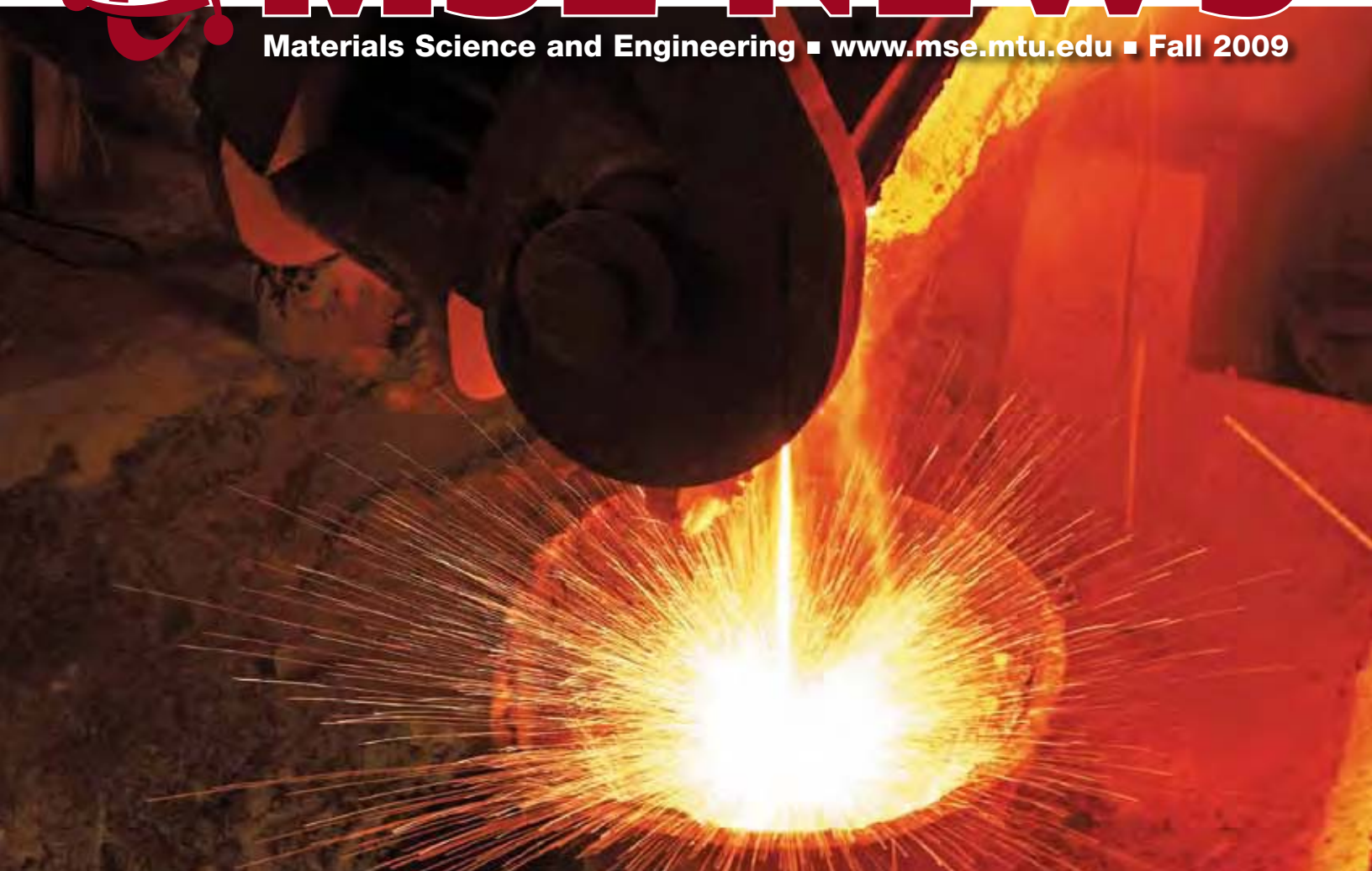




MSE NEWS

Materials Science and Engineering ■ www.mse.mtu.edu ■ Fall 2009



MICHIGAN TECHNOLOGICAL UNIVERSITY





**A message from Department
Chair Mark Plichta about
MSE at Michigan Tech**

Chair Chat

Greetings from the U.P. of Michigan!

This is a very exciting time in the Materials Science and Engineering department at Michigan Tech. Three new professors joined the department in the fall—indeed, a milestone for us over the past few years! The three new professors joined Drs. Steve and Jean Kampe, who returned to Michigan Tech last fall and are highlighted in this newsletter.

Dr. Yongmei Jin received her PhD from Rutgers University and comes to us from the aerospace engineering department at Texas A&M. Her research centers on microstructure evolution in crystalline materials, solid state phase transformations, and materials modeling and computer simulation.

Jin's husband, **Dr. Yu Wang**, also received a PhD from Rutgers and joined the materials science and engineering department at Virginia Tech in 2004. His research and teaching interests include mathematical methods in materials engineering, modeling and simulation of microstructures and properties, and nanoparticle-block copolymer self-assembly. The combined expertise of Jin and Wang will complement much of the ongoing research and expertise of our present faculty.

