

April 11, 1997

If we knew what
it was we were
doing, it would not
be called research,
would it?

—Albert Einstein

Vol. XXIX, No. 29

How much money does Michigan Tech need? And what do we need it for?

These and other weighty matters will soon be deliberated by the new Capital Campaign Task Force. Its 24-plus members come from all across campus, representing academic departments, colleges and schools, University organizations, alumni, and more. Their job will be to funnel the diverse needs and interests of the entire University community into a single, focused agenda for the upcoming Capital Campaign.

"The success of the Campaign will hinge on the ideas and insights that come from the Michigan Tech community, as well as the involvement of friends and alumni," said **John Sellars**, senior vice president for advancement and university relations. "I think we've got an outstanding task force, and I'm looking forward to hearing their thoughts and working together to develop goals and priorities."

The task force will meet once in May and twice again in the fall. Topics will range from determining a reasonable goal for the Campaign to prioritizing projects.

For more information, or if you have any ideas to help the Campaign, contact Kim Maxwell, executive director of the Michigan Tech Fund and development, at 487-2627.



Capital
Campaign
Task
Force
formed

Summer marketing workshop: Learn how to promote Michigan Tech

If you work at Michigan Tech, there's a pretty good chance your job involves direct marketing. If you answer the phones, talk with alumni or students, recruit companies, organize events, or prepare a publication, you're a direct marketer, whether you know it or not.

Nevertheless, few MTU employees have any formal training in this specialized field. If you'd like to learn more (and maybe make your job easier and you more efficient), you're invited to enroll in BA499, Section 3, Fundamentals of Direct Marketing.

The 3-credit class will be held July 17–August 19, Monday–Friday, at 1:00–2:00 p.m. The teacher will be Assistant Professor **David Rudd** (SBE), a seventeen-year veteran of the direct marketing business.

"Direct marketing is becoming an essential weapon in the battle for market share, even in higher education," Rudd said. "If we can increase the level of expertise here, I think we can do wonders for this campus."

The School of Business and Economics has scheduled the course to make it as convenient as possible for faculty and staff. "We hope that departments who are actively engaged in direct marketing or expanding their involvement in direct marketing will consider sending someone to this class," Rudd said. "No, we won't serve cookies, but yes, you can bring your lunch."

Class topics will include the target market, the offering, direct marketing media and creativity, financial analysis, and fulfilling the promises you've made (the back end of the business).

The class is also recommended for community members who are involved in marketing or who are planning to start a direct marketing business.

For more information, contact Rudd at 487-2439 or dvrudd@mtu.edu

Frontline to feature Oak Ridge Associated Universities during Earth Week

On Earth Day, April 22, the PBS program *Frontline* will present "Nuclear Reaction," an examination of America's relationship with nuclear power. The program will address the scientific facts about radiation, the industry's safety record, and the psychology of human risk perception. Paul Frame, a certified health physicist in the Oak Ridge Institute for Science and Education Professional Training Programs, worked with Jon Palfreman, director of the program, showing items from the Oak Ridge Associated Universities' Historical Health Physics Instrumentation Collection as part of a segment illustrating low-level radiation occurring in items such as kitty litter and Brazil nuts.

Michigan Tech is a member of ORAU, and President **Curt Tompkins** serves on its board of directors.

Terrarium author, wildlife films featured during Earth Week

The MTU campus is gearing up for Earth Week 1997.

Thirty-one courses, including classes in engineering, social sciences, chemistry, biology, forestry, humanities, and business, are reading this year's book, *Terrarium*, and talking about it on the Web.

Terrarium's author, Scott Russell Sanders, will be on campus Monday, April 21, meeting with students, faculty, and the community. Sanders will present "How Did A Physics Major Become a Storyteller?" at Tech Tea, 4:00 p.m. in the MUB Alumni Lounge; and "Do We

Want to Live in the Future?" at 7:30 p.m. in Fisher 139.

Other books by Sanders are on display in the bookstore.

Kangaroos, hummingbirds, and jaguars will jump, zip, and scream across the screen during the Copper Country International Wildlife Film Festival. Held in conjunction with Earth Week, the films will be shown April 22–24 from 7:00 to 11:00 p.m. (Tuesday and Thursday in Fisher 135, and Wednesday in EERC 103).

For more information and a movie schedule, check out the Earth Week Web page at <http://chmac2.chem.mtu.edu/earth/default.ssi>

Gierasch Seminar April 18

Lila Gierasch, of the University of Massachusetts–Amherst, will give a seminar, “Folding of a Predominantly Beta-Sheet Protein with a Hole in the Middle,” on Friday, April 18, at 3:00 p.m. in Chemical Sciences and Engineering 102.

