THE ACTION & *REACTION*

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

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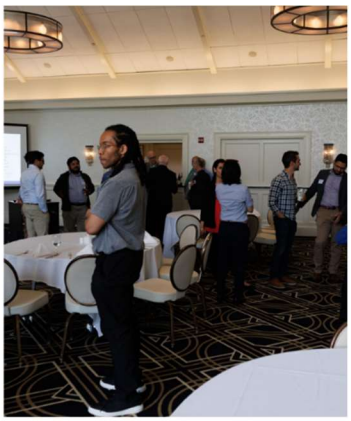
MMAIChE 2024 BANQUET NIGHT







Words from the Chair

BY ROQUE GOCHEZ, CHAIR

Last May, I had the honor to receive the gavel from Jyo Lyn Hor to officially become Mid-Michigan local section chair. I have followed the events and achievements of this organization for years as a member, which prompted me to join the steering team as vice-chair. Now, it is a surreal feeling to be in the position to lead a group of highly motivated and smart individuals.

This transition happened during our Spring Banquet where we celebrated our accomplishments and our award recipients. It is always inspiring to see the recipients of our annual scholarship and "chemical engineer of the year" awards, as it reminds me how hard our professionals in different stages in their career are working to make a mark in our field. I would like to thank Ted Calverley and Michael Molnar for their continuous efforts on supporting these activities.

During this Banquet, we had the pleasure to listen to Scott Collick, Sustainability VP of DuPont. His talk was a good reminder of the responsibility that we have as chemical engineers to provide energy and innovation in a sustainable manner.

Our goal as a local chapter is to engage with the community and the different chemical engineers in the area to provide a space of professional exchange, mentoring and enjoyable social interactions. During this summer, our EDI chair, Kimberly Dinh, collaborated with Midland ACS to host a Trivia Night in Emerson Park in Midland. In a different initiative, Patrick Heider has been leading a beer brewing group for enthusiastic individuals eager to know the secrets of this art.

Our committee is constantly seeing new faces. I would like to give a warm welcome to Vincent Copeland as young professionals committee lead, Nathan Ng as membership chair, Anagha Hunoor as our new secretary, and Kayla Williams as our new vice-chair.

In general, I feel very confident in our team & our mission. I rely on the guidance and the experience of our past chairs and our directors Shawn Feist, Victor Sussman and Eric Stangland to keep doing the best we can for our community.

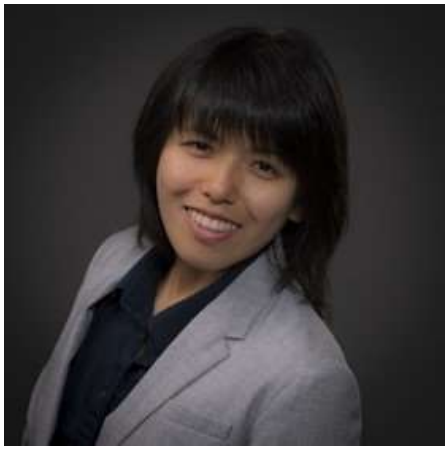
Summers in Michigan are incomparable, and I hope you are all taking full advantage of the hikes, the lakes, and the outdoor events. We are working toward exciting Fall activities for when you come back. Keep an eye out for our kick-off this 2024-2025 cycle!

Sincerely,

Roque Gochez

Words from the ex-Chair

BY JYO LYN HOR, FORMER CHAIR



Summer. It is hard to believe that it has been just 2 months since we held the annual Spring Banquet at Midland Country Club. We celebrated our well-deserved awards and scholarships winners and wrapped up the seminars and programs for the year with a fantastic keynote by Scott Collick on DuPont Perspective: Leading Sustainability in a Dynamic Environment. Our seminars in the past year have touched on diverse topics from nuclear power history, particle technology, the chemistry of tea, misinformation on microplastics, and a chemical engineer's career journey. Still, there is more to be learned and more perspectives to be shared. Our new committee is getting ready behind the scenes to bring about another exciting year of programs – seminars, beer brewing team, trivia, outreach, and so on. If you are interested to learn more about any of these activities, or how to get involved, feel free to reach out to the committee members (listed in the back). It was how I got involved in the first place, and MMAIChE will continue to be part of my community. I also encourage anyone to volunteer at a STEM outreach event, it is highly rewarding to see someone lights up when the knowledge clicks for the first time or be amazed by the wonders of science.

