

***MichiganTech***



**GENERATIONS**  
*of* **DISCOVERY**  
*the Campaign for Michigan Tech*



# TECHDISTINCTION



Michigan Tech has never been average. Not in our programs. Not in the students and faculty members we attract.

Not in the approach we take to solving problems or offering knowledge. Michigan Tech stands apart because we have always focused on creating a better future through the people we educate and the education we offer. And that has meant reinventing ourselves to be prepared. As the world changed, we changed—while holding fast to what makes us unique. Our adventurous spirit. Ingenuity. Responsiveness. Experiential learning.

We are on the verge of an amazing era of innovation and accomplishment. *Generations of Discovery: The Campaign for Michigan Tech* will provide the resources that will allow us to transform our institution and create the future.

# TECHPASSION



**GLENN MROZ**

*President, Michigan Technological University*

*Glenn D. Mroz*

*Generations of Discovery* is more than an opportunity, it is essential to our future. With the proper resources, especially endowed funds, we will transform our university into what it has the potential to become: a premier top-tier public research university. Fulfilling our potential, however, becomes more difficult as state funding dwindles and as the cost of being the best is driven up by fierce competition and by the rising cost of cutting-edge technologies. Michigan Tech is and always has been focused on people, and nothing ensures their ability to excel and succeed more than a robust endowment, allowing us to bring internationally known professors and top students to our classrooms and labs.

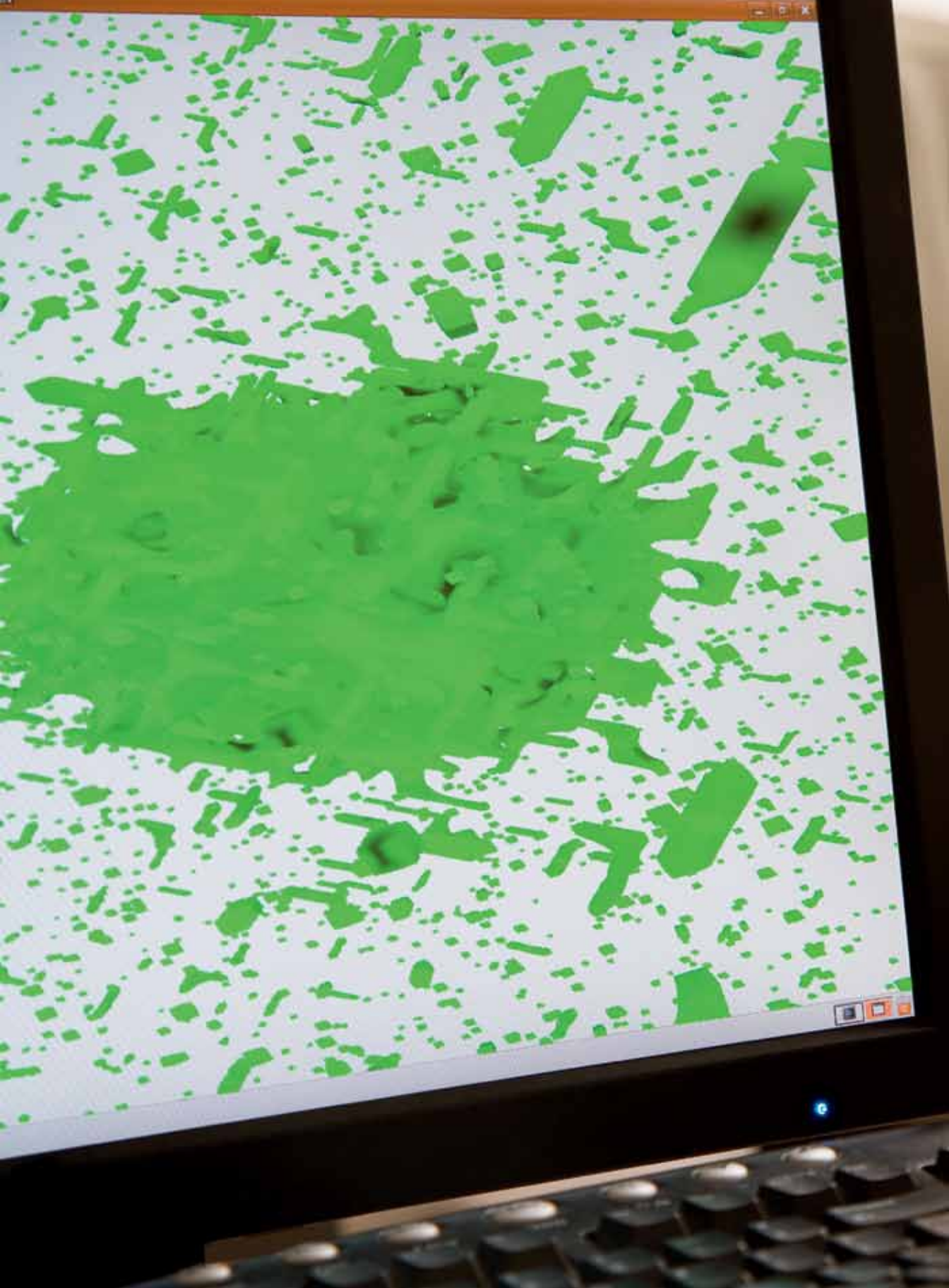
This is a defining moment in Michigan Tech's history—the moment when we ensure our future is as bright as our past. I hear from alumni almost every day about how proud they are of their alma mater. They see all we have

