

April 25, 1997

Butterflies may
have no meaning
other than
beauty in flight.

—Don Belanger

Vol. XXIX, No. 31

House subcommittee recommends 5.9% hike for MTU

The House Appropriations Subcommittee on Higher Education recommends that Michigan Tech receive a 5.9 percent increase in state funding for the 1997-98 fiscal year.

In addition to a 3 percent across-the-board increase, the subcommittee would allocate an additional \$1 million for undergraduate research opportunities and \$261,000 for special maintenance.

For the subcommittee's budget to take effect, however, it needs to be approved by the Democrat-controlled state house, the Republican senate, and then signed into law by Gov. **John Engler**. As it stands, Engler's budget would give substantially less to Michigan's public universities, including Michigan Tech: a 2.5 percent overall increase.

Four universities would receive undergraduate research funding under the subcommittee's plan. In addition to Michigan Tech's \$1 million, the University of Michigan would receive \$4 million; Michigan State, \$3.9 million; and Wayne State, \$2.25 million.

"We're delighted to be recognized as one of Michigan's four research universities," President **Curt Tompkins** said. "In addition, we're pleased by the leadership that subcommittee chair **Morris Hood** has shown in his efforts to adequately fund higher education. Without sufficient state support, Michigan's public universities will be hard-pressed to maintain quality educational services while keeping tuition in check."

"We're especially grateful to State Rep. **Paul Tesanovich**," Tompkins added. "He has been a great friend to higher education in Michigan in general and to Michigan Tech in particular." Tesanovich is a member of the House Appropriations Subcommittee on Higher Education.

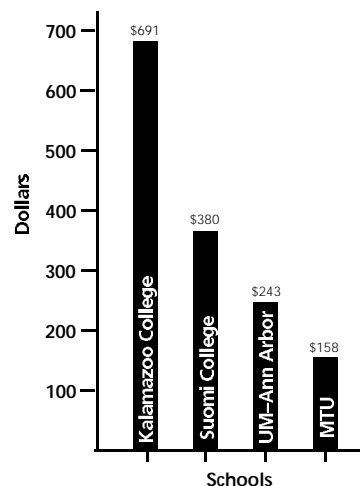
Tompkins chairs the Presidents Council of the State Universities of Michigan, which is urging the state to provide more funding to universities in order to keep tuition increases down. The council noted that last year, when the universities received an average increase of 4 percent in state funding, their average tuition hike was 3.8 percent, compared to the national average of 6 percent.

The council also encouraged the state legislature to eliminate a tax credit for students attending Michigan universities and use the savings to bolster state university appropriations.

The tax credit (which essentially rebates 4 percent of tuition expenses) costs the state about \$36 million, with the lion's share of the benefits going to students who attend more-expensive private colleges and universities, Tompkins said. "The top twenty schools in the state in terms of tuition are private," Tompkins said. "We'd prefer that the \$36 million be converted into an appropriation for state universities. That would give us a 5 percent increase, or \$70 million," approximately doubling the governor's recommended appropriation.

With a 5 percent hike in state support, "we could hold tuition down to no more than the rate of inflation," Tompkins said. "The benefit to public university students would be far greater than the tax credit," which amounts to about \$150 for students attending Michigan Tech.

Tuition Tax Credit for Students at Michigan Colleges and Universities



International fall tour to establish alumni chapters, recruit students

Michigan Tech attracts students from all over the world, but when they graduate and return home, it often seems as though they've dropped off the face of the Earth.

It's not that they've turned their backs on their alma mater—far from it. However, keeping track of alumni is far more challenging once they leave the jurisdiction of the U.S. Postal Service.

To get back in touch with graduates outside the U.S., MTU is planning a September tour of Southeast Asia and environs. **Jerry Ziarno**, a 1959 graduate in electrical engineering, will be taking the trip, along with **Karl Markgraf**, director of international programs. Ziarno recently retired as Dow Corning's vice president for marketing and sales, and has had a long career in Dow's international operations, from Europe to the Pacific Rim.

