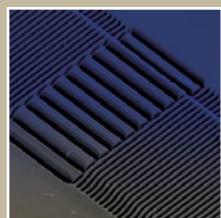
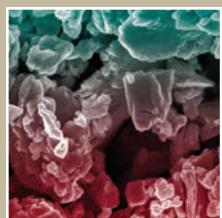


MSE NEWS

Materials Science and Engineering ■ www.mse.mtu.edu ■ Fall 2008



MICHIGAN TECHNOLOGICAL UNIVERSITY





**A message from department
chair Mark Plichta about
MSE at Michigan Tech**

What's New

Welcome to Michigan Technological University's Department of Materials Science and Engineering! It's been about a year since our last communication, and during that time we have worked diligently to redesign our old newsletter, *Alumni Alloy*. Our new publication has a more contemporary look while still providing the same exciting news and updates. I hope you find this new format enlightening and easy to read.

As I look over this issue, I am pleasantly reminded of the many valuable contributions our alumni, faculty, and staff have made to this department and the MSE profession. It is always a joy for me to learn of special awards and recognitions given to our alumni, students, faculty, and staff. It affirms that our program's high quality and strong reputation are justified.

Our students continue to amaze me as well. The work they complete on senior design projects and the Enterprise Program is of the highest quality and our industrial sponsors are continually impressed with their work. This fact is supported by the high placement rate of our BS graduates, most of whom receive multiple offers at very competitive salaries. In addition, a large percentage of our BS graduates continue their education in graduate schools across the nation and are very successful at premier institutions. Our graduate students are exceptional as well, and are securing important positions in industry, national labs, and academia.

In the area of new faculty, I am excited to tell you that Dr. Yun Hang Hu (see related article on page three) joined the department in August 2007. This fall, Drs. Stephen and Jean Kampe arrived on campus—Steve as a tenured professor in materials science and engineering and Jean as chair of engineering fundamentals, with tenure residing in MSE. I anticipate significant contributions to the department in the areas of teaching, research, and professional service by Steve, Jean, and Yun. In addition, we will begin a new search to fill two, and possibly three, tenure-track positions for the fall of 2009. It is indeed an exciting time for us.

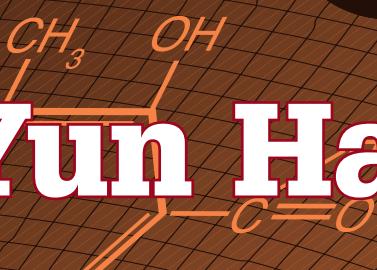
I would like to take this opportunity to sincerely thank the many alumni and friends who continue to support our programs. Your support is truly needed to sustain the quality educational program we offer our students.

Since joining the department as chair in the fall of 2002, I have seen crucial changes at the department, college, and University levels. I am energized and hopeful as I look forward, both for what the future holds and what the past has taught us. 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



Yun Hang Hu

MSE Department Welcomes
New Assistant Professor



Yun Hang Hu has joined the MSE department as an assistant professor.

Hu is an expert on nano-materials; computational methods; hydrogen storage materials such as Li-N based materials and metal-organic frameworks; catalysis for reaction mechanisms, catalytic production of

hydrogen, and catalysts for energy applications; and molecule-based drug designs such as irreversible HIV inhibitors.

"I came to Michigan Tech for its outstanding reputation in both teaching and research," Hu said. "The MSE department has excellent facilities, which will allow me to quickly develop my research projects, particularly for nano-materials."

Between 2002 and 2007, Hu held an appointment as research professor at the State University of New York at Buffalo. Prior to that, he worked as a senior engineer at

ExxonMobil Research and Engineering Company and as an associate professor at Xiamen University, China.

Hu received a PhD in chemistry from Xiamen University in 1990, an MS in chemistry from the Chinese Academy of Sciences in 1986, and a BS in chemistry from Nanchang University in 1983. His doctoral dissertation was "Methanol Synthesis Over AHTD Cu-based Catalysts."

Hu is the coauthor of more than eighty peer-reviewed papers. Recent articles include "Tunable Delocalization of Unpaired Electrons of Nitroxide Radicals for Sickle-cell Disease Drug Improvements," published in the *Journal of Physical Chemistry*, and "Steam Reforming Products (H₂/CO₂ Mixture) Used as a Hydrogen Resource for Hydrogen Storage in Li₃N," published in *Industrial and Engineering Chemical Research*, both in 2007.

He taught "Materials for Energy Applications" during spring semester 2008 and "Materials Processing I" in fall 2008.

Hu and his wife, Nancy, have a son, Bo, and a daughter, Phoebe. His hobbies include swimming, watching TV, and playing chess.

Lee Retires After 34 Years

Jong K. Lee, professor of materials science and engineering, retired on December 31, 2007, after thirty-four years at Michigan Tech.

Lee came to the MSE department in 1973 as a postdoctoral research associate to work with the late Professor Hubert Aaronson in the area of heterogeneous nucleation phenomena. He became a visiting assistant professor in 1975, assistant professor in 1976, and earned his way to full professor in 1984.