The event is part of the Department of Chemistry’s Spring Colloquia Series and is sponsored in part by the Visiting Women Lecturers Series. All interested persons are invited.

MTU notables

Assistant Professor **Mary Ann Beckwith** (fine arts) has been awarded signature status by the Alabama Watercolor Society. The honor is conferred on artists by a group of their peers based on the quality of their work. Artists must also have had their work accepted for display in three society shows during a ten-year period. In addition, her painting, *Revelation*, has been accepted by Aqueous 97, a juried national exhibition to be held in Pittsburgh May 23–July 6.

Grant Day, an MS graduate in industrial archaeology, receives the Government/Institutional Award from the Michigan Historic Preservation Network on Friday, April 11, during the network’s award ceremony at Eastern Michigan University. The Department of Social Sciences is being given the award for Day’s “Ontonagon County Copper Mining Site Survey.” Day’s advisor was Assistant Professor **Susan Martin**.

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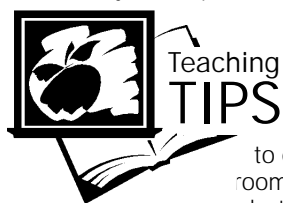
Information to be included in *Tech Topics* should be submitted to the *Tech Topics* editor in one of the following ways:

- By e-mail to ttopics@mtu.edu
- 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.** or publication the following Friday.

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

Center for Teaching, Learning,
and Faculty Development



“Active learning” is a hot topic in higher education circles. Active learning refers to engaging students in room activities by using carefully selected interactive and collaborative teaching methodologies, including planned discussions, Socratic dialogue, simulations, exercises, games, etc. Professors all over the country and in widely divergent academic disciplines are moving away from sole reliance on the lecture method of instruction and experimenting with other teaching methods. Various factors are driving the move to teaching methods that connect us with our students.

If you’ve been teaching for any length of time, you probably recognize that the students sitting in your class today are different in very important ways from the students occupying those seats even a decade or two ago. Just fifty years ago, pursuing a degree at a university was a privilege reserved for a small number of students. Because the norm then was not to attend college, those who did enroll in a given institution formed a relatively homogenous group in terms of desire and focus; a group that often responded well to the lecture/examination method of instruction. Prior to World War II, only 5 percent of the U.S. population held college degrees. Contrast that with the fact that today, 50 percent of the college-age population receives some post-secondary instruction.

Consider the following. Our classrooms are largely filled with a generation of students raised on television, video games, and MTV. A significant portion report that they attend the university as a sort of rite of passage to professional employment rather than in pursuit of some educational ideal. Is it that surprising that the lecture method doesn’t always work very well? Experiencing student malaise in your class? Well, you’re not alone.

As a student of Aristotle, I would harken back to his observation that the most successful

Active learning

By William Kennedy, director

communicators were those that worked equally hard to engage the hearts as well as the minds of their intended audience. Perhaps Aristotle’s observation can help us to see that our present challenge is to do more than effectively organize and deliver our subset of the material. Many professors are investing time and energy to determine if developing an active learning environment that encourages student interaction and collaborative learning may help to bridge the educational/motivational gap we are facing.

There are rather obvious reasons why we need to encourage students to participate in class to help create an active learning environment. First, students, like most others, are apprehensive about speaking out in front of a group. Second, although I can’t remember who said it, students subscribe to the generally accepted notion that “it’s better to keep your mouth shut and let the teacher and your classmates think you might be stupid, than to open your mouth and confirm their suspicions.” Finally, since the predominant teaching method that students have been exposed to in school has been lecturing, they have probably learned that passive listening is an acceptable, if generally unproductive, learning strategy.

Finally, creating an active learning environment is not inconsistent with the message in most books on college teaching that associate good teaching with 1) organization, 2) good rapport, 3) enthusiasm, 4) fairness, and 5) clarity. For, although organization and clarity might belong in the domain of “the material,” surely good rapport, enthusiasm, and fairness belong in the affective domain. Experimenting with active-learning techniques is not relegating the transmission of knowledge to the background of college teaching. Rather, it is an attempt to set the stage for more-powerful learning by more fully engaging the learner in this vitally important educational enterprise.

As always, I am anxious to discuss these ideas with you. Call me at the Center for Teaching, Learning, and Faculty Development at 487-2046.

Day of Challenges a success

A “Day of Challenges” may seem like something to be avoided at all costs. However, high school and elementary school students from seven area school districts, plus local home-schoolers, did the opposite, rising to and overcoming a host of said challenges.

