

Tech Topics

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Michigan Tech's Faculty-Staff Newsletter

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Ski Trail Improvement Presentation April 30

By Dean Woodbeck

The campus community will have a chance to preview improvements to the Michigan Tech cross-country ski trails on Tuesday, April 30. **Mike Abbott**, manager of recreation, will review the plan at 4 p.m. in the Memorial Union Alumni Lounge.

Michigan Tech will make significant improvements to its cross-country ski trails over the next five years as part of the plan to retain cross-country skiing as a varsity sport and to help with student recruiting. In addition to cross-country skiing, Tech is developing a comprehensive plan for an outdoor recreation area for mountain biking, running, snowshoeing and other activities.

Michigan Tech owns 540 acres of forest lands adjacent to its sports facilities, with a small portion used for the ski trails. The University plans to widen and lengthen existing trails, develop additional trails, and purchase a top-drawer grooming machine.

Abbott, the ski team, and a task force of volunteers have developed the trail plan. The School of Forestry and Wood Products will use the best practices in sustainable forest management to develop the trails and manage the land for recreation and aesthetics.

"There are very few places in the country that combine a first-class education, on-campus winter recreation facilities and world-class snow," Abbott said. "We want these trails to continue as an important resource for the community and for the quality of life we enjoy here in the Keweenaw."

Tech Welcomes Students, Families to Open House Saturday

Michigan Tech will welcome more than 600 student visitors and family members to campus Saturday for a day-long open house.

In addition to learning about the business end of college life—financial aid and scholarships—visitors will be entertained by Tech's music and theater groups and can check out activities ranging from tae kwon do to study-abroad programs.

A handful of patience is worth more than a bushel of brains.

—DUTCH PROVERB

Tompkins Honored by Chinese University

President **Curt Tompkins** has been invested as a Distinguished Professor by the president of the University of Science and Technology, Beijing.

The award was bestowed last weekend as part of USTB's 50th anniversary celebrations.

Both Tompkins and Dean of Engineering **Robert Warrington** represented Michigan Tech in a massive ceremony at the USTB Sports Stadium.

Tompkins served as a panelist on a nationally televised special program celebrating USTB's accomplishments over the past half-century.

While in Beijing, he delivered a lecture at the university focusing on Michigan Tech and engineering education reform. He also distributed a new book written by three Chinese students at Michigan Tech, "Being an Undergraduate Student in the U.S." Tompkins

wrote the foreword to the book, which is printed in Chinese.

Currently there are 137 Chinese students enrolled at Michigan Tech, including five graduates of USTB. Professor **Shu-Zu Lu** (Materials Science and Engineering) is also a graduate of USTB.

"Michigan Tech has been building a meaningful partnership with the University of Science and Technology for several years, and Tech has been educating Chinese students on our campus for nearly a century," Tompkins said.

The relationship provides an avenue for intellectual and technical exchange while yielding diversity and a rich international perspective to the campus community, he noted.

The University of Science and Technology Beijing funded the visit by Tompkins and Warrington.

CS Student Finishes Fourth in TopCoder Competition

Joe Nievelt finished in the money at the 2002 Sun Microsystems and TopCoder Collegiate Challenge, held April 19–20 at MIT.

The computer science sophomore took home \$5,000 of the \$150,000 purse for his fourth-place finish in his first visit to the national computer-code-writing contest. The competition began in February, with hundreds of college contestants participating at the regional level.

"I didn't expect to get this far in my first major TopCoder tournament," Nievelt said. "I met some great people and had a wonderful time. I'm going to use the \$5,000 to help pay off student loans and to buy my school books."

Nievelt entered the Collegiate Challenge as

the second seed in the Midwest Region and advanced to the finals by winning his semifinal round on Friday, April 19. He has won \$9,530 since he began entering TopCoder's programming competitions in June 2001. He has earned a rating that ranks him 13th among all 11,000 TopCoders in the nation.

"This is so cool," said computer science chair **Linda Ott**. Nievelt is the first Michigan Tech student to advance to the finals in the TopCoder Collegiate Challenge, she noted, and his performance was exceptional.

"I noticed that the student who took third place is working on a PhD at Berkeley, so for Joe to come in fourth behind someone with those credentials is just astonishing."

