

February 13, 1998

*Honor is  
like an island;  
rugged and  
without a beach.  
Once we have left it  
we can never return.*

—Nicolas Boileau-Despreux  
Satire 10

Vol. XXX, No.21

## Math prof investigates cracking of metals

by Larissa Wilsie, student writer, News Bureau

*Imagine a world where we could predict when an airplane rivet was about to break or when a pipe was about to burst; the part could be replaced before it caused a serious problem.*

Although that world is still a ways away, Assistant Professor **Tamara Olson** (mathematical sciences) and Brent Adams from Carnegie Mellon University are looking for ways to make it happen.

Metal cracking often occurs due to a combination of stress and corrosion. Metals are constantly under stress: Bridges support the weight of vehicles; forks withstand pressure from our hand. In addition to stress, there is the problem of corrosion: chemicals, air pollution, and even normal water or soil conditions. A crack that starts on the edge spreads deeper into the material as corrosive elements seep in and stress is applied. Unfortunately, these cracks often go unnoticed until they cause failure in the material.

Olson and Adams are interested in materials that experience stress and corrosion cracking, but they are looking at the cracks on a small scale. "Some examples of cracks I have come across include rivets in rotor blades of helicopters and landing gear of airplanes," said Olson. In addition to aircraft, metal cracking is a concern in maintaining pipelines for natural gas.

On a very small scale, metals consist of tiny particles called crystallites arranged edge to edge. When stress and corrosion are applied to the metal, cracks form along some of the boundaries between these crystallites, forcing them to come "unglued" from one another.

Each crystallite in the metal has its own orientation. The orientation may be horizontal, vertical, or on a diagonal. When two adjacent crystallites have the same orientation, the metal tends to be stronger in that area; when the orientations don't line up, the metal is more likely to crack.

Olson is doing statistical analysis of metal

samples provided by Adams' group to determine the probability of a crack going beyond a certain point and the direction the crack will go. This probabilistic research is called a Markov Chain Model: The outcome at one stage (where will the crack go?) depends on the outcome of the previous stage (where has the crack gone so far?). This information could help engineers predict which parts or materials were likely to break and when, allowing time to replace them rather than waiting for a break.

So far, Olson and Adams have developed a two-dimensional model of the probability of metal cracking by following the paths of cracks in metals and observing where and how far they went.

Because materials are three-dimensional, however, they intend to extend the model with more research.

"Because stress corrosion cracking is a common and catastrophic phenomenon in certain materials, it would be invaluable for engineers to be able to estimate a material's susceptibility to cracking by measuring microstructure and using the model," Olson said.

Processing influences the orientation of the particles. Two common processes are rolling the metal and melting and casting the metal. When rolling metal, the direction of pressure can influence the orientation of the particles, while in the melting and casting process, particles depend upon how the material cools. According to Olson, the ultimate goal is to identify the relationship between the process and the ensuing structure of the metal, and then, by looking at the structure, to determine the material's susceptibility to cracking.

Olson's research is being funded by the National Science Foundation.

## Supervisor evaluations coming

Institutional Analysis is sending out supervisor-evaluation forms to staff on Friday, February 13.

Staff will be sent one form to evaluate their immediate supervisor. If you don't receive a form, or if you have more than one supervisor in your area and would like additional forms, contact **Nancy Byers Sprague** at 487-2755 for more copies.

Evaluations are anonymous, but supervisors should discuss them with their staff as a group and use them for self-improvement. They also discuss the results with their supervisors and set goals for the next year. How well they meet their goals is considered during performance appraisals.

The deadline for returning forms is Friday, February 27.

Phone scammers have figured out another sneaky way to bilk us out of our hard-earned SS&E budgets.

The latest con involves scammers calling an employee, identifying themselves as a telephone company technician, and asking the employee to press 9, zero, the pound sign (#), and hang up.

If this happens to you, just say no and hang up. Otherwise, if you follow the scammer's directions, they can gain access to your telephone line and make long-distance calls to their heart's content at your department's expense.

Many phone scammers operate out of jails and prisons, and their calls are often preceded by a recorded message saying the call comes from a correctional facility. However, most inmates do end up back on the street, and some are happy to practice their new-found skills on the outside. So, no matter how authentic the caller sounds, never follow suspicious instructions. In particular, never dial any numbers for any caller.

If you have questions, call IT Telcom at 487-2000.

## New phone scam alert



## MTU new site for German test

Associate Professor **Sigrid Weinmann** (humanities) has received certification from the Goethe-Institut (German Cultural Center) and the American Association of Teachers of German (AATG) to prepare students for a new exam, *Zertifikat Deutsch fuer den Beruf* (German for the Professions), and administer it at MTU.