Dr. Paul Sanders joins us from Ford Motor Company, where he was technical leader of the chassis materials group. Sanders received his BS degree in Metallurgical and Materials Engineering from Michigan Tech in 1991, and went on to obtain his PhD from Northwestern University in 1996. His research interests include metals casting, sustainable design optimization, and lightweight strategies for improving vehicle fuel economy.

We are very excited about our new colleagues and look forward to many significant contributions in the areas of teaching, research, and professional service.

Our graduate program is expanding as well. We welcomed twelve new graduate students this fall, several of whom are already connected to funded research projects. This represents an increase of nearly 50 percent since the fall of 2008! Our undergraduate enrollment is also showing signs of growth. We continue to recruit actively on campus, with local high schools, through summer youth programs, and more recently, with the ASM Materials Camp for high school teachers. We expect to see noticeable impact on the undergraduate enrollment soon.

I would like to take this opportunity to sincerely thank the many alumni and friends who continue to support our programs. Your support is truly needed to sustain the quality educational program we offer our students. As always, please feel free to contact me with any questions, comments, or ideas regarding the department and its programs.

Best regards,

A handwritten signature in black ink that reads "Mark R. Plichta".

Mark R. Plichta
Professor and Chair

Jean-Celeste Malzahn Kampe

MSE Department
Welcomes Engineering
Fundamentals Chair



Jean Kampe accepted a three-year appointment as chair of the Department of Engineering Fundamentals in July 2008. Kampe's tenure resides in the MSE department.

Kampe was an associate professor in the Department of Engineering Education at Virginia Tech. She received a PhD in Metallurgical Engineering from Michigan Tech in 1987, an MChE from the University of Delaware in 1984, and a BS in Chemical Engineering from

Michigan Tech in 1980. Prior to her work in academe, she was a research engineer at the US Naval Research Laboratory in Washington, D.C.

At Virginia Tech, Kampe was PI on a \$2-million STEM (Science, Technology, Engineering and

Math) Talent Expansion Program grant from the National Science Foundation. This grant spanned five years, and the work focused on first-year intervention to improve first-to-second-year retention in the College of Engineering.

Kampe is currently a member of the Presidential Council of Alumnae at Michigan Tech, Phi Lambda Upsilon Chemistry Honor Society, ASM International (formerly American Society for Metals), and the American Society for Engineering Education.

Kampe and her husband, Steve, have two children and live in Hancock. They enjoy socializing with their two dogs and three cats and reconnecting with the beauty of Lake Superior and the Copper Country.

Steve Kampe

MSE Department
Welcomes New Professor



Steve Kampe joined the MSE department in fall 2008 as a professor. A Michigan Tech graduate (BS '81, MS '83, and PhD '87, all in metallurgical engineering), Kampe comes from Virginia Tech's MSE department, where he served as professor and associate department head.

While at Virginia Tech, Kampe led the department's undergraduate accreditation efforts (ABET), was instrumental in developing the MSE

Advanced Communications Program, and championed several dramatic curricular changes that improved the competitiveness and quality of the university's undergraduate education. He was an advocate for Virginia Tech's Green Engineering Program, a College of Engineering initiative to integrate environmental topics into engineering education.

Kampe's research and teaching activities focus on the structure/property/process relationships in metals, alloys, ceramics, and composites. While

at Virginia Tech, he maintained a healthy research program, with expenditures averaging over \$200,000 per year, and typically supported four to five graduate students.

Kampe is an active member of The Minerals, Metals, and Materials Society, ASM International, the American Society for Engineering Education, and the Materials Research Society.

At Michigan Tech, Kampe teaches Introduction to Materials Science and Engineering, Composite Materials, and Mechanical Behavior of Materials. He also advises a senior design team project, "Cold Rolling of High-Strength, Low-Alloy (HSLA) Steels," sponsored by Severstal North America, which received an Honorable Mention in Michigan Tech's 2009 Undergraduate Expo.

