

*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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This scene is from the Section’s Annual Spring Banquet held May 16 at the Great Hall in Midland. See pages 4 – 8 for more about the evening’s events.

### *Words from the Chair...*

Welcome to the first issue of the Mid-Michigan American Institute of Chemical Engineer's newsletter for the June 2012-May 2013 organizational year! I take over the reins as the current Chair from Rich Helling, who did an excellent job leading our Section over the past year. During his tenure the Section offered a strong level of programming, increased membership participation, and strengthened some of the initiatives started in motion by Tim Frank, a current Director and editor of the newsletter. I would like to extend Rich and Tim my sincere gratitude. I will do my best to continue the momentum they have generated.

In this specific issue, we focus on the accomplishments from last year culminating in the end of the year banquet and then set the stage for the exciting year we have planned. Though-out last year we had a series of excellent technical seminars with a wide diversity of topics including winemaking, the Midland cogeneration venture, developing water treatment technology for the third world, biomass as a feedstock, photovoltaics, and silicon carbide in energy applications. At the year-end banquet, the Section was treated to outstanding keynote address by Rich Wells, Vice President and Site Leader for Dow Chemical's Michigan Operations, on how chemical engineers can and should use our technical aptitude to affect government policy. The end of the year banquet is also where the section hands out its yearly awards. We were pleased to honor Drew Powers as Young Chemical Engineer of the Year, Devon Samuel as the Mid-Michigan AIChE Scholarship award winner, and Cara Mitrano as the Mid-Michigan Michigan Technical University Summer Youth Program Scholarship award winner. We were also treated with a presentation from recent Michigan Tech graduate Justine Parson, the 2008 scholarship winner, on how the scholarship helped her pursue her chemical engineering aspirations.

It is at the end of the year banquet that the Section formally transitions leadership to the next year's officers. I am extremely fortunate to be able to work with such a talented and dedicated group of individuals. The elected officers for the upcoming year are Maxine Cottrell (Chair-Elect), Bruce Holden (Secretary), Eric Stangland (Treasurer), with Tim Frank, Paul Kehl, and Norm Lake as our three Directors. Rich Helling will move to the Past Chair role. It is also very important to highlight the various committee chairs that keep the programming, membership, and scholarship programs thriving throughout the year. The various committee chairs for the upcoming year are Anshul Agarwal (Membership and Young Professionals Network), Maxine Cottrell (Scholarship), Mike Durisin (Publicity), Drew Powers (Education Programs and Outreach), Ryan Quinn (Webmaster), and Vishesh Shah (Programming). I offer my sincere appreciation for all of the personal time and effort that these folks put into the section.

I also want to highlight the exciting year of programming that we have planned for the upcoming year. Our mission is *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* and we have set-up many activities to do just that.

- Seminar series – we are again planning a social kick-off of the programming year in September and will hold 7 informal technical seminars from October through April. These are great forums to hear about some advancing areas of chemical engineering and to have informal discussions with your engineering colleagues from the area. We will again conclude the programming year with an end of the year banquet. Details of the programming will be available on the Section webpage in late summer.
- Classroom and other outreach science demonstrations – Drew Powers is again leading this effort for the Section. It is great to be able to reach out to the next generation of scientists and engineers, and I strongly encourage everyone to participate in these very personally fulfilling activities.

- An expanded presence at several Michigan universities and joint programming with the local section of the American Chemical Society. Look for a few areas of joint programming throughout the course of the year.
- Continuing efforts to expand our reach and membership - remember to check us out on Facebook and at our webpage at <http://www.mmaiche.org/index.html>

In closing, I am sincerely excited for the upcoming year we have planned and for the opportunity to work with such an outstanding group of engineering professionals. I look forward to your participation and if you have any suggestions regarding items you would like to see as part of our Section, please don't hesitate to contact me or any member of the leadership team.

*Shawn Feist*

Chair, Mid-Michigan Section of AIChE



Shawn Feist, incoming Chair of the Section

## Scenes from the Annual Spring Banquet

Photos by Kip Mercure

The Annual Spring Banquet was held Wednesday, May 16, 2012 at the Great Hall Convention Center in Midland. Rich Helling, the 2011 - 2012 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 following is a collection of scenes from the evening. See pages 8 – 10 for more about the evening's activities.



