

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 25 at the Great Hall in Midland.

Words from the Chair...

Welcome to the first issue of our Section's newsletter for this organizational year, which for us starts about June 1st. The newsletter is ably crafted by Tim Frank, the current Past Chair. Tim did a wonderful job leading us as Chair over the past year, for which I extend my heart-felt thanks. He led the creation and delivery of an excellent series of seminars, increased participation in Section planning & activities, did a great job recruiting officers and chairs of committees, and drove the executive committee to make necessary decisions. Tim was also recognized by national AIChE by being elected Fellow. Thanks and congratulations, Tim! Congratulations also go to Karl Jacob and Victor Atiemo-Obeng of Midland and Daina Briedis and Bruce Dale of East Lansing for their recent election to Fellow.

This newsletter also contains pictures and news from our enjoyable spring banquet, which featured a fascinating and informative presentation by Sherrie Fritze-Harris on the growth of business and operations of Hemlock Semiconductor in Michigan. The banquet recognized the Chemical Engineer of the Year, Bruce Holden, and the Young Chemical Engineer of the Year, Katie Erikson. The Section thanks the members who nominated their colleagues for this award and to the Awards Committee (Michael Molnar, Victor Atiemo-Obeng, Paul Kehl, and Norm Lake) for making the selection. The banquet also recognized the winner of our scholarship to the Michigan Tech Summer Youth Program, Charnay Gloss, and we thank Maxine Cottrell for leading the selection process.

The banquet also marks the moment that we formally transfer leadership of the Section from last year's team to the current one. I am thrilled to have the opportunity to work with the dedicated group of experienced individuals who will be the Section's leadership for the coming year. The elected officers are Shawn Feist (Chair-elect), Bruce Holden (Secretary), Eric Stangland (Treasurer) and Victor Atiemo-Obeng, Paul Kehl, and Norm Lake as our three Directors. Tim Frank will be moving into the Past Chair role. Short biographies of the officers are included in this newsletter. I am also thrilled to work with the new and continuing Committee Chairs: Vishesh Shah (Programming), Mike Durisin (Publicity), Anshul Agarwal (Membership), Maxine Cottrell (MTU Scholarship), Drew Powers (Education & Outreach), Josh Maurer (College Scholarship), Joe Anderson (Webmaster), Leaelaf Hailemariam (Young Professionals Discussion Group), and Fred Justice, Gus Constan, and Victor Atiemo-Obeng as the Section Historians. This is a great group of professionals!

Looking ahead to the coming year, we have many opportunities to continue to broaden our impact on our community and successfully pursue our mission. Key among these are:

- Classroom science demonstrations. Drew Powers organized this for us, working with a growing number of volunteers, which included me this past year. It was a great experience, and if you have not done it yet, I strongly encourage you to be active in our communities in this way.
- Seminars and discussion groups. These are great, informal, ways to learn about new things and meet with colleagues and the community. Most of our seminars last year were held in the back room of the Grand Traverse Pie Company, which was a great, casual place to meet. We will be developing the program over the summer, and have a kick-off in September.
- Expand interactions with students and staff at MSU and MTU. Our "turf" as the Mid-Michigan Section includes both of these schools, and many alumni live in our communities. Details on how we might do this are to be determined – and suggestions are welcome. Finally, as a way to be more accessible to a wider range of chemical engineers in our area, Joe Anderson is complementing our informative web process with a Facebook group – so find us in Facebook!

My thanks again to everyone who contributed to and participated in our projects and activities over the past year. I am excited to work with you on our mission in the coming year.

Rich Helling

Chair, Mid-Michigan Section of AIChE

Scenes from the Annual Spring Banquet

Photos by Martha Frank

The Annual Spring Banquet was held Wednesday, May 25, 2011 at the Great Hall Convention Center in Midland. Tim Frank, the 2010 - 2011 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 6 - 9 for more information about the evening's activities.



