



*Diane Trudgeon '78 BS with five of her six K-8 students at the Copper Harbor School, a historic one-room schoolhouse.*

# Contents

Fall 2011

ON THE COVER: Sophomore digital cinema major Luke Woolley in a Jamrich Hall lecture room. Photo by Tim Rosland for NMU.

## On campus today

- 2 NMU students win national attention and prestigious awards.
- 4 A top chef, a new top for the Dome, and more.
- 8 Sports at NMU.

## Cover Stories

- 10 The yellow brick road of education.
- 14 From the superintendent's desk.
- 16 Nurturing future teachers.
- 18 New math.
- 19 Equity and opportunity for all.
- 20 When a picture paints a thousand words, imagine what a children's picture book can do.
- 22 A room of one's own.
- 24 Teaching in different worlds.
- 26 New paths for Native American education.
- 27 Another choice: NMU's charter schools.



NMU and Central U.P. Archives

page 12 *Education across the decades*

## Foundation news

- 28 What the Discovery Initiative is discovering. Welcoming new board members.

## Alumni in touch

- 32 **Keeping Track.** Updates from fellow alumni.
- 35 All alumni reunion scrapbook.

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# On campus today

## NMU students earn national attention and prestigious awards



**Andrea Ewasek '11 BA** is one of 92 selected in the inaugural class of W.K. Kellogg Foundation's Woodrow Wilson Michigan Teaching Fellowship recipients. Ewasek received a \$30,000 stipend to complete an intensive master's education program at Wayne State University. The fellows represent promising educators with strong backgrounds in science, technology, engineering and mathematics. Each recipient makes a commitment to teach for at least three years in a high-need urban or rural school in Michigan.

A biology major at NMU, Ewasek was involved in extensive laboratory and field work and presented at several conferences. "I'm particularly interested in genetics and science at the cellular level," she says. "After I complete my master's, I will be teaching biology to high school students in Detroit."

The fellowship selection was based on academic achievement, community service, leadership and teaching

skills. At Northern, Ewasek was a member of the NMU Honors Program and the university's nationally recognized citizen-leadership program Superior Edge. She also volunteered at a domestic violence shelter and was a Girl Scout Brownies leader.

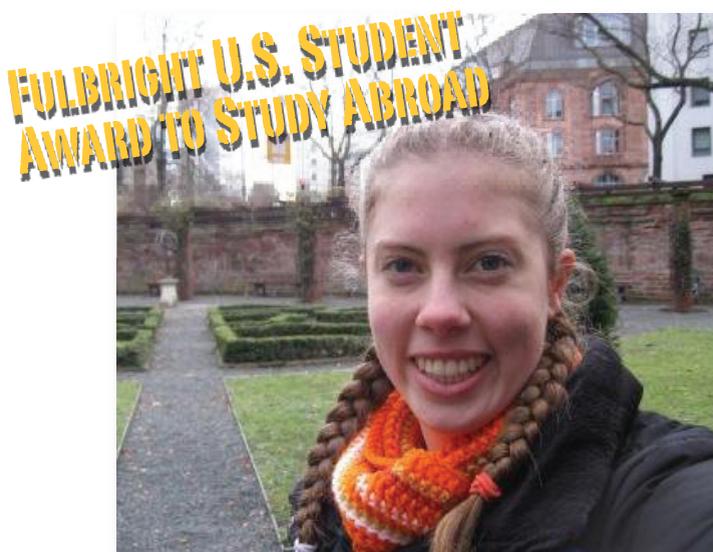
"The competition for these fellowships is extremely high, but Andrea is a very creative thinker," says Judy Puncocar, an NMU education professor. "I was told the evaluators of her lesson said that she gave the best lesson they had ever observed."

During the lesson portion of the competition, Ewasek chose to teach the concept of what causes the season in the Northern Hemisphere, having the audience sketch their ideas, discuss and demonstrate the changing seasons with body movements and Styrofoam balls. She had them sketch what the equator looks like from the sun's perspective during the Northern Hemisphere's summer and winter.