The Day of Challenges, sponsored annually by the Army and Air Force ROTC departments and the Michigan Veterans of Foreign Wars, was held March 22 at the Student Development Complex. Twenty-five 6-student teams competed.

The events tested courage, leadership, problem solving, and stamina. Students took a modified Army Physical Fitness Test, negotiated obstacles, and jumped from the two-meter diving board fully clothed and loaded with equipment.

The winning junior team was South Range Elementary, with Chassell High School leading the senior division. The South Range team members were Kyle Momenee, Paul Ruotsala, Ashlee Loukkonen, Holly Manninen, Lance Ovist, and Cara DeForge. Chassell team members were Justin Perfetti, Shawn Autio, Jeff Cavis, Link Logan, Darren Coponen, Curt Bakkila, and Ben Gray.

Coordinating the Day of Challenges were Army Cadet First Sgt. **Joel Holmstrom** and Air Force Cadet Major **Luke Fricke**. Participating school districts were Calumet, Chassell, Dollar Bay, Hancock, Houghton, Ironwood, and South Range.

Correction

An announcement in the April 4 *Tech Topics* incorrectly stated that all MTU employees are invited to the April 17 Council of Alumnae induction ceremony. Because of space limitations, the event is by invitation only. We regret any confusion caused by the error.

Howlingly funny Sylvia opens April 17

Submitted by the Department of Fine Arts

Just in time to chase away late-winter doldrums, the fine arts department presents the Broadway comedy critics call "howlingly funny, touching, beautiful" —*Sylvia*—in six performances beginning Thursday, April 17, at 8:00 p.m. in Walker Theatre.

In the A. R. Gurney play, it's love at first "bite" for Greg, a Manhattan businessman, and Sylvia, a stray lab-poodle mix, much to the dismay of Greg's wife, Kate. This is a play that hilariously proves a dog can teach a marriage new tricks. The *New York Daily News* called *Sylvia* "one of the most involving, beautiful, funny, touching and profound plays I have ever seen."

Sylvia's cast features MTU student **Heather Sevener** in the title role, John Griebel and Dyann Edgerton as Greg and Kate, and Sanna Burggren, Ralph Horvath and Carl Arft in supporting roles. **Paul Aneshansel**, technical theater director, designed set, lights, and sound, with costumes by **Indy Peterson**. Director **Richard Goldstein** brings to *Sylvia* more than thirty years' experience staging MTU and community theater productions. During the past year, he directed the musical *Purlie*, is well as the Calumet Players' *Brigadoon*, and also played the Porter in MTU's production of *Macbeth*.

A prolific playwright, Gurney's work includes *The Cocktail Hour*, *The Dining Room*, and *Love Letters*. After a successful Broadway debut in 1995, with Sarah Jessica Parker playing the title role, *Sylvia* is now being seen for the first time in college and community theaters.

Tickets for performances of *Sylvia* on April 17–19 and April 24–26 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. Goldstein cautions that *Sylvia* features adult situations and language, and isn't suitable for children. For more information on the play, call the fine arts office at 487-2067.

The Dirty Dozen at Michigan Tech April 19

Submitted by University Cultural Enrichment

It's a fusion of funk, rhythm and blues, Afro-Cuban, soul, progressive jazz, and the marching brass band tradition of its native New Orleans. It's The Dirty Dozen, coming to Michigan Tech's Fisher Hall on Saturday, April 19, at 8:00 p.m. for the main event of the Tech Arts Festival.

With a band the *London Times* calls "one of the two or three most enthralling jazz acts in the world," it'll be dancing in the aisles one more time this season. Tickets are on sale now at the Memorial Union Box Office (487-3200, Monday–Friday, 10:00 a.m.–2:00 p.m.) and the SDC Central Ticket Office (487-2073, Monday–Friday, 8:00 a.m.–6:00 p.m.).

The band has toured in over thirty countries, and coast to coast in the U.S. They've earned a reputation for being the ultimate party band, communicating such excitement that it's virtually impossible not to have fun at their shows. Over the years, they've managed to preserve the New Orleans tradition in performances that retain that sense of communal celebration. The same flavor permeates their own exuberant compositions. Their music is neither New Orleans trad jazz, nor is it Dixieland; The Dirty Dozen

From nineteenth-century generals on horseback, through the New Deal art programs of the 1930s, to the National Endowment for the Arts, public art in America has had an eventful history. "Art in Public Places" is the topic at Tech Tea Time on Wednesday, April 16, at 4:00 p.m. in the Memorial Union Alumni Lounge. Dale Wedig, a member of Northern Michigan University's department of art and design, will place contemporary public art within the context of history and will show slides of sculptures, large-scale wall hangings, and other art objects found in public places.

