

StoutQuest

The Journal of Research at University of Wisconsin-Stout

2009-10



A center for
DISCOVERIES

Chancellor's message

Welcome to the fourth annual issue of StoutQuest. Inside you'll find stories about groundbreaking research and other exciting projects undertaken by students, faculty and staff at the University of Wisconsin-Stout, Wisconsin's Polytechnic University.

This publication reflects an expanding campuswide dedication to innovation through research. We are excited that the Discovery Center opened on campus last year, and impressive progress already is being made as the best minds at UW-Stout conduct applied research, work with industry to meet challenges and advance technology.

In the fall of 2009, we were proud to open the new Jarvis Hall Science Wing addition, which will greatly enhance research efforts on campus in the coming years and decades. The 91,000-square-foot addition houses state-of-the-art classrooms and laboratories. Also, an obsolete wing has been demolished, and work continues on remodeling the remaining section of the old wing. The total cost of the project is estimated at \$43.2 million.

Also in the fall of 2009, UW-Stout had more than 9,000 students enrolled for the first time. They have come from around the state, country and world to learn from our world-class faculty. UW-Stout's educational philosophy emphasizes applied learning. Students work daily with faculty and staff to conduct research, as you will see in these stories.

Enjoy StoutQuest and share it with friends and colleagues. We are pleased to show you the work being done at UW-Stout and we continue to look for new ways to inspire innovation.



Charles W. Sorensen
Chancellor

About research at 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 the spring of 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 of Wisconsin's Polytechnic University.

For more information about UW-Stout Research Services:

Research Services

152 Vocational Rehabilitation Building
University of Wisconsin-Stout
Menomonie, Wisconsin 54751

Phone: 715/232-1126

Fax: 715/232-1749

Online: www.uwstout.edu/rs/

StoutQuest

Number Three • 2009-10

Published annually by the
Provost's Office at
University of Wisconsin-Stout
Julie Furst-Bowe, Provost

Sue Foxwell, Executive Editor
and Research Administrator

Contributing Writers

Doug Mell

Jerry Poling

Claire Couillard

Hannah Flom

715/232-1126

stoutquest@uwstout.edu

Find this publication and additional information
about the scholarly activities, publications and
presentations of UW-Stout faculty and staff online at
www.uwstout.edu/rs/stoutquest.

On the cover: Clockwise from upper left, UW-Stout students in operations management traveled to Turkey to help increase productivity in a wheelchair factory; biology professor Kitrina Carlson is using two national grants to draw more students to careers in science; biology professor Michael Pickart, right, talks to Randy Hulke, director of the new campus Discovery Center, about a science experiment; art students helped design a new oxygen delivery system for infants with a rare lung disease; and the Stout Vocational Rehabilitation Institute is working on a new employment resource project for the disabled.

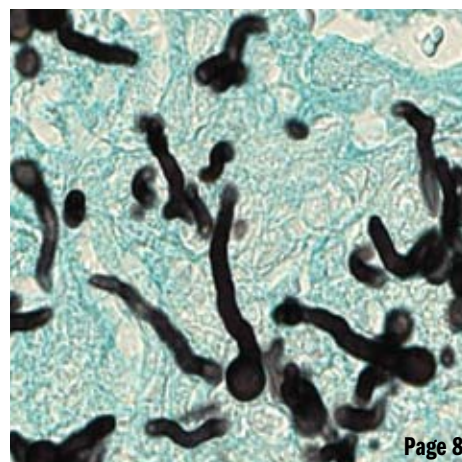


STOUT
UNIVERSITY OF WISCONSIN
WISCONSIN'S POLYTECHNIC UNIVERSITY

Contents

Contents

- 4** Discovery Center built around collaboration
- 6** NSF grants will bring more students to science
- 8** Federal funding designed to aid medical research
- 8** Polytechnic Summit returning to UW-Stout
- 9** McNair Scholars Program makes debut on campus
- 9** STEM Consortium focused on improving math, science skills
- 10** Violence Prevention Project gets new funding, leader
- 10** Grant to boost state's packaging, printing industries
- 11** Manufacturing business learns how to get lean
- 11** Project may help sick infants breathe easier
- 12** Ideas put wheelchair factory in Turkey on a roll
- 12** Students see sustainability in action in Scandinavia
- 13** Creative brush, rack, pants earn design awards
- 14** Emma Byrd scholars named; professor teaches with Twitter
- 15** Institute helping disabled find jobs; interns work with NASA
- 16** Medical supply sorting made easier; retail group earns trip to New York



New Discovery Center is built around interdisciplinary collaboration

UW-Stout's new Discovery Center, which opened in July 2009, already is solving problems through interdisciplinary collaboration. The university always has supported and valued applied research activities that bring together students, faculty and staff to work on real-world problems. That effort took a major step forward when the center opened on campus.

