MATERIALS SCIENCE AND ENGINEERING DEPARTMENT

IOWA STATE UNIVERSITY

If I have seen further than others, it is by standing upon the shoulders of giants.

—Isaac Newton

The legacy of mentoring in the MSE department is rich and varied. It surfaces in active recruitment programs, pioneering research, strong leadership, and the adventurous spirit that looks for answers beyond traditional modes of learning.

This issue of *Elements* visits with a few MSE faculty and students in their roles as mentors, pioneers, adventurers, and facilitators.

MSE ELEMENTS

Spring 2002
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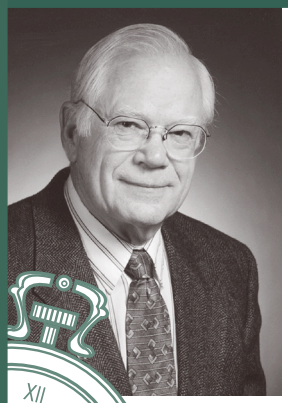

Eclectic pursuits—

a prerequisite to distinction

When Tom McGee says he likes to do a lot of different things, it's no casual remark. Call it a quirk of design or destiny, McGee's avocational and professional interests over the years have spanned the gamut—from tinkering in small watch repairs to developing innovative materials for orthopedic implants, from dabbling in art photography to building expertise in refractories, glass technology, crystals, metallurgy, thermodynamic principles, and bioceramic engineering. Oh yes, there's the theater, too. McGee is also an active member and president of the board of the community actors group in Ames.

"I love to follow my interests—intellectual and artistic," said McGee. His first love though, he confesses, has always been ceramic engineering, the road to which, curiously enough, involved many an unusual turn.

"I was convinced that ceramic engineering was an area of potential growth, but when I joined the Naval Officers Training during WWII, they offered general, mechanical, electrical, aeronautical, and civil engineering. Take your pick, they said." McGee chose mechanical. After the war, he earned both a ceramic and mechanical engineering degree from Iowa State in 1948 and then worked in industry for eight years. McGee returned to Iowa State as an assistant professor and earned a master's degree in industrial engineering, followed by a doctorate three years later in metallurgy and ceramic engineering. At the age of 40, McGee became a full professor in the ceramic engineering department, which later merged with metallurgy to become the present MSE department.

Perhaps it was serendipity that pulled him into bioceramics or just pure instinct to know a good thing when he sees it. A senior design field trip to Hager Potteries in Dundee, Illinois, in the mid 1960s spurred McGee into posing a unique problem to his students. Why not develop a new type of ceramic that could replace existing stainless steel and polyethylene material used in implant procedures.

McGee and his student team developed a novel composite bone material that effectively incorporated tissue reaction chemistry and the need for enduring strength. A chance encounter with Phil Pearson, an orthopedic surgeon at ISU's College of Veterinary Medicine led to the testing of the experimental bioceramic material on a dog. The experiment was successful, and later a patent was issued, firmly establishing McGee as a pioneer in the field of ceramic materials research for bioengineering applications.

