 8:00 PM) – Midland Section ACS Board meeting, MCFTA Board Room (anticipated location, in person), or via a WebEx conference call connection at [Cisco Webex Meeting - March 2021](#), phone number: 989-633-1166.
- March 15 (4:00 – 5:00 PM) – CMU Spring 2021 Virtual Seminar Series, featuring CMU MS alum Prof. Jennifer Shomaker from the University of Wisconsin, Madison. All are welcome and encouraged to join in this virtual WebEx seminar. Just click on the following link: <http://cmich.webex.com/meet/swart1bm>. For any questions, please contact Ben Swarts at ben.swarts@cmich.edu.
- March 26 – **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 5 (7:00 – 8:00 PM) – Midland Section ACS Board meeting, MCFTA Board Room (anticipated location, in person), or via a WebEx conference call connection at [Cisco Webex Meeting - April 2021](#), phone number: 989-633-1166.
- April 5-16, 2021 (**Save the Date**) – Spring 2021 National ACS Meeting & Exposition (**Virtual only event**). Meeting theme – *Macromolecular Chemistry: The Second Century*. For more information, please see <https://www.acs.org/content/acs/en/meetings/acs-meetings.html>.
- April 12 (4:00 – 5:00 PM) – CMU Spring 2021 Virtual Seminar Series, featuring Prof. Marcos Pires from the University of Virginia. All are welcome and encouraged to join in this virtual WebEx seminar. Just click on the following link: <http://cmich.webex.com/meet/swart1bm>. For any questions, please contact Ben Swarts at ben.swarts@cmich.edu.
- April 26 (4:00 – 5:00 PM) – CMU Spring 2021 Virtual Seminar Series, featuring Prof. Alison Narayan from the University of Michigan. All are welcome and encouraged to join in this virtual WebEx seminar. Just click on the following link: <http://cmich.webex.com/meet/swart1bm>. For any questions, please contact Ben Swarts at ben.swarts@cmich.edu.
- May 3 (7:00 – 8:00 PM) – Midland Section ACS Board meeting, MCFTA Board Room (anticipated location, in person), or via a WebEx conference call connection at [Cisco Webex Meeting - May 2021](#), phone number: 989-633-1166.

- May 6 (**Save the Date, Evening Program**) – Midland Section ACS Spring Awards Banquet, Great Hall Banquet & Convention Center, 5121 Bay City Road, Midland. For more information, contact Diana Deese, Midland Section ACS Awards Committee Chair, at dkdeese@dow.com or 989-636-9915.
- May/June 2021 (**Dates TBD**) – 2020 ACS Central Regional Meeting, Columbus, OH. Note: CERM 2020 was postponed and will potentially take place in May or June 2021. The dates are still to be determined. For more information, please see https://cerm2020.org/?sc=200226_mtg_em_regional_CERM_od.
- June 6-9, 2021 (**Save the Date**) – 2021 ACS Great Lakes Regional Meeting (GLRM), Minneapolis, MN. For more information, please see <https://www.acs.org/content/acs/en/meetings/regional/great-lakes.html>.
- June 7 (7:00 – 8:00 PM) – Midland Section ACS Board meeting, MCFTA Board Room (anticipated location, in person), or via a WebEx conference call connection at [Cisco Webex Meeting - June 2021](#), phone number: 989-633-1166.
- August 2 (7:00 – 8:00 PM) – Midland Section ACS Board meeting, MCFTA Board Room (anticipated location, in person), or via a WebEx conference call connection at [Cisco Webex Meeting - August 2021](#), phone number: 989-633-1166.
- August 22-26, 2021 (**Save the Date**) – Fall 2021 National ACS Meeting & Exposition (**Atlanta, GA and Online**). Meeting theme – *Resilience of Chemistry*. For more information, please see <https://www.acs.org/content/acs/en/meetings/national-meeting/about/future-meetings.html>.
- September 7 (7:00 – 8:00 PM) – Midland Section ACS Board meeting, MCFTA Board Room (anticipated location, in person), or via a WebEx conference call connection at [Cisco Webex Meeting - September 2021](#), phone number: 989-633-1166. **Please note: This Board meeting is being held on Tuesday evening, not the usual Monday evening.**
- October 4 (7:00 – 8:00 PM) – Midland Section ACS Board meeting, MCFTA Board Room (anticipated location, in person), or via a WebEx conference call connection at [Cisco Webex Meeting - October 2021](#), phone number: 989-633-1166.
- November 1 (7:00 – 8:00 PM) – Midland Section ACS Board meeting, MCFTA Board Room (anticipated location, in person), or via a WebEx conference call connection at [Cisco Webex Meeting - November 2021](#), phone number: 989-633-1166.
- December 6 (7:00 – 8:00 PM) – Midland Section ACS Board meeting, MCFTA Board Room (anticipated location, in person), or via a WebEx conference call connection at [Cisco Webex Meeting - December 2021](#), phone number: 989-633-1166.



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