Hollowed ground

A Copper Country chronicler mines the past in archives, libraries, courthouses, and graveyards.
Michigan Tech celebrates its 125th anniversary this year. The campus has seen plenty of changes since 1885. Can you identify any of these gone-but-not-forgotten buildings, which were constructed during the University’s first fifty years?

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On the cover
Professor Larry Lankton has written four books about copper mining in the Keweenaw Peninsula, including his latest, *Hollowed Ground*. Cemeteries such as this Catholic graveyard near Eagle River provide him with a wealth of historical data.
Two broomball lovers, one a first-time player and another a seasoned alumna, share their insights into the only game where the ice is always the winner.

Brooms on ice
A first-time player encounters broomball

by Jillian Schwab, student writer

My residence hall’s broomball team approaches the rink, our colorful duct-taped brooms resting on our shoulders. We had all heard of broomball before, but only one girl had played it. Most of us hadn’t even watched a game.

After handing our IDs to the presiding referees, we each select and strap on a helmet and climb into the rink. Some of us take hesitant steps away from the boards, while others push off and slide across the smooth ice. We stumble and fall for a couple minutes, trying to get some sort of footing. Then the referees call the players over to make sure our brooms comply with Inter-Residence Hall Council regulations. One by one they pass inspection, and we slide into our positions.

The frozen rubber ball drops, and the game is on.

As I stand on the ice, holding my broom and trying not to slip, I wonder what it is about this game that makes it one of Michigan Tech’s most beloved traditions. As I shuffle toward the ball and swat it away from my side’s goal, my leg slips out from under me, and I land on my kneepads. The rules sound so simple; the game itself is difficult, unique—and painful.

Why is it so endearing? I wonder, as I struggle to get myself back up, only to slip again, falling backwards this time.

Broomball is believed to be a modern version of a game invented by Vikings living in Iceland in the tenth century, known as knattleikr. The first recorded incidence of modern broomball appeared in eastern Canada in the late 1800s. Over the next century, it spread south to the US and then to other parts of the world. The sport has been a Michigan Tech winter tradition for decades and is only gaining momentum.

Broomball is not very complicated. Two teams take to the ice, running up and down the rink trying to knock the ball into the goal and prevent the other team from scoring. It’s a lot like ice hockey, except broomball players wear street shoes instead of ice skates; a rubber ball is used instead of a puck; and the sticks are handmade from brooms and duct tape.

The game sounds easy, until you strap on a helmet and climb over the rink walls. Then it becomes a desperate struggle to stay standing.

However, as any seasoned player will tell you, if you’re not on your knees for half the game, you’re not playing hard enough.

As I force myself back to my feet, something amazing happens. The ball collides with the back of a goal box, and two of my teammates high-five. We’ve scored! We’re still down by one point, but we’ve scored! There’s no time to celebrate, though, as both teams slide back into position and a referee takes center ice. He drops the ball, and the game continues.

A couple more minutes of slipping and sliding pass, and the referees call halftime. Both teams gather along the sides of the rink.

We smile and mutter encouragement to each other as a referee indicates for the teams to switch sides. We glide awkwardly across the ice and prepare for the second half.

With another drop of the ball comes another fifteen minutes of slipping, sliding, dashing across the rink and plenty of falling. I fall; my teammates fall; the other team falls. Even one of the referees loses his footing. The other team scores another goal. We sigh for a moment, and the game...
moves on. As the end creeps up, the spectators cheer louder and
dearer, excitement mounting whenever a player takes a shot. But
eventually the referees stand up and signal the end.
With the score three to one, we've played and lost our first
broomball game. We thank each other with the traditional line
of handshakes, climb out of the rink, and hang up our borrowed
helmets. My teammates are all grinning as we line up at the
IRHC* hot cocoa shack. We may have lost, but every-
one had too much fun to care. The same ques-
tion is written across all our faces.
When's our next game?

*The Inter-Residence Hall Council is the
main programming and governmental
body of Michigan Tech's residence halls and
coordinator of many fun things, including
broomball.

Broomball mania
invades Wisconsin
by Marcia Goodrich

KB, DT, Nutini's, Uphill 41. Sound familiar? How about
Ambassador, Bleachers, The Dog, and Library?
If you rank these among Tech students' favorite water-
ing holes, you are only partly correct. They are also the names
of broomball teams that assembled in January at the home of
two Tech alumni, Jana (Young) Fogarty '05 and her husband,
Josh '03, love the sport so much they couldn't let trivialities like
graduating and moving three hundred miles away keep them
from wrapping brooms with duct tape and staggering out onto
the ice.
"When we first moved here we both had just graduated, and
we were missing Tech and broomball," says Jana, who played
the game for four years, both on an East McNair women's team
named Reaction and on the coed Super Happy Fun Team. So in
the winter of 2007, the Fogarties and five other Tech alumni got
together to whack a ball around a frozen lake near their home in
Random Lake, Wisconsin.
In 2008, the number of Random Lake broomball enthusi-
asts grew to seventeen. "Last year the word spread, and we got
thirty-eight," she says. "Then we had a January thaw and got
really nervous, but the lake refroze in time."
For the 2010 matches, Jana and Josh weren't taking any
chances. With help from a core group of alumni, Greg Mooreen
'06, Molly (Crouch) Mooreen '03, Brian Mooreen '03, Mellisa
(Le) Mooreen '02/'04, Ken Wheeler '05, and Matt Barens '05,
they prepared for an onslaught.
"This year, we had so many people RSVP that we decided to
make a rink in our backyard. The day we had broomball, there
were sixty who came. We had an all-day tournament, double
elimination. It was a ton of fun." So fun, in fact, that the Fog-
arty tournaments are attracting players who'd never heard of
broomball before, much less gone to Michigan Tech.
But five years after commencement, why broomball?
"When you think about Michigan Tech, you remember your
friends, your classes, and your activities, and one of my favorite
activities was broomball," Jana explains. "You don't
need a lot of supplies, and people who have
never played are sometimes better than
those who have played a lot. Even athletes
aren't better than anyone else."
Nevertheless, somebody gets to win,
and in 2010 the gold medal went to
Bleachers. But next year, who knows?
"The ice equalizes everyone," says Jana.
Suppose the people of Haiti had known that the earth might buckle beneath them as it did January 12. Could the outcome have been any different? Almost certainly, according to faculty and students in Michigan Tech’s Department of Geological and Mining Engineering and Sciences.

Poor countries such as Haiti may not be able to implement building codes like those that enabled quake-hardened Chile to endure far fewer casualties while weathering a much more powerful trembler. Nevertheless, small changes can still make a difference in how well nations in the developing world face natural disasters.

Bill Rose, a professor of petrology, has spent decades studying volcanoes in the developing world and seen many villages built on their slopes, in the shadow of annihilation. He soon realized that it’s unrealistic for entire communities to pack up and move on the chance of an eruption a hundred years down the road. But, he reasoned, they needed to be prepared to save themselves if the worst were to become real.

Their plight prompted Rose to initiate what would become Michigan Tech’s Peace Corps Master’s International Program in Natural Hazards Mitigation. The three-year master’s degree program includes a two-year field experience abroad as a Peace Corps volunteer. In addition to volcanoes, student volunteers in the program address natural disasters such as earthquakes, floods, landslides, and droughts.

“We try to reduce vulnerability,” says Rose. “We can tell people what may happen, and we can help save lives; we increase awareness and the ability of people to save themselves.”

The Peace Corps master’s program is supported in part by a $2.5 million grant from the National Science Foundation’s Partnership for International Research and Education (PIRE) program, which also funds doctoral students, postdoctoral researchers, and graduate students pursuing traditional master’s degrees. Their work is a rich mix of research and community service, ranging from seismic monitoring and tracking volcanic gases to collaborating with Ecuadorian officials searching for new water supplies in an age of global warming.

“We are also working with social scientists and communications experts to help us understand how people perceive hazards,” says John Gierke, acting chair of geological and mining engineering and sciences and director of the PIRE program at Tech. “It’s a new model we are trying to build in terms of graduate education.”

John Lyons, who earned his Peace Corps Master’s International in Natural Hazards Mitigation and is now a PhD candidate in geology, did his Peace Corps service in Guatemala. Although better known for its volcanic hazards, Guatemala is home to numerous earthquakes, says Lyons.

He began his work in local schools. “They had no earthquake education or planning,” Lyons recalls. “So we went through the basics with the teachers first—how earthquakes occur and what to do in the event of an earthquake. Then we taught their students about earthquakes and ran their first earthquake drills.”

Volunteers can teach simple things that students can do on their own, Lyons says, such as “getting under desks or in door frames instead of running down the hallway or pushing toward exits.”