“*Generations of Discovery* will help us attract bright students and world-class professors. It will give us the resources we need to drive innovation and be counted among the nation’s most elite schools.”

accomplished and all we are doing to prepare our students to be leaders in science, technology, engineering, and mathematics. Our alumni realize that, though we have changed with the times, we retain the spirit of discovery and adventure that makes us Tech.

We are known for developing distinctive programs, bringing world-class scholars on board, and planning proactively for tomorrow’s challenges. With the help of *Generations of Discovery*, we can elevate our people and our research to make a real difference all over the world. Private support will help transform Michigan Tech into one of those rare places that the world turns to for solutions to society’s most complex problems.

Please join me and support *Generations of Discovery: The Campaign for Michigan Tech*. This is a wonderful time to be part of Michigan Tech as we honor our past generations and secure an exceptional future for those who will follow in their footsteps.



A young man with short brown hair, wearing a green polo shirt, is shown in profile, looking down at a computer keyboard. He is sitting at a desk. In the background, a computer monitor displays a blue screen with some abstract patterns. The lighting is soft, and the overall tone is professional and focused.

# TECHINGENUITY

Undergraduate computer science students working with a mechanical engineering professor found a way to use video game graphics cards to model the progression of diseases. Pioneered here at Michigan Tech, mega-scale agent-based modeling offers scientists a way to test hypotheses at lightning speed.



## TECHPROFESSOR

This will be the next big thing in scientific computing. We can offer this technology to any scientist who can afford the cost of a regular computer. And this is possible because our students took an unconventional approach to problem solving.

**Roshan D'Souza, PhD**

*Assistant Professor, Mechanical Engineering*



## TECHSTUDENT

I wanted to do undergraduate research, and the agent-based modeling project allowed me to work with a Berkeley-educated professor and publish while I was still an undergrad. That's a big deal. Now, as a grad student, I'm doing even more.

**Ryan Richards '08**

Computer Science

## TECHSTUDENT

The project furthered my interest in high-performance graphics card computing, plus it exposed me to what real research was like before I decided to go to graduate school. It was a great experience.