Since German corporations have over 2,500 subsidiaries and affiliates in the United States that employ over 600,000 Americans, the *Zertifika* will provide new opportunities for MTU graduates who possess the skills to gain a competitive edge in international careers.

MTU is a testing center for the Goethe-Institut and the AATG. For information on various exams call Sigrid Weinmann at 487-3244.

## MTU notables

Vice Provost and Dean of the Graduate School **Sung Lee**, in connection with his position as liaison representative from the Midwestern Association of Graduate Schools, has been appointed to the Board of Directors of the Council of Graduate Schools.

In addition, Lee has been asked to chair the CGS/UMI Distinguished Dissertation Award Committee for physical sciences and engineering this year. This is an annual award given by the Council of Graduate Schools and sponsored by University Microfilm, Inc. in recognition of outstanding quality in a dissertation.

## TECH TOPICS

is published weekly by

University Relations

Bill Curnow, director, University Relations  
Dennis Walikainen, mgr., Editorial Services  
Marcia Goodrich, *Tech Topics* editor  
Gail Sweeting, composer

To get Tech Topics via e-mail, send a message to MAJORDOMO@MTU.EDU saying SUBSCRIBE TECH-TOPICS-L

Information to be included in *Tech Topics* should be submitted to the *Tech Topics* editor in one of the following ways:

- By e-mail to [ttopics@mtu.edu](mailto: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



*Teaching: Carnegie Professors of the Year Speak.* The book consists of

nineteen essays written by award-winning teachers on themes including active learning and teaching, engaging students, creating global classrooms, learning communities, managing discussions in large classes, and teaching portfolios. Over the next few weeks, we'll peruse some of the insights of these nationally renowned teachers.

In "What Makes a Good Teacher," Peter Beidler, professor of English at Lehigh and recipient of numerous university and national teaching awards, puts forth ten qualities of good teaching. He openly admits that he is not a student of pedagogy but says that his list of the qualities of good teachers grows out of his lifelong experience as a student and a teacher. He offers this listing of qualities not for prescriptive purposes but in the hopes that his observations will spur others to review their own priorities regarding teaching and learning.

Beidler's first observation is that "good teachers really want to be good teachers." He says that good teachers "try and try and try, and let students know they try." He argues that students quickly sense if we really want to be in the classroom with them or if we "would rather be across the street sipping a cup of Starbucks coffee." Beidler says that our level of commitment to and affection for teaching are clearly communicated verbally and nonverbally to our students.

Beidler's second observation is that "good teachers take risks."

"We teachers have something called academic freedom," he notes. "Too many of us interpret that to mean freedom from firing. I suggest that we should interpret it rather as the freedom to take chances in the classroom." He says that good teachers often attempt to achieve impossible goals, and then, scramble to achieve them by hook or by crook. He argues that taking risks

## Teaching tips: Inspiring teaching

Submitted by William Kennedy, director

I just received a volume entitled *Inspiring*

*Teaching: Carnegie Professors of the Year Speak.* The book consists of

nineteen essays written by award-winning teachers on themes including active learning and teaching, engaging students, creating global classrooms, learning communities, managing discussions in large classes, and teaching portfolios. Over the next few weeks, we'll peruse some of the insights of these nationally renowned teachers.

In "What Makes a Good Teacher," Peter Beidler, professor of English at Lehigh and recipient of numerous university and national teaching awards, puts forth ten qualities of good teaching. He openly admits that he is not a student of pedagogy but says that his list of the qualities of good teachers grows out of his lifelong experience as a student and a teacher. He offers this listing of qualities not for prescriptive purposes but in the hopes that his observations will spur others to review their own priorities regarding teaching and learning.

Beidler's first observation is that "good teachers really want to be good teachers." He says that good teachers "try and try and try, and let students know they try." He argues that students quickly sense if we really want to be in the classroom with them or if we "would rather be across the street sipping a cup of Starbucks coffee." Beidler says that our level of commitment to and affection for teaching are clearly communicated verbally and nonverbally to our students.

Beidler's second observation is that "good teachers take risks."

"We teachers have something called academic freedom," he notes. "Too many of us interpret that to mean freedom from firing. I suggest that we should interpret it rather as the freedom to take chances in the classroom." He says that good teachers often attempt to achieve impossible goals, and then, scramble to achieve them by hook or by crook. He argues that taking risks

"gives the teachers a high that is healthy for them and their students. It makes good teaching, good learning."

