

Winter 2008

## CNS Connections, Winter 2008-09

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# *CNS Connections*

## University of Northern Iowa



The updated and improved UNI Botanical Center

Newsletter of the UNI College of Natural Sciences

Winter 2008-09



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# Message from the Dean

**I**t seems just a short time since I last had the opportunity to write to you about our work in the College of Natural Sciences at UNI. It is such a pleasure to work with the outstanding students and faculty here!

As a state-supported comprehensive institution, we take great pride in responding to Iowa's needs. Of course, the most important way that we do this is by offering an affordable, high-quality education for our students. More than 90 percent of UNI students come from Iowa, and 70 percent of our graduates are first employed in Iowa after graduation. We believe that our courses in the Liberal Arts Core, providing general education in the sciences, technology and mathematics, have never been more important. Issues such as global warming, STEM (Science, Technology, Engineering and Mathematics) education, flood recovery, nanoscience and nanotechnology, and groundwater protection have become more critical in Iowa and across the country. Without an understanding of the science and technology, the political discussions and ultimate decisions are groundless. More and more information is presented in the media in quantitative forms. We must be able to read such material with comprehension and discernment, evaluating others' interpretation of quantitative information.

Almost one fourth of the teachers in Iowa are UNI graduates. Teacher education is a preeminent mission of UNI, and CNS provides important preparation for all the elementary education majors and for the secondary education majors in the STEM disciplines. One focus of the state this past year has been mathematics and science education. UNI was asked to lead a cooperative initiative of the three state Regents institutions, forming the Iowa Mathematics and Science Education Partnership. I invite you to read more about IMSEP elsewhere in this issue.

Finally, but no less important, is the work we do to prepare students in our disciplinary programs. This fall, UNI enrolled 37 more undergraduate students than last year, while CNS has 39 more undergraduate majors than last year. Many of our students receive individual attention from faculty members, working side by side on research projects. We are eager to recruit students to the majors in the College because we know that our alumni are successful. Our graduate programs, including our large programs in science education and mathematics education, and the innovative professional science master's programs (again, see the article in this issue), assist those enrolled to be more effective professionally.

In addition to the education of our students in the classroom and laboratories, our faculty assist regional industries. We continue to participate in state initiatives and with state agencies, such as the Iowa Power Fund, the Iowa Values Fund, Iowa Workforce Development, the Department of Economic Development, the Department of Natural Resources, and the Department of Education, to name just a few. In every case, we seek to involve students to respond to Iowa's needs.

Finding resources for our work continues to be a major focus for me. We can continue to succeed only if we have the resources required to carry out our mission. Fortunately, the state of Iowa has recognized the importance of UNI through its increased appropriations this past year, and students continue to recognize the value of their education at UNI by their attendance and tuition dollars. Our faculty members have aggressively pursued private and public funding for their programs and their students, and we have many generous private donors who have confidence that we will spend their contributions wisely. (If you are among them, thank you so much for your gifts. Imagine the impact if everyone were able and willing to contribute!)

We would enjoy seeing you and talking with you. If you can visit campus, please do stop in to say hello. If someone here at UNI has made a significant difference in your life, send her or him a note to say so. E-mail addresses are available through the directory feature of [www.uni.edu](http://www.uni.edu). While visiting the UNI Web site, please also check on your College at [www.cns.uni.edu](http://www.cns.uni.edu).



Joel Haack

*Joel K Haack*  
Joel K. Haack




# UNI Botanical Center celebrates birthday, new name and addition

A new name, a new addition and a 70th birthday made for quite a celebration at the open house of the UNI Botanical Center, formerly known as the Greenhouse, in April. The festivities were open to the public, and almost 100 people attended.


The most recent renovations added 1,000 square feet to the facility and include a new research classroom, a research greenhouse, new mechanicals, new benches to hold the plants, and a head house, providing potting space and supporting work space for students and staff. "These renovations provide much needed new space for students, faculty and staff," said Kavita Dhanwada, interim head of the Biology Department at the time of the open house.

A brief program during the open house featured remarks by UNI President Ben Allen, CNS Dean Joel Haack, Jean Gerrath, professor of biology, and several former UNI students for whom the Botanical Center was especially important.