"What we are doing is taking applied research activities to the next level," said **Randy Hulke**, the center's executive director. "We are creating unique faculty-student research teams from diverse disciplines to respond to complex challenges."

The Discovery Center, which was opened through a generous private donation, is intended to advance UW-Stout's polytechnic focus through applied research with a commitment to quality and innovation, transformative education and interdisciplinary collaboration.

The center integrates UW-Stout's applied research strengths, its faculty, staff and students and its relationships with community and industry leaders to create collaborative partnerships. The center provides leadership for innovation-based and knowledge-driven solutions for student learning, businesses and economic development.

"Faculty work individually or in faculty-led student teams to apply their research acumen and technical skills to facilitate personal growth to advance UW-Stout's polytechnic goals and to foster economic development," Hulke added.

The center has engaged more than 250 faculty and students in more than 50 distinct projects. "These projects are tapping resources from every college on campus and connecting UW-Stout with industry and community partners," Hulke said.

Most projects focus on innovation and product development. Others include in-

dustry research and business and entrepreneur development.

The Discovery Center encompasses the collaborative applied research, technology transfer of the Stout Technology Transfer Institute-STTI and economic development assets of UW-Stout. The center focuses on three major categories of applied research activity:

- Industry-funded collaborative projects
- Publicly funded faculty and student collaborative projects
- Internally initiated faculty and student collaborative projects

Biology professor **Michael Pickart**, Ph.D., has high hopes for the Discovery Center. "I am delighted that in the short time I have been at UW-Stout we have been able to assemble this array of state-of-the-art resources and, more importantly, been able to have our students carry out faculty-led as well as contract research projects with biotechnology commercial partners. Such experiences make our students very well prepared for high-tech careers," Pickart said.

The center matches business and industry needs with expertise in UW-Stout's program areas, including plastics engineering, applied sciences, industrial design, manufacturing engineering, and food systems and technology.

Hulke said that, for example, Applied Science faculty housed in the new Jarvis Hall Science Wing have collaborated with Marshfield Clinic to provide UW-Stout researchers with tumor samples for analysis to help identify and understand cancer cells. Another project includes the development of new methods for detecting mutational changes in genomes to identify potential new drugs.

"The Discovery Center is proving to be a great model to bring students to-

"We are creating unique faculty-student research teams from diverse disciplines to respond to complex challenges."

>> Randy Hulke

gether with faculty and staff to apply our research activities in real-world settings," said Chancellor Charles W. Sorensen. "Everyone wins in this effort: our students, faculty, staff, business and industry and the public."

Hulke said that involving students in research activities will remain a priority. "Our goal is to have every undergraduate at UW-Stout have a research experience as part of their academic career," he concluded.

Right: Randy Hulke, director of the Discovery Center at UW-Stout, looked into a microscope as he learned about research being conducted by biology professor Michael Pickart in a lab at Jarvis Hall Science Wing. The Discovery Center, which opened in July 2009, already has been part of nearly 50 research projects involving 250 faculty and students.



Two NSF grants are designed to bring more students to science

Kitrina Carlson's broad vision of what could be in the world of science education goes beyond the satisfaction she gets when she sees students busy in the bright, new teaching labs and classrooms in Jarvis Hall Science Wing, which opened in the fall of 2009 at UW-Stout.

For Carlson, science can't be contained to a test tube, boxed or confined to four walls. An associate professor of biology, she sees limitless possibilities as long as students are given opportunities to learn and to take their lessons into the world. "I'm really interested in equity and access, to train students to serve the community," Carlson said.

To that end, Carlson and others are working on ways to make science more accessible via two major grants they received in 2009 from the National Science Foundation. One is a \$996,000 NSF S-STEP grant for "Portals of Discovery Program: Increasing Opportunities in STEM Through Collaborative Research." Carlson received the grant along with UW-Manitowoc instructor Rebecca Abler. The other grant is a \$567,000 NSF S-STEM award for a project that Carlson and co-grantee **Krista James**, also a UW-Stout biology instructor, call "Polytechnic Mission, Applied Science Vision."



James

Both grants aim to attract more disadvantaged young people to science. "The NSF grants are about access," Carlson said. Portals of Discovery will try to "provide a pipeline for students who don't have college on their radar" by encouraging them to study science, technology, engineering or mathematics (STEM). The grant is designed to support their pilot research collaboration between a two-year and four-year campus that integrates research into

the local high school curriculum.

The faculty and peer mentorship, in combination with applied research experiences, will support new populations of STEM students toward graduation, Carlson said.

This spring, Carlson, who has a Ph.D. in plant microbiology and pathology, will begin using the NSF S-STEP money to award five \$4,800 collaborative grants to those student-mentor teams, a secondary granting process that will continue each semester for three years.