During his time in the department, Lee taught and performed research in the areas of thermodynamics and kinetics. In 1980, he received the Michigan Tech Distinguished Research Award for his work on the effects of elastic stress on nucleation kinetics.

"I leave with so many good memories of friendly faculty colleagues, warm and cooperative staff members, and great students," Lee said.

Lee said his most enjoyable memories were

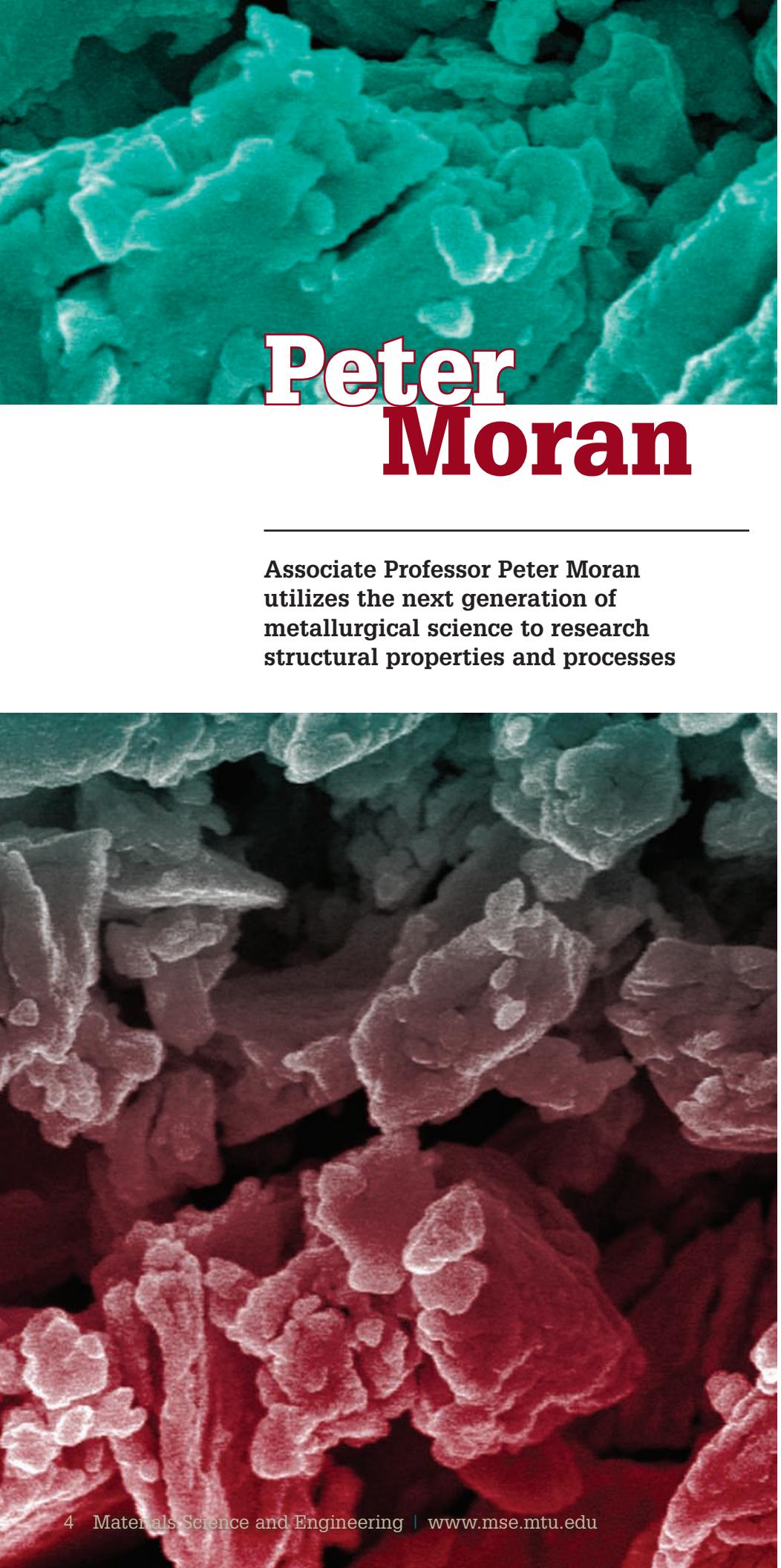
opening letters from graduates saying, "You were a good teacher, Jong."

Professor Lee's immediate plans include writing a graduate textbook on phase transformations and continuing joint research with investigators in South Korea, Japan, Taiwan, and Australia. His long-term plans include "staying in good health and enjoying whatever the future holds."

Jong leaves Michigan Tech with the following advice: "Work harder with higher dreams."



“Work harder with higher dreams.”



Peter Moran

Associate Professor Peter Moran utilizes the next generation of metallurgical science to research structural properties and processes

For some people, potential commercial applications are the most exciting aspect of a research project. For Dr. Peter Moran, MSE associate professor and founder/director of Michigan Tech's Institute for Materials Engineering, they are the icing on the cake.