The three-week tour includes stops in nine cities: Taipei, Hong Kong, Manila, Singapore, Jakarta, Yogyakarta, Surabaya, Kuala Lumpur, and Bangkok. Key alumni throughout the region are being contacted to help reach other alumni and friends and organize alumni chapters.

"Tech's international alumni have distinguished themselves in their professions and their communities," said **John Sellars**, senior vice president for advancement and university relations. "It's important that we bring them back into the Tech family."

This will be the second international tour this year for Markgraf, who, with Executive Director of Enrollment Management **Joe Galetto** and Director of Residential Services **John Rovano**, took the American Educational Opportunity (AEO) tour in March to Hong Kong, Singapore, Jakarta, Kuala Lumpur, and Bangkok. Their primary goal involves the creation of future alumni: student recruitment.

"It went great," Markgraf said. "AEO takes thirty universities to each of these cities for an exhibition, and they are attended by about 2,000 local students looking into studying in the U.S."

"Michigan Tech is really the only engineering university involved, and so we do far better than any of the others because we have the programs that these students are interested in."

MTU recruiters also went on tour in 1996, garnering thirty-four applications from prospective international students. About two-thirds are enrolled now. "This year, we came back with 102 applications," Markgraf said. "If they all come to MTU, that's over \$1 million in tuition."

International students come to Michigan Tech for multiple reasons. "We have engineering, we offer high-quality undergraduate education, and we're low cost," Markgraf said. "Another factor is the safety of our town."

All over the world, the U.S. has a reputation as a

"Icy Glory" Winter Carnival theme

The theme for the 1998 Winter Carnival is "Icy Glory of a Legendary Story," conjuring up images of the Snow Queen or maybe the *Flying Dutchman* rounding the Horn.

Blue Key is now accepting applications for the logo. The winner receives \$50. The deadline is Friday, May 2, at 5:00 p.m. Pick up your applications at the Blue Key office (Memorial Union 106).

Chemistry seminar May 2

Susan Burns, of Western Michigan University, will present a seminar, "Binding Effects on Humic-Mediated Photoreaction: Intrahumic Dechlorination of Mirex in Water," on Friday, May 2, at 3:00 p.m. in Chemical Sciences and Engineering 102. Her visit is part of the chemistry department's Spring Colloquia series; all interested persons are invited.

New staff

Hubert Hautala has joined the Memorial Union staff as a custodian. He was previously employed by D. L. Janitorial Service in mall maintenance. Hautala lives in Atlantic Mine and operates a mobile DJ service.

James Pakkala joins the Keweenaw Research Center staff as a research assistant. He was previously an account representative at Northern Stationers and has an associate degree in mechanical design engineering technology from MTU. Pakkala has five children, Kyle, Amber, Daniel, David, and Rachel. He and his wife, Michelle, live in Dodgeville.

TECH TOPICS

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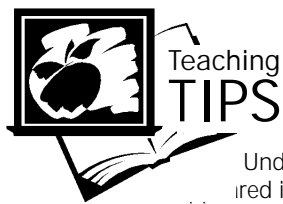
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- By e-mail to ttopics@mtu.edu
- By campus mail, send typed copies to *Tech Topics*, University Relations.

Each week, the deadline for submitting information is **Friday at 5:00 p.m.** for publication the following Friday.

Our URL is <http://www.sas.it.mtu.edu/urel/ttopics/index.html>

Center for Teaching, Learning, and Faculty Development



The authors identified teaching practices that could be used by teachers to improve their teaching. It is safe to say that the "Seven Principles" article and the books and articles developing these ideas have been very influential in the field of educational improvement.

According to article authors Arthur Chickering and Zeldia Gamson, undergraduate teachers should 1) encourage student-faculty interaction, 2) encourage cooperation among students, 3) encourage active learning, 4) give students prompt feedback on their performance, 5) structure learning so as to encourage students to spend adequate time completing educational tasks, 6) set and clearly communicate high expectations, and 7) demonstrably respect and value the diverse talents and ways of learning of their students.