**Nick Smolinske '08**

*Mathematics*

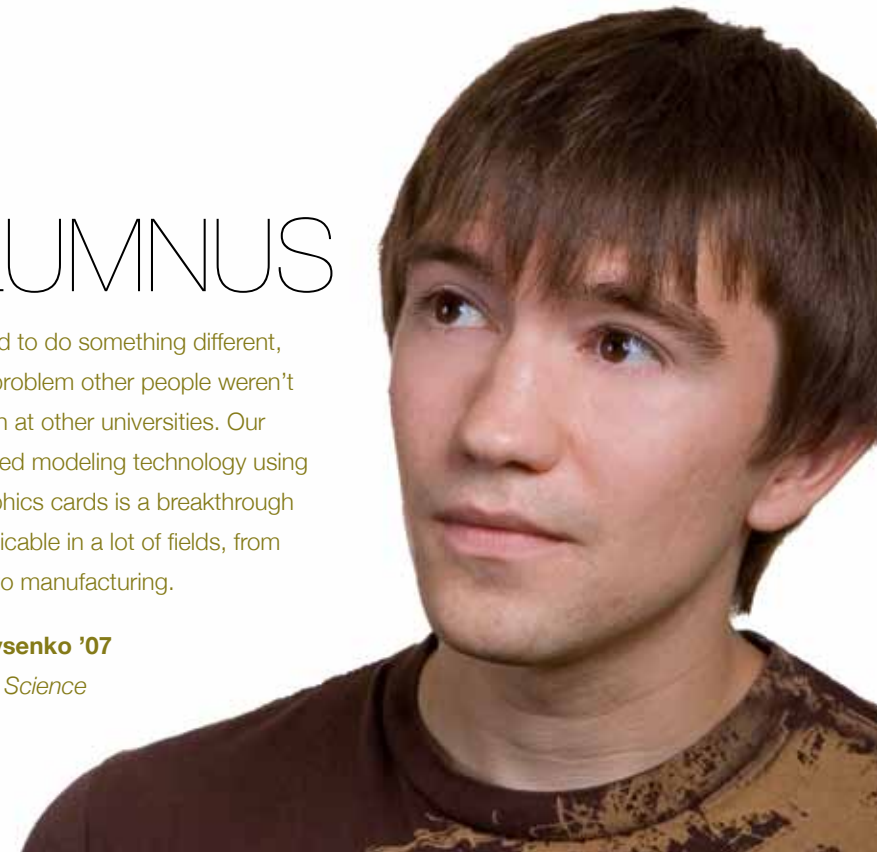


## TECHALUMNUS

We wanted to do something different, to pick a problem other people weren't working on at other universities. Our agent-based modeling technology using video graphics cards is a breakthrough that's applicable in a lot of fields, from medicine to manufacturing.

**Mikola Lysenko '07**

*Computer Science*





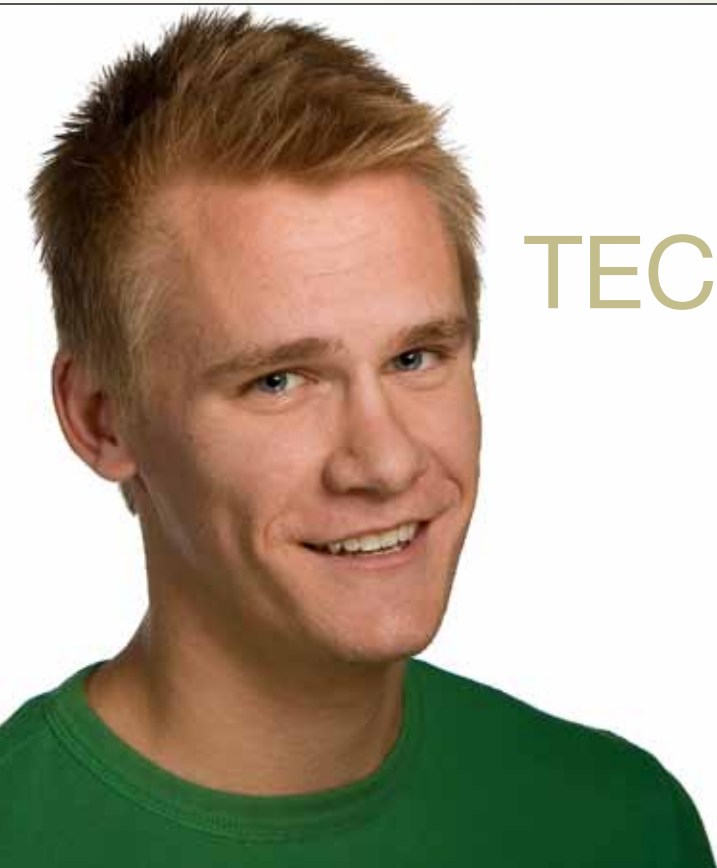




The background of the entire page is a blurred industrial scene, likely a foundry or manufacturing plant. It shows various pieces of machinery, pipes, and structural elements in shades of grey, blue, and brown, creating a sense of depth and activity.