"My primary motivation in choosing projects for my team is the science that can be performed on the way to developing the application," Moran explains. "Commercial application is a crucial element, but the potential of the project to train the next generation of materials scientists is really its most important characteristic. These students will be the ones making tomorrow's materials. My job is to make sure that the students earning their degree at Michigan Tech are able to do that."

Moran recognizes that his work may be outside the realm of what others view to be traditional materials science or metallurgy, but he believes that it may not be as far afield as it appears on first glance.

"Metallurgy is a frame of mind," Moran says. "Our group's research, whether focused on metals or other types of materials, always focuses on examining how processing impacts properties through changes in structure—which is the defining framework of metallurgy. Figuring out what elements to put into a semiconductor alloy and how to impact its electrical properties so it functions well as a thermoelectric power generator is in this way similar to figuring out what elements to put into a steel alloy and how to impact its mechanical properties by changing its microstructure so that it functions well as a structural support."

This comparison is taken from one of Moran's current research projects, the development of powder metallurgical processing techniques to fabricate semiconductor alloys for thermoelectric power generators. The goal is to engender the alloy with the combination of properties (high electrical conductivity, low thermal conductivity, and high

thermally-induced voltage) needed to efficiently generate clean electricity from waste heat.

Another branch of Moran's research focuses on developing materials to function as an electrolyte in Solid Oxide Fuel Cells (SOFCs). Moran's group is developing thin-film growth processes to deposit single-crystal Gd-doped CeO₂ (GDC) films on Al₂O₃ substrates. The property to be impacted in this "heterostructure" is its ionic conductivity at "intermediate" temperatures (450° to 700°C).

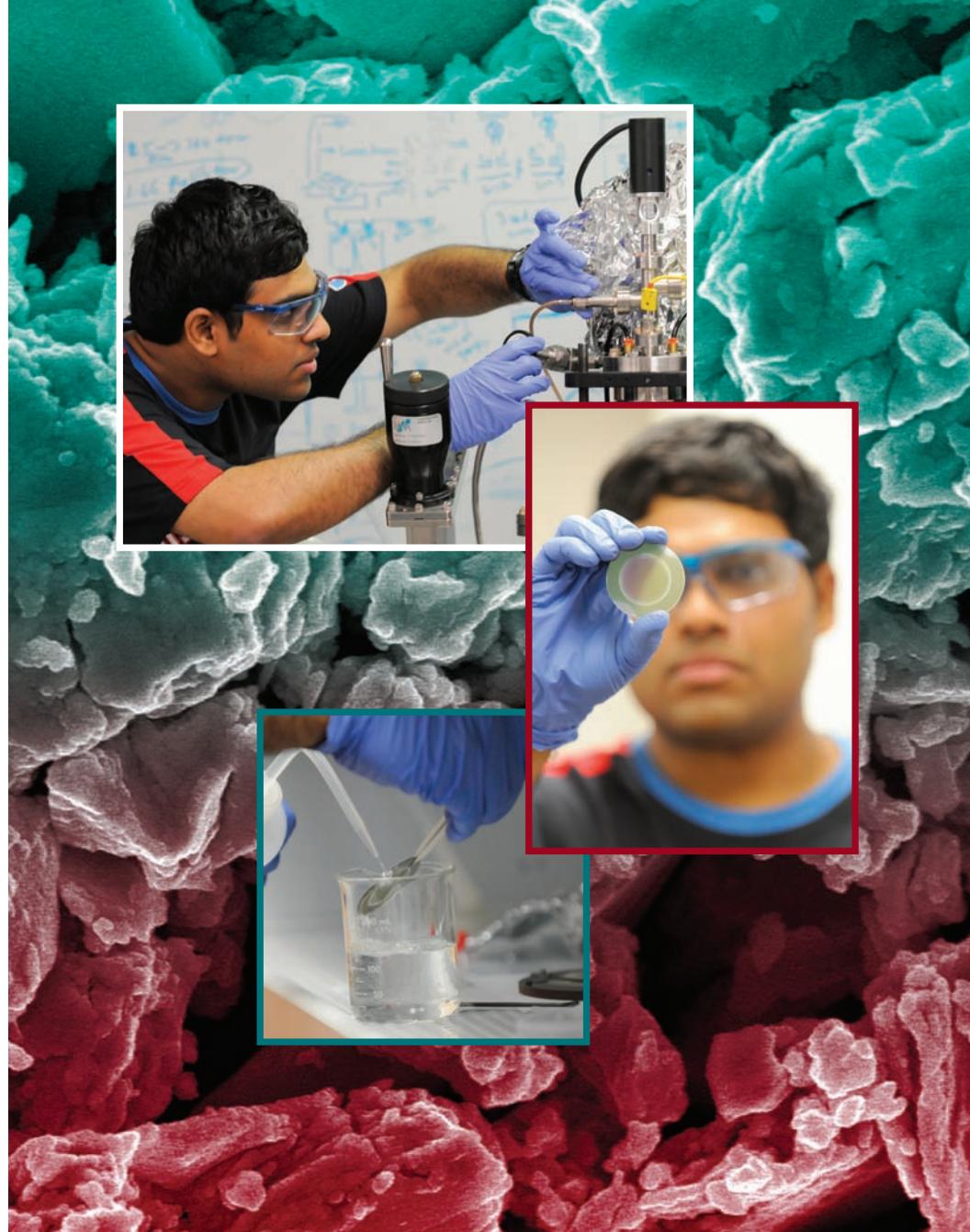
"Our initial results are very interesting," Moan says. "We have a pretty good handle on the materials science behind how changes in the deposition process impact the structure of the film and the film/substrate interface, but we still don't