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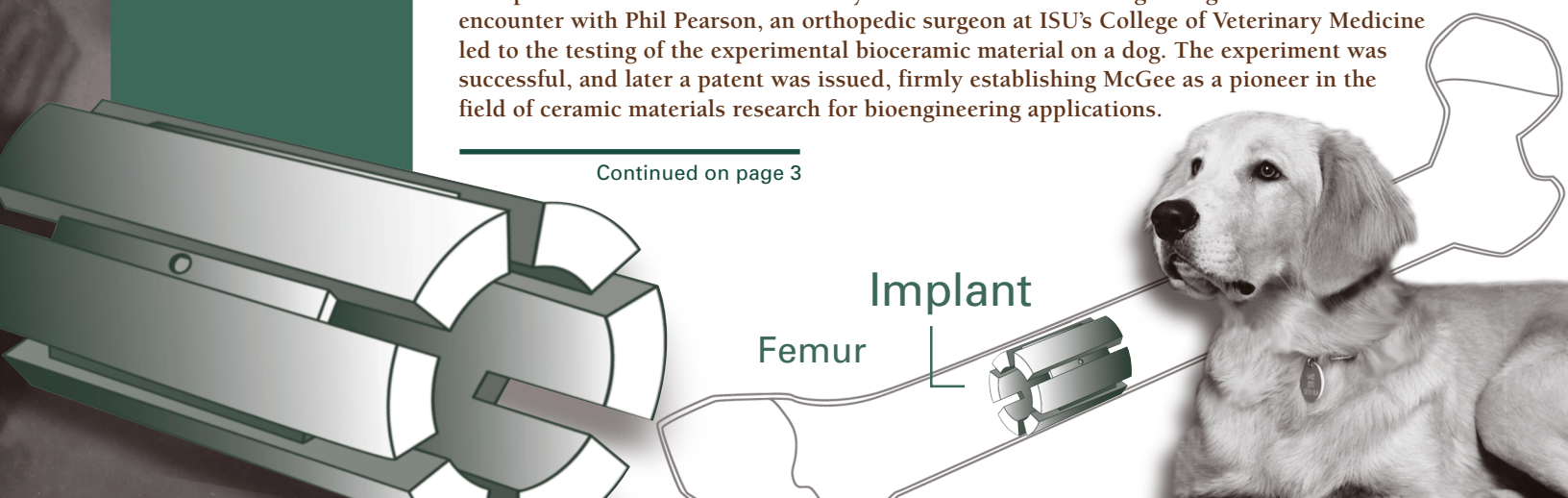
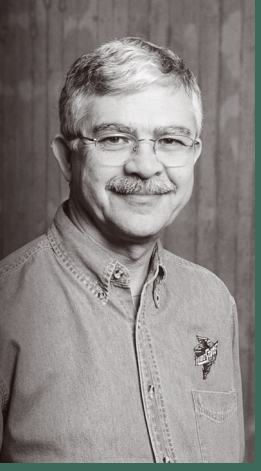




Greetings from the MSE department!

We are nearing the end of another academic year, and it has proven to be a great success! At the beginning of the academic year we had several concerns: the U.S. economic slowdown and the September 11 terrorist attacks, a looming university budget shortfall, and the unpredictable effect on enrollment of a large tuition hike. I am happy to report that a large budget de-appropriation has not affected the MSE department in any significant way; we are grateful that the college and university central administrations absorbed most of the budget cuts. It now appears that the U.S. economy is recovering, and the job market for MatE grads appears to be healthy. Our preliminary enrollment data indicate that we will have another record enrollment next fall.

This has been a banner year for recognition of our faculty, students, and alumni for their outstanding achievements. MSE faculty member Larry Genalo and MSE staff member John Rundle were recognized for outstanding leadership by the engineering student council! Distinguished Professor Bruce Thompson was the recipient of the Boylan Eminent Faculty Research Award, the highest award given to an engineering faculty member at ISU. Steve Martin was elected a Fellow of the American Ceramic Society. Our alum and MSE-IAC member Gerald "Skip" Fehr received the prestigious College of Engineering Professional Achievement Citation in Engineering (PACE) award. Lastly, I was awarded the ISU Alumni Association's Faculty Citation. For a small department like ours, the above list is no small feat and speaks for the quality of our people.

In this issue, by an unusual coincidence, four generations of MSE members are featured. Professor McGee, the most senior of the four, talks about his vibrant research on osteoceramics; his student Professor David Martin is featured for his lasting contributions to the department. I happen to be the second graduate student Professor Martin supervised in this department. And finally an interview with my graduate student Bora Mavis, an accomplished mountain climber, is also featured in this issue. Frequently, I refer to members of the department as part of the "MSE family," how true!

Once again, the MSE reception will be held on Monday, April 29th, at 6:00 pm, in the Jefferson F Room at the Millennium Hotel in conjunction with the Annual Meeting of the American Ceramic Society in St. Louis. I would like to extend an invitation to our alumni and friends to join our faculty and students. Hope to see you soon!

Mufit Akinc, Professor and Chair

Earth's gravity can be detrimental to a fundamental understanding of the microstructure of materials.

