

## Senate OKs Academic Calendar

The University Senate passed three proposals in quick succession Jan. 30 dealing with the academic calendar, academic integrity, and the late adding of courses.

The senate approved the academic calendar for the 2002–03 academic year, while questioning whether semesters might at some time be shortened to 14 weeks from the current 15. Senate president **Robert Keen** said the matter is under discussion, but that in any case, it would be too late to make such a drastic revision of the calendar at this date.

Senator **William Yaroch**, chair of the Instructional Policy Committee, noted that Winter Carnival would be held during the fifth week of the semester next year, instead of the traditional fourth week, because of difficulties with athletic schedules.

Under the Late Course Add Policy proposal, students may add a course from the first through the fifth day of classes without getting special permission. From the sixth through the tenth day of instruction of the semester, they may add classes only if they get the signature of the course instructor and of their academic advisor. After the tenth day, students may add a course only if it involves individualized instruction or has unique registration circumstances, or if the student is advised by an instructor in a scheduled course to move to a lower/higher level course in the sequence of courses. In addition, students must get permission from the instructor of the course and their academic advisor.

The senate passed without debate amendments to the Academic Integrity Policy. Among the new provisions, it adds clarifying language on how much collaboration students may do in preparing classwork and amends hearing procedures to better meet the circumstances of graduate students.

To view the full text of the proposals (17–02, 18–02 and 19–02) visit [www.sas.it.mtu.edu/usenate/propose/2001-02.html](http://www.sas.it.mtu.edu/usenate/propose/2001-02.html).

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*Idealism increases in direct proportion to one's distance from the problem.*

—JOHN GALSWORTHY

## Michigan Tech Installing Security Cameras

Michigan Tech is installing 10 new security cameras on campus.

"This is part of an ongoing effort to protect our people, our buildings and millions of dollars of research going on all over the University," said **Bill McGarry**, vice president for administration.

On Nov. 5, the Michigan State Police bomb squad dismantled two explosive devices left outside of the Noblet building and the adjacent US Forest Service lab. The matter is being investigated by the FBI; no arrests have been made.

Eight cameras will be located around the Noblet building. The US Forest Service is also considering installing one or more cameras at its facility. Two other cameras with zoom and rotational capacity will be placed on top of

the Rozsa Center and Wadsworth Hall to survey the main campus.

The images from the cameras will be shown on the Internet, like the Statue Cams that track Winter Carnival events (see <http://www.admin.mtu.edu/alumni/cams/>). Access to the security camera Web site will be available by password only. The images will be monitored by Public Safety on a 24/7 basis, while others may be viewing the images intermittently.

"We hope that this will be a disincentive for anyone who might be considering criminal activity on campus," McGarry said.

The cameras will not take the place of normal security measures. "We'll continue our regular patrols," he said. "That's how the devices were detected near forestry."

## Urnezius Makes "Science" with New Sandwich Structure Molecule

Fifty years ago, chemists created ferrocene, the first "sandwich structure" molecule. Today, it's hard to underestimate the role ferrocene and related compounds, known as metallocenes, have played in shaping our modern world.

"A number of things as we know them now wouldn't exist," said **Eugenijus Urnezius**, an assistant professor of chemistry. This class of compounds has been used extensively as reagents, catalysts and building blocks for new materials, including pharmaceuticals.

Until now, all metallocenes have had the same basic structure: a metal atom sandwiched between two five-sided rings made of carbon and hydrogen. However, Urnezius and his colleagues have made the first carbon-free metallocene: titanium is the meat, with two five-sided rings composed of phosphorus serving as the bread. Their work, "A Carbon-Free Sandwich Complex [(P<sub>5</sub>)<sub>2</sub>Ti]<sup>2+</sup>," is featured in

the February 1 edition of "Science."

"All earlier attempts by other research groups to obtain similar compounds have failed, and theoretical predictions said that it probably couldn't be done," Urnezius said. "Since I'm an experimentalist, I was very pleased with the result."

