It’s not over, but when Governor Rick Snyder tapped Michigan Tech alumnus Keith Creagh to tackle the Flint water crisis, Creagh delivered.
Campus on the Shore.

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Enjoy Upgraded MUB Dining Experience

Students returned to campus this fall to find significant renovations and upgrades to the Memorial Union Building’s North Coast Grill and Deli, and Keweenaw Commons.

The last major remodel of that space was in 1989, and while there have been several cosmetic updates over the years, this remodel dramatically changed the efficiency and flow of the Grill and Deli and the ambience of the Commons.

New equipment and cashier stations were moved closer to the customer, and a new menu enhances quality and freshness of the food. In the Commons, a wall was opened to give better sight lines and all of the flooring was replaced. Powder-coating the railings and covering the brick columns with wainscoting gave the space a “North Woods” feel. Additional enhancements include new paint, wall coverings, and improved Wi-Fi.

Updates to the Grill and Deli provide customers with better speed of service and more fresh, made-to-order selections.

Director of Auxiliary Services Robert Hiltunen notes that while the upgrades are important to current students, they’re also critical for creating the right first impression for future Huskies.

“Last year we added the new John Edgar McCallister Welcome Center and that along with the Commons are the first things many of our prospective students and parents see when they enter the building,” he says.

According to Hiltunen, the next phase of the upgrades will include replacing the ceiling and lights, and adding additional big screen TVs, computer projectors, and screens.

“We want to create a warm and welcoming atmosphere for our students, faculty, and staff,” he says.
Humans of Michigan Tech

The first and last time I was on an airplane was a 36-hour trip to China. Fourteen million people. I studied for a year in a city known for its super-spicy food. My fifth day there I was riding a bus and I asked, “So, can I work while I’m here?” Next thing you know I was teaching English at an after-school program. I didn’t know any Chinese. But I grew up in a Spanish-speaking neighborhood and I always thought people who could speak another language were so cool. My roommates here at Tech are Chinese. And one day my roommate asked, “Why don’t you learn Chinese?” Now we speak “Chin-glish” in our house. I’m fluent enough to take graduate-level classes in China if I wanted to. But I’m applying to law school. Mostly Ivy Leagues. It’s kinda crazy. I’m just a trailer-park boy from Detroit . . . my mom always said, “If you don’t come back, you don’t come back.”
– Russell

I started mountain biking with my dad. Then I started jumping and about three years ago discovered I like going as fast as I can down gnarly track. I’ve traveled to Switzerland and Canada for downhill mountain biking. I placed third at collegiate nationals in dual slalom and second in category one in the Sea Otter Classic in Monterey, California. I’m also a certified Professional Mountain Bike Instructor and teach women’s clinics. Downhill makes you forget about everything else. It’s you. Your bike. And the trail. I see scared, nervous women. And then I see how mountain biking brings out confidence. That’s the goal. You don’t need to bike behind the boys. You can lead the pack.
– Emily

I was driving my mom crazy. It was either University of Hawaii or Michigan Tech. I visited during Preview Day. I have never met more friendly or accepting people than Yoopers. So I told my mom: it’s Michigan Tech. She was so glad. She’s the one who pushed me, well, forced me into the Detroit-Area Pre-College Engineering Program in the fifth grade. I participated in DAPCEP through the 12th grade. Now I serve as senator for the National Society of Black Engineers at Michigan Tech. We do events on campus and outreach events. I definitely feel like it’s my personal responsibility to enlighten our campus community about our race—where we come from and what we experience.
– Matthew

Afraid. A little bit jumpy. I haven’t been sleeping much. I’ve been active in this community since I was a freshman in high school. I was the founder of the Gay-Straight Alliance. We recruited allies to sign pride flags and organized a day of silence to show support for people too afraid to speak out. I came to Michigan Tech to make a difference. This year Keweenaw Pride set up an outreach committee—I joined right away. We organized the first-ever Trans Day of Remembrance. There’s all this ignorance causing all this hatred. I want to teach people and help them understand what LGBTQIA is and how it feels to be a part of this community. Being there for people. Educating people. That’s why I’m so out there.
– Laura
To encourage students to pursue STEM careers, spark their interest in research, and increase the transfer of underrepresented ethnic minority, first-generation, and economically disadvantaged students from community colleges, Michigan Tech has been participating in the Michigan College and University Partnership (MiCUP) since 2001.

Tech collaborates with Delta College (near Bay City), Grand Rapids Community College, and Wayne County Community College, and nearly 300 students have completed the program over the last 15 years.

Kellie Raffaelli, director of Tech’s Center for Diversity and Inclusion, credits its success to the residential component and course students take.

“Students live on campus, take a class, and do research,” she says. “They also have many UP adventures. We have a student coordinator, who is typically a MiCUP alumni, who plans trips on the weekends to expose the students to the area.”

Many undergraduate research programs only include the research; Tech’s is a full university experience. That helps students from downstate Michigan better understand the opportunities at Michigan Tech, according to Raffaelli.

“One of the biggest hurdles for students is the distance from their homes,” she says. “We get to show students what being a Husky is all about and that they can make it here. Many choose to come to Tech because of their MiCUP experience.”

With the current program grant coming to an end soon, Tech will be eligible to reapply, but Raffaelli says the goal is to institutionalize it by making it a Michigan Tech summer residential research program.

“We would run it very similarly, but perhaps bring in the local community colleges, especially Keweenaw Bay Indian Community College,” she says.

[mtu.edu/diversity-center/programs/students/micup](http://mtu.edu/diversity-center/programs/students/micup)
Summer can #BeAwesome with SYP

Summers on many college campuses are often perceived as a time reserved for scaled-back operations and recuperation from marathon-like academic calendars.

However, Michigan Tech uses the reprieve from commonly harsh winters and a temporarily reduced student population to provide middle and high school students from across the world an opportunity to fill the labs, classrooms, and residence and dining halls, and effectively become college students for a week.

Since 1973, Summer Youth Programs (SYP) has offered a platform for thousands of students to engage in intensive discovery of educational content ranging across the STEM fields, even dipping into additional areas like business, social sciences, and outdoor adventures.

The 2016 season of SYP was successful, as 1,135 students attended 52 different courses offered on campus. With participants from across the United States and from countries like Pakistan, Nigeria, and Bahrain, as well as over 100 students from South Korea, SYP played host to a diversity of demographics, cultures, and experiences. Currently there are 650 Michigan Tech students who are SYP alumni.

Post-program surveys show it was well-received. Ninety-three percent of participants felt their experience was different compared to their common classroom schooling at home; 86 percent gained confidence in their ability to be successful in a college atmosphere; and 93 percent would recommend their experience to others.

Enhanced industry engagement also provided unique opportunities, including over $200,000 in corporate funds that provided more than 400 students with reduced or free tuition, room, and board. Surveys have shown that most of these students would not have the ability or means to attend SYP if not for the gracious sponsorships they received.

SYP staff are preparing the 2017 programs and looking to build on the momentum of the largest two-year-attendance total (2015-16) seen in two decades. SYP partners with faculty and departments on campus to keep the academic offerings fresh and relevant with prospective participants. A growing collaboration with Michigan Tech Recreation is also providing exciting opportunities; in 2016 SYP housed all residential participants of summer sports camps and is slated to return in this capacity again next year.

SYP 2017 is open for registration, and all printed materials (catalogs and applications) will be mailed the second week of January. If you would like to receive future notifications or be added to the mailing list, or if you have any questions, please visit the SYP website at syp.mtu.edu.

CORRECTION:
In the previous issue of Michigan Tech Magazine we misspelled Robin Johnson-Cash’s name. Johnson-Cash was the first African American to earn a PhD from Tech’s Department of Mechanical Engineering-Engineering Mechanics and graduated in December 2015. We apologize for the error.
Top 11 Percent Around the World

In a ranking of world universities released this fall, Michigan Tech was among the top 11 percent worldwide. QS World University Rankings considered 4,322 universities in its latest rankings.

The rankings were based on six measures, including two large annual surveys, one of active academics and one of employers. This year, 74,651 academics and 37,781 recruiters around the world were surveyed. Other yardsticks included the ratio of faculty members to students, the percentage of international faculty and students, and citations per faculty member.

QS Top Universities in the World ranks schools by increments of 50 points. In the 2016-17 rankings, Michigan Tech scored 501-550. The University has moved up 50 points since it was first ranked by this organization in 2013.


Tech has been listed in the guide every year since 1994, and Princeton Review (not affiliated with Princeton University) has published its Best Colleges Guide annually since 1992.

- Raymond Shaw, professor of physics, won Michigan Tech’s 2016 Research Award. In a letter nominating Shaw for the award, Ravindra Pandey, chair of the Department of Physics, wrote, “Shaw is internationally recognized in the field of atmospheric physics. The focus of his scientific work has been to investigate the role of turbulence on cloud formation and to study the physics of nucleation of ice crystals.”