MATERIALS BOUND FOR SPACE

"Almost everything connected with fluids that we examine on the ground is significantly influenced by gravity. It hinders understanding of the models of materials, and in the process we're not really learning proper science," said MSE Professor ***Rohit Trivedi***.

Instead,Trivedi is focusing on space or specifically microgravity, about 10^{-6} g—an environment supported by the International Space Station—to help him gain fundamental knowledge of the crystal formation of solid materials.

"Once we separate the knowledge gained under conditions of microgravity, we can then factor in convection and understand how the material changes accordingly," said Trivedi, Anson Marston Distinguished Professor and senior scientist at Ames Laboratory.

Funded by a NASA grant totaling over $1.5 million, Trivedi is working with MSE Assistant Professor ***Ralph Napolitano*** and Scientist ***Shan Liu*** to develop two crystal-growing units that are planned to be housed in the space station's U.S. laboratory module. One will grow crystals of an aluminum-copper alloy and the other will grow crystals of succimonitrile, a transparent organic material, whose unique properties allow for real-time observation of crystal growth. Meanwhile, the ISU team will observe, photograph, and even change conditions of the models through remote control based on computerized data generated through the experiment.

The experiment on transparent material is in collaboration with French scientists who are supported by CNES, the French space agency associated with the space station. CNES is currently building the equipment that will ultimately be placed in the space station. The experiment is currently planned for 2004.

"These models demand proper physics or laws that will predict how a material will behave in given circumstances," said Trivedi. "Providing that physics as it applies to the behavior of the material is how we help industry move away from the traditional trial- and-error method or empirical approach."

Mentoring Milestones

Developing mentoring relationships has always been an integral part of MSE Professor **Larry Genalo**'s teaching philosophy. In a career that holds several college and university-wide awards for teaching excellence and contributions to engineering education, Genalo's name is synonymous with highly successful recruiting and mentoring programs such as Toying With Technology and Internet Explorers.

His approach is simple—help students develop skills to serve as role models by empowering them with knowledge and the resources to share it with others. The success of Internet Explorers reveals significant strides that have been made over the years.

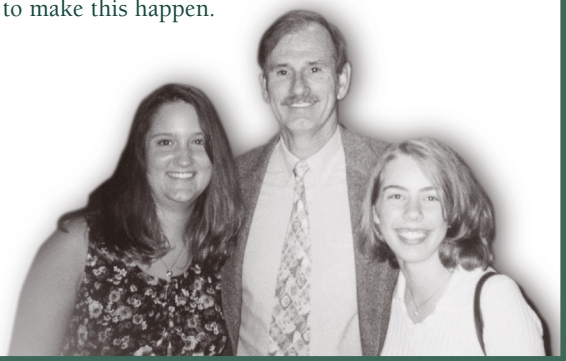
The Internet Explorers internship program, with its tiered mentorship concept, was set up in the summer of 1997 under a National Science Foundation grant. The program caters to high-school junior and senior girls, including underrepresented minorities across the country, and is run in cooperation with ISU's Program for Women in Science and Engineering. Guided by undergraduate and graduate women serving as role models, supervisors, and assessors, the interns create Web-based documents explaining engineering and science topics at the 6th-grade reading level.

Of the 20 interns who joined the program in 1997, 17 enrolled as engineering or science majors, and many of them are now seniors in college. All 48 of the following three years' interns have enrolled in college with over 80% in engineering or science tracks. Corporate sponsors such as Square D, Lockheed Martin, Goodrich-Delavan, Proctor & Gamble, GM, and Microsoft, who also awarded a $100,000 gift in computer software, have supported the Explorers program.

Back home at MSE, the impact has been significant. "Within MSE, enrollment of women has increased from 16 to 18% in the mid-90s to over 50% women in this year's starting freshman class," said Genalo. "This means the MSE undergraduate student population is nearly 40% female now, and MSE has the highest percentage of national merit winners of all engineering departments." And those who chose not to attend Iowa State, according to Genalo's research, continue into science or engineering curriculums.

The image of male scientists donned in white lab coats is fast becoming passé, said Genalo. Instead, the message that's emerging in classrooms, thanks to programs like the Internet Explorers, is that engineering holds diverse possibilities not only in what can be achieved, but also in who can contribute.