# TECH INNOVATION

The Innovative Castings Enterprise, known as ICE, takes advantage of Michigan Tech's world-class foundry. Here students spend three years gaining progressive leadership experience while running a business that makes products and develops new technologies for companies that manufacture cast metal products ranging from engines to faucets.



## TECHSTUDENT

In my first year, I took a lot of math and science classes, but I wanted to get more hands-on. With ICE, I could design things using computer simulations and actually make what I designed, all while learning a lot about myself.

**Ken Brooks '09**

*Materials Science and Engineering*



## TECHALUMNA

ICE reinforced everything I had learned in class and taught me how to apply it. I am in a materials science PhD program now, and I believe my work with ICE gave me leadership skills, experience, and great preparation for my future.

**Megan Jarosinski '07**

*Materials Science and Engineering*

# TECHPROFESSOR

Tech students are motivated and creative, and ICE as well as other Enterprises help them develop both practical and leadership skills. The majority of the students in ICE today are working with industry to investigate and develop new products.

**Mark Plichta, PhD '74, '77, '79**

*Professor, Department Chair, Materials Science and Engineering*



# TECHPARTNER

Working with Michigan Tech students means I can tap bright, aggressive minds that have limited casting experience. In essence, I am preparing tomorrow's engineers to work for my customers—engineers who will do good work and develop excellent products for the future.

**Richard Bauer '74**

*President, Eastern Alloys*







ROZSA CENTER





# TECH SOLUTIONS

With a nationally ranked forestry program and a historic strength in engineering, it was only natural that Michigan Tech would form a multidisciplinary team dedicated to taking a systems approach to converting woody biomass into transportation fuel. Wood to Wheels, a graduate student enterprise, has the potential to make a difference on a global scale.



## TECHPROFESSOR

Wood to Wheels is part of our sustainability initiative. We are bringing together people from multiple disciplines to examine solutions from every angle—from science to business. This is a fantastic environment for students.

**David Shonnard, PhD**

*Professor, Chemical Engineering*



## TECHPARTNER

Biofuels represent the most significant near-term effort to address sustainable energy independence, and GM is on the cutting edge. Michigan Tech's Wood to Wheels program is especially results focused; working with Michigan Tech is a win-win for our company and for the students Tech is educating.

**Craig Marriott, PE**

*GM Advanced Powertrain*

## TECHALUMNUS

Wolverine is a wholesale electric power cooperative interested in using energy generated from biomass. As a Michigan Tech forestry alumnus, I knew doing research with Tech would be advantageous to Wolverine because of the University's strong focus on applied science. Our partnership has been very valuable.

**Brian Warner '82**

*Director of Environmental Services  
Wolverine Power Cooperative*



## TECHSTUDENT

I'm doing research on bioprocesses to make more-efficient enzymes. Last year, I did a project using genetically modified poplar. Our ultimate goal is to share our research with each other so we can come closer to making cellulosic ethanol a reality.