2011 Mid-Michigan AIChE Spring Banquet. Here the evening is just getting started.

Sherrie Fritzie-Harris, Manager of Operations for Hemlock Semiconductor in Hemlock, Michigan, was the featured speaker for the evening. Sherrie spoke about "Leadership During Rapid Growth!" Sherrie began her career with Dow Corning as a Process Development Engineer within the Carrollton, KY facility in 1984. A few years later she gained experience as an Improvement, Manufacturing and then Project Engineer within the Carrollton facility. In 1997, Sherrie was named Utilities Team Leader and then Finishing Team Leader. Extending on her leadership experience with Dow Corning, she moved to Global Logistics where she was responsible for key projects involving the handling of products, including the planning of internal freight, transportation relations management and served as champion for the use of Six Sigma to define the next generation warehouse. In 2007, Sherrie was named Quality and Six Sigma Manager for Dow Corning's Specialty Chemicals business. She joined Hemlock Semiconductor in 2008 where she was named to her current position as Michigan Operations Manager. Sherrie's exceptional work has been recognized throughout her extensive career. She is the recipient of three Supply Chain Excellence Awards, two Manufacturing Achievements Awards, nine Quality/Supply Improvement Awards, and one U.S. patent. She has a Bachelor of Science in Chemical Engineering from the University of Minnesota – Institute of Technology. She has also earned Six Sigma Black Belt certification, and is a Leadership Michigan Graduate. Sherrie also serves on the Board of Directors for the Saginaw Children's Zoo and has been involved in March of Dimes, Girl Scouting, Science in the Classroom, and Michigan Chamber of Commerce.



Norm Lake presents Charnay Gloss with a scholarship to the Michigan Tech Summer Youth Program.



Passing of the gavel from Tim Frank (Outgoing Chair) to Rich Helling (Incoming Chair).



Tim Frank, Outgoing Section Chair, and Michael Molnar, Chair of the Awards Committee, congratulate Katherine Erikson on being named Young Chemical Engineer of the Year.



Tim Frank with Fred Justice, long-time member of the local Section.

Meet the Section Award Recipients Bruce Holden and Katherine Erikson

Michael Molnar, Chair of the Awards Committee, announced the winners of the Section's Awards. Please join us in congratulating them for their many accomplishments!

Chemical Engineer of the Year - Bruce Holden

The Mid-Michigan Section of AIChE has selected Bruce S. Holden to receive the 2011 Chemical Engineer of the Year Award. This award is given to a distinguished chemical engineer in the Mid-Michigan area in recognition of significant career accomplishments and active participation in AIChE at the local or national level. Recipients usually have about 20-30 years of service following graduation. Publications, patents, company recognition of achievement, and accomplishments in the field of chemical engineering are key criteria for consideration.

Bruce Holden received B.S. and M.S. degrees in Chemical Engineering from Clarkson University and joined The Dow Chemical Company in 1976. In his 35 years at Dow, Bruce has held technical leadership positions in process R&D, process engineering, and environmental services. He currently holds the title of Principal Research Scientist in the Engineering & Process Sciences Laboratory. Bruce is well known for development of separation and purification technology for chemical manufacturing and environmental protection, particularly in the areas of distillation, extraction, absorption, and reactive absorption (emergency scrubbing). Bruce has made key contributions to the development and commercial implementation of new separations technology including contributions to the Versene™ Chelants manufacturing plant in Freeport (Texas), Dow AgroSciences plants in Freeport, Midland, and Pittsburg (California), the Methocel manufacturing plant in Midland, Dow's Hydrocarbons plants in Freeport and Terneuzen (The Netherlands), and Dow's Filmtec™ manufacturing plant in the Minneapolis area. In recognition of his many contributions, Bruce has received numerous Dow awards including the Michigan Consultant's Award, The Doug Leng Excellence in Engineering Sciences Award, and nine Dow Tech Center Awards. Bruce is also a sought-after consultant and mentor at Dow. In this capacity, Bruce is well-known for unselfishly sharing his expertise and helping others succeed.

Bruce is active outside of Dow, as well. He serves on the Fractionation Research, Inc. (FRI) Advisory Committee (oversight) and Technical Committee (technical review). He is a co-author of Section 15, "Liquid-Liquid Extraction and Other Liquid-Liquid Operations and Equipment," in Perry's Chemical Engineers' Handbook, 8th Ed. (McGraw-Hill, New York, 2007) and co-author of Chapter 7, "Storage of Toxic Materials," in Handbook of Highly Toxic Materials Handling and Management (Marcel Dekker, 1995). Bruce also co-authored a well-received article on distillation tower internals ("Choosing Trays and Packings for Distillation," Chemical Engineering Progress, September, 2009, pp. 44-50).