The recurring challenge is getting people to take impending threats seriously, says Erika Vye, a PhD student in geology whose studies are being supported through PIRE. When disasters only happen every century or so, they don’t stay in the forefront of the locals’ minds like an annual flood might. That’s not surprising, she said. “We are normally reactionary, instead of thinking about what could happen.” That challenge is compounded in very poor counties such as Haiti.
where people struggle to meet their most basic needs. “Hunger takes precedence,” Vye says.

When catastrophe does bring risk into focus, that is the time to “jump in and see what we could have done,” using the opportunity to prepare for the next big one, whether it’s five or fifty years down the road. Michigan Tech’s PIRE program allows that to happen, says Vye. “We’ve got all these students with all this international experience. They go abroad and bring back stories, and no one place is the same as the others. We learn a lot from each other.”

Before coming to Tech, she shadowed a local development organization in the Himalayas while it implemented a textbook-perfect earthquake remediation program. The experience taught her reams about what works and why, which she will apply as she conducts her doctoral research in Central America.

“The key is preparedness and mitigation, especially in rural areas,” she says. “In India, we even worked with masons to make buildings more earthquake resistant.”

Those lessons can be applied in Haiti, says Assistant Professor Greg Waite.

“Buildings can be retrofitted to become more seismically stable,” he says. “In some buildings, even wooden support bars in walls will help resist cave-ins.” Roofs can be tightened down, and there can be “simple and cheap fixes.”

“Haiti is particularly frustrating because a lot of people knew that an earthquake would happen—not ‘if’ but ‘when,’” Waite adds. “You have to design the structures accordingly, in addition to other hazard mitigation and prevention measures.”

It’s hard to imagine any good coming out of the earthquake in Haiti. But Rose hopes it might.

“The disaster might lead to better earthquake engineering,” says Rose, “where structures can be rebuilt to withstand quakes for another hundred years or more, and even if they receive some damage, they won’t collapse like they did.”

Building better hospitals, schools, and other places where people congregate is especially important. “It will cost more, but it will be worth it.”

It will also afford geologists a sense of satisfaction to rival the joys of scientific discovery.

“The increase in populations in hazardous areas has changed the habits of geologists,” Rose adds. “We used to go out in the woods alone and come back later with a load of rocks and a map, then stay in town just long enough to find the next spot in the woods.

“Now we have to communicate with people to be sure they understand. We call it social geology. It feels good, and the world needs it.”

It’s possible to better prepare for earthquakes and other natural disasters in even the poorest countries, says geologist Greg Waite.

PhD student John Lyons, far left, with teachers from two Guatemalan villages. The group had just developed lesson plans on earthquakes and a school-wide earthquake drill and evacuation plan.
A photograph taken in the aftermath of Alaska’s 1964 earthquake illustrates a puzzling paradox. Next to a shattered J. C. Penney store are a glass-fronted HFC office, a beauty parlor, and a toy store, all virtually intact.

At 9.2 on the Richter scale, the Good Friday quake was the most powerful measured in North America and the second highest ever recorded. It released over a hundred times more energy than the quake that flattened Port-au-Prince on January 12. And it begs the question: how could those three little buildings be standing, with nary a broken window?

That photo provides an object lesson in what it takes to shake off a major quake, says William Bulleit, chair of Michigan Tech’s Department of Civil and Environmental Engineering and an expert on earthquake-resistant structures. As many things do, it all boils down to physics.

“Force equals mass times acceleration,” he states. “Masonry is very heavy. The buildings in Haiti were unreinforced and not designed to withstand the force generated by an earthquake.”

Sure, concrete looks sturdy. “But that’s because you’re thinking only of downward loads,” says Bulleit. “In an earthquake, the heavier something is, the more lateral force is exerted.”

Using lighter materials like wood can help, but to shake off a quake, a building must be tied together, Bulleit says. “Many can handle the downward load of gravity, but not lateral loads. That’s why in quakes you have walls falling down and then the roofs falling down on top of them.”

“You need to tie the walls to the foundation, tie the roof to the walls, and make sure no critical piece fails,” he explains. Buildings with large spaces held up only by columns are especially prone to collapse. “It’s hard to make columns that can handle large lateral forces. Imagine what would happen if you stuck a toothpick in an apple and shook it. When columns are holding up a heavy slab, they can break and the building can pancake. That’s one reason why so many people in Haiti were crushed and trapped.”

An earthquake of similar magnitude wouldn’t do near the damage in the US, which has rigorous building codes. “For most of us, the biggest danger would be having bookshelves fall down on top of us,” Bulleit says. Should another Good Friday quake occur, however, the outcome might be different. “We’re pretty good at engineering for earthquakes in the US, but there’s no guarantee we could handle a big one,” Bulleit says. “All you could hope for is that the building wouldn’t fall down on you.”
At the Lakewood Cemetery near Eagle River, Larry Lankton tells stories of miners’ lives and deaths at the grave of William Jennings, who perished over a century ago at the Cliff Mine.
If you seek the legacy of copper mining in the Keweenaw Peninsula, look about you. The signs are everywhere: poor rock piles, masses of slag, solitary chimneys, old smelters, shaft houses, company houses, stamp sands, and office buildings.

That legacy is a mother lode for Larry Lankton, a Michigan Tech professor of history. It has inspired his four books about the copper range, most recently *Hollowed Ground: Copper Mining and Community Building on Lake Superior, 1840s to 1990s*. Published by Wayne State University Press, it provides an historical overview of the entire Lake Superior copper district, with an emphasis on the three biggest mining companies: Quincy, Calumet & Hecla, and Copper Range, including the White Pine Mine.

The search for copper peopled the Keweenaw—a mineral rush that was among the nation’s first, if not the first, preceding the California gold rush by several years. Beginning in the early 1840s, the opening up of the copper range was part of America’s westward movement. Lankton calls the Keweenaw “a little node of settlement, isolated, and well beyond any frontier line.”

“It was way up here,” he says. “On the edge. This environment was particularly hard because of the climate for one, the work for another, and the setting—water, woods, and winter. It was unforgiving.”

Growing up in Lower Michigan and Illinois, Lankton toyed with being an engineer and with writing fiction. Then he married the two and found his niche: writing about technology and material culture, “what society makes to support life, provide food, and do work.” Along the way, he earned a bachelor’s in history and English from DePauw University and both a master’s and PhD in American Civilization from the University of Pennsylvania before joining the Michigan Tech faculty in 1981.

Lankton is fascinated with this aspect of human endeavor. “I’m interested in stuff,” he says. “That’s one of my favorite words. How stuff comes about, how it was designed, what are its effects on society.”

“Now, it’s not true,” he adds, “that only things count, because, obviously, there are values and ideas and intangible things in life. But, to a certain extent, you are what you own, and technology gives you what you own. So it’s very important to everyone, and it changes over time, so life changes over time, and so does work.”

One recurrent theme in his own work: how life and work became mechanized. He cites one particularly important development in the copper mines: the one-man drill, which came at a time, in the early 1900s, when companies and workers were knocking heads. The one-man drill replaced the two-man drill and meant the companies could...
get by on a half the number of miners. The new technology exacerbated ill feel-
ings that had been stewing for years, and it triggered the storied strike of 1913–14,
marked by vandalism, violence, and the infamous Italian Hall tragedy, in which
seventy-three men, women, and children were crushed to death in a stairwell when
someone falsely yelled “fire” during a crowded Christmas party.

Lankton avoids the temptation to sugarcoat or take sides in his writing.
“Were the companies good guys or bad guys?” Lankton asks himself, and then
answers: “They are good guys sometimes and bad guys sometimes. I call it as I see
it. The pressure is to be fair.”

Editor Kathryn Wildfong of Wayne State University Press writes of Lankton,
“He’s known for the clarity and depth of his scholarship and for writing that is
engaging and precise.” He strives to uphold that reputation and crafts his prose to
appeal to scholars as well as the general public.

“I don’t use jargon,” he says. “I don’t use too many fancy words. I want to tell a
story in language that people understand. I write for smart mechanics.”

That simplicity affects his teaching, too. “There are two kinds of professors,” he
says. “One takes something simple and makes it very complex. The other one takes
something complex and makes it simple. I’m the latter. I try to take big ideas and
reduce them to basic ideas, in simple language, so people can understand them.”

For nearly thirty years at Tech, Lankton has taught the history of the Copper
Country. He likes to engage his students and readers with a different world—“learn
about stuff they’ve never seen before and think about stuff they never thought of
before. Open up people’s eyes a little bit.”

“This was a pretty hazardous place in the mid-nineteenth century,” Lankton says.
“If you went back to one of these mining communities, with your modern sensibili-
ties, you’d feel like you were really at risk.”

His inquiry into those mining communities is facilitated by what he calls a “trea-
sure trove” of records, particularly from the Quincy Mining Company, which had,
for instance, invoice books that listed everything that the company bought over the
years. “You can see when they started buying dynamite, rock drills, and medicine.”