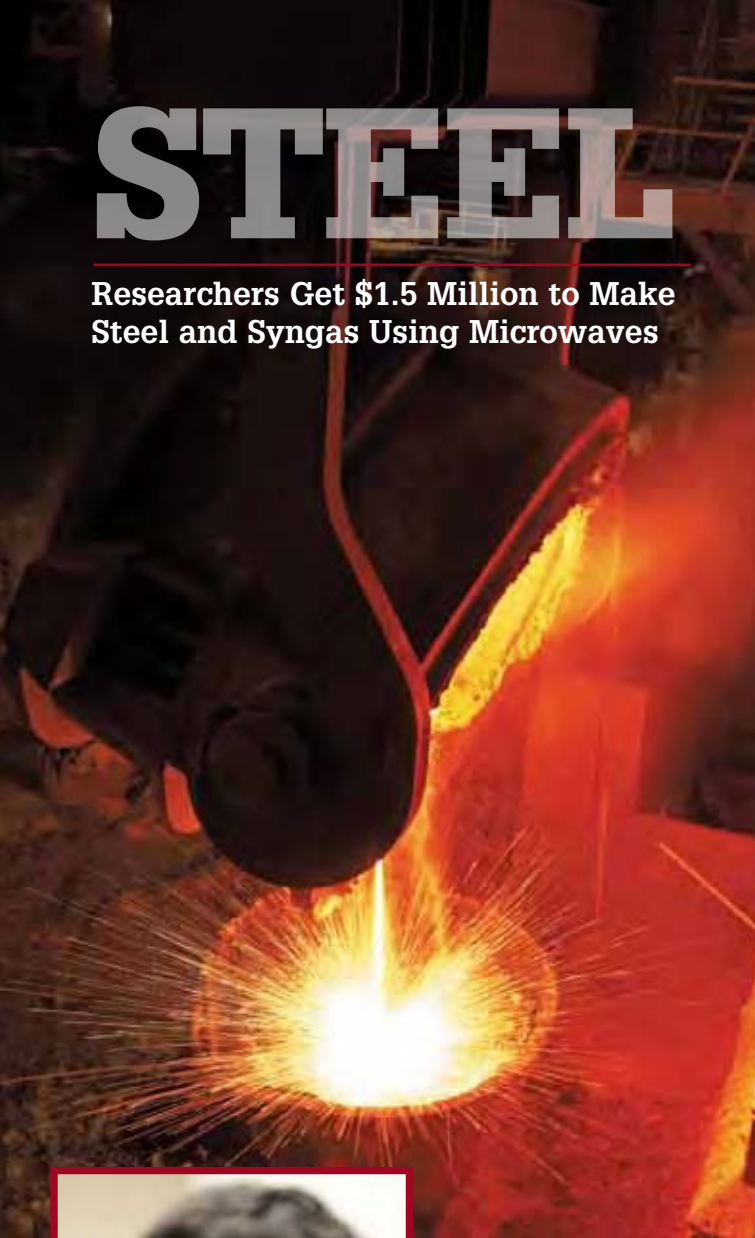
Kampe and his wife, Jean, purchased the Hellawell farm on Sunshine Road in Hancock and have been busy refurbishing the farmhouse and outbuildings. They have two children: Alexander, who is a sophomore at Radford University in Virginia, and Frank, a senior at Hancock High School.

“ Steve and Jean Kampe are a significant asset to our department and the University. We are very fortunate to have them join the faculty at Michigan Tech. ”

—Mark Plichta

STEEL

Researchers Get \$1.5 Million to Make Steel and Syngas Using Microwaves



A project spearheaded by MSE researchers has received \$1.5 million from the Michigan Public Service Commission to further develop a new, energy-efficient method for making steel. And, by the way, it also produces syngas.

The grant was awarded jointly to Michigan Tech and to U.P. Steel, a start-up company created by Professor Jiann-Yang Hwang and Xiaodi Huang, project manager and research leader in the Institute of Materials Processing.

"We started this concept back in 1991, using microwaves to do steel-making," said Huang. "Iron ore and carbon, which are used to make steel, are both excellent microwave-absorbing materials; in a few minutes, they can get up to 1,000 degrees centigrade."

The team initially created small samples of a few grams each in household microwave ovens. Later, after much testing, they designed and fabricated a hybrid furnace that combined microwave and electric-arc technology that could make one kilogram of steel an hour.

Their work impressed the

Department of Energy enough to earn a grant to build a bench-scale model. "That was pretty successful," Huang said. "We proved we could make high-quality steel in about twenty or thirty minutes."

In 2001, the technology was licensed to U.P. Steel, based in Negaunee. "At that point, the major problem was how to scale production up," said Huang. In 2005, the researchers completed a microwave rotary hearth furnace that can make two hundred pounds of steel in an hour. With the Michigan Public Service grant, they expect to triple steel production, to six hundred pounds an hour, and add another product to the mix.

"Our goal is to produce pig iron nugget and synthetic gas from the iron and coal," said Huang. "Syngas is very valuable; it would be equal to or greater in value than the steel."

The process could also take advantage of America's vast coal reserves and reduce dependence on petroleum. "If all the steel in the US were made this way, it would produce gasoline equal to a quarter of total US consumption," Huang said.

MSE Program Shines in US News Rankings

Michigan Tech's undergraduate engineering programs rose in the latest *US News & World Report* rankings (released in August), placing sixty-fourth in the nation among engineering schools whose highest degree is a doctorate. MSE was one of only two engineering programs that made the top-twenty list of specialty engineering programs; it achieved a prestigious ranking of seventeenth in the nation.

Michigan Tech was one of three public universities in Michigan to make the top tier of the magazine's undergraduate education rankings. The other two were the University of Michigan and Michigan State University.

And in April, the MSE graduate program ranked in the top fifty nationwide as part of *US News & World Report's* graduate engineering program rankings.

"It is gratifying to know that *US News &*

World Report recognizes Michigan Tech's growing excellence in undergraduate engineering education," said President Glenn D. Mroz. "And maintaining our position in the top tier of national universities reflects significant progress toward our goal of being a world-class technological research university."