Nievelt faced some fierce coding competition and was the sole student from a mid-western school to reach the final round. The \$100,000 champion is Daniel Wright, a junior from Stanford University in his third high-level TopCoder event. Ling Li, a PhD student at the CalTech, was second and won \$25,000. Dan Adkins, a PhD student at the University of California at Berkeley, finished third and won \$8,000.

The other 12 competitors each received \$1,000.

"Joe should be very proud of himself," said TopCoder founder and chairman Jack Hughes. "Finishing fourth out of the 512 collegiate programmers who began this tournament is a tremendous accomplishment."

Staff Council Lights Up Bright Idea! Initiative

Submitted by Staff Council

"Bright Ideas!" is an initiative sponsored by Staff Council. We are seeking suggestions for ways to improve MTU, and we invite all staff on campus to participate.

All types of ideas to improve campus life are invited, but especially welcome are cost-saving ideas during this tight economic time.

All submissions will be forwarded to the relevant area for consideration. You may submit as many ideas as you can think up. Even wild ideas will be accepted!

Of course, we don't promise every idea will be implemented. The idea is just to get everyone's suggestions out for consideration.

All staff members will receive a yellow form in campus mail this week to be used to submit Bright Ideas! Or, you may use the form on the MTU Staff Council web site, http://www.admin.mtu.edu/staff_council/. Including name and department is not mandatory.

Local Alumni Sponsor "Back to School" Event

The Keweenaw Chapter of Michigan Tech Alumni&Friends is sponsoring a "Back to School" event at Michigan Tech Friday, May 17, starting at 6 p.m. with wine and cheese at the Seaman Mineral Museum.

The guests will progress to the Noblet Forestry and Wood Products Building for hors d'oeuvres and close at the Dow Environmental Sciences and Engineering Building (campus-level atrium) for coffee and dessert.

The cost is \$15 per person. For more information and/or to RSVP, please contact the Office of Alumni Relations at 487-2400 or ceverran@mtu.edu.

Critical Thinking

Center for Teaching, Learning,
and Faculty Development



By William Kennedy, director

Dr. Richard Paul and Linda Elder of the Foundation for Critical Thinking recently produced a small

volume, "A Miniature Guide on How to Improve Student Learning,"* which provides useful guidelines and techniques for increasing the depth of college student learning.

Critical-thinking aficionados of various stripes hold that profound and lasting learning requires, first and foremost, that students learn to think like professional practitioners in a discipline rather than simply attempting to master the knowledge that underlies the discipline. Critical-thinking advocates dismiss teaching strategies that encourage students to periodically cram facts and figures to pass tests. The problem with cramming, they say, is that it only feeds the short-term memory and students lose most of what they have learned within weeks or months.

Paul and Elder suggest that teachers devote significant amounts of class time to having students state, in their own words, their understanding of fundamental concepts underlying the information being reviewed in class. Critical-thinking advocates encourage students to look at their disciplines as interconnected systems of ideas "that professionals use to ask questions, gather data or information, make inferences about the data, trace implications, and transform the way they see and think" about the domain of their professional inquiry.

Paul and Elder see the teacher primarily as a coach rather than a font of wisdom. Teachers become facilitators of learning rather than givers of information in this view. The classroom becomes a place for "active engagement in a disciplined performance" rather than a mass communications device.

* The Foundation for Critical Thinking, 2002

Mechanical Engineering Senior Design Day May 2

The ME-EM is holding its first Senior Design Day on Thursday, May 2, from 10 a.m. to 3 p.m. in the Student Innovation Center. Everyone is invited.

All mechanical engineering students at Michigan Tech work on a design project during their senior year. The projects give students a chance to collaborate in teams and address the types of engineering challenges they are likely to face later in their careers.

Twenty-eight groups will be exhibiting on Thursday: 24 senior design teams plus the four Enterprise teams working on the Mini-Baja, Formula, Clean Snowmobile and FutureTruck competitions.

During Senior Design Day, the teams will have posters and prototypes on display in the

Teaching thus becomes modeling the thinking of the discipline. Following this modeling, students practice the thinking modeled by the instructor and are then evaluated for the thinking they do. Paul and Elder argue that most teachers that are obsessively concerned with "covering the material" often miss the point that their students are unable to apply the information being covered beyond passing the test.