Bruce's service to AIChE includes service as a member of the national AIChE committee charged with writing distillation column testing procedures. In this capacity, he has served as the editor for two sections on the testing of tower internals. Bruce is also serving the local Section as Secretary and as a member of the Executive Committee.

Young Chemical Engineer of the Year - Katherine Erikson

The Mid-Michigan Section of AIChE has selected Katherine (Katie) Erikson to receive the 2011 Young Chemical Engineer of the Year Award. This award recognizes exceptional technical expertise and personal 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.

Katherine Erikson joined Dow Corning Corporation in 2005. She holds a B.S. of Chemical Engineering from Kansas State University. She began her career in Midland Process Engineering focusing on emulsions. Katie was awarded a Business Athlete Award for her work there on the "Surfactant Replacement Project". In 2008, Katie moved to an Application Engineering and Technical Service

(AETS) role in the Electronics Materials Business Unit where she led the Fast Formulation process. Under Katie's leadership, the program experienced double digit growth, year on year. She was awarded an AETS award in 2008 for her Fast Formulation support. In 2010, Katie moved to the Dow Corning Business Center as a Technical Account Specialist. Katie is the technical expert for semiconductor interlayer dielectrics for the Electronic Materials Business Unit globally. Katie has also led the implementation and adoption of the Right Now Knowledge Base system in the Business Center. She led the transfer of items from old database systems to the new system. She also led the team in training activities and continues to help people to adopt the system for their individual role. Katie received a second AETS Excellence Award for this work in 2010. Katie has served the local Section as Co-Chair of the Educational Outreach Program.

MTU Summer Scholarship Awarded to Charnay Gloss

The Section awarded a scholarship for the Michigan Tech Summer Youth Program to Charnay Gloss, a sophomore at Arthur Hill High School in Saginaw and a member of the National Honors Society. The scholarship was presented by Norm Lake on behalf of the Scholarship committee. Charnay is interested in forensic science as applied to criminal justice. She plans to take a psychology class and extra science and math classes at Delta college while in high school to get a head start. She has all honors classes at her high school and is maintaining a 4.0 grade point average. Charnay also serves as a volunteer at Willie E. Thompson middle school, helping kids there with their homework in a program called 21st Century. She also plays two varsity sports, basketball and track and field. The scholarship covers room, board, tuition, and a \$100 travel allotment

Five Mid-Michigan Members Named Fellows of the Institute

Congratulations go to five members of our local Mid-Michigan Section who were recently designated Fellows of the Institute by the national AIChE board of directors: Victor Atiemo-Obeng, Daina Briedis, Bruce Dale, Tim Frank, and Karl Jacob. The election to Fellow recognizes significant professional accomplishment and service to AIChE. The following summaries of their accomplishments appeared in the "Institute News" section of *Chemical Engineering Progress* magazine:

Victor Atiemo-Obeng has spent more than 30 years in process R&D and process engineering at The Dow Chemical Co. (Midland, MI), where he is currently a Dow Fellow in the Process Chemistry and Development Dept. An editor of the Handbook of Industrial Mixing (Wiley, 2004), his expertise in mixing technology has led to many commercial processes. He is a longtime leader of AIChE's Mid Michigan Section, and he recently received the North American Mixing Forum Award for his contributions to mixing research and practice. He earned his BChE at the Catholic Univ. of America, and a PhD in chemical engineering from the Univ. of Wisconsin-Madison.

Daina Briedis is a faculty member in the Dept. of Chemical Engineering and Materials Science at Michigan State Univ. Over her career, she has been involved in many areas of education research, including student retention, curriculum redesign, and the use of technology in the classroom. A Fellow of the Accreditation Board for Engineering and Technology (ABET), she has authored training materials for the accreditation process, and has been instrumental in shaping and implementing the ABET volunteer training program. She received her PhD in chemical engineering at Iowa State Univ.