Though it's too early to predict whether the new sandwich structure molecule will have any practical use, it does open a new chapter in the field of inorganic chemistry as the first all-inorganic metallocene.

Coauthors of the article are William W. Brennessel, Christopher J. Cramer and John E. Ellis of the Department of Chemistry at the University of Minnesota, Minneapolis; and Paul von Rague Schleyer of the Computational Chemistry Annex, University of Georgia. The research outlined in the Science article was undertaken at the University of Minnesota, where Urnezius was a postdoctoral researcher.

## Drop Deadline Feb. 1

The Office of Student Records and Registration asks all faculty to announce to their classes that Friday, Feb. 1, is the last day to drop a full semester class without a grade.

A "W" grade, indicating withdrawal from the course, will be given for any class that is dropped after Feb. 1.

## Sons and Daughters Scholarships Available

MTU Employee Sons and Daughters Scholarships valued at \$100 each will be available for the 2002–03 academic year. Applicants must be full-time MTU undergraduates in their first four years of study or high school students planning to enroll in fall 2002, and the sons or daughters of Tech employees. Applications are available in Financial Aid. The application deadline is Feb. 15.

## C<sup>2</sup>E<sup>2</sup> Grants Announced

Vice President for Research **David Reed** has approved the following grants at the recommendation of the Century II Campaign Endowed Equipment (C<sup>2</sup>E<sup>2</sup>) Committee.

**Paul Charlesworth** and the Department of Chemistry received \$933 toward the purchase of a \$1,933 mobile lecture demonstration cart. The Department of Chemistry provided the \$1,000 balance.

**Pat Heiden** and the Department of Chemistry received \$1,610 to be used to repair and purchase polymer characterization equipment. Additional funds were provided by the chemistry department, a USDA-funded proposal, research funds provided by chair of chemical engineering **Michael Mullins** and a designated repair fund, for a total of \$5,305.

**Gopal Jayaraman** and **Dave Labyak** of the ME-EM department and **Dale Burkhouse** of biomedical engineering received \$2,500 toward the \$12,000 purchase of a force plate system. The ME-EM department and the biomedical engineering department provided the balance.

**Timothy Scarlett** and the Department of Social Sciences received \$5,000 toward the \$10,000 purchase of two ceramic muffle kilns for the Archaeology Lab. Additional funding was provided by the social sciences department and the College of Sciences and Arts.

**Noel Urban**, **Martin Auer** (Civil and Environmental Engineering), **Rolf Peterson** (SFWP), **Sarah Green** (Chemistry) and **Judy Budd** (Geological Engineering and Sciences) received \$2,500 to help buy a \$7,820 winch for MTU's new research and teaching vessel. Additional funding was provided by the SFWP, civil and environmental engineering and the Remote Sensing Institute.

The C<sup>2</sup>E<sup>2</sup> program provides small equipment grants; proposals may be submitted at any time. For more information, visit <http://www.admin.mtu.edu/research/c2e2/>

## Scorecard on Perspectives on Inquiry

By *William Kennedy, director*

Center for Teaching, Learning,  
and Faculty Development



The first of MTU's four general education core courses is Perspectives on Inquiry. Nearly

every first-year student takes Perspectives during their first term at MTU. The purpose of the Perspectives on Inquiry course is "to challenge first-semester students to become more personally engaged in and responsible for their educations."\* Course designers suggested that Perspectives is "an effort to engage students as active learners and establish beneficial educational habits early in students' academic careers."\* Designers felt that a topical seminar course which examines an issue or subject from a variety of points of view, ideally taught by a regular MTU faculty member, would foster a genuine sense of community and would help MTU entering students to bond with the University and to develop some of the critical thinking skills that would carry them through their undergraduate studies.

Measuring the impact of a seminar series like Perspectives is a daunting task. This semester, we are piloting a pre-test/post-test instrument which presents students with opposing points of view on current issues. At the beginning of the term, and then again at the end, students will be asked to read the opposing arguments on current issues, form their own opinions, and then produce an informal essay expressing their own thinking on the issues. Later, we will examine a sampling of those pre-course and post-course essays to determine if the Perspectives experience produced any measurable differences in those student responses. One hoped-for outcome might be that an aggregate primary-trait analysis of the essays written after the Perspectives experience would reflect more careful analysis of the issue, an acknowledg-

ment that there are often many more than two sides to any issue, and the awareness that bias often colors "objective" perceptions.

