
THE ACTION & REACTION

Newsletter of the Mid-Michigan Section of the American Institute of Chemical Engineers

Volume 25 Issue 1 🐛 March 2022

Apply Now! 2022 Undergraduate Chemical Engineering Scholarship

BY TED CALVERLEY, SCHOLARSHIPS CHAIR

Mid-Michigan AIChE strives to promote the vision of the American Institute of Chemical Engineers (AIChE) by offering financial support to high school seniors who wish to study and ultimately become professionals in the field of chemical engineering. The scholarship will reward past academic performance as well as school and community involvement. It is not strictly based on financial need. It is intended for a student who has demonstrated a high proficiency in core academic courses and who has a high probability of success at obtaining a chemical engineering degree.

Who: High school seniors residing in the Great Lakes Bay region who plan to major in chemical engineering.

What: Renewable scholarship awarding \$2000 over the course of four years (\$500 per year) for the study of chemical engineering.

Where: A college or university with an undergraduate chemical engineering program accredited by the Engineering Accreditation Commission of ABET

Eligible programs are listed [here](#).

Application Period: Applications are currently being accepted until **Friday, April 1st**.

The application process and forms can be found [here](#).

Questions? Contact Ted Calverley at Tcalverley@charter.net or midmichiganaiचे@gmail.com

2022 MMAICHE Elections

BY MARK SULLIVAN, SECRETARY

Each year, the Mid-Michigan AIChE Section holds officer elections according to our approved bylaws which lay out a process including a nomination period, dissemination of ballots, and announcement of election results at the Section's spring banquet. This annual banquet is tentatively scheduled for May 12 at the Midland Country Club. In addition to this newsletter article, we will be communicating election-related notices, news, and ballots by email via our current Section account, mmaiche@mmaiche.org, as well as on the Section web site at <https://www.aiche.org/community/sites/local-sections/mid-michigan>.

Our currently-serving 2021-2022 Section officers are: Victor Sussman, Chair
Miao Wang, Chair Elect/Vice Chair

Deboleena Chakraborty, Past Chair
Mark Sullivan, Secretary
Eric Stangland, Treasurer
Laura Dietsche, Director
Shawn Feist, Director
Bruce Holden, Director

As current Chair Elect/Vice Chair, Miao Wang will automatically succeed to Section Chair for 2022-2023, and current Chair Victor Sussman will automatically succeed to the position of Past Chair for 2022-2023. All other officer positions will be up for election, and nominations will be solicited from all local MMAICHE members. Suggestions from non-members will certainly be considered—self-nominations are welcome and encouraged! However, please be aware that any nominated candidates must be members of both AIChE and

MMAICHE in order to be placed on the election ballot.

The tentative calendar for the MMAICHE election events (subject to change) is as follows:

Call for Nominations: March 30
Nominations Close: 5:00 PM, April 21
Distribute Election Ballots: April 22
Election Ballots Due: 5:00 PM, May 8
Announce Election Results: May 12
Spring Banquet

All newly-elected and succeeding officers will begin serving at the close of the Spring Banquet, and terms will expire at the close of the 2023 spring banquet. Please seriously consider nominating someone qualified for an officer position or consider serving yourself!

Call for Nominations - MMAIChE Section Awards for 2021-2022 Program Year

Each year the Mid-Michigan AIChE Section recognizes distinguished members and affiliates by presenting awards at the Annual Spring Banquet. In order to identify deserving candidates for these awards, we request our membership to consider nominations for our four award categories. The award categories are:

Chemical Engineer of the Year - This award generally is given to a distinguished chemical engineer in the Mid-Michigan Section with about 20-30 years of professional experience following graduation. Publications, patents, company recognition of achievement, and other accomplishments in the field of chemical engineering are key criteria for consideration. The individual must be an active participant in AIChE at either the local or national level to be considered. This is normally an annual award.

Young Chemical Engineer of the Year - This award recognizes technical and professional expertise, and leadership that is superior for an early-career engineer. Service to AIChE is also a consideration for the award, but not an explicit requirement. It is generally given to a person with approximately 4-12 years of service following graduation. This is normally an annual award.

Service to Society Award - This award recognizes long-time service to the profession through role modeling for other engineers and leadership of community activities that benefit area students and residents. Recipients usually have about 25-30 years of service following graduation.

Noland Poffenberger Award - This award is given to a high-level manager who has shown great support of the Mid-Michigan Section by encouraging employees within the recipient's organization to participate in professional organizations such as AIChE.

Anyone interested in nominating someone can do so by sending an e-mail letter to Michael Molnar, Awards Committee Chair, at michael.molnar@dow.com. Please copy Mark Sullivan, Section Secretary, at msullivan6@dow.com. The following information should be included:

- Identify the specific award category that you feel is most appropriate for the individual you are nominating.
- Include several paragraphs explaining why this individual is deserving of special recognition.
- Include background information in support of the nomination, such as a

listing of professional accomplishments and service to AIChE.