Shaw’s work is highly interdisciplinary, and he is quick to point out that his success is not the result of flying solo. As part of Shaw’s research, he collaborates with the National Center for Atmospheric Research to lead a team of scientists to conduct holographic imaging of cloud droplets from an airplane laboratory. He also collaborates with international scientists and has had extended stays at the Institute for Tropospheric Research in Leipzig, Germany, and at Peking University in Beijing, China.
• Karyn Fay, a professor of practice in Tech’s biological science department, was the recipient of the 2016 Distinguished Teaching Award in the Assistant Professor/Lecturer/Professor of Practice category.

Dean Bruce Seely of the College of Sciences and Arts emphasizes Fay’s broader teaching role as well. “Karyn brings an amazing level of teaching commitment to the Department of Biological Sciences MLS program. Her efforts are not limited to the classes she offers, but are equally apparent in her advising and overall direction of the program as she helps students through their clinical activities, practicums, and internships.”

In addition to classroom teaching, Fay serves as academic advisor to the Society of Medical Laboratory Scientists, His House Christian Fellowship, and Theta Chi Epsilon Sorority.

• Chang Kyoung Choi has been at Michigan Tech for less than a decade, but despite that relatively brief period of time, his personal, engaging teaching style brought him the University’s highest teaching honor.

Choi, also known as “CK,” an associate professor in the mechanical engineering-engineering mechanics department, was the recipient of the 2016 Distinguished Teaching Award in the Associate Professor/Professor category.

William Predebon, ME-EM department chair, calls Choi “a very talented and dedicated teacher.” Predebon emphasizes Choi’s personal connection with students, calling him “one of those rare people who is humble and unselfish with a passion to help his students succeed no matter what it takes. He cares about them as individuals and tries to connect with them at every level.”

• Fall 2016 enrollment at Michigan Tech is 7,268, the highest the school has seen since 1983 and 30 more students than last fall. Female enrollment is at a record high, with 1,957 women making up 27 percent of the student body.

Undergraduate enrollment totaled 5,827. New first-year undergraduate enrollment rose 8 percent over last year with 1,580 students, 119 more than last year.

Majors in computer science, general engineering, environmental engineering, mechanical engineering technology, and forestry saw some of the biggest gains. The academic profile of the entering class has never been higher, with an average ACT composite score of 27.2, compared to 26.8 last year. And Michigan Tech has never had a more domestically diverse undergraduate entering class, with 9 percent of this year’s entering class composed of underrepresented populations.

Graduate enrollment is 1,521 this fall, with graduate students making up 20 percent of the student body.

“Michigan Tech continues to provide great value to students,” says John Lehman, associate vice president of enrollment and university relations. “We tell our entering students, if you do your job, we’ll do ours, namely making sure your education pays off. Earning $62,800 a year, our graduates enjoy the seventh highest early career salaries of any public institution in the nation. Including the financial aid and scholarships students earn on average, our students see a $713,000 return on investment over 20 years. That continues to attract attention nationwide and accounts for a large part of the enrollment increases that Michigan Tech has seen over the past 12 years.”

Since 2005, enrollment at Michigan Tech has grown by over 750 students, or 12 percent. More than half of that growth has come from increases in female enrollment, which has increased by over 430 students, or 28 percent.

“These enrollment gains come despite the fact that we graduated the largest class in Tech’s history last year,” says Michigan Tech President Glenn Mroz. “This is a true testament to the faculty, staff, and community here in the Keweenaw and the parents who recognize the value of a Michigan Tech education.”
HUSKY
ON THE HUNT

JON FRENCH
’98 ’00
The rifle is modified to allow the visually impaired to hunt.
an French has harvested wild pig, elk, buffalo, and a bighorn ram. Those trophies would do any hunter proud, but what makes Dan’s accomplishment remarkable is that he is totally blind.

What makes it possible is the MA French Visually Impaired Sighting System (VISS). Designed by his older brother, Jon French ’98 ’00, the VISS lets a visually impaired person draw a bead on a target—from a bull’s eye to a whitetail deer—with help from a sighted partner.

These are not easy shots over a bait pile. “We walk,” said Jon. “If we see an animal we intend to harvest, I grab Dan and pull him down to his knees.”

Jon crouches right behind Dan and looks through the specially mounted scope, patting his brother’s back gently right or left, up or down. “He moves his gun, and when he’s on target, I put my hand flat on his back. He takes three deep breaths and squeezes the trigger.”

It works especially well if your partner is a marksman. Dan dropped the buffalo at 162 yards.

Their story began more than 30 years ago, when Dan, then three years old, lost his sight in a vehicle accident. Hunting was a big part of their family, and when Dan got older, he wanted to be a part of it.

Their father, a tool and die maker, struck a deal with Jon, who by then had earned a BS in Geological Engineering and an MS in Civil Engineering from Michigan Tech. “He said if I could design something that would let Dan hunt, he would build it,” Jon said.

Their project was going nowhere when Jon had an inspiration. “I played catcher, and I was always amazed at how the umpire was right there,” he said. “After that, it was pretty much common-sense engineering.”

The design was simple: a standard scope clamped on a bar that could be mounted on the gun and adjusted. The sighted partner could look over the hunter’s shoulder, just like an umpire, and sight in on a target.

“I credit my Michigan Tech education for a lot of it,” Jon said. “They teach you theory, and they also teach you problem solving and to look outside the box.” Finally, Dan could go hunting.
That probably would have been the end of it, except that a few years later, Jon, a staff sergeant in the Army National Guard, was deployed to Afghanistan. On July 19, 2009, he was shot in the chest with a rocket-propelled grenade.

The grenade destroyed his right elbow, gave him a concussion, and temporarily blinded him. Now Jon feels lucky; of the five soldiers who sustained similar attacks that month, he was the only survivor. At the time, however, he was struggling with depression and PTSD.

“I felt very lost,” he said. “Here I had bachelor’s and master’s degrees in engineering from Michigan Tech, and the best I could do in rehab at Walter Reed [National Military Medical Center, in Bethesda, Maryland] was stack three Legos.”

Jon persevered in his rehab at Walter Reed, mastering the Lego repertoire and even completing a course to become a farrier. But he was still discouraged about his arm, which was not healing well. Then he had a chance meeting with Jim Zumbo, one of America’s top-tier outdoor writers.

“He gave me a kick in the ass,” Jon said. Zumbo also took him hunting with a customized rifle, so he could shoot again. “We were like two little boys at Christmas with our Red Ryder BB guns.”

That experience helped teach him that brother Dan wasn’t the only guy in the world with a disability who might want to get outdoors and hunt. “It started with a spark, with my brother, and then I met several soldiers who needed help,” Jon said. “I wanted to give back.”

So he filed for a patent on his system and started the MA French Foundation. (“MA is for my dad, Michael Andrew; my sons, Mike and Andrew; and my wife, Margaret Ann,” he explained.)

Now back home outside of Chassell and armed with a brand new artificial elbow, Jon builds VISS sights in his basement workshop. He gives them away to combat-wounded vets and sells them at cost to other veterans. Civilians are charged a slight markup—the total cost is about $200.

Expenses are covered by donations and money from his side business as a farrier, shoeing horses throughout the Copper Country. Any money left over at the end of the year is donated to veterans’ support organizations. During the week, he’s an engineer and project manager for Baraga Telephone and Peninsula Fiber Network.

Dan is his business partner and “guinea pig,” Jon says, since his brother’s input has been key to successful design. Using the system “is a lot of fun,” Dan says, and so is making it available to others. “It’s so neat to see this is possible for other people.”

Retired Army Captain Thomas L. Hicks, of Phoenix, a member of the Northern Arizona Chapter of the Blinded Veterans Association, received his VISS in the mail a few months ago.

Hicks lost his sight in 1997 and was contemplating selling his guns. “Shooting when you are blind can be very boring,” he confided. “You shoot, bang bang bang, and spend the rest of the day cleaning your weapon.”

Then he met Dan and Jon and learned about their sighting system. “My buddy said he’d take me shooting, so it’s not boring at that point. It’s really target practice.”

Target practice, and something else, what soldiers call “embracing the suck.”

“Jon’s whole mission is to give these sights to wounded warriors, so they can recapture some of that warrior mentality and climb out from beneath the rock they’re under.”

— CAPTAIN THOMAS L. HICKS

Hicks is looking forward to trying out his VISS on the gun range and maybe, this fall, out in the bush. “The neat thing about this is it’s simple, rugged, and doesn’t take a lot of money.” And it offers a chance to do something he’d thought he’d never do again.

That’s the point, says Jon. “It’s a healing process, and I don’t know who gets more out of it, me or the veterans who receive the sights.

“Blinded vets will never be exactly how they were—all of us understand that. But man, if we can get 95 percent of the way there, or 90 percent, or even 60 percent, if something as simple as this gun sight can help them get back out in the outdoors, find that purpose, find that passion for something . . . well, now you’re living.”
Automotive pioneer Henry Ford made a mark in the Upper Peninsula in the early 20th century. An auto plant, one of the nation's first charcoal factories, commercial forests, sawmills, and even rumors of an experimental chicken farm were scattered throughout the UP.

In several of these locations, Ford established what were known as company towns—communities where essentially all stores, businesses, and housing were owned by one company.

Today, most of Ford's presence in the UP is a memory. In Dickinson County the shells of manufacturing facilities stand eerily vacant. On the shores of Keweenaw Bay, Ford's "Tasty Little Town," Pequaming, is a ghost town, the schoolhouse and storefronts standing empty.