I am extremely honored to have the opportunity to serve as chair and work alongside many wonderful and generous individuals. Again, please consider joining and participating in this local section to grow your network and continue learning!

Margaret Hwang Receives Mid-Michigan American Institute of Chemical Engineers' Young Chemical Engineer of the Year Award

BY MIKE MOLNAR, AWARDS CHAIR

On May 16th, Margaret Hwang, Associate Research Scientist in Performance Silicones Process R&D, Dow Silicones Corporation, was awarded by the Mid-Michigan Local Section of the American Institute of Chemical Engineers (AIChE) as the Young Chemical Engineer of the Year for the 2023-2024 program year. This award recognizes technical and professional expertise, and leadership that is superior for an early-career engineer.

Margaret Hwang joined Dow in 2017, after obtaining a PhD in Chemical Engineering from The University of California-Berkeley and a B.S. in Chemical Engineering from Purdue University. Since joining Dow, she has taken on a deep understanding of the literature in the field of industrial mixing and adapting a proper blend of experimentation, correlations, and application of multiple commercial CFD platforms to support her work within the Dow Consumer Solutions business, especially systems involving complex liquid-liquid and solid-liquid flows.

Margaret has excelled at every problem she has faced to date and continues to grow in her field. For instance, she has tackled problems in emulsification of siloxane polymers in water and dispersion of solids in filled polymer systems, both of which are core material processing challenges for siloxane-based products, while at the same time improving quantitative predictions associated with those observations through generation of better process models for droplet break-up. She is adept at combining the results of experimentation with CFD simulation to gain insight into process bottlenecks and make recommendations for redesign of both high viscosity batch kettles and phase separators for continuous hydrolysis processes for polydimethylsiloxane. Her career contributions to date have supported $40 MM of business through both cost savings and capital avoidance. In addition, she has also supported as a technical liaison a National Science Foundation (NSF)-funded GOALI initiative between Dow and the University of Colorado Boulder on gas-solids flow of cohesive particles.

As a practicing chemical engineer, she also participates more broadly than in Dow Consumer Solutions, representing Dow on mixing consortium activities (FMP and DOMINO), presenting technical work at external conferences (American Institute of Chemical Engineers, American Chemical Society Rubber Division, and Royal Society of Chemistry). Within the American Institute of Chemical Engineers, she has been especially active in the North American Mixing Forum. In addition, she has been very active in the Society of Women Engineers (SWE) since her undergraduate studies at Purdue, and she has continued her involvement with SWE at both University of California Berkeley and now the Mid-Michigan SWE chapters. In 2021, she was recognized by SWE as a Rising Technical Contributor. In 2022 she was recognized by the National Academy of Engineering to participate in its US Frontiers of Engineering program. Since joining Dow, she has authored or co-authored thirty-nine (39) Dow research reports, numerous external conference presentations, and one publication in a peer-reviewed journal.

Outside of work, Margaret enjoys bicycling, curling, cooking new things, crafting, and combining the last two into the occasional themed party.

On behalf of the Mid-Michigan Local Section of AIChE and its awards committee, we would like congratulate Margaret for this well-deserved accomplishment.

Jeff Fox Receives Mid-Michigan American Institute of Chemical Engineers' Chemical Engineer of the Year Award

BY MIKE MOLNAR, AWARDS CHAIR

On May 16th, Jeff Fox, Center for Chemical Process Safety Consultant and AIChE Fellow, was awarded by the Mid-Michigan Local Section of the American Institute of Chemical Engineers (AIChE) as the Chemical Engineer of the Year for the 2023-2024 program year. This award recognizes exceptional career accomplishments and leadership in Chemical Engineering.

