

# Stout Quest

The Journal of Research at the University of Wisconsin-Stout 2012-2013



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# StoutQuest

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#### On the cover:

UW-Stout student Brittany E. Johnson works with the atomic absorption spectrometer with flame atomizer to determine the concentration of cadmium, a carcinogen, absorbed by parsley. She was part of a study conducted in the research laboratory of Professor Ana M.Q. Vande Linde, Ph.D. The atomic absorption spectrometer is part of an array of instruments in the chemistry department for research and instruction. To learn more about the instruments go to [www.uwstout.edu/chemistry/Instrumentation.cfm](http://www.uwstout.edu/chemistry/Instrumentation.cfm).

"Hands-on training of students on the use of these instruments provides a competitive edge to our graduates," Vande Linde said. Johnson was a senior in 2012 majoring in science education. She was one of four students to receive the Outstanding Undergraduate Researcher Award from Research Services.

## Chancellor's Message

How can we stop blue-green algae from polluting our lakes? What is the value of qualitative research? What propels a softball farther, an aluminum or composite bat? Why are trade connections with China so valuable for U.S. retailers?

These great questions and many others were studied in 2012 by UW-Stout students, faculty and staff, as you will see in our sixth annual edition of StoutQuest.

At Wisconsin's Polytechnic University, we don't just talk about research, we get out in the field and do it and get our hands and feet wet in the process, if necessary.

The stories in this issue of StoutQuest reflect our continuing campuswide dedication to inspiring innovation through applied research.

Here are three examples:

**Faculty:** Biology instructors Stephen Nold and Scott McGovern received a National Science Foundation grant for \$176,818 to enhance an undergraduate research project in the classroom but also to study the value of that experience.

**Students:** A class in the School of Education took on the daunting task of developing curriculum ideas for teachers in an area school district.

**Staff:** Kenneth Smith of the Discovery Center, working with students, won a state award for developing an innovative type of fuel cell.

We're proud of the applied learning model that has been the foundation of a UW-Stout education since 1891. We're equally as proud of the inspired faculty, inquisitive students and world-class campus facilities that help make research part of our DNA.

A handwritten signature in blue ink, appearing to read "Charles W. Sorensen".

Charles W. Sorensen  
Chancellor





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### About Research at the **University of Wisconsin-Stout**

Applied research has a long history at UW-Stout. Since the institution's founding in 1891, students, staff and faculty members have benefited from a culture guided by principles of putting theory into practice. Today, real-world projects are regular occurrences in the environment of teaching, learning and discovery at UW-Stout. And, since the university was designated Wisconsin's Polytechnic University by the UW System Board of Regents in March 2007, UW-Stout has placed even greater emphasis on research.

### About StoutQuest

StoutQuest is the UW-Stout journal of faculty and staff research. The journal highlights the growing and diverse scholarship and applied research that happens every day among faculty, staff and students at Wisconsin's Polytechnic University.

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*Top:*  
Students in Ichthyology, a biology course, pull sunfish from a bag seine that was dragged along the edge of Pigeon Lake in northern Wisconsin. Later, they dissected the fish.

*Bottom:*  
UW-Stout students Jolene Tanke, left, and Sondra Atwood, dissect a dogfish shark in the lab at Pigeon Lake Field Station.

# Getting their Hands and Feet Wet

**Biology students enjoy applied research experiences at Pigeon Lake**

On the shore of Pigeon Lake in Bayfield County, a group of UW-Stout students huddled around a large bag seine on a sunny summer morning.

The white seine had just been dragged through shallow water by biology Assistant Professor Michael Bessert, Ph.D., and students. Once the water drained, a deposit of thick, dark sediment was left in the net on the beach.

Class members pulled out a few small sunfish, which would be dissected that afternoon, but they saw much more.

Dragonfly larvae began to emerge seemingly everywhere from the pile. "It just starts to move," one student said, as she and the others stared intently at the pile. "They're all over."

Bessert, a fish biologist, knelt and slid his hands over the sediment. "Aquatic insects are amazing. It would be fun to do a class just on those," said Bessert, who encourages undergraduates to conduct research with him in the field and in his lab.

Biology 260, Ichthyology, or the study of fish, was full of discoveries as it wrapped up with six days of field trips, labs and other applied research experiences in June in northern Wisconsin.

The final week of the four-credit general education summer course was based at Pigeon Lake Field Station near Drummond. Students were on the move all week. Along with accessing the lake for study, they toured a fish hatchery in Iron River and Great Lakes Aquarium in Duluth, Minn., did more seining in

*Right:*  
Associate Professor Michael Bessert  
examines the contents of a minnow  
trap that students set the night before  
near Pigeon Lake Field Station.

a wetlands and in Lake Superior, set minnow traps and dissected fish in the field station lab, all contributing to the applied research nature of the learning experience.

They stayed in cabins on the grounds, taking a short walk each morning through the parklike setting to the dining hall and then to the classroom building. In the lab, a knotty-pine paneled cabin with fluorescent lights, Bessert instructed them while surrounded by jars with various species of preserved freshwater fish. The smell of formaldehyde occasionally filled the air.

Pigeon Lake Field Station was a Civilian Conservation Corps camp from 1933-42. The UW System owns it now, with campuses offering classes in a variety of disciplines.

### Experience at the station

Students, a mix of traditional and nontraditional, began the Ichthyology course several weeks earlier with online lessons.

"The computer and videos and pictures don't do anything for the vibrancy of the colors of the fish. It's cool to me to touch the fish," said Katie Thoma, a senior from Neillsville majoring in art with a graphic design concentration. "It's nice to be out in the water."

Lisa Short, a process specialist at Mayo Clinic Health System in Eau Claire, is working on her undergraduate degree in management. She was excited to take a field-based class, plus she was learning more about one of her husband's favorite hobbies, fishing.

"Fish are interesting, and I'm finding them a lot more interesting the more I learn," said Short, who helps her husband with their 200-cow dairy farm near Bloomer. "Like Dr. Bessert said, with experiential learning you get a well-rounded experience."

Prior to seining, students piled into three vehicles and drove down back roads to check minnow traps they had set the day before in out-of-the-way wetlands. A coyote pup scrambled up a



**Scan barcode  
to see a video  
of the class at  
Pigeon Lake.**

hill as the vehicles passed.

In the trap at one site, they found a minnow called a northern redbelly dace, but Bessert told them the belly was yellow because it was breeding season. Nearby, students spotted what was left of a turtle nest, with white eggshell casings on the ground. Butterflies flitted by. Students checked themselves for ticks.

Chris Mackey-Natz, a middle school science teacher in Fall Creek, and Andy Arthur, a science teacher in Drummond, were taking the class for recertification. "This will make me a more effective teacher," Arthur said.

Mackey-Natz said he has taught on invertebrates in his program but after this class he can teach students about fish too. "With seventh- and eighth-graders you have to be doing something to get the kids excited," he said.

Sondra Atwood is a senior majoring in applied science with an eye on medical school. She previously worked as a paramedic for the Eau Claire Fire Department. "It's a really good opportunity to see some different things and get out of the classroom," Atwood said.

### A natural fit in Wisconsin

Bessert said the annual class is popular because the subject matter interests students; the outdoor setting engages them; and it's an intense but fun way to condense a four-credit, lab-based course based on inquiry into four weeks.

He thinks the course is important because fish and fishing are a big part of Wisconsin's economy and culture. "The subject matter is relevant to most people in the state. It behooves our citizens to know a bit more about the organisms," he said.

Bessert, much like Wisconsin's fertile lakes and rivers, had plenty to offer students. As he lectured, he told them such things as: Wisconsin has 15 darter species; trout and salmon have an extra fin; gar have diamond-shaped scales; catfish have taste buds all over their bodies; burbot are the equivalent of freshwater cod; the dorsal fin on the musky, a lie-and-wait predator, is farther back than on other fish; lamprey do not have hinged jaws like fish.

Daily themes for the week were fish anatomy and morphology; Great Lakes fishes; fishery management; applied ichthyology; and natural history of fishes.



Michael Bessert

Matthew Wegner of Watertown, an art major with an industrial design concentration, participated in commencement a month earlier but needed the course to make his degree official. "This is a great way to finish my classes," he said.

Below:  
Students visited cultural sites in China as part of the trip. From left to right in Tiananmen Square in Beijing are Katherine Lee, Tiana Theiss, JoDee Martin, Professor Nancy Murray, Kari Holte and Jenna Huseboe.

Bottom:  
Students observed silk being made at a factory in Shanghai.

# World of Difference

## Retail merchandising and management students gain new perspectives on Kohl's trip to China



for everything you have,” said Katherine Lee, a UW-Stout senior, from Wausau. “After seeing what goes into a garment and all the logistics, it shocked me that so many people are working for Americans and value us. It broadens your perspective of the industry.”

Jenna Huseboe, from La Crosse, said the experience is something she will “reflect back on for a very long time in my career.”

The trip was funded by Kohl's, the Menomonee Falls-based retailer. Nancy Murray, Ph.D., professor in the retail merchandising and management program, was offered by Kohl's to join the UW-Madison Kohl's Center for Retail Excellence trip to China along with five of her students. UW-Madison sent 25 students and four faculty, and Kohl's had two representatives. Murray and another UW-Madison faculty member led the academic portions of the trip, with the director of the center handling trip logistics.

A total of 19 UW-Stout students worked at Kohl's corporate offices during the summer either as new full-time employees or as interns in buying and product development. Kohl's actively recruits UW-Stout retail and merchandising management majors and other students.

For five University of Wisconsin-Stout students it was the trip of a young lifetime — a guided 10-day educational tour of China.