- Also include a phone number where you as the person making the submission can be contacted for more information.

The deadline for submitting nominations is Monday, April 18, 2022. The awardees will be announced during May 2022.

We certainly expect that there are many individuals in the area deserving of special recognition, so please consider nominating someone you know. The Awards Committee may decide not to give an award in a particular category if too few nominations are received. More information about the Mid-Michigan Section of AIChE is available at <http://www.mmaiche.org> and <http://www.aiche.org/community/sites/local-sections/mid-michigan>.

Sincerely,

Michael Molnar (Chair), Laura Dietsche, Shawn Feist, and Bruce Holden
Awards Committee Members

Words from the Chair

BY VICTOR SUSSMAN, CHAIR

We are gradually starting to see signs that Winter is giving way to Spring here in Michigan, and to make matters better still, the challenges we have been navigating since the appearance of SARS-CoV2 in late 2019 appear to be improving. However – as any good scientist will tell you – new data forces a continual reevaluation of your hypotheses. While biology remains firmly in the driver's seat for the foreseeable future, signs suggest that cautious optimism is warranted.

Spring is a time for renewal, and on that front, we have several exciting announcements. First, it is with great pleasure that I can confirm that our annual banquet will be held *in person*. As in past years, this event will be held at the Midland Country Club and will feature a cash bar, dinner, and a speaker. In addition, it will provide a valuable opportunity to renew connections with old colleagues and network with new ones. Stay tuned for registration details and costs and be sure to reserve your spot – we look forward to seeing you there! Read on for details regarding the speaker and program. As in past years this event will also provide

an opportunity for us to recognize the recipients of our annual section awards – the Young Chemical Engineer of the Year Award and the Chemical Engineer of the Year Award as well as announcing our student scholarship winners.

On the section front we have a couple of items of note upcoming. First, we have taken time to examine and update our by-laws to ensure that they are up to date and consistent with AIChE requirements. We will be submitting said changes to the membership for approval; please take a moment to review them and participate in the voting process. Speaking of voting, we will also be holding our annual election for section officers and will announce the outcome at the banquet. Prior to that, stay tuned for nominations, candidate bios, balloting, and be sure to make your voice heard when the polls open.

Finally, the banquet represents the passing of the torch as we welcome newly elected officers and changes in section leadership. To that end, this will be my last installment of 'words from the chair' as I pass the gavel and the chair position to current Chair-Elect Miao Wang. As I move on



to the past chair role, I wanted to take a moment to say thank you for the opportunity to lead the section over this past year. It has been a privilege to work with such a talented and dedicated group of committee members, officers, and volunteers. I have been continually impressed by the active participation of section membership at our virtual seminars during these challenging times. I cannot wait to see what is next for MMAICChE, and I am sure the future will be bright.

Very respectfully,
Victor Sussman

MMAICChE's maple and blueberry flavors standout at AIChE brewing competition

BY PATRICK HEIDER, YOUNG PROFESSIONALS CHAIR

After a year's hiatus, the national AIChE Beer Brewing Competition returned and the team from MMAICChE again submitted three beers to the competition. Last year's competition occurred at the Annual Meeting in Boston on November 7, 2021. The fourth edition of the event had 29 entries from chapters around the US. Each beer was evaluated by two judges certified by the Beer Judge Certification Program. That score was combined with the results of a poster presentation to determine the top beer brewing teams. This year, MMAICChE's top beer, a maple porter, tied for fourth in the BJCP scores. The competition also involved awards for beer logo

design, highest starting gravity, and most efficient brew.

This year, Team MMAICChE was larger involving Preetam Giri, Pranav Karanjkar, Mrunmayi Kumbhalkar, Julia Heider, Patrick Heider, Jim Mitrano, Balamurali Sreedhar, and Scott Tipler. In late summer, the team reviewed previous scores and results and determined that moving away from standard beers like IPAs or stouts generally performed better in the judging portion. They decided to attempt two flavored beers – a maple porter and blueberry





cream ale. These would both require a delicate balance between achieving the characteristics of the base beer while balancing the added flavors.

The larger team was able to meet nearly every week in late summer and early fall to complete two versions of each beer. This was key as the early batches both had major deficiencies which the team refined in their second batch.

The maple porter originally contained actual maple syrup added after fermentation which resulting in an overly sweet beer. The team moved to using a maple extract added prior to fermentation which allowed them to balance the flavor without added sweetness. They also included biscuit grains in the boil to provide an additional touch of bread flavor which completed the allusion to pancakes and syrup.

The cream ale required less refinement as the major issue was a much darker color than acceptable for a cream ale. This was

remedied with use of very fresh extract and reducing the boil time to limit off-color bodies generation. Both beers benefited greatly from consultation with Nicole Kris of Michigan Brew Supply located in Midland.

The third beer was a serendipitous discovery as the team was tasting the two beers. One team member hypothesized that the beers might complement each other when mixed after tasting both beers. This was easily tested with samples remaining after the initial review of each beer and was discovered to be a good mix that kept the maple porter nature while adding the blueberry flavor and subtle smooth mouthfeel of the cream ale that combined to evoke a buttery blueberry pancake.