Jeff Fox joined Dow Corning Corporation in 1978 following the completion of his B.S. degree in chemical engineering from South Dakota School of Mines and Technology. He held various roles in Process Engineering (1978-1985 first supporting silicone resins and chlorosilanes at Dow Corning Midland Plant, and then polycrystalline silicon, hydrogenation technology, and dichlorosilane process development at Hemlock Semiconductor Corporation); Quality Management (1985-1988: Dow Corning's Springfield OR metallurgical silicon production facility); and Manufacturing (1988-1991: Manufacturing Superintendent for Chlorosilane Distillation Operations). In 1992, he transitioned his career to roles in Dow Corning's Corporate Safety, first as the Site Safety and Loss Prevention Manager for Dow Corning Midland Plant (1991-1995) and later Corporate Process Safety Organizations (1996-2016). His responsibilities included provide process safety management (PSM) guidance and support and oversight for global operations aligned to process safety, chemical reactivity risk management, occupational safety, and safety/risk management systems. In 2016 following Dow's acquisition of Dow Corning's silicone business, he worked as a Dow Process Safety Technology Leader, which included harmonization of the two organization's safety management systems, until his retirement from Dow in 2017.

A testament to his leadership was offered by the nominees.

His experience shined as the process safety lead for Dow Corning's venture into monosilane manufacturing, which dealt with processing of pyrophoric chlorosilanes. He was adept at putting together the correct team and driving the process evaluation throughout the design phase and throughout the construction of the plant. This project incorporated new piping technologies for safe handling of the silanes over a wide range of process conditions, including elevated pressures and cryogenic storage. His approach to safety focused on day one adherence to competency standards and practices to ensure safety of those operating the site and the surrounding community.

Jeff is a licensed professional engineer in the State of Michigan. He is a Certified Safety Professional from Board of Certified Safety Professionals, and he holds a certificate in safety practice from The Mary Kay O'Connor Process Safety Center at Texas A&M University's Experimental Station. Jeff also holds a Master's in Business Administration (MBA) from Central Michigan University.

Our awardee is a Fellow of the American Institute of Chemical Engineers, having been elected in 2014 for his dedication to process safety. Within our institute, he has served as an officer within the Process Safety Division (formerly, the Safety and Health Division).

He has been involved with a dozen CCPS projects with the division, including the Process Safety Beacon, Process Safety Vision 20/20 and multiple CCPS books. He is a Fellow of the CCPS and CCPS Certified Process Safety Professional. Jeff has been an active leader for the Global Congress on Process Safety (GCPS) since 2011. He has served as a CCPS Symposium Chair/Vice-Chair for the GCPS, served as a CCPS Session Chair for multiple times, and in 2017 he chaired the 13th Global Congress for Process Safety aligned with the AIChE Spring Meeting (San Antonio, TX).

Jeff enjoys spending time with his family and dogs. He also continues to try to master the frustrating game of golf, albeit according to him, with little success.

On behalf of the Mid-Michigan Local Section of AIChE and its awards committee, we would like congratulate Jeff for this well-deserved accomplishment.

2023 Chemical Engineering College Scholarship Awarded to Adil Kolah

BY TED CALVERLY, SCHOLARSHIP CHAIR

Adil Kolah, a graduate of Mason High School has been awarded the 2024 Mid-Michigan AIChE Undergraduate Scholarship. The scholarship provides $2,000 over 4 years for a graduating senior from the Great Lakes Bay region and neighboring counties who plan to study chemical engineering at an accredited university or college. The scholarship awards academic performance as well as school and community involvement. It is intended for a student who has a high probability of obtaining a chemical engineering degree and becoming a practicing engineer.

Adil plans to attend the University of Michigan in Chemical Engineering this fall. His high school transcript reveals a GPA above 4.0 including AP chemistry and biology, but he has also taken Differential Equations and Material and Energy Balances courses at MSU along with an MSU Biomedical Engineering Research Assistant role with Professor Aguirre. He has also taken courses at the Lansing Community College (LCC) where he is president of the Japanese club and he tutors students of Japanese at the LCC. Adil's community service roles include volunteering for over a year at a Seniors home and a library service project, rounding out an impressive set of accomplishments that bode well for his future as an engineer.

