

THE MIDLAND CHEMIST

A publication of the Midland Section of the American Chemical Society

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Chair Column

Erin Vogel, Chair, Midland Section ACS

Dear Faithful Readers,

I hope you have been enjoying hearing the perspective of many diverse individuals working in science. I have another fabulous person to introduce you to this month but want to remind you the purpose behind these articles. My goal is for everyone to pause and think about your “WHY”. For when our WHY is clear, we can share our passion and make amazing things happen.



Aurelian Balan is a Professor of Physics at Delta College in University Center, MI. He graduated in 2006 with a Bachelor of Arts in Physics from the State University of New York (SUNY) at Potsdam. While at SUNY Potsdam he also earned his Bachelor of Music in Violin Performance at the Crane School of Music. In 2008 he earned his Master of Science in Physics from Central Michigan University. From there he went on to teach astronomy at the University of Texas at Arlington and now teaches physics and astronomy at Delta College.

My name is Aurelian Balan, and I teach intro college physics and astronomy. I didn’t know I wanted to teach until I was put in the position to do it. I’m a New York native having grown up playing on the streets of Brooklyn and Queens. I attended a performing arts high school in NYC (LaGuardia) and had the privilege to practice violin with amazing talent always nearby. With encouragement and excellent teaching from my high school physics teacher, Konstantinos Alexakos (now teaches at Brooklyn College where he focuses on science education), I was

motivated to look into a physics major alongside performance once I got to college. It was the inspiration from a few excellent teachers, and support from my family that helped me move into my own passion for physics and astronomy.

After deciding to focus on physics and astronomy in graduate school, I started research with Christopher Tycner at Central Michigan University (CMU). We used the Navy Precision Optical Interferometer in Arizona and a technique called long baseline optical interferometry to study the wind structure around stars. This allowed us to achieve incredibly high-resolution images of celestial objects. Around this same time, I started teaching astronomy classes as a teaching assistant at CMU. This was my first taste of teaching physics, and I really enjoyed sharing the universe (from basics to black holes).

Now, when I teach my students at Delta, I use every class as a chance to share my excitement with them. I love teaching them the information and skills they need in their future field. I think excitement sparks learning. My colleagues at Delta are excellent, and they have shown me that what an instructor does matters. However, what the student does matters even more. This is at the base of my teaching philosophy and the foundation of WHY I teach physics and astronomy. I want to grow the scientific excitement, knowledge, and skills of my students by giving them tools to solve problems and experiment on their own. I hope my students take this excitement with them and share it with people in their lives.

A typical day as a professor at Delta includes teaching class, helping students outside of class, and grading assignments. While student interaction is my favorite part of the job, I also have the opportunity to work on committees and larger projects. For the last few years, I've worked with Delta College Public Media and WUCX-FM to create the "Our Universe with Aurelian Balan" weekly radio show. It's another opportunity to share stimulating bits of physics with the community!

Making sure students get hands on experience is a priority in all classes. In physics this is a bit easier as the experimental setup is there and ready to manipulate. In astronomy, while we do have indoor experiments, one of the best things my colleagues and I get to do is take students out for nighttime observing. We take large aperture telescopes and show them planets, nebulae, and galaxies! We make it a memorable experience that we hope reinforces what they're learning in the classroom. Delta College is also currently building one of the largest, accessible observatories in the state with a 0.7-meter mirror. It's been a fun project that is sure to amplify the light and bring the universe closer for our students and community to wonder over.

Where did you think your career would lead when you started?

Honestly, I never believed I would teach physics until I was doing it. As an undergrad I was certain I would play violin in an orchestra. Then, when I first started as a physics graduate student, I thought it was clear that I would be a researcher working at giant observatories. However, each step of the way there was at least one encouraging role model/teacher/professor. Someone that motivated me to work on my weaknesses but fall into my strengths. Once I got to Delta, observing Scott Schultz, Mike Faleski, Kevin Dehne, and Ron Schlaack (physics faculty at Delta College) was a daily masterclass in sharing science in some of the best ways. Their teaching methods coupled with attending physics and education related conferences motivated me to do more for my students and learn more about teaching physics. Now, I try to be that motivating role model for my students and family.