They were moved emotionally by walking atop the Great Wall, walking through Tiananmen Square and experiencing various other aspects of the culture of the Far East. Yet they came home even more excited about what they saw and did relative to their chosen careers — retail merchandising and management.

They went to mills and saw fabric such as denim, cashmere and silk being made. They visited factories and saw sweaters and other garments come together. They learned about the many quality checks involved in manufacturing clothing and the complex international supply chain.

“You come to a much greater appreciation

The five students on the China trip were selected after they applied and were evaluated by Murray and Kohl's. Huseboe and JoDee Martin, from Wittenberg, graduated in May 2012 and accepted jobs with Kohl's as merchandise analyst trainees. Lee and Kari Holte, from Eden Prairie, Minn., will be Kohl's product development

## Students learn global aspects of manufacturing on China trip

Garrett Rass saw a whole new side to his major, manufacturing engineering, when he went to the other side of the world during a 2012 UW-Stout class experience.

Rass, for example, learned how the day-to-day lives of Chinese workers are much different than those of the average American. "I found it fascinating that in China it's typical for workers to travel and work at companies for a few years to save up money. Then they return home to start a family," Rass said.

A total of 13 students in the Global Manufacturing Tour course toured five large factories, including Wisconsin-based Prent in Shanghai and Kohler in Foshan. The CEO and president of Prent is Joseph T. Pregont, who graduated from UW-Stout in 1981. Prent designs and makes custom plastic packaging. It employs 200 in China and is building a new facility.

The trip was led by Wendy Dittmann, Ph.D., director of the UW-Stout undergraduate management program, and Xuedong "David" Ding, Ph.D., associate professor in operations and management. Ding, a native of China, is a former supply chain manager for Tropicana in Guangzhou.

interns. Tiana Theiss, from St. Paul, had a summer-fall internship as a merchandise planner with Disney in Buena Vista, Fla.

Each student received two credits for experiential learning. They participated in preparation classes, which included Kohl's senior leadership presenters, and also presented to Kohl's executives at corporate headquarters after returning.

In China the trip was hosted by Li and Fung, a company that coordinates product development and the factories used by Kohl's. Li and Fung employees are in contact with Kohl's 24 hours a day.

"A team from Li and Fung works only on Kohl's products from concept to delivery of final product. To hear it from across the world, that they are always in contact with Kohl's around the clock, made (product development) very real," Theiss said.

"It was eye-opening to see how much Li and Fung valued each one of their (corporate) customers," Lee said.

Students one day while in Hong Kong passed a port. "We saw rows upon rows of containers stacked; our tour guide said 80 to 90 percent of those are going to the U.S., and that's just one port," Huseboe said.

One aspect of China manufacturing that impressed students is quality control. At every mill and factory, they saw examples of quality checks up and down the lines to look for such things as holes in garments or needles left in garments.

One factory, L &H Sweater, uses cutting-edge radio frequency identification, a computer chip that tracks every stage of a garment's life. With RFID, management knows who worked on what sweater at any given time.

"They can use this new technology in ways that make it safer for consumers

and more productive for the factory," Martin said, adding that factories stress quality control to reduce costs.

In the Li and Fung Hong Kong office, students were handed garments and asked to find the defects; they found some but not all. "One was a pair of denim jeans where only a single jewel was missing on the pocket. If you find that in the stores, the retailer would send it back to the manufacturer. The amount of inspection that the garments go through to ensure there are no defects is amazing," Theiss said.

Students said the experience reaffirmed their choice of majors and broadened their views of the industry.

"Stout does an awesome job of offering these experiences outside the classroom, especially in the retail program," Martin said. "The new perspectives that I gained have made me a more well-rounded person and will continue to positively impact my future."



Nancy Murray



Five students visited a Shinsun garment factory during a 2012 trip to China sponsored by Kohl's. In front is JoDee Martin. In back, left to right, are Jenna Huseboe, Kari Holte, Katherine Lee and Tiana Theiss.

Right:  
Test tubes contain Lake  
Menomin algae.

Far right:  
Wearing waders, students  
in Lake Menomin conduct  
research on the lake's high  
levels of phosphorous.



# Invigorating Approach

**How do students benefit from doing research as part of class?**

**Two biology instructors use federal grant, lake project to find out**

Two UW-Stout biology instructors plan to examine the value of research in the classroom while, at the same time, study water quality in Lake Menomin.

Stephen Nold, Ph.D., and Scott McGovern received a National Science Foundation grant for \$176,818 called CRIUSE, or Classroom Research to Invigorate Undergraduate STEM Education.

The grant, for the 2012-13 through 2014-15 academic years, will involve up to 1,000 students including applied science majors and nonmajors.

Nold and McGovern previously have conducted classroom research projects and co-published research with students on Lake Menomin's blue-green algae problem. Those projects resulted in high levels of student engagement, they observed.

Through the grant they plan to continue algae research, then scientifically assess how group research in the classroom affects student engagement. They will measure students' cognitive, personal and professional development

and compare it to more traditional one-on-one research training.

"Our overall goal is to transform undergraduate STEM education at UW-Stout and elsewhere by integrating authentic research into the science classroom so all undergraduates can benefit from these experiences," Nold said.

Nold and McGovern will use the grant to expand a research project that began in 2011. Students in Biology 101 set out barrels in Lake Menomin's Wolske Bay to study various ways to treat algae.

Blue-green algae in the lake is caused by a high phosphorous concentration in the Red Cedar River watershed.

"Our efforts will impact the way the public views phosphorous pollution and will result in garnering further resources to improve local water quality," McGovern said.

Other CRIUSE goals include increasing the participation of underrepresented groups in the sciences; training undergraduates to become

environmentally aware citizens; and expanding research opportunities to students in nonmajor courses.

CRIUSE is part of the National Science Foundation program called TUES, Transforming Undergraduate Education in STEM, which stands for science, technology, engineering and mathematics.



Stephen Nold



Scott McGovern

# NSF + REU = Eight Weeks of Intense Math

## Grant-funded students do cool research during summer program

Camilo Montoya hadn't noticed that the Wisconsin summer of 2012 was hotter and drier than usual. To a native of Miami, where he attends Florida International University, the weather seemed even a little on the cool side at times.

Not that he would have noticed much anyway. He spent eight weeks studying a branch of mathematics known as complex analysis in air-conditioned Jarvis Hall at UW-Stout.

From an education standpoint, it was a perfect summer for Montoya. He was one of six students from around the country taking part in a National Science Foundation-funded undergraduate research experience with two UW-Stout students.

"The program has been everything I hoped it would be," Montoya said. "I love the small-town atmosphere. It's been a breath of fresh air."

It was the first year of a three-year, \$214,837 NSF grant for the program, believed to be the first NSF-funded research experience for undergraduates, or REU, in school history. It began June 10 and ended Aug. 3.

Six members of the math faculty, all with previous experience in directing undergraduate research, were involved. They were Alex Basyrov, Chris Bendel, Steve Deckelman, Seth Dutter, Matthew Horak and Amitava Karmaker, all Ph.D.

The research focus was on using computational tools to address geometric questions in algebra and analysis. Students worked in pairs

with faculty mentors on "answering theoretical research questions in mathematics," Horak said.

"These questions do not have answers in the back of a book or anywhere at all in the professional mathematical literature. The research teams are coming up with new ideas that nobody has ever thought of before to address these unsolved problems," Horak said.

Montoya was in a group working on a project involving invariants of hypersurfaces in multidimensional complex space, a project that could have future applications in physics, he said. "I wanted to do theoretical research. I applied to several REU projects; this one stood out," he said.

Students put in 8 a.m. to 5 p.m. days in the classroom and labs. Horak said students learned "a number of skills necessary for success in mathematical research."

The program involved weekly professional development workshops to prepare students for graduate school or careers in research and development. One day Dutter held a workshop for the students on taking the graduate record exam, or GRE, for math, which they must take to get into graduate school.

Students also presented their summer research at a math conference and submitted it for publication, Bendel said.

"I can't wait to go to graduate school if it's going to be like this," Montoya said.

As part of the REU, UW-Stout professors

brought in an applied mathematician from Los Alamos National Laboratory in New Mexico to introduce students to career paths within mathematics of which they might not previously have been aware.

Jennifer Graetz of Hudson was one of the two UW-Stout students chosen to participate in the REU. She also was one of the first students in UW-Stout's new math education concentration, designed to prepare her to teach math.

"I'm learning what graduate school for math is all about. It's eye-opening. Here it's much more theoretical, beyond what you would do in class and much more on your own," Graetz said.

Other visiting students were:

- Sharif Younes, Bowdoin College, Ithaca, N.Y.
- Melissa Haire, Gordon College, Moultonborough, N.H.;
- Ariel Setniker, Western Oregon University, Stayton, Ore.;
- Lukas Owens, Whitman College, Seattle.

The other UW-Stout student was David McKlveen, of De Pere.



Students discuss math problems during the National Science Foundation-funded research experience for undergraduates in 2012 at UW-Stout.



Matthew Horak



Chris Bendel

# High-speed Connections

**Student-athlete uses Honors College physics project to compare softball bats**



*Alison Gray is a four-year starter on the Blue Devils softball team.*

In her first collegiate at-bat as a freshman, Alison Gray ripped the first pitch she saw over the left field fence for a home run.

Gray, in her fourth year as a starter for the UW-Stout softball team, knows a little more now about why that hit went over the fence, thanks to a College of Science, Technology, Engineering and Mathematics research project.

The project, which she presented on Research Day in 2012, compared aluminum and composite bats. Many softball teams now use bats made of composite fibers instead of aluminum, believing composite bats are better.

Gray, a packaging major, wanted to find out. She is enrolled in the UW-Stout Honors College, and one of the requirements of the program is to complete a research project.