The Botanical Center evolved from



Price Lab School students check out the insect-eating plants in the Botanical Center's bog.



The "carrion flower" (shown here in bud form) of the *Stapelia gigantea*, native to South Africa, has an odor similar to rotting meat, attracting flies, which pollinate it. The plant is a favorite teaching example of biology faculty.


classes, according to Billie Hemmer, manager of the Center. In recent years its role has expanded to include public outreach, and in recognition of its expanded mission, the Greenhouse was renamed the UNI Botanical Center.

The Center was featured in the summer 2007 issue of *Plant Science Bulletin*, a national journal published by the Botanical Society of America. The journal's editor, Marshall Sundberg, said the UNI Botanical Center, which he called a gem, "has grown in stages but always with the mission of showcasing plant diversity while providing space for students and faculty research." He noted that UNI has done a particularly good job of involving students in the operation.

Gerrath, who wrote the article about the history of the Botanical Center, gives much of the credit to Ron Camarata, who served as greenhouse manager from 1968 to 2002, for the survival and success of the facility, particularly when funding was tight during the 1980s. He was also instrumental in expanding the role and importance of the Center through initiating greenhouse internships and supporting the student Botany Club.

"The UNI Botanical Center and greenhouses are a wonderful place to visit, full of enthusiastic, dedicated staff and students, and combining the ambience of a conservatory with a high quality plant collection," she said.

"We invite the public to enjoy our beautiful plant displays in our expanded and updated facilities at the UNI Botanical Center," Dhanwada added.



Visitors tour the Botanical Center's aquatic room during the open house.

a greenhouse in 1938, which served the science department and as a headquarters for the groundskeepers, to a complex that today includes 8,000 square feet of greenhouse space, cold storage facilities, a garage, biotechnology research lab, a botany classroom, offices and a plant teaching collection of more than 800 different species and varieties of plants.

The primary role of the facility has been to acquire and maintain a diverse and large plant collection for use in biology



# Hydrology lab opens in fall 2008

Students studying hydrology in the Department of Earth Science this fall are experiencing a new dimension in their work, thanks to a grant of nearly \$158,000 from the Roy J. Carver Charitable Trust. The grant was used to create a hydrology laboratory in Latham Hall 123, including renovation of the space, specialized lab equipment, computers and other classroom equipment.

"This is a great addition to the department and to the College," said Mohammad Iqbal, professor of geology and environmental science. "The hydrology lab will facilitate experiential learning opportunities in the water sciences."

The lab is used by undergraduates taking Introduction to Geology, upper division and graduate students taking Environmental Hydrology and Hydrogeology, and graduate students taking Global Systems as part of the master's degree program in environmental science.

As water quality issues continue to have a high priority in the state and in the Midwest, it is important for students to understand how water becomes polluted—the role of agricultural fertilizers, pesticides and herbicides, as well as siltation. "Having access to the hydrology laboratory and its sophisticated equipment will help students develop the important analytical skills necessary to that understanding," Iqbal said.

The lab also provides graduate and undergraduate students with research opportunities on diverse water quality issues. Collaborations with faculty help students to develop research and critical thinking skills. "Students gain an understanding of how science processes actually work and impact our water environment," Iqbal noted.

Once students have acquired analytical and critical thinking skills and have some familiarity with research methodology, they can understand how field and laboratory



Graduate students in the hydrology lab conduct hands-on activities to better understand water quality issues.

*"Having access to the hydrology laboratory and its sophisticated equipment will help students develop the important analytical skills necessary to understanding how water becomes polluted."*

—Mohammad Iqbal



research data are used to formulate and implement public policy changes.

Iqbal hopes to make the laboratory available to faculty and students in other CNS departments who are interested in interdisciplinary research related to water quality. "This Carver grant has enabled us to enhance our hydrology program in Earth Science and benefits other programs in the College as well," Iqbal said.