Each fall semester, we have also been indirectly measuring the impact of Perspectives by appending 10 additional questions to the standard MTU instructor evaluation instrument. These questions ask students to indicate the degree to which they feel that the course is helping them achieve some of our general education goals. The results of this indirect assessment are very promising.

Sixty-three percent of the Perspectives students in the fall 2001 semester said that they would be more likely to participate in class discussions in the future as a result of taking Perspectives. Seventy-two percent said that they are now more likely to consider issues they encounter from different points of view. Two-thirds said they were now more able to defend their ideas using evidence and reasoning. And 64 percent said they felt better equipped to evaluate new ideas as a result of taking the course. More than half of the students felt that Perspectives would help them to succeed in their future studies, and had improved their writing and their critical reading skills. Fifty-seven percent of the respondents said they had learned how to make better use of the library.

By comparison, fewer students (42 percent) felt that Perspectives had helped them to understand how different academic disciplines relate to one another; 43 percent said they better understood how to use graphics or visual images to express their ideas. On average, however, the results are encouraging.

Perspectives is a bold, time-consuming and expensive undertaking. If these indirect assessment results are verified by more direct measures, the time and energy we are spending on Perspectives might just pay some handsome dividends for our students in the long run.

\*MTU Report to the Faculty on General Education and the MTU Catalog

## In the News

The Michigan Tech SmartZone was featured in an Associated Press article in the Dec. 6 Detroit News, "Houghton Region Counts on SmartZone for Growth." Executive Director of Corporate Services **Pete Radecki** was quoted extensively.

Michigan Tech was mentioned in a Dec. 3 article in the Washington Times, "Genetic Debate Sprouts over Trees."

Professor **Kurt Pregitzer** was featured in an article in the December edition of Health-headlines, "Branching Out: What Are You Pining For?" which gives tips on choosing the perfect Christmas tree.

Michigan Tech was highlighted and Research Engineer **Allison Hein** (IMP) was quoted in a recent Mineral Resources Education Update newsletter. MTU sponsors workshops that use the National Energy Foundation's "Out of the Rock" materials. The workshops provide area teachers with minerals education information to take back to their classrooms.

Associate Professor **Gregg Bluth** (Geological Engineering and Sciences) was interviewed for a Jan. 21 story on "Here & Now," a program syndicated on National Public Radio. He discussed using satellite technology to predict volcanic eruptions, such as the one in the Congo city of Goma.

## MichiganTech

Bill Curnow, executive director, University Relations  
Marcia Goodrich, *Tech Topics* editor  
*Tech Topics* Web site: [www.mtu.edu/level3/ttopics.html](http://www.mtu.edu/level3/ttopics.html)

To get *Tech Topics* via e-mail, send a message to [MAJORDOMO@MTU.EDU](mailto: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.

## Winter Carnival Begins

Winter Carnival doesn't begin officially until Wednesday, Feb. 6, when students work through the night to finish their statue displays. But MTU is already gearing up.

The Winter Carnival Queen will be crowned following a competition on Saturday, Feb. 2, at 7:30 p.m. at the Rozsa Center. Tickets are \$10 and are available by calling 487-3200. The eight finalists were selected in December.

Ice bowling and broomball are being held almost daily through Tuesday, Feb. 5., at Dee Stadium. Games begin at 9:30 p.m. on Jan. 31 and Feb. 4-5, at 6 p.m. on Friday, Feb. 1; and 8 a.m. Sunday, Feb. 3.

On Saturday, Feb. 2, speedskating competitions begin at 8 a.m. in Dee Stadium. Snow volleyball competitions are slated for 10 a.m. both Saturday and Sunday in the SDC practice fields, and cross-country ski races start at 1 p.m. at the MTU Ski Trails.