“One of the goals is to pick something you are interested in,” said Gray, a senior from St. Cloud, Minn. “As we were talking about projects, I mentioned there is a controversy between composite bats and aluminum bats.”

Gray worked with physics Associate Professor Jo Hopp, Ph.D., to develop the project and also enlisted the help of assistant professors Todd Zimmerman, Ph.D., and Matt Kuchta, Ph.D.

“After taking my physics class, Alison asked if she could do an honors project with me,” Hopp said. “Since she had been wondering about why the move to composite bats, we decided to incorporate these questions into a project.”

Gray said the research goal was to measure “the kinetic energy and the velocity of both the ball and bat upon changes of impact.”



***We developed the project from scratch, found the appropriate resources and dealt with the excitement, struggle and frustration of scientific inquiry.***

***– Jo Hopp, associate professor***



Translated into yeoman’s language: Which bat gives the hitter the best chance to hit the ball harder and get on base?

**Softball and science**

Gray and her team of physics instructors put together a plan. Armed with a ball, the two types of bats, hitting tee and high-speed camera from the physics department's Image Lab that records 2,000 frames per second, they headed to the multipurpose room of the UW-Stout Sports and Fitness Center.

Because the team did not have a robotic arm to swing the bat, Gray, a .335 career hitter with 17 home runs, hit the ball off the tee into a net and the action was recorded by the camera. While Gray could not produce the exact consistency of a robotic arm, the team strived to be as consistent as possible.

“The tee was always in the same spot and my feet were always in the same spot,” Gray said.

Gray hit the ball 22 times, 11 times with each bat. Then, after an analysis, five swings from the aluminum bat and five from the composite bat were further scrutinized.

“We took the two most common initial bat velocities,” Gray said. “From the tests, we were able to determine that the composite bat produced a higher velocity (about 3 percent) of the ball after contact.”

While Gray did say the results matched what she had determined over her years in the batter’s box, the team needed to rule the results of the test inconclusive at this point.

“There was definitely some human error involved,” Gray said. “Even though the composite bat was lighter, I was swinging it slower than the aluminum bat.”

The results were also considered inconclusive simply because not enough test swings were taken, but Gray and Hopp considered the project a success.

“We developed the project from scratch, found the appropriate resources and dealt with the excitement, struggle and frustration of scientific inquiry,” Hopp said. “We had to modify a protocol on the fly when things weren’t working like we thought and had to analyze and then reanalyze data when we realized a better way.

“I think Alison accomplished a lot on this project,” Hopp said. “Plus, she came away with an opportunity to describe what she did with others and share her excitement with them.”

Gray, the Blue Devils’ most valuable player in 2012, said she enjoyed working with professors outside of class and seeing the research and amount of detail required to complete the project.

Will Gray use her research data on the field? “I will probably think about it,” Gray said. “But as a catcher, I could tell by the sound of the bat if it was a good hit. As a batter, I can feel it in my hands. When you hit a home run, you don’t even feel the bat.”



***From the tests, we were able to determine that the composite bat produced a higher velocity of the ball after contact.***

***– Alison Gray, packaging major***



Right:  
A newspaper advertisement  
announces season-opening  
films and events at  
Menomonie Outdoor Theatre.

Far right:  
Student Sarah Melaney paints  
signs for the Double Feature  
Drive-in: Good Times —  
Bad Films exhibit in 2012 at  
Rassbach Heritage Museum.  
The exhibit celebrated the  
history of the old Menomonie  
Outdoor Theatre.



# Museum-quality Work

## Art, construction, literature students create drive-in exhibit

From 1953 to 1985, Menomonie Outdoor Theatre in Wakanda Park was known as a good place to go and watch a bad or previously released film. The drive-in primarily featured B-class and second-run movies.

A temporary exhibit that resurrected memories of those summer nights, Double Feature Drive-in: Good Times — Bad Films, was on display in spring 2012 at Rassbach Heritage Museum, thanks to a dedicated group of UW-Stout students.

Students researched, designed and built an exhibit in the museum's Holtby Auditorium, recreating the feel of the drive-in. It included a ticket booth, a concession stand and, of course, a place to watch movies. The museum is in Wakanda Park; the nearby city waterpark is where the drive-in stood.

The exhibit was mostly created,

produced and run by a group of six interior design and construction students; they donated hundreds of hours of their time.

In addition, research on the history of the drive-in was presented by the American Cinema literature class taught by Joan Navarre, Ph.D., assistant professor in the English and philosophy department. The class found the names of every movie that played in the drive-in's 33 years, along with other theater history.

The project leader was Katie Driver, of Eden Prairie, Minn., a senior art major with an interior design concentration, joined by interior design students Kirsten Kuehn, of Owatonna, Minn., and Sarah Melaney, of West Bend.

The three then recruited UW-Stout construction majors to help build the set: Tanner Dufresne, of White Bear

Lake, Minn., Matt Efflandt, of Cary, Ill., and Brian Quinn, of West Salem.

"These two teams have collaboratively worked together to make this project a total success," Driver said.

Along with the six core student volunteers, another 15 members of the student Habitat for Humanity chapter pitched in.

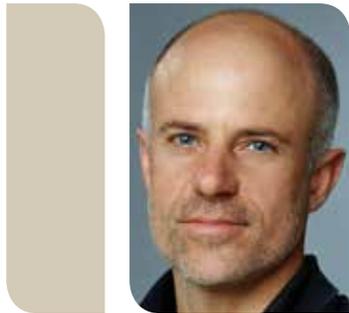
The exhibit was free, as were several showings of films that had played at the theater. Opening night coincided with Family Weekend at UW-Stout.



Students who created a drive-in exhibit at Rassbach Heritage Museum in Menomonie included, from left, Brian Quinn, Tanner Dufresne, Katie Driver and Sarah Melaney.

# Great App-ortunity

Art major adds Hollywood credit to his resumé



Kevin Pontuti

UW-Stout student Griffin Buhman has a head start on his career as an artist and has his first Hollywood credit to boot.

Buhman, a senior studio art major from St. Louis Park, Minn., recently provided black-and-white drawings for a new commercial app called Shot Designer. It's a software program that helps directors and filmmakers plan camera staging and shot blocking, a high-tech version of traditional storyboards used on film sets.

The program, for use on computers and cell phones, can be purchased online and downloaded.

Buhman's artwork of a hypothetical interrogation scene is being used in Shot Designer's online tutorial and in the company's marketing materials. "The app lets you map out scenes for a movie. It's a way to keep your scene plans organized and clearly show them to people," Buhman said.

Buhman learned of the opportunity

through one of his professors, Kevin Pontuti, who formerly owned a video and photo production studio in Los Angeles. Pontuti was approached by one of his industry contacts who is president of Hollywood Camera Works, which created Shot Designer.

"Griffin was one of the first students to come to mind," Pontuti said. "The drawing skills and aesthetic sensibilities he's developed in his studio art classes shine through in his entertainment design work. He is a great example of the disciplines of studio art and design coming together in a very exciting way."

Pontuti had Buhman in his Digital Narrative class, which focuses on visual storytelling such as storyboarding and cinematic visualization skills.

"They gave me the app and had me go in and draw the scenes from each camera angle they had set up," Buhman said.

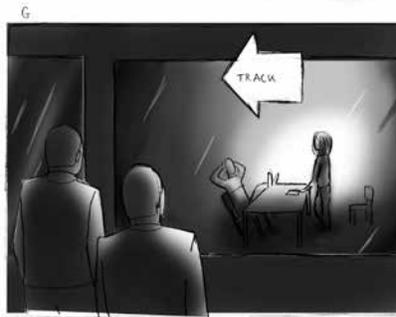
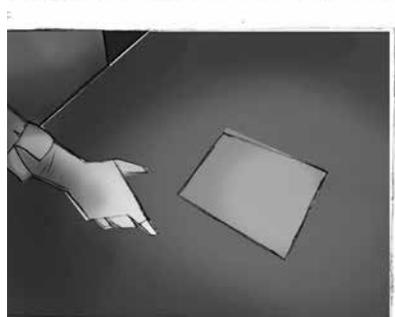
Buhman drew the scenes freehand before scanning them into his computer. He then exchanged his mockups with Shot Designer several times "to make sure I was on the path they were comfortable with" before the two parties settled on the final pieces of art.

He was paid for eight drawings.

"It was challenging in terms of a time rush and interesting to get a sense of the work speed in the industry. It was a taste of real life, a wonderful experience," Buhman said.

UW-Stout offers Bachelor of Fine Arts programs in studio art; entertainment design; graphic design and interactive media; industrial design; and interior design.

*Drawings by Griffin Buhman, a UW-Stout art student, are being used in a tutorial and marketing materials for Shot Designer, a new app for filmmakers and directors.*



# A Step in the Right Direction

## Students operate health clinic at food pantry to help serve local residents



Visitors to Stepping Stones Food Pantry in Menomonie can get more than canned goods.

Since fall of 2011 students in Maleka “Polly” Hashmi’s Advanced Physiology class and in the UW-Stout Pre-Health Society, which she advises, have volunteered to serve in a student-run health clinic at the pantry. A total of 100 students have donated their time and expertise during the last 18 months.

The clinic, which is open two hours a day six days a week, operated last fall and again during the spring 2013 semester.

Hashmi, Ph.D., established the clinic to provide free preventative health screenings to anyone visiting the pantry. Approximately 300 local residents have been screened.

The clinic was developed specifically to screen for hypertension, obesity and diabetes, three conditions often associated with individuals who don’t get enough to eat or the right foods to eat.