# Fahmy's final year as head of IT exceptional

The 2007-08 academic year in the Department of Industrial Technology was a fitting coda, in terms of grants awarded and program evaluations, to the 19 years that Mohammed Fahmy spent as head of the department. The department took in almost \$1.5 million in grants and testing contracts, and all of its undergraduate programs were either re-accredited by the National Association of Industrial Technology (NAIT) or were positively reviewed by an external team.

"This is a great testimony to our department and the strength of our programs," Fahmy noted. "Our programs are recognized nationally because we continuously update our curricula to include the latest developments in the field, we have forged strong industrial partnerships over the years, and our faculty and staff are exceptionally dedicated."

NAIT evaluated four of the department's programs: construction management, graphic communications, manufacturing technology (with options in automation and production, design and metal casting) and technology management. The visiting team recommended that all four programs be re-accredited for a third six-year period. The department was in full compliance with 63 of the 66 standards and in partial compliance with the remaining three standards. "This was the best rating the department has ever had," Fahmy said.



"The department's greatest strength is its faculty and staff and their dedication to serving our student population."

—Mohammed Fahmy

Two teams of external reviewers evaluated the two programs not included in the NAIT review: electrical and information engineering technology, and technology education and training. The reviewers, from nationally recognized programs at other universities, found both programs to be solid and academically sound.

Faculty in the department were especially successful this past academic year in securing grants from federal, state and internal sources. "The total dollar amount—almost \$1.3 million—has grown perhaps 10 times the annual amount secured 20 years ago," Fahmy said. In addition, another \$180,000 resulted from contract fees for applied research and testing.

Looking back on his 19 years as department head, Fahmy noted the pioneering effort that the department, particularly faculty member Charles Johnson, made in developing an articulation process with all Iowa community colleges. Over 327 program-to-program articulation agreements have been made with all 15 Iowa community colleges. "Not only other departments at UNI, but many other institutions are modeling the process we developed," Fahmy pointed out.

Perhaps the greatest source of pride for Fahmy was creating an atmosphere in the department conducive to hard work, where the efforts and achievements of everyone—faculty, staff, students—are recognized, and all are encouraged and given an opportunity to do their best work. "The department's greatest strength is its faculty and staff and their dedication to serving our student population," Fahmy summed up.





# CNS News in Short

■ The Iowa Recycling Association (IRA) awarded the Recycling and Reuse Technology Transfer Center, Green Project UNI and Campus Services at UNI the best new/expanded campus recycling program of the year. The award was presented at the IRA/Iowa Society of Solid Waste Operations annual conference in Coralville in October 2007.

■ Peter Berendzen, assistant professor of biology, traveled to Ethiopia in the spring of 2008 to collect freshwater fishes with the Joint Ethiopian and Russian Biological Expedition. He and a Russian colleague are investigating the reduction of the dorsal fin spine in the small barb fish species *Barbus paludinosus*.

■ CNS computer science alumni were well represented at the 2008 Prometheus Awards, which recognize the outstanding contributions of innovative individuals and technology companies in Iowa. Computer science alumni played a role in IT Service Provider of the Year, Software Company of the Year (small company category) and Top Growth Company of the Year (small/medium).

■ The Sustainable Energy Education and Training (SEET) workshop, developed in part by CNS faculty to prepare energy and environmental technicians to meet the challenges of sustainable energy in the 21st century workplace, was held at the National Renewable Energy Lab in Golden, Colo., in July. The SEET workshop is similar in format to the ATEEC (Advanced Technology Environmental Education Center) workshop, held at UNI since 1994 and in Alaska the past two summers, but focuses on sustainable energy rather than environmental technologies.

■ A \$590,000 grant from the National Science Foundation is providing \$7,000 scholarships for low-income students majoring in mathematical, computational and physical science fields. Seven students were awarded the renewable scholarships in fall 2008. The grant also covers costs associated with student research.

■ The covered walkway linking Begeman and Lang halls was dedicated as the Intemann Walkway on April 18 in honor of Gerald Intemann, former CNS dean and former head of the Physics Department at UNI. Intemann, now provost and vice president for academic affairs at Indiana University of Pennsylvania, was the guest of honor at the ribbon-cutting ceremony.



Former CNS dean Gerald Intemann cuts the ribbon at the dedication of the walkway linking Begeman and Lang halls. Provost James Lubker looks on.