Matthew Hill

Ewasek also had to write an essay and complete an interview as part of the competition, which had about 1,500 applicants.

“These fellows are amazing. They all bring real science and math expertise to the kids who most need strong teachers,” said Arthur Levine, president of the Woodrow Wilson National Fellowship Foundation. “They learn to teach in real classrooms from the very beginning, just as doctors learn in hospitals. They’re prepared to succeed in teaching as a long-term career. They’re going to change the face of teaching, and they’re going to change tens of thousands of lives.”



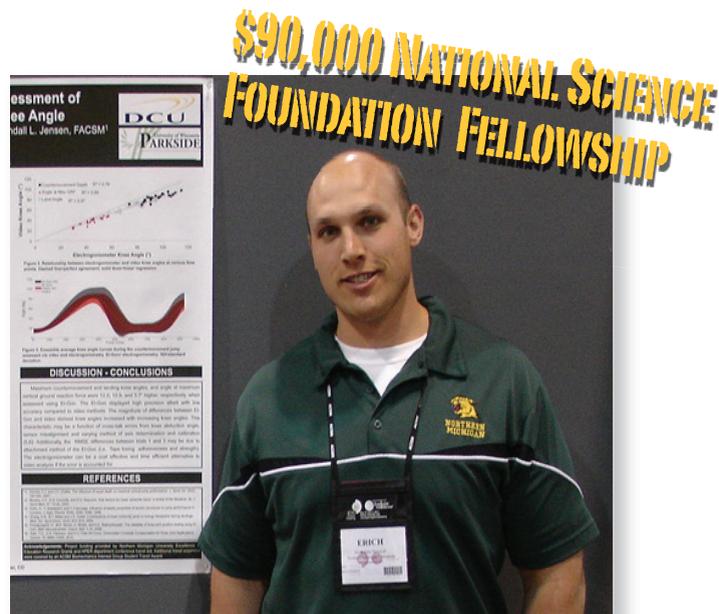
**Kirstin Meyer '11 BS** won a Fulbright U.S. Student Program Award to study deep-sea ecology for a year at the Alfred Wegener Institute in Bremerhaven, Germany, before returning to the United States to complete her studies. Shortly after arriving in Germany this summer, she joined a three-week research expedition to the Arctic. The group used an Ocean Floor Observation System towed alongside their ship to obtain photos every 50 seconds of the abyssal plain, which is about 2,500 meters below the surface. Meyer will spend the remainder of the year identifying the species or taxa present in the images, tagging them in an online program and analyzing fluctuations in the abundance of various organisms.

“The Fulbright program accomplishes two goals at once: facilitating top-notch research and building bridges for cultural exchange,” says Meyer. “I’ve decided to build my deep-sea research into my dissertation. I’ve gotten interested in drop-stones, which typically range in size from a loaf of bread to a table and hitched a ride from land on a glacier or sheet of ice and fell to the sea floor when the ice melted. These hard surfaces have a lot more

organisms on them than the soft mud. I’ll start with drop-stones from the Arctic and compare them with those from other oceans. I’ve found the best science is done by those who follow their curiosity—who let nature do the teaching—and that’s exactly what I plan to do.”

Meyer was a zoology major and participated in the Honors Program at NMU.

She plans to start her doctorate next fall at the University of Oregon in partnership with the Alfred Wegener Institute.



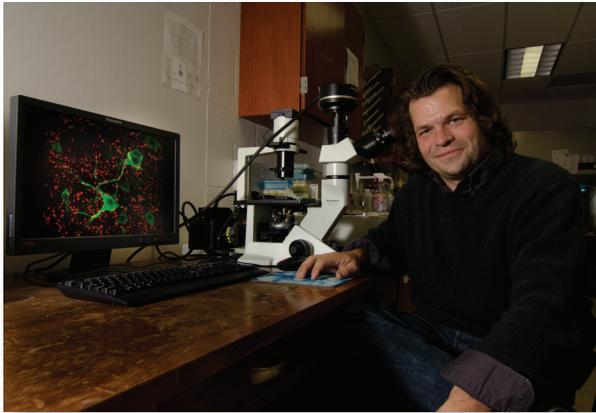
**Erich Petushek '11 MS** received a \$90,000, three-year National Science Foundation Graduate Research Fellowship for a doctoral project on childhood obesity that he will be completing at Michigan Technological University. His project is titled “Effect of pediatric obesity on lower-extremity biomechanics: Implications for injury risk assessment and screening.” He will assess knee, hip and ankle joint “torques and alignment” during physical activities such as running and jumping.