Much of this written record is housed in the Michigan Tech Archives, where
Lankton mines the past. He says of archival work, “You read dead people’s mail. I
say that in a humorous vein, but that’s exactly what you’re doing.”

Dead men only tell partial tales, however. Unearthing truths from records, crum-
bling foundations, and old smokestacks requires a detective’s sensibilities, says
Lankton. And no matter how skilled the detective, sometimes the trail runs cold
as ruins in winter. “A lot of times you ask a really good question, but the answer
doesn’t survive anywhere. The past doesn’t leave us everything,” he says. “It only
leaves us parts of things.”

With those fragments, he pieces together lyrical narratives on topics as wide
ranging as company stores, communal pastures, labor relations, and the rise and
fall of the copper economy. And though his subjects are unlikely to rise up from
the grave in protest, Lankton allows himself no literary license. “I’m answerable to
myself; you can’t make up history,” he says. “I’m honor bound to do justice to the
people I write about.”

Other books by Larry Lankton

Beyond the Boundaries: Life and Landscape at the Lake Superior
Copper Mines, 1840–1875 (1999)

Cradle to Grave: Life, Work, and Death at the Lake Superior Copper Mines (1993)

Old Reliable: An Illustrated History of the Quincy Mining Company
(1982, coauthored with Charles K. Hyde)

Hollowed Ground is available from the Michigan Tech Bookstore,
www.bookstore.mtu.edu/michtech.
Conservation could be Amber Roth’s middle name. She loves anything to do with nature. Birds, trees, grasses, ecosystems: she’s fascinated by it all.

So after tucking a BS in Conservation Biology and International Relations and an MS in Wildlife Ecology under her belt, the Green Bay, Wisconsin, native came to Tech to earn a PhD in Forest Science.

Roth researches how to manage aspen forests to produce the maximum amount of biomass per acre without harming wildlife habitat. But she was raised by a devoted bird-watcher, and a tiny songbird that is facing hard times has also captured her heart. She has become an active member of the Golden-winged Warbler Working Group, an international conservation organization that spans two continents.

Weighing only nine grams (equal to four dimes), the golden-winged warbler flies thousands of miles twice a year, migrating from its breeding grounds in the northern Midwest to its winter home in Central and South America. The tiny bird makes the long migration six to ten times in its lifetime.

“Its fuel efficiency is the equivalent of several hundred thousand miles per gallon,” Roth says with a smile.

But the far-flying warbler is in trouble. There used to be as many as half a million of the birds, and now there are fewer than two hundred thousand. “Its numbers are declining sharply, and we don’t know why. We don’t know where the patient is bleeding,” says Roth.

The Golden-winged Warbler Working Group received a small grant from the US Fish and Wildlife Service to try to determine what’s happening. Their research is a collaborative effort involving American, Canadian, and Latin American scientists.

They are spread thin. Some of the researchers are examining the bird’s genetics, since they often crossbreed with blue-winged warblers. Only one genetically pure population has been found so far, in Manitoba. Others are studying the biochemical signature in the warbler’s feathers, which reveal where the young birds go after their first migration. And a third group is working to connect where the birds winter in Central and South America to where they breed.

“It’s a real skin-and-bones project,” says Roth. Michigan Tech has helped out by contributing twenty-one mist nets, used to safely capture birds for study before releasing them. And Roth helped the Natural Resources Foundation of Wisconsin raise $520 by leading field trips to her research sites in Wisconsin. The foundation donated the funds to the international warbler research group in late 2009.

Like most of the other things she’s ever done, Roth says her work with the Golden-winged Warbler Working Group is helping prepare her for her dream career. With work experience in the Wisconsin Department of Natural Resources and her PhD from Michigan Tech, she’s looking forward to climbing what she calls her “career triangle”: research, education, and conservation management. “I like being involved in all three,” she says, “the research, the outreach, and the management on the ground.”
Sahil Thakkar is notable for a number of things at Michigan Tech. Patience is not one of them. His roommate, Pranay Nagar, is his polar opposite—calm, quiet, given to long stretches of meditation and silence. Together, they create a perfect balance. And both bring special gifts to the University, from Asian cuisine to yoga.
A

s a new undergraduate, Thakkar lured TV Asia’s Midwest Bureau chief from Chicago to Houghton for the 2009 Parade of Nations because he wanted Indians everywhere to know how welcoming Michigan Tech is to foreign students. And he did it just days before the event. “Let’s work on that for next year,” someone older and wiser suggested. “No,” Thakkar declared. “Parade of Nations is important. They need to know about it now.”

Nagar smiles paternally. “Sahil is having that quality,” he observes.

Thakkar spearheaded Khana Khazana, a wildly popular ethnic lunch cooked by international students and served weekly at the Memorial Union Food Court. Thakkar, who was working there part time as a dishwasher, simply cornered executive chef Eric Karvonen and retail dining manager Matt Lean and informed them that both campus and community were hungering for food cooked by international students.

“He was so enthusiastic and so sure he could make it work that we decided to let him give it a try,” says Lean.

The native of ruthlessly hot western India also plays broomball for the International Club. “A totally new experience, new game, new rules,” he recalls. “And all on ice! I was worried that I do not break my bones. But I enjoyed as soon as I landed in the rink.”

He came to Tech to study electrical engineering technology. After earning a diploma in electrical engineering in India—the equivalent of an associate degree—Thakkar was accepted at three other universities as well as Michigan Tech. He chose Tech because his uncle, an engineer, said it had the best reputation in industry.

“I am thankful to the School of Technology that they accepted me because I really like doing the hands-on work,” Thakkar says. “Ever since I was a young child, I was loving mechanical things—opening them, breaking them, trying to fix them.”

Thakkar had never seen snow before December 2009, his first winter at Michigan Tech. He stood gazing out the window of their second-floor apartment on Blanche Street for so long that roommate Pranay Nagar asked, “Sahil, is something wrong?”

“He is never quiet for so long,” Nagar explains. “I want to produce energy from snow,” Thakkar replied.

They are an odd couple. Nagar is as sedate as Thakkar is frenetic. Older, with a wife and a baby son waiting for him back home, Nagar is working on a graduate degree in mechanical engineering so he can pursue an academic career in India. “Teaching is what I really like,” he says.

He also likes to do Sahaja yoga and has taught free workshops on the meditation technique at Michigan Tech. “It’s a very easy way to realize and experience one’s inner self,” he says. “It is not a religion nor an ideology. Some of the benefits of Sahaja meditation are good health, mental and emotional balance, better concentration, stress relief, self knowledge, and peace.”

“Sahil motivates me, and I calm him down,” chuckles the 30-year-old Nagar.

Thakkar, 22, says that Nagar “makes food for me and keeps it ready when I am out at work or meetings. He himself cleans our room. He takes care of me like his young brother—and sometimes like a parent. I am really thankful to god that I got a roommate like him.”

God was not always so important to Thakkar. When he was studying for his diploma in India, he admits, “I was drinking, smoking cigars, doing things I should not do.”

Then one day, as the young man went through the motions of saying prayers with his father, mother, and younger brother, “suddenly I felt that I wasn’t worthy to be part of my family. I started following the path of Jalaram Bapa,” an Indian saint who grew grain to feed the poor. Thakkar relates his passion for cooking to his patron saint, pointing out, “He fed people too.”

Thakkar and Nagar still are stunned—although delighted—at some of the differences between India and Houghton. Back home, Nagar worked fourteen hours a day, six or seven days a week, prepping students for the Graduate Record Exam and other qualifying tests. “Here,” he says, “people only work from 8:00 or 9:00 AM to 5:00 PM five days a week, and some of them complain about that.”

Thakkar, who learned British English in school, says he sometimes has trouble pronouncing American-style—for example, the last letter of the alphabet. “It’s zed,” he protests, “and you say zee.” But what struck him most is Americans’ “honesty, the innocence, the eagerness to help. If I walked on the road in India and smiled and talked to everyone, they’d think I was crazy. Here everyone smiles and talks to strangers. It is a good way to do.”
Students at every school share a common set of hair-raising experiences, like freshman chemistry, meatloaf Thursdays, or a summons from a particularly humorless dean. At Michigan Tech, one such experience involved crossing the street.

For more than forty years, US-41 has cut through campus, dividing the largest residence halls from all the major classroom buildings. Every hour during the class change, motorists would be confronted with mobs of students piling up on the sidewalks and then darting desperately through traffic.