■ Paul Gray, associate professor of computer science, recently deployed a 15-terabyte storage array, one of the largest-capacity storage units at any of the Regents universities, for support of the department's supercomputer cluster.

■ Dave Peters, president of Peters Construction, presented \$4,375 on behalf of the Master Builders of Iowa to the Department of Industrial Technology's construction management program. Peters is a past president of MBI and an adjunct instructor in the construction management program.

■ Faculty in Physics (Cliff Chancey, Larry Escalada and Tim Kidd), Chemistry and Biochemistry (Laura Strauss) and Biology (Michael Walter) presented a four-day Nanoscience Workshop for Teachers during the summer, part of a National Science Foundation-funded project to promote nanoscience education in Iowa secondary schools. Science Education alumnus Matt Harding also taught and presented at the workshop.

■ Engaging Iowa in Science and Mathematics, a Congressionally directed grant of more than \$150,000, awarded to Bill Harwood, head of Chemistry and Biochemistry, and Cherin Lee, chair of Science Education, enabled the College to offer two science/math camps for students in grades 5-8 during summer 2008; funds a Peer

Led Teaching program that supports student teaching experiences and student learning in general chemistry; and supports the purchase of additional science kits for classrooms, update conferences for science teachers and Citizen Science presentations for the general public.

■ Guang Jin and Zifan Ju, both graduates of the UNI doctor of industrial technology program and now employed by John Deere, have created a faculty award and scholarship fund with a recent \$10,000 gift to the UNI Foundation.



Dave Peters, president of Peters Construction, presents a check on behalf of Master Builders of Iowa to Mohammed Fahmy for UNI's construction management program, as Steve Egger, Shahram VarzaVand and Md Salim look on.

## Recognition

- **Erin Stoss**, a biochemistry major, won the 2008 CNS Dean's Award for Superior Achievement by a Student.
- Graphic communications students won the Silver Star for the newsletter at the 2007 American Advertising Federation-Cedar Valley Addy Awards in Waterloo and the Silver Medal for the newsletter at the 2007 Printing Industries of America/Graphic Arts Technical Foundation in Des Moines.
- A team of computer science students placed second in the High-Performance Computing programming competition at the SuperComputing 2007 conference in Reno, Nev., in November. Senior **Kristina Wanous** received an honorable mention in the Computing Research Association's Outstanding Undergraduate Award competition for 2008.
- Physics major **Eddie Maldonado** received the Dr. Robert M. Panoff Student Award for Explorations in Science Through Computation in Reno, Nev., in November. The award recognizes outstanding accomplishments in the applications of computational science among high school, undergraduate and graduate students.
- A team of seven industrial technology students won fourth place in a national robotics competition at the annual conference of the National Association of Industrial Technology in October 2007. The students designed and created a robot manipulator capable of finding a magnet buried in sand.

- Computer science students came in first at the second annual National Cyber Defense Competition at Iowa State University in February. Teams were required to set up business-scale computer services and then defend their networks against groups of hackers.

- **Alexa Warwick**, a triple major in biology, Spanish and Portuguese, was awarded the prestigious Goldwater Scholarship. She was one of 321 winners chosen from a field of 1,035 mathematics, science and engineering



Alexa Warwick



Samantha Enabnit

students nominated by the faculties of colleges and universities nationwide. Biology major **Samantha Enabnit** received an honorable mention.

- **Bree McClenning**, a geology and earth science major, received the Unsung Hero Award, which recognizes students for leadership in an organization. McClenning is a member of Sigma Gamma Epsilon, the national honor society for the earth sciences.

- **Lipin Loo**, a biotechnology-honors research major, and **Kelly Valentin**, a biology major, received the UNI Lux Service Award for best representing the ideal of service to the university community.

- At the Foundry Education Foundation 60th annual College Industry Conference in Chicago in November 2007, **Jeff Beuthien** was awarded the \$2,000 John Deere scholarship, **Ian Williams**, the \$1,500 John Svoboda Memorial Scholarship, and **Nathaniel James**, the \$2,500 Keith D. Millis Scholarship. **Paul Clements** and **Tyler Schneiter** accompanied the scholarship winners on the all-expense-paid trip to the Drake Hotel that featured a career fair. **Brodie Beirsner** and **Steve Schilling** both were awarded a \$1,000 scholarship by the American Foundry Society Twin City Chapter in November.