“From this data, we may identify biomechanical parameters that are useful for screening procedures and exercises or activities that are safe for obese children to participate in,” says Petushek. “Childhood obesity is a growing concern and may lead to injuries that can cause long-term problems. Affordable screening processes may reduce the incidence of injuries and allow children to be more active, increasing their quality of life.”

An exercise science major at NMU, Petushek was named an outstanding graduate student, received two NMU Excellence in Education Research Grants and was a Sigma Xi scientific research society inductee.

# On campus today

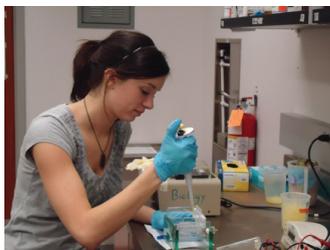
## National Institutes of Health provide major research funds



Tim Rossland

Ottem in his West Science lab.

**Erich Ottem**, an NMU biology professor, received a \$368,200 grant from the National Institute of Neurological Disorders and Stroke of the National Institutes of Health (NIH). The project will explore the potential of diminished or absent brain-derived neurotrophic factor (BDNF) production by muscles to then trigger or exacerbate neuropathological and myopathological processes associated with neuromuscular diseases. Results of these studies may provide a novel target for treatment of neuromuscular disorders and establish the importance of muscle-synthesized neurotrophins as a critical factor in the health and maintenance of the entire motor unit.



Student Kate Abrahamson has worked with Ottem on related research on BDNF. “My favorite part of the laboratory work was using immunocytochemistry to highlight neurons in spinal cord tissue,” she says.

“The slide preparation included many steps that took a few days to complete. All preparation had to take place in the dark so that the quality of the fluorescent tags was maintained. At one point, I was using a paintbrush to tease a section of spinal cord onto a slide in darkness (except for one little lamp). Viewing these neon-green neurons under a fluorescent microscope took my breath away.”

The U.S. Luge Association national and junior teams are using gauges produced by an NMU class. The gauges measure more than 30 points of luge sleds to ensure that they adhere to international regulations. They are already being used for training and will be used at competitive events in Lake Placid, Salt Lake City and at Lucy Hill in Negaunee when the season begins in November.

Luge tool

Engineering technology professor Cale Polkinghorne says he was approached by Dennis Guertin, a local resident and international luge race official, for help in upgrading the gauges.

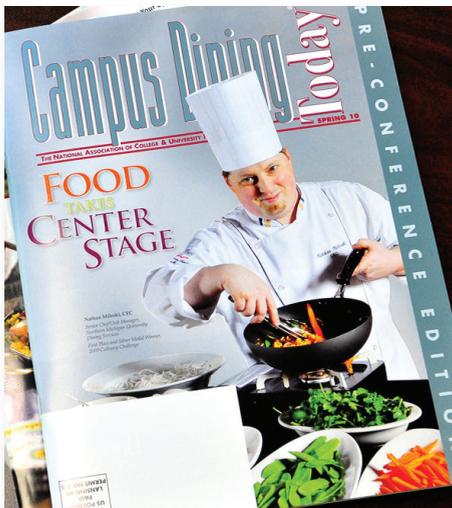
“I integrated the project into my advanced computer numerical control (CNC) operations class. The existing gauges were in limited supply and had weak tolerances, so we manufactured three separate gauges that hold tolerances of 0.002 of a millimeter. We made 20 of each gauge for a total of 60. The students were graded on every step.”