Against all reason, vehicle-pedestrian accidents happened with astonishing rarity. But every few years, the idea of building a tunnel or overhead walkway between the halls and the classroom buildings would rise in the community’s collective consciousness. Both proposals had serious drawbacks, however: The first was cost. The second was that human beings in motion seek out the shortest distance between two points. Ergo, tunnel or bridge not withstanding, most students would still be running across the street.
Then in the summer of 2009, the Michigan Department of Transportation completed a project that changed everything. Work crews widened the roadway and created a green, traffic-free refuge in the middle, which is traversed by crosswalks. “Students only have to worry about traffic coming from one direction,” says Grounds Manager Andrew Niemi. “And with the greenspace in the islands, there’s more of a sense of a designated crosswalk. You still get the occasional person who jaywalks, but for the most part, pedestrians are using the crosswalks.”

Those same pedestrians are happy with the changes.

“I definitely like it a lot better now,” says Keara Scott, a biomedical engineering senior from Richmond. “Before, when you were trying to cross the street, you had to look this way and that. And even if the car on one side of the highway would stop, cars on the other side wouldn’t. Now I think drivers are more willing to stop because it’s a well-designated crosswalk.”

The University also moved the exit for one of its parking lots away from the crossing area, removing yet another stream of vehicles for pedestrians to dodge. “Whenever I had a close encounter, it was from cars pulling out of the lot. I think it was a great move,” says James Buckingham, a civil engineering senior from Jackson. “I love all the changes. It speeds up the commute; we’re not stuck waiting in long lines for several minutes. And they also expanded the sidewalk in front of Wads, which relieved congestion.”

Travis Pierce, director of housing and residential life, says the improvements have had a significant effect on student safety. And, since his office is in Wadsworth Hall, they’ve also had a significant effect on him: “I no longer feel like I am playing Frogger when I’m crossing 41,” he smiles.
One hundred and twenty-five years after the state chartered the Michigan College of Mines, nearly everything is different. In 1885, four students studied mining engineering in the old Houghton Fire Hall. Now, over seven thousand students are enrolled in over a hundred degree programs on a nine-hundred-plus-acre main campus, and Michigan Tech is a $300 million enterprise.

The University faces a different set of challenges during its second 125 years, says Michigan Tech President Glenn Mroz. Research is flourishing. The state of Michigan is shouldering less and less of the cost of public higher education. Student demographics have shifted. And technology has made it possible to earn a degree without ever sitting in a classroom. For a residential campus like Tech, that might bode ill, but Mroz thinks it’s premature to draft an obituary for the traditional university.

“You can do a lot of things from a distance—we have some great distance learning programs—but distance learning is nothing new,” he says. “Ever since the invention of the printing press, you could always just sit down and read the textbook.” Yet students keep on coming to college, for reasons that date back to Socrates.

“There’s something about the interaction between students and their teacher that’s irreplaceable,” Mroz says. “What we gain from that interaction is not just facts but values, a sense of what is important in life. When our values align with our teachers’, then those teachers become our role models, even our heroes. We can’t wait to get to class, and we’re sad when the course is over.”

Those gifted and inspiring faculty are the heart of a great university, and attracting and retaining them has been Michigan Tech’s priority, says Mroz. “We have always had talented people,” he says. “Our top priority the past several years has been to put people first. We want to attract the best. Universities with the top faculty attract the top students, and you need both to provide an excellent education.”

Hiring the best people costs money, however, “and every state in the nation except for Wyoming has seen cuts to higher education,” Mroz says. As most schools retrench, Tech has made a conscious choice to dip into a growing pool of newly available, exceptional faculty candidates. That hiring opportunity won’t last, he predicts. “Once the other states realize that they aren’t going to get anywhere without an educated workforce, the competition will heat up.”

Those new faculty members bring with them a passion for discovery. And while many think research is a new development at Michigan Tech, the push to build a strong research program goes back more than forty years. “There were some wise moves made in the 1960s,” says Mroz. “When [then-president] Ray Smith took the reins, research was growing, but we only had about six hundred thousand dollars in external funding. Ray had foresight and knew that for Michigan Tech to be viable at the turn of the century, we needed a greater component of research innovation and development.”

Successive presidents Dale Stein and Curt Tompkins also drove the research program forward, says Mroz, “so by the time I came along, the flywheel was moving pretty well.” Research expenditures for 2009 totaled over $60 million, more than double the figure from six years ago.

As research grows, so does the push to commercialize new discoveries. “Efforts being made now will propel Michigan Tech forward in the next few decades,” says Mroz. In addition to patenting and licensing technologies and ferreting out venture capital, the University is providing programs in basic entrepreneurial skills for those who might normally feel more comfortable in a lab than in a boardroom.

Those business and leadership skills are equally important for students, and that’s another change
that is affecting university education. “The US economy is transforming itself, and that means that more of our alums will be headed toward entrepreneurial careers,” says Mroz. The Enterprise Program, in which student teams develop and market their inventions, is a case in point. “It’s been great to see how students respond to Enterprise in all its forms across campus,” he says. “And there’s been an explosion in all types of student organizations. Students are creating all kinds of opportunities to enrich themselves in many ways, and it’s been fascinating to watch that happen.”

Tech’s degree programs are expanding to meet the needs of the marketplace, a reflexive response for a university established to educate engineers for industry. “In particular, we’re developing certificate programs, since they can be initiated more quickly and tailored for a specific skill set,” he says. “They are also more interdisciplinary.” As for Tech’s mining engineering degree, which was suspended a few years ago, Mroz offers a nugget of hope. As mining becomes more technologically complex and demand for engineers increases, the University has been in talks with mining companies on their needs for the future.

The face of the student body will continue to change, Mroz believes. The number of international students coming to the US will grow despite efforts by India and China to expand their higher education systems. There are simply a lot of people around the world, and the United States has a unique draw for foreign students: “Many American corporations have a strong international presence, and it’s a benefit to them to hire international students who have studied in the US,” he says. “In addition, when you are one in a million in China, there are a thousand people just like you. We’re fortunate in that some of those people choose to come to study with us.” They have a profound effect on the quality and diversity of the entire student body and also on the local economy.

“Education is an investment, and I think the public looks at higher education as a cost.

“They forget: These are our kids. Our future depends on them.”
“When Houghton County did a study on our local airport, they found that the most popular international connection for people flying in or out of here is Shanghai,” Mroz says.

The face of Tech has changed in other ways. “We have more women on campus, and that’s been great,” he says. “We’re at 26 percent, and if we can get to fifty-fifty, we’ll almost match most other universities and be way ahead of most technological universities.” Women are bringing more than gender balance to the University, he notes. “Their grade point averages are really good—the average GPA of the women’s basketball team is phenomenal. And if you were to attend a meeting of student leaders on campus, you’d think the student body was 80 percent female.”

Perhaps the most wrenching shift facing all state universities, including Michigan Tech, strikes at their very nature as public institutions. “When I was a student here back in 1970, the state provided about 47 percent of Tech’s total revenue,” says Mroz. “Last year, it was about 21 percent.”

Over the years, Michigan has cut higher education support to fund other projects such as prisons. The result is higher tuition bills. “It’s getting harder and harder for students,” Mroz says. “There was a time you could earn your tuition with a summer job, and that’s almost impossible anymore. When we poll our freshmen, the biggest thing on their minds is paying for their education. They’re very concerned about the sacrifices their families are making for them.”

Certainly, higher education is expensive, but nowhere near as expensive as the alternative, he adds. And it continues to offer the best hope, not only for a trained workforce, but also for a healthy, productive society. “Dale Stein used to say if you don’t like the high price of education, you surely won’t like the high price of ignorance.” Declining state support may stem from a shift in how the American public views higher education. “In the post-war years, we saw an educated workforce as critical to building our economy. Now, I think people view college as a private benefit to the individual rather than a public good. That’s a dangerous proposition in a hyper-competitive global economy. We need those college graduates to go on to develop products that change our lives for the better, from greener vehicles to cures for diseases, if the US is to hold its place in the world.

“Education is an investment, and I think the public looks at higher education as a cost,” says Mroz. “They forget: These are our kids. Our future depends on them.”

As state dollars wane, universities are relying more and more on private philanthropy. “I don’t think you can overstate the importance of development,” says Mroz. “For Michigan Tech to keep its edge, it needs the support of alumni who not only love this place but also understand that education is key to our success as a society. That’s as true today as it was 125 years ago.”
An ultimate fighter from day one

by Wes Frahm

Abraham Wagner is not the kind of guy who can sit still. He has this inner drive to contend with.

It started long before he decided to become a mixed martial arts (MMA) fighter and step into a cage with huge men intent upon inflicting as much damage upon him as possible . . .

. . . before he moved up the corporate ladder to become director of finance and operations for an industrial supply company . . . before he received a mechanical engineering degree from Michigan Tech while earning four letters and all-conference accolades as a member of the football team . . . probably even before he left his foster home to work on a farm in exchange for room and board.

Somewhere in a troubled past—one that included countless episodes of abuse from his father—Abe made a choice that kick-started the drive.

“He was passed out drunk, and I was standing over him contemplating killing him,” Abe said of his father. “It was definitely a crossroads in my life.”