To help facilitate the development of student-mentor research teams across the UW-System, students in a UW-Stout math class led by Terry Mason spent 1,000 hours creating an online database. It will help young researchers connect, for example, with a chemist, biostatistician or physicist.

"We want these interdisciplinary teams. The whole objective is to be collaborative," said Carlson, who along with Abler received the Regents Diversity Award in 2009 from the UW System.

Money from the other grant, "Polytechnic Mission: Applied Science Vision," also supports increased access to science education. In this grant, 10 incoming freshmen in 2010 from underrepresented racial or ethnic minority groups will receive scholarships of up to \$40,000 each over four years. The NSF S-STEM grant also will support at least 20 more current applied science students with scholarships up to \$5,000 each over the next five years.

Outside the classroom, Carlson and others are working on several new projects. They hope to develop a community greenhouse and community garden in Menomonie, the latter in conjunction with **Jake Vennie-Volrath**, a VISTA volunteer at UW-Stout. Carlson also is working on a food security network, a way to provide

access to safe, healthy, affordable food. In addition, she and James are writing a grant proposal that would tie curriculum at UW-Stout to community stakeholders.

If students and university staff can use their knowledge to make their communities a better place to live, then progress has been made, Carlson believes. "We want to find ways to maximize our resources to the best of our ability."

For Carlson, science can't be contained to a test tube, boxed or confined to four walls.



“We want to find ways to maximize our resources to the best of our ability.”

>> Kitrina Carlson

Biology professor Kitrina Carlson worked in a Jarvis Hall Science Wing biology lab with students Rahsaan Hill and Megan Morse. Carlson and others are in the process of implementing two major National Science Foundation grants, the money from which they are using to attract underrepresented populations to careers in science.



Recovery Act funding will aid medical research

UW-Stout will receive part of \$5 billion in grant awards that President Obama designated for medical research under the American Recovery and Reinvestment Act of 2009.

Associate professor of biology **Jim Burritt**, Ph.D., is part of a team researching life-threatening fungal infections of the lung. His research will be funded in part by a grant from the National Institutes of Health, which is part of the stimulus funding.

"Life-threatening fungal infections of the lung are an increasingly common problem in hospitalized patients with complex health problems," Burritt said. "In recent decades, a filamentous fungus called *Aspergillus fumigatus* has become the leading airborne fungus, causing death in patients with blood cancer and those individuals undergoing tissue or bone marrow transplants in an attempt to restore good health."

Though progress is being made, the defense mechanisms that protect humans

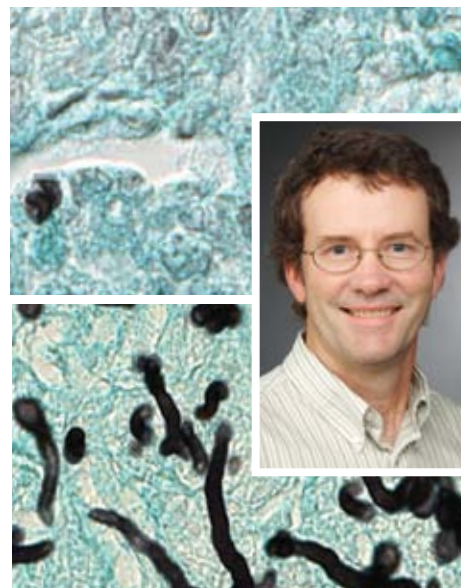
from infections caused by *A. fumigatus* are not clearly understood.

The team's long-term goal is to determine the molecular basis of resistance to *A. fumigatus*.

"The objective of our current study is to characterize the natural defense mechanisms of immune cells that kill fungi in the lung so that these same strategies might be used to reduce these devastating infections in patients at risk," Burritt said.

Right: In the top photo, black spots show a fungus that is not thriving in mouse lung tissue. In the other photo, the black streaks show the life-threatening fungus growing because the mouse has an immune deficiency. Professor Jim Burritt is doing research on the fungus with federal grant money.

UW-Stout will receive part of \$5 billion in grant awards



Second Polytechnic Summit scheduled at UW-Stout

The Polytechnic Summit is returning to UW-Stout. After the success of the inaugural summit in July 2009, a second gathering has been planned July 15-16, 2010, featuring keynote speaker Steven Webster, vice president of research and technology commercialization at 3M in the Twin Cities. He is a Massachusetts Institute of Technology graduate.

The summit brings together representatives from polytechnic universities nationwide to discuss common interests and problems and the serious issues that face higher education today.

UW-Stout staff will again coordinate the event, with assistance from Arizona State University Polytechnic; California Polytechnic State University, San Luis Obispo; the Rochester Institute of Technology; Rose-Hulman Institute of Technology; Southern Polytechnic State University; and University of South Florida Polytechnic.