Each year, *US News & World Report* ranks graduate schools of business, education, engineering, law, and medicine. According to the magazine, the rankings are based on two kinds of data—the opinions of graduate school deans, program directors, senior faculty, and employers of new graduates, and statistical measures such as student-to-faculty ratio, faculty research activity, and doctoral degrees awarded.

For more information, visit www.usnews.com/grad or www.usnews.com/aboutgrad.

MSE Alumnus Excelled in Mining Industry

The life and times of Charles McArthur, an MSE alumnus from Folsom, California, have revolved around three traditions: family, education, and mining.

Family ties were paramount; education was the family mantra; and working in the mining industry was a family tradition.

McArthur ("Mac") was born in Denver, Colorado, in 1927 and graduated from high school in New Rochelle, New York, in 1945. At age seventeen, he enlisted in the navy and served on a submarine tender. "We sailed around the Pacific," he recalls. "It was easy duty."

He was one of five brothers. All went to college—McArthur to Michigan Tech, where he earned a bachelor's degree in metallurgical engineering with a concentration in mineral dressing in 1950.

He treasured his years at Tech. "It was tough, but it was a great place to go to school. The teachers were so good, so interested in you. They had a great attitude toward the students. I think it's still that way. I had three children in college so I have a broad view, and I think that's an essential element at Michigan Tech. The students are important. That's the truth."

After graduation, he immediately followed his father into the mining business. He spent the last thirty-two years of his career with BHP-Utah Minerals International, where he retired as executive vice president.

He oversaw operations in North America, South America, Asia, Australia, and Europe. At one point he was in charge of all of the firm's business in the western hemisphere—coal, iron, and copper. "Not just one mineral," he points out. "We'd go anywhere to mine anything that you could make money on."

Like his father before him, he was well travelled. "The travel was good

fun," he said. "Very broadening and educational. That was the great part of the mining industry—you could, and you did, move around."

His Tech education helped him in his career. The schooling, he says, was "hands-on and practical." His first job was with Cleveland Cliffs, where, in short order, he was a supervisor, an early achievement that foretold a distinguished career. Throughout his career, he collaborated with people from elite schools and could hold his own among them—and then some.

He and Carroll Evsen were married in 1952. He says of his spouse, "You can't do what I did—wander around the world—without a solid partner at home."

Carroll, too, is a champion of education. Accordingly, the couple established an endowment for the MSE department in 2001. It supports undergraduate student research in the department; more than twenty students have had the advantage of that opportunity.

The couple has educated both family and strangers. "That's a good thing to do with your money," McArthur avows. They also helped fund the remodeling of the department's seminar room.

McArthur is a member of Tech's Academy of Materials Science and Engineering, a past trustee of the Michigan Tech Fund Board of Trustees, a Golden M member of the alumni association, and the recipient of the University's Board of Control Silver Medal (1980).

He's eighty-two now. An avid boater, he has always enjoyed exploring the waters of San Francisco Bay. "I'm too old for that now," he says. "I'm just happy to see the sun come up again."

And to see those three children, seven grandchildren, and four great-grandchildren. "That's the way it's been—strong family ties," he says, "and educate the children."