One reason the Seven Principles list warrants our attention is that it was derived from a broad body of educational research. For example, the suggestions regarding student-faculty interaction, cooperative efforts, and creating an active learning environment were informed by a body of research in the late 1980s that showed that the average college teacher spent about 80 percent of her/his time lecturing to classes that were listening about half of the time. Related studies indicated that students retained only about 42 percent of lecture material, even when they knew they would be tested immediately following the lecture, were allowed to use their notes, and were given a summary of the lecture. A week later, without using their notes, the same group could recall only 17 percent of the lecture material.* This body of research seems to support the opinion that the only person truly "covering the material" by relying exclusively on the lecture method may be the instructor.

How can we put the Seven Principles into action? The authors offer several suggestions. For example, to encourage student-faculty interaction,

* Cross, K. P. "Taking Teaching Seriously," presented at the 1986 AAHE conference.

Seven Principles for good practice in undergraduate education

By William Kennedy, director

Nearly a decade ago, "The Seven Principles for Good Practice in Undergraduate Education"

appeared in the *American Association of Higher Education Bulletin*. The

they suggest faculty make themselves available and welcoming to students outside of class, actively seek out students that are exhibiting problems in the class, learn the students' names, and reach out to make contact with students from underrepresented groups.

To encourage cooperation, Chickering and Gamson suggest forming study groups, using team assignments, encouraging students to join student organizations, and encouraging students from different backgrounds to share their perspectives in class.

To encourage active learning, the authors suggest the use of structured exercises, challenging discussions, team projects, and peer critiques. Internships, co-op placements, and independent study can also foster active or individually engaging learning experiences.

Providing prompt feedback allows students to narrow their focus on what remains to be learned and to build on what they have already learned. The teacher, in this regard, helps the student to jettison incorrect notions to effectively accelerate the learning process.

Learning takes time. We are reminded by the authors of Seven Principles that we need to thoughtfully structure academic programs so that students can and will spend the time necessary to lock in the desired skills, knowledge, beliefs, or attitudes we are targeting. Time management is a critical issue for students and professor alike and should be a central concern of course and curricular planning.

Setting high expectations means challenging individual students to excel, noting and rewarding exemplary learning, and encouraging students to exceed course design standards.

Finally, respecting students' diverse talents and ways of learning includes developing and using a variety of teaching methods, relating our subject matter to issues relevant to our students' interests, and consciously endeavoring to engage students from various backgrounds.

Taken together, the Seven Principles can infuse the practical outcomes of educational research into our improvement efforts. As always, we welcome your comments and questions.

Grant to help museum preserve mineral specimens

Only the rocks live forever, the old saying goes, but perhaps that's an exaggeration. All kinds of things can damage rocks and minerals, from hungry bacteria to excess humidity.

To help protect the rocks in the Seaman Mineral Museum, an assessor will be evaluating the storage and display conditions in July. The work will be supported by a \$3,390 federal grant from the National Institute for the Conservation of Cultural Property.

After the evaluation, the assessor will suggest how the museum can improve the collection's environment. And yes, it's true, rocks are not immune from attack. Thermal shock and vibration can cause crystals to crack, and some minerals lose their color when exposed to too much light. The iron and sulfur in pyrite, also known as fool's gold, are food for certain types of bacteria. And other minerals dissolve when the air is too damp, while some fall apart if they dry out.

"This grant is an important step in conserving the museum's collections," museum director **Stanley Dyl** said. "Although we're already very conscientious about storage and display conditions, the assessor will hopefully offer additional conservation ideas and methods."

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No sale on Z-Mail

Task force recommends best e-mail packages

Across the MTU campus, people use over half a dozen different e-mail software packages with varying degrees of success. Wouldn't it be nice if there were one e-mail package that worked on all platforms? Wouldn't it be great if it were easy and powerful, and everyone loved it?