Wedig has executed a number of commissions for public sculptures. He's also a veteran of the trials and tribulations of designing works for a public audience, which is random and involuntary, as opposed to a private audience that has chosen to enter an art gallery or museum.

Wedig is no stranger to the controversy that nearly always occurs when the public is confronted with new art. Such was the case when Wedig, the winner of a statewide competition, installed his work in the Keweenaw Commons.

Over the last three decades, public art has proliferated. From sculpture fountains in shopping malls to the monumental "identity builders" that adorn corporate plazas, there has never been more art or more controversy. And although everyone knows that art has always suffered a rejection of the new, critics and artists alike question exactly what kind of art is appropriate for public sites. At the same time, everyone seems to agree that art enhances public places.

About half the states in the U.S. have percent-for-art programs that mandate a percentage, usually a half percent or 1 percent, of the total cost of the project providing a budget for integrating art into the overall design. However, Wedig will explain how occasionally, with 1 percent of the budget, artists are expected to integrate the entire project, or to supply a band-aid for a project that has turned sour. Wedig will offer some solutions to these problems and describe some of the well-known successes, such as Alexander Calder's *La Grand Vitesse* in Grand Rapids. It was the first work funded by the National Endowment for the Arts and is now considered the pioneer of contemporary public art in the U.S. Maya Lins' Vietnam Veteran's Memorial has become a place of pilgrimage for thousands of Americans. Both works were initially greeted with widespread criticism and are now renowned as great works of art.

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

Public art at Tech Tea Time

Submitted by University
Cultural Enrichment



Wedig will explain how occasionally, with 1 percent of the budget, artists are expected to integrate the entire project, or to supply a band-aid for a project that has turned sour.

Where the Rivers Flow North April 16

The 1993 film *Where the Rivers Flow North* will be shown Wednesday, April 16, in Walker 134 as part of the Semeion Film and Discussion Series. Discussion for all films in the series starts at 6:00 p.m., with the movie following at 6:30 p.m. The event is free and everyone is welcome.

This film was directed by Jay Crave and stars Rip Torn, Tantoo Cardinal, Michael J. Fox, and Treat Williams.

Upcoming films include *The Field* on April 23, and *Angels and Insects* on April 30.

Daily Bull finds greener pastures

The *Daily Bull* has rejoined the Board of Student Publications as of April 1 and is now located in Memorial Union 106. To contact the *Bull*, call 487-2404.



April

FAIR HOUSING MONTH

- 11 Friday**
8:00 p.m.—Wind Symphony and the Troupe: Cabaret, Spike Jones Style—Dee Stadium
6:00, 8:30, 11:00 p.m.—Baz Luhrmann's *Romeo and Juliet*—Fisher 135
- 12 Saturday**
6:00, 8:30, 11:00 p.m.—Baz Luhrmann's *Romeo and Juliet*—Fisher 135
8:00 p.m.—Battlefield Band—Fisher 135
8:00 p.m.—Wind Symphony and the Troupe: Cabaret, Spike Jones Style—Dee Stadium
- 16 Wednesday**
10:00 a.m.—Telcom telemanagement workshop—Memorial Union B1
4:00 p.m.—Tech Tea Time: Dale Wedig, "Art in Public Places"—Memorial Union Alumni Lounge
6:00 p.m.—*Where the Rivers Flow North*—Walker 134
- 17 Thursday**
7:00 p.m.—Career Roundtable—Memorial Union Ballroom A
8:00 p.m.—*Sylvia*—Walker Theatre
- 18 Friday**
3:00 p.m.—Lila Gierasch, "Folding of a Predominantly Beta-Sheet Protein with a Hole in the Middle"—Chemical Sciences and Engg 102
8:00 p.m.—The Dirty Dozen—Fisher 135
8:00 p.m.—*Sylvia*—Walker Theatre
- 19 Saturday**
8:00 p.m.—*Sylvia*—Walker Theatre

Proposals in progress

Researchers, their proposals, and their potential sponsors are

- **Charles Kerfoot** and **Judith Wells Budd** (LaSER), "Retrospective Analysis: Measuring the Historical Magnitude of Turbidity Plumes Using Archival Imagery and Application of Lake Surface Temperature/Water Quality Algorithms," Great Lakes Environmental Research Labs

GEM Center holds water festival for Chassell school kids

Submitted by the GEM Center

Imagine that your mission is to teach elementary school children about the importance of protecting water. What would you do? Hold a Water Festival, of course!

