

THE BOND

DEPARTMENT OF CHEMICAL ENGINEERING & MATERIALS SCIENCE

Celebrating 50 Years at MSU

What was the chemical engineering department like 50 years ago? Martin C. Hawley can tell you. He was there!

Hawley received his bachelor's degree in chemical engineering from MSU in 1961—50 years ago this past spring. He continued in chemical engineering at MSU; he earned his PhD in 1964 and joined the department's faculty that same year as an assistant professor. He became a full

professor in 1975. In 2001 Hawley was named the first chairperson of the then-new Department of Chemical Engineering and Materials Science.

He was born and raised on a farm near Waldron, Mich., in Hillsdale County, very close to the Michigan-Ohio border. "I was always going to go to MSU," says Hawley. "When I was a small boy, a veterinarian who did artificial insemination, flew to our farm in a small plane. He was from

Michigan State, so I decided then on Michigan State. When it was time to go to college, I had scholarship opportunities at other universities, but I still came to MSU."

Hawley originally planned on going into veterinary medicine, until he discovered that it would take more than four years, so as a freshman he explored other opportunities and

eventually looked into chemical engineering. "I liked math, chemistry, and physics, and my adviser said there would be good jobs in that field with a bachelor's degree. It seemed like a natural thing for me to do."

As an undergraduate, Hawley became involved in a research project sponsored by Upjohn. By the end of his four years at MSU, Hawley had decided to go for a PhD, spurred on by his undergrad research project. "As I was finishing my PhD, we had a new department chair, Myron Chetrick, who talked to me about my plans. I was thinking of working for an oil or chemical company. He encouraged me to go to an American Institute of Chemical Engineers meeting, and I ended up interviewing with a couple of universities." Before he made a decision on those, Hawley was offered a job as an assistant professor of chemical engineering

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Martin C. Hawley today... and in his 1961 yearbook photo.

Endowed Fund Helps Further Department Goals

Dear Fellow Alums of the Department of Chemical Engineering and Materials Science,

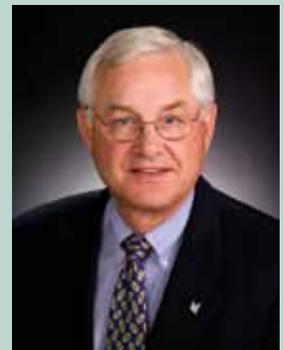
I have been working on an important initiative and would like you to consider joining this effort. This year Dr. Martin Hawley is celebrating 50 years since he received his bachelor's degree in chemical engineering at MSU. He set out to get his PhD at MSU and became a professor in the CHEMS department. He has also served as the department chair since 2001. Dr. Hawley is the kind of educator who touches lives, and I know that first hand because I was in the very first class he taught at MSU.

In recognition of his service and to ensure the excellence of the department for the next generation of Spartan Engineers, I am spearheading an effort to raise \$2.5 million to add to the Hawley New Ventures Fund. I firmly believe that this effort will enhance an endowment that allows Dr. Hawley, as the current chair of the department—as well as future chairs—to pursue new initiatives to strengthen the

department. I, along with many of my fellow alums, want to ensure the department remains one of the top engineering programs in the country. We feel this is a fitting way to express our appreciation for Dr. Hawley's outstanding leadership in the department during his 50 years at MSU.

Please join me in showing you commitment to the CHEMS department at MSU. To information about contributing to the Hawley New Ventures Fund, contact Stephen Bates, director of engineering development, at 517-355-8339.

I sincerely appreciate your consideration. ✿



John Ogren

D. John Ogren, Class of 1965



from the Chair

MARTIN HAWLEY

The 2010-2011 academic year went by very quickly, and it was a year filled with accomplishments for our students and faculty, many of whom are recognized in this newsletter.

I want to extend my personal congratulation to all of this year's CHEMS graduates. We are very proud of your accomplishments and wish you great success in the coming years. To our undergraduates and those in our graduate programs, we look forward to your return in the fall. Special congratulations to Kaitlin Tyler, a materials science and engineering junior and an Honors College member, who was recently named a Goldwater Scholar.