2023 Engineering Exploration Scholarship Awarded to Makayla Staley

BY TED CALVERLY, SCHOLARSHIP CHAIR

Makayla Staley, a Junior at Freeland High School, has been awarded the 2024 Engineering Exploration Scholarship to attend the Summer Youth Program at Michigan Technological University (MTU). The MMAIChE Engineering Exploration Scholarship provides an opportunity for high school students to explore science and engineering careers through laboratory, classroom, and field experiences at the MTU Engineering Exploration Summer Youth Program in Houghton, MI. The scholarship is open to students in grades 9 – 11 in the Great Lakes Bay region and neighboring counties.

Makayla currently has a 3.98 GPA including multiple STEM courses. She has been active in FIRST Robotics, including acting as the presenter for her team and she also mentors the young members in the FIRST LEGO program. In addition to playing in band and volleyball, Makayla keeps a part time job and is a co-leader of a local AUTO (Autism Understanding Through Outreach) team. This range of interests, with a focus on STEM makes Makayla an excellent candidate for the Michigan Tech. Summer Youth Program.

MMAIChE to visit MSU brewing labs!

BY PATRICK HEIDER, WEBMASTER/ EX-YOUNG PROFESSIONALS CHAIR AND PREETAM GIRI, PROGRAMMING CHAIR

MMAIChE is planning a tour of the MSU Fermented Beverage Lab on August 23. The tour will be led by Dr. Nicole Shriner who heads the fermented beverage program at MSU. We will get to see their unit ops lab where they do research on brewing, wine making, and distilling as well as the analytical lab that supports academics and industry researchers in need of validated analysis of their beverages. We will meet in Midland to carpool down at 1:30 PM to start the tour at 3:00 PM at MSU. The tour itself will last about 2 hours with the potential to also visit a local craft brewery to see their process. Please RSVP to Patrick Heider (plheider@dow.com) if you are interested in attending.

We are also regularly meeting in Midland to brew our own beer. If you would like to be notified of our brewing nights, contact Patrick (plheider@dow.com) to be added to our email list.

MMAIChE partners with ACS and Dow-RISE to co-host Trivia Night at Emerson Park

The Equity, Diversity, and Inclusion Committee collaborated with the Midland ACS Diversity and Inclusion Committee and Dow RISE to host their 4th annual Trivia Night in the Park at Emerson Park on July 12. Approximately 50 people attended to network, socialize, eat tacos, and try their hand at trivia. Team "No Habla Ingles" took home the trophy. Thank you to everyone who attended!

Welcome Kayla Williams, Anagha Hunoor, and Nathan Ng to the MMAIChE committee!

About Kayla (Joins as Vice Chair):

Kayla Williams is a Senior R&D Leader for Silicone Elastomers Process Research and Development responsible for leading a high performing team of 13 engineers and technologists dedicated to process technology development and new product commercialization. Her career began as a manufacturing Start-Up engineer for Hemlock Semiconductor (HSC L.L.C.) where she was responsible for overseeing polycrystalline silicon decomposition reactor installation in Clarksville, TN as well as installation, commissioning, and start-up of new production reactors at the Hemlock, MI facility. In 2012 she transitioned into Process R&D focusing on long term process improvements and successfully implemented energy saving solutions, developed novel characterization methods, and delivered operational cost savings for HSC. In 2015 Kayla accepted a position in Silicone Elastomers Process R&D at the Zhangjiagang, PRC finishing site. Her primary responsibilities included transferring global production of existing HTV and RTV products to the ZJG site, ensuring globally consistent quality, and new product commercialization. Upon repatriation in 2017, Kayla remained with Elastomers Process R&D and took on leadership of business-critical projects ranging from intermediate raw material supply challenges to sustainability initiatives. At this point in her career Kayla identified a passion for inclusion and diversity and led a team of 12 peers to develop and deploy a department-wide initiative that earned the team a Highly Commended finalist distinction in the 2021 IChemE Global Awards I&D category.

