

*The Newsletter of*

# The Mid-Michigan Section of AIChE

American Institute of Chemical Engineers

**Mission: To provide opportunities to continuously develop our members professionally – while working with the community to improve the understanding of science and engineering and their impact on society.**

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Scenes from the Section’s Annual Spring Banquet held May 15 at the Great Hall in Midland. See pages 4 – 12 for more about the evening’s events.

## *Words from the Chair...*

As you read this newsletter you may be hearing the hum of pumps, the whistle and hiss of steam traps, or the bleating of alarms, or maybe you're hearing the less industrial sounds of birdsong or of lawnmowers. You may be reading this on paper, or electronically, from an e-mail or from a link on our LinkedIn group, our internet site, [www.mmaiche.org](http://www.mmaiche.org), or from our Facebook page. Wherever you are AIChE is with you. In the past season under the chairmanship of Shawn Fiest our section has moved a bit further into the technology of the 21<sup>st</sup> century, using a variety of media to interact with our members, and building on the work of our most recent past-chair Rich Helling and the executive council.

As the incoming chairman I hope to be able to continue this forward movement for the section, which helps to keep us in touch with each other and to keep our interactions with the community dynamic and vibrant, and helps our section to stay relevant. Community is key, because it can embrace the few people that are in our immediate work teams or research groups, or our geographical area, or it can be taken to mean the wider web of people connected by common goals and interests, as we members of this institute are linked through our appreciation of and work in chemical engineering. The community that we have in our local section is a very special unified body, as we engage in the furtherance of the aims and purposes of the Institute and the advancement of the science and practice of chemical engineering and of related disciplines for the benefit of society.

This past season Vishesh Shah once again did a tremendous job of making our seminar series very successful, with interesting speakers and good turnouts at nearly every session. We heard about the benefits of professional engineering licensure, the challenges and rewards of transitioning to a career in consulting, advances in micro-flow reactors, the impacts of Canadian government policies on the market for chemistry jobs in Canada, tools and techniques for driving sustainable innovation, and the newest Chemical Engineering program in our area at Kettering University. Our series culminated at the MMAICHe Spring Banquet last month with Dr. Shankar's talk on the energy landscape, manufacturing, and opportunities for innovation in the energy storage industry. We're looking forward to another very appealing and relevant seminar series in 2013-2014.

Our MMAICHe Education Outreach ("EO") for the 2012-2013 season was active, with participation in the annual 4-H Science Blast event in October, and some Science in the Classroom interactions with area middle schools. EO had some difficulties doing all we had hoped because the committee chairman was operating basically without a committee; we weren't able to participate in the annual ACS Sci-Fest due to lack of resources, and we got into fewer than five classrooms this year, where normally we are able to do experiments for more than 20. I am hopeful that you will consider volunteering some of your time for this very fun activity that helps us to share our excitement and enthusiasm for science and engineering, particularly chemical engineering directly with our local middle school students. When Drew Powers ran the program in the 2011-2012 season, only about 7% of his volunteers were from AIChE. This doesn't mean they aren't necessarily chemical engineers, but only that they have not joined our local section. If you are at all interested in helping with the outreach effort in the coming year, please get in touch with Drew and join his committee. Or if you only have the time to commit to doing a classroom demonstration, that's very useful too. But we won't know you're interested unless you talk to us!

De-Wei Yin is already working on a different sort of outreach effort in conjunction with some other local science and engineering organizations to bring MTU's MindTrekking to Midland for a SciFest in October. The event will be subsidized by the ACS and local companies, but will require help from the community. We'd like to support this exciting event, so be on the lookout for more information. The event will be Friday October 4 and Saturday October 5, and will be open to the public, with activities for everyone, from young children all the way up to adults. We're also working with other engineering societies to hold a STEM-related event sometime in the next year or so, but to do this we'll need engagement from the section and people who are interested and willing to volunteer some time to make it happen. We're hoping this can happen in 2014.

This is a good place to remind you of the value of your local section membership. The membership fees we collect are used for our community activities and go directly to scholarships and to supplies for the classroom experiments and other direct outreach. Our seminar series speakers come to us gratis because they know they will be speaking to a knowledgeable interested audience: you.

This is your section so if you have ideas for us – for seminars, for engaging with fellow chemical engineers, for interacting with the Institute or with our local community, please let us know. If you haven't already accessed our social media resources, I encourage you to check them out. They are a great means of two-way communication. Thank you for your involvement in the seminars and in AIChE, and for helping to build our local section.

I hope to see you at our kick-off event in September or at a seminar soon!