It has been 10 years since the chemical engineering and materials science degree programs joined together to form the Department of Chemical Engineering and Materials Science. This has brought new opportunities in microelectronics, biomaterials, environmentally friendly materials, and nanotechnology. It has advanced our mission of excellence in research and in the education of our undergraduate and graduate students. Our research themes (energy and sustainability, nanotechnology and materials, and biotechnology and medicine) are significant in solving the problems of the 21st century. Our faculty members continue to receive grants and research funding to further their research, and, in many cases, are turning the research into products that are available on commercial markets. My thanks to all of the faculty and staff; you have worked hard this year to educate students and further our research goals.

For insight into the caliber of CHEMS graduates, you only have to look at our alumni. From those just entering the workforce to those who have already made their mark, the list is impressive. I especially want to congratulate Joe Gentile, who is the recipient of our 2011 Red Cedar Circle Award. Joe was one of the first graduate students whom I advised. His love of digital computing and his experiences using MISTIC, the Michigan State Integral Computer, one of the earliest university-owned computers, held him in good stead through a career filled with accomplishments. ❁

2011 Red Cedar Circle Award



Joseph F. Gentile (right) received the 2011 Red Cedar Circle Award from Martin C. Hawley.

Joseph F. Gentile (BS '64, MS '66) received the 2011 Red Cedar Circle Award at the annual College of Engineering Alumni Awards Banquet in May. The award recognizes MSU chemical engineering and materials science alumni for their distinguished service to the profession and outstanding commitment to the community.

Gentile arrived on the MSU campus for the first time more than a half-century ago—on his birthday in February 1960—to participate in the Alumni Distinguished Scholarship competition and to audition for the Spartan Marching Band. "There were three outcomes of that visit," says Gentile. "Most important to me, I was accepted into the marching band; most important to my parents, I received a tuition scholarship; and, despite about 18 inches of snow on the ground, I fell in love with Michigan State University!"

Early in his undergraduate career, Gentile was introduced to digital computing (using MISTIC, the Michigan State Integral Computer, one of the earliest university-owned computers). He developed an infatuation with this new technology that would remain with him throughout his professional career. "I used every opportunity to use the computer, rather than the conventional slide rule," he says. He proudly notes that he was Dr. Martin Hawley's first graduate student. "I will always be grateful for his continuing encouragement to pursue my interest in computers," Gentile says.

In 1966, he joined Diamond Shamrock Corporation in Cleveland, where for the next several years, he directed the installation of computer control systems throughout the company's laboratories and manufacturing facilities. In 1977, he joined the corporate headquarters staff as manager of planning for management information science.

In 1982, he joined Amoco Corporation in Chicago, first as manager of telecommunication planning, and later as information services manager, divisional chief information officer, and North American Year 2000 assurance manager. He retired from Amoco (now BP) in January 2000. He then co-founded Sagitta Technology Partners, Inc., to help business leaders better manage information technology resources.

Gentile has served on the Department of Chemical Engineering and Materials Science Alumni Advisory Board since 2000, and was elected chair in 2002. He has also served on the College of Engineering Alumni Association Board since 2004 and was named chair in 2009.

Gentile and his wife, Karen, who received her BS in sociology from MSU, were married in 1967 in the MSU Alumni Chapel. Their two children, Kristen and David, were always active in sports, which presented opportunities for Joe to manage youth soccer and hockey teams from 1982-1990. Joe and Karen currently live in Plainwell, Mich.

He enjoys cooking, woodworking, and genealogy. Their daughter, Kristen, received her BS in industrial engineering from Purdue University and her MBA from Indiana Wesleyan University; son-in-law, Rick Workman, received his BS degree in electrical engineering from Calvin College and his MS in management from Purdue University. Their son, David, received his BA in Russian Studies from the College of the Holy Cross, and his JD degree from MSU's College of Law.