Students are trained by Hashmi to measure blood pressure and calculate mean arterial pressure from the measurements, do urinalysis and interpret lung sounds. They also are trained to teach patients how to conduct self-breast and testicular exams and how to weigh and measure patients accurately. Students calculate BMI — body mass index — from the measurements.

As part of their training, students learn how to interpret results and make lifestyle recommendations for the individuals they screen.

The value of the clinic was plain to see last year. A husband and wife, Charles and Mary Smith of rural Menomonie, visited Stepping Stones. Charles decided to have his blood pressure checked by one of the UW-Stout students. His blood pressure was high, and he was referred to the free health clinic at Mayo Clinic Health System — Red Cedar in Menomonie.

At the free health clinic, it was discovered that Mary had an undiagnosed autoimmune disorder. She previously was in a wheelchair and legally blind. With treatment for the disorder, however, she no longer is in a wheelchair and her vision has returned enough to allow her to drive.

Mary credits her ultimate diagnosis to the initial visit to the student clinic at Stepping Stones. “If it wasn’t for the student health clinic, I wouldn’t be here today,” Mary said.

### Successful service learning

Hashmi, who teaches in the biology department, follows up each clinic with a chance for students to reflect on their experience. From their responses, all indicated an improved understanding of course concepts.

“Working at the health clinic has been a life educational activity, from the hands-



Maleka “Polly” Hashmi

Top:  
Student Alexandra Wright listens to a patient’s lungs during the UW-Stout student-run health clinic at Stepping Stones food pantry of Menomonie. About 100 student volunteers have helped hundreds of patients since fall 2011.

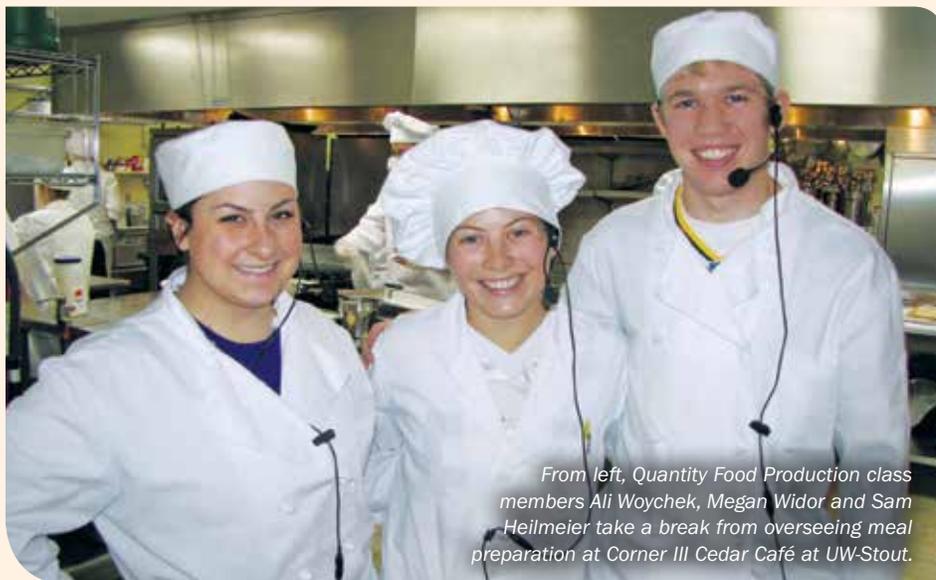


# Serving Up Experience

## Students learn big meal basics in Quantity Food Production



Judy Kennedy



From left, Quantity Food Production class members Ali Woychek, Megan Widor and Sam Heilmeier take a break from overseeing meal preparation at Corner III Cedar Café at UW-Stout.

For students in the Quantity Food Production course, a kitchen is their classroom, food is their research project and a restaurant is their final exam.

During the fall semester they served 22 lunches in the Corner III Cedar Café, a restaurant in Heritage Hall. The meals, which are open to the campus and public, include a choice of soup or salad; meat or vegetarian main course; and dessert and beverage.

A total of 69 students in four sections took the course last fall; it is required for dietetics and hotel, restaurant and tourism management majors. It also is an elective for other majors.

And like much of UW-Stout's offerings, it's a hands-on experience. Students choose their menus, research and test their recipes, and order and prepare the food under the guidance of instructor Judy Kennedy from the School of Hospitality Leadership and

her lab assistants.

A different team of two to four students is in charge of each meal, with the remaining students from that class serving as restaurant staff for the day. "They learn a lot," Kennedy said. "They take the meal very seriously and put a lot of time and effort into it. It's a real restaurant. They're serving the public."

On meal days students work in the large, fully equipped kitchen from 8:30 a.m. to 2:30 p.m.

"It's exciting but challenging for students to apply their research on the day of the meal. If their preparation and execution are solid and they collaborate with one another, the result is a successful dining experience for customers," Kennedy said.

Each meal has a theme. The November pre-Thanksgiving meal was Gobble 'Til You Wobble, featuring pumpkin soup

and turkey panini. In December, for the final meal of the semester, the theme was Winter Wonderland, featuring cranberry-apple stuffed pork loin and eggnog pound cake.

During football season the theme was Gridiron Classics, featuring tailgating favorites: chili, potato salad, bratwurst, stuffed Portobello mushrooms and s'mores bars. Napkins were green and gold, and students wore Green Bay Packers and Minnesota Vikings garb under their crisp white uniforms.

The meal leaders were Sam Heilmeier, a senior from Weston; Megan Widor, a senior from St. Cloud, Minn.; and Ali Woychek, a senior from Brooklyn Park, Minn.

Widor had extra pressure. Her parents own the Blue Line South restaurant in St. Cloud and the Blue Line in Sartell, Minn., and came to campus for the meal. Although she has worked in her family's restaurants, mostly in service, she was getting a taste of her parents' much more intense world.

"The hardest part is getting people to do what you tell them to do. We've had some little mistakes on quantities, but it's going well," Widor said. "It's a very beneficial class because we're cooking for the public."

Heilmeier has worked in his family's business, 2510 Restaurant in Wausau, for seven years but learned many new skills in the class, including how to manage a restaurant staff and how to rewrite a recipe for a large number of people.

Meal leaders are required to write



*Megan Widor, right, checks on stuffed portobello mushrooms being prepared by classmate Varsha Ramlakhan.*

detailed descriptions of how to prepare each recipe and have the instructions available on meal day. Heilmeier understands the benefit of that approach. “We’ve written the recipes out so well that (classmates) could prepare the food even if we weren’t here,” he said.

A little more than an hour before customers arrived, students were busy stuffing mushrooms, cooking a big pot of chili and peeling boiled eggs, as well as preparing tables and the food serving area.

Woychek works at Stella’s Fish Café in the Uptown neighborhood of Minneapolis and interned last summer at Landmark Resort in Door County. She was service leader for the meal. “It’s stressful. You want everything to go right. You want the food to look good and taste good,” she said.

Kennedy, a registered dietitian, has a Master of Science in food and nutritional sciences from UW-Stout. She has been teaching the class for three years, but it has been offered at UW-Stout for more than 20 years.

“I’ve learned a lot from Judy. She prepares us well,” Widor said. “She’s hard on us but helps us.”

# Graphic communications management students win national printing quality awards under Tenorio

Seven UW-Stout graphic communications management students, representing two teams, were honored in 2012 by the Printing Industry of America.

The Premier Print Awards also are known as the Bennys, in honor of early American printer Benjamin Franklin.

Both teams were made up of students from the Graphic Communications Management Practicum, a capstone class taught by longtime program director Jim Tenorio, Ph.D., who is retiring in 2013.

UW-Stout students in the class complete many commercial printing projects as part of the practicum.

“We do it all in-house, including the binding. We say, ‘From design to delivery,’” Tenorio said of the work students do in the course. Students meet with customers and research each printing project before developing a printing plan and timetable. They print the projects on presses in the Communication Technologies Building.

The award-winning UW-Stout teams entered student categories of the Printing Industry of America contest.

- Three students received an Award of Recognition for the printing of Prometheus, a UW-Stout campus student publication. They are Megan Dahl, of Andover, Minn.; Zachary Filipek, of Hugo, Minn.; and Brooke Prafke, of Elk Mound.
- Four students received a Certificate of Merit for the printing of NOTA, a literature and arts student publication at UW-Eau Claire. They are Rakeshkumar Bharavad, of India; Cody Oldenburg, of Gleason; Mitchell Schuh, of New London; and Molly Zarins, of Oakdale. UW-Stout students have printed NOTA for 12 years.

The graphic communications management major prepares students for a variety of management-track jobs in the printing industry. It is the only such major offered in the UW System.



*Jim Tenorio*



Nels Paulson

Far right:  
UW-Stout student Lilli Gray talks  
with a student from Birchwood  
Blue Hills Charter School during  
a collaborative applied social  
science research project.



# Applied Research

## Social science class teaches skills to Birchwood students

A group of students in the applied social science program at UW-Stout have learned a valuable lesson intrinsic to their major: how to apply their skills.

In the Research Methods class last year, Assistant Professor Nels Paulson, Ph.D., decided to go outside the box and have his students do some teaching on research.

After Paulson taught his students how to conduct qualitative research, he asked them to teach those skills to middle and high school students from Birchwood Blue Hills Charter School.

Students traveled to Birchwood, about 75 miles northeast of campus, for a day and taught seventh- to 12th-graders qualitative research methods. They also gave the Birchwood students a research assignment.

Birchwood students did research using observation techniques taught to them by UW-Stout students. Their work included topics such as how different age groups interact and behavioral patterns among genders at gas stations.

One aspect of qualitative research involves observing as a method of inquiry. A research question drives the observations. Analysis follows the

data-gathering.

