
THE ACTION & REACTION

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

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Apply Now! Engineering Exploration 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 students who participate in the Summer Youth Program (SYP) at Michigan Tech. The program offers students with the opportunity to experience college life, learn new skills, and explore potential careers in a fun, engaging, and safe setting, in addition to meeting other exceptional young people from around the country and around the world.



Who: Students in grades 9-11

What: Full scholarship covering tuition, room, and board plus a \$100 travel allotment to explore science and engineering through hands-on laboratory, classroom, and field experiences

Where: Summer Youth Program at Michigan Technological University (MTU) in Houghton, MI



More information available at: <http://www.syp.mtu.edu/index.php>

When: One-week session in the summer of 2022

Deadline: Applications due by midnight on Monday, **November 22, 2021**

Contact: Apply online at <https://www.aiche.org/community/sites/local-sections/mid-michigan/engineering-exploration-scholarship>

Questions? Contact Ted Calverley at 989-837-1789 or tcaverley@charter.net

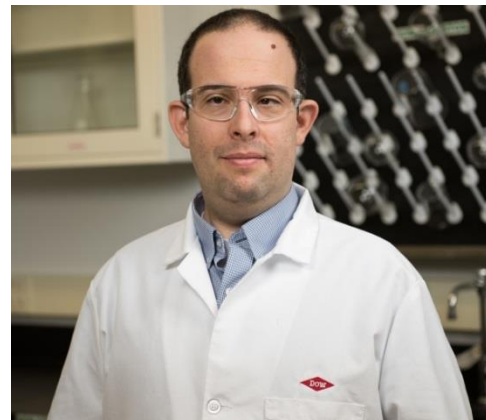
Mid-Michigan Section of the American Institute of Chemical Engineers

Words from the Chair

BY VICTOR SUSSMAN, CHAIR

Mild temperatures and sunshine marked our kickoff event last month. Traditionally held at Oscar's, we opted to move the kickoff outdoors and held our initial meeting for the 2021-2022 season in Emerson Park. It was a welcome respite from the innumerable Zoom and WebEx meetings that have defined much of our technical interactions over the past 18 months. In addition to having an opportunity to reconnect with colleagues and friends in person, we were also excited to have an opportunity to present the Chemical Engineer of the Year and Young Chemical Engineer of the Year awards to Mike Telgenhoff and Pranav Karanjkar. In addition, we provided an overview of this year's programs. While many of our signature activities (STEM outreach, for example) remain on hold, others will continue in virtual form (Young Professionals activities and Seminars.) Speaking of seminars, we recently hosted

our first speaker of the season. Kevin Hagedorn of Life Magnetics discussed some of the novel RNA isolation techniques that have been developed by his company. Next month, we look forward to hosting Stephanie Steichen and Sweden Yocom of DuPont. As always, we are eager to welcome new members to the section – if you have a colleague who is interested in participating, please encourage them to join. In addition, if you are looking to becoming more engaged in the activities of the section, we would love to have you. Please feel free to contact any of the members of the Executive Committee and we will help you to get started. While we enjoyed a pandemic respite this past summer, the new surge has dealt us something of a setback, but as is so often the case in science, we adapt and move forward; better times remain ahead. In the meantime,



stay safe, be healthy, and we look forward to seeing you at a virtual event soon.

Very respectfully,
Victor Sussman

New 2021-22 MMAIChE Officer in Profile

BY PREETAM GIRI, PROGRAMMING COCHAIR

Preetam is currently a Senior R&D Engineer with the Elastomers, Emulsions & Polymers (EEP) Process R&D group within Dow Performance Silicones. In this role, his primary focus lies in the scale-up of silicone polymers, emulsions, adhesives and sealants using twin-screw extrusion and reactive extrusion-based processes.

Preetam joined Dow in 2019 after completing his Ph.D. in Chemical Engineering from Michigan State University where he worked with University Distinguished Professor Ramani Narayan's group. For his graduate school research, he worked predominantly on the property modification of biobased polymers, specifically, polylactide (PLA), for applications ranging from compostable cutlery to automotive interiors. His technical expertise lies in the field of polymer processing and reactive extrusion

using twin-screw extruders, and the subsequent polymer characterization. Prior to moving to the US for graduate school, he worked as a research associate at the GE John F. Welch Technology Center, India where he was a part of the Electrochemistry, Corrosion and Tribology group studying the types of localized corrosion affecting stainless steel alloys used by GE in their offshore projects. Preetam holds a Bachelor's degree in Chemical Engineering from the Birla Institute of Technology and Science – Pilani (Hyderabad Campus). Preetam originally hails from Odisha, a sleepy coastal state on the eastern part of India. Outside of work, Preetam enjoys photography, spending time outdoors hiking, biking and gardening, and cooking and reading while indoors.

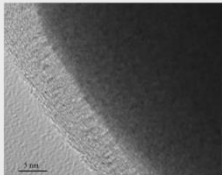


2021-2022 MMAIChE Fall Kick-Off Event



October 2021 Seminar Series

Innovation



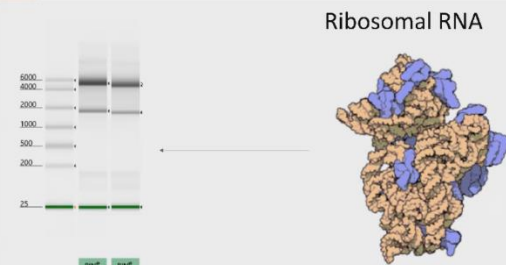
Development activities:

- Engineered Carbon with affinity for RNA
- Engineered buffers and protocols for carbon surface

TEM image of actual product, layers are individual atomic layers of carbon, core is metal
Developed with support from the National Science Foundation Award #1745992

Challenges

Ribosomal RNA



October seminar by Kevin Hagedorn from Life Magnetics Inc., a National Science Foundation funded startup collaborating with Central Michigan University to develop and deploy graphene-like materials for diagnostic and therapeutic applications.

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:

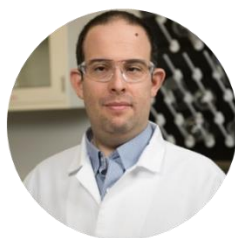
https://www.paypal.com/donate/?cmd=_donations&business=eestangland%40character.net&item_name=Scholarships+donations+to+Mid-Michigan+AIChE¤cy_code=USD

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.



MMAIChE 2021-2022 Executive Committee



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



2021–2022 Seminar announcement – Stay tuned for more details!

Event	Date, Time	Speaker and Topic
October	October 13, 2021 12 – 1 pm	Kevin Hagedorn (Life Magnetics) <i>Life Magnetics, Inc., a Michigan Startup, and Central Michigan University Collaborate to Commercialize Laser-synthesized Graphene-like Materials for High Volume Production of Synthetic RNA for Drug Manufacturing and RNA Pesticides and Remote Diagnostic Testing Applications Like Wastewater Testing for COVID-19</i>
November	November 2, 2021 12 – 1 pm	Stephanie Steichen & Sweden Yocom (DuPont) <i>Silicones for Healthcare Applications</i>
December	No seminar	
January	January 17, 2022 6:30 – 7:30 pm	Daniel Reaume (Caterpillar Inc)
February	February 9, 2022 12 – 1 pm	Annette Switzer (EGLE)
March	March 10, 2022 12 – 1 pm	Joseph Woo (Lafayette College)



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