**Jill Jensen**

*Graduate Student, Chemical Engineering*





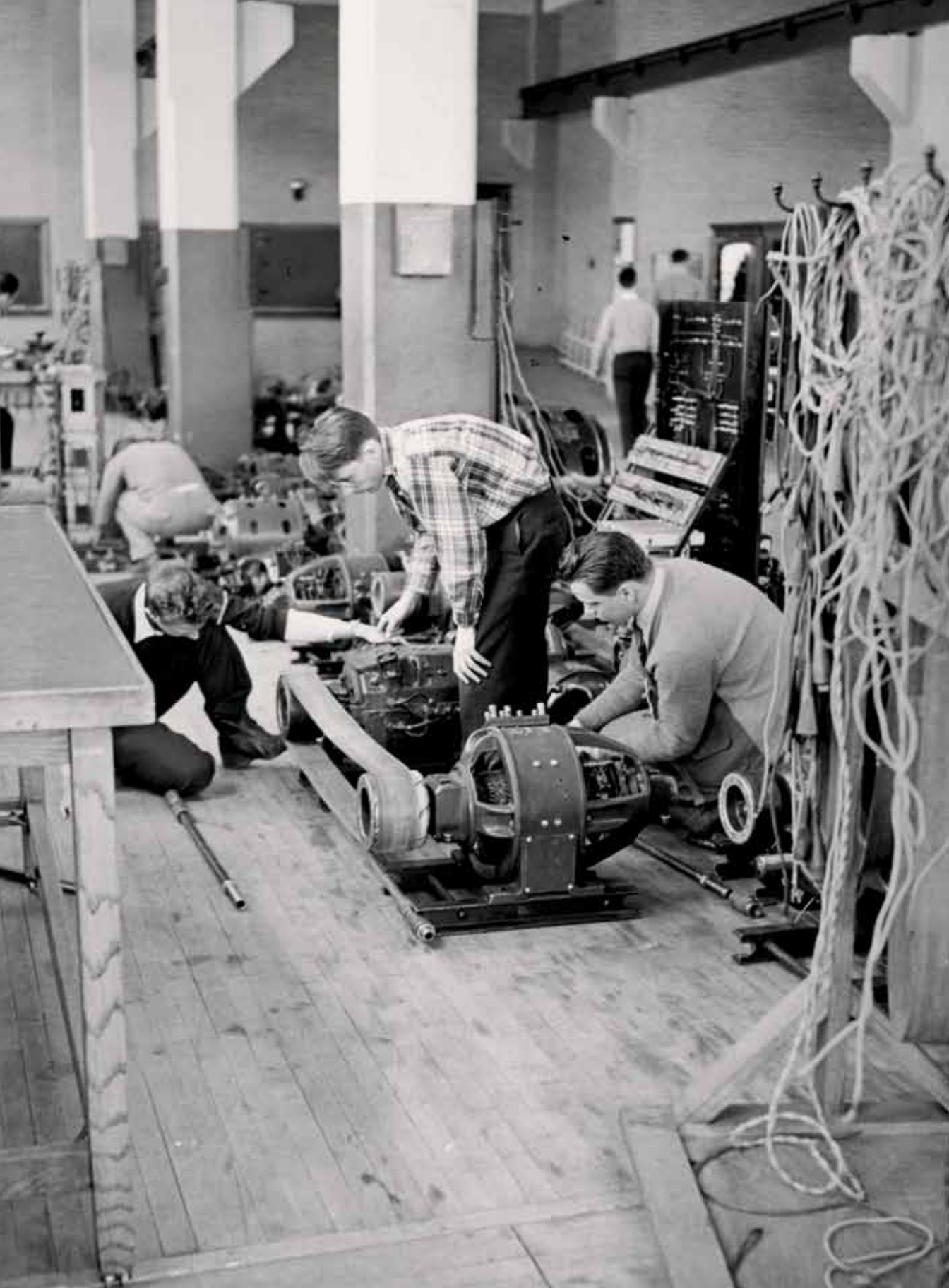
# *Then and now* TECH GENERATIONS

These are a few current examples of what Michigan Tech students and professors have always done. They bring an innovative mindset and a sense of adventure to their work, and they have been doing so for more than 120 years.

These same qualities will describe future generations as well, because the Michigan Tech spirit is tenacious.



1898



# TECH GENERATIONS



In the 1880s, when there was a need for engineers and scientists to support Michigan's rapidly growing copper-mining industry, we were there as the Michigan Mining School. When the automotive and chemical industries began to develop and then boom in the early 1900s, we were there again, as the Michigan College of Mining and Technology. In the middle of the 20th century, when the country launched an even greater emphasis on science, technology, engineering, and math in response to the new space program, we became

Michigan Technological University and created new programs to meet the nation's ambitious goals.