At the age of fifteen, Wagner moved into a foster home. A year later, he won his emancipation and moved to a dairy farm in northern Wisconsin. He attended high school in Elcho, a small community one hundred miles northwest of Green Bay, where he played football and basketball. His size (six foot four and 225 pounds), athletic skills, and academic achievement drew attention from college football programs.

A bout with chicken pox following Wagner’s senior season nearly derailed his plans. Thirty pounds thinner, he blew his athletic tests for recruiters. He stuck with it and visited Michigan Tech, where the Huskies’ coaching staff took a chance on him.

“I remember we weren’t really sure about Abe until he got here,” said then-defensive line coach Chuck Klingbeil.

“He was a great player to coach, though. He was one of the smartest guys and would do anything you asked. Almost too polite at times.”

The drive definitely helped Wagner at Tech, where he excelled both on the football field and off. He was a three-year starter at defensive end and posted seventy-eight career tackles en route to earning All-Great Lakes Intercollegiate Athletic Conference Honorable Mention his senior season. He graduated in spring 2002 with a B average and three job offers.

“Michigan Tech provided me with an opportunity to better myself,” said Wagner. “A degree from Tech goes a long way, and I would not be where I am today in my professional career without Tech.”

He ended up in Omaha, where he is now the director of finance and operations for Precision Industries, one of the world’s largest supply chain services and industrial distribution companies.

With a college degree and corporate job in hand, most former student-athletes would look for a recreational league softball team or bowling team to join. That wasn’t good enough for Wagner.

“There are two or three gyms in Omaha that train MMA fighters, and I just called one and asked if I could start training,” he said. Three months into training, Wagner stepped into the ring for his first fight. He won in fourteen seconds.

“I like the competition aspect of it. There are no could’ve-would’ve’s. It’s just you versus another guy. Sometimes you’re the best guy, and sometimes you’re not.”

Wagner compiled a 7–2 professional MMA record including a heavyweight title in Victory Fighting Championship, a regional MMA organization, before sending an audition tape to the nationally known Ultimate Fighting Championship. He was chosen as one of sixteen behemoths to be featured on season 10 of the UFC reality show The Ultimate Fighter, on Spike TV.

He was gashed in the head and lost a decision in the show’s opening fight—his only bout during the show. The six-figure contract and full-time gig in the UFC did not materialize.

“It was a once-in-a-lifetime opportunity,” says Wagner. “But I’m not in it for the money. I’m just doing it because I want to.”

Wagner claims he’ll probably be done with fighting in five years. “If I ever wake up one day and it’s not fun, I’ll stop.”

What new challenge could supplant standing toe-to-toe with the biggest and best fighters in the world? Stay tuned; with a drive like Wagner’s, it’s anybody’s guess.
“I am an Engineer.
In my profession I take deep pride.
To it I owe solemn obligations.

As an Engineer, I pledge to practice integrity and fair dealing, tolerance and respect, and to uphold devotion to the standards and the dignity of my profession.

I shall participate in none but honest enterprises. When needed, my skill and knowledge shall be given without reservation for the public good. In the performance of duty and in fidelity to my profession, I shall give the utmost.”

—from “The Obligation of an Engineer”
by Marcia Goodrich

It’s December 2009, not the easiest time to be a brand-new college graduate. Jobs are not falling into everyone’s lap, and many of the mechanical engineering seniors at this banquet are edgy as cats. But as the Order of the Engineer ceremony unfolds, they are reminded that the pendulum will swing back. Times will again be good, companies will hire. And when they do, these young men and women will face ethical challenges quite different from the intellectual ones posed by Senior Design and Differential Equations.

William Predebon, chair of the Department of Mechanical Engineering–Engineering Mechanics, emcees the Order of the Engineer ceremony twice a year, the week before the Mid-year and Spring Commencement ceremonies. It is a salute to mechanical engineering graduates as they prepare for life after Michigan Tech. “It’s been a lot of work, long hours, sleepless nights,” Predebon tells the dozens of students gathered. “Our purpose is to congratulate you on completing your first milestone.”

It’s also an opportunity to remind them that, of all the paths ahead, the easiest may not be the best. Predebon has been conducting the Order of the Engineer ceremony since he became department chair thirteen years ago. “When I was inducted, the ceremony reminded me that what we do is in the service of humankind, and what’s really important is doing the right thing, even when it’s tempting to do something else,” he says.

It’s hard to imagine any of these new graduates yielding to temptation. They have each worked so hard to earn a seat at these tables, they are so eager to get on with their lives, and the compromises of the working world seem far away.

“I can’t even put into words how excited I am,” says Patrick Green, of Brighton. “I’m very ready to be done and start working. This has been my hardest semester at Tech.” Nevertheless, it seems to have been worth it. “I’m pretty pleased about my education,” says Green. “I’ve learned to appreciate the difference between a technological university and a university that just has an engineering school.”

Guest speaker Gary Lawrey ’79, president and chief operating officer of Saturn Electronics and Engineering, reassures the graduates. Jobs have been scarce, even for engineers, but as the economy recovers and baby boomers retire, companies will scramble to fill engineering positions, he predicts. “So, while getting a job today may take a little more work and patience, your long-term prospects are very bright,” Lawrey assures them.

“You have a fine education from a top-notch school, and that education will always serve you well—no matter what career path you follow,” he says. “To me, a career is a journey with many bends in the road: you know where you’re heading, but you’re never quite sure what’s over the next horizon or even around the next corner.”

He offers rules for success that he’s picked up since earning his own BS in Mechanical Engineering thirty years earlier. Among them is the importance of integrity. “Leaders place integrity at the heart of their relationships,” he says. “People will forget and forgive any judgment error that you make, but integrity mistakes are forever.”

In closing, the graduates recite the Obligation of an Engineer, honoring the heritage of progress made possible by generations of engineers and promising to participate “in none but honest enterprises.” Then each extends a hand through a large ring, where a small steel ring is placed on their finger.

For new graduate Nathan Klein, that was the pinch-me moment.

“I knew the dedication, hard work, and late nights would all pay off sometime,” he says, “and that time was at this ceremony.”

Epilogue

Since graduating in December, both Nathan Klein and Patrick Green have found employment in their fields. Says Green, “I really couldn’t be happier.”
Innumerable skiers have wiped out on Mont Ripley’s vertical slopes, and since 1938 the ski patrol has been there to help them safely out of harm’s way.

“Thirty-one years in this business, and this patrol is the best I’ve ever seen,” says ski hill manager Nick Sirdenis.

The tradition of excellence stems in part from the late Fred Lonsdorf, the longtime ski hill manager, ski coach, and member of the legendary 10th Mountain Division in World War II, when he befriended Charles “Minnie” Dole, founder of the National Ski Patrol. That connection with the National Ski Patrol helped Mont Ripley develop one of the finest patrols in the US.

Among its accomplishments, the Mont Ripley Ski Patrol pioneered techniques for using rescue toboggans on steep hills in the 1970s that are still the standard. It served as the pilot for the National Ski Patrol’s Winter Emergency Care Course. And in 1984, the patrol was the runner-up for Outstanding Patrol of the Nation.

Kristin-Ann Beck started patrolling as an undergrad in the late 1990s, left after graduation, and returned to the Copper Country. Re-upping with the ski patrol was a no-brainer. “Once we get you, you can’t leave,” she laughs. “I’m going tonight, in fact,” she said on a late February afternoon. She’ll be working off some of the eighty-hours-per-season requirement.

About a dozen new ski patrollers are trained annually, many of them Tech students who leave in a few years and join other ski patrols on other mountains. About five hundred skiers have earned their ski patrol crosses at Ripley. With this “constantly rotating community” of Tech student members, “we really are a feeder patrol for others patrols across the country,” Beck adds.
A cadre of local alumni forms the core of the patrol. Don Close ’74 is its director. Dan Dalquist ’76, who has been a member since the 1970s, says it serves as the foundation for many relationships.

“Just a week ago, an alum from the 1980s stopped by,” he says. “It’s great to keep in touch with the Tech graduates and see what they’re doing in their professional lives. And the friendships! I met Scott Veenstra back in 1974, and we’re still good friends.” Dalquist figures the two of them have dragged the rescue toboggans—a World War II vintage sled and a sleek, new model—up and down the hill thousands of times between training sessions and real rescues.

Serving on the patrol keeps him in touch with the students’ “infectious sheer love of skiing,” Dalquist says. And the students love getting in touch with the greater ski community.

“It’s a great mix, and I enjoy meeting other people,” says Michigan Tech senior Aaron Havel. “It also helps me develop leadership skills. I’m helping people and learning the medical side of it.”

That “medical side of it” can come in handy just about anywhere, says Dalquist, who once patched up his three-year-old son’s head following a living-room wrestling encounter with the fireplace. “I went into rescue mode,” Dalquist remembers.