Kayla graduated from Michigan State University with a B.S. in Chemical Engineering. A graduate of the MSU Honors college, Kayla was also a member of the varsity diving team all 4 years earning Academic All-BigTen honors. In her spare time Kayla enjoys running, sewing, golfing with her husband David, and chasing their three daughters around.

In her own words: "I learned about the vice chair position opening from the current and past chair and thought this would be a good opportunity to get more involved in the Mid-Michigan section. I look forward to learning about current and ongoing initiatives and better understanding how I can help this organization advance its mission and goals."

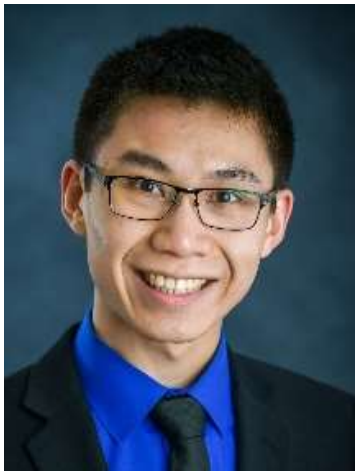
About Anagha (Joins as Secretery):

Anagha Hunoor joined Dow in June 2023. In her current role as a Senior Research Specialist in Core R&D Chemical Science, Anagha is responsible for development and testing of heterogenous catalysts. Anagha is based in Midland, MI.

She holds a Bachelors in Fibres/Textiles Processing Technology and Masters degree in Chemical Engineering from Institute of Chemical Technology in Mumbai, India, and a Ph.D in Chemical Engineering from The Ohio State University. In her graduate work, Anagha focused on understanding the structure-property relationship of organosilica materials as catalyst scaffolds for aqueous phase hydrogenation/hydrogenolysis. At Dow, Anagha's work involves studying the deactivation of catalysts used for ethylene oxidation.

In her spare time, Anagha likes reading and watching murder mysteries and suspense thrillers. She also loves hiking, biking and playing badminton, as well as cooking and listening to music. She is also very passionate about yoga and wellness and volunteers to organize programs.

About Nathan (Joins as Membership Chair):



Nathan is a Process (Design) Engineer at Dow. He double majored in Chemical Engineering and Materials Science Engineering at the University of Michigan, graduating in 2020. After graduating, he moved to Midland to work at Dow as a Run-Plant Engineer at 588 VBC/BCB, stretching production capacity of the plant and supporting project work and technology or automation trials and improvements. In 2023, he transitioned to the roles of Improvement Engineer for 588/1353 and Run-Plant Engineer for 1353 Silicones Sealants and Adhesives, where he acted as project manager and manufacturing representative for multiple projects and supported scale-up/commercialization of several new products in addition to the day-to-day production management.

Nathan now works as a Process Engineer in the Dow TES (Technical Expertise & Support) organization, supporting projects for Greater North America. In particular, he acts as the Business Aligned Process Engineer for Dow Organo Silicones and Silanes and has supported small and intermediate projects in that area since he started this position in early 2024. Nathan also serves on the GLBR Dow RISE steering team. Outside of work Nathan plays and teaches percussion in local ensembles, and enjoys practicing Taekwondo, listening to music, and tutoring.

As the incoming Membership Chair, Nathan aims to invest time towards MMAIChE's attendance, beginning with improved metric tracking for fundraising purposes, and ending with suggestions towards future events and higher engagement. Any and all suggestions towards this endeavor are welcome at his Dow address nng@dow.com.

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&currency_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.

MMAIChE 2024-2025 Executive Committee

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

2024 Kick off announcement – Stay tuned for more details!

Mid-Michigan AIChE to Hold the Annual Summer Kick Off

Mark your calendar! The Mid-Michigan Section of the American Institute of Chemical Engineers (AIChE) cordially invites you to attend the annual Summer Kick Off in September. We will be discussing all the events that we plan to have in the next calendar year and more during the event. Stay tuned for more details to follow in the coming days!

When: Sometime in September

Where: Someplace like MI Element Grains & Grounds

Follow us on Facebook for events, updates and more
https://www.facebook.com/Mid.Michigan.AIChE

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