However, one of Ford's company towns remains not only viable today, its ties to the future are stronger than its links to the past.
Located 40 miles south of Houghton in the Baraga County community of Alberta, Michigan Technological University’s Ford Center sits on 5,500 acres of forestland and consists of a conference center and a research forest. The Center also comprises the historic Ford company town of Alberta and a sawmill museum.

Because it began as a company town, there is no separating the community of Alberta from Tech’s Ford Center; they are one and the same. Likewise, there is no separating Alberta from Henry Ford. He began building the town in 1936, opening it a year later. The auto legend named it Alberta, after Alberta Johnson, the daughter of his UP operations superintendent.

And though he named it after a little girl, the community belonged entirely to Henry Ford. In *Henry Ford, Life and Logging*, industrial archaeologist Brian Cleven credits Ford as the sole reason for Alberta’s existence. Ford dammed Plumbago Creek, creating the 20-acre lake that is still in existence across US-41 from the Center. It provided plenty of water for the sawmill’s boilers. And while Alberta’s lumber production paled in comparison to Ford’s three other UP mills, it had a capacity of 14,000 board-feet-per-day of hardwood and more than 20,000 board-feet-per-day of softwood.

When the auto industry’s need for lumber waned in the 1940s, most of Ford’s UP facilities became ghost towns, industrial remnants of a more prosperous time—but not Alberta.


One could argue that 1954 marked not the end, but a rebirth of the former company town, as Michigan Tech entered the picture. On November 30, 1954, Alberta, its well-equipped sawmill, and over 1,700 acres of adjacent timberland were donated to the
Michigan College of Mining and Technology for researching the methods of timber management and utilization, and serving as a laboratory to train students in the field of forestry.

While Alberta never developed into the thriving community Ford had envisioned—people drove to other nearby communities for church, commerce, and other activities—it was certainly no ghost town. People still lived in the clapboard houses and every one of the original buildings remained intact.

And while Michigan Tech was still primarily known as a mining and engineering school, the sawmill site was a perfect fit for the University’s growing forestry department.

NEW GROWTH

Today, Alberta functions in three distinct and significant ways. Because the facility has been used and preserved over the decades, the historic village of Alberta is a living museum. The sawmill and all of the residential structures are standing and while the sawmill no longer produces lumber, virtually all of the residences are often occupied.

Alberta also serves as a first-rate conference facility. The Center has lodging available for up to 110 people. Lodging quarters include dormitory rooms, a converted schoolhouse, and four of Alberta’s original homes. Each option features shared bathroom facilities and most of the rooms are double occupancy.

In addition to the complete meal service in the large dining room, staff accommodate special events such as banquets, barbecues, steak fries and other cookouts, theme parties, and box lunches for outings.

Alberta hosts conferences, engaged encounters, retreats, and reunions. The main conference room features audio and visual technology and can accommodate up to 80 people. Smaller conference rooms accommodate up to 30 people.

Each January for the past 20 years, hundreds of future leaders attending Michigan Tech brave tough Baraga County winters to attend LeaderShape® Institute, an intensive weeklong leadership development experience designed to help young leaders learn to “lead with integrity.”

Whitney Boroski, health and wellness coordinator at Michigan Tech, has coordinated LeaderShape® for the past several years. She says Alberta is “the perfect venue for that group,” even in winter.

“From the fabulous meals, great meeting space, awesome nature and adventure trails, sauna, museum, and computer lab, the Ford Center lets you get away from it all without sacrificing modern comforts or technology,” she says.

Boroski says the staff is willing to please and always goes above and beyond what is requested of them. “The staff is passionate about your experience,” she says.

BACK TO ITS ROOTS

Modern-day Alberta is also a forestry classroom—a 5,500-acre classroom. Both undergraduate and graduate students from Tech’s School of Forest Resources and Environmental Science spend considerable time conducting research in the Center’s hardwood forests, wetlands, and plains. The grounds also contain much more than trees. The property is home to numerous species including moose, bears, and wolves.

In addition to the ongoing research at the Ford Center, the facilities also host visiting researchers.
Dream Delivered

In the early 20th century, Henry Ford had a dream: communities centered on a single enterprise. Whether for automotive production, agriculture, or logging, Ford envisioned thriving communities throughout the UP.

Maybe Ford was too idealistic or maybe he underestimated peoples’ ability and desire to travel for commerce and recreation. By mid-century, all of Ford’s “company towns” were ghost towns.

All but one.

And thanks to Michigan Tech, Alberta keeps Ford’s idea burning brighter today than ever before. ▶

mtu.edu/magazine/companytown
Meet Bob and Trish Evans. Facebook fans know them as @BobandTrishJuggling. On social media you’ll see them swuggling (that’s swimming while juggling), joggling (that’s jogging while juggling), and acro-juggling (Google it!). Sometimes they add pyrotechnics, knives, or their niece Kayla. Off digital devices, they’re a pair of Michigan Tech alumni and former Husky athletes committed to living fully, loving truly, and writing their own story—all with three or more balls in the air.
Nerdy Cool and Crazy Smart

Bob Evans ’07 and Trish (Weyandt) Evans ’08 first met in 2003 as student-athletes at Michigan Tech. Trish studied math for secondary education and competed in cross country and Nordic skiing, while Bob majored in psychology and physical education and played basketball. Their first date? A four-hour hike to Hungarian Falls.

“Between sports and classes, we didn’t have much free time, so for a while we just met up on Sunday afternoons,” Bob recalls. During that first Keweenaw trek, the couple discussed what their courtship might look like and agreed to postpone a first kiss until marriage.

And so began a partnership and journey equal parts intentional and adventurous.

“I definitely felt at home in the math department,” Trish says.

“At Michigan Tech, we were part of two different worlds—in sports we were labeled cool, but I definitely felt at home in the math department,” Trish says. “We’ve always been that paradoxical mix of nerdy and cool,” Bob affirms.

Love at First Juggle

After graduation, with newfound free time and inspiration from friends, the pair picked up juggling. They searched for partner juggling instructions online and gained enough skills to perform at their own wedding in 2007. Partner juggling, Bob says, is a form of pre-marriage counseling: “It brings out the best and the worst in people. It’s easy to get frustrated and place blame on your significant other.”

Bob and Trish soon landed teaching jobs in Arizona. Their time in the Southwest was spent teaching, juggling, and performing—some of their very first shows as a duo. After a few years, and a lot of training, it was time to write another chapter.

Dreaming to Doing

They quit their teaching jobs to embark on a “travel year,” visiting every state except Alaska, Hawaii, and Nevada. During this “dreaming to doing” challenge, they became the first people to juggle three balls through an entire triathlon. There was only one problem with the Bob and Trish USA Tour: money ran dry.

So they did what any millennial would do—they Googled “travel and make money.” One of the top options: “teaching English in South Korea.”

And so that’s what Bob and Trish did next.

Houghton, as it turns out, planted the seed for the couple’s international travels. “I grew up in a town smaller than Houghton in Northern Wisconsin—when I went to Tech it was the first time I met people from other countries. It was also the first time I had African American friends,” Trish says.


“We fell in love with Thai life—it’s out of our comfort zones and so multicultural,” Bob says. “Our food palates have been awakened,” Trish adds. “It’s crazy to think I can now go almost anywhere in the world and meet up with a friend!”

The couple uses their summer breaks from teaching as an opportunity to reconnect with family back in the States and perform their juggling act in towns across the Midwest, including Houghton in 2015 and Marquette in 2016. “We use our talent as an excuse to travel. It’s a thrill to bring high-level circus skills to a small town,” Bob says.

“My family worked really hard to get me to Tech, and I’ve never stopped being grateful for it,” Bob adds. “When I look around the world at all the other things I wish I could do, I feel really lucky to be a juggling married couple with a good life.”

Trish worked as a campus tour guide back in 2005. “I still remember the facts I shared with prospective families. It’s a thrill to see the female population grow and to hear about the new majors and programs.”
our story unfolds as we think about our next goal—starting a family,” Trish says.

So what is it about juggling that applies to life? “It’s relaxed concentration in the midst of chaos. Trying to keep nine balls in the air, you have to remain focused, but calm. Life is chaotic, but it’s best to remain calm,” Bob says.

What advice do Bob and Trish have for future jugglers? “The first step to being good at a skill is sucking at the skill,” Trish says. “It’s more doable than you think. We might look like magicians, but it’s very methodical. Start with one ball—or no ball—and take baby steps.”

“The first step to being good at a skill is sucking at the skill,” Trish says.

The couple’s life motto: “Don’t be afraid to do hard things.”

mtu.edu/magazine/juggling

Balancing Act

You might think these America’s Got Talent contestants juggle from sun up to sun down. Get a peek into their average day in Thailand:

5:45 a.m. Wake up. Have some tea. Hug and kiss.

6 a.m. Trish’s breakfast no. 1: banana with almond butter. Bob’s breakfast no. 1: yogurt with honey.

6:30 a.m. Trish does mobility work and sips on homebrewed kombucha and coconut water-kefir elixir. Bob journals, reads, and meditates (using the Headspace app), then a daily training session involving juggling, bodyweight movements, and self-massage using a foam roller.