Then, Birchwood students traveled to UW-Stout a few weeks later to have their projects critiqued by their “teachers.” UW-Stout students met in small groups with the students in Millennium Hall.

The venture turned out to be a win-win collaboration.

UW-Stout student Sam Foster, of New Richmond, said helping Birchwood students also helped him. “I was hesitant at first playing the teacher role, but I enjoyed it. It’s almost as if this enhanced our skills. If you teach something you’re better able to understand it,” Foster said.

That was one of the intentions of the project, Paulson said. “Part of the intent of these workshops is to improve my students’ understanding of qualitative research — you learn most by teaching, after all — and part is intended to teach middle and high school students about social science research and expose them to the university,” Paulson said.

Todd Brunclik, a 2007 UW-Stout graduate in art education, is the Birchwood Blue Hills Charter School adviser.

Birchwood students follow a project-based curriculum. All their projects are based on research, but “this is a new type of research for our students. They’re the ones actually gathering the data,” Brunclik said.

The collaboration with UW-Stout, with a low student-teacher ratio, “fits with our philosophy of students as teachers,” Brunclik said.

Brunclik and Paulson were planning a similar project this spring.

Brunclik sees another advantage of the collaboration with UW-Stout. “Having exposure to a quality college helps our kids. College becomes a reality instead of a mythical place. I had a lot of kids saying they could see themselves coming to school here,” Brunclik said.

# Classroom Collaborative

## Education students dig into research for Spring Valley teachers

David Stricker knows that it's a big job for K-12 teachers to design curriculum for their classrooms.

"It's pretty rigorous. You're dealing with standards, objectives and accountability for assessment," said Stricker, Ph.D., an assistant professor in the School of Education.

If it's hard for teachers to design curriculum, imagine how challenging it might be for undergraduate education students who are just learning how to teach.

During the fall 2012 semester, Stricker put eight of his UW-Stout students to the test. In the Curriculum Methods and Assessment course, he assigned them to research and design curriculum for teachers Nick Gilles and Michele Huppert of the Spring Valley school district.

Then, the UW-Stout students presented their ideas to Gilles and Huppert in Spring Valley.

The experience left the students much wiser about the challenges of teaching and gave the Spring Valley teachers at least two curriculum ideas they plan to use in the classroom. The project was a success. "We hope to do it again," said Stricker.

Two of Stricker's students from the class, Chris Peterson and Brittany Zimmerman, experienced the real world of a teacher, and they realize they have a lot to learn.

"Bringing curriculum and projects to teachers who are in the field really gives you perspective on your ideas in an actual classroom," said Peterson, a technology education major from Cedar Grove. "They really challenged our thinking but backed it up with great insight and ideas to make our projects better."

Zimmerman agreed. "The project helped prepare me to become a teacher by taking a unit and breaking down the steps it takes to make a unit work. We learned a lot of ways to plan and present to a class," said Zimmerman, a science education major from Oconto.

That's exactly what Stricker was hoping to achieve. "We wanted to have a hands-on component to the course and have UW-Stout students get feedback from teachers, rather than just my opinion."

Gilles plans to use a project developed by the UW-Stout students that demonstrates tension and compression forces on a model truss bridge. Huppert plans to use a biology idea that demonstrates the use of hydroponic equipment.

Gilles is a technology education teacher and UW-Stout alumnus. He works

Brittany Zimmerman, a UW-Stout science education major, presents a curriculum idea to two teachers in the Spring Valley school district.



closely with Huppert, who teaches earth science and physics. They also co-teach a class at the middle school level.

Gilles said the project helped UW-Stout students "see what is expected of us as classroom teachers pushing forward, as well as the difference between basic, entry level curriculum and more engaging, technology-rich curriculum."

Other students in the course were Henry Brady, of Elk River, Minn.; Ryan Liddicoat, of Beaver Dam; David Schurman, of New Berlin; Desmond Taylor, of Brown Deer; Michael Thunes, of Menasha; and Matthew van Druuten, of Brillion.



From left, UW-Stout education majors Michael Thunes and Desmond Taylor explain new curriculum ideas to Spring Valley technology education teacher Nick Gilles.

David Stricker



# Goal-oriented Graduate

## McNair scholar plans to continue studies, research in grad school



Linnea Heintz

For many nontraditional students, who often must balance such issues as family and work with classes, earning a bachelor's degree is a major hurdle and one of the pinnacles of their lives.

That's true of Linnea Heintz, and then some. At age 45, she graduated cum laude Dec. 15, 2012, from UW-Stout with a Bachelor of Arts degree in psychology.

A married mother of three, she earned her degree in just 2½ years and despite 1,000 miles of weekly commuting from her home in Hawkins, in Rusk County. She enrolled at UW-Stout in 2010 after recovering from a broken neck.

She took 22 credits some semesters, or two courses beyond what is considered a full load, and also took classes during interims and summers. Psychology is one of several programs at UW-Stout that has a three-year degree option.

Heintz believes the best is yet to come, however. A McNair scholar, Heintz plans to go to graduate school to pursue a doctorate. She is inspired to continue her education, research and to make a difference someday either as a university professor or in a medical treatment and research facility.

"I'm determined, and I have the ability to reach people," she said, adding that her career plans have the support of her husband of 22 years, a trucker, and

their children, ages 19, 17 and 15. Some of her motivation stems from the death of her father in 1995 at age 51 of colon and liver cancer. Why would an otherwise healthy man suddenly get sick and die in a few months? She believes that his illness was brought on from stress related to his wife's chronic health problems.

"I've been looking at this for 17 years since my father died. I'd like to find a correlation between stress and illness," she said.

Last summer Heintz received a National Science Foundation-funded research experience for undergraduates at Oklahoma State University in Stillwater, Okla. She worked for two months, under the supervision of OSU Professor Jennifer Byrd-Craven, in a research lab studying stress and immunity.

Heintz helped conduct research for Byrd-Craven and pursued her own research project, "Affiliation: Beneficial or Detrimental to Your Emotions and Your Health," a study that looks at how men and women handle stress differently. She presented her work in November at a conference in Lake Geneva with psychology Professor Richard Tafalla, who left UW-Stout in 2012.

"As a faculty person my job, in part, is to inspire as well as teach. Linnea is one of those rare students I've been inspired by," Tafalla said. "She has been a leader in the McNair program and someone who will surely achieve her goals. She's provided us wonderful memories, and it's truly been a pleasure having her in the program."

The Ronald E. McNair Postbaccalaureate Achievement Program, or McNair Scholars Program, began nationally in 1989 to help more first-generation

college students and disadvantaged groups secure advanced higher education degrees. Research is the basis of the McNair Scholars Program. It is named after McNair, a scholar and astronaut who died in the 1986 Challenger space shuttle explosion. For more information, go to [www.uwstout.edu/mcnair](http://www.uwstout.edu/mcnair).

"McNair enabled me to do research. The support and mentoring are strong. It prepared me for the whole process of graduate school prep and taught me so much. Dr. Tafalla is a motivator," Heintz said.

In addition to her accelerated studies at UW-Stout, Heintz was president of the UW-Stout Research Club; director of the Psychology Study Center; president of the UW-Stout chapter of Psi Chi, the honor society for psychology; and an honor student.



Linnea Heintz works in a research lab in the summer of 2012 at Oklahoma State University in Stillwater, Okla., while on a NSF-funded research experience for undergraduates.

# Students design evacuation harness, take second in contest

How could someone with a disability, especially in a wheelchair, escape a life-threatening situation? A group of UW-Stout apparel, design and development students may have found a new answer.

Five students designed the Emergency Evacuation Harness, a device that allows an able-bodied person to carry a disabled person away from danger. Their design took second place in the international 2012 Safety Products Student Design Challenge. It was on display at November's Industrial Fabrics Association International expo in Boston and featured in IFAI publications and on its website.

Although devices called rigid evacuation chairs exist to help those in wheelchairs — some were used to help people trapped in the 9/11 terrorist attacks at the World Trade Center — the team researched a lighter, less expensive, more portable alternative.

Someone in a wheelchair could keep the fold-up Emergency Evacuation Harness with them at all times. It functions like a backpack. "Someone else puts on the harness. The disabled person is placed in it and can be carried out of the building," said Daniel Cole, one of the team members.

The harness, a prototype, is made from heavy canvas. It includes a fabric seat, back support, leg enclosures, two shoulder straps and buckles.

The team created the product in fall 2011 as part of the Functional Clothing Design course taught by Gindy Neidermyer, Ph.D. "It was a long design process," said Cole, of Menomonie.

Neidermyer's students spend the entire semester researching and designing a piece or pieces of functional clothing. Early in the class, she instructs them to research and present reports on various special fabrics to help them understand how the specialized industry works. Then, once they begin developing an idea, she may have them do primary research to develop a stronger connection to their design task.

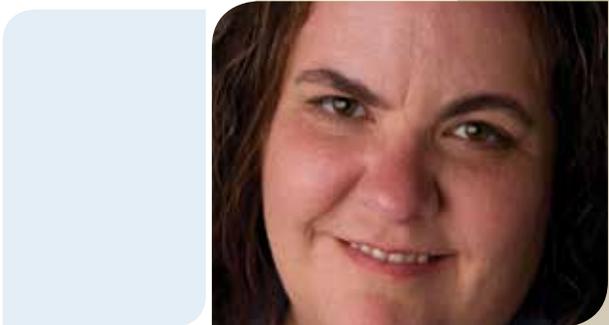
Team members received a trophy and cash award. Other members are Jessica Koch, of Oregon; Natalie Meurer, of Fond du Lac; Maggie Rohs, of Mukwonago; and Annie Sorcic, of Woodbury, Minn.