Beidler's third observation is that "good teachers have a positive attitude." He argues that those of us who habitually wax cynical about teaching, which is substantially within our control, may experience disastrous consequences to our teaching. "Why do we think we deserve smart, self-motivated, hard-working, wide-awake students, 'students who do not really need to be taught?'" he said. When he feels cynicism coming on, he reminds himself that the teachers he admires most are sometimes frustrated, usually underpaid, always overworked, but rarely engage in regular cynical or negative characterizations of teaching.

"Good teachers have enough time," is Beidler's fourth point. He notes that good teachers are perpetually busy people, working 80-100 hours per week. "[They] draw the most students, get the most requests for letters of recommendation, work most diligently at grading papers, give the most office hours, and are most frequently visited during those hours, work hardest at class preparations, work hardest at learning their student's names, take time to give students counsel in areas that have nothing to do with specific courses, and are most involved in professional activities off campus."

His fifth point is that "good teachers think of teaching as a form of parenting." He says of his students that "I feel that I know them, their insecurities, their problems, their capacities. I feel that I have a reasonably sure instinct about when to stand firm and when to bend, when to be someone to talk with and when to say 'Well, see you in class tomorrow.'" Although it is not our role to act *in loco parentis*, he says, good teaching is not unlike good parenting in many important ways.

Next week, we'll look at Beidler's last five attributes of good teaching. If you'd like the citation for *Inspiring Teaching*, or would like to borrow our copy of this book, just give the Center for Teaching, Learning, and Faculty Development a call at 487-2046.

## 19 years and counting

### Charlie Maguire returns to Michigan Tech

Folksinger Charlie Maguire will take the stage in the Memorial Union for two MUB Coffeehouse concerts on Friday and Saturday, February 13-14, at 8:00 p.m. Admission is \$1 at the door for students, \$2 for everybody else.

His visit continues a spectacular concert run at MTU spanning 19 years, 6 albums, and nearly 5 generations of MTU students.

A favorite of students, faculty, and the community at large, Maguire brings a wealth of his own songs and stories to campus annually. His songs, which he plays on guitar, harmonica, spoons, and jawharp, range from ballads to talking blues. Maguire has been active in the Midwest music scene since 1974, when he was a regular on *A Prairie Home Companion*. His award-winning songs have been commissioned by the US Department of the Interior, American Lung Association, for TV theme music (*On the Road*, with Jason Davis-KSTP; and *Talking Home Improvement*, Home Time-PBS), and others too numerous to mention.

The concert will feature bassist Gordy Abel, who, with Maguire, has made many midwinter journeys to the Upper Peninsula, and Lisa Fuglie, making her debut at Tech on vocals, fiddle, and mandolin.

For more information, call the Memorial Union Board at 487-2422.

## Three workshops coming on eating disorders

The Wellness Program is hosting the National Eating Disorders Screening Program on Monday and Tuesday, February 23–24.

The program provides free information, assessments, professional consultations, and referrals on eating disorders, including anorexia, bulimia, and compulsive eating.

The first workshop will be held February 23 at noon–12:50 p.m. in Memorial Union 105B. Also on Monday, a workshop on athletes and eating disorders will be held at 6:30–8:00 p.m. in SDC 207.

The final session, "How to Help a Friend Who May Have an Eating Disorder," is set for February 24 at 8:00–9:30 p.m. in the Memorial Union.

For more information, contact Erin Carter at 487-2172, [ejcarter@mtu.edu](mailto:ejcarter@mtu.edu)

## Jazz concerts celebrate Black History Month

*Submitted by the Department of Fine Arts*

The Department of Fine Arts presents two jazz and gospel concerts in celebration of National Black History Month on Friday and Saturday, February 20–21, at 8:00 p.m. in Walker Theatre. Called "Jazz: America's Music—A Universal Language," the concerts will feature MTU's Research & Development Big Band, ECHOES from Heaven Gospel Choir, and Jazz Lab Band. **Mike Irish** directs the jazz bands, with **Inetta Harris**, choirmaster of ECHOES, joining Jazz Lab Band to sing three special numbers. Tickets are available at the Memorial Union and SDC ticket offices (487-3200 or -2073) for \$7 general, \$5 seniors, and \$3 students (\$1 more at the door).

Gospel music has been an important influence on the development of jazz, and the ECHOES celebrate this in their performance. Their repertoire of classic and contemporary gospel music is being polished in preparation for a spring break tour to New York City and Washington, DC. The R & D Band will pay tribute to jazz great Cannonball Adderley by performing a medley of two of his group's most famous songs: "Mercy, Mercy, Mercy" and "Work Song." A nod to Michigan jazz legend Eddie Russ will be heard in Irish's arrangement of Russ's "Zaius."