7 a.m. Trish’s breakfast no. 2: egg skillet with spinach, onions, and garlic with a side of fruit. Bob’s breakfast no. 2: Sardines over greens with an egg and avocado.

7:15 a.m. Cold showers and scooter rides to work at Lanna International School.

7:55 a.m.-3 p.m. Trish teaches high school math and Bob teaches PE. They eat school lunch together (it’s healthier than at most US schools). Bob does a 20-minute juggling practice session during lunch break.

3-5 p.m. Trish coaches running and Bob coaches basketball. They lead an after-school juggling club together.

5-5:30 p.m. Daily “together” practice. They pick five juggling or acrobatics skills to work on every day.

5:30-6 p.m. Dinner at Happy Green, a vegetarian buffet serving fresh fruits and vegetables from the garden right behind the restaurant—for less than $3 a person!

6-10 p.m. CrossFit (a few times a week) or a trip to the farmer’s market for fresh mangoes. More reading (they don’t own a TV).

10 p.m. In bed and exhausted (we’d say!).
In the Netherlands American Cemetery in Margraten lie the graves of 8,301 Americans killed during World War II. In Plot H, Row 8, Grave 9 rests John Sherman Hascall. His story, like all the others, is far too short.
When you live on Lake Superior, one of the first things you learn is how to swim.

Growing up in Marquette, Nancy Krohn remembers her older brother John teaching her in those cold waters. Now 93 and living in Ann Arbor, she also recalls he was the neighborhood hero.

John. Athletic, good-looking, full of life. It’s said he could swim like his namesake, 1924 Olympic gold-medalist and Tarzan actor Johnny Weissmuller.

Their family was close-knit, so while his decision—like those of thousands of others—to fight for his country was an honorable choice, it was also likely a difficult one.

After all of the years, Nancy holds on to the memories of her brother, and his Purple Heart medal, with pride.

John probably remembered her too as he was shot down.

It’s unlikely he panicked, thinking until those last moments it would be okay. He’d survive, fight on, liberate Europe, and return to America to restart his life.

**A TRUE YOOPER**

Born in Calumet on New Year’s Day, 1918, he grew up in Marquette, where he loved to ski, camp with his family, and play hockey.

A lot of hockey.

“My brothers grew up playing . . . everybody played when they could,” Nancy recalls. “They played serious hockey growing up. The only time I played was if they were short, and they would recruit me to be the goalie. One year, I got a black eye.”

John was a Husky, graduating from Michigan Tech in 1939 with degrees in mining engineering and geology. He was in ROTC, a member of (former fraternity) Theta Tau, on the staff of The Lode, and a standout on the hockey team. It’s not surprising he chose Tech; his father Carleton Hascall graduated in 1911 with a degree in mining, and brother Carleton Jr. preceded him by two years, graduating in 1937 with a metallurgical degree.

Nancy, six years his junior, would often visit John during his years in Houghton.

“I remember going up to Michigan Tech. The Theta Tau house was across from campus. I loved going into the fraternity house and was in love with all of the boys,” she recalls with a laugh.

And, then, as now, a rivalry existed between the schools in Houghton and Marquette.
John was shot down while flying P-38s, “fork-tailed devils,” on bomber escort missions between the UK and Germany during WWII.

“FIGHTING FOR FREEDOM

John moved west after graduation, working for the Colorado Fuel & Iron Company before enlisting in the United States Army Air Forces on April 7, 1942—like so many of that time, putting the freedom of others before his own.

A 2nd lieutenant in the 77th Fighter Squadron, 20th Fighter Group, John flew P-38s on bomber escort missions. After 18 months of service, he would take his final flight. Accompanying B-17 bombers from Kings Cliffe, UK, to Bremen, Germany, he was shot down by German pilot Lt. Leopold Munster, November 29, 1943.

An eyewitness, J. J. Van der Luur from Steenwijk, a fighter with the Dutch resistance cycling through the area, saw John’s damaged plane appear through the clouds and fall near Schutsloterwijde, a small lake near Belt-Schutsloot in north-central Holland. Bailing successfully, John landed in the middle of the lake, strong winds blowing him across its surface. Struggling but ultimately unable to remove his tangled parachute, John drowned. Local residents rushed to save him, and a doctor spent three hours trying to resuscitate him.

In a letter to John’s family, Van der Luur described those final moments.

“He lied there, just quietly and not wounded or damaged at all. His face was calm and nothing of fright or something like that was in its expression. It was just as if he slept after a tiresome job.”

In a small ceremony, John was buried in the Wanneperveen village cemetery. Local residents brought flowers to his grave. His remains were moved to Margraten after the war, and his plane lay undiscovered until 1981.

Nancy still recalls his decision to enlist.

“I remember John came home at Christmas and the family talked it out, but they didn’t include me,” she said. “I was always kind of neglected as far as conversations went. John told them he was going to enlist and he did.”

J.J. Van der Luur eyewitness

“HE LIED THERE, just quietly and not wounded or damaged at all. His face was calm and nothing of fright or something like that was in its expression. It was just as if he slept after a tiresome job.”
And members of the van der Venne family are not the only Dutch citizens remembering the American soldiers who gave their lives in the liberation of the Netherlands. Every grave at Margraten has been adopted by Dutch families, and there’s a waiting list.

John’s sacrifice, and those made by hundreds of thousands of young soldiers during WWII, are especially remembered in the words of witness J. J. Van der Luur.

“. . . when I saw John lying there in a certainly unknown village to him and also to you, I stood thinking and knew that there was a great difference between his and my fighting. I fought in my own country for my own country, but he was fighting outside his country for another country so that everybody might live there in peace and freedom just as in America … I thanked him for this sacrifice. I will never forget those moments.”

Their older brother Carleton delivered the news that John had been killed in action.

“I heard shortly after my parents did. I was in college in Ann Arbor at that time. My other brother lived in Grosse Ile and gave me the news firsthand. He came over and we talked about John.”

She was 20 at the time. Over 70 years have passed, but she has never forgotten him and was pleased to learn that others haven’t forgotten either.

FLOWERS FOR JOHN

Today, his grave often has flowers, tended by the same Dutch family for over 60 years after Jeanne van der Venne-Habets of Eijsden adopted it in the early 1950s.

Before passing away in February 2016, she passed the duties to her son, Theo van der Venne.

“As the eldest son I have taken care of Lt. Hascall’s grave after my mother could no longer do it,” he says. “I take flowers to the grave every time there is a commemoration at the cemetery in Margraten.”

Theo cites a desire to remember those who sacrificed everything for his country as motivation.

“I think our generation must realize what happened in the war of 1945,” he says. “We have had a lot of caring for the soldiers killed for our freedom, and are giving back now. This has to happen in areas where the war was for peoples’ freedom.”

And John’s grave will be tended for many years to come.

“We have five children at home, one brother, and three sisters so we will continue my mother’s work of taking care of the grave,” Theo says.

“We have five children at home, one brother, and three sisters so we will continue my mother’s work of taking care of the grave,” Theo says.

Jeanne van der Venne-Habets (inset) tended John’s grave (right) in the Netherlands American Cemetery. Her son Theo carries on the tradition.
It’s not over, but when Governor Rick Snyder tapped Michigan Tech alumnus Keith Creagh to tackle the Flint water crisis, Creagh delivered.
Keith Creagh ’74 leads Michigan’s Department of Natural Resources (DNR) sign. That’s not surprising, since Creagh—a 1974 Forestry alumnus—is director of the DNR.

But it’s nothing compared to the bear of a situation Creagh took on when he answered Governor Rick Snyder’s call to become interim director of the Michigan Department of Environmental Quality (MDEQ) at the height of the Flint water crisis.

In April 2014, to save money, the city of Flint, Michigan, switched from Detroit’s Lake Huron water to water from the nearby Flint River. What appeared to be a fiscally responsible decision came with two unintended consequences. The Flint River water has a lower pH—a measure of acidity or alkalinity. It was more acidic, although still within what is considered a normal or acceptable range. It also contained high concentrations of chlorides, which cause the metal pipes carrying the water to oxidize more easily.

Detroit’s water was treated with polyphosphates to counteract the chlorides. Flint River water was not.

General Motors was the first to notice the difference. Automobile parts in their Flint plant were corroding at a much faster pace. GM investigated and found the cause of the corrosion: the high chloride concentration. GM wasn’t looking for lead. They were looking at their iron-corrosion problem.

The company switched back to Detroit water and reported the reason to officials in Flint.

“GM’s findings should have raised a red flag for city and state officials,” says David Hand, chair of civil and environmental engineering at Michigan Tech and a water treatment expert. “Many of the water service lines in Flint, the ones that run from the mains to commercial buildings and residences, are made of lead. And the untreated Flint River water was taking the protective scale off those pipes, leaching the lead right into the city’s taps.”

Residents began to complain. An angry contingent of citizens brought discolored, smelly water to city hall. Not until October 2015—nearly a year and a half after the switch to Flint River water—after pressure from the US Environmental Protection Agency and an independent study by a Virginia Tech scientist, did the county health department declare a public health emergency.