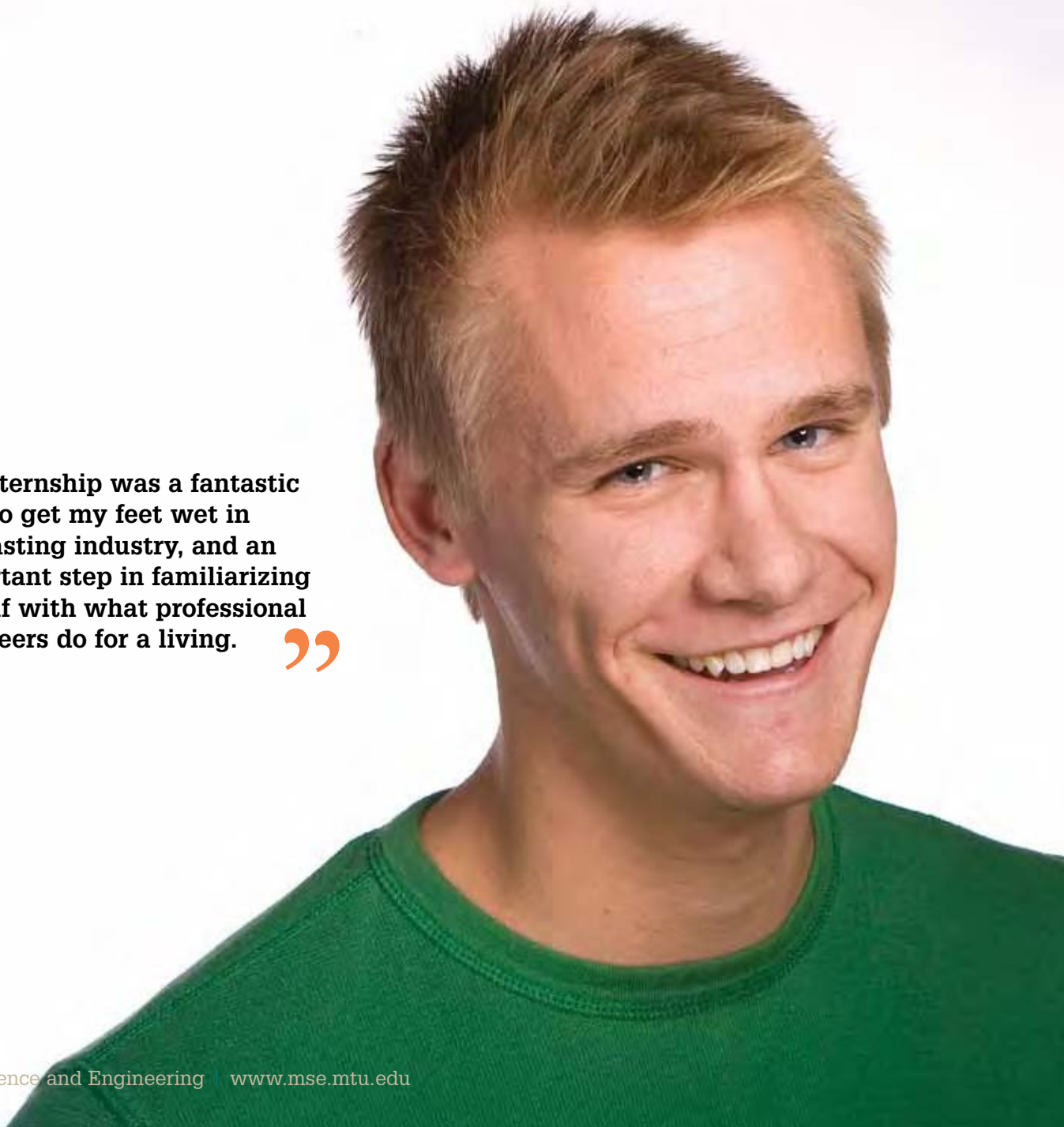
Charles McArthur '50 and Mark Plichta

Ellwood Group \$25,000 Scholarship



Kenneth Brooks

“ My internship was a fantastic way to get my feet wet in the casting industry, and an important step in familiarizing myself with what professional engineers do for a living. ”





Kenneth Brooks, a fifth-year major in materials science and engineering, was named the winner of the 2009 Ellwood Group, Inc. (EGI) annual \$25,000 metallurgy scholarship.

Marie Russo, EGI benefits and human resources manager, presented Brooks with the scholarship on January 30, 2009.

The scholarship is awarded each year to a talented and dedicated metallurgy student to encourage the pursuit of a career in the steel/heavy metals industry. EGI's goal is to encourage more students to choose metallurgy as their field of study, and to recruit more interns and graduates into the steel industry.

As part of the scholarship, Brooks received a paid internship with EGI during the summer of 2009, which included a tour of the company's facilities and a meeting with EGI's president.

"My internship was with Ellwood Engineered Castings, located in Hubbard, Ohio. It's a division of EGI that produces large scale ductile iron castings," Brooks said. "I worked primarily in quality control, observing and refining their process controls. The internship was a fantastic way to get my feet wet in the casting industry and was an important step in familiarizing myself with what exactly a professional engineer does for a living."

Brooks began his education as a mechanical engineering student, but says he changed to Materials after attending a demonstration by the department's Innovative Casting Enterprise (ICE).

"I was immediately hooked," he recalls. "I changed to materials science and engineering within a week, and I've found metal casting to be particularly interesting because it requires plenty of technical know-how, but also allows me to use my hands."

EGI has contacted Brooks regarding an opportunity to work for them in summer 2010. His future plans might include continuing employment with EGI or the pursuit of an advanced degree in law. He says his time spent at Michigan Tech prepared him well for future endeavors.

"I would recommend the MSE program to any student who has an interest in the field and a passion for hands-on experimentation," Brooks says. "The curriculum and faculty are so incredibly experience-oriented."

**Ken Brooks at
Ellwood Engineered
Castings (EEC) in
Hubbard, Ohio**



Student Accomplishments

Teams Nab Honors at Michigan Tech's Undergraduate Expo

Machinability of Ductile Iron Crankshafts (AEP Powering Innovation)— First Place, Senior Design

Team: James Martin, Robb Mrozinski, Emanuel Marinaro Castilla, Chris Olson, Drew Windgassen

Advisor: Jim Hwang

Sponsor: Kohler Company

Contact: Jim Heldt

Working with the Kohler Company, this team developed a method for both quantitatively and qualitatively measuring the differences in machinability of ductile iron crankshafts. The methods developed by the group were used to evaluate chemistry ranges, different foundries and their melt practices, and ages of castings with an overall goal of creating an engineering standard based on their method.