Accompanied by the Jazz Lab Band, Harris sings a pair of Dinah Washington songs, "Someone's Rockin' My Dreamboat" and "Where's My Baby?" as well as "I Can Cook, Too!" a rousing celebration of a woman's distinctive talents. The Jazz Lab Band, which will tour downstate Michigan during spring break, will present a swinging "Sweet Georgia Brown" as well as "The Great White Also," a tour-de-force funk composition by Geoff Stradling. "Nukin' at Juke's," an original blues composition by Irish, will round out their program.

For more information on these concerts, call 487-2067.

## Department of Electrical Engineering honors founding chairman

*Submitted by the News Bureau*

The Department of Electrical Engineering honored its founding chairman in a special ceremony February 4.

"We recently received a gift from one of our alumni, **George Swenson Jr.**, for the purpose of enhancing the quality of our Electromagnetic Projects Laboratory," said department chair **David Stone**. "We've decided to dedicate that lab to honor George's father, **George W. Swenson**, who was the founding chairman of MTU's Electrical Engineering Department back in 1928."

The younger Swenson's gift will be used to purchase equipment to assist students in laboratory projects investigating the performance and design of circuits and antennas used in cellular phones, collision avoidance systems, radio telescopes, and electrical transmission lines.

A native of Willmar, Minnesota, George Swenson received BS and MS degrees from the University of Minnesota and taught there for ten years before coming to Michigan Tech in 1928 to head the new Electrical Engineering Department.

## Wind Symphony concert February 15

*Submitted by the Department of Fine Arts*

Michigan Tech's select band, the Wind Symphony, presents "Wind Symphony 101: Classics, Near-Classics, and Un-Classics" at 7:00 p.m. on Sunday, February 15, in Walker Theatre.

Known for its highly entertaining approach to concerts, the Wind Symphony can be counted on to play interesting music, whether band classics or pop favorites, with zest and humor. Tickets are available from MTU's box offices (Memorial Union and SDC) for \$7 general, \$5 seniors, and \$3 students (\$1 more at the door).

Director **Jeff Bell-Hanson** says the program will include encores of some pieces from last fall's popular collaboration with The Troupe, "Shtick at Nite," which featured great TV themes. Great composers for band, from Percy Grainger to Morton Gould and Louis Gottschalk, are also on the program. Bell-Hanson says, "If wind or band music is a new concept for you, or if it's already a favorite, this concert is for you."

The concert will feature undergraduate **Wayne Wilcox** (ME-EM) playing the classic trombone solo "Morceau Symphonique" by Alexandre Guilmant. Wayne won the Fine Arts Award in music last spring in recognition of his talented and enthusiastic participation in MTU's music programs throughout his student career.

For more information, call 487-2067.

## Time management workshops open

Seats are available in the LEAD workshop Managing the Time of Your Life. If you have questions or to register, contact Becky Christianson at 487-2416 or [rwchrist@mtu.edu](mailto:rwchrist@mtu.edu)

- Wed., Feb. 18, 8:15–11:45 a.m.
- Thurs., Feb. 19, 1:15–4:45 p.m.
- Tues., Feb. 24, 8:15–11:45 a.m.
- Thurs., Feb. 26, 8:15–11:45 a.m.

## Computer classes

The following classes will be offered through dL Computer Consultants. Cost of the workshops is \$60 for half-day, \$115 for full-day sessions. Sessions are limited to six participants. Custom classes can be scheduled for at least three participants. For more information or to register, contact Becky Christianson, Quality Service Education Office, at 487-2416 or [rwchrist@mtu.edu](mailto:rwchrist@mtu.edu)

- Access, Level 1, Monday, March 9, 9:00 a.m.–noon
- Access, Level 2, Thursday, March 26, 9:00 a.m.–noon
- Excel, Level 1, Tuesday, March 17, 9:00 a.m.–noon
- Excel, Level 2, Tuesday, March 17, 1:00–4:00 p.m.
- New User Class, March 3, 9:00 a.m.–noon
- Paradox, Version 7, Monday, February 23, 9:00 a.m.–4:00 p.m.
- Quickbooks, Monday, March 2, 9:00 a.m.–noon
- Windows 95/NT, Level 1, Thursday, March 5, 9:00 a.m.–noon
- Windows 95/NT, Level 2, Tuesday, March 5, 1:00–4:00 p.m.
- Word, Level 1, Thursday, March 19, 9:00 a.m.–noon
- Word, Level 2, Thursday, March 19, 1:00–4:00 p.m.

## \$ for German-American lecture exchange

The German-American Academic Council is making funds available for distinguished German scholars and scientists to give guest lectures in the United States and distinguished American scientists and scholars to give lectures in Germany.