In this model, class time is a precious opportunity for students to practice their thinking skills by discussing the fundamental concepts with the coach/facilitator.

Paul and Elders argue that we should recognize that the majority of our students come to us with weaknesses that must be overcome if they are to become effective in a professional discipline. They argue that an overwhelming majority of our students tend to 1) do only what is required of them, 2) procrastinate, 3) listen, read, write, and speak poorly, 4) use language carelessly, 5) lack intellectual standards, and 6) not know how to assess the quality of their own work, thinking, emotions, or life. Our job, as educators, they say, is to design educational experiences that help students overcome these weaknesses.

A repeated metaphor throughout this little book is the teacher as coach. Learning to be a biologist or an engineer is much more like learning to be an accomplished tennis player than simply memorizing a series of biology or engineering facts or problem-solving protocols to pass a test, Paul and Elders argue. Learning a definition of the scientific method takes a few minutes, but learning to actually think scientifically requires a great deal of practice and encouragement over an extended period of time. Perhaps using the classroom as a crucible for forging and practicing new ways of thinking and knowing is an exciting concept that we shouldn't ignore.

Student Innovation Center, located on the second floor of the ME-EM. The vehicles will be on view outside.

Of the senior design teams completing their projects this spring, half are working on industry projects ranging from developing new safety equipment to designing an environmental test chamber.

Others are participating in SAE and ASME national design competitions; among them, students are working on building a human powered vehicle and a mini-cargo plane. And two teams have produced devices to benefit local children with disabilities.

For more information, contact Gail Sanchez at 487-2551, glsanche@mtu.edu.

MichiganTech

Bill Curnow, executive director, University Relations
Marcia Goodrich, *Tech Topics* editor
Tech Topics Web site: www.mtu.edu/news/ttopics/

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
- By campus mail, send typed copies to *Tech Topics*, University Relations.

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

New Band to Perform at Michigan Tech

Submitted by the Department of Fine Arts

The Campus Concert Band, the newest music ensemble in the Department of Fine Arts, will team up with the Wind Symphony for the Michigan Tech Bands' season finale on Wednesday, May 1, at 8 p.m. in McArdle Theatre. The Concert Band will be conducted by **Jesika Cane**, also director of the Huskies Pep Band. **Jeff Bell-Hanson** is conductor of the Wind Symphony.

Both ensembles will play classics from the band repertoire as well as some lighter fare, including the overture to Rossini's great operatic comedy "The Barber of Seville" and highlights from "The Music Man" by Meredith Willson. The Campus Concert Band will feature American composers Aaron Copland and William Schuman. Copland was known during his lifetime as the dean of American music and wrote many pieces celebrating rural America. Schuman, who was an actual dean at the Juilliard School of Music, will be represented by his popular setting of the revolutionary war hymn "Chester."

The Campus Concert Band and the Wind Symphony feature students from across campus representing every department. They volunteer their time for the love of playing their instruments, resulting in high-spirited, entertaining concerts.

Tickets are available from Rozsa Center Ticketing Services (487-3200), the SDC, Memorial Union, <http://www.tickets.mtu.edu> and at the door for \$8 general, \$4 students.

In Print

Professor **Vladimir D. Tonchev** (Mathematical Sciences) published a paper, "A Varshamov-Gilbert Bound for a Class of Formally Self-Dual Codes and Related Quantum Codes," in *IEEE Transactions on Information Theory*, Vol. 48 (2002).

Professor Emeritus **Harley Sachs'** (Humanities) book "Scratch--Out!" is available on Jacqar.com as an ebook. Zumaya Publications has issued his mystery novel "Ben Zakkai's Coffin."

Professor **Barbara Lide** (Humanities) recently published an illustrated biographical and critical essay on the Swedish writer Lars Gyllensten in "Dictionary of Literary Biography, Vol. 257: Twentieth-Century Swedish Writers After World War II."