Polytechnic universities blend theory with practice to produce innovative solutions to real-world problems, grow the economy and serve society. Although all polytechnics share similar characteristics, each institution has specific strengths, practices and experiences.

With input from the first summit last summer, the 2010 summit will focus on creating innovation in curriculum and applied research, building opportunities for collaboration and partnership with colleagues on research and classroom learning projects, and sharing best practices specific to active, applied learning.

UW-Stout became the latest official polytechnic university in March 2007 following a designation by the Board of Regents as Wisconsin's Polytechnic University.

Polytechnic universities blend theory with practice to produce innovative solutions to real-world problems



Above: Chancellor Charles W. Sorensen spoke at the first Polytechnic Summit in July 2009 at UW-Stout. The summit will return to campus in July of 2010.

Federal TRIO grant brings McNair Scholars Program to select juniors, seniors on campus

UW-Stout received a U.S. Department of Education Ronald E. McNair Postbaccalaureate Achievement Program (McNair Scholars Program) TRIO grant in July 2009.

The awards are granted to institutions of higher education for projects designed to provide disadvantaged college students with effective preparation for doctoral study. UW-Stout, which began the program Oct. 1, 2009, will receive \$220,000 each year during the four-year grant cycle.

Student acceptance to the prestigious program is based on specific eligibility requirements. Scholars are selected at the end of their sophomore year. The two main benefits of the program are the opportunity to conduct real research with faculty mentors and being part of a supportive learning community.

"The McNair Scholars Program is one of a kind because it's giving me so many wonderful opportunities I wouldn't be able to find elsewhere," said **Houa Lee**, part of the first group of seven scholars. "For me

to be given the chance to obtain a Ph.D. in the upcoming years was something I never expected for myself. If I could give a standing ovation to anyone, it would be to the wonderful team that is guiding me along this journey."

Scholars receive many benefits during their junior and senior years, including a paid summer research experience, tuition-waived courses and workshops, course materials, a faculty mentor, site visits to graduate schools and travel to at least one conference. Program costs are provided by the grant.

Richard Tafalla, Ph.D., is directing the program, assisted by **Susan McClelland**, coordinator, and **Beth Barone**, administrative program assistant. "McNair students become members of an elite group of national scholars who are highly sought after by graduate schools. A number of McNair graduates are now tenured faculty persons and considered influential leaders in their scholarly fields," Tafalla said.

"For me to be given the chance to obtain a Ph.D. in the upcoming years was something I never expected for myself."

>> Houa Lee



Above: UW-Stout's first McNair Scholars, first row from left, Jamal Kahn, Houa Lee and Kao Lee Yang. Second row from left, Heather Schrader, Keila Tirado, Mai Cha Lee and Rashaan Hill.

UW-Stout to help schools with math, science skills

A grant will allow UW-Stout to provide professional development to K-12 teachers to increase student achievement in math and science.

UW-Stout is the higher education partner with the Western Wisconsin STEM Consortium in a three-year project called SySTEMically Improving Students Achievement in Mathematics and Science. Announced in August 2009 by the Wisconsin Department of Public Instruction, the grant is for \$602,700 the first two years. A third year is contingent upon performance.

"Participation in this grant is consistent with our commitment to partner with school districts to improve student learning and build collaborative relationships that benefit PK-16 education," said **Mary**

Hopkins-Best, dean of the College of Education, Health and Human Services.

Members of the consortium include Western Technical College of La Crosse, several western Wisconsin business partners and nine regional school districts, led by Jerrilyn Brewer of the Sparta Area School District.

"This grant is a testament to our expertise in the area of math and science teacher education," said Chancellor **Charles W. Sorensen**.

The project is designed to improve student achievement in math and science by improving teachers' content knowledge and teaching skills in both subjects. One of the goals is to increase student achievement in the Wisconsin Knowledge Concepts exam.

The project is designed to improve student achievement in math and science by improving teachers' content knowledge and teaching skills in both subjects.

"We are excited about the opportunity to provide professional development to teachers on how to use evidence-based practices to increase student learning in mathematics and science," said **Jacalyn Weissenburger**, director of the School of Education.

Faculty participants will be **Petre Ghenciu**, **Chuck Bomar** and **Kevin Mason**.

Violence Prevention Project gets new grant, leader

The Campus Violence Prevention Project at UW-Stout has a new lease on life and a new coordinator.

A new, three-year grant cycle began Oct. 1, 2009, with \$275,000 in economic stimulus funds from the Office on Violence Against Women, a division of the U.S. Department of Justice.