The Distinguished Lectureship Program can provide up to \$10,000 to support presentations, lectures, etc. by acclaimed scientists and scholars. The aim is to improve the exchange of information on current research and technology, and to illuminate the scientific, cultural, social, political, and economic conditions in the lecturer's home country.

For more information, contact the Office of International Programs, 487-3055.

## HOTEL MTU Apartments for rent to University visitors

Got University guests and need a place to put them? MTU Apartments can provide fully furnished accommodations for MTU visitors planning a stay of at least three days during the academic year (September through May).

Both one- and two-bedroom apartments are available at a cost of \$100 and \$125, respectively, for a three-day visit. Discounts are available for stays of a week or more.

Visitors staying a week or longer can take advantage of the Food & Fitness option, which provides four lunch passes to the Campus Cafe and four passes to the SDC, at an additional charge. The Rise & Shine package includes an alarm clock, toaster, and the all-important coffee pot, as well as free phone service and cable TV.

Guests have access to a free washer and dryer, and visitors planning to stay at least one week can order phone service and cable TV.

For more information or to find out about reserving an apartment, call 487-2727.

## New staff

**Adam Johnson** has joined the Keweenaw Research Center staff as a research assistant. He was previously a student intern at KRC and will graduate in May from MTU with a BS in Mechanical Engineering. Johnson and his wife, Robyn Johnson, live in Calumet.

**John Erickson** has joined the School of Forestry and Wood Products and the Institute of Wood Research as a research scientist. He was previously self-employed as a consultant and has BS and MS degrees in Mechanical Engineering from MTU. He and his wife, Marion Erickson, currently live in Madison, Wisconsin.

**Kathleen Dorvinen** has joined the Central Ticket Office staff as a senior clerk. She was previously a customer service representative at the Wickley Agency. She and her husband, Joseph Dorvinen, live in Portage Township and have two daughters, Amy and Beth.

## Grants available for undergrad research in sci, engg

The US Department of Energy is offering Research Undergraduate Laboratory Fellowships for the summer and fall terms in biology, chemistry, computer science, environmental science, engineering, geology, material science, mathematics, physics, and related disciplines.

Energy Research Undergraduate Laboratory Fellowships are designed to provide educational training and research experiences for academically talented undergraduates. The appointments are for ten weeks during the summer term and for sixteen weeks during the fall term.

The program is available at about a dozen national labs throughout the country. The application and general information about the program, such as eligibility requirements and deadlines, can be found at [http://www.orau.gov/doe\\_erulf](http://www.orau.gov/doe_erulf)

Applications can be submitted electronically from this site. The deadlines are rapidly approaching, so don't wait. Early submission of the completed application is strongly encouraged.

For more information, call 423/576-2478 or e-mail [erulf@orau.gov](mailto:erulf@orau.gov)

## When Night is Falling here February 17

*Submitted by University Cultural Enrichment*

*When Night is Falling*, a story of a young Christian academic forced to choose between the woman she wants and the man who loves her, will be shown on Tuesday, February 17, at 8:00 p.m. in Fisher 135. Admission is free and open to members of the campus community and their guests. This is the second in the three-film Human Relations Series.

Camille, a professor at a Protestant college, is engaged to Martin, a sympathetic minister and fellow professor. As "career Christians," they are urged to marry and to become co-chaplains of the New College of Faith. But Camille is vaguely unhappy with Martin and with her life. When she meets Petra, a flamboyant circus performer, she finds herself inexplicably attracted to her and to the seductive world of the modern primitive circus. The two become friends and then more. For the first time in her proper and very intellectual life, Camille's life comes rushing forward. She is shocked to find herself falling fiercely, almost magically in love, but she remains deeply attached to Martin, as he is to her. Terrified at the prospect of radical change, Camille is forced to make a painful choice. The movie is not so much about making choices as it is about having the courage to make the right choices, regardless of what they are.

Edward Guthman of the *San Francisco Chronicle* describes the movie as a "sexual journey for grown-ups. A struggle, not only between heterosexuality and homosexuality, but between obligation and fulfillment, convention and experiment . . . a romantic fairy tale about confronting our fears, seen and unseen."

The Human Relations series is funded through the Office of the President and is coordinated by a committee of representatives from the President's Commissions for Women and for Diversity and the University Cultural Enrichment Department.



## Little Feat keyboardist Bill Payne here February 18

Bill Payne, keyboardist, composer, producer, and member of the band Little Feat, will be at Walker Theatre for an evening of music, lyrics, poems, and relaxed conversation, Wednesday, February 18, at 7:30-9:00 p.m. The event, as well as the reception that follows, is free and open to the public.

Payne will discuss the creative spirit, drawing upon his lyrics, poems, and music, as well as his experiences as a musician and in the company of other artists. He will invite audience members to share comments, to ask questions, and to relate personal experiences of the challenges and triumphs of writing.