There’s a bear in Keith Creagh’s outer office—a glossy black bear guarding a Michigan Department of Natural Resources (DNR) sign. That’s not surprising, since Creagh—a 1974 Forestry alumnus—is director of the DNR.
Governor Snyder knew Creagh was the right man for the job. “Keith Creagh is incredibly knowledgeable and passionate about Michigan’s environment,” the Governor says. “The expertise and enthusiasm he brings to every task is unmatched.”

“I asked Keith to step in during a very difficult time at the Department of Environmental Quality, and he did not hesitate,” Snyder goes on to say. “He has worked every day to improve water quality, recommend updated, stricter standards, and change the way regulators approach their jobs so that they are responsive and open-minded to concerns.”

David Hand was on Togwotee Pass, Wyoming, when he got the call from Keith Creagh. It was 20 degrees that day in February, and Togwotee Pass is 10,000 feet up in the Wyoming mountains, above Jackson Hole. Shivering as he stood outside, the only place he could get cell phone reception, Hand—chair of civil and environmental engineering at Michigan Tech and a water treatment expert—shared names of some of the world’s top water treatment specialists with Creagh, who was trying to get a handle on the Flint water crisis.

Hand’s own expertise is in treatment of organic compounds in water, and Flint’s problem involved lead—an inorganic contaminant—so Hand sent him to several colleagues. Among them was R. Rhodes Trussell, whom Hand calls the world’s expert on corrosion. Hand co-authored a book on water treatment with Trussell.

Then Hand, Professor Marty Auer, and Assistant Professor Daisuke Minakata, all in Tech’s Department of Civil and Environmental Engineering, were asked by 1991 alumnus Steven Tomaszewski, director of operations for North America at General Motors, to do a historical assessment of GM’s actions in relation to Flint’s water. GM, which had switched its water service back to Detroit in late 2014, had been accused of prior knowledge of Flint’s water problems.

The team found that GM had switched water because the chloride concentration in Flint River water was too high, causing corrosion of metals in automobile parts. “GM didn’t know anything about lead; they weren’t looking for lead. They were looking for the reason metal parts were corroding,” Hand explains.

Even so, GM notified the Flint Water Authority of their findings, Hand says, but it wasn’t until a year later that
Creagh knew he had accepted a tough assignment. “I was not naïve,” he says. “I knew it would be fairly contentious.”

“Fairly contentious” is an understatement typical of Creagh. “He has a different way about him. He handles stressful situations calmly,” says Michelle Crook, an environmental engineer with the DNR and a 1992 Michigan Tech alumna who has worked with Creagh for years. “He wants to hear everyone's point of view. And he really listens. But he also challenges people not to accept the status quo.”

Mike Irish, an associate professor of visual and performing arts at Tech who was a classmate in Creagh’s 1974 Forestry class, recalls the same sort of laid-back, big-picture guy. “It was always a pleasure to be on Keith's team,” says Irish. “He was real even-tempered, unflappable.”

Irish recalls the time when a couple of classmates “really got into it while we were socializing after hours. Keith pulled them apart, took one aside and talked to him, then talked to the other one. He defused the whole situation.”

That's a skill that would stand him in good stead in the MDEQ and Flint.

Creagh soon discovered that nearly everyone was angry. The people of Flint were angry that they felt that their water was poisoning them. MDEQ employees—who were being reamed by the press and the public—were defensive. So were city officials. And the EPA, the Governor, and the Michigan Legislature wanted answers.

They all wanted to know what had happened. They all wanted to know who was responsible.

“I went in understanding that people were angry,” says Creagh. “And they had a right to be. They didn’t know whom to trust. I needed to be a good listener. I needed to help them construct a community-based solution.”

The first thing he did was establish an MDEQ emergency operations center to oversee testing programs and analyze the water treatment and delivery system in Flint, to determine actual conditions at that moment and what needed to be done going forward.

MDEQ started a sentinel program to monitor the water quality and lead levels in hundreds of homes throughout Flint. Another residential program collected 23,000 water samples from Flint residents and tested them all. Processes were examined at the water treatment plant, and initial conditions in the city’s pipes were analyzed.

Creagh found many factors that played into the crisis. In addition to the lack of corrosion control, Flint’s water system was overbuilt for its current population and manufacturing base. That meant less water was flowing through the pipes than they were intended to handle.

What had happened, Hand says, is that when Flint switched from Detroit water, which is treated with polyphosphates to keep scale on the pipes and prevent lead from leaching into the drinking water, their new Flint River water was not treated with phosphates.

As a result, the high-chloride content of the water removed scale from the pipes. Scale sounds like a bad thing, but it is actually protective of the metal pipes. The scale itself contains some lead, which doesn’t get into the water as long as the scale is firmly attached to the pipes. And when the scale is gone, the chloride-rich water can leach lead from the pipes into the water.

The pH of the water—a measure of acidity or alkalinity—was actually within the normal range for drinking water, but with no corrosion protection, there was nothing to hold the scale in place on the pipes, giving the chloride levels an ideal environment to do their dirty work.

“Even at normal pH, you're going to see more lead when chlorides are high,” says Hand. Flint water is coming from Detroit again, so the corrosion-inhibiting polyphosphate is being added now. But another problem interfered with the corrective action.

“People got scared and turned their water off,” says Hand. “I don’t blame them. I would have, too.”

Michigan Tech researcher Dave Hand helped Keith Creagh find water treatment experts.

mtu.edu/magazine/flint-water
“All water is corrosive, but if it’s flowing, it’s less corrosive,” Creagh explains. In Flint, water was being underutilized; it wasn’t flowing through the pipes. “One of the critical lessons learned was, how do you appropriately size infrastructure for a city with a declining population and loss of manufacturing,” he says.

He also found what he calls “analysis paralysis.” No one wanted to make a decision, because everyone was afraid they might be prosecuted or lose their job.

“I was a little surprised at how long it took to put the necessary programs in place,” Creagh admits. “The difficulty in getting a consistent answer wasn’t something I anticipated. The capacity just wasn’t there. The new mayor was working to build an administrative structure to put programs in place to solve the community’s problems.”

Meanwhile, things were no better back at the MDEQ, where Creagh faced an atmosphere charged with grief and fear. At his first meeting with the staff, he says, “there was more than a little tension in the room. It was really intense, but not unexpected, despite the fact that MDEQ staff consists of highly trained professionals.”

“In the MDEQ, in Flint, in Washington, in Lansing, we had a lot of voices hollering, but never together,” Creagh recalls. “They weren’t listening to each other or paying attention to the actual data.”

Creagh credits his Michigan Tech education with teaching him “to look at the data.” He says he also learned at Tech to ask the bigger, deeper questions and to value a diversity of expertise, because a multidisciplinary approach is the best way to solve complex problems.

Everyone began investigating the Flint water situation. The EPA convened a data summit, a consortium of experts that included the Wayne State University and Virginia Tech scientists who had first reported the problem. The Governor brought in all the stakeholders—health specialists, educators, water quality experts, nutritionists—to form the Flint Water Interagency Coordinating Committee.

Creagh spent four wrenching hours before a congressional oversight committee. “It was not a conversation; it was not civil,” he recalls. He also testified before the Michigan House and Senate Oversight Committees. There, he says, he found “civility and thoughtful questions. They wanted to know what we can do to improve the system.”

And Creagh, true to form, participated in an effort to reach out to community leaders and ministers.
“We were guests in their community,” he says. “We had to be respectful, and we had to bring people together. The expertise is all here. The question is how you build integrity and trust and make sure that everyone gets heard.”

Before he took the interim director job, Creagh promised his wife it would only be for three months. Three became six, and six became seven, while Creagh’s biggest problem was something that people call “work-life balance.” Essentially, he was working 24/7, taking his first briefing at 6:45 in the morning and his last conference call at 8 at night. “And then I could start my regular DEQ work,” he quips.

Creagh started as interim director of MDEQ on January 4. His first half-day off was Valentine’s Day, February 14, when he watched the Michigan State-Indiana University afternoon basketball game, then took his wife out to dinner. “You can do that for a sprint, but not for the long haul,” he remarks.

Laska Creagh agrees. “We were supposed to go to Florida for a vacation,” she says. “We couldn’t go.” But Creagh explains:

“I made my wife a promise. And no offense, Governor, but I sleep with her.”

Laska is relieved that he kept that promise, although “he brought Flint back with him,” she says.

That’s true, Creagh agrees. “I’ll still be in Flint,” he says. “I appreciate the opportunity to stay involved, to take it from a crisis to an ownership of responsibility.”

And besides, as Creagh is the first to admit, he doesn’t like to leave anything unfinished.

mtu.edu/magazine/flint-water
Open Wa...
With 31,700 square miles of sweetwater sea at our doorstep, sailing and Michigan Tech go together like snow and the Keweenaw Peninsula.

The sailors of Michigan Tech represent every aspect of the University, every nuance of the sport. Among students, faculty, staff, and alumni are designers, navigators, racers, and cruisers. Long-distance voyagers and day-trippers. New swabbies and salty dogs.

Huskies at the Helm

First on deck, our most visible mariner: Stephen Roblee ’75 ’80, a math professor for 33 years before he became primary captain of the 36-foot, 19-passenger Michigan Tech Research Vessel Agassiz. Steve’s sailed all over the world and spent entire summers plying the waters off Bayfield, Wisconsin, Lake Superior’s most populated sailing grounds.