We were there with exceptional new programs and groundbreaking research. We were there with a unique mix of students—people who could do mind-boggling calculations while also planning the next snow statue they would build for Winter Carnival. Or people who played in the Pep Band—known for its striped overalls and irreverence—but who couldn't wait to dive into a new technological challenge on Monday morning.



### Tech Today

We are still here, poised to grow in relevance. We have world-class faculty members, creative students, and successful alumni. We may be the originators of a cure for osteoporosis and for a renewable and sustainable biofuel made from forest resources. We are developing ways to make soldiers safer, the environment cleaner. We are helping some of the biggest names in industry solve their biggest challenges. And our

name is getting more exposure every day—from stories in *The New York Times* and *The Wall Street Journal* to recognition by the Audubon Society, *Biotech Week*, CNNMoney.com, and more.



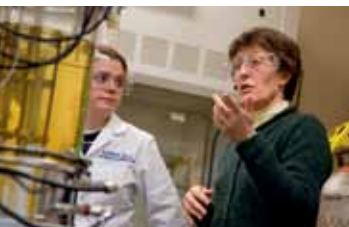
## Michigan Tech Today

- Over 6,000 undergraduate students
- Over 900 graduate students
- More than 20 interdisciplinary research centers and institutes
- A vibrant multicultural environment with students, faculty, and staff from approximately 80 countries
- More than 1,000 students participating in music and fine arts
- 97 percent of recent grads are employed, attend graduate school, or are in the military within six months of graduation
- Five schools and colleges including engineering, business and economics, sciences and arts, forest resources and environmental science, and technology
- 180 student clubs and organizations
- Signature student programs—Enterprise, Senior Design—involving partnerships with major corporations such as Chrysler, Dow, Kimberly-Clark, NASA, and Rockwell Collins

Our accolades are growing as well. Our forestry doctoral program is among the top ten in the nation, according to *Academic Analytics*. We are ranked number seven among *PC Magazine's* 2007 "Top-20 Wired Colleges." The *Princeton Review* calls us a "tech powerhouse." *U.S. News & World Report* ranks Michigan Tech in the top tier of national universities, and they rank our environmental engineering program thirteenth nationally.



# TECHIMPACT



We are on a trajectory to become, as our vision articulates, “a premier research university of international stature, delivering education, new knowledge, and innovation for the needs of our technological world.”

Our commitment to exceptional undergraduate education must remain stalwart, but we know that to compete in tomorrow’s world our students will need even more research and experiential learning opportunities and the chance to continue their work in outstanding graduate programs.

To be one of the premier research institutions in the world, we need an endowment large enough to attract world-class faculty members who are excellent teachers and researchers and who are anxious to work with bright, adventurous, ambitious students who are ready for a challenge. We need scholarships and fellowships to help students afford Tech, and we need first-rate facilities and cutting-edge technologies. We need innovative programs where intellectual inquiry will lead us to knowledge we haven’t yet imagined.



And we need resources to match our ambition. *Generations of Discovery: The Campaign for Michigan Tech* is a multi-year fundraising initiative with a projected goal of \$225 million but with ambition for much more to match the University's potential. We are counting on the generosity of alumni, friends, foundations, and corporate partners to propel the transformation of Michigan Tech.





### Growing Our Endowment—\$125 million

Michigan Tech's current endowment of \$65 million falls far short of those of competing institutions. The size of our endowment is perhaps the single most important factor in our ability to fulfill our goals. Endowed faculty positions such as chairs and professorships provide salaries, technologies, labs, and research expenses to attract top scholars and researchers. Endowed scholarships and fellowships make the Michigan Tech experience both attractive and affordable for promising undergraduate and graduate students from all walks of life.

Endowments produce annual income but continue perpetually; the larger our endowment, the more of its interest income we can use to realize our vision.