fully understand the unexpectedly dramatic effect that this interface appears to have on the ionic conductivity of the structure. We've got some ideas and are working hard right now to test the hypotheses we've developed."

With so much passion for research, one wonders how Moran manages it all. He gives much of the credit to his wife, Janet, and the fellow faculty and staff members he shares his time with.

"My wife keeps me sane," Moran explains. "She somehow manages to put up with me and do most of the heavy lifting to make a happy home for our two daughters, all



“

My primary motivation in choosing projects is the science that can be performed along the way. Commercial application is a crucial element, but training the next generation of materials scientists is really the most important characteristic of a research project.

”

while holding down her own career in pharmacy. And the great people I work with—to be surrounded by talented people who love what they do, and are really good at it, is critical."

Moran saves his highest accolades for the group whose effort he says defines his research: the students.

"At the end of the day, it all comes down to the quality of your students," explains Moran. "And mine are really top-notch. My job isn't really to do research but rather to enable others to do research. Together, we learn and move projects forward. Any progress made by the team is a direct reflection on the quality of the students."

**Michigan Tech Honors
Levy for Research Efforts
in Magneto-Photonics**

Miguel Levy

“The aim of my research is to make photons do interesting things.”

For his pioneering contributions to the field of magneto-photonics, Michigan Tech has honored Miguel Levy with its prestigious 2007 Research Award. Levy is a professor in both the physics and materials science and engineering departments.

His research in capturing and controlling light has contributed to industries ranging from telecommunications to entertainment.

"The aim of my research is to make photons do interesting things," Levy said. "I'm interested in both the fundamental science of photonics and in its applications."

Physics Chair Ravi Pandey and MSE Chair Mark Plichta nominated Levy for the award.

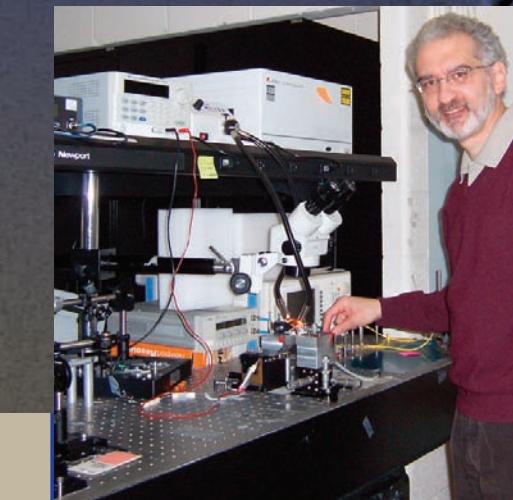
"Dr. Levy is the prototype of a University faculty member who believes in the unity of teaching and research, mentoring of students and junior colleagues, and critical thought," Plichta said.

Levy's current research efforts focus on the theoretical and experimental investigation of photonic effects in magnetic materials. In particular, he is interested in trapping and manipulating light in very, very small spaces, on the order of a few microns.

He uses magneto-photonic crystals to control light in numerous practical applications, from fiber optic communications to cinema projectors. Panorama Entertainment Systems is working with Levy to integrate these crystals in digital movie projectors to deliver superior, high-resolution images on the screen.

In August 2007, Levy was awarded a three-year, \$330,000 grant from the National Science Foundation for his work on nonlinear magnetophotonic crystals.

Levy received a \$2,500 honorarium for the research award.