In the 2011 contest a UW-Stout team took first place with the Underground Mine Suit, a safety suit for miners.



Annie Sorcic carries Natalie Meurer to demonstrate the Emergency Evacuation Harness. They and three other UW-Stout teammates designed the device, which took second place in an international contest.

Members of the UW-Stout team that designed the Emergency Evacuation Harness are, back row, left to right: Annie Sorcic, Daniel Cole and Maggie Rohs. Front row, Natalie Meurer and Jessica Koch.



Gindy Neidermyer

# Magical History Tour



Kate Thomas

## Associate professor develops online tutorials

What's the best way to research the Civil War or simply learn a little more about it? A traditional source, like the local library to use a history book or encyclopedia, is always a good choice.

With modern technology, plenty of other options are available, including a new one that a UW-Stout associate professor has helped create. Kate Thomas, Ph.D., history, has written and developed five interactive American history tours for W.W. Norton, the national book publisher.

W.W. Norton tours use Google Earth to give history a whole new look. In a Civil War Battles tour created by Thomas, for example, students can pick the virtual spot where a battle happened and click to find pictures and primary documents for that battle.

Produced by W.W. Norton Study Space through the program America, A Narrative History, the tours are designed to trace "historical developments across time, touching down on locations vital to our nation's heritage and development. Points of interest in each tour launch primary and multimedia sources."

Using a Google Earth tour is something like riding a globe. Within a tour, each event is named on the globe and marked with a thumbtack. By clicking on the thumbtack the information and photos appear. By moving the mouse and adjusting the magnifier tool, a visitor can move at dizzying speed around the world.

Along with Civil War Battles, Thomas created tours called: Mixed-Heritage Peoples; The Right to Vote: American Women's Suffrage; Highways and

Suburbs; and to be uploaded Trails and Trading. Visitors to the site may choose from a total of 14 tours.

The opportunity for Thomas to design tours came about in an interesting manner. She had used the company's online quizzes for students and reported to the editor when she found errors. Her eagle eye was commended, and she was offered consulting projects. One such project involved developing the online history tours.

"I knew right away that the Google Earth history tours would be fantastic for my students here at UW-Stout," she said. Thomas teaches with primary documents, and the tours add an online component to her assignments. "I jumped at the opportunity," she said.

Retired UW-Stout history and geography assistant professor Frank Kennett visited the site and went on two of Thomas' tours. "It took me a while to learn to navigate the system, but it was fun," he said. "The tour system seems useful to me, a good learning tool."

Kennett said Thomas' segments were well-done and recommended the site as an interactive learning tool.

The free tours are used as supplements for undergraduate students, but since the website is public they are available to anyone if they download Google Earth first.

Thomas knows that her book club, for example, will find the tours helpful. "I've recommended them to my friends, especially in my women's book club because they are always asking me history questions and always want more

information. They are an inquisitive bunch," Thomas said.

### Taking a tour

For each location Thomas provides an overview of what happened there and a linked primary document, either written or visual. "I try to provide both so the viewer can get a sense of what things looked like at the time as well as what people were saying at that time," she said.

Each tour includes 10 locations, 10 primary documents, a map and, at the end, five analytical questions to test comprehension. The questions — some easy, some difficult — are designed to focus on change.

"I want the viewer to think about how we can all get involved to make changes in our country. I think the best way of doing that is to show how people successfully made changes in the past. It should be an educational experience, much different than just random trivia that you'll get when you Google a historical event," Thomas said.

Thomas wrote the introductions and set the scene for each location in her tours. She combed through hundreds of sources, especially the Library of Congress and National Archives. She also decided what to include and developed the discussion questions per tour.

### Focusing on diversity

Some basics are always covered in U.S. history, and those threshold concepts determined maybe five of the 10 stops on each tour, Thomas said. As a teacher her focus is to ensure that students

To go on a tour, download **Google Earth** and go to [www.wwnorton.com/college/history/america8/full/historytours.aspx](http://www.wwnorton.com/college/history/america8/full/historytours.aspx).

know the U.S. is a nation of diverse peoples.

She strives to teach this through her choices of tour events. In the tour Mixed-Heritage History, she provides details of how diversity started from the time that European men first set foot on what was to become America and interacted with American Indian women.

Those first immigrants also brought slaves with them who ran away to live with Indians or were forced to “interact” with the colonizers. “Right there, nine months after the first European men landed in the Americas, there was even greater diversity,” she said.

All of her tours are grounded in the history of diversity and different points of view to fully represent U.S. history. “For the Civil War Battles tour, for example, I used many of the typical battles, but I also included American Indians and African-Americans who fought and changed the trajectory of the war. I included places where Harriet Tubman carried out spy missions for the Union Army. That’s my contribution to these tours — to show how we all had a role to play. It’s why I hope Norton chose me to write these five tours,” Thomas said.

Thomas has taught history in the social science department at UW-Stout since 2003.

# Applied Research Center study contributes to student retention

In fall 2012, 42 incoming freshmen at UW-Stout were employed in new positions that were created as part of a University Priority initiative.

This University Priority and the jobs came about as a result of research completed by the Applied Research Center at UW-Stout. In fall 2010 the ARC examined a number of existing UW-Stout retention initiatives in order to determine their effectiveness. On-campus employment of students was identified as one of the top initiatives.

The data supported the message conveyed in the 2011 Engagement Sessions, during which faculty and staff expressed the need to increase research opportunities and other meaningful work opportunities for students.

As a result, funding was made available to support new positions, especially for incoming first-time freshmen with the intent of creating meaningful work experiences and assisting faculty members in their research and/or teaching responsibilities.

Twenty-one proposals — 42 students — were funded in fall 2012. The 42 students remained at UW-Stout at the start of the spring 2013 semester.

The student workers were asked to submit a report of their accomplishments at the end of the fall semester, and many said that the experience helped solidify their decision to stay at UW-Stout.

The study is an example of how faculty and staff at UW-Stout are using the results of ARC research to further projects and initiatives that benefit the UW-Stout community.

The ARC is conducting additional research on retention initiatives and leading indicators for graduation.

## Applied Research Center

The ARC provides research assistance for UW-Stout initiatives, as well as research initiatives at other educational, governmental and health care organizations. The center specializes in statistical analysis, qualitative analysis, focus group research, survey development and administration, and other aspects of research design.

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# Faculty Recognition

## Four faculty earn national, state awards

They were honored in 2012 for their outstanding work as teachers and researchers.



### Jennifer Grant

Jennifer Grant, Ph.D., an assistant professor of biology, received the Front and Center Award from the Wisconsin Society of Science Teachers for her leadership on a project with Deanna Suilmann, a Menomonie High School

science teacher.

Grant teaches her general education science classes with a twist. Her students learn not only through lectures and tests, but also through writing and illustrating their own comic book-style, also known as graphic, novels relating to science.

Grant and Suilmann presented “Use of Graphic Novels in the High School Classroom” at the WSST conference. Suilmann has used the illustrated novels in her classes as supplementary texts.

Grant typically receives 50 to 75 novels a semester for the Illustrated Novel Mastery Project.

[www.uwstout.edu/faculty/grantje/](http://www.uwstout.edu/faculty/grantje/)



### Kevin Mason

Kevin Mason, Ph.D., assistant professor of science education, was recognized by the Wisconsin Society of Science Teachers with the Excellence in

Science Education Award at the WSST conference.

The award, designed to foster excellence in science instruction, recognizes individuals who excel and who have made outstanding contributions to the improvement of science education in the state.

Educators recognized include those at the elementary, middle, secondary or college level or who are active supporters of science education.

Mason is program director of science education in the School of Education.

[www.uwstout.edu/faculty/masonk/](http://www.uwstout.edu/faculty/masonk/)



### Debbie Stanislawski

Debbie Stanislawski, Ph.D., an associate professor and coordinating chair of the School of Education, received the Russel J. Hosler Award during

the Wisconsin Business Education fall convention in Waukesha.

She was recognized for her “outstanding, meritorious contribution to the development and advancement of business education,” according to the WBEA.

Along with teaching undergraduate and graduate courses in the School of Education, Stanislawski helps develop curriculum, advises students and works with programs to oversee student teachers.

[www.uwstout.edu/faculty/stanislawskid/](http://www.uwstout.edu/faculty/stanislawskid/)



### Wei Shi

Wei Shi, Ph.D., an assistant professor in engineering and technology, was selected to participate in the prestigious Frontiers of Engineering Education Symposium in October in California.

She was one of 72 “of the nation’s most

innovative, young engineering educators” chosen from a highly competitive group of nominees, according to the National Academy of Engineering.

The symposium focused on innovations in the context, curriculum and delivery of engineering education.

NAE President Charles M. Vest said the program “creates a unique venue for engineering faculty members to share

and explore interesting and effective innovations in teaching and learning.

We want FOEE to become a major force in identifying, recognizing and promulgating advances and innovations in order to build a strong intellectual infrastructure and commitment to 21st century engineering education.”

[www.uwstout.edu/faculty/shiw/](http://www.uwstout.edu/faculty/shiw/)

# Stout University Foundation supports research with special grants

Seven students benefited during the 2012-13 academic year from special student research grants awarded by the Stout University Foundation.

The Foundation Board and Funding Committee, with support from Research Services at UW-Stout, approved \$10,000 for the Opportunities for Undergraduate Student Research grants. Part of the funding also was used for the annual Student Research Gala on campus.

Three students received summer research stipends. Four others received travel funding to co-present their research with advisers at national conferences.

In addition, the students will present their research and discuss their experiences at the Foundation Board meeting this April.