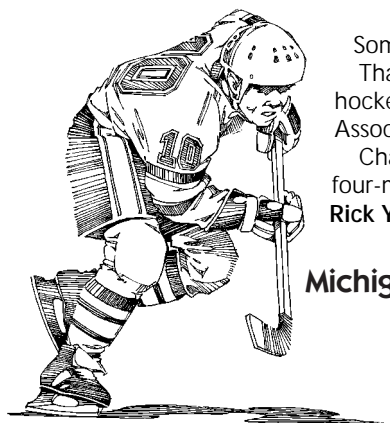
In addition to playing on fourteen Little Feat albums, Payne has appeared on over 170 albums by artists such as Bryan Adams, the Blues Brothers, Jackson Browne, Shawn Colvin, the Doobie Brothers, Emmylou Harris, Taj Mahal, Stevie Nicks, Pink Floyd, Bonnie Raitt, Bob Seeger, James Taylor, Toto, and Lari White.

As well as touring with Little Feat, Payne has toured with Beck (Farm Aid), Jackson Browne, the Doobie Brothers, Emmy Lou Harris, Stevie Nicks, Bonnie Raitt, Linda Ronstadt, Bob Seeger, Simon and Garfunkel, and James Taylor.

Payne has worked on soundtracks for the movies *Smooth Talk* (Laura Dern's first starring role), *Heart Burn* (Jack Nicholson and Meryl Streep), *Love Field*, and *Robin Hood: Prince of Thieves*.

He has participated, with Little Feat, in the last two Presidential Inauguration parties, and the 1996 Olympics in Atlanta, Georgia.

More information about the event, about Payne, and about Little Feat can be found at <http://www.hu.mtu.edu/~djmilller/payne> or by going to the MTU Home Page.



Sometimes the best news is... That's one way to look at hockey Huskies in the WCHA Association.

Changing leagues to the CCHA was one consideration during a four-month evaluation of the hockey program, led by athletic director Rick Yeo and head coach Tim Watters. Yeo and Watters consulted with a wide range of constituents, from the University's senior

### Michigan Tech to remain in WCHA

- Michigan Tech will remain in the WCHA.
- The program needs the proposed Hockey Educational Center and the renovation/addition should be completed as soon as possible.
- Creation of a hockey endowment fund will ensure the program's successful operation.



Rumors and talk abounded that Tech would follow Northern Michigan back to the Central Collegiate Hockey Association (CCHA). MTU moved to the CCHA in 1981, but moved back to the WCHA three years later, along with NMU. Northern moved back to the CCHA this season, citing perceived student recruiting benefits by playing in lower Michigan on a regular basis.

Yeo said he and others were also attracted by the prospect of playing the CCHA's Michigan schools. In addition, Tech's switch would put all three UP hockey programs in the same league.

On the other hand, the WCHA tradition tugged hard. MTU is a founding member of the WCHA. Many still consider it the premier league in the country in terms of competition, history, and facilities. The league is expected to add two more teams, Mankato State and the University of Nebraska-Omaha, in the next few years.

"Certainly the issue of which league Michigan Tech belongs in has been the hottest topic externally," said Yeo. "But that is one of many significant issues we have looked at over the last several months."

Yeo said a Hockey Advisory Council was formed as part of the evaluation process and that group met during the 1998 Winter Carnival.

"The meeting was extremely productive," Yeo said. "The people we gathered have a tremendous combination of hockey and business savvy, and that was important to us."

"We came to the realization that the advantages in seeking application to the CCHA don't outweigh all the positives of the WCHA. I will say that the exercise was a healthy one for Michigan Tech to go through."

The Hockey Advisory Council also urged the completion of fundraising and beginning of

construction for the Hockey Educational Center.

The Hockey Educational Center will serve as a complete learning and training center for MTU student-athletes and will include an expanded varsity locker room and sauna, strength and conditioning room, training room, equipment room, classroom/study room, lecture hall/film room, and video editing/conference room.

An alumni reception room and players' lounge as well as coaches' offices are also part of the project. The center will be created through a renovation of the lower level of the MacInnes Student Ice Arena, and an addition to that floor of the arena. It is expected to be funded privately.

"We're confident that the Hockey Advisory Council will help us raise the money necessary to get the project done immediately," Yeo said. "And the establishment of an endowment fund for hockey is something the Hockey Advisory Council was vehement about getting in place."

Yeo sees the endowment providing scholarships and additional funds for travel.

The Hockey Advisory Council includes Peter Grant Sr. '68 (chair), Glen Weller '59, Angelo Comi '59, Gary Begg '63, John Rockwell '79, Darcy Way '82, Yeo '66, and Watters '81.