*Maxine Cottrell*

Chair, Mid-Michigan Section of AIChE



## Scenes from the Annual Spring Banquet

Photos by Rich Helling

The Annual Spring Banquet was held Wednesday, May 15, 2013 at the Great Hall Convention Center in Midland. Shawn Feist, the 2012 - 2013 Chair of the Section, presided over the evening's activities which included the presentation of awards and scholarships and introduction of the newly elected officers. The keynote address was given by Dr. Ravi Shanker.



Dr. Ravi Shanker, Executive Adviser at The Dow Chemical Company

Dr. Shanker spoke to the group about energy issues and opportunities for the future. Dr. Shanker has many years of experience building, growing, and running businesses within The Dow Chemical Company, including the recent creation and start-up of the Dow-Kokam lithium-ion battery joint venture. Dr. Shanker joined Dow in 1991 and has spent much of his career growing Dow businesses via new product and new business development. Starting in research and development, he began his career by developing new manufacturing processes. Later he supported the office of the Chief Executive in strategy development for near- and long-term business opportunities in emerging geographies, as well as serving as Business Director of Specialty Plastics in the Performance Products Portfolio. Shanker has also served as Corporate Director of Ventures & Business Development, where he incubated a portfolio of innovative business opportunities for Dow, driving many to commercialization. Shanker holds a Ph.D. in mechanical engineering from the University of Delaware and a B. Tech. in mechanical engineering from B.I.T. Sindri, in India. He also has an MBA from the University of Houston

The next several pages show scenes from the evening's events including the presentation of awards and scholarships.



Students from Michigan State University came from East Lansing to attend the Banquet.



Shawn Feist congratulates John Anderson on being named the 2013 Chemical Engineer of the Year.



Shawn Feist is congratulated by Michael Molnar, Chair of the Awards Committee, on being named the Young Chemical Engineer of the Year for 2013.



Hannah Fetner, winner of the Section's 2013 AIChE College Scholarship, is congratulated by Shawn Feist.



Maxine Cottrell presents Daniel Maak with the Section's 2013 Engineering Exploration scholarship to attend the Michigan Tech Summer Youth Program.



Dan Kaczynski, a 2004 AIChE College Scholarship recipient and graduate of Michigan Tech, tells the group how the Section helped him become a chemical engineering professional.



Passing of the gavel from Shawn Feist (outgoing Chair) to Maxine Cottrell (incoming Chair).

### John Anderson Named Chemical Engineer of the Year



John Anderson is shown being congratulated by Shawn Feist on being named the 2013 Mid-Michigan AIChE Chemical Engineer of the Year in recognition of outstanding career-long accomplishments in chemical process economic modeling and analysis. John is a long-standing member and Past-Chair of the Mid-Michigan Section. He also is a past recipient of the Section's Service to Society Award (in 2003). John is a Research Scientist in the Engineering & Process Science Laboratory at The Dow Chemical Company.

## Shawn Feist Named Young Chemical Engineer of the Year



Shawn Feist was recognized for exceptional early-career accomplishments in technology development and leadership. Shawn is known for significant contributions to advancing separations, reactions, and ion exchange technologies. Shawn also is an active member of the Section, including his service this past year as Chair, and an active member of the Process Development Division of national AIChE. Shawn is Sr. R&D Manager for the Process Development & Analysis Group at The Dow Chemical Company.

## Dr. James Ringer Awarded the Noland Poffenberger Award



Ron Leng and Shawn Feist congratulate Jim Ringer

Jim Ringer was recognized for outstanding vision and leadership of the chemical engineering profession. This award honors the memory of Noland Poffenberger who helped found the Section in 1952 and served as the Section's first Chair. Dr. Ringer is Senior R&D Director of the Engineering & Process Science Laboratory at The Dow Chemical Company. He has responsibility for a research organization comprised of six engineering disciplines: Process Chemistry and Scale Up, Process Separations, Reaction Engineering, Fluid Mechanics & Mixing, Solids Processing, and Optimization & Modeling.

## Jim Mitrano Honored for Service to Society



Jim Mitrano (shown here being congratulated by Shawn Feist) was recognized for exceptional service to the Mid-Michigan community as a volunteer and mentor for the Disability Network of Mid Michigan, board member for the Education and Training connection, avid cyclist fund raiser for Multiple Sclerosis, and adviser to Young Manufacturing and Engineering Community. Jim also is known for bringing his enthusiasm for science and engineering to the classroom through participation in the Section's educational outreach program. Jim is an Improvement Operations Leader at The Dow Chemical Company.

## Chemical Engineering College Scholarship Awarded to Hannah Fetner

Hannah Fetner, a graduating senior at Herbert H. Dow High School in Midland, received the 2013 AIChE College Scholarship. This scholarship provides \$2000 over four years to study chemical engineering. Hannah will attend the University of Michigan in the Fall to study chemical engineering. During her high school years, she actively participated in the National Honor Society, Key Club, Junior Varsity Soccer, and Varsity Cross Country. Hannah also volunteered her time (almost 500 hours) serving the Midland community, including work for Chippewa Nature Center summer day camps and work for Students Against Destructive Decisions, Students Against Violence Everywhere (S.A.D.D. S.A.V.E.).