Summer research grants were awarded to:

- Kimberly Kadlec, of Menomonie, with adviser Jennifer Grant, Ph.D., biology, for Utilizing Oxidizers to Destroy Microcystin and Measuring Success Rates Using MALDI-TOF Mass Spectrometry
- Michael Krueger, of Milwaukee, with adviser Jim Burritt, Ph.D., biology, for Telomere-specific Effect of Chaga Extract on HFF1 Cells
- Dylan Meyer, of Lake Elmo, Minn., with adviser Jennifer Grant, Ph.D., biology, for Determining Rates of Peptide Citrullination Representing Glial Fibrillary Acidic Proteins in Patients with Multiple Sclerosis

Travel grants were awarded to:

- Amber Booth, of Spooner, with adviser Julie Zaloudek, Ph.D., human development and family studies. They presented "No Special Accommodations Needed: Universal Design for Online Learning," at the National Council on Family Relations Annual Conference in Phoenix.
- Brock Bollin, of Litchfield, Minn., and Hillary Noll, of Plymouth, Minn., with adviser Sarah Wood, Ph.D., psychology. They presented "Don't Tell Anyone ... The Influences of Anticipatory Cues on Self-Report of Psychological Responses to Revelations of Secret Information," at the Society for Personality and Social Psychology Conference in New Orleans.
- Noah Holzman, of Fond du Lac, with adviser John Kirk, Ph.D., chemistry. They presented "Gold-Silica Nanoparticles for Chemical Sensing," at the American Chemical Society National Conference in New Orleans.

## Foundation Board member support

Pam Tompos, a Stout University Foundation Board member, accompanied UW-Stout undergraduate student presenters last spring in Madison for Posters in the Rotunda. The annual UW System research event is held at the Capitol.

Tompos also was the featured speaker at the 2012 Student Research Gala. Tompos, originally from Sturgeon Bay and now from Lakeville, Minn., earned bachelor's and master's degrees from UW-Stout in 1985 and 1986, respectively.

# 2012 Scholarly Activity

\*UW-Stout faculty, staff in bold

## College of Arts, Humanities and Social Sciences

### PRESENTATIONS

**Fraher, Robert**; Frazier, P.; Hokanson, B.; Greer, C., Therapeutic Potential of Interactive Digital Media, *International Digital Media and Arts Association Conference*, November, Miami, Fla.

**Marshall, Leni**, Performing Identity in Later Life, session chair, *MLA Convention*, January, Seattle.

**Marshall, Leni**, Cultivating Gerontological Literacy through Cross-Pollination with Humanities, Arts, and General Education Courses, *Association for Gerontology in Higher Education*, February, Rockville, Md.

**Paulson, Nels**, research paper INGOs, Hunting, and Local Legitimacy, annual meetings of the *Association of American Geographers* February, New York City.

**Paulson, Nels**, and students: Ries, Nicole; Conradi, Maren; Fox, Christopher; Twaddle, Jake, Engaging Students and Community in Sustainability Dialogue: Applied Learning at a Rural, Midwestern University, *Lake Superior Service Learning Conference*, March, Duluth, Minn.

**Paulson, Nels, organizer**; student panelists: Beckworth, Cassandra; Steans, Elizabeth; McAteer, Madeline; Bruns, Sarah, Why Undergraduates Learn About Gender, *Wisconsin Women's Studies Conference*, October, Oshkosh.

### PUBLICATIONS

**Basu, Lopamudra**, The Limits of Hybridity in Gautam Malkani's Londonstani; chapter in O. Dwivedi (Ed.), *Literature of the Indian Diaspora* 188-198, November 2011, New Delhi, India.

**Deacon, Andrea**, Creating a Context of Care in the Online Classroom, *Journal of Faculty Development*, 26 (1) 5-12.

**Fraher, Robert**, Cursor dynamics: Aesthetic Exploration of the Bubble Cursor, S. Gueddana and J. Laakso (Eds.), *Proceedings of the Nordic Conference on Human-Computer Interaction*, 765-766, New

York: ACM.

**Marshall, Leni**, Through (With) the Looking Glass: Lacan and Woodward in Méconnaissance, the Mirror Stage of Old Age, *Feminist Formations* 24.2 August, 52-76.

**Marshall, Leni**, Co-founder and advisory editor of the new print publication *Age, Culture, Humanities: An Interdisciplinary Journal*.

**Navarre, Joan**, Feast for a King: The Wine and Food Society's Careme Banquet at the Royal Pavilion, Brighton, *Celebration: Proceedings of the Oxford Symposium on Food and Cookery* 2011, 209-216, Prospect Books, Great Britain.

**Paulson, Nels**, The Place of Hunters in Global Conservation Advocacy, *Conservation and Society*, 10 (1) 53-62.

**Paulson, Nels**; Menjivar, C., Religion, the State and Disaster Relief in the United States and India, *International Journal of Sociology and Social Policy*, 32 (3/4) 179-196.

**Paulson, Nels**, Toward Objectives and Assessment: Means of Control, *Journal of the American Association for the Advancement of Curriculum Studies*, 8.

**Paulson, Nels**; Doolittle, A.; Laudati, A.; Welsh-Devine, M.; Peña, P., Indigenous Peoples' Participation in Global Conservation: Looking Beyond Headdresses and Face Paint, *Environmental Values* 21 (3) 255-276.

**Pearson, Tom**, Transgenic-free Territories in Costa Rica: Networks, Place, and the Politics of Life, *American Ethnologist*, 39 (1) 90-105.

**Watts, Julie**; Burnett, Rebecca E., Pairing Courses Across the Disciplines: Effects on Writing Performance, *Written Communication*, 29 (2) 208-235.

### CREATIVE WORKS AND PERFORMANCES

**Astwood, Jennifer**, Faculty-Led Project with Malco, May.

**Astwood, Jennifer**, Trek Bicycles Industry

Collaborative Design Project with DES-331: Product Interface Design, December.

**Beck, Dave**, Smorgasbord (after Per Lysne), *Arrowhead Biennial*, Duluth Art Institute, December, Duluth, Minn.

**Beck, Dave**, Solo Exhibition and Artist Residency Fellowship, *Kimmel Harding Nelson Center for the Arts*, July, Nebraska City, Neb.

**Beck, Dave**, Jellyburger, *Sant Ocean Hall Exhibit, Smithsonian Museum of Natural History*, Washington, D.C., permanent display.

**Fraher, Robert**, An (Ec)centric Self-portrait, *Self Portraits, The Fine Arts Center of Hot Springs*, October, Hot Springs, Ark.

**Janetski, Beth**, scenic design for "Funny Money," February, *Eden Prairie Players*, Eden Prairie, Minn.

**Janetski, Beth**, scenic and lighting design for "Cabaret," April, UW-Stout Theatre

**Janetski, Beth**, scenic and lighting design for "The Shadow Box," November, UW-Stout Theatre

## College of Education, Health and Human Sciences

### PRESENTATIONS

**Barnett, Amanda E.**, Caregivers' Family and Non-Family Role Trajectories and Health Outcomes, poster presentation, *National Council on Family Relations* annual conference October, Phoenix.

**Budd, Desiree**; and students: Brodhagen, Mary; Bjork, Sarah; Donnelly, Michael; Kucksdorf, Ryan, Visually Evoked Potentials Sensitive to Perceived Fat Content of Food Items, annual meeting of *Psychonomic Society*, Minneapolis.

**DeLambo, David A.; Homa, Debra; Chandras, S. V.**, Social media and Facebook: Functional Assessment Strategies within the University Setting, poster session annual conference of *American Counseling Association*, March, San Francisco.

**Homa, Debra**; Fried, J.H.; Zimmerman,

S.L.; Tidwell, P, Vocational Evaluation: New approaches and Current Resources. Presentation at annual training conference of *National Rehabilitation Association*, Chicago, Ill.

**Homa, Debra;** Better, C.J.; Lui, J., Another credential? The PVE for Vocational Evaluation, poster session annual professional conference of *National Council on Rehabilitation Education*, San Francisco.

**Koepke, Leslie A.**, Traditional and Digital Portfolios: Evaluating Family Studies Program Objectives, *National Council on Family Relations*, November, Phoenix.

**Rohrer, Cynthia**, Effect of Feeding Flaxseed Mix on the Content of Omega-3 Fatty Acids in Cheese Curd and Cheese During Cheese Making Process and Storage, *Polytechnic Summit* June, Marietta, Ga.

**Rohrer, Cynthia and Lee, Eun Joo**, The Sensory Evaluation of Korean Barbecue for Korea Food Research Institute, *UW-Stout Sensory Lab, Department of Food and Nutrition*, October, Menomonie.

**Wolf, Marcia; Nelson, Margaret**, BrainDance with Infants and Toddlers: Making Brain Connections through Music and Movement, *National Association for the Education of Young Children* annual conference, November, Orlando Fla.

**Wolfgram, Susan; Jones, Glenda; Han, Suejung; Sweat, Jeffrey**, How Does High Impact Practice Predict Student Engagement: A Comparison of White and Minority Students, *International Scholarship of Teaching and Learning Conference*, October, Hamilton, Ontario, Canada.

**Wolfgram, Susan; Jones, Glenda**, How Does High Impact Practice Predict Student Engagement: A Comparison of White and Minority Students, *Midwest Culturally Inclusive Conference*, UW-Platteville, September, Platteville.

#### PUBLICATIONS

**Barnett, Amanda E.;** Stum, M. S., Couples Managing the Risk of Financing Long-Term Care, *Journal of Family and Economic Issues*, 33, 363-375.

**Block, Alan A.**, Symphony No. 1 in a Minor Key: A Meditation of Time and Place, April, *iUniverse*: Bloomington, Ind.

**Block, Alan A.**, Toward Objectives and

Assessment: Means of Control, *Journal of the American Association for the Advancement of Curriculum Studies*, 8, spring.