And, not to be outdone, their three grandchildren—Kaitlyn (12), Christopher (10), and Abigail (10)—together with Grandma Karen and Grandpa Joe, have accumulated a total of 19 "diplomas" from MSU's Grandparents University! ❁

Celebrating 50 Years (continued from page 1)

at MSU. "I never had it in my mind that I would stay here. Four years became 50 years," Hawley says. "I really followed what I liked to do. It was a matter of discovery of both the field and the profession."

The department is much different today than it was 50 years ago, as one might imagine. For one thing, the College of Engineering was in Olds Hall and chemical engineering had a few labs and classrooms in a building near where the administration building is today. Back in 1961 there were fewer than 20 students in Hawley's graduating class, with only five or six faculty members.

Today there are about 500 students in the department working toward degrees, with 33 faculty members. "I have been pleased with how the faculty has grown and developed over the last 10 years," says Hawley. "We have hired some outstanding people for the department and that is a trend that should continue."

The department's facilities also have expanded to include a large expanse of offices, research labs, and classrooms in the Engineering Building. Hawley was named chair of the department at the same time that chemical engineering merged with materials science to become one department.

Hawley is proud of the students he has mentored over the years and the department's

award-winning tradition in design. The department has the best record in the nation for placing in the national student design competition sponsored by the American Institute of Chemical Engineers since it started in 1967. Last year MSU took top honors in both the team and individual competitions. Hawley has taught the capstone design course associated with this competition for more than 40 years.

Early in his career, Hawley worked during the summers at Conoco in Oklahoma as a consultant. "I helped with improvements to manufacturing facilities so the company could run continuously for two years, versus having to shut down every three months for repairs." That experience had a significant impact on his teaching. "By working in industry I understood

real-world applications and I put those elements in my research and stressed that to students in my teaching."

Hawley is married to Diana D'Angelo, who has a bachelor's degree in computer science and an MBA from MSU. She is the associate director of Enterprise Information Stewardship at MSU. They have two children and five grandchildren. Their son is also a chemical engineer who went to MSU. Their daughter is a technical writer with the U.S. Navy in California.

Looking back, Hawley would not do anything differently. "The best job in the world is being a professor, and I got to do that in a field filled with new and significant challenges to better the world." 🌱

— Jane L. DePriest



At the 2011 Alumni Awards Banquet in May, Martin Hawley shows off Joe Gentile's thesis paper, which Hawley has saved for 50 years. Gentile was the first graduate student he advised.



Martin Hawley with his wife, Diana D'Angelo, at the 2011 Alumni Awards Banquet.

Goldwater Scholar



Kaitlin Tyler, a materials science junior and an Honors College member, has been named a **Goldwater Scholar**.

The Barry M. Goldwater Scholarship and Excellence in Education Foundation awarded 275 scholarships for the 2011–2012 academic year to undergraduate sophomores and juniors from the United States. The Goldwater Scholars were selected on the basis of academic merit from a field of 1,095 mathematics, science, and

engineering students who were nominated by the faculties of colleges and universities nationwide.

The purpose of the Foundation is to provide a continuing source of highly qualified scientists, mathematicians, and engineers by awarding scholarships to college students who intend to pursue careers in these fields.

Tyler, who is from Apple Valley, Minn., was a professorial assistant during her first two years at MSU and is currently studying the significance of microcracks on bone-forming osteoblasts on hydroxyapatite in the laboratory of Melissa Baumann, associate professor of chemical engineering and materials science, and associate dean of MSU's Honors College. Tyler is an active member of Tau Beta Pi and was involved with the Society of Women Engineers as the secretary for the 2010-2011 school year. She plans to pursue a PhD in biomedical materials science and engineering and conduct research with implants and other medical devices. She is the daughter of Karna and Paul Tyler.

The Goldwater Scholarship, the premier undergraduate award of its type in these fields, was established in 1986 to honor Senator Barry M. Goldwater. The Foundation has awarded more than 6,600 scholarships worth approximately \$50 million over the years.

The one- and two-year scholarships cover the cost of tuition, fees, books, and room and board up to a maximum of \$7,500 per year. 🌱

Faculty and Staff Bond

University Award



Michael J. Rich received the 2011 Distinguished Academic Staff Award from MSU President Lou Anna K. Simon.