What advice would you pass along to others thinking about entering into the sciences?

What do you get excited about sharing with others? What are you passionate about doing? That answer may take time to realize, or it may come quickly. But once you know what it is, see if you can include it in your field of study. Don't let that opportunity to research and share something you're passionate about slip away. Once you think you've found your field, be open to shifting around within it.

Have you volunteered or participated in an ACS event? What one and why? Why would you encourage others to participate?

Yes, thanks to Erin Vogel and Hunter Woodward (from the Midland ACS), I was a panelist at a sustainability event hosted by the Midland ACS at Delta's Downtown Midland Campus. The panel focused on personal environmental stewardship and then shifted towards having participants go to a local recycling center to learn more and volunteer.

One of my current roles at the college is academic sustainability coordinator. It allows me time to focus on sustainability education and projects on top of my usual teaching. Some scientists are shifting portions of their work to the sustainability front as a result of climate concerns. A community focused on sustainability is a community with enough for everyone today and in the future.

What gives you fulfillment outside of work? What do you like to do to unwind?

I have a few hobbies and love to learn. My favorite way to relax is basketball or ultimate frisbee! Really anything that's a team sport with quick sprints. I'm a licensed amateur radio operator and love to experiment with just about anything. I have an interest in air quality and probably spend way too much time testing with different devices. I also enjoy tent camping and backpacking with my family and friends while just sitting by a fire talking about everything and nothing at all. Fulfillment comes from relaxation and shared interest with people around me.

IMMEDIATE OPPORTUNITY: FREE "Wood Works" Middle School STEAM Camp, June 17-21

Gina Malczewski, Director and Outreach Committee, Midland Section ACS

IMMEDIATE OPPORTUNITY: SIGN UP for the FREE "Wood Works" Middle School STEAM Camp June 17-21!

Join us for five days of challenges, information, and activities that include or address tree climbing, cooking with cellulose, quilling, termites AND MORE! Youth entering grades six through eight in the fall are invited to participate in a five-day "Wood Works" camp beginning June 17—all things "wood" and "tree"-related.

Camp is FREE and takes place at MSU-St. Andrews in Midland (except for a day at Dow Gardens)—sessions are 9am-noon each day. Please sign up only if you plan to attend EVERY day. You will also learn 3-D printing, do paper recycling, hear from an expert in forest management... and enjoy the music of wood.

Check out info on the Midland ACS website (www.midlandacs.org) homepage and/or make sure to **register by June 8** at <https://forms.gle/zoTfCykxNvtoadNW6>. **Space is limited! See flyer on following page!**

STEAM Stew 2024

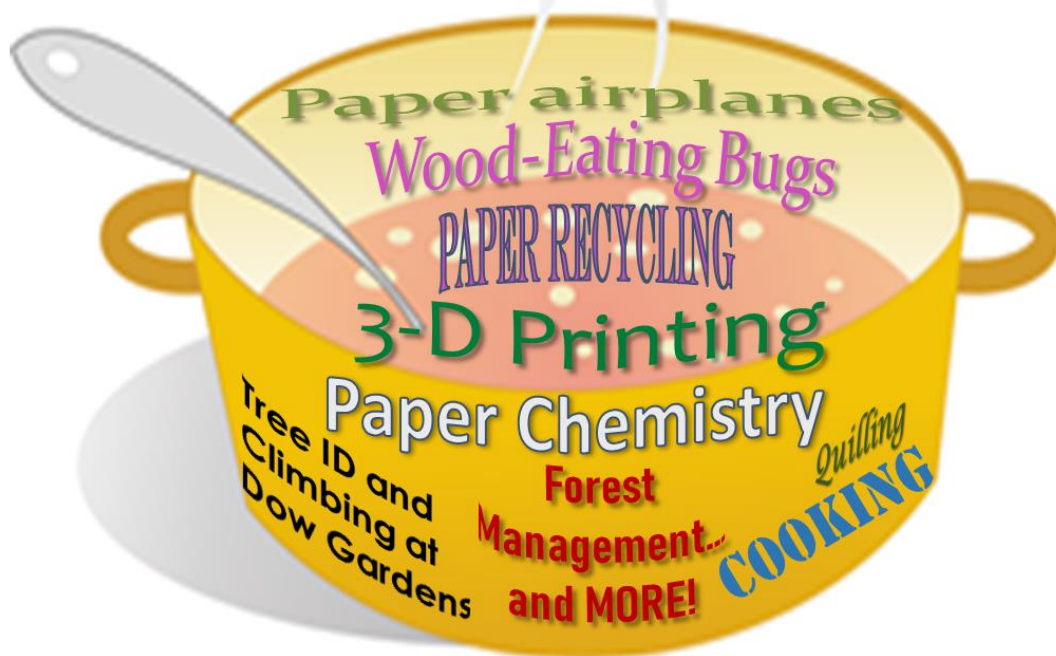
Wood Works!