**DeLambo, David A.; Homa, Debra; Peters, Robert H.;** DeLambo, A. M.; and Chandras, K. V., Social Media and Facebook Use and its Accompanying Function: Implications for Counseling University Students. *ACA's VISTAS 2012 Annual Electronic Monograph*. Alexandria, Va.

**Hamilton, Michelle;** Mayfield, M., Effects of Online and Campus Based Education: A Five-year Comparison of Student Learning Outcomes in Rehabilitation Counselor Education, *Rehabilitation Counselors and Educators Journal*, 6 (1), 76-91.

**Lea, Virginia; Jones, Glenda; Teuber, Hollace, A.;** and **Wolfgram, Susan**, Facing the Challenges to Equity, Diversity, and Inclusion in Obama's Era, *Just How Important is Diversity in Public Higher Education?* Clark, C. (Ed.), New York: Rowman and Littlefield.

**Mason, Kevin;** Dusek, W., Chemistry for Career and Technical Education, Dubuque, Iowa: *Kendall Hunt Publishing Company*.

**Mason, Kevin**, Teacher Involvement in Pre-service Teacher Education, *Teachers and Teaching: Theory and Practice*.

**Wolfgram, Susan;** Kaiser, A.; Lee, M.C.; Ramacher, D.; Siverling, K.; and Thornwall, M., In Their Own Words: Student Reflections on Undergraduate Research, *Perspectives on Undergraduate Research and Mentoring* 1 (2), 1-12.

#### AWARDS

**Mason, Kevin**, Wisconsin Society of Science Teachers, 2012 Excellence in Science Education Award

**Stanislawski, Debbie**, Russel J. Hosler Award

**Wolfgram, Susan**, Outstanding Educator 2012: ASPIRE/Student Support Services and Multicultural Student Services

**Wolfgram, Susan**, Eau Claire County Criminal Justice Collaborating Council Service Award for Stop and Think program in the Eau Claire County Jail.

## College of Management

#### PRESENTATIONS

**Dittmann, Wendy**, Prior Learning

Assessment at the Polytechnic, *Open Doors—Unlock Opportunities, Council of Adult and Experiential Learning conference*, November, Washington, D.C.

**Dittmann, Wendy, Bensen, Ted; Haltinner, Urs; Mooney, Carol; Schlough, Steve**, The Effective Use of Advisory Committees and External Stakeholders in Program Operations, *Career Tech Vision 2012 conference, Association for Career and Technical Education*, November, Atlanta, Ga.

**Fenton, Mark**, Lessons Learned: Why and How We Can Teach Social Entrepreneurship in a Capstone Course, *Dalton Institute*, February, Florida State University, Tallahassee, Fla.

**Hoel, Anne**, Greening the Business Curriculum, *Marketing Management Association Fall Educator's Conference*, September, Bloomington, Minn.

**Pederson, Leonard**, Use of Blended Instruction in Teaching Engineering Economy: A Case Study and Demonstration, *Association of Technology, Management, and Applied Engineering Conference*, November, Nashville, Tenn.

**Pederson, Leonard**, Use of Blended Instruction in Teaching Engineering Economy: A Case Study and Demonstration, *Polytechnic Summit*, Southern Polytechnic University, November, Marietta, Ga.

#### PUBLICATIONS

**Fenton, Mark**, Lessons Learned: Why and How We Can Teach Social Entrepreneurship in a Capstone Course, *Journal of College and Character*, November.

**Hoel, Anne**, Sustainability and Education Methodologies: Various Ways to Green the Business Curriculum, *Review of Higher Education and Self-Learning*, 5 (17), December.

**Kennedy, Doug**, Prevent a Future Heart Attack: Register Your Trademarks, *Hospitality Law* 27 (10), October.

> See **ACTIVITY**, page 28

# Scholarly Activity

> **ACTIVITY** from page 27

## College of Science, Technology, Engineering and Mathematics

### PRESENTATIONS

**Bessert, Michael**, Jewels in the Landscape? The Molecular Search for Heritage Strain Brook Trout, *Driftless Area Symposium*, March, La Crosse.

**Asthana, Rajiv**; Halbig, M. C.; Coddington, B. P.; Singh, M., Bonding of SiC Ceramics to Metals using Particulate Reinforced Ag-Cu-Ti Alloys, *36th International Conference and Expo on Advanced Ceramics and Composites*, January, Daytona Beach, Fla.

**Asthana, Rajiv**; Singh, M.; Smith, C. E.; Gyekenyesi, A. L., Bonding High Conductivity Graphite Foams to Metals for Thermal Management Applications, *36th International Conference and Expo on Advanced Ceramics and Composites*, January, Daytona Beach, Fla.

**Grant, Jennifer**, A Collaboration Between a University and High Schools to Introduce High School Students to MALDI Mass Spectrometry and Research, *Conference of the Wisconsin Society of Science Teachers*, March, Madison.

**Grant, Jennifer**, co-author, Kellen Doerr, Profiling Microcystin Toxins in the Red Cedar Watershed, *60th conference for the American Society for Mass Spectrometry*, May, Vancouver, Canada

**Grant, Jennifer**, The Illustrated Novel Mastery Project in Biology Enhances Critical Thinking and Student Engagement in a General Education Course, *International Society for the Scholarship of Teaching and Learning*, October, Hamilton, Ontario, Canada

**Kirk, John**, keynote speaker for third annual *UW-Whitewater Nanoscience Symposium*, October, Whitewater

**Little, Amanda**; Bernier, Callie, student; Effects of Wet Prairie Restoration Methods on Native Plant Species and Transplant

Survival, *Natural Areas Conference*, Norfolk, Va.

**Little, Amanda**; Jones, Travis, student; Plant Community Response to Lack of Fire in an Isolated Western Wisconsin Preserve, *The Prairie Enthusiasts Conference*, Menomonie.

**Little, Amanda**; students: Lee, Lucas; Yang, Bli, Success of Two Rye Cover Crops in Suppressing Garlic Mustard (*Alliaria Petiolata*) During a Prairie Restoration, *Posters in the Rotunda*, Madison.

**Little, Amanda**, Service Learning in General Education Courses: Lessons from the Field and Implications for Honors Courses; Honors Pedagogy, Developing in Honors Panel, *National Collegiate Honors Council Conference*, Boston.

**Little, Amanda**, Planning Successful Service Learning Projects, *Wisconsin Women and Science Spring Conference*, Wisconsin Dells.

**Little, Amanda**, Riparian Soil, Reed Canarygrass (*Phalaris Arundinacea*) and Plant Species Richness in Trout Stream Restorations, *Wisconsin Wetlands Association*, Lake Geneva.

**Hashmi, Maleka**; Little, Amanda, Infusing Diversity in the Sciences: Two Case Studies, *International Society for the Scholarship of Teaching and Learning*, Hamilton, Canada.

### PUBLICATIONS

**Asthana, Rajiv**; Lin, K. L.; Singh, M., TEM Characterization of Au-based Alloys to Join YSZ to Steel *SOFC Applications, Materials Characterization*, 63, 105-111

**Asthana, Rajiv**; Sobczak, J. J.; Drenchev, L., Effect of Pressure on Solidification of Metallic Materials, *International Journal of Cast Metals Research*, 25 (1), 1-14

**Bendel, Christopher P.**; Nakano, Daniel K.; Pillen, Cornelius, On the Vanishing Ranges for Cohomology of Finite Groups of Lie Type, II, *Proceedings of Symposia in Pure Mathematics*, 86, 25-73.

**Bessert, Michael**; Glider, W.V.; Suhr, T., Locomotor Responses of Flesh Fly Larvae to Light, *Tested Studies for Laboratory Teaching* (33), 58-84.

**Little, Amanda**; Guntenspergen, G.R.; Allen, T.F.H., Wetland Vegetation

Dynamics in Response to Beaver (*Castor Canadensis*) Activity at Multiple Scales on Mount Desert Island, Maine, *EcoScience* 19 (3): 246-257.

**Little, Amanda**; Schoolmaster, D.R. Jr.; Grace, J.B.; Schweiger, E.W.; Guntenspergen, G.R.; Mitchell, B.R.; Miller, K.M., An Algorithmic and Information-Theoretic Approach to Multimetric Index Construction, *Ecological Indicators* 26, 14-23.

**Little, Amanda**; Grace, J.B.; Schoolmaster, D.R. Jr.; Pearl, J.; Guntenspergen, G.R.; Mitchell, B.R.; Miller, K.M.; Schweiger, E.W., Guidelines for Graph-theoretic Implementation of Structural Equation Modeling, *Ecosphere* 3, 1-44.

**Rhee, Jongeun**, Investigating Relationships between Adolescents' Liking for an Apparel Brand and Brand Self Congruency, *Young Consumers: Insight and Ideas for Responsible Marketers*, January, 13 (1).

### AWARDS

**Grant, Jennifer**, Front and Center, *Wisconsin Society of Science Teachers*.

**Grant, Jennifer**, UW-Stout Emerging Researcher

**Shi, Wei "Vivien,"** Edward Mikol, *American Society of Engineering Education*, North Midwest Section Conference, October, St. Cloud, Minn.

**Shi, Wei "Vivien,"** Edward Mikol Best Paper Award, Project-Based and Active Learning in Computer Engineering Education, *American Society of Engineering Education*, North Midwest Section Conference, October, St. Cloud, Minn.

**Shi, Wei "Vivien,"** Selected for prestigious Frontiers of Engineering Education Symposium as one of 72 "of the nation's most innovative, young engineering educators" with significant innovations in teaching and research, National Academy of Engineering, October, Irvine, Calif.