Great Lakes Research Center (GLRC) Director Guy Meadows spends most of his water time on powerboats. But he’s also a sailor who began with Sunfish and Hobie Cats—light, beach-launched, personal-size sailing dinghies—before moving on to bigger things, like a 36-foot ketch-rigged sailboat, and outrunning a South Pacific typhoon. It’s an arc familiar to the sailing mentors of Michigan Tech—one they hope to extend with each new sailor they welcome aboard.

“We have such a wonderful environment for sailing, it would almost be criminal to ignore it.” —GLRC Operations Director Mike Abbott ’80 ’88
Club advisor Dieter Wolfgang Adolphs, associate professor of German language and literature, inherited the job from former advisor Ralph Hodek, an associate professor of civil and environmental engineering. Huskies often crew on Hodek’s 40-foot Santa Cruz Red Hawk.

Many members are experienced racers, although anyone is welcome to try sailing (after passing a swimming test) before paying dues. Students also pay a per-race fee, driving long distances to compete in Midwest regattas.

Dieter also takes student crews on yacht club speed and distance races aboard his 30-year-old, 28-foot Laser Dark Star. Cam McNamara, who earned his bachelor’s in materials science and engineering in 2011 and returns from Australia to defend his PhD dissertation this winter, first sailed on Dark Star in 2009. “I was hooked. I enjoyed the hard yet technical work and wasn’t hesitant about handling the boat or going forward on the deck in difficult weather, so eventually Dieter put me on foredeck,” he says.

“First Mate s/v Dark Star” is included on my résumé.
—Cameron McNamara ’11, PhD candidate, Crew, Dark Star

Harnessing the Wind

Spring 2016 graduate Rohit Sunil Pandhare, who earned his master’s in mechanical engineering and plans to return for his PhD, is a new sailor. He’s been crewing on Nimbus since July. “I love the idea that we’re using the wind to move the boat, nothing other than that, and as an engineer it just amazes me to see fluid dynamics in action.”

Rohit likes to heel. That’s when the boat tips, leaning far to one side, under the influence of the wind.
of wind on the sails, weight of the boat, and other factors. It often freaks people out because it feels like the boat will tip over. The physics of the scenario make that highly unlikely. The farther a boat heels, the less pressure there is because the sails present a smaller area to the wind. The ballast of the keel, located below the waterline, compensates with a righting motion.

“Engineering in action right here.”
—Rohit Sunil Pandhare ’16, Crew, Nimbus Too

Off to the Races

The yacht club races in summer Sundowner and fall Frostbite series. Nimbus often sacrifices any chance of winning by weighing the boat down with extra, untrained crew. “Light thoughts,” cautions Dianne, as sailors from India, Ethiopia, and Lower Michigan pile on. Snacks, sunblock, sailing gloves, and safety instructions are efficiently dispensed as Nimbus heads to the Portage Lake race course.

And basic nautical lingo: Port is left because it has the same amount of letters. Starboard is right. The bow is the front of the boat. The stern is the back. Ropes are ‘lines’ and sails are ‘sheets.’ Winches are ‘grinders.’

And most important, a warning to duck when the boat turns, or “comes about,” a maneuver that sends the boom, the horizontal pole at the bottom extending from the bottom of the mast, swinging across the deck.

“They call it the boom because that’s the sound it makes when it hits your head.”
—Dianne Sprague, Skipper, Nimbus Too

With patient coaching crew members gain teamwork skills and an innate sense of balance.

No one takes racing too seriously. “We’re not like some racers. We don’t get mad. We do play by the rules, but we’re low key,” says physics professor David Nitz, skipper of the 28-foot Tartan Gamma Hunter (“I study cosmic rays, and I’m always looking for the sunshine,” he says.) Like other mentors, he hopes sailors who crew with him gain the skills needed to sail for a lifetime.

“It’s a sport you can enjoy until you’re quite ripe. People sail into their 80s,” says the teacher-mariner, who’s spending his 25th season sailing Gamma Hunter.

The most beneficial thing about sailing? “You have to think a lot,” he says.

Sail On, Engineers!

Huskies have been making waves in the sailing world for years. Take Richard Robbins ‘56, who commissioned renowned marine architect Bob Perry to design the 65-foot sloop Icon, which placed second in its 2001 debut race in the Sydney-Hobart race. The boat’s most unique features are a mechanically retractable keel and removable interior to make it light for racing. Known as a world leader in innovative tunneling machinery, Dick’s company’s equipment bored the “Chunnel” under the English Channel. He and his wife Bonnie, environmentalists and philanthropists, are creators of the Chairs of Sustainability at Michigan Tech.

Mike DeLano ’85 a self-described ME who often does EE work, crews on the 70-foot Santa Cruz Stripes for legendary skipper Bill Martin, former US Sailing Association President and University of Michigan Athletic Director.

Mike was always a boater but didn’t start sailing until after Michigan Tech. He got interested in the details of racing and navigating and learned by reading. A lot. He carried around flashcards to memorize terms and concepts.

“It’s like engineering, right? You gotta do your homework.”

“Sailing is a semi-athletic chess match overseen by God.”
—Mike DeLano ’85, Main Trimmer and Navigator, Stripes
ith a history as rich as the copper mines our founders once studied, you can bet myths and legends abound on campus—and throughout the Keweenaw Peninsula.

“I heard . . .”
“Someone once said . . .”
“Well, what REALLY happened was . . .”

We scoured the internet and the history books and tracked down Huskies old and new to tackle just a few of the most talked about Michigan Tech tall tales:
THE CLAIM: The wind harp doesn’t work.

With private support from the Friends of the Garden, the Great Lakes area’s first-ever wind harp was installed between the Chemical Sciences and Memorial Union buildings (an area fondly known or feared as the wind tunnel) in 2012.

What staff say: Sculptor Ashok Agarwal calibrated the 13-foot high Aeolian harp in Calumet, so that’s why it doesn’t emit “music” on campus in Houghton.

What Reddit says: “They” put a speaker by the harp to amplify the gentle hums; it would work if turned at a 45-degree angle, but then it wouldn’t look as aesthetically pleasing.

What Director of Energy Management and Sustainability Dave Taivalkoski says: “I’ve worked here 41 years and I’ve never heard it. I’ve often thought about sneaking in at night and stringing fishing line to it to get it working.”

The [very subtle] bottom line: “I saw the original plans from the artist himself and it was stated the harp would play music very rarely.” – Gregg Richards, Director of Engineering Services

The physics of it all: The harp DOES, in fact, play. We have recorded evidence—no speaker required. It just takes wind—plenty of wind (about 28-36 miles per hour). Take off your chook and have a listen: [link]

THE CLAIM: There are underground tunnels for students to get to and from class during winter.

What students say: Why trek through 220 annual inches of snowfall when steamy underground tunnels await?

What Facilities Management says: The tunnels are indeed steamy. In fact, 4,503 feet of utility tunnels throughout campus deliver steam to buildings on campus. They are not, however, for human traffic. [sad face]

THE CLAIM: There is a swimming pool in the basement of Walker.

What alumni say: There used to be a swimming pool in the old Sherman Gym. A door was cut to allow access so the Jazz Band could play in the deep-center of the abandoned pool.

What The Lode says: It’s true. Built in 1949, the 30-foot by 75-foot pool was part of Sherman Gym, former home to Tech’s PE department. By the mid-1980s, the pool area was converted into classrooms, hallways, and storage.

Partially removed and partially filled in, students can still stand outside and peer into where the pool once stood.
THE CLAIM:
There are stairs to nowhere in the Memorial Union Building.

Gregg Richards tells us what’s up: “The stairs were the original exit from the second floor ballroom. A renovation was completed in 1988 adding an additional exit stairway, eliminating the need for the original stairs. They were left in place for several years and after a 2008 renovation, the original connection to the ballroom was closed off and the space on the landing was converted to a tel-com closet, housing audio-visual equipment for the ballroom.”

So, the stairs DO go somewhere . . . sort of.

THE CLAIM:
There will be/was going to be a parking structure on campus.

What students say, version 1: There was supposed to be a parking structure built, but plans were canceled because it would disrupt our scenic views.

What students say, version 2: There was supposed to be a parking structure built, but plans were canceled because snow removal would be a problem.

What Director of Facilities Kerri Sleeman says: “The University and numerous entities talked about building a parking structure, but there are no plans for one at this time. It’s just too expensive to be viable.” (So don’t put away your snow shovels just yet, Huskies.)

THE CLAIM:
Tech students solved the mystery of the Paulding Light.

This one—described in a 2010 Michigan Tech news story—has been read more than 142,000 times. We’ll let you decide what, exactly, the Paulding Light (or lights?) REALLY is: mtu.news/2bFkmNK

mtu.edu/magazine/legend
Not many campuses have a foundry. Students use our foundry, but it’s more than a classroom. Researchers run tests in the foundry, but it’s more than a lab. Companies commission foundry work, but it’s more than an R&D facility. At Michigan Tech, our foundry is the centerpiece of an innovative metal design process.

Foundries aren’t old school.