"I'm very pleased with what has transpired over the last four months," said Watters, in his second year as head coach. "I feel good about the commitment to our hockey program, both from our University administration and from our former players and fans. I will say that, personally, I'm very happy we'll be staying in the WCHA."

According to Watters, the Hockey Advisory Council will expand and is a group he intends to meet with regularly.

## Tea Time in Paris

romance, the fashion and gastronomic capital of the world. Any way you look at it, there has got to be some time in a person's life when the

always by his camera, spent a few days there last June and will share his experiences at a slide presentation at Tech Tea Time on Wednesday, February 18, at 4:00 p.m. in the Memorial Union Alumni Lounge. Tech Tea Time is free and is open to all.

Kirkish spent a few exciting days taking in the sights, visiting museums, taking a *bateau mouche* on the Seine, walking along the Champs Elysées, and seeing the Palace of Versailles, all the while trying desperately to communicate with Parisians in broken French. He has captured a chronological visual memento in the form of a slide show that begins with a sunset ride on the Seine and concludes at the Palace of Versailles, with the Eiffel Tower, the Arc de Triomphe, the Louvre, and Montmartre's famed Sacré Coeur in between.

Kirkish will narrate the slide show with comments on the trials and tribulations of a neophyte's Parisian experience. His difficulties with the language were particularly trying as he attempted to get information and directions from the reluctant, and often mistaken, Parisians. However, he managed to retain his sense of humor and delighted in the fun and challenge of frequently getting lost in a confusing and extremely crowded foreign city.

For anyone wanting a firsthand introduction to this fabulous city or wishing to recapture personal memories of past visits, this is an opportunity to see Paris through one visitor's eyes.

Tech Tea Time is coordinated by the University Cultural Enrichment Department. For further information, call 487-2844.

## On the road

Associate Professor Ashok Goel (electrical engineering) co-taught a tutorial, Parasitic Extraction and Analysis for High-Speed VLSI Interconnections, with representatives from Texas Instruments and Lucent Technology, at the Very Large Scale Integration Design 98 conference held January 4-7 at Chennai, India. The presentation included research by Lehang Huynh, a participant in the Research Experiences for Undergraduates program, on a project on crosstalk simulation using the Frequency Domain Modal Analysis.

Associate Professor Bette Sellars (fine arts) has been selected to exhibit her oil paintings in the 1998 Arts On Grand Invitational Art Exhibition, set for February 16-March 28 at the Arts On Grand Gallery, in Spencer, Iowa. Her work was also selected to represent Upper Peninsula artists in the U.P. Style Gallery in Marquette, where it will be on display through May 1.

## Deferred tuition available for Southeast Asian students

Because of the economic upheaval in Southeast Asia, Michigan Tech is offering a deferred payment plan to students from Hong Kong, Indonesia, Korea, Malaysia, and Thailand.

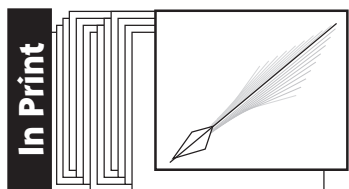
Self-supporting students from these countries can defer payment for spring and summer quarter tuition, University housing, and general fees until August 31, 1998, without late fee charges.

The University does encourage students to apply for on-campus employment or to seek authorization from the Immigration Service for off-campus employment.

In accordance with University policy, transcripts will not be issued until full payment is received.

Payment must be received by August 31.

Payment deferral forms are available at the International Services Office, Administration/Student Services 135 and should be returned as soon as possible.



Professor **David Karnosky** (SFWP), Associate Professor **Gopi Podila** (biological sciences), former graduate student **Dongill Shin** (SFWP), and Don Riemenschneider (USFS) have published a paper, "Differential Expression of *araA* Gene in Transgenic Poplar: Influence of Promoter and Ozone Stress," in *USDA Forest Service General Technical Report RM-GTR-297* (1997). And, with Professor **Vincent Chiang** (SFWP), they published the article "Biotechnology in Forest Tree Improvement" in the book *Forest Genetics and Tree Breeding*.

Research Assistant Professor **Chandrashekhar Joshi** (IWR) published a paper, "Context Sequences of Translation Initiation Codon," co-authored with former graduate student **Hao Zhou**, Associate Professor **Xiaoqi Huang** (computer science), and Professor **Vincent Chiang** (IWR), in *Plant Molecular Biology*, Vol. 35. Joshi also published "Expression of a Unique Plastid-Localized Heat Shock Protein Is Genetically Linked to Acquired Thermotolerance in Wheat," coauthored with N. Klueva, K. Morrow and Henry Nguyen (Texas Tech University), in *Theoretical and Applied Genetics*, Vol. 95. He has also published an invited book chapter with Nguyen, "Cloning of the 3' Non-Coding Regions from Several Members of Heat Shock Protein Gene Families by Differential Display," in *Differential Display: Methods and Applications*.