Lipin Loo



Kelly Valentin



At the Foundry Education Foundation College Industry Conference: (top, l.-r.) Paul Clements, Jeff Beuthien, Ian Williams; (bottom, l.-r.) Scott Giese, Tyler Schneiter



■ The Solar Panthers, the Department of Industrial Technology's solar electric boat team, placed fourth overall at the 15th annual Solar Splash, the world championship solar electric boat competition held in Fayetteville, Ark., in June. The team also won first place for outstanding solar power system design and first place for best visual display.



UNI's solar electric boat team placed fourth overall at the 15th annual Solar Splash.

■ Computer science and finance major **Ben Frein's** company, E-Holdings LLC, was one of five winners of the 2008 Pappajohn New Venture Business Plan Competition. E-Holdings develops software and online applications for public and private use. Frein was also one of 25 finalists selected to compete for \$100,000 in cash, prizes and service at the Global Finals for the Global Student Entrepreneur Awards (GSEA) in Chicago in November. GSEA recognizes the world's top undergraduate student entrepreneurs. **Frein** and **Rob Holsinger**, a technology management major, were among the eight UNI students chosen to attend the 2008 Okoboji Entrepreneurial Institute in August.

■ **Adam Lee**, a geology major, was lead author for a poster that received Best Poster Award at the UNI 2008 Sigma Xi Student Research Conference in April.

■ UNI's American Chemical Society student affiliate group and the Department of Chemistry and Biochemistry sent 16 students to present posters of their research at the 2008 ACS national meeting in New Orleans in April.

■ Physics majors **Matt Karl** and **Eddie Maldonado** received a silver medal in the 500 Gram Autonomous Sumo Category competition at Robogames 2008 in San Francisco in June.

■ The first recipients of the FINE (First in the Nation) Foundation Middle Grades Mathematics Teachers Graduate Tuition Scholarship are



FINE Foundation scholarship winners Tricia Mayer (left) and Rose Oswald

**Rose Oswald**, fifth grade teacher at St. Anthony in Dubuque, and **Tricia Mayer**, seventh and eighth grade math educator at St. Edward's in Waterloo. The \$1,000 scholarships are for inservice Iowa educators enrolled in UNI's mathematics education master's program. The scholarship continues FINE's Applying Research Results in Classrooms program. The Foundation ceased to exist in 2007.

■ **Nick Sibenaller**, a statistics and actuarial science/economics major, became a student admissions ambassador in spring 2008, joining SAA members **Adam Burns**, a mathematics teaching major, and **Erin Conrad**, a statistics and actuarial science major.

■ **Nathaniel James**, a manufacturing technology major, was awarded the David Laine Scholarship from the North American Die Casting Association in October.

### Research/projects

■ Eleven CNS students presented their research in poster format at Research at the Capitol in Des Moines, a collaborative effort of the honors programs of the Regents universities, in March.

■ Six CNS Honors students presented their research at the Honors Research Conference as part of UNI's first Honors Week celebration in April.

■ Biology undergraduate majors **Kathryn Berge**, **Alexandra DeWitt** and **Alexa Warwick** and biology graduate student **Jason Dugan** presented posters of the research they did in Peter Berendzen's lab at the annual Evolution meetings in Minneapolis in June.

■ Physics undergraduate majors **Brett Gamb**, **Craig Pawlak**, **Justin Bohnet**, **Daniel Eivens**, **Jenah Harris**, **Gary Yost**, **Eddie Maldonado** and **Matt Karl** presented talks on their research projects at the 18th annual Argonne Symposium for Undergraduates in Science, Engineering and Mathematics at Argonne National Lab in November 2007.

■ Physics major **Matthew J. Connolly** presented the research talk "Molecular Dynamics Simulations of Hexane on Graphite at Various Coverages: The Difference that Explicit Hydrogens Make," at the March meeting of the American Physical Society in New Orleans.