Bruce Dale is a professor of chemical engineering and former chair of the Dept. of Chemical Engineering at Michigan State University, and a leader of the DOE's Great Lakes Bioenergy Research Center. He also serves as Editor-in-Chief of the new Wiley journal *Biofuels, Bioproducts, and Biorefining*. He is a pioneer in the development of integrated cellulosic biofuel systems, and in the application of lifecycle analysis to understand and improve the environmental performance of biofuels and bioproducts. His interests involve the environmentally sustainable conversion of plant matter to fuels, chemicals and materials while still meeting human and animal needs for food and feed.

Tim Frank holds the titles of Dow Fellow and Associate Director of R&D at The Dow Chemical Company in Midland, Michigan, where he is a leader of separation and purification technologies within Dow's Engineering Sciences Laboratory. He is a leader of AIChE's Mid-Michigan Section and is involved in AIChE programming in the area of extraction. He is editor and co-author of the chapter on liquid-liquid extraction in Perry's Chemical Engineers' Handbook. He earned his chemical engineering BS and PhD at Montana State Univ. and the Univ. of Colorado, respectively.

Karl Jacob is Dow Fellow/Sr. Technical Leader in Engineering Sciences at The Dow Chemical Company (Midland, Michigan). He is also founder of Dow Midland's Solids Processing Lab. For the last two decades, he has worked on a vast array of particle technology problems, with particular expertise in silo/hopper design, powder mechanics, pneumatic conveying, particle engineering, and drying. He is a chemical engineering graduate of Case Western Reserve Univ. He was elected to AIChE's Board of Directors in 2010, and is a past chair of the Particle Technology Forum.

Meet the Newly Elected 2011 - 2012 Officers

Chair – Rich Helling

Rich Helling has spent 24 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.

Chair-Elect – 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.

Past Chair – Tim Frank

Tim Frank has spent 27 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 Sciences Laboratory. 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 to update the bylaws, promote the awards program, streamline the election process, increase the frequency of newsletter and web-based communications to members, and prepare a full schedule of regular meetings for members. In 2010, he was elected a Fellow of AIChE. 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.

Secretary – Bruce Holden

Bruce Holden has spent 35 years in process R&D, process engineering, and environmental services at The Dow Chemical Company. Currently he is Principal Research Scientist in the Process Separations Group of Dow's Engineering & Process Sciences Laboratory. He is the recipient of the 2008 Doug Leng Award for excellence in engineering research at Dow and a co-author of Section 15 on liquid-liquid extraction in the new 8th edition of Perry's Chemical Engineers' Handbook. Bruce was appointed Acting Secretary by the Executive Committee in February of 2010 to fill a vacancy, and he was subsequently elected Secretary in 2010 and 2011. Bruce serves 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 Chemical Sciences, Applied Materials & Catalysis Laboratory of The Dow Chemical Company, having joined the company in 2000. Eric was elected Treasurer of the Section in 2010 and 2011. He previously served the Section as Membership Chair, Webmaster, and Editor of the newsletter. Eric also serves as a Director for the Michigan Catalysis Society and is a Technical Program Chair for the 22nd North American Catalysis Society meeting held in Detroit in 2011. Eric serves the Section 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 – Victor Atiemo-Obeng

Victor Atiemo-Obeng is a long-standing member of the Mid-Michigan Section, having served as Chair of the Section in 1991-1992. Victor has spent 34 years in process R&D and process engineering at The Dow Chemical Company, where he currently is a Dow Fellow in the Process Chemistry & Development Department. Victor is also an editor of the Handbook of Industrial Mixing (Wiley, 2004). In recognition of his expertise in mixing technology, Victor was awarded the 2009 North American Mixing Forum award for excellence and sustained contributions to mixing research and practice, and in 2010 he was elected a Fellow of AIChE. Victor is particularly interested in encouraging Dow employees to participate in the local Section, and in supporting new continuing education offerings and fund-raising efforts for the scholarship program. Victor has a B.ChE. degree from The Catholic University of America and a Ph.D. in chemical engineering from the University of Wisconsin.

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 is particularly interested in promoting the Section's scholarship programs and other community outreach activities and supporting efforts to make Section activities 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 2011-2012 Officers and Committee Chairpersons

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

Position	Name	Address	E-mail	Phone	Fax
Chair	Rich Helling	The Dow Chemical Co. 2040 Dow Center Midland, MI 48674	rhelling@dow.com	638-5210	636-1651
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Director	Paul Kehl		pikehl2000@yahoo.com		
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