Demands on the ski patrol have changed over the last forty years with the rise of snowboards and terrain parks. Injuries run the gamut from broken wrists and ankles to concussions, back injuries, and knee injuries: “the X Games factor,” says Dalquist. That said, serious accidents are a rarity, thanks to Ripley’s relatively uncrowded slopes; the famous steepness of the hill, which drains much of the energy from a fall; and the fact that some injuries just aren’t reported.

Accidents do happen, though, and often when you least expect them, something Beck discovered while undergoing training.

“A patroller broke his arm,” Beck recalls, “and he called all of us over to show us what it looked like, so we would know one when we saw one.”

Serving on the Mont Ripley Ski Patrol keeps alumni in touch with Tech, with each other, and with students’ “infectious sheer love of skiing.”

When was the first rope tow installed at Mont Ripley?
James Mack
A horseman who doesn’t run with the herd

by John Gagnon

James Mack ’59 is a philanthropist and a fly fisherman, as well as a successful executive. Now retired, he casts about for opportunities, like Michigan Tech, to share his wealth and exercise his stewardship. “You can’t take it with you, and if you don’t give it back, it’s not much good,” he says.

Ten years ago, Mack and his wife established the first fully funded endowed chair at Michigan Tech, the James and Lorna Mack Chair in Bioengineering. Shea McGrew, vice president of advancement, says, “Folks like Jim Mack are the true sustainers of Michigan Tech. They make the University a priority for their time and resources.”

Looking back, it’s not surprising that Mack built a successful career for himself, for even as a lad growing up in Mackinaw City he was enterprising. His family was poor, and he pitched in by pumping gas and collecting and selling red leeches for fish bait. He got a dime for each one. “Pure profit,” he recalls.

Thanks to a benevolent uncle, Mack learned to fly when he was thirteen and wanted to be a pilot. The air force turned him down because he had hay fever, so he decided instead on becoming a corporate leader.

Thus in a world where, he says, “all forces good and evil conspire to make a business just break even,” he embraced a corporate career and accepted “the challenge to move beyond that to profitable growth.” Upon his retirement, Mack was president, chief executive officer, and chairman of the board of Cambrex Corporation, a worldwide biotechnology and pharmaceutical company in East Rutherford, New Jersey. Mack helped its gross sales grow from $130 million to $500 million.

Mack attributes his success in large part to his alma mater, where he earned a BS in Chemical Engineering. “If I hadn’t gone to Michigan Tech,” he says, “the opportunities and horizons would have been severely limited. My education at Tech taught me a very orderly process for solving problems. I wouldn’t have done what I did if I hadn’t had a good education. Somewhere along the way, the college experience gives you confidence to look at things differently.”

That perspective translates to a litany of precepts that, along with his leadership skills, provided a foundation for his career:

“Have a contrarian point of view—don’t go with the herd.”
“Know the business better than anybody.”
“The best leaders are surrounded with good people.”
“Carry on with conviction and drive.”

Mack and his wife live in Westport, Connecticut. These days they also have an agreeable venture: they bought a thoroughbred horse farm in 1996 in upstate New York. It takes good bloodlines, physical correctness, and luck to breed a superb runner, Mack says. He’s into this avocation in a serious way and calls himself “a medium-sized player.” He allows, though, that “you’ve got to be nuts” to be involved in such an undertaking. “If you want to be a millionaire in the horse business,” he says, “start with two million.”

Mack also fly-fishes for trout, a tantalizing pursuit that takes him and his wife afar. “It’s a great getaway,” he says. “It’s solitude. It’s challenging. And it’s totally impossible to worry about anything when you’re fishing.”

As he enjoys the halcyon years of his life, he sometimes reflects on the days when he sold leeches ten for a dollar. “If I hadn’t gone to Tech,” he says, “I might still be pumping gas in Mackinaw City. I didn’t know how it would turn out. Sometimes I sit around and look at the sunset with my wife and say, ‘Not too bad for a kid from northern Michigan.’”
“Somewhere along the line, the college experience gives you confidence to look at things differently.”
It seems fitting that renovation has begun on the old fire hall in Houghton. After all, 2010 is Michigan Tech’s quasquicentennial, and this is the building where it all started 125 years ago.

The building was constructed in 1883 as the headquarters for the Village of Houghton. The second floor housed the village offices, while the rest of the building was used for the town’s fire department. Officially known as the Continental Fire Company, it was said to be one of the oldest volunteer fire companies in the Upper Peninsula. Its first firehouse, constructed in 1861, was near the site of the Portage Lake Lift Bridge.

At the time the “new” firehouse was built, the fire department consisted of a hand engine once used in Detroit; a steam engine with 2,500 feet of hose acquired in 1872, and an eight-person hook and ladder company. The engines were housed in two bays on the ground floor, horses in the basement, along with an underground cistern that would hold fourteen feet of water.

Following the establishment of the Michigan Mining School in 1885, the initial work of selecting faculty, courses, and textbooks allowed classes to be advertised for September 1886. The fledgling school lacked a campus or building that first year, however, so the first twenty-three students and four faculty met for their first classes in rooms rented on the second floor and in the basement in the fire hall. Classes continued there until 1889, when the school opened its new campus on the eastern edge of Houghton.

Yet the fire hall continued its intended municipal uses for many decades. In the early 1900s, additions to the building enlarged the bay openings to accommodate large fire engines and to provide more storage for winter hay and oats for the fire department’s horse team. A larger addition added three more bays for additional equipment.

Finally, in 1974, the city constructed a new fire hall south of the city on Sharon Avenue. Part of the old building was sold for use as an auto supply store, but the historic 1883 building remained vacant. In 1978, Michigan Tech purchased the old fire hall from the city in the hope of preserving this piece of University history.

The fire engine bays and their large entry doors initially served as the scene shop for Michigan Tech’s theater department. “The old fire hall was my home away from home,” reports Kim Hartshorn ’79. “It continued as our main work space until the opening of the Walker Arts and Humanities Center, several years after my graduation. I have so many great memories of the place.”

Over the last thirty years, the building has served more mundane purposes, storing furniture and equipment collected for the University’s surplus property sale. Old accounting and business records have also been secured in the building.

Pat Ross made frequent trips to the building in the 1990s as a staff member for the Michigan Tech property office. “I loved going to the fire hall,” she recalls. “Call me a romantic, but I could almost feel
the presence of those turn-of-the-century students. The building was dark, dirty, and just dripping with history.

During the spring semester of 2007, a group of Michigan Tech undergraduates undertook a project to determine the potential for rehabilitating the building. Students in civil engineering and social sciences came together to study the history of the structure, assess its structural stability, and brainstorm ideas for its possible reuse.

“Both Michigan Tech and the City of Houghton viewed the fire hall as a valuable part of their shared heritage,” recalls Bill Leder ’68, an adjunct professor of civil and environmental engineering. “There was a desire to retain the building and incorporate it into the fabric of historic downtown Houghton as a cultural resource.”

Leder and Bruce Seely, then a professor in the social sciences department, led the students through the research and design process. As a Senior Design project, the objective was to provide students with an opportunity to successfully complete a major, semester-long assignment integrating skills learned in both disciplines.

Andrew Stephens, a social sciences major at the time, remembers the project warmly. “Parts of the structure looked like they hadn’t changed at all since 1883, and it was very easy to imagine a Michigan Mining School lecture in the second floor’s main hall.”

“The interior walls were all plastered,” Stephens recalled, “with wainscoting that went up to about chest level. The framing of the interior walls was done without the use of sawn lumber—behind the plaster and lath, we could see rough-cut yellow-pine logs acting as studs.”

The group’s final report suggested a number of options to the University and city for the building’s re-use. In addition to possible office space for the Michigan Tech Enterprise Corporation Smart-Zone or a showcase space for Enterprise and Senior Design projects, the large open spaces could also work as lounge space for off-campus students, the group concluded.

Index forward three years, and it turns out that the last option appears to have been the ticket for the building’s rebirth. Although the University was unable to arrange funding for a rehab project, a group of local entrepreneurs have stepped in. Earlier this year, Michigan Tech sold the historic building to partners Jon Julien and brothers Adam and Thomas Yeoman.

“We had been talking for some time about starting a downtown venue that would be able to cater to a more diverse set of acts,” said Julien. Aware of the Senior Design report, they saw an opportunity to use the building to connect the campus to the historic downtown district. “We think it will be neat to combine a kind of ‘off-campus union hall’ with a nightclub theme for the evenings.”

Michigan Tech President Glenn Mroz agrees that it is an ideal collaboration. “When Jon, Adam, and Thomas came along with a plan to renovate the fire hall for the benefit of Michigan Tech students, it seemed like a practical way to restore the building and provide additional student gathering space in the downtown area.”