Being involved in mentoring teams is but one way to make this happen.



From the left—Meagen Marquardt, Larry Genalo, and Suzy Smith

The summer before her senior year in high school , MSE senior Meagen Marquardt participated in Internet Explorers. Marquardt created a Web site on Mendel's theories on hereditary traits, but also began to see engineering as a viable option. "It was an avenue I would not have considered, but now I can't be happier with the academic path my career has taken," said Marquardt, who was inspired to share her experiences.

In 1999, Marquardt became an undergraduate mentor to Internet Explorers and has since participated in several MSE open houses for undecided freshmen. As part of her undergraduate co-op experience, she has mentored eighth-grade students, directing them to the science and engineering ideas on the Explorer Web site.

"I don't think I would have had the confidence to take part in activities such as these had it not been for Dr. Genalo, who put me in a mentoring position," she said.

Eclectic pursuits—

Continued from page 1

In successive experimental studies, McGee has replaced a segment of a dog's hip bone with a specially designed bioceramic material, extending the life of the dog by 10 years. "This was the first time an inorganic material had been introduced into the body where the tissue successfully bonded and stabilized it," explained McGee. Recently, another patent was issued on a new interface or osteocement material that will aid in the tissue bonding of joints and the induced guided regeneration of bone, a method that will replace bone grafts.

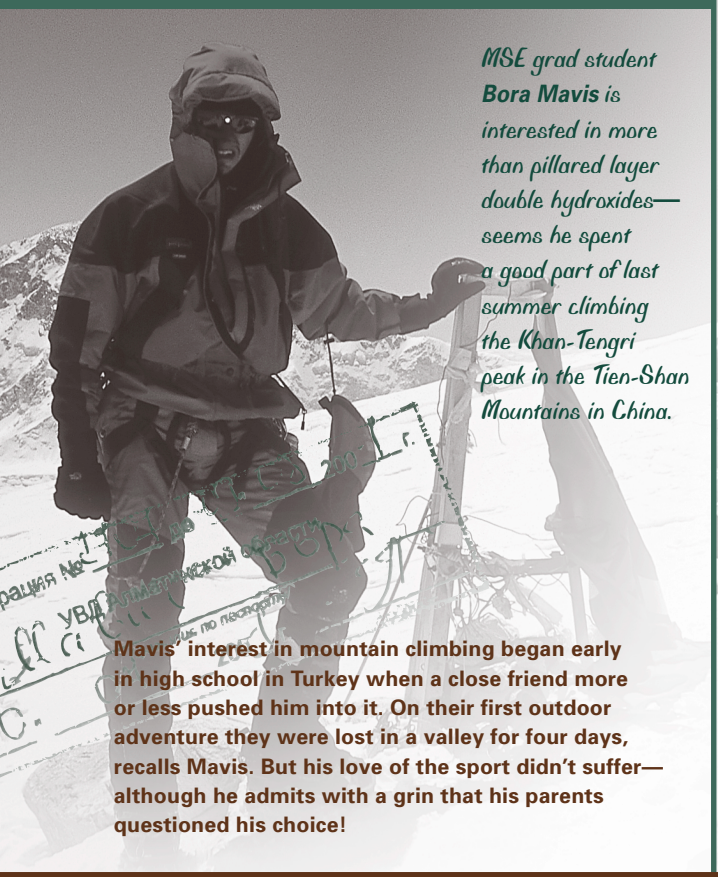
Arriving at the right combination of "study, interpretation, and teaching," concludes McGee has, over the years, characterized the spirit behind his job at Iowa State. Extensive knowledge in the areas of glass, ceramics, crystal, and thermodynamic principles led him to develop several state-of-the art courses in the MSE department. He has given expert witness testimony in cases dealing with glass fracture, worked with industry in high-temperature furnace testing, written a book on temperature measurement, and introduced and taught an array of courses in several disciplines. "My knowledge in different fields helped me build the expertise I was able to carry into different areas," said McGee.