**In-Person Summer Camp
For Rising 6-8th Graders in Fall, 2024**

June 17-21, 2024

HALF DAYS, 9 am-noon

FREE



**LOCATION: MSU St Andrews
1910 W. Sta. Andrews Rd, Midland**

**To register, use form at
<https://forms.gle/zoTfCykxNvtoadNW6>**

**MICHIGAN STATE
UNIVERSITY**

MSU St. Andrews



American Chemical Society

Summer Jam Social Event, June 19

Kim Dinh, Diversity and Inclusion Committee, Midland Section ACS

Please join the Midland Section ACS Young Chemist Committee (YCC), Women Chemist Committee (WCC), Diversity and Inclusion Committee, and the Mid-Michigan Technicians Group (MMTG) for a summer social event on Wednesday, June 19, 5:00 to 10:00 PM, at Three Bridges Distillery and Taproom, 240 East Main Street, Suite A, Midland.

Food and drinks will be provided, but an RSVP is requested to help plan for adequate supplies. For more information or any questions, please contact Kim Dinh at kdinh@dow.com. Please share this information with anyone who may be interested.



ACS YCC, WCC, MMTG, AND D&I ARE CO-HOSTING A SUMMER SOCIAL
JOIN US FOR AN EVENING OF FUN AND NETWORKING!

SUMMER JAM SOCIAL

WHEN: JUNE 19TH, 2024
WHERE: THREE BRIDGES DISTILLERY AND TAPROOM
FOOD AND DRINKS PROVIDED (RSVP REQUIRED)



RSVP



POWERful Earth Day Experiences!

Gina Malczewski, Director and Outreach Committee, Midland Section ACS

Many decided to “Get a Charge Out of Chemistry” this spring with four ways to participate in Earth Day- related events!

Celebrations began with the FREE **Earth Action Expo** at Dow High School on April 27, where a record number of exhibitors/vendors (over 50) offered environment-, conservation-, nature-, or STEM-related information and activities for over 300 attendees. New offerings this year included a room dedicated to repurposing textiles, a “Waste Not, Want Not” culinary experience with food scraps, and live animals available as part of the station for Wildlife Recovery. The ACS booth focused on electricity generation and battery chemistry; another STEM station offered pencil electrolysis. A wide variety of electric vehicles (EVs) were displayed and accessible for examination (a BMW, numerous Tesla models, a Volkswagen, a Chevy Blazer, a Cadillac, and an F150 truck), with experts available to answer questions. Two different speakers offered programs on solar siting and EPA efforts throughout the day, and Story Time offerings were also well-attended. Kids who completed passports returned them for prizes, and food trucks, ice cream, and popcorn were also available. Volunteer and exhibitor feedback was overwhelmingly positive.

On April 30, a “double-header” seminar event (“**Battery Blast**”) offered speakers on two battery-related topics, punctuated by free dinner and activities with prizes. Ten people were randomly selected from sign-ups to attend a **free tour of the local XALT battery plant** on May 10; both events were very well-received.