The project began in 2004 with a two-year grant and was renewed in 2006. Grant money, which will be split evenly during the three years, covers salaries, educational materials – primarily targeting freshmen and transfer students – and mandated training programs for staff. The project focuses on preventing sexual assault, domestic violence and stalking.

On Feb. 1, 2010, Amy Nord took over as project coordinator. Nord previously worked at UW-Stout as a residence hall director for seven years. She has an undergraduate degree in local and urban affairs from St. Cloud State University, Minn., and is finishing work on a master's in student affairs administration from UW-La Crosse.

The project will continue to coordinate services with city and county law enforcement and other regional organizations, including Bridge to Hope, the Dunn County Sexual Assault Nurse Program, the Wisconsin Coalition Against Sexual Assault and the Dunn County Victim/Witness Assistance Program.

The project focuses on preventing sexual assault, domestic violence and stalking.

STEM professors researching packaging, printing

Rich Rothaupt, Ph.D., College of Science, Technology, Engineering and Mathematics, in 2009 received a National Science Foundation collaborative grant: Partnership for Innovation in Wisconsin's Packaging and Printing Industry.

The grant's principal investigator is Raj Veeramani, professor in the College of Engineering and the School of Business at UW-Madison. Rothaupt is a co-principal investigator.

According to Rothaupt, the grant is important for the state. "The partnership for innovation will help achieve the objective of connecting laboratory innovations to economic development in Wisconsin," he said.

The partnership includes Wisconsin packaging and printing firms, faculty, staff and students at UW-Madison, UW-Stout and Waukesha Technical College. The collaborative project is designed to foster the development of new and unique technologies to maintain the state's position as a leader in the packaging and printing industries.

The NSF grant focuses on three groups in the printing and packaging industry:

The partnership for innovation will help achieve the objective of connecting laboratory innovations to economic development in Wisconsin

special coatings; printable power systems; and sustainable or environmentally benign printing and packaging processes.

Two faculty at UW-Stout are involved with projects. Chemistry professor Forrest Schultz, Ph.D., has been working in special nano-particle coatings, which provide paper and packaging material with superior properties, such as ultraviolet protection and superior scratch resistance. In the area of printable power systems, instructor Bhaskar Gaddam is working on special printing processes for electrically conductible inks in industrial printing presses.



Above: Professor Bhaskar Gaddam demonstrated to undergraduate research assistants Hannah Motquin, left, and Wycliff Ngare, how to adjust printing pressure from plate to substrate.

Small business moves forward by going lean

When Schofield Enterprises, a family-owned business that employs 115 people in Schofield, Wis., realized it needed to improve its operations, it turned to the Enterprise Business Transformation planning process, a service available through UW-Stout's Northwest Wisconsin Manufacturing Outreach Center.

The result: Schofield Enterprises cut costs by \$200,000 a year, avoided \$80,000 in unnecessary investments, cut lead time by 50 percent and projected a \$2 million increase in annual sales.

NWMOC project managers **Brad Nasset** and **Bill Amsrud** led Schofield Enterprises through the three-day EBT process to define strategic goals and develop implementation strategies. Lean manufacturing principles, Value Stream Mapping and other tactical programs then were implemented in the plant and office. The company

quickly saw the benefits of the changes, one of which reduced travel of product parts on the floor by more than half.

Schofield, which makes electrical wire harnesses, battery cables and assemblies, continues to become leaner, making customers happier. "When I visit customers and mention that we employ lean manufacturing techniques, their eyes light up," said company Vice President Shawn Feirn.

EBT is "strategic planning, but it's tying financial goals to the strategic plan" and using industry averages as a benchmark, said **Larry Blackledge**, NWMOC director.

The NWMOC, in UW-Stout's Discovery Center, is part of the National Institute of Standards and Technology and the Manufacturing Extension Partnership (NIST/MEP).

"When I visit customers and mention that we employ lean manufacturing techniques, their eyes light up."

>> **Shawn Feirn,**
Schofield Vice President



Project may help sick children breathe easier

Eight students majoring in art with a concentration in industrial design are participating in a collaborative project with the nonprofit organization DesignWise Medical and the School of Engineering at the University of St. Thomas, both in Minneapolis.

The project, Overnight Pediatric Oxygen Delivery System, or OPOD, is designed to address problems relating to a group of rare lung diseases called Children's Interstitial Lung Disease, or chILD.

Ann Gettys, founder of the chILD Foundation, originated the idea of OPOD to deliver oxygen to children in a less obtrusive manner. Children from birth to age six receive oxygen through the use of a hood while they sleep. Current methods use hoses taped to the children's faces or a mask strapped to a sleeping child.

Gettys began working with engineering students at St. Thomas in 2008. In 2009,

UW-Stout was invited to participate by Brad Slaker, founder of DesignWise Medical, after he visited a senior design show.