## MTU Summer Scholarship Awarded to Daniel Maak

The Section awarded the 2013 Engineering Exploration Scholarship for the Michigan Tech Summer Youth Program to Daniel Maak of Bullock Creek High School. Daniel is an Eagle Scout and is very active in the school's FIRST Robotics program as a team leader. The Summer Youth Program is a one-week program at Michigan Technological University (MTU) campus. The program gives students an opportunity to explore careers and develop skills in science and engineering. The students participate in laboratory, classroom, and field experiences in a selected career area. The scholarship covers the cost of room, board, and tuition, as well as providing a \$100 travel allotment. In providing this scholarship, the Section seeks to help young people learn about engineering careers.

## Dietsche and Holden Named Fellows of the Institute

The Section announced that two of its members, Laura Dietsche and Bruce Holden, have been named Fellows of national AIChE. Election to Fellow recognizes outstanding contributions to the chemical engineering profession over an extended period of time, normally 25 years or more. Laura Dietsche, Research Scientist at Dow, is well known for expertise in computational fluid dynamics modeling and equipment design and for service as commissioner and executive committee member for the Engineering Accreditation Commission at ABET, the organization responsible for accreditation of college-level engineering departments. Bruce Holden, Principal Research Engineer at Dow, is well-known for expertise in process separations technology. He is co-author of national AIChE's guidelines for trayed and packed column testing procedures and co-author of the chapter on liquid-liquid extraction in Perry's Chemical Engineers' Handbook (8<sup>th</sup> Edition).



Laura Dietsche



Bruce Holden

## Meet the Newly Elected 2012 - 2013 Officers

### **Chair – Maxine Cottrell**

Maxine Cottrell joined the Dow Chemical Company and moved to Midland in 2000. Currently she is the Global Process Engineering Technology Leader for the Dow Consumer & Industrial Solutions and Dow Microbial Control Technology Center. Maxine began her Dow career in process engineering working on projects across the site and the globe, and since then has worked as a run plant engineer for Dowpharma and as an improvement engineer for Specialty Monomers. She has been very involved in mentoring new engineers at Dow Chemical, and in high school and college scholarship programs for the Section, currently leading those activities, and is active in the Section's Executive Committee. As a member of the Engineering Society of Detroit she has been involved for several years judging the Michigan Regional Future City Competition, engaging middle school students in creative and visionary application of STEM concepts. Maxine earned a Bachelor of Science degree in Chemical Engineering from Colorado State University (CSU). She is an active member of CSU's Chemical & Biological Engineering Professional Advisory Board.

### **Chair-Elect – Laura Dietsche**

Laura Dietsche has over 25 years experience in process conceptualization and equipment design, with a focus on advancing fluid mechanics and mixing technologies. After receiving a BS in chemical engineering from the University of California at Berkeley in 1981, Laura spent seven years at Dow Chemical's Agricultural Sciences R&D Laboratory in Pittsburg, California working on process development from lab bench scale to plant start-ups. She returned to Berkeley for her PhD (1988-1992) and, after a post-doc assignment at Lawrence Livermore National Labs, rejoined Dow in the Engineering Sciences group of Core R&D in Midland, Michigan. At Dow, Laura is known for the application of transport fundamentals and computational fluid dynamics (CFD) tools to advance chemical processing capabilities and for the design of scaled-down high-throughput research devices. Laura is a leader in the CFD community at Dow and an instructor in the Dow Mixing Technology Workshop. In addition to her professional accomplishments, Laura is involved in enhancing the quality of engineering education both as a member of the AIChE Education and Accreditation Committee and as a program evaluator and commissioner for the Engineering Accreditation Commission (EAC) of ABET. Laura was recently elected to the EAC Executive Committee. Laura was the recipient of the 2010 Mid-Michigan AIChE Chemical Engineer of the Year Award and the 2011 Gary Leach Award from AIChE. Laura will work with the Executive Committee to sustain and grow the programs and impact of the Mid-Michigan Section.

### **Past Chair – Shawn Feist**

Shawn Feist moved to Midland and joined The Dow Chemical Company in 2002. Currently he is Manager of the Process Development & Analysis Group in Dow's Engineering & Process Sciences Laboratory. Before beginning his current position, Shawn was involved in new business development and financial modeling for the Dow Water & Process Solutions Business, and before that he was a member of the Process Separations Group within Dow's Engineering Sciences Laboratory. Shawn is well known for project management and financial analysis, process R&D including modeling of chemical kinetics and liquid-liquid phase separation, and the development of new processes utilizing pressure swing adsorption and process-scale chromatography. As Chair of the Section, Shawn oversaw the Section's many programs including the lecture series and scholarship programs. He also began building new relationships with area institutions including Kettering University and Michigan State University. Shawn has a B.S. in chemical engineering with honors from the University of Minnesota.