## Displays of military excellence

NMU student **Jordan Brull** of Reedsville, Wis., received the Association of the United States Army Leadership Excellence Award after the U.S. Army’s 29-day Leader Development and Assessment Course at Joint Base Lewis-McChord, Wash. He received an Army saber to signify the award at a July 11 graduation ceremony. Brull was ranked No. 1 among 477 Army Cadets for the 1st Regiment at Operation Warrior Forge, the capstone training and assessment exercise for the Army Reserve Officers’ Training Corps (ROTC).

On a related note, Northern is on the list of 2012 Military-Friendly Schools released by *G.I. Jobs* magazine. The designation honors the top 20 percent of colleges, universities and trade schools “that are doing the most to embrace America’s service members and veterans as students.” This is Northern’s third straight appearance on the annual list.



## Top Chef

**Nathan Mileski**, corporate executive chef with Northern Michigan University's dining services, has received his third "Chef of the Year" Award from the American Culinary Federation (ACF) Upper Michigan Chapter. This recognition is awarded annually to the individual "who best personifies the qualities and attributes of ongoing promotion of the culinary profession and assisting advancement in education and expertise."

Mileski is an ACF-certified executive chef who previously won the award in 1997 and 2002. Over the past three years, he has also won two gold and two silver medals in national ACF-sanctioned culinary competitions.

The American Culinary Federation Inc., established in 1929, is the largest professional chefs organization in North America.

## Increase in freshmen students, retention

**The number of incoming freshmen** pursuing bachelor's degrees increased by 105 students, or 8.6 percent, over last year's figure, according to NMU's 10th day enrollment report. The rise in new students helped counter the effect of the university's largest graduating class on record for the past winter semester.

"This increase in new full-time freshmen is amazing given the declining high school graduating classes in the region, especially in the Upper Peninsula," says Paul Duby, associate vice president for institutional research. "There's a smaller pool of prospective students and more competition to recruit them from institutions working diligently to increase enrollment because of reduced state support."

Duby says the freshman academic credentials, as measured by ACT score and high school grade-point average, are as strong as those from last fall.

"Those freshmen performed extremely well, so we would expect positive things from this year's group and that bodes well for retention. Our retention rate for the 2010 freshman class increased by 2 percent, which means 25 more students returned for their third semester this fall compared with 2009 freshmen."

NMU's total enrollment is 9,252, a decrease of 21 students—or 0.02 percent—from last year's figure. The university had anticipated a dip closer to 1 percent in the wake of the large number of departing degree recipients, but the freshman increase offset most of the void. Undergraduate transfers also rose slightly to 582, which is the highest number in more than a decade.

NMU attracted 70 more students from outside of Michigan compared with last year. Within the state, Northern drew more students from every recruiting region except the western U.P. and southeast Lower Peninsula.

NMU's four largest academic programs continue to grow:  
 art and design, 701 majors • nursing, 604 • criminal justice, 392 •  
 elementary education, 274 • biology increased by 41 students, to 161.



## NMU hosts international economics educators

**The NMU Center** for Economic Education and Entrepreneurship was selected as one of six hosts across the country for foreign educators participating in a study tour on economic education in the United States. The nine individuals who visited Marquette in May hailed from Argentina, Mexico, Peru and Uruguay. They were university professors, governmental education workers and a non-profit organization employee. The group met with education, business and industry leaders. Hugo Eyzaguirre, co-director of the center, accompanied the delegation to Washington, D.C. afterward. The National Council for Economic Education sponsored the program.

# On campus today



*In May, crews began laying a new, tan membrane on the 296,000 square-foot Superior Dome. The original gray covering was installed in 1990. They expected to have the entire surface covered by the end of October.*

## Campus projects

**Site preparation has begun** for construction of a \$16.4 million combined heat and power renewable energy plant and to address \$800,000 in long-term maintenance at the existing Ripley Heating Plant.

The new biomass plant will reduce annual energy costs by producing up to 88 percent of the campus steam consumption currently supplied by burning fossil fuel at Ripley. It will also produce up to 15 percent of the university's electricity needs, reducing the amount it has to purchase from Marquette Board of Light and Power. The plant will be fueled by wood chips and wood byproducts from the Upper Peninsula. The Ripley plant relies primarily on natural gas, with fuel oil as a backup. The project will reduce the carbon footprint of the Ripley plant by about 85 percent.