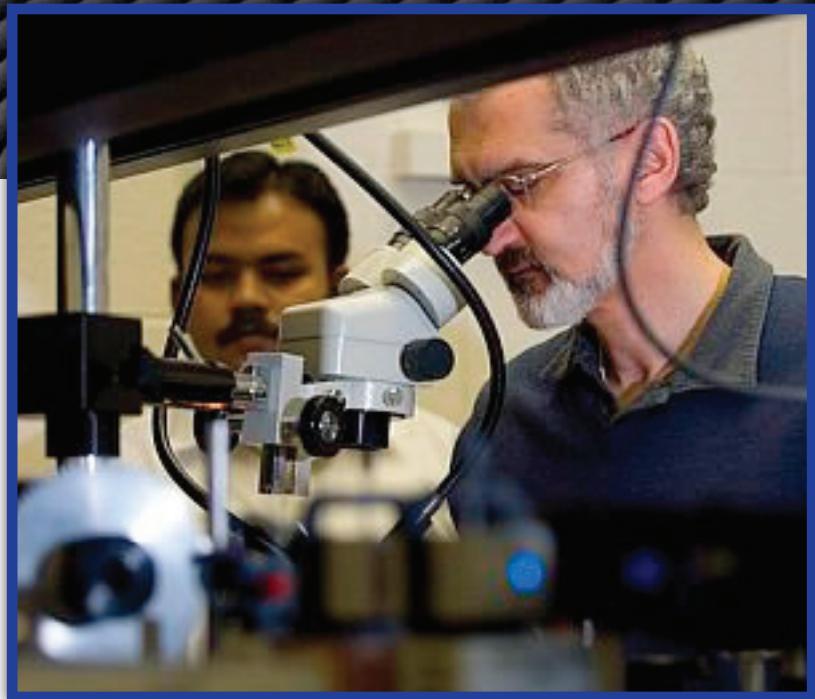


Professor Miguel Levy was awarded Michigan Tech's 2007 Research Award for his work with photonic crystals used to collect and manipulate light in small spaces.



"Dr. Levy is the prototype of a University faculty member who believes in the unity of teaching and research, mentoring of students and junior colleagues, and critical thought."

*—Mark Plichta, chair,
Department of Materials
Science and Engineering*



Student Accomplishments

Team Wins Third Place at Michigan Tech

Undergraduate Expo—Sandshoe Weldment Replacement Casting (Innovative Castings Enterprise)

Sponsor: ThyssenKrupp Waupaca

Contact: Brian Schultz

Team: Jarrod Cummings, Joshua Marion, John Pomeroy, Leanne Sedar

Advisor: Mark R. Plichta

The Innovative Castings Enterprise (ICE) Sandshoe Weldment Replacement Casting team placed third in the 2008 Michigan Tech Undergraduate Expo Senior Design category.

The team, working with ThyssenKrupp Waupaca, investigated converting a welded semi-trailer sand shoe into a cast component. Sand shoes are plates located at the bottom of landing gear legs of semi-trailers to keep the trailer from sinking into the ground. The current sand shoe design is comprised of a welded assembly with at least two welds and three individual parts. The ICE team worked to determine whether eliminating the welds and reducing the number of individual parts would yield a more cost-effective sand shoe.

Magmasoft® computer simulations were used to design shoes that minimized weight, porosity, and cost while maintaining required mechanical properties. The model was then tested using finite element analysis. The successful design incorporated four near-shape castings with minimal porosity, flow velocity that allowed even filling, and risers with a higher feeding modulus than the base of the flange. This design requires machining for holes only, handles a 36,000-pound load, and will result in a 10-percent cost savings over current designs.

Additional MSE Senior Design and Enterprise Projects

Ultrasonic Quality of an Aluminum-Lithium Alloy

Sponsor: Alcoa Mill Products—

Davenport Works

Contacts: Andre Wilson,
Mike Skoglund

Team: Matthew Andriese, Carl Bednark,
Jessica Bomhof, P.J. Koh, Colleen Weller

Advisor: Stephen A. Hackney

Heat Treatment of Ferrous Components

Sponsor: Caterpillar, Inc.

Contact: Marvin McKimpson

Team: Ariell Andrzejewski,
William DeWitt, Jacob Gorkowski,
Eric Kubica

Advisor: Jaroslaw W. Drellich

Investigation of a Zinc Alloy with Improved Creep Resistance

Sponsor: Eastern Alloys, Inc.

Contact: Ryan Winter

Team: Justinian Broughton,
Andrew Hafeli, Joseph Kaufman,
Sean Loney, Karl Rinke

Advisor: Calvin L. White

Nostalgic Steel Beverage

Containers

Sponsor: U.S. Steel Corporation

Contact: Larry Pfister

Team: Ryan Belknap, Anthony Bourassa
(ME-EM), Brandon Richards,
Heather Riker

Advisor: Jiann-Yang (Jim) Hwang

High Strength Metal Inserts for Gray Iron Castings

Sponsor: Caterpillar, Inc.

Contacts: Marvin McKimpson,

Adrian Catalina

Team: Joshua Bero, Kenneth Brooks,
Julie Emerick, Tyler Ethan (ME-EM),
Matthew VanDyke, Matthew Wirth

Advisor: Mark R. Plichta



2008 Foundry Educational Foundation (FEF) scholars are (back row left) Matt Van Dyke, Matt Wirth, Karl Rinke, Matt Calcutt (all MSE), Ben Bittner, Mitch McDonald, (front left) Bryan Sebeck, Roy Loukus, (ME), Jarrod Cummings (MSE), and Levi Halonen (ME).

Student Awards

Alexandra Zevalkink '08 received a 2008 National Science Foundation (NSF) Graduate Research Fellowship (GRF) award. The three-year fellowship will provide a stipend of \$30,000 per year. Zevalkink's proposed plan of research was reviewed based on intellectual merit, as well as broader impacts of the research, including integrating research and education and encouraging diversity.