The second annual Copper Country Water Festival will be held at Chassell Township School on Tuesday, April 15. The Water Festival is being conducted by the regional Groundwater Education in Michigan (GEM) Center as part of its educational outreach program. More than sixty Michigan Tech student and staff volunteers are involved in the project.

"Wet & Wonderful—A Water Festival for Chassell School" is designed to raise young people's appreciation for clean water in our lives. **Joan Schumaker Chadde** and **Sarah Bacon** (GEM Center) are the festival coordinators.

Chassell students in grades K-6 will attend a group program in the morning, with songs, skits, a puppet show, and awards. A variety of thirty-minute, hands-on classroom activities will be offered throughout the remainder of the day.

The local community is invited to attend the water festival later, from 6:30 to 8:30 p.m. The program begins in the gym and is followed by two sessions of classroom activities and exhibits.

Organizers said the festival wouldn't be possible without the efforts of the MTU volunteers. "They are demonstrating their commitment to community service and promoting the future environmental quality of the U.P.," Chadde said.

Also contributing to the festival are the Isle Royale Natural History Association, Houghton-Keweenaw Conservation District, MFC First National Bank, Chassell teachers and administrators, MSU Extension of Houghton County, Ottawa National Forest, Natural Resources Conservation Service, Superior Sand & Gravel, and many community residents who have volunteered their time.

Call the GEM Center at 487-3341 if you would like more information about the Chassell Water Festival. The GEM Center would like to offer this same program to another Copper Country School next year.

On the road

Assistant Professor **Mary Durfee** (social sciences) was a discussant for two panels at the 1997 annual meeting of the International Studies Association held March 18-22 in Toronto: "Constructivism and International Law" and "Case Studies in Presidential Foreign Policy Decision Making: Cuba, Afghanistan, and Iraq." She was also elected to the Sprout Award committee, which makes an annual award for the best book on environmental affairs.

Associate Professor **Bruce Seely** (social sciences) presented a paper "Engineering Science Goes to School: The 20th Century Transformation of American Engineering Education," at the workshop *Les Sciences pour l'Ingénieur en France, en Europe, et aux USA*, held in Lyons, France, March 10-13.

Several faculty and graduate students attended the 1997 Society of Automotive Engineers International Congress & Exposition, held February 23-27 in Detroit. Doctoral candidate **Siguang Xu** (ME-EM) presented a paper, "Drawbeads in Sheet Metal Stamping," coauthored by Professor and Chair **Klaus Weinmann** (ME-EM) and graduate student **Michael Bohn** (ME-EM). Presidential Professor **John Johnson** (ME-EM) and PhD candidate **Cornelius Opris** (ME-EM) presented a paper, "A Study of the Regeneration Characteristics of Silicon Carbide and Cordierite Diesel Particulate Filters," coauthored by former graduate student **Ajay Ganatawar** (ME-EM). Professor **Larry Evers** (ME-EM) presented two papers: "An Optical Sensor for Measuring Fuel Film Dynamics of a Port-Injected Engine," coauthored by Timothy Coste (Control Devices, Inc.); and "Dynamic Film Measurements in Journal Bearings Using an Optical Sensor," coauthored by Tory Jaloszynski (Cummins Engine Co.). Associate Professor **Carl Anderson** (ME-EM) received an SAE Faculty Advisor Award. Assistant Professor **Donna Michalek** (ME-EM) received the SAE Teetor award. Also attending the exposition from ME-EM were Professor **Duane Abata**, Associate Professor **Oner Arici**, and Associate Professor **S. Abdi Majlessi**.

Companies coming

Representatives from the following employers will be recruiting on campus next week. If you'd like to meet with any of them, contact the Career Center at 487-2313.

- Tuesday, April 15: Applied Manufacturing, Quad Tech
- Wednesday, April 16: Applied Manufacturing, Champion International, Curwood, Inc., U.S. Navy
- Thursday, April 17: Champion International

Positions available at MTU

The following positions will be posted Friday, April 11, 1997, at 1:00 p.m. through noon, Friday, April 18, 1997, in the Human Resources Office.

- Assistant Women's Volleyball Coach—Athletic Department
- Vice Provost for Instruction—Office of the Provost
- Research Engineer I or Research Engineer II (dependant on qualifications)—Keweenaw Research Center; two positions
- Senior Research Engineer I—Keweenaw Research Center
- Senior Research Engineer II—Keweenaw Research Center
- Director—Keweenaw Research Center

University employees are reminded to apply in writing prior to noon, Friday, April 18, 1997, to be considered as internal candidates. 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.