UW-Stout students **Linnea Longborg**, **Hans Neilsen**, **Steve Lambert**, **Grayson Smith**, **Jennifer Seward**, **Jenny Byrd**, **Ben Heard** and **Dave Keyes** worked on the project in Human Interface and Interaction taught by **Noah Norton**, UW-Stout assistant professor of industrial design.

Completed prototypes are being considered for further refinement, but Norton believes the product will go to production and be on the market.

Children from birth to age six receive oxygen through the use of a hood while they sleep.



Right: Hoods were developed by art students helped to deliver oxygen to infants who suffer from a rare lung disease. UW-Stout worked with DesignWise Medical, a nonprofit organization from Minneapolis.

Fresh ideas put wheelchair factory on a roll

In January 2009, **Thomas Lacksonen**, Ph.D., a UW-Stout professor in operations and management, traveled to Ankara, Turkey, with three students from his Lean Manufacturing Systems class.

The previous fall, the class worked on an applied research project to design a new layout, process and system for Kifas Ortopedik, a small wheelchair manufacturing plant. Students designed new systems for the factory and partnered with Turkish engineering students at Baskent University.

The students who volunteered to travel to Turkey during their winter break to implement the new systems put theory into practice by rearranging the layout of the plant for lean manufacturing. In addition, they upgraded machinery by discarding old saws and cutters and replacing them with current models.

The factory is producing more wheelchairs now than ever before, thanks to

Three students volunteered to travel to Turkey during their winter break to implement the new systems.

students from UW-Stout, Lacksonen said.

Lacksonen said the biggest challenge in Turkey was collaborating with international workers, whose management and leadership styles are much different than those of workers in the United States.

"The Turkish workers need strong leaders and managers, but we needed them to work as a team," Lacksonen said. "The hardest part was getting the workers to communicate with each other."



Above: UW-Stout students Scott Ward and Jason Statz, with a translator and another customer, selected production equipment from a local vendor in Ankara, Turkey.

New course highlights sustainability in Scandinavia

Students in art, industrial design, engineering and manufacturing technologies have a unique opportunity to understand and incorporate sustainability with a new course, Global Sustainability.

The course, taught by **Jennifer Astwood**, an art and design professor, and **Ronald Scozzari**, an engineering and technology professor, explores sustainable practices in Scandinavia through research, implementation and a spring break field trip. Students are exposed to methods of leaders in sustainability and alternative business and manufacturing, which are reinforced by visits to manufacturing facilities, design firms and design and art museums in Denmark and Sweden.

The course explores sustainability within the manufacturing and design context. "We live in a global economy, and in this course students will learn tools to create a positive impact on our society," Astwood said.

"We live in a global economy, and in this course students will learn tools to create a positive impact on our society."

>> Jennifer Astwood

Below: UW-Stout students toured ENA Energi in Enköping, Sweden, as part of their Global Sustainability course.



University research news

Students take first, second in national design competition

Oriana Zens of Dalton, Minn., cleaned up on the competition in a national design contest sponsored by simplehuman, a product design company from Torrance, Calif.

Zens, who graduated in May 2009 in fine arts, took first among 200 entries with a toilet brush that features stiffer and longer bristles to clean further into the toilet and a holder that has a no-drip scoop and flat bottom. The holder hangs on the tank for convenient storage.

Senior Justin Wolfe of Menomonie, Wis., from the same industrial design class as Zens, placed second. He designed an in-drawer organizer that attaches to a dish rack and features a stain-



Above: An innovative toilet brush earned 2009 graduate Oriana Zens first place in a product design contest.



Left: Justin Wolf designed an in-drawer utensil organizer.



Zens



Wolfe

less steel rack and plastic drip tray, the latter which allow utensils to dry even when in the drawer. The faculty adviser was Jennifer Astwood, an assistant professor of art and design.

Students win safety products design challenge with Suspension Pants

Five students in the Functional Clothing Design class have developed a product that will help eliminate suspension trauma for construction industry workers.

Their design, Suspension Pants, earned them first place in the 2009 Safety Products Student Design Challenge, sponsored by the Industrial Fabrics Association International and the Narrow Fabrics Institute.

The students, who are studying apparel design and development, are Amyanne Alderete of Minneapolis, Deanna Badman of Lake Elmo, Minn., Stephanie Fitzgerald of Winfield, Ill., Sarah Lafata of Roselle, Ill., and Laura Schannach of Eagan, Minn.

Another UW-Stout team placed third. The students designed a coat with a flotation system for commercial fishermen.

The faculty adviser was Gindy Neidermyer, Ph.D., an associate professor of apparel and communication technology.