Rebekah Price received a Summer Undergraduate Research Fellowship (SURF) for her research work, "Novel Metal Perhydride for Hydrogen Storage" (Professor Jim Hwang). SURF fellowships, funded by the vice president for research, provide up to \$3,000 to support the recipient's summer research work.

Britta Lundberg, fourth-year MSE student, received an REU (Research Experience for Undergraduates) placement at Cornell University, which she completed in summer 2008. The REU program is a National Science Foundation initiative designed to provide undergraduate students with hands-on experience by giving them the opportunity to work alongside graduate students on high-impact research projects.

Carolyn Swanborg, fourth-year MSE student, received an REU placement at Northwestern University during the summer of 2008. She performed research with Dr. Scott Barnett's group on the development and structural analysis of CuAlO₂, a transparent conducting oxide (TCOs). She also gained experience running x-ray diffraction and spectroscopy scans on samples.



ASM Detroit Chapter scholarship recipients Lance Taylor and Katie Becker are pictured above.

Kramer Awarded for 'Making a Difference'



MSE Academic Advisor Honored for Outreach, Promoting Department

Ruth Schultz Kramer, scientist and Materials Science and Engineering academic advisor, received a Michigan Tech Staff Making a Difference Award, presented at a campus ceremony on December 12, 2007.

Kramer, who joined the MSE department in 1995, has led recruitment efforts such as Summer Youth Programs, Women in Engineering, and Explorations in Engineering; organized departmental open houses; and instituted field trips for local high schools.

Since her involvement with these programs, first-year student enrollment within MSE has doubled.

Nominations lauded Kramer for her "recruiting and outreach activities," "efforts in significantly impacting strategic planning," "establishing strong connections with academy and advisory board members," and "promoting the department and Michigan Tech to many external constituents." Kramer has also connected with alumni by creating a departmental newsletter that has received "glowing reviews."

Laitila Presents Paper at X-Ray Conference

Staff engineer and scientist Edward Laitila presented a talk entitled "Employing X-ray Scattering to Characterize Materials with Grain Sizes in the Nano-Regime" at the Denver X-ray Conference held July 30 through August 3, 2007. The paper, coauthored by Donald Mikkola, professor emeritus, was published in *Advances in X-ray Analysis*.



Swenson Published in Materials Journal

Associate Professor Douglas Swenson authored an invited paper, "The Effects of Suppressed Beta Tin Nucleation on the Microstructural Evolution of Lead-Free Solder Joints," for a special issue of the *Journal of Materials Science: Materials in Electronics*, Volume 18, Numbers 1–3,

March 2007. This journal issue also was published through Springer Science and Business Media as a scientific monograph entitled "Lead-Free Electronic Solders."



Materials Science and Engineering Hosts ASM Camp for Teachers

MSE hosted an ASM materials camp for teachers July 21–25, 2008. The workshop provided teachers with inexpensive, simple, and fun materials-related laboratory lessons that can be used in the classroom. The camp was open to all high school math, science, industrial arts, and technology teachers.

Alumnus Takes Over Foundry Supervision

Alumnus Pat Quimby is celebrating his one-year anniversary leading foundry operations and acting as building safety liaison for the Michigan Tech foundry.

"My senior design project involved some casting in the foundry, and right then and there I knew I wanted to work in a small, shop-type foundry," Quimby said. "When Dr. Mark told me he had secured funding for a full-time position to run the foundry, I jumped at the opportunity."

As lab coordinator, Quimby maintains the equipment and assists undergraduate and graduate students in lab experiments, research, and Enterprise projects.

"What I love about Tech is how everyone is always trying something new, especially the students," Quimby said.

Quimby received his BS degree from Michigan Tech and is currently working to complete his MS. He has engrossed himself in Michigan Tech and the local community, serving as the Alpha Sigma Mu chapter treasurer, the Tau Beta Pi Friends of the Van Pelt Library service committee chair, and the American Foundry Society chapter treasurer. He also was first chair cellist with the Keweenaw Symphony Orchestra.

"What originally brought me to Tech was the small, friendly atmosphere and the beautiful countryside," Quimby said. "Now, I never want to leave."



Foundry Society Honors MSE Group for Best Paper

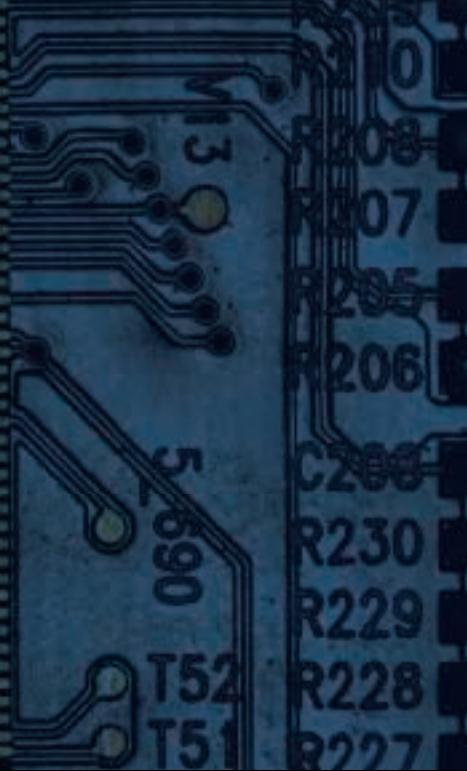
MSE faculty, staff, and alumni received the Best Paper Award from the American Foundry Society Division Council for their paper entitled "On the Thermal Stability of Ausferrite in Austempered Gray Iron Components for Long Exposure High-Temperature Applications."