Cold Rolling of High-Strength, Low-Alloy (HSLA) Steels Honorable Mention, Senior Design

Team: Matthew Calcutt, Meghan Haycock, Britta Lundberg, Carolyn Swanborg

Advisor: Stephen Kampe

Sponsor: Severstal North America

Contact: Beth Blumhardt

Additional MSE Senior Design and Enterprise Projects

Testing and Reference Manual for New Zinc Alloy with Improved Creep Resistance

Team: Katherine Becker, Brett Helzer, Andrew Hodges, Daniel Hoffman, Gretchen Lange

Advisor: Calvin White

Sponsor: Eastern Alloys

Contact: Ryan Winter

Metal Stent Degradation Simulation

Team: Brielle Cormier, Joseph Halt, Rebecca Klank, Andrew Johnson, Collin Snyder, Casey Thibeault

Advisors: Jaroslaw Drelich and Jeremy Goldman

Sponsor: Boston Scientific

Contacts: Jon Stinson & Heather Getty

Prototype Casting Process Development for Valve Seat Inserts

Team: Justin Clark, Nick Johnson, Jessica Reibel, Lance Taylor, Mark Twilley

Advisor: Mark R. Plichta

Sponsor: Winsert, Inc.

Contacts: Paul Lemery & Gary Strong

Development of Electromagnetic Stirrers

Team: Andrew Joda, Joshua Krajniak, Jonathan Lee, Sean Loney, Bruce Lunday, Gregory Ross, Jeff Schwartz

Advisor: Mark R. Plichta

Sponsor: ArcelorMittal

Contacts: Ryan Hoagland & Joe Nowosad

CO₂ Sequestration in Steelmaking

Team: Brett Anderson, Kenneth Brooks, Tyler Ethan, Ben Hutton, Michael Krug, Tyler Reno

Advisor: Stephen Hackney

Sponsor: ArcelorMittal

Contacts: John Brannbacka & Joe Nowosad

Student Awards

MSE senior **Nickolas Gast** received a \$2,000 scholarship from the Women's Auxiliary to the American Institute of Mining, Metallurgical, and Petroleum Engineers (WAAIME), a division of the Society for Mining, Metallurgy, and Exploration (SME). The WAAIME Scholarship recognizes students obtaining degrees in the earth sciences fields who are supportive of efforts of the minerals industry. Gast is a Chassell native and a graduate of Houghton High School.

MSE doctoral candidate **Matthew Swanson** was selected to represent Michigan Tech at Michigan Graduate Education Week, held at the State Capitol in Lansing in April 2009. Swanson presented his research on the importance of improving fuel cell components to increase efficiency, allow lower temperature operation, and reduce costs. Swanson discussed fuel cells and alternative energy with Upper Michigan Senator Michael Prusi.



2009 FEF Scholarships: (left to right) back row, Sky Shuman, Eric Baum, Justin Clark, and Mike Krug; front row, Jim Martin, Gretchen Lange, Greg Ross, Nathan Kent, Tyler Reno, and Dr. Mark Plichta

Two MSE students won prestigious awards from ASM International—Detroit Chapter. **Carolyn Swanborg** received the Sustaining Members Scholarship and **Lance Taylor** received the Marian Semchyszen Award. Both awards included certificates and \$1,500 scholarships.

ASM International—Detroit Chapter scholarships are open to the chapter's own student members as well as student members attending college in Michigan or originally from Michigan.



(left to right) Kathy Hayrynen, Technical Director of Applied Process, Inc., and member of the ASM International Detroit Chapter; Carolyn Swanborg; Lance Taylor; and Department Chair Mark Plichta.

Staff News



Owen Mills

Mills Recognized for 'Making a Difference'

MSE Engineer Honored for Innovative Solutions

Senior Research Engineer and ACMAL Director Owen Mills received a Michigan Tech "Making a Difference" award in December 2008.

Mills received the Innovative Solutions Award for his work in Michigan Tech's Applied Chemical and Morphological Analyses Laboratory (ACMAL). In particular, Mills was cited for developing a web-based booking system to schedule lab time, an eTraining program to educate lab users in scanning electron microscopy, and in adopting rigorous accounting procedures for the ACMAL facility that comply with federal guidelines.

"I am truly honored to receive this award," said Mills. "As a facility manager, my goal is to make the labs easy and convenient for students and faculty to use. I could not have accomplished this without the help of talented people, and I thank my colleagues and coworkers for nominating me."

Faculty News



Associate Professor Jarek Drelich has been nominated to serve a one-year term as chair of the Remediation and Secondary Processing Committee on behalf of the Society for Mining, Metallurgy, and Exploration (SME). He has also been nominated to serve


a three-year term as a member of the Gaudin Award Committee, beginning in 2010 at the SME Annual Meeting in Phoenix, Arizona. In addition, Drelich has been invited to give the keynote lecture at the fourteenth annual International Conference on Surface Forces. The conference will take place in summer 2010 in Russia.

Assistant Professor Yun Hang Hu was an invited plenary speaker at the tenth annual International Conference on CO₂ Utilization (ICCDU-X) in Tianjin, China, in May 2009.



2009 ASM Materials Camp

MSE hosted the ASM International Teachers Camp July 20–24, giving teachers the opportunity to learn about materials science and engineering through hands-on, lab-based activities that can be used in the classroom. The camp was attended by high school science, physics, chemistry, math, and technology teachers.