McGee was named a Fellow of the National Institute of Ceramic Engineers in 2000 and has served the institute as president. He has also served as a director of the ABET board, governor of the American Association of Engineering Society, general secretary for Keramos, and advisor to its local student chapter. He is the co-editor of a book to be published this year on ceramic engineering design.

And now, as he contemplates phased retirement after over 40 years of teaching, mentoring, cross-disciplinary research, and noteworthy academic achievements, McGee's active pace has yet to show signs of letting up. He started his own company recently, manufacturing orthopedic products for animals. McGee also plans to continue his research on bone implantation methods with the veterinary college.

MSE students explore the

over the mountains . . .



MSE grad student ***Bora Mavis*** *is interested in more than pillared layer double hydroxides—seems he spent a good part of last summer climbing the Khan-Tengri peak in the Tien-Shan Mountains in China.*

Mavis' interest in mountain climbing began early in high school in Turkey when a close friend more or less pushed him into it. On their first outdoor adventure they were lost in a valley for four days, recalls Mavis. But his love of the sport didn't suffer—although he admits with a grin that his parents questioned his choice!

While working on his B.S. at Middle East Technical University (METU) in Ankara, Turkey, he joined a mountaineering club, where after a few years he helped establish a mountain search-and-rescue (SAR) society for graduates of the club. After the 1999 earthquake in Turkey, the SAR team had the necessary tools and experience and volunteered in the rescue efforts. Although Mavis came to Iowa State at the time, he still remains an active member of the society through the Internet.

The Khan-Tengri climb took place July 8–August 8, 2001, and had 13 members. Four of these were women from Turkey (one being Mavis' wife). The ascent was preparing the women to take on Mt. Everest and to become the first Turkish women to successfully make the climb. As 12 members ascended the peak, one person in charge of communications remained at the base camp. Three of the members (including Mavis) actually made it to the top after a month of struggling with avalanches and snowstorms. At one

Khan-Tengri, located on the border of Kazakhstan, Kyrgyzstan, and China, is a Himalayan-type expedition climb. At 7,010 meters, it's one of five 7,000-m peaks in Russia.

Bora Mavis and mountaineering companions

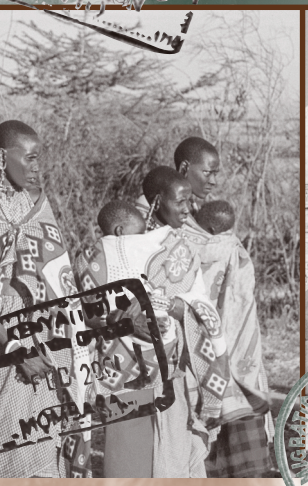
and across the seas

The ship sailed to ten ports, each lay-over lasting from three to five days.

Cuba and Brazil...
lived on a riverboat in the Amazon

South Africa...
hiked up Table Mountain at Cape Town

Kenya...
went on a safari and received three marriage proposals



India...
was awed by the Taj Mahal and visited one of Mother Teresa's orphanages

Malaysia, Viet Nam...
toured the Mekong Delta and temples in Ho Chi Minh City

Hong Kong and China...
walked along the Great Wall

Japan...
visited the Peace Dome in Hiroshima

During her first semester at Iowa State, MSE junior Amber Schneeweis saw a Semester at Sea poster from The Institute of Shipboard Education, and she couldn't stop thinking about it. After watching a promotional video from the Study Abroad Center, Schneeweis and a dorm friend applied together. Both got accepted, but were waitlisted. So, what was to be a Spring 2001 semester trip became an October acceptance—just three months before the ship sailed! But, the chaos of last-minute notification was definitely worth it— listen to Amber's stories as they unfold through her eyes.

The bulletin boards in Marston Hall routinely carry notices about everything from upcoming concerts to textbooks for sale and beyond. One particular poster caught the eye of MSE junior ***Amber Schneeweis*** *during her freshman year, and it changed her life.*

world . . .

point, the expedition leader fell five meters into a snow-covered crevasse and dislocated his shoulder. Mavis recounts that if they had not been roped in together at that point, the leader would probably have died.