A **K-12 Illustrated Poem Contest** also was held, and over 40 entries were received. Copies of all were on display at Dow High School during the Expo, and students who submitted the first- and second-place entries in each category were given a number of prizes, including ACS “moles” and cash gift cards.

Planning for 2025 will begin near the end of the year, but sustainability- and earth-oriented programs will continue as ACS gardening programs begin. Watch for opportunities and updates!



ACS station at the Earth Action Expo.
Photo by Clare Light



An owl featured by Wildlife Recovery at the Expo.
Photo by Gina Malczewski



EVs at the Earth Action Expo.
Photo by Frank Malczewski



EVs and discussions at the Expo.
Photo by Gina Malczewski

NOBCChE Regional Symposium, June 22-23

Jade Bing, Midwest Regional Chair, NOBCChE

Editor's note: The registration and abstract submission deadline was May 31, 2024. For information, please visit the website at <https://sites.google.com/view/midwestnbcche> or contact Dr. Jade Bing at mwregion@nbcche.org.

DEADLINE EXTENDED TO 5/31/24

Registration & Abstract Submission:
tinyurl.com/MWRS2024

Website:
sites.google.com/view/midwestnbcche



National Organization for the Professional Advancement
of Black Chemists and Chemical Engineers

Midwest Regional Symposium

June 22nd – 23rd 2024
Wayne State University
Detroit, MI

Thank you to our sponsors!

ACS Local Section
Detroit



COLGATE-PALMOLIVE WAYNE STATE

Questions? Contact Dr. Jade Bing at mwregion@nbcche.org

Women Chemists Committee Update

Julia Sunderland (DOW), Ashlin Sathyan (Dupont), Ana Ulloa Gomez (DOW), and Isabel Meza (DOW), WCC, Midland Section ACS

Kick-off event WCC

- Great success March 19th, 2024
- 24 participants at MI Element, Midland
- Our distribution list is growing 😊!



Present and future collaborative activities

- **Spring Social Event** with all the ACS Midland Committees.
- **Dancing Event:** with Employee resource groups from DOW: HLN (Hispanic Latin Network) and GAAN (Global African American Network) for August 29th.
- Planning collaboration with MMTG / Delta College.



2024 U.S. National Chemistry Olympiad in Mid-Michigan

Dr. Michael Tulchinsky, Chemistry Olympiad Committee Chair, Midland Section of the ACS



As in the previous years, the Midland Section of the ACS coordinated two rounds of the Chemistry Olympiad in the area, including the Local Section Exam and the National Exam. The American Chemical Society (ACS) provided test materials and this year graded both the National and the Local exams. Another requirement in 2024 was the registration with ACS of all the interested students for the first time prior to the Local Section Exam.

The Local Section Exam took place in mid-Michigan in the week of March 11-15 and involved 75 chemistry students from seven high schools located in four counties. The chemistry teachers at Freeland, H. H. Dow, Heritage, Jon Glenn, Midland, Mt. Pleasant, and Valley Lutheran high schools administered this competition. The Local Exam included 60 multiple choice problems for about 2 hours.

Then the Midland Section nominated eight students to the National Exam using the scores of the Local Exam and the rule that not more than two students can be admitted from the same school. Four students out of eight accepted the nominations and participated in the National Exam at Saginaw Valley State University on April 13th. These students are as follows: Louis Huang of H. H. Dow High School (chemistry teacher Kristin Weston), Lance Neigh of John Glenn High School (chemistry teacher Jennifer Roller), Sara Zacharek of Heritage High School (chemistry teacher Melanie Galonska), and Henry Wang of Mt. Pleasant High School (chemistry teacher Jason Brown). The National Exam included 60 multiple choice questions in part 1, 8 questions involving problem-solving and explanations in part 2, and 2 experimental problems in the laboratory in part 3.

The students who participated in the National Exam received invitations to the Spring Recognition Banquet in Midland on May 1st. They were recognized with ACS certificates and awarded with ACS honor cords. The chemistry teachers received ACS certificates for the guidance and encouragement given to these students.