Professor **Vladimir D. Tonchev** (Mathematical Sciences) published a paper, "Perfect Codes and Balanced Generalized Weighing Matrices, II," in the *Journal of*

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Shakespeare's "Tempest" at the Rozsa

Submitted by University Cultural Enrichment

A violent and sudden storm forces a disparate band of shipwrecked survivors onto the enchanted shores of a magical island, and so begins Shakespeare's spellbinding play "The Tempest." Presented by the Aquila Theatre of London and New York, the 8 p.m. production at the Rozsa on Thursday, April 25, marks the end of the second season of events at the Rozsa Center. Tickets are on sale at the Rozsa Center Box Office at 487-3200 (Monday-Friday, 11:30 a.m.-5 p.m.) or online at <http://www.tickets.mtu.edu>.

"The Tempest" is a wonderful combination of larger-than-life characters, interesting settings and a good plot line. The cast includes Shakespeare's usual contrasts of good (Prospero, the magician; his beautiful daughter Miranda; and her charming suitor, Ferdinand) and bad (Prospero's evil brother Antonio and some of his accomplices). The comedy is provided by Stephano, the butler, and Trinculo, the jester, who blunder about the island in drunken confusion, tricked and tormented by the mischievous Ariel, Prospero's spirit of the air. Caliban,

Prospero's half-human evil servant, plots against his master. This monster takes the role of the wicked spirit, and, despite his beastliness, Shakespeare gave him some of the most beautiful lines in the play. Prospero, aided by Ariel, exerts a godlike control over all the characters. He uses his magic to punish the bad and reward the good and contrive a happy ending. He foils the plots against him and blesses the union of the lovers.

"The Tempest," written in 1611, was one of Shakespeare's last plays. Today it is one of the most popular. Heralded by the *New York Times* as "an extraordinarily inventive and disciplined outfit," the Aquila Theatre Company combines their renowned and ensemble acting techniques, clever staging, original music and Shakespearean expertise as they retell the compelling story of Prospero, Miranda, Caliban, and Ariel.

The Aquila Theatre Company's visit to the Rozsa is made possible by the James and Margaret Black Endowment and the MTU Committee for Campus Enrichment. For further information, contact the Great Events Series Office (487-2844).

Jazz Bands to Honor Keranen

Submitted by the Department of Fine Arts

The fine arts department honors **Don Keranen**, founder of the jazz studies program, in concert on Friday, May 3, at 8 p.m. in the Rozsa Center. **Mike Irish** will direct the Jazz Lab Band, the Research and Development Big Band and the combos Jaztec and Momentum, in the First Annual Don Keranen Memorial Concert, featuring many of Keranen's favorites, his own compositions and music influenced by his love for the Caribbean. Irish promises a lively, entertaining evening, with MTU's bands at the peak of their form.

Keranen, who died unexpectedly in January, was a member of the Michigan Tech music faculty from 1967 to 1990. A native of Baraga, Keranen received his music degrees from Northern Michigan University and the University of Oregon. At MTU he was a popular and influential teacher, developing the award-winning jazz program as well as shaping the Huskies Pep Band—including its striped bib overalls and unusual hats—and the Wind Symphony.

After 23 years at Tech, Keranen left to pur-

sue his dream of being a full-time jazz musician. This led him to New York City, Miami and Jamaica, where he was known professionally as Doctor Keys and enjoyed a successful career as a solo performer and music coordinator for a resort hotel chain. He returned to campus occasionally, most recently in April 2001 for a jazz reunion concert, playing sax in the Alumni Jazz Band on the Rozsa Center stage. Keranen's former students and faculty colleagues remember him with pleasure as an outstanding multi-instrumentalist and an innovative teacher.

Keranen's son Jay has established an award to be given annually to the student selected as the most improved in the MTU jazz groups. The 2002 award winner will be announced at the May 3 concert, which members of the Keranen family will attend.

Tickets for the concert are available from Rozsa Center Ticketing Services (487-3200), SDC, Memorial Union, and on the web at www.tickets.mtu.edu for \$8 general, \$4 students (\$1 more at the door).

April 26 Seminar Investigates Bioinformatics, Breast Cancer

Professor Michael Liebman, director of computational biology at the Abramson Family Cancer Research Institute, University of Pennsylvania Cancer Center, will give a talk, "Disease Modeling in Breast Cancer: A Case for Biomedical Informatics," on Friday, April 26, at 4 p.m. in Dow 641.

Liebman's visit is sponsored by the Department of Biological Sciences. For more information, contact John Adler, jhadler@mtu.edu.