Mavis is quick to extol the virtues of mountaineering clubs. The strong friendships that develop in a club are a definite asset—Mavis met his wife in the club at METU. The education program associated with clubs is also vital, said Mavis. Additionally, high-altitude gear is pretty expensive, but membership in a club allows use of the club's gear. Iowa State's own club loaned Mavis some sleeping bags, tents, and other equipment for his Khan-Tengri ascent.

"Mountaineering is a perfect team sport, and a good partnership can make the difference," said Mavis, between a wonderful trip (whether or not you make it to the top) and a psychological disaster. Good partners have enabled him to take on mountains in Georgia, Russia, Iran, and Scotland.

Mavis is a doctoral student of MSE Chair and Professor Mufit Akinc, researching recharge-able battery materials (i.e., cell phones). He hopes to get a postdoc appointment either in the U.S. or Europe when he graduates in May of 2003.

The trip was a study-abroad program through the University of Pittsburgh and lasted 100 days (January–April). There were about 650 students on board, along with faculty, staff, and their families. The students, with majors as wide-ranging as the places they came from, signed up for 12 credits while at sea. Two hundred different universities were represented on Schneeweis' ship, most of them American.

A university in each port city generally sponsored a reception. The field office on board planned trips at the ports for those interested, but the students were really on their own—as long as they stayed within the borders of the country at each port and were back on board before the ship set sail again.

Schneeweis was impressed with the arrangements, including stewards for each room. "The food is not like going on a cruise, but it's very good," she acknowledged. Her beautiful memories and friendships from her sophomore semester at sea, though she is certain to carry forever.

Now that she has her feet firmly planted back on ISU soil, Schneeweis intends to begin the MSE B.S./M.S. program next fall and graduate in spring of 2004. She hopes to get her Ph.D. and then teach and do research in a university setting.

Quiet contributions shape MSE

MSE professor devotes 30+ years to the department.

Ask **David Martin** what his contributions to the MSE department are, and you're likely to have to ask the same question a few more times in a few different ways. He is, at the least, humble—but he has, in more ways than one, been a significant figure in the department for well over thirty years.

Martin came to Iowa State as Tom McGee's first Ph.D. student, after receiving his B.S. from Alfred University (New York State University of Ceramics) in upstate New York in glass technology. After Sputnik went up in 1957, the Department of Defense was gearing up for space research when it began awarding grants for advanced ceramic materials and its many tangents. That's what brought Martin to ISU.

After graduation, Martin did a stint in the army chemical corps working on armor research for the Viet Nam war, then as a civilian scientific advisor to the command structure led by General Westmoreland; he left the aerospace industry to join a family business in cabinet design before returning to Iowa State to join the faculty. Originally, he had intended to be an architect, but someone in the business advised him that it was a "lousy business to get into." That design instinct, however, has always remained with him; he still calls himself "a fiddler"—always designing things and designing ways to make things better.

Back to the contributions. After a bit of tugging, Martin admits he was responsible for reinstating MSE's glass-blowing program. During his graduate-student years in the mid 1960s, MSE employed a glass furnace for a VEISHEA demonstration. But it wasn't until Martin returned to campus in the early 1970s that the program was revitalized as a club activity with the option of taking it for credit. Glass-blowing demonstrations over the years, according to Martin, have attracted thousands of potential ISU students to the department.

Perhaps one of Martin's most enduring contributions to the department is the combination B.S./M.S. degree program he set up, which allows a student to obtain simultaneous bachelor's and master's degrees. Research usually starts while the student is an undergrad, routinely a year or so before graduation. Then, as a senior, the student is going full-steam ahead with a research program that wouldn't even have begun in the normal degree cycles.

Martin was also involved in university governance as one of the first Faculty Senate presidents in the early 80s, an experience he thoroughly enjoyed. Although retired from regular duties in the department, he is currently occupied with writing papers, consulting with colleagues, and working with grad students and their research.

But he misses being in the classroom. He refers to himself as the "guy who taught engineering design"—from sophomore introduction to finishing courses. He also lays claim to being the teller of bad jokes—he tried to have one for each class period as a stress reliever. In his own words, his job at Iowa State has "never been work."