Michael "Mike" J. Rich, senior specialist and laboratory manager/outreach, received a **Distinguished Academic Staff Award** during MSU's 2011 Awards Convocation

held in February. This award, supported by the MSU Development Fund, is given to academic specialists and MSU extension academic staff for extraordinary achievement, excellence, and exceptional contributions in advising, curriculum development, outreach, extension, research, and/or teaching.

Rich has been a senior specialist and a laboratory manager of the Composite Materials and Structures Center (CMSC) in the Department of Chemical Engineering and Materials Science for more than 20 years. He has been instrumental in the growth of CMSC, helping establish it as one of the nation's largest and most respected academic composite materials laboratories through his research, mentoring, and outreach activities.

Rich's dedication to excellence has been the keystone to maintaining the high degree of accessibility and value that the CMSC has to both the MSU and off-campus communities. Scores of researchers from many disciplines including engineering, packaging, natural sciences, human

and veterinary medicine, and agriculture have benefited from his mentoring and supervision. His ability to collaborate with industrial partners is especially valuable in MSU's vision of the World Grant ideal. His research has culminated in patents and more than 100 joint publications and presentations in the areas of adhesive bonding, structure-property relationships of composite interfaces, surfaces properties of solids, nanocomposites, and the processing of composition materials; several of these publications have been award-winning.

Rich is co-chair of the MSU Academic Specialists Advisory Committee and has served in several executive capacities with the North American Thermal Analysis Society, an international community of scientists and engineers.



Withrow Teaching Excellence Award

Professor K. N.

Subramanian received a **Withrow Teaching Excellence Award** at the college's annual awards luncheon in March. This is the second time he

has been honored with this award.

Subramanian is a highly respected teacher who is passionate about teaching, humorous, motivating, and excited about the course material he teaches. Subramanian is committed to ensuring that his students understand the course material, and he has an ability to adjust his teaching style to do so. If needed, he will spend several hours, in his office, explaining concepts in a new way to students. As one student noted,

"He is always available for help and some weeks I'm in his office for a total of five hours just getting homework help and trying to understand!"

Students appreciate that Subramanian teaches in a way that makes everyone feel included. Says one student, "He is very good at getting everyone in the classroom involved; he walks around and includes the whole class." One student sums it up best: "He's a great mentor and really has helped me in my learning as well as in my personal life. I don't think you'll find another professor like Dr. Mani!"

Research Forum 2011

The Department of Chemical Engineering and Materials Science held its eighth annual Research Forum on May 24. The Forum showcased recent research advances in each of the three main research areas of the department—energy and sustainability, nanotechnology and materials, and biotechnology and medicine.

The one-day program, held at MSU's University Club, featured plenary speakers, posters, and oral presentations describing the latest department research results. Plenary presentations were made by:

- Brandi Osborne, senior scientist in biotherapeutics pharmaceutical sciences at Pfizer Global Biologics
- Elizabeth A. Holm, computational materials science and engineering, Sandia National Laboratories
- Brian S. Nuno, senior strategist at DTE Energy

Additional information about the Research Forum, including the full agenda and other meeting content, can be found at: <http://www.chems.msu.edu/forum2011/> 

In Memoriam

Wayne H. "Bud" Abbott Jr. (BS ChE '49) of Ann Arbor, Mich., died February 12, 2011, at age 85. After earning his degree, Abbott was the superintendent of the Waste Water Treatment Division of the Utilities Department in Ann Arbor for more than 30 years. During his career, he served as the chair of the Management Division of the American Water Works Association, advised the Environmental Protection Agency and the U.S. Congress, helped

develop national drinking water standards, and was a board member with the National Science Foundation.

He leaves behind his wife, Pat, with whom he had recently celebrated 60 years of marriage; son Wayne (Pat) Abbott; daughter Marty (Steve) Witt; son Michael (Sue) Abbott; and six grandchildren.