May Computer Classes

Michigan Tech offers computer classes in collaboration with dL Education. To register, send an e-mail to the Center for Professional Development and Quality Improvement at rwchrist@mtu.edu. Include the class(es) in which you want to enroll, your phone number and account number to which the class(es) should be charged. The charge is \$60 for three-hour (half-day) classes; \$120 for six-hour (full-day) sessions. Charges will be billed to your account the month following attendance. dL Education is located in the E. L. Wright Plaza, Suite 201A at 801 N. Lincoln Drive in Hancock. The Plaza is located on Quincy Hill, just below Pat's IGA. May computer classes at dL Education

- Access level 1, Tues., May 7, 1–4 p.m.
- Access level 2, Tues., May 14, 1–4 p.m.
- Access level 3, Tues., May 21, 1–4 p.m.
- Excel level 1, Thurs., May 16, 8:30–11:30 a.m.
- Excel level 2, Thurs., May 16, 12:30–3:30 p.m.
- Excel level 1, Mon., May 20, 12:30–3:30 p.m.
- Excel level 2, Wed., May 22, 12:30–3:30 p.m.
- PowerPoint, Thurs., May 23, 8:30 a.m.–3:30 p.m.
- Publisher, Wed., May 1, 12:30–3:30 p.m.
- Publisher, Wed., May 29, 12:30–3:30 p.m.
- Windows level 1, Thurs., May 2, 8:30–11:30 a.m.
- Windows level 2, Thurs., May 2, 12:30–3:30 p.m.
- Windows level 1, Mon., May 6, 12:30–3:30 p.m.
- Windows level 2, Wed., May 8, 12:30–3:30 p.m.
- Word level 1, Thurs., May 9, 8:30–11:30 a.m.
- Word level 2, Thurs., May 9, 12:30–3:30 p.m.
- Word level 1, Mon., May 13, 12:30–3:30 p.m.
- Word level 2, Wed., May 15, 12:30–3:30 p.m.
- Word level 1, Thurs., May 30, 8:30–11:30 a.m.
- Word level 2, Thurs., May 30, 12:30–3:30 p.m.

New Staff

Ginger L. Sleeman has joined the Campus Store staff as a specialized clerk. She was previously a receptionist at Bay Oral and Maxillofacial Surgery and is married to William Sleeman. She has an associate degree from Finlandia University and lives in Chassell.

KSO Spring Concert Features Manno, Tompkins

The Keweenaw Symphony Orchestra presents "Season of Joy: Music of Mozart, Beethoven, Ives, and Nathan Barber" on Saturday, April 27, at 8 p.m. and Sunday, April 28, at 3 p.m. in the Rozsa Center. Soloists Rebecca Tompkins and John Manno will play Mozart's Concerto in C Major for Flute and Harp, K. 299. Guest conductor Jon Ceander Mitchell of the University of Massachusetts-Boston joins **Jeffrey Bell-Hanson** on the podium for two related pieces, Charles Ives' "The Unanswered Question" and the world premiere of Nathan Barber's "A Reply (not an answer)." Mitchell will also direct the orchestra in Beethoven's Symphony No. 7 in A Major.

Bell-Hanson, the KSO's music director, says this program is notable for its energy and enthusiasm its composers display in quite diverse pieces. He notes that Beethoven's Symphony No. 7, for example, is an audience favorite because of its mostly light-hearted nature and its barely restrained energy. "The final movement is simply one of the greatest joyrides in the orchestral literature," Bell-Hanson says, "so hang on tight!"

Mozart enjoyed writing for the flute, composing three concertos for flute and orchestra and a quartet for flute and strings in addition to the duo-concerto for flute and harp which Tompkins and Manno will present.

Rebecca Tompkins will graduate in May from the University of West Virginia with a degree in flute performance. She spent her high school years in Houghton, playing piccolo and flute with the Keweenaw Symphony Orchestra. In college, she has been a member of several university ensembles, as well as the Opus Four Flute Quartet, which performed for the Pine Mountain Music Festival in May 2000. The quartet gave a number of concerts in New York and throughout West Virginia and was featured at the 1999 Mid-Atlantic Flute Fair. She has performed as soloist, maintains a teaching studio and serves as middle school flute instructor in Waynesburg, Pa.