Gleeson becomes program director

MSE professor has joint appointment

Associate Professor *Brian Gleeson* recently took on the position of director of the metal and ceramic sciences program in the Ames Laboratory. Gleeson will maintain a joint appointment with the MSE department. The DOE's metal and ceramic sciences program in Washington has undergone radical changes in the last few years, according to Ames Lab Director *Tom Barton*. "It has taken a combination of wisdom, vision, and sweat to properly organize our response to these changes," he said. "Fortunately, Brian Gleeson has large supplies of these three requirements!" added Barton.

Gleeson came to the MSE department in 1998 from a faculty position at the University of New South Wales in Sydney, Australia. He received his Ph.D. from UCLA in 1989. His current research is primarily in the area of high-temperature degradation of alloys and coatings.

MSE Hoover Hall *(update)*

By late fall of 2003, MSE will be moving into Hoover Hall—that's the timeline ISU Project Manager Roger Graden foresees. Bids for the building came in a little under budget, and Miron Construction (from Wisconsin) got the bid for Hoover. They are also working on the Gerdin Business Building currently under construction on campus.

The winter weather Iowa has been experiencing this year has been conducive to construction. Construction so far has involved below-ground excavating and concrete work, and spring will see columns, beams, and framing structures going up on the building site.

MSE will be housed on half of the second floor (16 faculty offices) and the entire third floor (labs and classrooms) of Hoover Hall, occupying about 20,000 square feet of the building's 78,472 gross square footage. The administrative offices will be on the second floor. Visit the Web site at www.eng.iastate.edu/etrc to stay in touch with the construction.

Oh, and yes, a skywalk to Howe Hall is still in the plans.

Patents

The department distinguished itself in the number of patents earned. MSE faculty and researchers accounted for over half of the total number of patents won by ISU engineering faculty for 2001.

Adjunct Professor ***Iver Anderson*** received three patents: "Lead-free solder," "Low temperature joining of ceramic composites" with co-inventor, ***Mohammed Nosrati*** (MSCerE'93), and "Atomizing nozzle and method" with ***Jason Ting*** (PhDMSE'98).

To Distinguished Professor ***Karl Gschneidner, Jr.,*** and Professor ***Vitalij Pecharsky***: "Ductile magnetic regenerator alloys for closed cycle cryocoolers."

To Professor ***David Jiles*** and co-inventor ***Patricia P. Pulvirenti*** (MSMSE'96): "Magnetostrictive materials and method for improving AC characteristics in same."

To Professor ***Steve Martin***: "Preparation of high density heavy metal fluoride glasses with extended ultraviolet and infra-red ranges, and such high density heavy metal fluoride glasses" with co-inventor ***Jesse Huebsch*** (BSCerE'96, MSMSE'98).

To Professor ***Thomas McGee***: "Method of restructuring bone."

To Associate Professor ***Joshua Otaigbe*** and co-inventors ***Jon M. McAvoy*** (MSMSE'97), ***Iver Anderson*** (Adjunct Professor), and ***Jason Ting*** (PhDMSE'98): "Method of making polymer powders and whiskers as well as particulate products of the method and atomizing apparatus."

Boeing fellowship

Yun Tian was recently awarded a Boeing Dissertation Fellowship to conduct Ph.D. research in the area of developing innovative ultra-hard coatings or thin films deposition techniques for micro-electromechanical (MEMS) parts and cutting tools. The fellowship is part of a Boeing company endowment through the ISU Foundation and is awarded by the Graduate College. It will provide financial support for a half-time assistantship. Tian's major professor is MSE Associate Professor ***Alan Russell***.

Honors and Awards

MSE Professor and Chair ***Mufit Akinc*** received the **ISU Alumni Faculty Citation Award** for his outstanding, inspiring, and long-term service to students, alumni, Iowa State, and his profession.

Gerald "Skip" Fehr, BSCerE'59, MSCerE'64, PhDCerE'66, and a current IAC member to the department, was a recipient of the **2001 Professional Achievement Citation in Engineering (PACE) Award.** A leading authority in semiconductor device packaging, Fehr worked at Intel and then in 1993 formed Integrated Packaging and Assembly Corporation, a company now owned by Orient Semiconductor Electronics Ltd.