The judges scored the maple porter at 38/50 points putting it in the Excellent category described as “exemplifies style well, requires minor fine-tuning”. One judge even commented “Enjoyable and makes



me feel at home in New England”. The other two beers scored 29 which put them in the middle of the pack with comments about further refining the level of added flavors and balancing the appropriate roast in the blueberry maple porter and sweetness in the blueberry cream ale suggesting a shorter boil time.

If you are interested in learning how to brew and want to join the team this year or if you want to enter a team yourself, please contact Patrick Heider (plheider@dow.com). The competition is open to anyone interested in learning about the beer brewing process or wants to try their skills out in a judged event.



Scenes from the 2022 MMAIChE Seminars Series

Daniel Reaume, Deriving sustainable competitive advantage from analytics

Permit Application Review

What will emission levels be?

What state rules and federal regulations will apply and will they be met?

The permitting decision can only be based upon if the state and federal rules and regulations are being met.

12

EGLE

Annette Switzer, EGLE Air Quality Division and Our Role



Engineering is Scary, Coffee is Awesome



- Engineering is often seen as a somewhat **opaque** field. But it shows up in nearly **every facet of our everyday lives**.
- While we *could* talk about any number of common chemical products, let's talk about something a little more tasty : **coffee**.
- **Coffee is one of the most prolific beverages on the planet.**
 - 1/3 per-capita consumption of water in US/Europe
 - 10 million tons produced per year globally
 - Responsible for 'survival' of graduate students worldwide



Joseph Woo, *Engineering a Good Cup of Coffee*





Midland ACS and MMAIChE
Diversity and Inclusion
outdoor event

2nd Annual Trivia Night in the Park

June 23rd
Networking/BBQ starts @ 5 pm
Teams Trivia starts @ 6 pm

No registration required
Location: Emerson Park, Shelter D

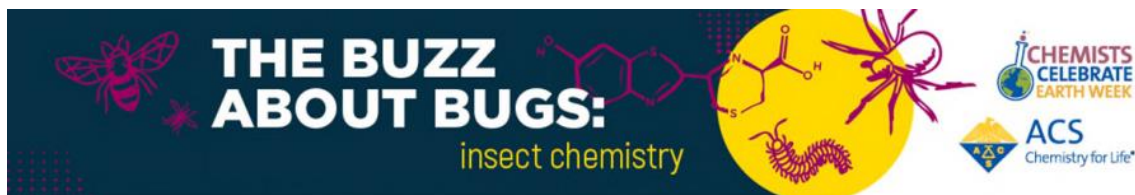


Keep an eye out for future event announcements!

April Seminar: **Padnos Recycling** at 12:00 PM on the 26th April (Tuesday).

Email announcements will provide event login and seminar details.

Upcoming STEM events in Mid-Michigan



SAVE THE DATE!

Earth Day Action Expo

Sunday, April 24, 2022

12-4pm

HH Dow High School



[Follow us on Facebook](#)

Food Trucks, Hands-On-Science, Art, and Ecology-Focused Activities
Free event for the whole family!!



MSU St. Andrews
MICHIGAN STATE UNIVERSITY



MUSEUM OF CULTURAL & NATURAL HISTORY

CENTRAL MICHIGAN UNIVERSITY

FREE VIRTUAL PROGRAM

Making HERstory: Women in STEM



Learn about female scientists like late-blooming Rachel Holloway Lloyd, rulebreaker Marie Curie, Mildred Cohn and Gerty Cori (both fought gender AND religious prejudice) and contemporary inventors like Paula Hammond. Discuss characteristics of these successful women, barriers women in science continue to face and how we can encourage diversity within STEM fields!

WHEN: April 5th @ 1pm

HOW: Register to receive ZOOM link

Register here: <https://forms.office.com/r/w6t08MTzit>



Donating to Support a Future Engineer through Mid-Michigan AIChE is Easy!



The Mid-Michigan Section of AIChE is involved in STEM educational outreach. We provide classroom demonstrations and support aspiring engineers through scholarships for summer camps and chemical engineering degrees. Your donation will be used to help Mid-Michigan AIChE sustain the scholarship fund that sends high school students to the Michigan Technological University Summer Youth Program or to an accredited university or college for a degree in chemical engineering.

You can choose to donate using a PayPal account or with a Debit or Credit card. The PayPal link is:

https://www.paypal.com/donate/?cmd=_donations&business=eestangland%40charter.net&item_name=Scholarships+donations+to+Mid-Michigan+AIChE¤cy_code=USD

OR scan the QR Code on your smartphone – it takes seconds!

Donations are tax-deductible and our secretary can provide you with a receipt. We sincerely thank you for financially supporting aspiring chemical engineers.



The Mid-Michigan Section of AIChE gratefully acknowledges the support provided by the following sponsors.



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