Seminar Thursday on Directional Drilling

William Harrison III of the Department of Geosciences at Western Michigan University will talk on directional drilling for oil and gas on Thursday, April 25, at 5 p.m. in Dow 610.

Drilling companies are designed to reach oil and gas reservoirs that are not directly below the well head. Most people did not know that directional drilling even occurred in Michigan until Governor John Engler asked a Michigan Environmental Science Review Board panel to evaluate the risk of directional drilling under the Great Lakes. In 1997, the panel said there was little to no risk of contamination to Great Lakes bottom or waters., though a small risk of contamination exists at the well head, located on land. Engler decided to lift bans on directional drilling under the Great Lakes from onshore locations, and the Michigan DNR was instructed to prepare new leasing regulations. The regulations were published in 2001 after extensive consultation with environmental groups and industry.

However, after the announcement environmental activist groups began a major media and legislative campaign to reverse the decision, which resulted in a law banning directional drilling under the Great Lakes in Michigan.

Harrison's visit is sponsored by the Department of Geological Engineering and Sciences. For more information, e-mail kgerber@mtu.edu.

John Manno received his bachelor's degree in harp performance from the Eastman School of Music and did graduate work at Northwestern University. He has played with several regional orchestras, as well as at the Aspen Music Festival, the Heidelberg Schlosspiel in Germany, and the Pine Mountain Music Festival. Since moving to Hancock four years ago, he has performed as soloist and chamber musician throughout the region.

Bell-Hanson programmed Ives' "The Unanswered Question," which he describes as "a classic piece of music wit," a year ago, and only later discovered that Nathan Barber, a composer living in Houghton, had written "A Reply (not the answer)" dedicated to "the inimitable Mr. Ives." Both pieces require two conductors, and Bell-Hanson has arranged for Mitchell to come to Houghton to assist with the Ives work. The chance to premiere Barber's piece was irresistible.

Barber, a native of the Grand Rapids area, has had his work performed by ensembles from the Grand Rapids Symphony, Western Michigan University, and Pine Mountain Music Festival, among others. In addition to composing electronic, chamber, vocal and orchestral music, he is operations manager of the Pine Mountain Music Festival.

Mitchell is associate professor and chair of the music department at the University of Massachusetts-Boston, where he conducts the Chamber Orchestra, heads the music teacher certification program and teaches conducting and orchestration. He has previously held faculty positions at the University of Georgia, Carnegie Mellon University and Hanover College (Indiana), and served as conductor and music director of the North Pittsburgh Civic Symphony.

Tickets for this concert are available from Rozsa Center Ticketing Services, 487-3200, the SDC Central Ticket Office, Memorial Union, Calumet Theatre and on the web at www.tickets.mtu.edu for \$14 general, \$5 students (\$1 more at the door).

FOURTH THURSDAY IN HISTORY

Preserving Your Family History in Clothes, Antiques

A mini-workshop on the care and storage of clothing and antiques will take place at 7 p.m. on Thursday, April 25, at the Calumet Public School Library, located in Calumet High School on U.S. 41 near Red Jacket Road in Calumet. This is the third and final event in a cycle of presentations designed to highlight the importance of family history research.

Efstathios Pappas from the graduate program in Industrial Archaeology and Tom Baker from the Keweenaw National Historical Park will talk on the role that three-dimensional artifacts—furniture, antiques, quilts, jewelry, clothes, etc.—have in historical research. These items not only have enormous value to family members interested in their own ancestors, but are also vital resources to academic and museum professionals interested in documenting larger social trends. These artifacts are key to developing interpretive exhibits about regional history.

Most families have a scattering of histori-

cal family objects around their home that have been passed down to them from their ancestors. Very often, people know little about these objects or how to best store and protect these important historical records. Attendees will learn how to research the history of these artifacts and determine their importance in family history. The workshop will also outline the major environmental hazards in most homes and suggest affordable ways to store, display and preserve these items.

The Family History series draws upon "My History Is America's History," a guide published by the National Endowment for the Humanities. The book outlines 15 things you can do to research, understand and preserve stories from your family history, emphasizing that if you "follow your family's history, you will discover America's history." The guide is available on the web at <http://www.myhistory.org>.