The cutting edge of metal design didn’t get left in the Bronze Age; nowadays, the craft has progressed past a simple molten pour and requires analytical research before and after. Researchers customize alloys, optimizing them for specific uses. Foundry workers harness high heat and intense pressure in casting and extrusion to create just the right internal structure. Once the metal gets shaped and stretched, it undergoes testing that spans atomic structures to the tensile strength of entire rods.

Most campuses and industries have bits and pieces of a metal design process. Not us. Our team of faculty, staff, and students are present from first calculation to final report—transferring the billet each step of the way. With Kevlar gloves, of course.
The furnace is hot—more than 700 degree Celsius (about 1,300 degree Fahrenheit). Inside, several aluminum alloy ingots melt into orange, mercurial pools.

Sparks fly when cold or foreign material hits the liquid melt inside or the hot edge of the crucible. Compared to steel or brass, aluminum has a lower melting point (660 degree Celsius) and produces many of the lightweight alloys in use today.

Casting is the art and science of pouring molten metal. The metal is not just hot, but blinding. Undergraduates Erika Harris and Julia Scruton wear face shields along with reflective and fire-resistant jackets, boot spats, and thick mitts worthy of foundry work and Keweenaw winters.

As the aluminum billets cool, they contract and dimple downward. Set in an oven around 400 degree Fahrenheit, the heat homogenizes the microstructure before extrusion.

Tom Wood, a staff engineer in the foundry, holds several extrusion dies. As the hot billet pushes through the die, the metal elongates, changing both its shape and structure.

Aluminum is one of the most commonly extruded metals. Foundry staff designed and tested a special Upper Peninsula extrusion: The extra hook serves as a bottle opener once sliced into keychain-sized slabs.
PCA Inducts 20th Class of Leaders

Twenty years ago, Michigan Tech established the Presidential Council of Alumnae (PCA) with two goals in mind: honor some of Tech’s most successful female alumnae and reengage them with the University.

PCA members are recognized for personal and professional achievements in all facets of life, including education, career excellence, community involvement, and volunteerism as a Michigan Tech student or alumna.

Many of the members were and continue to be pioneers in the fields of science, engineering, education, technology, forestry, entrepreneurship, and business. Many chose to enter fields in which women remain underrepresented.

The first induction event took place in the spring of 1996 with 17 inaugural members. Since then, more than 180 alumnae have been selected, and in September, 12 new members were inducted bringing the membership to 195.

Members meet annually on campus to participate in activities that support the University’s strategic plan and specifically focus on engaging the campus community to educate, influence, and inspire the women of Michigan Tech.

These alumnae enhance the University’s outreach on and off campus in countless ways, including:

- Establishing a scholarship fund for female students
- Hosting Career Success sessions for students
- Mentoring female students by developing leadership and professional skills
- Encouraging female students, faculty, and alumnae to understand, communicate, and accomplish their career and life choices
- Enhancing diverse support for Michigan Tech through interaction by council members

The 12 members who joined the Council in September 2016 include:

**Denise L. Blankinship ’84**  
BS Business Administration  
VP, Business Analysis/Application Support, Church Pension Group

**Christine M. (Gustafson) Cowell ’00**  
BS Chemical Engineering  
Research and Engineering Director, Kimberly-Clark Corporation

**Deborah A. DeManno ’78**  
BS Medical Technology  
Scientific Director, Global Research and Development, Takeda Pharmaceuticals U.S.A. Inc.

**Smriti Gandhi Dhanjal ’92**  
MS Electrical Engineering  
Dealer Systems Portfolio Manager, Marketing Sales and Service, Ford Motor Company

**Joan M. Heil ’83**  
BS Mechanical Engineering  
Vice President—Micon Consulting, The Micon Group

**Britta A. (Vande Hei) Jost ’02 ’04**  
BS Mathematical Sciences  
MS Mechanical Engineering  
Engineering Project Team Leader, Caterpillar Inc.

**Terre A. Lane ’82**  
BS Mining Engineering  
Principal Mining Engineer, Partner, Global Resource Engineering

**Heather J. Lewandowski ’97**  
BS Physics  
Assistant Professor/Associate Fellow of JILA, University of Colorado

**Jan A. Miner ’88**  
BS Scientific and Technical Communication  
Lawyer—Bay County, Michigan, Public Defender’s Office

**Leanne M. (Homberg) Panduren ’93**  
BS Civil Engineering  
President—Rowe Professional Services

**Dorothy A. (Eisch) Proux ’86**  
BS Business Administration  
Partner/State and Local Tax Services—Ernst & Young LLP (retired)

**Lynne M. Shetron-Rama ’91**  
BS Medical Technology  
Associate Professor, Program Director—Eastern Michigan University

For more information on the Presidential Council of Alumnae and a complete list of current members go to mtu.edu/alumni/recognition/pca.
Alumni and Friends Honored at Reunion

The following alumni and friends were recognized by the Alumni Board of Directors:

Outstanding Young Alumni Awards
Benjamin Almquist ’04 Materials Science and Engineering, London, England, lecturer and researcher at Imperial College London and Dr. Johnathon Aho ’08 Mathematical Sciences/Biological Sciences, Rochester, Minnesota, Mayo Clinic surgery resident, Clinician Investigator, and Gold Quality Fellow.

Outstanding Service Award
Joshua ’03 and Jana Fogarty ’05 Materials Science and Engineering, Plymouth, Wisconsin, and long-time hosts of an annual alumni broomball tournament.

Distinguished Alumni Award
William Bernard Jr. ’69 Metallurgical and Materials Engineering, Perrysburg, Ohio, CEO and Chairman of Surface Combustion, Inc.

Humanitarian Award
James Tanis ’57 ’58 Geological Engineering/Geophysics, and Janet Tanis, Sedona, Arizona, founders of the Biwindi Community Program which brings hope to vulnerable children in Biwindi, Uganda, through the power of education.

The Honorary Alumni Award
John Patton, former Professor of Chemical Engineering 1968-77, of El Paso, Texas.

More details about these individuals are available online at: mtu.edu/alumni/recognition/profiles

Nominations for the 2017 Awards are open until December 1. For additional information, please contact the Alumni House at alumni@mtu.edu.

Michigan Tech Alumni Board of Directors represents over 70,000 members.

Mission Statement:
Celebrating Traditions. Creating Connections.

Vision:
We are passionate champions of Michigan Tech's unique traditions and we continuously strengthen our alumni community.

Alumni Board of Directors Executive Committee

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Robert G. Wojcik ’91
Past President
Edwin F. Eiswerth ’77
Vice President
Daniel S. Batten ’88 ’90
Treasurer
Joseph A. Azzarello ’78
Secretary
Kerry A. Irons ’72
Executive Director
Brenda M. Rudiger, Alumni Engagement Directors
Braeton Ardell
Undergraduate Student Government Representative
Chad Arney ’99
Andrew J. Burton ’97
Faculty Representative
Derek S. Chapel ’05
Joseph M. Gallo ’11
Rebecca J. Gatzke ’98
Courtney Harris
Michigan Tech Student Foundation Representative
SherAaron N. Hurt ’09
Jenna M. Joestgen ’10
Kristin J. Kolodge ’95
Will Lytle ’12
Graduate Student Government Representative
Emily C. McDonald ’12
Michael D. Peterson ’85
Dennis M. Sage ’86
Denise A. Slattery ’94
Ashwin K. Vekaria ’12

Upcoming meeting:
February 9-10, 2017

If you have a question or suggestion, please contact the Alumni House at 877-688-2586 or alumni@mtu.edu.

Russell Gronevelt ’69 was the recipient of the 2016 Board of Control Silver Medal. Presented at the Alumni Reunion Dinner in August, this award recognizes Russ for his long service to the University and his noteworthy personal and professional achievements. He is an outstanding example to our students and alumni.

Alumni Celebrate Tech Connections

Alumni Reunion 2016 brought over 600 alumni and friends back to campus August 4-6 for three days of events. From sharing stories of 1966 at the Golden M pinning ceremony, to the 5K run/walk for scholarships, to creating a lovable plush husky dog, new memories were made by all ages.

To view photos from the week, head to mtu.news/2cgCXze.

Weren’t able to make it back this year? Make plans to visit campus for the 2017 Alumni Reunion, August 3-5. In addition to featured class years, we will be celebrating all women of Michigan Tech.
Class Notes

1960s
Douglas Kriebel, PE ’65 (Chemical Engineering) has been named a Fellow of the American Institute of Chemical Engineers by the board of directors. He is a principal and founder of Kriebel Engineered Equipment, Ltd. and was named the 2011 Delaware Valley Engineer of the Year by the Technical and Professional Societies of the Delaware Valley.

1970s
Christopher Lenicheck ’70 (Geological Engineering) retired, US Army, 1991; retired, Science Applications International Corp. (SAIC), 2005; vice commander, American Legion Post 74, Charlottesville, Virginia; chairman, Virginia American Legion Boys State Program.

John R. Baker ’71 (Mechanical Engineering) has retired after 35 years with Siemens PLM Software as a senior technical product manager. He and his wife, Barb, reside in Irvine, California.