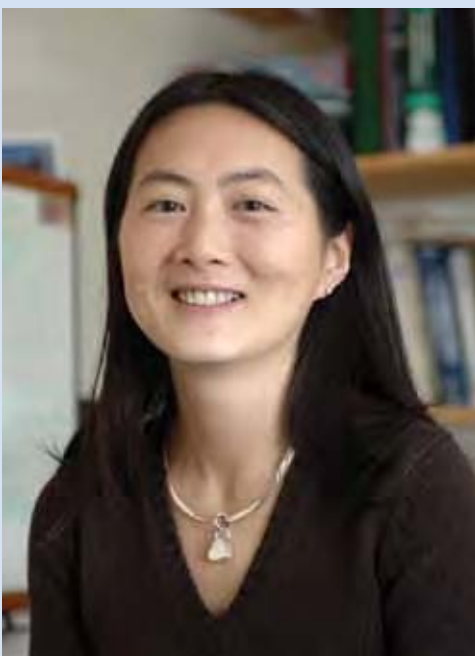
Jerry Jason, BS '92, has been named one of four new flight directors to lead human spaceflights from Mission Control at NASA's Johnson Space Center (JSC) in Houston. Leading a team of flight controllers, support personnel, and engineering experts, a flight director has the overall responsibility to manage and carry out shuttle flights and space station expeditions. Flight directors are also involved in developing plans for future Constellation Program exploration missions.

Upon graduating from Michigan Tech, Jerry began working in Mission Control for space shuttle mechanical, maintenance, arm, and crew systems discipline, and NASA hired him in 1998. He supported twenty-eight space shuttle missions, and most recently was chief of the Avionics Branch within the Space Transportation Vehicle Division of the Mission Operations Directorate at JSC.

Jerry Jason '92

Yang Shao-Horn

**2008 Charles W. Tobias
Young Investigator Award
The Electrochemical Society**



MIT Associate Professor Yang Shao-Horn, PhD '98, received the 2008 Charles W. Tobias Young Investigator Award. The award recognizes outstanding scientific or engineering work in fundamental or applied electrochemistry or solid-state science and technology by a young scientist or engineer.

The award honors the memory of Charles W. Tobias, who is considered the "father" of modern electrochemistry and electrochemical engineering. Over the years, he played a seminal role in electrochemical engineering and nearly every practitioner in this field was associated with him, directly or indirectly. His example, counsel, and advice impacted many young people, encouraging them to seek excellence in teaching, research, and professional contributions to basic and interdisciplinary science and engineering.

The award was presented to Shao-Horn at The Electrochemical Society's Fall 2008 Meeting and Awards Ceremony. It consisted of a \$5,000 cash award, an award certificate, and a lifetime membership in The Electrochemical Society.



2008 Academy Induction

The MSE department inducted fourteen new members into its **Academy of Materials Science and Engineering** at a ceremony and banquet held September 27, 2008.

The academy recognizes successful graduates, friends, and emeritus faculty of the department whose careers reflect outstanding accomplishment and service to the materials science and engineering profession. Academy members serve as role models for students, and the department encourages visits and interactions with students whenever possible.

The 2008 academy inductees join other prestigious alumni and friends who were inducted in 1996, 1998, 2000, and 2006.

The 2008 inductees were:

Professor Emeritus Wilfred Freyberger—Freyberger graduated from MIT with a BS in Physics in 1947 and an ScD in Metallurgy in 1955. He retired from his position as director of the Institute of Mineral Research in 1984 and became emeritus professor in 1986.

Professor Emeritus Richard Heckel—Heckel obtained BS, MS, and PhD degrees from Carnegie Mellon University in 1955, 1958, and 1959, respectively. He came to Michigan Tech in 1976, retired in the spring of 1996, and became emeritus professor in fall of 1996.

Professor Emeritus Lloyd Heldt—Heldt received a BA from DePauw University in 1956, an MS from Indiana University in 1958, and a PhD in Metallurgy from the University of Pennsylvania in 1962. He became a member of the Michigan Tech faculty in 1961, and was named department chair of metallurgical engineering in 1978. Heldt retired from Michigan Tech in 2001 and was granted emeritus status in 2002.

Professor Emeritus Alfred Hendrickson—Hendrickson is a 1951 graduate of Michigan Tech with a BS in Metallurgical and Materials Engineering. He earned an MS in Metallurgical Engineering from Columbia University in 1954, and a PhD in Materials Science and Engineering from Northwestern University in 1960. He retired from Michigan Tech in 1988 and was granted emeritus rank in 1989.

Dante Iacovoni—Iacovoni earned his BS and MS degrees in Metallurgical Engineering from Michigan Tech in 1952 and 1956. He obtained an MBA in 1971 from Western Michigan University. In 1995, he retired from his position as vice president of international marketing for Lindberg General Signal.

Louis Iannettoni—Iannettoni graduated from Michigan Tech in 1949 with his BS in Metallurgical Engineering. He owns and operates Meloon Foundries, an aluminum- and copper-casting company based out of Syracuse, New York. The company serves more than 200 customers in the US and is nationally recognized as one of the leading jobbing foundries.