### Investing in Programs and Students—\$50 million

While a robust endowment is essential if we are to continue our trajectory, we also require real-time support for academic programs, student life initiatives, and even for scholarships and fellowships. Gifts of all sizes can be combined to be truly transformational—for a single student or for an entire academic program. Enterprises, the Senior Design program, and undergraduate research projects, for example, all depend on external funding sources.



## Generations of Discovery Campaign Priorities

Endowment.....	\$125 million
Non-Endowed Program and Student Support.....	\$50 million
Facilities.....	\$40 million
Unrestricted Annual Giving.....	\$10 million
<b>Campaign Total:</b> .....	<b>\$225 million</b>

### Building and Improving Our Facilities—\$40 million

Nothing is more important than the people who teach, learn, and conduct research here at Michigan Tech. Our stunningly beautiful location on the Keweenaw Peninsula of Upper Michigan draws a special kind of person. Top buildings, labs, and student life facilities provide a necessary backdrop for great ideas and great solutions. Buildings like the Rozsa Center for the Performing Arts, the Kanwal and Ann Rekhi Computer Science Hall, the John and Ruanne Opie Library, and the Dow Environmental Sciences and Engineering Building have bolstered our academic environment immeasurably. With funds from the *Generations of Discovery* Campaign, we plan to further enhance our learning, living, and student life facilities.



### Poised for the Present: Annual Giving—\$10 million

Unrestricted annual gifts allow us to respond to today's needs today. They supply funds for campus beautification, technology upgrades, operating expenses, and financial aid, and they are critical to our health and vitality as an institution. Every year, we ask people to make unrestricted gifts to the Tech Fund, which is especially important when we are also raising private funds for the long term.

# TECHAMBITION



## DAVIDHOUSE

*Campaign Chair, Generations of Discovery*

*David House*

Everything is much more complex today than it was when we were students. Just look at your phone, your computer network, your TV, your car. And it doesn't stop here; this trend will continue unabated. As a result, while national undergraduate enrollment may be flat, graduate enrollment continues to climb.

The nation's best universities recognize that and have built outstanding research engines and graduate programs in response. They have grown their endowments, brought internationally recognized scholars to their labs and classrooms, and built top-flight facilities where great ideas are fostered. Michigan Tech is focused on being one of these great universities—despite the decline in public funding.

“I have pledged my time and personal resources to help Michigan Tech realize its promise. We can be more than good, more than exceptional. We can be one of the finest technological universities in the world. What an exciting time it is for Michigan Tech.”

Michigan Tech provided us with the educational foundation for a successful career. It put us through mental calisthenics, gave us hands-on experience, and challenged us with unstructured problems. It also gave us those winters, the people, the fun.

We all reflect the Michigan Tech brand. It's in our resumes and our bios; it's part of our reputation, our legacy. We all have a vested interest in seeing Michigan Tech be a nationally recognized institution.

I urge all of you to join me in giving Michigan Tech the resources, through the *Generations of Discovery* Campaign, to become the institution it needs to be to excel in tomorrow's complex world. We can all own its success.

## *Ways to Support Generations of Discovery:*

### *The Campaign for Michigan Tech*

There are many ways to support *Generations of Discovery: The Campaign for Michigan Tech*.

Those who do will ensure a bright and strong future for Michigan Tech and its students.

Alumni, friends, and others may choose to make a single gift, spread their contributions over a period of time, or choose a deferred giving option. All gifts are deeply appreciated.

- Outright gifts of cash
- Appreciated securities (including closely held stock and mutual funds)
- Retirement plans
- Mutual funds
- Life income plans (including charitable remainder trusts, charitable lead trusts, and charitable gift annuities)
- Life insurance policies
- Bequests
- Real estate
- Personal property
- Corporate matching gifts



## *Naming Opportunities*

For those who wish to honor a family member, pay tribute to a friend, or commemorate someone who inspired them, there are many permanent naming opportunities for facilities, scholarships, and endowments.

For more information on *Generations of Discovery: The Campaign for Michigan Tech*, contact:

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