Every year approximately 700-900 high school chemistry students in the United States participate in the National Exam. Top twenty students receive invitations to the Chemistry Olympiad Study Camp in June, a prelude for the International Chemistry Olympiad (IChO). Next 50 students get High Honors, and the following 100 students receive Honors. Louis Huang of H. H. Dow School was given Honors, the only student from the Midland section geographic area who received this special recognition at the National level. Such a distinction was attained for the first time in at least ten last years. Louis Huang also achieved the top score at the Local Exam in mid-Michigan in both 2023 and 2024.

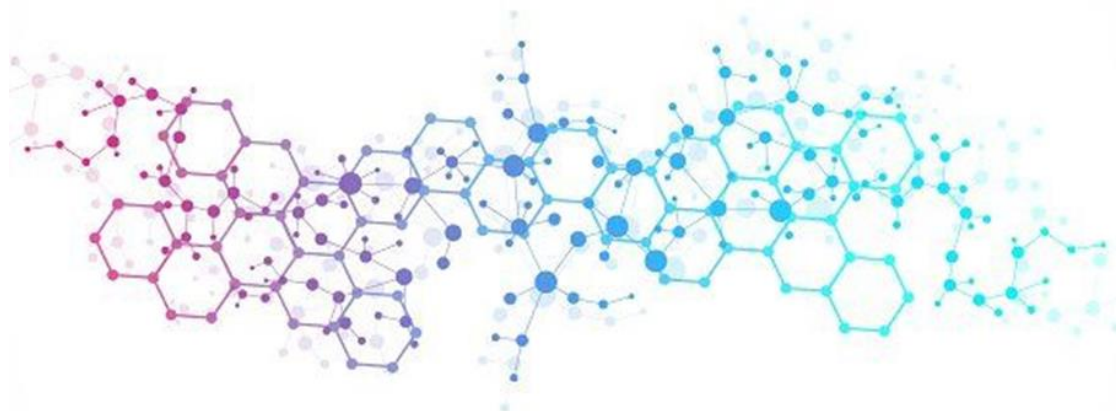


Picture 1: Mid-Michigan students at the National Exam (from left to right): Louis Huang, Sara Zacharek, Lance Neigh, and Henry Wang.

Several volunteers provided help at the local and national levels. The Midland section Chair Dr. Erin Vogel encouraged and promoted the Chemistry Olympiad activities. Dr. Jonathan Axtell and Dr. Sudipta Pal of Dow volunteered as National Exam proctors. Dr. Anthony Revis of SVSU served as the National Exam host. Chemistry teachers from the participating schools administered the Local Section Exam. Dr. Michael Tulchinsky coordinated the activities of the Chemistry Olympiad and recognized the students and their teachers at the Spring Recognition Banquet.



Picture 2: The 2024 Chemistry Olympiad volunteers (from left to right): Drs. Jon Axtell, Michael Tulchinsky, and Sudipta Pal of Dow and Dr. Anthony Revis of SVSU.



ACS Fall 2024 Meeting and Exposition, August 18-22

Steve Keinath, Co-Editor, *The Midland Chemist*

Editor's note: The information contained in this article is reprinted, in part, from material provided in email messages posted to all ACS members, dated March 5, 2024, and May 16, 2024.



ACS Meetings & Expositions bring together chemistry professionals, educators, and students worldwide to discover and share research, network, and advance careers. These meetings are an excellent opportunity for professionals and students to showcase their work and connect with colleagues in all areas of chemistry.

Register and join us from August 18 - 22 for ACS Fall 2024! We'll be in-person in **Denver, CO** at the **Colorado Convention Center** or virtually across the globe. The meeting theme, **Elevating Chemistry**, will be at the core of programming for the hybrid event. The **Schedule Overview** is available for you to explore the overall meeting schedule.

Join Us Virtually – Global Virtual Symposia is a programming opportunity for presenters and attendees to participate in ACS Fall 2024 virtually at the convenience of their own time zone. While in-person participants and general programming will be set to local time in Denver, CO, select symposia will be set to daytime hours in Asia, Africa, Europe, the Middle East, and Latin America. Global Reach, Local Time! Click here to **Learn More**.