Renovations are well under way, and the building should reopen before the start of classes. During the day, the building will offer quiet areas for study, while at night, new sound and lighting systems will create an intimate venue for performances. Refreshments will be available, with dry zones to cater to students of varying ages.

Leder is pleased to see his students’ work inform the project, too. “Senior Design provides an ideal opportunity for student teams to undertake projects that provide a service to their University community,” says Leder.

“Often we focus on topics that would be difficult or seemingly impossible to fund. Renovation and adaptive reuse of the Houghton Fire Hall is an excellent example. It’s gratifying when concept development work becomes a first step leading to a project that actually gets built.”

Or, when an important artifact of University history is rehabilitated for use by a new generation of Michigan Tech students.

Workers repair brick walls at the old fire hall in Houghton, where the Michigan Mining School held its first classes. In 1978, Michigan Tech purchased the old building, and it has since been used primarily for storage. Now, local developers have taken ownership and are turning the structure into a gathering place for students. Seniors in the social sciences department had suggested that the space be used for student activities.
Faces of Winter Carnival 2010

More than snow statues and skits, more than hot cocoa and broomball, Winter Carnival is about fun and friendship—and sometimes pink mittens.
Back to school

New professional master’s focuses on hybrid vehicle engineering

Automotive engineering has changed dramatically in recent years, and even greater change is lurking just around the corner. To help prepare America’s engineering workforce for the challenge, Michigan Tech is offering a new professional master’s program in advanced propulsion technologies for hybrid vehicles.

Full-time students can earn the Master of Engineering degree online in one year, a convenience for engineers based anywhere in the world, including southeast Michigan. Though no laboratory courses are required, a mobile lab developed especially for this program can travel wherever cohorts of students seek hands-on training.

The pioneering interdisciplinary curriculum was developed in partnership with powertrain developer AVL and General Motors. It covers design, analysis, control, calibration, and operating characteristics of hybrid electric drive vehicles.

“We’ll be training and retraining the next generation of engineers to produce vehicles that reduce fuel consumption and emissions,” said Jeff Naber, a professor of mechanical engineering—engineering mechanics. Naber heads development of the curriculum along with Carl Anderson, associate dean for research and graduate programs in the College of Engineering, and Wayne Weaver, an assistant professor of electrical and computer engineering.

The Department of Energy’s Transportation Electrification Program has provided $3 million to develop the graduate program and graduate and undergraduate certificates in advanced propulsion technologies. The degree program builds on a distance-learning course in hybrid vehicles created by Michigan Tech, GM, AVL, and the Engineering Society of Detroit. It was selected by the Michigan Academy of Green Mobility to train automotive engineers in the Detroit area.

Michigan Tech unveiled plans for the new automotive engineering program at the 2010 North American International Auto Show in Detroit as part of the Michigan Economic Development Corporation EcoXperience Showcase. “We were invited because we are a national leader in professional education in hybrid electric vehicles, battery technologies, power electronics, and powertrain calibration” said Anderson.

Course work leading to the professional master’s degree was launched in spring 2010, and additional courses will be offered in fall 2010.

More information is available at www.doe.mtu.edu/professionalmasters.
is Michigan Tech’s 125th anniversary (quasquicentennial!) year, and your Alumni Association would like to invite you back to campus for one of the many commemorative events being held. I hope you will consider a visit to Houghton in your travel plans this year to help us celebrate.

Two events in particular would be ideal to renew your bond with Michigan Tech and the Copper Country. First is Alumni Reunion, which will be held August 5–7, 2010. Featured Classes will be ’60, ’70, ’80, ’85, ’90, and ’00. Campus groups planning special reunions at this time are Huskies Hockey, Air Force ROTC, Chemistry, Alpha Delta Alpha, Delta Zeta, Lambda Chi Alpha, Sigma Phi Epsilon, Sigma Rho, and the Thompson Scholars and Pavement Enterprise; others will be announced. Enjoy a campus tour, the All Class Alumni Breakfast, the annual Pasty Picnic, class year gatherings, Tech Talks, the 1960 Golden M Pinning Ceremony, department open houses, Keweenaw outings, and the Annual Reunion Awards Dinner.

The other opportunity I would like to make you aware of is our newest event, Young Alumni Homecoming, which got off to a great start last year. Held at the time of Tech’s Homecoming in October, this event is aimed at our younger alumni, loosely defined as those having graduated in the last ten years. Last year’s activities included the Cardboard Boat Race and Alumni Cookout at Hancock Beach, Huskies Football VIP Tailgate, Huskies Hockey, and the First Annual Alumni Cup Broomball Tournament. So contact your friends from Tech you haven’t seen for a while and make plans to get together in Houghton at Homecoming. And if you think you can bring it, call your old teammates, tape up your broom, and start practicing. That cup really is awesome.

Mark Mitchell ’77
President, Michigan Tech Alumni Association
Presidential Council of Alumnae inducts new members

The members of the Michigan Technological University Presidential Council of Alumnae (PCA) are recognized for educational excellence, professional accomplishment, past student service, current community services, University support, and other personal success.

The PCA advises the president on campus climate issues and provides suggestions for enhancing the University’s environment for students, especially women.

2010 Inductees

**Nancy A. (Arnold) Auer** PhD ’95, Biological Sciences
Associate Professor, Biological Sciences, Michigan Tech

**Ellen M. (Barrett) Bauman** BS ’90/MS ’93, Electrical Engineering
Senior Engineer, IBM Systems and Technology Group, Rochester, Minnesota

**Elzbieta G. Berak** MS ’81 Civil Engineering/PhD ’85, Mechanical Engineering
Senior Engineer, Exelon Corporation, Chicago

**Michelle-Anne Irmen Christensen** BS ’84, Geological Engineering/MS ’86 Civil Engineering
Executive Vice President of Sales, enChoice Inc., Boston

**Kathleen Calder Haselmaier** BS ’84, Computer Science
Business Strategy Manager, Hewlett-Packard, Fort Collins, Colorado

**Wendy L. (Davidson) Kram** BS ’91, Mechanical Engineering
President, Edgestone Consulting Inc., Eagan, Minnesota

**Catherine A. (Kuchta) Leslie** BS ’83, Civil Engineering
Executive Director, Engineers Without Borders–USA, Boulder, Colorado

**Barbara K. (Kiiskila) Lograsso** BS ’80/MS ’82/PhD ’91, Metallurgical Engineering and Materials Science
Assistant Professor, Mechanical Engineering Technology, Michigan Tech

**Erin A. (Atwell) Zimmer** BS ’98, Chemistry
Adjunct Professor, Northwood University, Midland

For more about the PCA, visit www.pca.mtu.edu.

“**It’s Your Year!**”


Other group reunions are Men’s Hockey, Air Force ROTC, Chemistry, several engineering departments, Alpha Delta Alpha, Delta Zeta, Lambda Chi Alpha, Sigma Phi Epsilon, Sigma Rho, MBA Student Association, the Thompson Scholars and Pavement Enterprise program, and more.

Planning to attend? Phone 1-877-688-2586 for a 2010 Reunion Registration Package or email your name, class year, and mailing address to alumni@mtu.edu. Or, you can register online after June 15.

Not able to attend Reunion? You can still reconnect with your classmates by visiting http://huskylink.mtu.edu/join to access HuskyLink, Michigan Tech’s online alumni community. Use the online directory to track down your classmates and share your favorite Tech memories by posting a class note. Don’t forget to include pictures!

Visit www.mtu.edu/reunion for details.

Join Michigan Tech’s online community

As a Tech grad, you can join over 13,000 alumni and access the entire alumni directory and group directories; register for events; update your info; and share your news and photos.

huskylink.mtu.edu/join

Your access code (first-time number) is located above your name on the address label on the back cover. What are you waiting for?

Get connected. Get involved.
Paul Beebe '65 was only able to attend the Michigan College of Mining and Technology because a Michigan law required that each state-supported college had to accept one graduate from each Michigan high school, regardless of high school record. “T.C. Sermon and I never got along, as he believed I should never have been a student at MCMT. Graduated well up in class, so some good came from the law,” he says.

Dean Parks '69 says, “Retirement at last! See you in Hawaii.”
Jensen’s hockey camp honored
Steve Jensen ’77 and his wife, Sandy, have been named by mspmag.com among its 2009 “small business success stories” for their Heartland Hockey Camp. The couple have been running the camp for twenty-five years, and the difference between it and other camps begins with families.

Heartland focuses on the young hockey player who might not be ready to spend a week away from home without Mom or Dad, so they come along, too. The eighty-acre facility in Deerwood, Minnesota, features golf, tennis, fishing, swimming, and other activities.

Jensen credits much of Heartland’s success to Sandy. “I don’t know of another husband-and-wife team that has worked twelve to fourteen hours every day of the summer for twenty-five years. Sandy has done more behind the scenes than I have up front for the success of our company.”