Rich Wells, Vice President and Michigan Operations Site Director for The Dow Chemical Company

Rich Wells was the featured speaker for the evening. Wells spoke about the engineer's role in public policy, drawing from his experience interfacing with governments and helping to develop and advocate for policy positions. Wells' presentation was covered by Tony Lascari of the Midland Daily News, who later quoted Wells in a front-page story:

“Wells said that engineers are analytical, innovative, and think about long-term results. [He explained that] these could be beneficial traits when working with politicians who too often allow perceptions and emotions to trump sound science and common sense... [Wells indicated that] chemical engineers can use their subject matter expertise to bring sound decision-making to Washington, which is critical in the heavily regulated chemical industry... Wells said key principles when working on policy are to get involved; be constructive, not destructive; offer solutions, not whining; learn the politicians' language but don't lose your own perspective; and acknowledge the politics in the situation but don't get stuck in either of two competing sides.... Dow used this framework when working in Washington, D.C., on climate change issues... Dow's position on climate change changed in the last decade, with Dow having to catch up to other companies that had shifted toward acknowledging a concern and working with policy makers.”

Rich Wells has been Site Director of Dow's Michigan Operations since August, 2011, where he is responsible for leading the company's growth and operations at Dow's manufacturing in Midland, Michigan. Michigan Operations has over 3,500 employees and produces a range of products that are used in agricultural, automotive, pharmaceutical, and building and construction applications and markets.

Wells joined Dow in 1982 and has held diverse roles within Engineering and Manufacturing in Freeport, Texas. From 1992 to 1998, he served as Production Leader within the Epoxy Products and Intermediates Business. In 1998, he was named Global Director of Hydrocarbons and Energy Supply Chain and relocated to Terneuzen, the Netherlands. In 2001, with Dow's acquisition of Union Carbide, Wells returned to the United States and assumed the added responsibilities of Business EH&S Director. Wells was named Business Vice President of the Chlor-Alkali business in August 2004, and added responsibility for Dow's Chlorinated Organics business in February 2006. He then served as Vice President, Energy, Climate Change and Alternative Feedstocks having responsibility for the generation, management and procurement of Dow's energy requirements, and was leader of Dow's climate change efforts. Most recently, he was Vice President of Global Government Affairs and Public Policy, responsible for overseeing government affairs strategies in each of Dow's major geographies as well as issue management and public policy development at the corporate level.

Wells is a member of the Academic Advisory Board at the South Dakota School of Mines and Technology, serves on the Board of Directors for the Michigan Chamber of Commerce, is on the Executive Committee of the U.S. Council of International Business and is President for the Lake Huron Area Council of the Boy Scouts. He has also served as Board Secretary for the Alliance to Save Energy and Vice Chairman of the Chlorine Institute Board of Directors. Wells holds a Bachelor of Science degree in Chemical Engineering from the South Dakota School of Mines and Technology.

Additional activities at the Spring Banquet included the presentation of awards and scholarships.



Michael Molnar congratulates Drew Powers on being named the 2012 Young Chemical Engineer of the Year. See page 8 for more information about Drew's accomplishments.



Norm Lake presents Cara Mitrano with a scholarship to attend the Michigan Tech Summer Youth Program.



Devon Samuel, winner of the Chemical Engineering College Scholarship, is congratulated by De-Wei "Dewey" Yin.



Justine Parson, a recent graduate of Michigan Tech and a past scholarship winner, tells the group how the Section helped her become a chemical engineering professional.



Passing of the gavel from Rich Helling (outgoing Chair) to Shawn Feist (incoming Chair).



Maxine Cottrell, the Section's new Chair-Elect

## **Drew Powers Named Young Chemical Engineer of the Year**

Michael Molnar, Chair of the Awards Committee, announced the winner of the Section's Young Chemical Engineer of the Year Award for 2012. This award recognizes exceptional leadership for someone at an early stage in their career. The award generally is given to a person with approximately 4-12 years of service following graduation.