This presentation is part of the "Fourth Thursday in History" program sponsored by Keweenaw National Historical Park and the MTU Archives and Copper Country Historical Collections. The family history series is also supported by the Finnish American Heritage Center at Finlandia University and the Houghton-Keweenaw County Genealogical Society.

Presentations are free and open to the public. For further information, contact the Keweenaw National Historical Park at 337-3168 or the MTU Archives at 487-2505.

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Finite Fields and Their Applications, Vol. 8 (2002), jointly with Dieter Jungnickel (University of Augsburg, Germany).

PhD student **Hebi Li**, Presidential Professor **John Crittenden**, Professor **James Mihelcic** (Civil and Environmental Engineering) and visiting student **Hannu Hautakangas** (University of Tampere, Finland) published an article, "Optimization of Biofiltration for Odor Control: Model Development and Parameter Sensitivity," in "Water Environment Research," Vol. 74, No. 1.

PhD students **Ron Martin** and **Hebi Li**, Professor **James Mihelcic**, Presidential Professor **John Crittenden** (Civil and Environmental Engineering), Associate Professor **Don Lueking** (Biological Sciences), Chris Hatch and Pat Ball (Cedar Rapids Water Pollution Control Facilities) published a paper, "Optimization of Biofiltration for Odor Control: Model Verification and Applications" in "Water Environment Research," Vol. 74, No. 1.

April

Fair Housing Month

- 25 Thursday**
all day—Take Our Daughters to Work Day
5 p.m.—William Harrison to talk on directional drilling—Dow 610
7 p.m.—Fourth Thursday in History: "Preserving Your Family History with Clothes and Antiques"—Calumet Public Library
8 p.m.—The Troupe—McArdle Theatre
8 p.m.—"The Tempest"—Rozsa Center
- 26 Friday**
4 p.m.—Michael Liebman, "Disease Modeling in Breast Cancer: A Case for Biomedical Informatics"—Dow 641
6/7:15 p.m.—Club Indigo dinner/movie, "Local Hero"—Calumet Theatre
8 p.m.—The Troupe—McArdle Theatre
- 27 Saturday**
all day—Michigan Tech Campus Open House
8 p.m.—KSO Concert—Rozsa Center
8 p.m.—The Troupe—McArdle Theatre
- 28 Sunday**
8 p.m.—KSO Concert—Rozsa Center
- 29 Monday**
noon—Weight Watchers meet—Memorial Union Ballroom B1
- 30 Tuesday**
4 p.m.—Mike Abbott on MTU Ski Trail improvements—Memorial Union Alumni Lounge

May

- 1 Wednesday**
8 p.m.—Campus Band, Wind Symphony Concert—McArdle Theatre
- 3 Friday**
8 p.m.—Don Keranen Memorial Concert—Rozsa Center

Associate Professor **Ulrich Hansmann** (Physics), Hsiao-Ping Hsu and Simon C. Lin (Academia Sinica, Taiwan) published a paper, "Energy Landscape Paving for X-ray Structure Determination of Organic Molecules," in "Acta Crystallographica A," Vol. 58 (2002).

Assistant Professor **Seungjin Park** and Associate Professor **Steve Seidel** (Computer Science) published an article, "Fault-Tolerant Broadcasting in Wormhole-Routed Torus Networks," in the "Proceedings of the International Parallel and Distributed Processing Symposium," April 2002.

In the News

An article on genetic engineering in Scientific American, "Designing Trees" by Naomi Lubick, mentions Professor **Vincent Chiang** (SFWP) and Michigan Tech.

Michigan Tech and last November's bombing attempt were included in a story about terrorism in the April 7 New York Times Magazine.

MTU POSITIONS AVAILABLE

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

The following position will be posted Friday, April 26, 2002, at 1 p.m. through noon, Friday, May 3, 2002, in the Human Resources Office.

- Campus Visit Coordinator/Admissions Representative—Admissions
- Instructional Designer—Information Technology, Distributed Computing Services
- Planning Analyst—Institutional Analysis Reference/Instruction Librarian—J. R. Van Pelt Library
- Specialized Clerk (N3)—Center for International Education (UAW internal and external posting; regular, part-time position; 20 hours per week)

University employees are reminded to apply in writing prior to noon, Friday, May 3, 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.