"Michigan Tech really uses e-mail," said **Renee Greenley** (IT), chair of the campus-wide E-Mail Task Force. "We deliver 120,000 messages every day, and that means people really need great e-mail software." The task force had hoped that a single, powerful package could smooth out common problems. For example, sending files with e-mail can be confusing and difficult, with so many different packages in use at MTU.

So the Task Force set forth two years ago to find that perfect e-mail software. However, they discovered that no such creature exists.

"There is no single package on the market that will run on all of our platforms and do everything that people on campus want," said Greenley.

The best they found was Z-Mail, a graphical e-mail software package that has versions for Unix machines, PCs, and Macs. A pilot test yielded mixed results. Unix users liked Z-Mail's features and it performed very well. PC Windows users liked its features but found it slow. And the Mac users in the pilot found Z-Mail awkward and slow.

"The pilot was very successful," Greenley said. "It kept MTU from spending \$65,000 on a package that didn't do the job." And the task force also

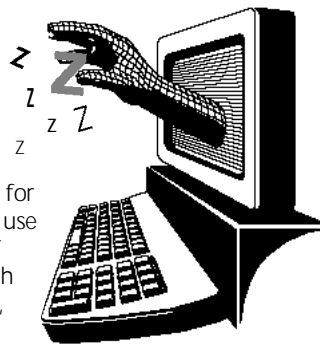
developed a list of e-mail technical standards and a list of the best packages for operating systems in use across campus. So, if you're not happy with your e-mail software, or if you'd like to standardize the e-mail used in your department, here are their suggestions in no particular order:

E-Mail Task Force recommendations

- PC Windows and Macs: Eudora Light (free), Eudora Pro (\$49), Netscape Mail version 3.0 or higher (free)
- Unix: Z-Mail (\$90), Netscape Mail version 3.0 or higher, elm, Pine, mailtool (all free)
- DOS: The task force suggests telnetting to a UNIX host and using a UNIX e-mail package such as elm. If you want to try this and don't know how, ask your system administrator for help.

"Distributed Computing Services will keep watching the market for new developments," Greenley promised. "New standards and products are appearing all the time, and if one looks like a good solution, we'll let the campus know."

For more information, take a look at the Web site at www.it.mtu.edu/dcs/emailpt.htm or contact Greenley at rgr@mtu.edu or 487-2112.



Career Center stories

The University Career Center is moving to new quarters this summer in the Harold Meese Center. If you have any interesting Career Center stories, help memorialize the center and e-mail them to topics@mtu.edu. And, in case you'd like to help with the move, fundraising for the Meese Center is still under way.

Fool rushes in—with resume

By *Kerry Irons '72*

Our recruiting team always joked about how clever/aggressive students could be in trying to get an interview while bypassing the normal procedures of the Career Center. The all-time topper came in the mid-80s, during a break in a long day of interviews. Our recruiting team captain was in the ground floor men's room, engaged in a rather personal task, when he was approached by an over-eager student, resume in hand! Needless to say, this invasion of privacy was not well-received, the student didn't get an interview, and our recruiting team has had a good laugh about it every year thereafter.

(Editor's note: Kerry Irons earned a BS in Chemical Engineering in 1972 and an MS in Business Administration in 1973, both from Michigan Tech. He is senior core technology leader at Dow Chemical Company, working to leverage chemical engineering technology across Dow.)

Trademark sales fund team-study rooms in library

At MTU, the solitary scholar is becoming a thing of the past. More and more, students are mimicking industry and collaborating in groups. Unfortunately, the environment has not quite kept up with the pedagogy.

"In the engineering curricula, we're moving toward groups, and they need a place to work," said Assistant Professor **Faith Morrison** (chemical engineering), of the Friends of the Library. "The MUB is noisy, and they can get kicked out of classrooms when a course starts."

And libraries, of course, are quiet places, not designed for brainstorming. Until now.

At the request of the Friends of the Library, the Trademark Licensing Committee has donated \$10,000 to turn old office space into three carrels. Located on the second floor of the J. R. Van Pelt Library, the rooms will be places where student study groups can work together.