Please join us in congratulating Drew Powers on receiving this well-deserved recognition! Drew has been extremely active in the Mid-Michigan AIChE Section, where he has served as the chairperson of the Mid-Michigan AIChE Educational Outreach committee in pairing up volunteers with middle school teachers to bring hands-on science demonstrations into local middle school classrooms. The program has been a great success under his direction, in giving more than 40 classroom demonstrations each year in the spring. Drew has also been a generous volunteer in the community. He recently won \$500 for the Salvation Army from the Great Lakes Loons baseball team in recognition of his many volunteer efforts. He is also the Communications Chair of the Young Manufacturing and Engineering Community (YMEC) at Dow.

Drew works as a manufacturing representative and capital project manager for Dow AgroSciences. Prior to that, he was a run plant engineer at Dow Chemical's Oxide Derivatives plant where he was a key member of the Dow Advanced Materials Portfolio Technology Center Root Cause Investigation (RCI) Facilitation Team.

## **MTU Summer Scholarship Awarded to Cara Mitrano**

The Section awarded a scholarship for the Michigan Tech Summer Youth Program to Cara Mitrano, a freshman at Midland High School. The scholarship was presented by Norm Lake on behalf of the Scholarship committee. In providing this scholarship, the Section seeks to help young people learn about engineering careers. Cara is excited about the opportunity to learn more about chemistry and engineering.

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.

## **Chemical Engineering College Scholarship Awarded to Devon Samuel**

Devon Samuel, a graduating senior at Bay City Western High School, received the Chemical Engineering College Scholarship. This scholarship provides \$2000 over four years to study chemical engineering. Devon will be attending the University of Michigan in the Fall, where he also has received a University of Michigan Regents Scholarship. In providing this scholarship, the Section seeks to promote the vision of the AIChE by offering financial support to students who wish to study and ultimately become professionals in the field of chemical engineering. The \$2000 scholarship is awarded over 4 years to a graduating high school senior who plans to study chemical engineering at an accredited university or college.



## Meet the Newly Elected 2012 - 2013 Officers

### 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. Shawn has a B.S. in chemical engineering with honors from the University of Minnesota.

### Chair-Elect – Maxine Cottrell

Maxine Cottrell joined the Dow Chemical Company and moved to Midland in 2000. Currently she is the Global Process Engineering Technology Leader (GPETL) for the Dow Advanced Materials Portfolio 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.

### Past Chair – Rich Helling

Rich Helling has spent 25 years in manufacturing, process R&D, and EH&S leadership positions at The Dow Chemical Company. Currently he is Associate Director for Environmental Health & Safety at Dow, focusing on Life Cycle Assessment for Dow products. Prior to this, Rich served as Senior Technical Manager of the Process Development and Analysis Group within the Process Chemistry & Development Department. Before joining Dow, Rich served as a Station Director of the David H. Koch School of Chemical Engineering Practice at MIT. Rich is well known for his expertise in process R&D including distillation and reactor design. He has also led the development of methods to measure sustainability and environmental footprint, and has published a number of Dow reports and external articles on life cycle assessment. Rich has a B.S. in engineering from Harvey Mudd College and M.S. and Sc.D. degrees in chemical engineering from MIT.

### 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, and a co-author of Section 15 on liquid-liquid extraction in the new 8<sup>th</sup> edition of Perry's Chemical Engineers' Handbook. 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. 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 has spent 28 years in process R&D at The Dow Chemical Company. Currently he is a Dow Fellow and Associate R&D Director in the Engineering & Process Science Laboratory at Dow. Tim is also the editor and co-author of Section 15 on liquid-liquid extraction in the new 8th edition of Perry's Chemical Engineers' Handbook. Since joining the Executive Committee in 2009, Tim has worked with others in the Section to update the bylaws, help restart the awards program, and streamline the election process. As the Chair of the Section, Tim focused his efforts on a number of initiatives including: 1) increasing the frequency of newsletter and web-based communications to members; 2) preparing a full schedule of regular meetings for members; and 3) increasing fund raising efforts to grow and sustain the Section's scholarship fund. Tim has a B.S. degree from Montana State University and M.S. and Ph.D. degrees in chemical engineering from the University of Colorado.

**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 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 2012-2013 Officers and Committee Chairpersons

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Continuing Education and School Donations Chair	open				
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Young Professionals Discussion Group Chair	open				

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