George Stark Breitmayer Jr. (BS ChE '49), of Sarasota, Fla., died Nov. 06, 2010. He was born in

Jackson, Mich., and lived in Barrington, Ill., before retiring to Sarasota. After graduation, he worked as a chemical engineer for Procter & Gamble in Chicago for 34 years.

Myron "Mike" Gilbert Brown (BS ChE '49, MS ChE '50), of East Lansing, Mich., died December 26, 2010, at the age of 86. He was born January 31, 1926, to Darwin and Bertha Brown in Plymouth, Mich.

Brown served as a professional engineer with

Student Bond

Outstanding Graduate Students



Dahai Gao, a doctoral student in chemical engineering, was named the **2011 ChE Outstanding Graduate Student**.

His research focuses on cellulosic biofuel.

"Cellulosic biomass is the most abundant renewable feedstock on our planet. It has sugar locked inside as cellulose and hemicellulose. Unlocked sugars from biomass can be fermented into ethanol," Gao says. However, the economic process to unlock sugars requires different catalysts (enzymes) working together. "The specific area of my research is using engineering strategies to optimize the ratio of enzyme to form an artificial enzyme cocktail that can further decrease the total enzyme loading during hydrolysis without losing efficiency." His study will provide significant useful information to help achieve fundamental understanding of hydrolysis mechanism.s

Gao earned his BS and MS degrees at Zhejiang University in China. He will defend his thesis this summer and obtain his PhD. He has already accepted a position with Dow Chemical in Midland, Mich., to work in research and development. CHEMS professor Bruce Dale is his adviser.



Leyun Wang, a PhD student in materials science, was named the **2011 Materials Science Outstanding Graduate Student**. He also received honorable

mention in the **2011 Fitch Beach Awards**.

Originally from China, Wang received his BS degree in materials science & engineering from Tsinghua University in China in 2007. He came to MSU that same year to study for his PhD.

Wang's research focuses on the relation between metal's microstructure and plastic deformation. "On one hand, deformation changes the microstructure, for example, dislocation pile-up and nucleation of mechanical twins in polycrystalline metals," says Wang. "On the other hand, the evolving microstructure will influence deformation, which essentially gives rise to crystal plasticity, a theory that describes the plastic behavior of metals with crystalline anisotropy taken into account." Crystal plasticity is used in industry for materials design. For his research, Wang has worked on twin nucleation mechanisms and crystal plasticity modeling. He also has studied Laue microdiffraction and its use in metallurgy.

CHEMS professor Thomas Bieler is his adviser. Wang will receive his PhD this summer and then hopes to do a postdoc fellowship.

NSF Graduate Research Fellowship



Ben Kremkow, a ChE senior who graduated in May, received a National Science Foundation Graduate Research Fellowship. The prestigious fellowship will fund

Kremkow's research project on biologic pharmaceutical product quality for three years. He is already enrolled at the University of Delaware working on a PhD in chemical engineering. "I will

focus my research on improving product quality of therapeutic protein molecules produced by the Chinese Hamster Ovary (CHO) cell line, specifically on post-translational modification patterns and the technology used to detect them," says Kremkow.

Originally from Hudsonville, Mich., he is the son of Jim and Sue Kremkow. As an undergraduate at MSU, he played the trombone in the Spartan Marching Band, worked at the College of Engineering as an undergraduate researcher and as a tour guide with the k-12 outreach program, and was a member of the Honors College, AICHE, ISPE, and NSCS.

"It is a great honor to be recognized for previous experience and accomplishments," says Kremkow. "I have been fortunate to have the opportunities that have been provided to me, as well as the professors who have helped make me into the student researcher I am today. They deserve much recognition, as it is a culmination of all these factors."

Outstanding Society of Women Engineers Award



Christina Barry, a junior in chemical engineering from Battle Creek, Mich., received the **Outstanding Society of Women Engineers Award** at an awards banquet hosted

by the Society of Women Engineers (SWE) in February. The award, sponsored by The Dow Chemical Company, is based on involvement in SWE, national membership, and ideas for future

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the Michigan Department of State Highways and Transportation where he served as the head of the Materials Research Unit in the Departments Testing and Research Division. He was a World War II veteran and was awarded the Combat Infantryman's Badge.