The money comes from the sale of licensed merchandise bearing the MTU logo and other University insignia. The Trademark Licensing Committee decides where the money will go.

"We felt the library carrel project was not only needed, but also gives all of the students something back from the trademark program," said committee member **Sandra Gayk**, director of intellectual property administration.

The Class of 1997 is collecting donations for its senior gift, the furnishing of another three carrels on the library's third floor. Morrison has no doubt that the six rooms will be busy.

"I think they will be incredibly popular," she predicted. "It will make the library a very useful place to study, and we're very grateful to the trademark licensing group for their support."

MTU team takes third place in ASME ball-moving test

A team of mechanical engineering undergraduates took third place at the ASME Regional Student Design Competition, held earlier this month at Southern Illinois University in Carbondale.

They were edged out of a first-place finish by a mere 1.5 seconds. Fifteen teams from ten universities participated in the American Society of Mechanical Engineer's competition, held annually in the Midwest.

The team's goal was to move two Ping-Pong balls and one golf ball from the top of a platform to a box between 50 and 212 centimeters away. Michigan Tech's device used a winch to bring a track underneath the balls, lifting them off the platform and causing them to roll into the box. The team started working on the project after Christmas and started building it in March. "We built one system that worked, and then saw a way to make it better," team member Karl Monis said. "Our second prototype was the one we took."

At the competition, teams had five minutes to assemble their machines. "It was pretty intense," Monis said. "Those that got it set up in time got a round of applause."

The Michigan Tech team's design worked flawlessly, moving the three balls to the box in a speedy three seconds. However, flawless was not quite enough to win. The University of Kentucky team's machine finished the job in half the time, 1.5 seconds.

"We got out-thought," Monis said. "They used little nets that went around the balls with a winch at the other end. The winch pulled them all the way across, while we used the winch at the beginning."

Nevertheless, he was happy that their design worked as planned. So was their advisor, Associate Professor **Charles Van Karsen** (ME-EM).

"We're really proud of these guys," he said. "They did this all on their own, and they did a really good job."

Other team members were **Joe Gulden**, **Jeremy Dabrowiak**, and **Marc Greca**.

The team demonstrates its machine at the ASME chapter meeting on Thursday, April 24, at 7:00 p.m. in ME-EM 302.

Angels and Insects April 30

The film *Angels and Insects* will be shown on Wednesday, April 30, at 6:00 p.m. in Walker 134 as part of the Semeion Film and Discussion Series. All interested persons are invited.

Recycling revisited at Tech Tea Time

Submitted by University Cultural Enrichment

Just when every department had invested in a set of smart, blue-plastic recycling bins, and everyone had learned to use them, Michigan Tech's recycling program ground to a halt. The reason: a common one in remote areas like ours, a dramatic drop in the price for recycled paper that made it uneconomical to haul its long distances to the buyers.

Since then there has been much activity on the Michigan Tech campus to restart the program. And there is hope! Questions about the past, present, and future of campus recycling will be answered at Tech Tea Time on Wednesday, April 30, at 4:00 p.m. in the Memorial Union Alumni Lounge.

A panel discussion will include representatives of MTU student organizations and other committees investigating recycling, the MTU Regional Groundwater Education in Michigan (GEM) Center, the Institute for Materials Processing, the Upper Peninsula Recycling Coalition, and Peninsula Sanitation. Many promising developments have been going on behind the scenes. The panel will update the audience on current recycling opportunities and obstacles, and what the future may hold, including a number of student-led initiatives. They'll report on how IMP is turning old glass containers into a product to help cope with one of winter's biggest challenges. They'll also describe how to become involved in recycling and related environmental efforts.

Community and campus recycling programs have taken Copper Country residents down a rough road with more than a few dead ends and detours. In the past several years alone, recycling contractors came and went. Contamination caused loads of recyclables to be rejected after being hauled to distant markets. Market demand and prices paid for materials took recycling companies on a wild roller-coaster ride. As a result, the materials accepted for recycling changed over time, leaving would-be recyclers confused and frustrated. Will the future map out a smoother path for recycling in our area?