Associate Professor **Barry Solomon** (social sciences) published a review of the book *Oil on the Edge: Offshore Development, Conflict, Gridlock*, by R. Gramling, in *Social Science Quarterly*, Vol. 78, No. 4, December 1997.

Associate Professor **Peter Laks** and Mark

Manning (U.S. Borax, Valencia, California) published an article, "Update on the Use of Borates as Preservatives for Wood Composites," in the *Proceedings of the Second International Conference on Wood Protection with Diffusible Preservatives and Pesticides*.

Associate Professor **Vernon Dorweiler** (SBE) has a paper, "National Strategies and Multinational Business," published in the February issue of *Hydrocarbon Processing*.

Assistant Professor **Mohan Krishnamurthy** (MME) has published two papers: "Formation of Self-Assembled Quantum-Wires During Epitaxial Growth of Strained GeSn Alloys on Ge(100): Trench Excavation by Migrating Sn Islands," published in the February 2 issue of *Physical Review Letters*, coauthored by graduate students **X. Deng** and **Bi-Ke Yang** and Professor **Stephen Hackney** (MME); and "Preferential Nucleation of Ge Islands at Self-Organized Pits Formed During the Growth of Thin Si Buffer Layers on Si(110)," coauthored by graduate students **James Weil** and **Deng** (MME), in the January 1 issue of the *Journal of Applied Physics*.

## POSITIONS AVAILABLE AT MTU

Job descriptions are available from Human Resources starting at 1:00 p.m. on Friday. You can e-mail us at [JOBS@MTU.EDU](mailto:JOBS@MTU.EDU) and we will e-mail you the job description you request.

The following positions will be posted Friday, February 13, 1998, at 1:00 p.m. through noon, Friday, February 20, 1998, in the Human Resources Office.

System Administrator—Center for Experimental Computation  
Administrative Associate—College of Engineering

University employees are reminded to apply in writing prior to noon, Friday, February 20, 1998, to be considered as internal candidates for bargaining unit positions only. Applicants from the recall pool will be given first consideration for non-bargaining-unit positions only. 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.

## February

### BLACK HISTORY MONTH

- 12 **Thursday**  
6:00/7:00 p.m.—Club Indigo buffet/movie *The Sporting Life*—Calumet Theatre
- 13 **Friday**  
8:00 p.m.—Folksinger Charlie Maguire—Memorial Union Coffeehouse
- 14 **Saturday**  
8:00 p.m.—Folksinger Charlie Maguire—Memorial Union Coffeehouse
- 15 **Sunday**  
8:00 p.m.—Wind Symphony—Walker Theatre
- 16 **Monday**  
6:00 p.m.—Women's basketball, Northern Michigan at MTU—SDC  
8:00 p.m.—Men's basketball, Northern Michigan at MTU—SDC
- 17 **Tuesday**  
noon—Basketball luncheon—Memorial Union 105  
8:00 p.m.—*When Night is Falling*—Fisher 135
- 18 **Wednesday**  
4:00 p.m.—Tech Tea: Joe Kirkish in Paris—Memorial Union Alumni Lounge  
7:30 p.m.—Little Feat Musician Bill Payne—Walker Theatre
- 20 **Friday**  
noon—Coaches Corner/BlueLine Club luncheon—Franklin Square  
7:35 p.m.—Hockey, Wisconsin at MTU—MacInnes Student Ice Arena  
8:00 p.m.—MTU Jazz Bands concert "Jazz: America's Music:—A Universal Language"—Walker Theatre
- 21 **Saturday**  
7:05 p.m.—Hockey, Wisconsin at MTU—MacInnes Student Ice Arena  
8:00 p.m.—MTU Jazz Bands concert "Jazz: America's Music:—A Universal Language"—Walker Theatre
- 23 **Monday**  
noon—National Eating Disorders workshop—Memorial Union 105B  
6:30 p.m.—National Eating Disorders workshop for athletes—SDC 207
- 24 **Tuesday**  
noon—Basketball luncheon—Memorial Union 105  
8:00 p.m.—National Eating Disorders workshop, "How to Help a Friend Who May Have an Eating Disorder"—Memorial Union
- 27 **Friday**  
noon—Coaches Corner/BlueLine Club luncheon—Franklin Square  
7:05 p.m.—Hockey, Mankato State at MTU—MacInnes Student Ice Arena