Upcoming Dates, Events, and Other Updates

- June 3 (7:00 – 8:30 PM) – Hybrid Midland Section ACS Board meeting, Rotunda Room, MSU St. Andrews, Midland (in person), and via a Microsoft Teams videoconference call connection at [June 2024 ACS Board Meeting Teams Link](#), Meeting ID: 939 576 147 515 1, Passcode: A52hAT.
- June 8 – **Deadline to register** for “Wood Works” Middle School STEAM Camp. See details on pages 3-4 of this newsletter.
- June 17-21 (9:00 AM – 12:00 PM) – FREE “Wood Works” Middle School STEAM Camp. MSU-St. Andrews in Midland. Detailed information is available on the Midland ACS website (www.midlandacs.org) homepage; **register by June 8** at <https://forms.gle/zoTfCykxNvtoadNW6>. **Space is limited!** See article and flyer on pages 3-4 of this newsletter.
- June 19 (5:00 – 10:00 PM) – Summer Jam Social event, cosponsored by Midland Section ACS Young Chemist Committee (YCC), Women Chemist Committee (WCC), Diversity and Inclusion Committee, and the Mid-Michigan Technicians Group, Three Bridges Distillery and Taproom, 240 East Main Street, Suite A, Midland. Food and drinks will be provided, but an RSVP is requested to help plan for adequate supplies. See flyer on page 5 of this newsletter. For more information or any questions, please contact Kim Dinh at kdinh@dow.com.
- June 22-23 – NOBCChE Midwest Regional Symposium, Wayne State University, Detroit, MI. For more information, please see <https://sites.google.com/view/midwestnbcche>. For any questions, please contact Jade Bing, Midwest Regional Chair, NOBCChE, at mwregion@nbcche.org.
- August 5 (7:00 – 8:30 PM) – Hybrid Midland Section ACS Board meeting, Rotunda Room, MSU St. Andrews, Midland (in person), and via a Microsoft Teams videoconference call connection at [August 2024 ACS Board Meeting Teams Link](#), Meeting ID: 939 576 147 515 1, Passcode: A52hAT.
- August 18-22, 2024 – ACS Fall 2024 National Meeting & Exposition, Denver, CO. This meeting is being planned as an in-person and virtual hybrid meeting. Meeting theme: *Elevating Chemistry*. For more information, please see [ACS Fall 2024 - American Chemical Society](#).
- September 9 (7:00 – 8:30 PM) – Hybrid Midland Section ACS Board meeting, Rotunda Room, MSU St. Andrews, Midland (in person), and via a Microsoft Teams videoconference call connection at [September 2024 ACS Board Meeting Teams Link](#), Meeting ID: 939 576 147 515 1, Passcode: A52hAT. **Please note: This Board meeting is being held on the second Monday of September, not the usual first Monday of most months, due to the Labor Day holiday.**
- October 7 (7:00 – 8:30 PM) – Hybrid Midland Section ACS Board meeting, Rotunda Room, MSU St. Andrews, Midland (in person), and via a Microsoft Teams videoconference call connection at [October 2024 ACS Board Meeting Teams Link](#), Meeting ID: 939 576 147 515 1, Passcode: A52hAT.
- November 4 (7:00 – 8:30 PM) – Hybrid Midland Section ACS Board meeting, Rotunda Room, MSU St. Andrews, Midland (in person), and via a Microsoft Teams videoconference call connection at [November 2024 ACS Board Meeting Teams Link](#), Meeting ID: 939 576 147 515 1, Passcode: A52hAT.
- December 2 (7:00 – 8:30 PM) – Hybrid Midland Section ACS Board meeting, Rotunda Room, MSU St. Andrews, Midland (in person), and via a Microsoft Teams videoconference call connection at [December 2024 ACS Board Meeting Teams Link](#), Meeting ID: 939 576 147 515 1, Passcode: A52hAT.

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