While no one is likely to proclaim any time soon that the western U.P. is the recycling mecca of Michigan, there are some positive signs that offer hope for a more-stable climate for recycling. Although Michigan Tech lost its mixed-paper recycling program last year, Houghton County gained a greatly expanded recycling drop-off program, and the city of Hancock contracted for the area's first curbside collection. It is now possible to recycle newspapers, magazines, corrugated cardboard, clear glass, plastic milk jugs, metal cans, used motor oil, and scrap tires in Houghton County at little or no cost to individuals.

This panel discussion is presented by the GEM Center and University Cultural Enrichment. Tech Tea Time is free and open to the public.

MTU notables

Associate Professor **Anton Pintar** (chemical engineering) has been chosen to receive the 1997 Outstanding Teaching Award by the North Midwest Section of the American Society for Engineering Education.

"Anton has consistently been one of the highest-ranked teachers in our department, and he is a recipient of the Distinguished Teaching Award," said Assistant Professor **Kirk Schulz** (chemical engineering), an ASEE member. "He is also an alumnus of the department."

Pintar will be honored at the ASEE Northwest Section meeting in October at the University of Iowa.

The award is given annually to an outstanding engineering educator in the Dakotas, Wisconsin, Minnesota, Iowa, and the Upper Peninsula. This is the second year in a row that a Michigan Tech faculty member has been selected. Last year, Associate Professor **Peck Cho** (ME-EM) was the award winner.

Assistant Professor **Donna Michalek** (ME-EM) has received the 1997 Society of Automotive Engineers Ralph R. Teetor Education Award.

Board of Control Member **Claude Verbal**, the 1996 SAE president, along with current SAE President David Holloway, presented Michalek the award on February 25 as part of the organizations' International Congress and Exposition in Detroit. Teetor Award recipients are chosen based on their academic training, contributions to teaching and research, and participation in extracurricular student activities.

Associate Professor **Walter Olson** (ME-EM) received the Best Paper of Conference Award for "A Proposed LCA Model of Environmental Effects with Markovian Decision Making" at the 1997 Total Life Cycle Conference—Life Cycle Management and Assessment, held April 7-9 in Auburn Hills. The paper was coauthored by Associate Professor **John Sutherland** (ME-EM), PhD candidate **Dusan Milacic** (ME-EM), and graduate student **Hrishikesh Gowaikar**.

Violin, piano recital April 27

Submitted by the fine arts department

Violinist **Eric Lawson** and pianist **Susan Bykkonen** will perform a recital on Sunday, April 27, at 3:00 p.m. in Walker Theatre.

Lawson is concertmaster of the Keweenaw Symphony Orchestra, and Bykkonen accompanies the Michigan Tech Chamber Chorus. The program will include Brahms' Concerto No. 3 in D, "Poème" by Chausson, and "The Devil's Trill" by Tartini, and features informal talks about the pieces. "We've been looking forward all year to this performance by two of the finest musicians in our area," said Professor **Milton Olsson**, chair of the Department of Fine Arts, which is sponsoring the recital.

Lawson recently completed requirements for the Doctor of Musical Arts degree at the University of Minnesota. In addition to serving as concertmaster of the Keweenaw Symphony, he teaches private and group lessons for students of the Copper Country Suzuki Association. This is his first recital in the Keweenaw area since joining the MTU staff last fall.

Bykkonen grew up in Eagle River, studying both piano and flute with Joan Luehrs, of Hancock. She graduated with high honors from Cedarville College, Cedarville, Ohio, then returned to Calumet where she teaches piano and flute. During the past three years, she has played both piano and harpsichord for the MTU Chamber Chorus.

Audience members are invited to a reception in the Walker Theatre lobby after the recital, hosted by the Copper Country Suzuki Association. Tickets for the recital are available at the Memorial Union Box Office (487-3200), SDC Central Ticket Office (487-2073), Calumet Theatre (337-2610), and at the door for \$7 adults, \$5 senior citizens, and \$3 students.