The award was presented as part of the AFS Recognition Luncheon on May 16, 2007, at the Metalcasting Congress in Houston, Texas.

The paper's authors include Karl Rundman, research professor emeritus; Jason Parolini BS '00, MS '03; Kathy Hayrynen BS '86, MS '89, PhD '93; and Dennis Moore, engineer/scientist emeritus.

Lead-Free Solder Alloy

lower melting temperature and greater strength than other lead-free solder alternatives



Iver Anderson '75 was named 2006 Inventor of the Year by the Iowa Intellectual Property Law Association. His creation—a lead-free solder alloy consisting of tin, silver, and copper—was patented in the US in 1996 and 2001. In addition to its environmental advantages, Anderson's solder offers a lower melting temperature and greater strength than other lead-free solder alternatives. These properties are especially important in prolonged high-heat conditions, such as in computers and cell phones.

"My professors at Tech let me in on the secret that a lot of unexplored territory exists in complex alloy design, making materials science a truly exciting field," Anderson said. "Of course, my parents always encouraged me to pursue my dream of making a difference in the world, especially with

respect to the good stewardship of our environment."

Anderson's father, Jean, was a member of the mechanical engineering-engineering mechanics faculty at Michigan Tech for many years.

Anderson is a senior metallurgist at Ames Laboratory and an Iowa State University adjunct professor of materials science and engineering.



Iver Anderson '75

Bhakta Rath



Dr. Bhakta Rath, who received his MS in metallurgical engineering in 1958, delivered the commencement address at Michigan Tech's Midyear Commencement on December 15, 2007. He received an honorary doctorate in engineering at the ceremony.

Dr. Bhakta Rath, associate director of research and head of the Materials Science and Component Technology Directorate at the Naval Research Laboratory (NRL), has been elected to the National Academy of Engineering. Dr. Rath is recognized for "leadership in advancing materials research and technology to support national security."

Election to the National Academy of Engineering is among the highest professional distinctions that can be bestowed upon a scientist or engineer. Academy membership honors those who have made outstanding contributions to "engineering research, practice, or education, including, where appropriate, significant contributions to the engineering literature," and to the

Rath Elected to National Academy of Engineering

"pioneering of new and developing fields of technology, making major advancements in traditional fields of engineering, or developing/implementing innovative approaches to engineering education."

Dr. Rath began his career at NRL as head of the Physical Metallurgy Branch in 1976. Within six years, he was selected to head the Materials Science and Technology Division. Then within four more years, he was appointed the associate director of research. In his current position, Dr. Rath manages a multidisciplinary research program to discover and exploit new improved materials, generate new concepts associated with materials behavior, and develop advanced components based on these new and improved materials and concepts.

Dr. Rath received his MS in metallurgical engineering from Michigan Tech (then the Michigan College of Mining and Technology) in 1958. He received an honorary doctorate in engineering from Tech in 2007.

Editor's note: In November 2006, Rath received the "Distinguished Civilian Service Award" from the Department of Defense. The Fall/Winter 2006 Alloy erroneously reported the name of the award. We regret the mistake.

Advisory Board Message



Greetings from the External Advisory Board (EAB). We are a group of MSE alumni and friends volunteering for the greater good of the department. Our goals include

- providing the department with objective evaluation of its programs,
- offering advice regarding the department's goals and strategic planning,
- encouraging a symbiotic relationship between faculty, students, and practicing engineers, and
- assisting with activities that enhance the resources of the department.

During our annual visits to campus, we interview faculty, staff, and administrators, using the information gained to provide ideas and advice to the department chair. We act as departmental advocates in our relationships with the College of Engineering and the University's administration. We also have the opportunity to review the senior design projects each year. These presentations are fun and educational, and the quality of the students' work is more impressive each year.

One thing we all share is a fondness for the Materials Science and Engineering program at Michigan Tech, as well as a desire to help keep it strong. The world is literally built from materials, providing the foundation for the future. The MSE program at Michigan Tech is known for its hands-on education and reputation for graduating engineers who have immediate and positive impact with major corporations, national laboratories, and in academia. Furthermore, innovative and exciting research in the areas of materials processing, energy systems, communications, and electronics will continue to enhance the department's many contributions to the materials field.