Above: Five students who designed a product called Suspension Pants, shown on a model above, took first place in a 2009 national Safety Products Student Design Challenge. They are, from left, Laura Schannach, Amyanne Alderete, Sarah Lafata, Deanna Badman and Stephanie Fitzgerald.

University research news

ARC provides benchmarking, analysis and evaluation

Specializing in providing educational institutions and nonprofits with benchmarking, analysis and evaluation services for decision-making, the UW-Stout Applied Research Center may be the only one of its kind in the nation.

Institutions often need comparative data to evaluate how they are doing, but most don't have the tools to get that data, according to ARC staff. Furthermore, most institutions have limited research staff and often can't perform studies and analyses requested by administration. ARC offers a solution to these problems with a staff that has training in research and evaluation.

ARC has benchmarking surveys to address topics that are getting national attention, including alumni satisfaction, ubiquitous computing programs, internal communications and student exit data.



Graduate students awarded education scholarships

UW-Stout graduate students **Amnesty Kochanowski** of Junction City, Wis., and **Tyler Murphy** of Plainview, Minn., each were awarded a \$10,000 Erma Byrd Scholarship in fall 2009 from the U.S. Department of Education.

Kochanowski has worked for the National Park Service as part of the Student Career Employment program and hopes to become an occupational health and safety manager for a western national park. Murphy also plans to pursue a career in the risk control/safety field. Both plan to graduate in May 2010.

Brian Finder, Ph.D., the M.S. Risk Control program director, affirmed the quality of these two individuals and indicated that job placement after graduation for risk control/safety professionals has been relatively strong, even during the recent recession.



Above: Students Tyler Murphy and Amnesty Kochanowski each received \$10,000 Emma Byrd Scholarships in fall 2009.



Pignetti

Professor uses Twitter to help teach writing

Freshmen in assistant professor Daisy Pignetti's English 101 class are required to sign up for Twitter, a social network site that lets users post 140-character tweets, or messages.

Pignetti requires students to journal at least 100 Twitter entries. "The more students write, the more they will grow as writers," said Pignetti, who presented "What are you doing? Teaching with Twitter?" at the National Conference on College Composition and Communication in San Francisco.

At the end of the term as their final essay exam, students write a short technology literacy autobiography using their Twitter timeline.

In fall 2010, Pignetti plans to use Twitter as part of a learning community focusing on the Google Generation, or students born post-1993.



Grant awarded to attend conference

In April 2010, nine UW-Stout students will travel to the Global Retailing Conference at the University of Arizona, thanks to a \$5,000 Target Campus Grant provided by Target Corp.

Nancy Murray, Ph.D., associate professor in the business department, will lead the students, who are all executive board members of the Stout Retail Association, a student professional organization.

At the conference, leaders of major retailers will present how increased competitive demands in innovation will require sustainable strategies to stay ahead of the competition. Students will have the opportunity to network with company leaders and attendees.



Above: UW-Stout students and their adviser attended the 2009 Global Retailing Conference in Tucson, Ariz. From left, Professor Nancy Murray, Amy Kolias, Rustie Johnson, Chelsea Ademino, Saks CEO Stephen Sadove, Nicole Fortuna, Lindsey Dix, Nicole Olynyk and Chantel Eischen.

University research news



Hamilton

Vocational rehabilitation professor receives Hoffman award

Michelle Hamilton, associate professor in rehabilitation and counseling, has received the Vocational Evaluation and Work Adjustment Association 2009 Paul R. Hoffman Award. The award recognizes innovation and creativity in service to persons with disabilities.

"I am greatly honored and humbled," Hamilton said. "Paul Hoffman was a pioneer and visionary who was largely responsible for the creation of the Master of Science degree program in Vocational Rehabilitation at UW-Stout. I am honored to carry on Paul's vision."

Hamilton, Ph.D., directs the graduate vocational rehabilitation program and has received two outstanding teaching awards. She graduated from UW-Stout's Master of Science degree program in Vocational Rehabilitation and has taught at the university since 1999.



Asthana

Professor named Fellow of the American Society for Materials

Rajiv Asthana, Ph.D., professor in engineering and technology, has been elected as a Fellow of the American Society for Materials, ASM International, for his contributions to cast composites and ceramic-metal joining.

The honor recognizes members for their distinguished contributions to materials science and engineering and to develop a broad-based forum of technical and professional leaders to serve as advisers to the professional society.

Asthana started work on cast composites in 1983 at India's Council of Scientific and Industrial Research and spent four years at the NASA Glenn Research Center in the early 1990s.

His continued collaboration with NASA researchers has opened research opportunities for UW-Stout students.

SVRI, UW-Madison work to PERC up job market

The UW-Stout Vocational Rehabilitation Institute is in the second phase of developing the Paths to Employment Resource Center — PERC, a project with UW-Madison and Employment Resource, Inc.