Johnson Controls (JC), which has done performance contracting on campus to reduce energy costs, worked with NMU to design the plant and is overseeing the project. They also will guarantee the plant meets annual posi-

tive cash flow and return on investment for 20 years. If the plant output doesn't produce the projected savings, JC will pay the difference. At the end of the 20-year period, the university owns the plant and the debt is retired. Construction is slated for completion in April 2013.

Jamrich Hall, the primary classroom facility on campus, remains the top priority among capital projects. After architects developed plans to renovate the current facility, with an addition to house faculty offices, it was determined that construction of a new building, closer to the Learning Resources Center, would have the same construction budget, but would create greater efficiencies in space utilization and operating costs. It would also minimize the need to move classes to other buildings as Jamrich would remain in operation until the new building is complete. NMU's total share of the \$34 million project is \$8.5 million, with the rest funded by the State of Michigan. A final plan needs to be submitted for approval to the state in November.

## Researching an American pioneer

NMU's 2011 Peter White Scholar, English professor James McCommons, is using the \$17,500 award to research and write a historical biography of George Shiras III (1859-1942). The book will combine elements of nature writing with a narrative of Shiras' accomplishments as one of the pioneers of wildlife photography, father of the Migratory Bird Act and influential figure of the early 20th century conservation movement.

"After moving to Marquette several years ago and seeing the pool, planetarium and other things named for him, I was curious to learn more about



Shiras," says McCommons. "Then I realized I had previously seen his book *Hunting Wildlife with Camera and Flashlight* years earlier. His photos were among the first to appear in *National Geographic* and brought him to the attention of Teddy Roosevelt, who was also an outdoor sportsman and championed the U.S. Forest Service. The two became friends."

Shiras was one of the first to use flash photography, which in the late 1800s involved magnesium flash powder and alcohol lamps. He also invented the "trip wire" technique, where he ran a shutter string across a trail so animals coming in contact with it would fire the flash, essentially snapping their own photos.

McCommons has done research in Washington, D.C., at

the National Geographic Archives, to which Shiras willed all of his images. He also discovered the University of Pittsburgh had three boxes of Shiras' personal papers in a suburban warehouse. The papers included an unfinished autobiography and letters from Roosevelt and his widow, Edith. They were not even catalogued and have since been donated to the NMU Archives.

"I teach nature writing and always incorporate Shiras into that class," he says. "I take students to an area of Whitefish Lake managed by the Nature Conservancy. They built the George Shiras Discovery Trail and we take a guided hike down that. Shiras generates a lot of local interest, but he was also a figure of national significance on many levels."



Center for Student Enrichment staff and students, including Jon Barch '99 BS, '01 MS and Dave Bonsall '74 BS, model the new T's.

## Shirts to support student programs

"It's a Great Day to be a Wildcat!" T-shirts

are quickly spreading across the Wildcat Nation. The slogan "It's a Great Day to be a Wildcat!" has been around Northern Michigan University for decades. Current President Les Wong has made it one of his signature phrases.

In an effort to further enhance NMU pride in students and alumni, the Center for Student Enrichment has designed and made available for sale "It's a Great Day to be a Wildcat!" T-shirts. All proceeds go to support student programs.

Shirts come in black, green and gray and are available in traditional style (\$10) and American Apparel (\$12). Sizes include small to XXX-large, and there are

also children's sizes available. Shirts can be purchased at the Center for Student Enrichment (1206 University Center) or by mail. Send shirt sizes and colors desired, the purchase price of the shirt, plus \$3 per shirt for shipping (checks should be made out to NMU; credit cards are not accepted) to: The Center for Student Enrichment, 1401 Presque Isle Avenue, Marquette, MI 49855. Include a phone number in case of questions.

How about a picture of you in your "It's a Great Day to be a Wildcat!" T-shirt in front of a landmark or your hometown sign? Email your photos to ckamps@nmu.edu.



Patti and Katie Tourville display their Wildcat pride at the Today show in New York City.