The Winter Carnival ice fishing derby kicks off at 8 a.m. Saturday, Feb. 2, at Chassell Bay. Anglers can sign up in advance at Dick's Favorite Sports, Swift True Value Hardware and WOLV/WCCY Radio in Houghton; and Superior Bait and Tackle in Chassell. The entry fee is \$10.

One-Nighter statue construction gets under way at 4 p.m. on Wednesday, Feb. 6, with Carnival beginning officially at 10 p.m. Statue judging begins at 9 a.m. Feb. 7.

The Beards Competition begins at 1 p.m. on Thursday, Feb. 7, in Fisher 135. The Stage Review, with skits by student groups, will be held at 4 and 8 p.m. in the Rozsa Center.

The SDC practice fields will be the site of three traditional yet unconventional winter sports competitions on Friday, Feb. 8, at MTU. Snow volleyball begins at 10 a.m., with the tug-of-war and human dogsled races starting at 11 a.m. The snowshoeing races also kick off at 11 a.m.

Also on Friday, Feb. 8, races begin at 1 p.m. for downhill skiers and at 3:30 p.m. for snowboarders at Mont Ripley.

Judging of community light displays will start Friday at 8 p.m.

In Winter Carnival hockey action, Michigan Tech will go up against St. Cloud at 7:05 p.m. Friday, Feb. 8, and at 5:05 p.m. Saturday, Feb. 9, at the MacInnes Student Ice Arena.

The Winter Carnival theater production, "A Chorus Line," will be held at the Rozsa Center at 8 p.m. on Jan. 31, Feb. 1 and 8; and at 3 p.m. on Feb. 10.

On Saturday, Feb. 9, the Awards Ceremony will be held at 3:30 p.m. in the Memorial Union Ballroom. The Torch Light Parade begins at 8:30 p.m. at Mt. Ripley, followed by fireworks. The Sno-Ball semiformal dance starts at 9 p.m. in the MUB Ballroom.

Winter Carnival winds down Sunday, Feb. 10, with campus sleigh rides. Tickets are \$2.

## Hansmann: A Better Way to Find a Better Way

If you wanted to drive from Hancock to Houghton, you'd probably just cross the Portage Lift Bridge. Theoretically, you could take any number of other routes, some of which might involve transoceanic travel, but the most direct route is evident from any local map.

Other "best" routes from Point A to Point B aren't so simple. Ask anyone who has ever meandered helplessly through a myriad of small Wisconsin towns on a shortcut to Chicago.

How, then, does one find the shortest, cheapest, quickest way to do anything, from travel cross country to assemble a widget? Especially if there are many pretty-good solutions?

Often, the answer can lie in statistical physics. Since the 1980s, scientists have used a mathematical technique called "simulated annealing."

"The process mimics a slow, cooling process in which the search is gently coaxed toward the best solution," Associate Professor **Ulrich Hansmann** (Physics) said. "The method has been used very successfully over the years, but it can be notoriously slow and sometimes needs operator intervention."

Recent work by Hansmann and his colleague Luc Wille, of Florida Atlantic University, which appeared Jan. 29 in *Physical Review Letters* (see <http://ojps.aip.org/journal/cgi/dbt?KEY=PRL-TAO&Volume=88&Issue=6#MINOR9>), promises to overcome these drawbacks. Hansmann and Wille have designed an

"Energy Landscape Paving" method which circumvents the problems of the annealing algorithm.

Their new method is fast and automatic, so much so that they use it to address the notorious protein folding problem, which has baffled scientists for decades.

Proteins are the stuff that we are made of. They are long strings of amino acids, and determining the amino-acid sequence of proteins isn't too difficult. But as proteins are formed, they almost immediately begin folding into incredibly complex structures that interact with other proteins, often in lock-and-key type arrangements. So far, scientists have not been able to determine or predict what form most proteins actually take.

Without understanding proteins' 3D nature, we can't understand what they do or how they do it, so we can't truly understand how organisms, from yeast to human beings, function in this world.