Running the camp is rewarding financially, “but the rewards are much greater spiritually and emotionally because of the long-term relationships we’ve built over the years,” he says. “I get email updates all the time from former campers on what they’re doing and about how they learned to persevere and work through adversity. The life lessons they learned at the camp were a lot more valuable than the hockey skills.”

You can visit the camp at www.heartlandhockey.com.

Fotherby named Federal Engineer of the Year
Lisa Fotherby ’80 was named Federal Engineer of the Year by the National Society of Professional Engineers in February. A hydraulic engineer, she was earlier named Engineer of the Year for the Bureau of Reclamation.

She was selected for the top honor from among twenty-eight Engineers of the Year, each representing a federal agency or military command. They were chosen from the 96,000 engineers employed by the federal government.

Fotherby was chosen for achievements in river research and development, river engineering and restoration design, and collaborative planning in interdisciplinary teams for adaptive management. For the Animas-La Plata Project in Colorado, she designed three miles of meandering stream for flow delivery. This ecosystem-friendly design helps expand riparian habitat and natural channel evolution and protects a native fishery in the downstream Animas River.

“Lisa’s achievements demonstrate a vigorous role in the synthesis of complex environmental river data for responsible engineering,” said Reclamation Commissioner Michael Connor.

Fotherby is employed in Reclamation’s Technical Service Center in Denver. She received a BS in Civil Engineering from Michigan Tech and MS and PhD degrees in Civil Engineering from Colorado State University.

1980s

Tim Doran ’81 is a project manager for Aramaco, the Saudi National Oil Company. He will be living and working in Abqaiq, Saudi Arabia.

Scott Hartz ’81 started the GriffRex Group LLC, a management consulting firm that works with business owners, CEOs, executive teams, and frontline personnel to integrate financial management, marketing methodology, sales process, operations, and corporate strategy to help companies grow.

Mark Wilk ’85, a twenty-three-year veteran of the City of St. Ignace Police Department, was promoted to police chief on 2/1/10.

Victor Volkman ’86 is teaching Introduction to Computer Science at Washtenaw Community College. His blog is www.Volkman.org.

Stacey Roehm Morrison ’88 has been certified by FEAC as an enterprise architect.
Kathline (Wysocki) ’00 and Timothy Crumrine announce the birth of Abigail Anne on 1/14/09.

Josh and Leslie Sorenson ’01 announce the birth of their fourth son, Reid Anders, on 8/27/09.

Brian ’01 and Beth MacKenzie ’01, with daughter Ava, announce the birth of their son, Connor James, on 11/23/09.

Lynn (Synecki) ’01 and Nick Beck were married in Minneapolis on 9/26/09. They honeymooned in Florence and Rome, Italy, and reside in South Minneapolis.

George and Jamie Troth ’03 announce the birth of their baby girl, Alyza, on 2/5/09.

Rebecca Dugopolski ’03 and James Thompson were married on 8/9/09 on the University of Washington campus in Seattle.

Brian Rivet ’04 received his MBA from the University of Wisconsin-Oshkosh.

Lacey (Charles) ’04/’07 and James Mason ’03 announce the birth of Caroline Lucille on 1/21/10.

Michelle and Shaun LeVeque ’05 announce the birth of Lillian Marie on 8/23/08.

Matt Barkley ’06 is finishing his MSME this spring and is still looking for a full-time position. If you have any suggestions, feel free to contact him at mbarkle@mtu.edu.

Jeff ’05 and Jill (Katakowski) ’07 Dohner were married on 7/4/09 at Indian Springs Park.

Cayla (Nyenhuis) ’07 and Wesley Barrett ’08 were married on 8/27/08 in Grand Rapids. Both Wes and Cayla work for Caterpillar in Peoria, Illinois. They also announce the birth of their first child, Brayden, on 1/7/09.

Anthony Abbott ’07 and Morgan Petersen ’08 will be married 5/29/10 in Oconomowoc, Wisconsin, and will be living in Chaska, Minnesota.

Michael Denomme ’09 and Megan Oldfield ’09 will be married on 6/4/10.

Christine Boehm ’91 graduated with a Doctor of Veterinary Medicine degree from Louisiana State University in Baton Rouge. She completed a residency in laboratory animal medicine at the Penn State University Milton S. Hershey Medical Center. She is now the associate director for laboratory animal resources at Florida State University in Tallahassee, Florida.

Trefry named 2010 Quad City Junior Engineer of the Year

Christopher Trefry ’99/’00, a hydraulic engineer with the Rock Island District of the US Army Corps of Engineers, is the 2010 Quad City Engineering and Science Council Junior Engineer of the Year. The organization serves Davenport and Bettendorf, Iowa, and Moline and Rock Island, Illinois.

Trefry serves in the Water Control Section that operates eleven locks and dams on the Mississippi River and three flood control reservoirs in Iowa. He has been particularly active with outreach programs aimed at high school students interested in an engineering career.

Trefry received BS and MS degrees in Civil Engineering from Michigan Tech. He is a licensed professional engineer and certified professional hydrologist and an active member of the Rock Island Post of the Society of American Military Engineers. Chris resides in Milan, Illinois, with his wife, Rochelle, and daughter Lauren.
The Michigan Tech family extends condolences to the relatives and friends of those who have passed away recently.

1933
Paul W. Swift

1936
Clyde F. Hirn
Ronald P. Campbell
Charles J. Lingelbach Jr.
Freeman M. Ewing

1939
Ronald P. Campbell
Charles J. Lingelbach Jr.

1940
Freeman M. Ewing
J. Douglas Thomas

1941
J. Douglas Thomas

1942
Emil F. Jacobi Jr.
John B. Motto

1943
George Asanovich PE
Robert A. Eddy
Myra C. (Harrington) Ellico

1944
Charles J. Lingelbach Jr.

1945
Freeman M. Ewing
J. Douglas Thomas

1946
Myra C. (Harrington) Ellico

1947
J. Douglas Thomas

1948
Wesley R. Korri
James C. Purdy

1949
Robert A. Baker
L/Col. John R. Pizza Jr. (Ret.)
Michael F. Vichich

1950
Edwin S. Bartlett
Robert P. Cornell
John J. Cortright
Raymond D. Flynn
Kenneth C. Hayden
Dale O. Kluck
James E. Lekander
Irving W. Miller
Frank J. Perlich
Robert C. Roberts
E. Gordon Seiler
Robert C. Sernka
Michael F. Sulentic
George J. Trusock

1951
Paul A. Lenz
John R. Turunen

1952
Robert G. Biedermann
Laurence J. Lamb
William R. Rose
Richard R. Rowe

1953
Albert G. Clegg
Ottavio Q. Fossa
Charles B. Lawrence
James S. McChesney

1954
Robert D. Carey
Walter R. Clark

1955
Jack E. Hoffman
Donald H. Scott
Capt. Harry W. Wright

1957
Dr. Thomas G. Ellis
Ronald B. Hanson

1958
Clifford J. Benz

1959
Walter P. Bal
Kyle R. Ericson

1960
Harold Chalmers
Jerome M. Lerg
John D. Sobiesczyn

1961
David H. Demaree
Kenneth D. Levoska

1962
Dr. James H. Manning

1963
John A. Dobrinska
L. Kent Johnson
Lawrence J. Kellerman
Raymond J. Schultz
Lawrence R. Sutton
Edward D. Waara

1964
Gerald J. Monette

1965
Frederick M. Dart

1966
Claudette J. (Frick) Carlson
Patricia K. Dunbar-Griesmann

1967
David J. Huebner
Kenneth M. Saelens

1968
Christopher J. Kitti

1970
Robert R. Rositch Jr.

1971
John B. Anderson
William A. Lehotsky

1972
John D. Snyder

1973
Douglas R. Bourn

1976
Don M. Stoor

1977
Keith D. Mueller

1978
Victor J. Malinasky Jr.

1979
Richard A. Walton

1981
David A. Gage
Maj. Michael W. Lemons

1982
Barry B. Harbison

1986
Daniel P. Bourgeois
Brian S. Cobble
Richard M. White

1988
Melissa A. (Wilmers) Blair
Craig D. Scott

1989
Steve L. Guernsey

1997
Tacy R. (Keen) Richardson

2009
Chelsea M. Thomas

2010
Andrew M. Pappas
A charitable bequest is one of the easiest ways to leave a lasting legacy at Michigan Tech. In addition to helping secure an exceptional future for those who follow in your footsteps, a bequest may also lessen the tax burden on your family and estate. If you do not have a will or a trust, Michigan Tech has a complimentary guide to help you decide how you want your assets to be distributed. It also can assist you in gathering the information your attorney will need to prepare a will and trust to accomplish your goals.

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