Undergraduate **Jennifer Jermalowicz** (biological sciences) presented a paper, "Life Without

Herbivores: The Ecology of Copper Stamp Sand Ponds," at the Michigan Academy of Sciences 1997 annual conference, held March 22 in Grand Rapids.

Graduate student **Dan Scholnik** and Assistant Professor **Jeffrey Coleman** (electrical engineering) presented a paper, "Simple Exact Models of Sample-Interleaving Demodulators/Modulators for Quadrature Bandpass Sampling/Reconstruction," on March 20 at the Conference on Information Sciences and Systems, in Baltimore.

Associate Professor **Barry Solomon** (social sciences) delivered a paper, "Public Support for Endangered Species Recovery: The Case of the Kirtland's Warbler," at the annual meeting of the Association of American Geographers, held April 5 in Ft. Worth.

Professor **Ted Bornhorst** (geological engineering and sciences) presented an invited talk, "A Genetic Model for the World's Largest Native Copper Deposits in the Michigan Segment of the Middle Proterozoic North American Midcontinent Rift System," at the University of Helsinki in Finland on March 19. Bornhorst also did cooperative research with the Geological Survey of Finland and worked with PhD student **Niilo Karkkainen** (geological engineering and sciences) during his stay in Finland.

Continued on page 5

International recruiting

Continued from page 1

crime-ridden country, Markgraf said. "I bring statistics to show parents that this is a safe community. It means a lot to them—they feel comfortable sending their kids here."

The previous tour also allowed MTU officials to touch base with international alumni, as well as American alums working abroad. Markgraf is pleased that September's trip is expanding that collaboration, incorporating the complementary projects of student recruitment and the formation of alumni chapters. "This allows us to fulfill two University goals with one trip," he said.

Proposals in progress

Researchers, their proposals, and their potential sponsors are

- **Kalpna Godbole** (mathematical sciences), "Calculus Reform Workshop—Sponsored by NSF," Macalester College
- **Patricia Heiden** (chemistry), "A Fundamental Evaluation of Organic Synthesis in a Novel Solvent," Petroleum Research Fund
- **Nancy Auer** (biological sciences), "Duration of River Residence of Newly Hatched Lake Sturgeon: Implications for Sea Lamprey Control," Great Lakes Fishery Commission
- **Michele Miller** (ME-EM), "Machinability Study of Aluminum Alloy Compositions," Contech
- **David Perram** (civil and environmental engineering), "Results of Post-Treatment Samples from Hill AFB—Florida Cell," University of Florida; "Results of Post-Treatment Samples from Hill AFB—Applied Research Associates," Applied Research Associates
- **James Mihelcic** (civil and environmental engineering), **Donald Lueking** (biological sciences), and **John Gierke** (geological engineering and sciences), "In Situ Prediction of Biosurfactants to Assist Intrinsic and Engineered Bioremediation of Hydrophobic Hydrocarbons," NSF/EPA/DOE/OMR
- **David Mendenhall** (chemistry) and **Barry Kunz** (electrical engineering), "Detection of Single Microorganisms in Air by Ozone-Induced Chemiluminescence," Custom Sensor Solutions

On the road

Continued from page 4

Assistant Professor **Mary Ann Beckwith** (fine arts) joined two other artists in teaching a workshop in experimental watermedia techniques at the Konuga Art Workshops held March 17–21 in Henderson, North Carolina.

Associate Professor **Sonia Goltz** (SBE) chaired the symposium "Using Computer Simulations in Experiments: Realism and Other Issues" at the 12th Annual Conference of the Society for Industrial and Organizational Psychology, held April 12 in St. Louis. She also presented a paper, "Simulating the Variability of Actual Outcomes in Research into Escalation of Commitment," coauthored with Adjunct Instructor **Jim Northey** (SBE).