Hansmann and Wille have brought us one step closer, however.

Their new method has found the folded configuration of two test molecules. They stress that their technique is no panacea; for large proteins, the computing time may still be prohibitive. But for smaller biomolecules, it promises better results, faster.

"If you know the structure, you can predict the function," Hansmann said. "This could be important for developing new chemicals and materials, including pharmaceuticals."

## The Michigan Tech Fund: More Than Just Gifts

*By Jason Bauer, Michigan Tech Fund*

When many people think of the Michigan Tech Fund, they think of giving to the University. While solicitation and collection of donations is their primary function, the Tech Fund also does much more.

For instance, the Michigan Tech Fund is the "keeper of the data" for alumni, friends and supporters of Michigan Tech. They make sure that contact information for our approximately 60,000 alumni is up to date, and they are always working to organize this data and make it more useful. "In our fast-paced, mobile society, it's a challenge to keep track of where people live, where they work, their e-mail address and their cell phone number. The staff here at the fund does a great job of managing the vast amount of data we deal with every day," says **Mary Jane Lowney**, director of information services. If a department wants to send a mailing to a group, they contact the Michigan Tech Fund for their names and addresses. The fund, in turn, records all mailings so we can track what information each alumnus has received. Without the hard work and expertise of the data entry and information services staff at the Michigan Tech Fund, thousands of people

would be in the dark about activities here at the University.

The Michigan Tech Fund's finance department oversees the donations they receive on behalf of the University. The Tech Fund has received over \$58 million in cash gifts during the current Leaders for Innovation campaign. Some of this money is used for building projects, scholarships, department expenses or other immediate needs. The rest is invested. The Michigan Tech Fund ensures that these investments will support the University for many years to come. "We have a diversified portfolio to maximize our returns," says **Gail Mroz**, director of finance and operations at the Fund. Despite the recent economic downturn, these investments have consistently outperformed market indexes.

With over 30 employees working in the UPPCO building, the Michigan Tech Fund is a diverse organization. While much of their time is spent soliciting and collecting gifts, they also perform many other functions vital to the life of the University. So, next time you think of the Michigan Tech Fund, think of more than just gifts!

For more information, visit [www.mtf.mtu.edu](http://www.mtf.mtu.edu).

## DENSO Partners with MTU FutureTruck Team

The Southfield-based DENSO North America Foundation is providing Michigan Tech's FutureTruck team with a \$35,000 grant to build a better SUV.

Having the world's fourth-largest supplier of advanced automotive technology, systems and components on your side is a terrific boost for the FutureTruck team, according to its advisor.

"It's exciting to get a major automotive supplier involved in sponsoring us," Associate Professor **John Beard** (ME-EM).

The FutureTruck 2002 competition challenges teams of students from 15 top North American universities to reengineer a Ford Explorer. The goal is to build a low-emissions vehicle with at least 25 percent higher fuel economy without sacrificing the performance, utility, safety and affordability consumers want.

This is where DENSO comes in. In addition to the \$35,000, the company can provide the nuts and bolts that make up a superior SUV.

"They make many of the components we'll be putting in our system, everything from wiper blades to control systems, all those things that, working together, make your vehicle more efficient," Beard said. "To build a hybrid vehicle [powered by both gas and electricity], everything has to weigh less and use less energy; everything has to be optimized. We hope that, with DENSO's help, we'll be able to build the best possible system."

Mechanical engineering senior **Jason Trombley**, who has interned with DENSO, agreed. "They make a wide variety of products that we use, plus their engineers have lots of know how. It's a big advantage for us to have a company like DENSO on our team."

Since 1998, DENSO has supported MTU diversity programs that introduce young women and other underrepresented groups to engineering as a career. The FutureTruck gift expands that relationship.