1980s
Chris Orr ’81 (non-degree) is a board-certified consulting meteorologist providing consulting services as Chris Orr LLC. He specializes in long-range weather forecasting (three months to three years), and serves as an expert witness for criminal and civil court cases and for insurance claims. He is also a consultant to traders, capital management firms, and hedge funds about weather impacts on stocks and commodities.

1990s
Matt Kramer ’98 (Electrical Engineering) recently took a position with Thysenkrupp System Engineering in Auburn Hills, Michigan, as an engineering supervisor. He and his wife, Kristen, reside in Berkeley, Michigan, with their three children.

David Claus, PE ’99 (Civil Engineering) has joined HDR Inc. as the structural engineering manager. He works in their Ann Arbor office after relocating with his family from Colorado.

1990s
Brenda Polk ’99 (Scientific and Technical Communication) was admitted to the State Bar of Michigan and is practicing as an estate planning and elder law attorney in rural Michigan, with a focus on helping family farms transition between generations.

2000s
Jennifer Bzura ’05 (Chemical Engineering) married Jeff Lanzafame in August 2015 at Squaw Valley Resort in Lake Tahoe. The couple met playing kickball in the San Francisco Bay Area and still reside there today. Jennifer recently received her PMP certification and started a new job as a senior project manager for process improvement in the Development Sciences Group of BioMarin Pharmaceutical Inc.

Frank Mathias ’05 (non-degree) and Jody (Kositzky) Mathias ’01 (Chemical Engineering) proudly announce the birth of their son, Conor Kendrick, born July 6, 2016.

2010s
Nick Deming ’11 (Civil Engineering) and Carol (Ostrowski) Deming ’12 (Materials Science and Engineering) are happy to announce the birth of their daughter, Eleanor Mae, on May 27, 2016.

Christina Mae Basso ’14 (Chemical Engineering) and Benjamin Lee Cottrill ’13 (Biomedical Engineering) were married in September 2016. Both are employed by Fiat Chrysler Automobiles (FCA). Christina is a thermal system integrative responsible and Ben is a design release engineer. In their spare time, Christina is pursuing a dual MBA and Master’s in Management at Walsh University in Troy, Michigan, and Ben is pursuing a Master’s in Mechanical Engineering at Oakland University in Rochester, Michigan. They reside in Rochester with their dog, Rocko.

Jacob Huggard ’05 (Mechanical Engineering) and Sara (Flessert) Huggard ’04 (Electrical Engineering) are happy to announce the birth of their third daughter, Scarlett Mina, on February 9, 2016. Scarlett joins her big sisters, Fiona and Avalyn.

Eric Baum ’09 (Mechanical Engineering) and Lyndsey (Marino) Baum ’09 (Exercise Science) welcomed future engineer Carson Jay Baum into the world on August 4, 2016 in Chicago, Illinois.
In Memoriam

1942
Robert E. Manderfield
Thomas Niessink, PE

1943
Don W. Brenner
Dr. Norman N. Breyer

1944
Dr. Donald L. Shell

1946
Margaret M. Perlich

1947
Warren G. Wills

1948
Dr. John W. Kallander

1949
George E. Bergstrom
Frank J. Karkoski
Col. Carleton J. Robinson, Ret.
Rafael Saviniemi

1950
Adrian W. Barker
William F. Engler
Kenneth E. Ottosen
Robert P. Poppe
William J. Runge
Harold Smith
James A. Steinen

1951
Edward J. Maney, PE
David T. Rowe

1952
Richard H. Karsten

1953
Benson E. Berry, PE
Ray H. Herner

1955
Frank M. Makarinsky

1956
Dr. Kenneth G. Brickner
Robert J. Collins
Jack A. Hamman
Robert J. Wagner, PE

1957
Laurie J. Clark
Martin D. McGrath
Joseph F. Raffaelli Jr.
James K. Richards
Edward J. Santori
Bruce G. Whitmarsh

1958
Harold W. Carlson

1959
Frank H. Hands
Jerome S. Meach
Lawrence M. Niffenegger
Cato A. Nyborg
Oscar W. Nyman

1960
Donald A. Arendt
James T. Emerson
William C. Engle
John T. Fraser
Glenn E. McNitt II
Duncan C. Norwell
Delvin M. Shively
George I. Turnquist
Richard L. Tyson
Vincent A. Vellella

1961
Arthur C. Maki
Jack L. Olsen

1962
Dr. Clyde D. Calhoun
Earl W. Walke Jr.

1963
Richard A. Benz
Douglas D. Henderson
Ed Sirkka
James L. Van Camp

1964
Terrence M. La Fleur
Bruce H. Mattson, PE
Richard T. Newland

1965
Howard O. Krok
John M. McCarthy
Paul D. Turovaara Jr.

1966
Michael D. Bevilacqua
Birger M. Gabrielson
Jerry D. Jablonski
R. Keith Konzuk
Anne E. Stafford
Dale A. Vitone, PE

1967
Joseph M. Nies

1968
James L. Hodges

1969
M. Thomas Makmann
Carol E. Petrow
Ted A. Ricci
John H. Weimer

1970
Robert A. Deardorff
L/Col. Kent N. Heaton
Ricardo L. Hopkins
John H. Odinga
Alton C. Rhodes Sr.

1971
Gary L. Simmons
Nagibhai J. Sutariya

1972
Ralph E. Radl

1973
Ronald F. Bacon
Mary C. Keane
Eugene W. Mattila Jr.

1974
Larry E. Fitzpatrick
John C. Martin
John C. Vahrenwald

1975
Robert P. Yeo

1976
Wayne K. Hayward
James A. Keranen
Jonathan M. Luse, CPA

1977
Allen R. Putvin

1978
Anne M. Johnson

1979
Antonia E. Allison
Jere E. Hornung
Lawrence R. Kennedy
Glen G. Lucchesi

1980
Kenneth S. Kaurala

1981
Terry L. Bodelin
David L. Johnson

1982
Gail M. Larsen
Suzanne J. Sippel

1983
John B. Austin, MD

1984
Eugene E. Gilginas Jr.

1985
Michael A. Wagner

1987
Dr. Suzy M. Cocciohone

1993
Joseph M. Gasperich

1994
Jeremy C. Kuivanen

2004
David M. Szyszskoski

2009
Eric S. Westra

2011
William K. Langdon

2012
Chetwood A. VanAken
Shaun M. Vsetula

Northern Lights reflect on Portage Canal.
Q & A

Provost Jackie Huntoon talks challenges, trends, and what excites her most about being at Michigan Tech.

Q. You’ve been provost and vice president for academic affairs for a year and a half. What’s surprised you most about the role?
Initially, the most surprising thing was the number of documents that come through the Provost’s Office needing signatures. I spent most of my first week in the position decoding the language on forms and determining what my signature was really intended to signify. Some of the other provosts I know say that provosts’ jobs involve solving a myriad of problems, both big and small. This is an accurate characterization. Whereas, I used to attend meetings from time to time, I now “meet for a living.” Having a day filled with 12 or more back-to-back meetings is sometimes a challenge, but it is always interesting. As I look back on my first year, I am most surprised by how much I have learned about and from the people who work and study here at Michigan Tech.

Q. As you look at other universities across the country, what are some of the trends you’re seeing?
Throughout the past decade, public universities have experienced fairly dramatic reductions in funding from their state governments. At the same time the public’s perception of higher education has changed. Higher education was once viewed as something worthy of public investment because an educated populace was understood to be the driver of innovation and economic development. Today, many people seem to think that higher education only benefits those who receive the education. This is unfortunate because a quality education, such as the one available to students at Michigan Tech, can make dreams into reality for young people. In addition to being concerned about funding, higher education leaders are also thinking about ways to attract more students and different types of students. The demographics of the US population are changing and college and university leaders want to make sure that higher education is available to everyone. Leaders at four-year colleges and universities are also trying to collaborate more with community colleges. We are also grappling with questions related to assessment of learning, giving credit for life experiences, and tracking students’ non-academic, co-curricular, and skill-based achievements.

Q. What excites you the most about the work you do here?
I have always liked challenges. I also like people. The most exciting part of this job is that I get to work with very interesting people and collaboratively figure out how to improve the quality of education for our students. Michigan Tech is a very special place. Our small-town location means that we see each other at the gas stations, in the grocery stores, and on ski trails, etc. That means that everyone has the opportunity to talk to everyone else. I’ve had people come up to me in the freezer section at the market and talk to me about something that they are excited about or interested in. I think it’s great that people feel comfortable sharing information about their goals and passions with me.

Q. When you’re not in the office, what’s your favorite thing to do in the Copper Country?
My favorite thing to do in the Copper Country is to hike through the woods near my house with my two black labs. We live in one of the most beautiful places in the world. We have clean air, clean water, healthy forests, and abundant wildlife. I feel incredibly lucky to be able to live here.
Ways to Engage and Show Your Support, Huskies!

Wear Black and Gold on Fridays

Share Your Michigan Tech Story: mtu.edu/memories

Engage with @MichiganTech
- Return to Campus for Events
- Mentor Young Alumni
- Offer Internships
- Recruit Current Students
- Make an End-of-the-Year Donation by December 31!

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Houghton, MI 49931
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or 906-487-2310
mtu.edu/giving
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Fight Tech Fight!