Waldemar "Wally" A. Piehler (BS ChE '52), age 83, passed away Saturday, April 9, 2011, in Summerfield, Fla. Piehler was in the R.O.T.C. with the U.S.

Army during World War II while attending college at Michigan State University. After receiving his bachelor's degree, he worked for Consumers Power and retired from the company as a gas distribution executive.

William J. Mottel (BS ChE, '51), 82, of North Augusta, S. C., died May 14, 2011. Mottel was a native of Gladstone, Mich., but made his home in North Augusta for the last 28 years. Mottel retired after 38

years of service as the safety director of E. I. DuPont Company and was a former plant manager at the Savannah River Plant. He co-authored *Industrial Safety Is Good Business—The DuPont Story*. Mottel was a past chairman of the National Safety Council and was inducted into the International Safety Hall of Fame.

To read the full obituaries, visit, <http://www.egr.msu.edu/alumni/class-notes-obits>.✿

Student Bond (continued from page 5)

events for the SWE organization. Students must apply and are chosen by committee.

"I decided to major in chemical engineering because I enjoyed chemistry and had learned a lot about chemical engineering from my dad, who also majored in chemical engineering," says Barry. She is involved in the Society of Women Engineers, Women in Engineering, Alternative Spring Break, and is a mentor for EGR 100. This summer she is working as an operations intern at Albemarle, a manufacturer of polymers and chemicals, in Houston, TX.

Barry is the daughter of Stephen and Joyce Barry.

Exceptional and Distinguished Service Award

Senior **Derek Miller** received an **Exceptional and Distinguished Service Award** for notable service to the College of Engineering, Michigan State University, and the community. He was nominated by CHEMS professors Carl Boehlert and James Lucas. Miller received the award during an awards banquet in February hosted by the Society of Women Engineers.

Miller majored in materials science and graduated in May. This summer he is interning at NASA Glenn Research Center in Cleveland, Ohio, in the Polymers Branch, and then going to graduate school for a doctorate this fall. "Materials science interested me because I like to know why things are the way they are," says Miller. "I've learned the fundamental knowledge that lets me see the world around me in a way others do not, with an understanding of processes and forces of nature that control how everything in our lives behaves. Also, materials are the limiting factor in technological advancement, and new classes of materials can help facilitate the advancement of our society."

Miller was the president of the Materials Science and Engineering Society, a Materials Advantage Student Chapter. "Through the society, we bring in speakers to try to grow the interest of current MSE majors and give them avenues to pursue what they may find interesting," says Miller. He often did materials demonstrations for younger students to introduce them to materials science and he spoke regularly on student panels for the CHEMS department to prospective students such as the ADS Competition as well as

Future Engineers Preview Day. And just to round out his schedule, Miller did research on aerogels for CHEMS professor Jeff Sakamoto, tutored calculus students under the new PAL program, and also played a variety of intramural sports.

Originally from Bryan, Ohio, he is the son of Steve and Jane Miller. His senior advice is: "It seems like a lot of lucky things that happen to me are really the result of an action I took previously that at the time had no real promise of a tangible benefit. This award in itself was the culmination of several small things I did just because I thought they would be good for me. Most opportunities don't show their real form until the time has passed, so do everything you have time to do, and good things will come of them."

Outstanding Member Awards

Three CHEMS students received **Outstanding Member Awards** at an awards banquet hosted by the Society of Women Engineers (SWE) in February. The students are **Widya Adidharma**, **Vanessa Stuart**, and **Kaitlin Tyler**.



Adidharma is a freshman who came to MSU on scholarship from Laramie, Wyo. She is the daughter of Hertanto Adidharma and Mari Hardjito.

She chose to major in chemical engineering with a concentration in biomedical engineering. She is active in SWE and is president of the Society of Asian Scientists and Engineers on campus. She has done research in the Neuroscience Department and is a student ambassador for the College of Engineering. This summer Adidharma hopes to do undergraduate research and possibly travel abroad to volunteer at medical clinics.