"Michigan Tech is a top engineering school and very important for DENSO in terms of recruitment," said Barbara Wertheimer, secretary and program officer of DENSO North America Foundation. "We're among the largest automotive suppliers in the world, and we have an interest in seeing that future

## New Staff

**Katie Walch** has joined the Western U.P. Center for Science, Math and Environmental Education as an education specialist. She was previously a science teacher at Superior Central Schools, in Eben Junction. Walch has a BS from Northern Michigan University and a Michigan Provisional Certificate in Biology, Chemistry and General Science. She lives in Hancock.

engineers get the best education they can."

"Our management recognizes that Michigan Tech is one of the best engineering universities in the state," said **Richard Smith**, an MTU alumnus and director of Thermal System Engineering at DENSO International America. "We've grown significantly, from 60 to 600 employees at our North American headquarters here in Southfield during the past 13 years, and we've had very good success with Tech grads fitting in and doing a great job.

"Plus, DENSO recognizes that we have a responsibility to society," Smith said. "We benefit from the education provided by public schools, and we strongly believe we need to give back to the community. Activities such as FutureTruck are part of that."

Beard hopes the University will be able to repay DENSO's generosity.

"As our relationship matures, maybe we can work on engineering problems or test products DENSO plans to market," he said. "We're always willing to accept donors' money, but it would be really nice to give them something back besides excellent engineering graduates."

John Voorhorst, president of the DENSO Foundation and vice president of external affairs for DENSO International America, expressed enthusiasm for developing a long-term relationship with the University.

"We make a point of not practicing check-book philanthropy," he said. "We want personal involvement."

Voorhorst serves on MTU's Educational Opportunity Corporate Advisory Board, which addresses diversity issues; Smith has been named to the advisory board of the Department of Mechanical Engineering-Engineering Mechanics. "Those kinds of things are important to us," Voorhorst said. "We're happy to be involved with MTU in those capacities."

Globally, Japan-based DENSO employs 85,000 people in 29 countries. In North America, DENSO employs 14,000 people at 23 companies. Of these, nearly 4,000 work at four Michigan companies in Southfield, Battle Creek and Jackson.

The DENSO North America Foundation is the first North American charitable foundation established by a Japan-based automotive supplier.

## Weight Watchers Meet Feb. 4

Weight Watchers will hold their weekly meeting on Monday, Feb. 4, at noon in Memorial Union Ballroom B2. New members are welcome. For more information, call the Benefits Office, 487-2517.

## February

### Black History Month

- 1 Friday**  
**8 p.m.**—"A Chorus Line"—Rozsa Center
- 2 Saturday**  
**1 p.m.**—Women's basketball: Grand Valley State at MTU—SDC  
**3 p.m.**—Men's basketball: Grand Valley State at MTU—SDC
- 4 Monday**  
**noon**—Weight Watchers meeting—Memorial Union Ballroom B2
- 5 Tuesday**  
**5:30 p.m.**—Women's basketball: NMU at MTU—SDC  
**7:30 p.m.**—Men's basketball: NMU at MTU—SDC
- 8 Friday**  
**7:05 p.m.**—Hockey: St. Cloud at MTU—Student Ice Arena  
**8 p.m.**—"A Chorus Line"—Rozsa Center
- 9 Saturday**  
**5:05 p.m.**—Hockey: St. Cloud at MTU—Student Ice Arena  
**8 p.m.**—"A Chorus Line"—Rozsa Center
- 10 Sunday**  
**3 p.m.**—"A Chorus Line"—Rozsa Center
- 14 Thursday**  
**5:30 p.m.**—Women's basketball: Lake Superior State at MTU—SDC  
**7:30 p.m.**—Men's basketball: Lake Superior State at MTU—SDC

## POSITIONS AVAILABLE AT MICHIGAN TECH

Job descriptions will be available at 1:00 p.m. on Friday, or by e-mail at <JOBS@MTU.EDU>.

The following positions will be posted Friday, Feb. 1, 2002, at 1 p.m. through noon, Friday, Feb. 8, 2002, in the Human Resources Office.

System Administrator—Information Technology, System Administration Services Group  
Manager, Mail Services—University Relations  
Department Chair—Biomedical Engineering

University employees are reminded to apply in writing prior to noon, Friday, Feb. 8, 2002, 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.