Two graduate students in metallurgical and materials engineering presented papers at the Materials Research Society meeting held in April in San Francisco. **Bi-Ke Yang** presented "Molecular Beam Epitaxy of GeSn and GeSnC Alloys on Ge" and **James Weil** presented "Effect of Composition and Temperature on the Morphology of SiGe Alloys on Si(100)." The presentations were coauthored by graduate student **Xurui Deng** and Assistant Professor **Mohan Krishnamurthy** (MME).

Associate Professor **Young Huang** (ME-EM) gave a plenary lecture, "Fracture of Materials with Strain Gradient Effects," at the 9th International Conference of Fracture, held in Sydney, Australia, in April. He also gave an invited talk, "Toughening of Metal-Ceramic Laminates," at the University of Sydney.

In addition, Huang gave an invited lecture, "Quantifying Thermal Stress in Electronic Packaging: The Role of Micromechanics and Numerical Simulation," at the National University of Singapore in March. Also during the trip, he gave an invited seminar, "A Micromechanics Model for Thermal Cycling in Layered Electronic Assemblies," at the Institute of Materials Research and Engineering, Singapore.

Associate Professor **John Sutherland** (ME-EM) gave an invited talk, "Characterizing the Role of Cutting Fluids in Machining Processes," at an April 9 seminar, "Advances in Metal Working Fluids," sponsored by the Society of Manufacturing Engineers, in Fort Mitchell, Kentucky.

Assistant Professor **Judith Perlinger** (civil and environmental engineering) presented a paper, "Structure-Reactivity Considerations in the Reduction of Polyhalogenated Alkanes by Iron Porphyrin and Mercaptojuglone in Homogeneous Aqueous Solution," at the 213th American Chemical Society National Meeting, held in San Francisco in April.

POSITIONS AVAILABLE AT MTU

The following positions will be posted Friday, April 25, 1997, at 1:00 p.m. through noon, Friday, May 2, 1997, in the Human Resources Office.

- Photo Lab Technician—University Relations
- Assistant Hockey Coach—Athletic Department (ten-month position)

University employees are reminded to apply in writing prior to noon, Friday, May 2, 1997, to be considered as internal candidates for bargaining unit positions. Applicants from the recall pool will be given first consideration for non-bargaining-unit positions. Vacancy announcements are normally posted every Friday at 1:00 p.m. in the Human Resources Office. Complete job descriptions are available in the Human Resources Office or by calling 487-2280. More information regarding employment opportunities is available by calling the Job Line at 487-2895. Michigan Technological University is an equal opportunity educational institution/equal opportunity employer.

Calendar



April

Fair Housing Month

- 25 Friday**
all day—Blue Jeans Day
noon—Paul Seybold, "Better Mousetraps, Expert Advice, and the Lessons of History"—Memorial Union 105B
3:00 p.m.—Paul Seybold, "Cellular Automata: A New Approach in Chemical Dynamics"—Chem Sci and Engg 102
4:00 p.m.—Drepung Loseling Monks, "Man and Nature"—St. Albert the Great University Parish
8:00 p.m.—George Robinson, mineral collecting in the arctic—Seaman Mineral Museum
8:00 p.m.—*Sylvia*—Walker Theatre
- 26 Saturday**
8:00 p.m.—Drepung Loseling Monks—Calumet Theatre
8:00 p.m.—*Sylvia*—Walker Theatre
- 27 Sunday**
3:00 p.m.—Violin, piano recital by Eric Lawson and Susan Byykkonen—Walker Theatre
- 29 Tuesday**
3:00 p.m.—Understanding Others and Ourselves: Building Coalitions—ROTC Graduate Student Center
- 30 Wednesday**
4:00 p.m.—Tech Tea Time: Recycling Revisited—Memorial Union Alumni Lounge
6:00 p.m.—*Angels and Insects*—Walker 134

May

- 2 Friday**
3:00 p.m.—Susan Burns, "Binding Effects on Humic-Mediated Photoreaction"—Chemical Sciences and Engineering 102
- 4 Sunday**
4:00 p.m.—Echoes from Heaven Gospel Choir, "Explosions in Sound"—Walker Theatre