**Secretary – Bruce Holden**

Bruce Holden is the current Secretary of the Section. He was appointed Acting Secretary by the Executive Committee in February of 2010 to fill a vacancy, and he was elected Secretary that year. Bruce has spent 36 years in process R&D, process engineering, and environmental services at The Dow Chemical Company. He is currently a Principal Research Scientist in the Process Separations Group of Dow's Engineering Sciences Laboratory. He is the recipient of the 2008 Doug Leng Award for excellence in engineering research at Dow, the recipient of the 2011 Mid-Michigan AIChE Chemical Engineer of the Year Award, a co-author of Section 15 on liquid-liquid extraction in the 8th edition of Perry's Chemical Engineers' Handbook, and was recently elected as an AIChE Fellow. Bruce continues to serve the Section with a focus on timely communications and detailed record keeping. Bruce has B.S. and M.S. degrees in chemical engineering from Clarkson University.

**Treasurer – Eric Stangland**

Eric Stangland is a Senior Research Scientist in the Inorganic Materials & Heterogeneous Catalysis, Core R&D function, of The Dow Chemical Company, having joined the company in 2000. Eric began serving the Section as the Acting Treasurer in March of 2010, and was elected to the position in the 2010 election. He has previously served the Section as Membership Chair, Webmaster, and Editor of the newsletter. Eric is also active in the broader scientific community, particularly through both the Michigan Catalysis Society and the North American Catalysis Society. He was recently elected a Director of the AIChE Catalysis and Reaction Engineering Division. Eric continues to work with the Executive Committee to fulfill the financial accounting duties of the Treasurer by providing timely and detailed financial reports. Eric has a B.S. degree from the University of Wisconsin and M.S. and Ph.D. degrees in chemical engineering from Purdue University.

**Director – Tim Frank**

Tim Frank is a Dow Fellow and Associate R&D Director at The Dow Chemical Company responsible for managing the Process Separations group within Dow's Engineering & Process Science Laboratory. Since joining the Section's Executive Committee in 2009, Tim has worked with others to update the bylaws, streamline the election process, and provide a full schedule of meetings for members. Tim served as Chair of the Section in 2010 and was first elected a Director in 2012. As a Director, Tim is particularly interested in serving as editor of the Section's Newsletter and working with others to promote the Awards Program and help grow the Section's Scholarship Fund. Tim has a B.S. degree from Montana State University and a Ph.D. in chemical engineering from the University of Colorado-Boulder. He is a Fellow of AIChE and editor and co-author of Section 15 on liquid-liquid extraction in the 8th edition of Perry's Chemical Engineers' Handbook.

**Director – Paul Kehl**

Paul Kehl moved to Mid-Michigan in 2001 where he performed technical service and development focusing on silicones. He is now involved in manufacturing at Dow Corning where he is well-known for his technical expertise. As Director of the Section, Paul participates as a member of the Executive Committee in conducting the business of the Section. He is particularly interested in encouraging Dow Corning employees to participate in the local section, and in pursuing efforts to grow and sustain the scholarship fund. Paul has a B.S. in chemical engineering from the University of Wisconsin.

**Director – Norm Lake**

Norm Lake has been an active member of the Mid-Michigan Section for many years, serving three terms as treasurer, eleven years as chair of the MTU Summer Youth Program scholarship committee, and more recently as Director of the Section and member of our scholarship committees. His career spans more than 28 years at Dow Corning in TS&D, process R&D, and as the Process Engineering representative on several Personal Care and Urethane Foam commercialization teams. More recently, he spent 5 years at Dow as a Process Engineering contractor working on a variety of Production and FM&E projects. Recognitions include an IR-100 award, 11 Dow Corning technical excellence awards, the AIChE Service to Society award, and the Boy Scouts of America Silver Beaver award. Norm continues his active support

of the Section as a voting member of the Executive Committee, encouraging continuation of our scholarship programs and other community outreach activities, and supporting efforts to make our Section relevant to chemical engineering professionals in Mid-Michigan. Norm has a BSE degree in engineering unified science and an MSE in chemical engineering from the University of Michigan.

## *Mid-Michigan Section Contact Information*

### AIChE Mid-Michigan Section 2013-2014 Officers and Committee Chairpersons

(all phone numbers are in the 989 area code unless otherwise noted)

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Continuing Education and School Donations Chair	open				

Young Professionals Discussion Group Chair	open				
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