Stuart is a chemical engineering junior from Rochester, N.Y. She is the daughter of Paul and Karin Stuart. Stuart decided to major in chemical engineering because she enjoyed chemistry and the idea of making products or

coming up with solutions to problems using her knowledge. "I plan on working in the food or consumer goods industry where I can apply my chemical engineering background to my love of food," says Stuart. "It is powerful to be behind something you see on the shelf."

She is vice president of external affairs of Engineers Without Borders, social chair for the Society of Women Engineers, a mentor for WIE Connect (a freshman engineering mentoring program for women), and a member of Omega Chi Epsilon and the American Institute of Chemical Engineers.

Her advice to undergrads is to "get involved. Being active in an organization, especially within the College of Engineering, gives you great leadership experience and community service opportunities, and you meet a lot of interesting people," says Stuart. "As you become more involved, people around you will notice you more, your peers will take interest in your activities, the advisers recognize you and your work, and employers are excited about meeting you. We're all busy as engineering students, but take a couple hours and focus your energy on a great organization."

Tyler, a materials science junior from Apple Valley, Minn., is the daughter of Karna and Paul Tyler. She was also recently named a Goldwater Scholar; see page 3 for more information.

Homer Higbee International Education Award



Austin Melcher, a materials science senior with a concentration in environmental studies, received a Homer Higbee International Education Award at an

awards ceremony sponsored by MSU's Office of International Studies and Programs in March. The Homer Higbee International Education Award is designed to recognize MSU students at the undergraduate and graduate level who demonstrate the characteristics Higbee represented. These include making significant contributions to the support of international awareness at Michigan State University through involvement in programs that promote cross-cultural understanding

on campus and in the community. Higbee dedicated his professional life to international education exchange during the 25 years that he served in the Office of International Studies and Programs at Michigan State University.

Melcher was one of four students who received the award. He is the student leader of the Multi-Racial Unity Living Experience. After participating in various study abroad programs he became interested in how to apply what he learned to create change on a global level.

High-Achieving Student Recognition

Congratulations to high-achieving students from the CHEMS department. Undergraduate students with the highest grade point average in each engineering department and program were recognized for their academic efforts at an awards banquet hosted by the MSU Society of Women Engineers in February.

The materials science students are **Megan Buczkowski, Jeffrey Mccague, Derek Miller, and Mengge Shao**. The chemical engineering students are **Jeffrey Adkins, Maytham Abdullah Alzayer, Ahmad Hussain Alzubail, William Burek, Justin Fila, John Franklin, Anthony Grittini, Robert Hasselbeck, Logan Matthews, Nathaniel McIntee-Chmielewski, Austin Nelson, and Hao Zheng**.

Consumers Energy Diversity Scholarships

This winter, Consumers Energy presented two students from the CHEMS department (along with 12 other engineering students) with scholarships through the college's Diversity Programs Office. The scholarships are given to help increase the number of students who will potentially become part of the energy workforce. The CHEMS students are **Kristina Li** and **Julie Motz**, both juniors.

Board of Trustees Awards

At the April 15 MSU Board of Trustees meeting, 33 students, including CHEMS student **Anthony Grittini**, received Board of Trustees' Awards for having the highest scholastic average at the close of his or her last semester in attendance at Michigan State University. They all received a 4.0 GPA.

This semester's number of recipients is the most in the award's history, which dates back to 1921. The students were also recognized at their spring commencements May 6-8.

Grittini, of Sterling Heights, is the son of Tim and Linda Grittini. He is a graduate of Paul K. Cousino Senior High School.

2011 Capstone Projects

This spring, students in **Chemical Engineering 434**, the senior capstone course, participated in the college-wide Design Day, held in May at the MSU Union. Students had to address a problem of gas to liquid (GTL) as part of a plant design. The problem is the one used by the American Institute of Chemical Engineers in its National Student Design Competition.