In closing, I would like to thank the MSE department and my fellow EAB members, past and present, for their hard work, ideas, dedication, and camaraderie. I am glad to have the opportunity to give back to the department that gave so much to me, and to spend time with a very talented (and entertaining) group of people. If you would like to be considered as a future member of our team, please contact the department, as we typically add between one and three new members each year. New perspectives and ideas are welcome and appreciated!

Sincerely,

Mike Johnson BS '89, MS '93, PhD '97
2008 MSE EAB Chair

Lange Concludes EAB Appointment

Walter F. Lange has completed two terms as a member of the department's External Advisory Board, having served since 2003.

Lange began his career at IBM after earning his BS ('73), MS ('77), and PhD ('78) degrees in metallurgical engineering from Michigan Tech. He joined Chartered Semiconductor two years ago as vice president of technical marketing. In December 2007, he was promoted to vice president of platform alliances and relocated with his family to Asia.

"We find that there is an incessant push for quality education here," Lange commented. "Combined with high expectations for the students and institutions, there is an amazing brain trust being built in Asia."

Lange says he'll always stress fundamentally strong research while providing a quality education.

"The lesson we've learned—and continue to learn—is how critical quality education is," Lange noted. "The US must drive for excellence if they ever hope to keep up with Asia."

Although Lange has served on advisory boards at the Colorado School of Mines and North Carolina State University, he says he still views Michigan Tech as home.

"One of the most satisfying aspects was my interaction with students and staff," Lange said. "If we did anything on the board to help maintain the excellent University education with a caring quality, then our time was well spent."

“ If we did anything on the board to help maintain the excellent University education with a caring quality, then our time was well spent. ”



Walt Lange, right, enjoys a laugh with Professor Cal White, left, and fellow External Advisory Board member emeritus Steve Clough, center, at the 2007 EAB dinner.

ALUMNI UPDATES

To be included in our "Alumni Updates" section, please email your name, graduation year, employer, and other information you wish to share to mrplich@mtu.edu.

William Johnson BS '76, MS '78, PhD '80, professor of materials science and engineering at the University of Virginia, received the 2006 Instructor of the Year for Distance Learning Faculty award.

Robert Seitz BS '77, MS '77, PhD '95 works as the lead master black belt for Kennecott Utah Copper/Rio Tinto's Business Improvement Team in Salt Lake City. Seitz lives in South Jordan, Utah.

Kathy Hayrynen BS '86, MS '89, PhD '93 was elected to a three-year term starting in 2007 as a member-at-large of the Foundry Educational Foundation Board of Directors. Hayrynen is the technical director of Applied Process, Inc. in Livonia, Michigan, and an ASM International Fellow.

Dan Branagan '90 has been awarded a patent for a process to control radioactive contamination. His invention relates to a method of controlling radioactive contamination by providing a neutron-absorbing material to a radioactive contamination site.

Karen Mikkola '92, MS '94 received the 2007 Florida Section SME Hero of the Industry award at the Regional Phosphate Conference in October 2007. She is the first woman ever to receive the award. Mikkola is the manager of mine strategies and execution at Mosaic Phosphates in Mulberry, Florida.

Carlos Alonso '95 earned an Executive MBA in June 2007 from the Simon Graduate School of Business. He is employed as a project engineer with Corning, Inc. He and his family, including daughter Natalia, seven, and son Alexander, four, are adjusting to their new home in Corning, New York.

Jeffrey Molnar '95 is a senior chemist and microscopist at Lancaster Laboratories in Richmond, Virginia. His work focuses on materials characterization. Molnar resides in Chesterfield, Virginia, with his wife and two children.

Kevin and Lisa (Badanjek) Vollmert '95 work in Bloomfield Hills, Michigan—Kevin as a sales and engineering manager at ITW Shaperoof and Lisa as an account manager at Akebono Corporation. They have three children.

Ben Poquette '02 has been named the Virginia Tech College of Engineering outstanding graduate student for 2008. Ben was selected based on his academic performance, scholarly contributions, and an impressive record of professional activities and service to his department, college, university, and profession. Ben was one of five students selected to participate in the Virginia Tech Graduate Life Center Seminar Series, a symposium that provides select faculty and graduate student leaders the opportunity to share the results of their research and discuss their passion for learning. Ben completed his PhD at Virginia Tech in December 2007 and is now employed as a research scientist at Nanosonics, Inc. in Blacksburg, Virginia.

John Hughson '04 has accepted a materials engineering position with Knolls Atomic Power Laboratory in Schenectady, New York. He will be relocating from Louisville, Kentucky, where he was employed with Steel Technologies.

Jess Barden '06 works as a parts engineer for PCC Structural, Inc. in Portland, Oregon. Barden is in charge of blades for industrial gas turbines, primarily for General Electric. The turbine segments are investment cast nickel and cobalt-based alloys, and Barden will soon expand into investment cast Ti-Al blades that will outfit the Boeing Dreamliner.



Michigan Technological University is an equal opportunity educational institution/equal opportunity employer.

Michigan Technological University
Materials Science and Engineering
512 Minerals and Materials Engineering Building
1400 Townsend Drive
Houghton, MI 49931-1295