PERC aims to provide training and technical assistance to key stakeholders, with the purpose of improving integrated employment outcomes for people with disabilities.

SVRI, a premier teaching rehabilitation facility, provides research, training and such clinical services as assistive technology, evaluation, transition and employment services for individuals with disabilities.

SVRI's uniqueness lies in its applied learning function for undergraduate and graduate students and practitioners around the world.



Student interns help NASA reach new research heights

Two students helped NASA develop energy-efficient and environmentally friendly subsonic gas turbine engines while on a 10-week internship in 2009.

Cassandra Baer, an engineering technology major from Dairyland, Wis., and Bryan Coddington, a manufacturing engineering major from Menomonie, Wis., worked at the NASA Glenn Research Center in Cleveland last summer.

They researched joining ceramics to metals to be used at high temperatures and explored creative approaches to lessen residual stresses in joints. While helping NASA tackle the manufacturing problem, the students used chemistry, materials science and engineering they learned in their college courses.

Baer and Coddington plan to return to NASA in summer 2010 to continue their research.



University research news

Business students place in national sales competition

UW-Stout students **Emily Moe**, from Superior, Wis., and **Chris Hale**, from Savage, Minn., placed fourth and sixth, respectively, in their quarterfinal division of the National Collegiate Sales Competition held March 5-8 at Kennesaw State University in Kennesaw, Ga.

As a result, UW-Stout finished 22nd among more than 60 universities in the 12th annual event, a role-playing competition among students who hope to pursue a career in professional sales.

"I expect next year's team will be even stronger based on the success of this year's team," said **Jerry Kollross**, a business lecturer, pointing out that UW-Stout likely will get a better seed in the 2011 event.

Bowling Green State University from Bowling Green, Ohio, was the team champion.

Hale, a senior business administration major, plans to graduate this year and has accepted a job offer from a financial services firm. Moe, a junior business administration major, accepted an internship while at the Georgia event, Kollross said.

Nearly 30 corporations, including some Fortune 500 firms, were at the competition to recruit students for jobs and internships.



From left, faculty adviser Jerry Kollross and students Emily Moe and Chris Hale attended the National Collegiate Sales Competition in Georgia. Strong presentations by Moe and Hale helped UW-Stout finish 22nd among more than 60 universities.

Grad student designs system to sort medical supplies

Beth Meyers integrated her training as a nurse with her graduate studies at UW-Stout to benefit a nonprofit organization.

Meyers, who studied technology management before graduating in spring 2009, worked with Hope for the City, Minnetonka, Minn., to design a system to sort donated medical supplies so the system can be run by volunteers who have no medical training.

The system trains volunteers how to keep items sterile, to look for expiration dates, to know which items to discard and how to sort items by categories.

Hope for the City was established to fight poverty, hunger and disease by using corporate surplus.

Thirty students present papers at national conference

UW-Stout was well-represented from April 15-17 in Missoula, Mont., at the National Council on Undergraduate Research conference. A total of 33 students had their research papers accepted for presentations, and 30 attended.

Along with faculty advisers **Susan Wolfgram**, Ph.D., associate professor of human development and family studies, and **John Kirk**, Ph.D., assistant professor of chemistry, attending the conference were the following students:

Daniel Kretzschmar, **Caitlin Gaffney**, **Kue Xiong**, **David Westmark**, **Michael Keenan**, **Elizabeth Fisk**, **Camille Thorson**, **Ashley Dillon**, **Jack Stransky**, **Rahsaan Hill**, **Benjamin DeMuth**, **Martha Fagan**, **Tarisa Helin**, **Candice Maier**, **Emma Jo Severson**, **Julie Johnson**, **Courtney Hendrickson**, **Krista Lau**, **Andrea Nesbitt**, **Cami Polfuss**, **Adam Kaiser**, **Alyssa Zander**, **Brittany Antolik**, **Meghan Lehman**, **Megan Thornwall**, **September Barebo**, **Marie Walters**, **Kelsey Siverling**, **Katie Borschke** and **Robert Jones**.

Competitive class project leads to Target grant trip

Adel Mekraz, assistant professor in the Retail Merchandising and Management program, last year presented students in his Store Management class with the Target Corp. case study, "Staffing Our Stores." Target was looking for original ideas that it could use to attract graduates to careers at Target.

Students in Mekraz's class were divided into groups and competed against each other, with the top three teams advancing and presenting their ideas to Target executives. Four winning team members each were granted a \$1,000 Target Corp. grant to travel to the National Retail Federation Conference in January 2010.



From left, Nicole Olynyk, Professor Adel Mekraz, Allison Marshall, Katie Sinnett and Lindsey Dirtzu attended the 2010 National Retail Federation Conference at the Jacob K. Javits Convention Center in New York.