From those participating, two teams of two, as well as two individuals, are chosen to compete in the national completion. Since 1968 about half of the students whose reports rated first or second at MSU also finished among the top six nationally. Last year, MSU won both the team and individual competitions.

"We try to have contemporary problems that are germane to what these students may be asked to do when they are a part of the workforce," says Martin Hawley, chair of the department and instructor for the course. Stephanie Crews and Susan Farhat are the course assistants.

This year the best individual presentation at Design Day was by **Nathan Hanna**. Second place went to **Nate McIntee-Chmielewski**. The first-place team included **Tony Grittini** and **Lisa Pillow**. Second place went to **Omar McGiveron** and **Chad Lafeldt**. **Michael Mendoza** and **Jason Schneemann** received honorable mention.

Students in the **MSE 466** capstone course also participated in Design Day. As with other capstone courses, the major objective of MSE 466 is to have students apply their course-learned background and skills in materials science to team-based design.

Failures are the major motivating force for generating innovative designs or design changes. A failure analysis investigation provides an opportunity to systematically design and solve a real-world problem. This semester there were three teams working on design problems. The team projects included: Stem-Fracture of Pressure Mushroom Fasteners, Nucor 5160 T&P Round Steel Bars Fracture, and Deformation and Fracture of a Torsion Garage Door Opener Spring.

CHEMS professor Lames P. Lucas is the instructor for the course; Yiyi Yang is the teaching assistant.

MSU Federal Credit Union Makeover



Alex Mihelick, a senior who graduated in May, was the male winner of the MSU Federal Credit Union (MSUFUCU) Makeover.



Alex Mihelick before and after his makeover.

His prize included a professional wardrobe furnished by Eastwood Towne Center and Kositchek's; massage, facial, hair styling, and makeup courtesy of Douglas J. Aveda Institute and Salon; class ring, diploma frame, graduation announcements, cap and gown, and \$100 gift card from the Student Book Store; Spartan jewelry from Wheat Jewelers; and \$500 from MSUFUCU.

Originally from Canton, Mich., Mihelick is now working for Owens Corning in Dallas, Texas.

While at MSU, he worked for 5 years with the MSU Intramural Sports Department and was a member of the Izzone as well as a season ticket holder for Spartan football.

His greatest accomplishments at MSU include his progression at his job with the MSU Intramural Sports Department. Mihelick started as an official his freshman year and before graduation was working as a supervisor in charge of more than 100 officials, students who are working in the same role he started in. "I also convinced my two roommates to participate with me in the Special Olympics Polar Plunge by jumping into a freezing lake in January," says Mihelick, who is obviously proud of this accomplishment. He helped raise more than \$300 and his team raised more than \$1,000 together to help support the Special Olympics.

Mihelick would like to earn his MBA within five years of starting his new job, and he has a goal of contributing positively to his new company while furthering his professional development. ❁

KEEPING IN TOUCH

NAME _____

STREET ADDRESS _____

CITY / STATE / ZIP _____ IS THIS A NEW ADDRESS? YES NO

OFFICE TELEPHONE _____ HOME TELEPHONE _____

E-MAIL _____

GRADUATION YEAR _____ DEGREE _____

CURRENT OCCUPATION _____

EMPLOYER _____ LOCATION _____

News of recent accomplishments, awards, or promotions (Use separate sheet if needed):

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Engineering Commencement Ceremony



Chemical engineering senior Jason Schneemann.

ChE senior **Jason Schneemann** gave the student commencement address at the College of Engineering graduation ceremony at the Breslin Center on May 8. Schneemann is from Brighton, Mich., and is the son of Frank and Brenda Schneemann. He was involved in MSU Crew Club, Recreational Soccer and Volleyball, the American Institute of Chemical Engineers, and the Environmental Engineering Student Society. Since graduation, he has moved to Minneapolis, Minn., and is working for Dow Chemical.

Joe Gentile, 2011 Red Cedar Circle Award winner, poses with family members. From left: daughter Kristen Workman; granddaughter Abigail Workman; Joe; his wife, Karen; Paula Veverica; and son David Gentile. See story page 2.