Professor Emeritus Jong Lee—Lee received his BS degree in 1964 from Seoul National University, his MS in Metallurgical Engineering from the University of Washington in 1969, and his PhD in Materials Science and Engineering from Stanford University in 1973. He became a Michigan Tech professor in 1984, retired in 2007, and received emeritus status in the spring of 2008.

Professor Emeritus Donald Mikkola—Mikkola obtained his BS in Metallurgical Engineering from Michigan Tech in 1959 and went on to earn MS and PhD degrees in Materials Science from Northwestern University in 1961 and 1964. He retired from his position as professor at Michigan Tech in June of 2000, and emeritus status was granted in August of that year.

Norman Rautiola—Rautiola graduated with his BS in Metallurgical Engineering from Michigan Tech in 1954 and earned an MBA from George Washington University in 1960. In 1967 he formed Nartron Electronics Corporation, which has become a leader in the field of high-tech automotive and electronic systems development. Rautiola presently serves as chairman emeritus of the company.

Brenda Ryan—Ryan earned her BS degree in Metallurgical and Materials Engineering from Michigan Tech in 1976 and her MS degree in Materials Science and Engineering from the University of Virginia in 1989. In 1995, she began Ryan Industries, Inc., a packaging and labeling service for wholesale, retail, and commercial industries. In 2001, Ryan and her husband started Alliance Technologies, a remanufacturer of OEM (original equipment manufactured) service torque converters. She is a member of the Michigan Tech Presidential Council of Alumnae, and also a past member and chair of the Board of Control.

Professor Emeritus Karl Rundman—Rundman graduated from Michigan Tech with his BS in Metallurgical Engineering in 1961 and his MS in 1962. He earned a PhD in Materials Science from Northwestern University in 1967. He retired from his position as professor at Michigan Tech in spring of 2003 and was granted emeritus status later that year.

Professor Emeritus Darrell Smith—Smith received a BS from Michigan Tech in 1959. He then moved on to Case Western Reserve University, graduating with an MS degree in Metallurgy in 1965 and a PhD in Metallurgy in 1969. He began his professorial tenure at Michigan Tech in 1970, retired in June of 1999, and was granted emeritus status in the fall of that year.

Professor Emeritus Duane Thayer—Thayer graduated from Michigan Tech with both his BS and MS degrees in Metallurgical and Materials Engineering in 1959 and 1962. He retired from Michigan Tech in January 1997 and became emeritus professor in the fall of 1997.

Barbara A. Truax (Donald J. Truax, posthumously)—Don graduated from Michigan Tech with his BS degree in Metallurgical Engineering in 1965, and received a PhD degree from the University of Pennsylvania in 1970. In 2001, Don established the Don Truax Professional Development Program within Michigan Tech's Department of Materials Science and Engineering. Sadly, Don passed away in September of 2005. Since then, his wife Barb has continued his work. Barb is a graduate of Michigan Tech's medical technology program and worked in the medical field for twenty-four years before pursuing her true passion, writing short stories and articles.



Faculty, staff, graduate students, and their families enjoyed a Labor Day picnic at Mark and Carol Plichta's home on Lake Superior.

Alumni Updates

Jim Heldt '86 is manager of supplier quality for the engine division of Kohler. Heldt remains connected to Michigan Tech in a variety of ways, including past and present positions with the School of Technology and Career Services advisory boards, an active relationship with the Senior Design Program, and hands-on work with mechanical engineering and MSE students. He also represents Kohler at Michigan Tech's career fairs. Heldt was featured in the spring 2009 edition of the Michigan Tech Magazine; to read more, visit www.mtu.edu/umc/services/pr-news/magazine/spring09/stories/uber-alum.

Bhakta Rath '58 was honored with the 2009 Padma Bhushan from the Indian government, its third-highest civilian award. Established in 1954 by the president of India, it recognizes distinguished service of a high order to the nation in any field. Rath is head of the Materials Science and Component Technology Directorate, associate director of research for the Naval Research Academy, and a senior executive of the US Department of Defense. Rath was featured in the spring 2009 edition of the Michigan Tech Magazine; to read more, visit www.mtu.edu/umc/services/pr-news/magazine.

George Goodrich '63 was honored for thirty-five years of contributions to metallurgy by the American Foundry Society (AFS). The John H. Whiting Gold Medal was presented to Goodrich for his "untiring efforts to improve the foundry industry through research, publication of articles and books, leading and serving on committees in the AFS Cast Iron and Steel Divisions, and teaching for the Cast Metals Institute." He currently works for Stork CRS, a materials testing and engineering operation. Goodrich was featured in the spring 2009 edition of the Michigan Tech Magazine; to read more, visit www.mtu.edu/umc/services/pr-news/magazine.

John "J. P." McGuire '99 is manager of materials engineering, advanced manufacturing, at Chrysler LLC. Since joining Chrysler in 2005, he has had the fortunate experience to work in numerous countries, including Japan, China, Korea, and Taiwan. McGuire and his wife, Beth, have a two-year-old daughter, Claire.

Carl Bednark '08 currently works as a foundry engineer for MetalTek International, a company comprised of five divisions, each specializing in a different foundry process. He is currently spending a year at each of the four continental US divisions, working in sand, investment, and centrifugal casting capacities.