Professor ***Larry Genalo*** received both the **ISU Award for Excellence in Honors Teaching** and the **Student Affairs Faculty Appreciation Award** for 2001. He was also recognized as the **2002 Engineering Student Council Outstanding MSE Professor**.

Distinguished Professor ***Karl Gschneidner, Jr.,*** and Professor ***Vitalij Pecharsky*** won the **2001 U.S. Department of Energy's Energy 100 Award** for their "magnetic refrigeration unit." ***Gschneidner*** also received an honorary membership to The Japan Institute of Metals at its annual meeting in Chiba, Japan, in March 2001.

Professor ***David Jiles*** was selected to be included in the **"Who's Who in America (2001)," "Who's Who in the World (2001, 2002),"** and **"Who's Who in Science and Engineering (2001)."**

Undergraduate student ***Jeff Leib*** was recognized as a **Student of Distinction for 2002** and **ISU Student Employee of the Year**. In all, from a pool of 41 nominees, 3 Students of Distinction and 1 Student Employee of the Year were selected. Leib was also recently notified that he was selected for a **Goldwater Scholarship** for the 2002–03 year. Leib is one of the 309 students in the nation selected for this award. The scholarship will cover tuition, fees, books, and room and board, up to a maximum of $7,500 per year.

Associate Professor ***Surya Mallapragada*** won the **2001 3M Young Investigator Award**.

Professor ***Steve Martin*** became a **Fellow of the American Ceramic Society**.

Staff member ***John Rundle*** received the **2002 Outstanding Service Award** from the Engineering Student Council.

The **2001 Dean Boylan Eminent Faculty Research Award** was presented to Distinguished Professor ***R. Bruce Thompson***. This is the highest award given to an engineering faculty member at ISU.

Graduate student ***Kageeporn Wongpreedee*** was selected to receive the **International Precious Metals Institute Student Award** for her research paper titled, "Deformation processed gold-silver and gold-platinum composites." Wongpreedee will receive a $3,000 prize and an expense-paid trip to Miami, Florida, in June to attend the IPMI annual convention.

Keep us informed . . .

The MSE department also welcomes alumni donations. Your contributions help fund student facilities and projects, lab equipment, faculty teaching and research, and department activities.

Name _____ E-mail _____

Graduation year, degree, student name *(if different from above)*

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City _____ State _____ Zip _____

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Company, position _____

What's new _____

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Send your information to: MSE Department, Iowa State University
3053 Gilman Hall, Ames, Iowa 50011-3114
Or E-mail: mse@iastate.edu
Fax: (515) 294-5444
Web site: www.mse.iastate.edu/people/post_it.htm

Edward Marquardt, BSMetE'98
Columbus, Indiana
emarquardt@ntndriveshaft.com
Edward has been employed as a plant metallurgist and shaft heat treat engineer at NTN Driveshaft since December 2000. He supervises metallurgical inspection processes in the company's constant velocity joints (CVJs) unit.

Paul Prichard, PhDMSE'97
Latrobe, Pennsylvania
Paul.Prichard@kennametal.com
Paul recently moved from 3M in St. Paul, Minnesota, where he was employed as a research scientist, to Kennametal in Latrobe, Pennsylvania, where he currently works as a staff metallurgist within its carbide product development group.

Jamie Reinig, BSCerE'99
Highlands Ranch, Colorado
spideyrdr@home.com

Cybercontacts is a service for MSE alumni to help stay in touch with one another. It also helps the department see how and what its graduates are doing. We will be happy to publish your e-mail address along with the information you send about yourself. This can include your company name, description, and location as well as your professional title, position, and job description.

Send your e-mail and information to mse@iastate.edu with a statement of permission to publish. We look forward to hearing from you!

Cybercontacts

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Iowa State University
3053 Gilman Hall
Ames, Iowa 50011-3114

JOIN US IN ST. LOUIS!

ACerS MSE Alumni and Friends Reception

Monday,
April 29, 2002
6:00–7:30 p.m.

Millennium Hotel
Jefferson F Room
St. Louis, Missouri

The American Ceramic Society

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