■ Mathematics major **Ehrich Pakala** completed a 10-week Biomedical Summer Undergraduate Research Experience for nonbiology majors at the University of Texas Health Science Center at San Antonio in 2008.

# Applause

**Fred Behrozi (Physics)** is serving as president of Central States Universities, Inc. **Ed Brown (Biology)** was appointed a member of the Nutrient Science Advisory Group for the state of Iowa.

**John Bumpus (Chemistry and Biochemistry)**, selected as a Carver Fellow, participated in the 2008 Carver Graduate Education Summer Institute.

**Cliff Chancey (Physics)** is serving on the board of Sigma Xi: The Scientific Research Society as director for comprehensive colleges and universities.

**Tim Cooney (Earth Science)** is co-author of *California Science—See Learning in a Whole New Light*, a series of seven textbooks and 14 teacher's guides published by Scott Foresman and Company in 2008.

**Lyn Countryman (Science Education)** was one of 12 individuals selected for the 2007 Science Ambassadors program, sponsored by the National Institutes of Health.

**Alan Czarnetzki (Earth Science)** is associate editor of the *National Weather Digest*, published by the National Weather Association.

**Dawn Del Carlo (Chemistry and Biochemistry)** was the CNS recipient of the 2008 University Book and Supply Outstanding Teaching Award.

**James Demastes (Biology)** received the 2008 Beta Beta Beta Excellence in Teaching Award.

**Kavita Dhanwada (Biology)** is a member of the board of directors of the Iowa Biotechnology Association.

**Jeffrey Elbert (Chemistry and Biochemistry)** received the 2008 CNS Dean's Award for Teaching Excellence in Departmental Programs.

**Kamyar Enshayan (CEEE)** received the 2008 Sustainable Agriculture Achievement Award from Practical Farmers of Iowa for his influence on the local agriculture movement. He also was selected to serve on the technical review committee of the USDA's Sustainable Agriculture and Education program for the north central region.

**Mohammed Fahmy (Industrial Technology)** serves on the National Association of Industrial Technology board of accreditation as chair of accreditation teams and as a member of the Society of Manufacturing Engineers accreditation committee.

**Mark Fienup (Computer Science)** was elected president of the steering committee of the Midwest Instruction and Computing Symposium.

**Jean Gerrath (Biology)** was awarded \$170,000 as her share of a National Science Foundation grant for a collaborative research project on the phylogeny and biogeographic history of the grapevine. She is the elected chair of the organismal biology section of the Iowa Academy of Science.

**Scott Giese (Industrial Technology)** was appointed committee representative of the American Foundry Society 4-A and 4-B committees, was elected chairman of the Foundry Education Foundation Faculty Planning Committee, and was elected education chairman of the AFS Hawkeye Chapter Education Committee.

**Paul Gray (Computer Science)** was the lead on a project selected by *Campus Technology* magazine as a 2008 Campus Technology Innovator, one of 14 projects chosen from more than 300 submissions nationwide. Edu-Grid, his project, is an educational high-performance computing environment that supports HPC instruction and curriculum development.

**John Groves (Earth Science)** was selected as the 2008 recipient of the Donald N. McKay Faculty Research Award.

**Chad Heinzl (Earth Science)** was accepted into the National Science Foundation's Early Career Geosciences Faculty Workshop.

**Patricia Higby (CEEE)** serves as a member of the Due Diligence Committee that screens proposals for the Iowa Power Fund board of directors, which decides how to spend the \$100 million Power Fund created by the state Legislature to promote energy independence. Higby was appointed to both bodies by Gov. Chet Culver.

**Theron Hitchman (Mathematics)** was selected as a national Mathematical Association of America Project NExT Fellow for 2007-08.

**Doug Hotek (Industrial Technology)** was appointed conference chair of the Iowa Industrial Technology Education Association, of which he is president.

**Mohammad Iqbal (Earth Science)** was awarded a \$150,000 grant from the National Science Foundation to conduct laboratory and field activities for undergraduate students to study the hydrologic environment.

**Laura Jackson (Biology)** received the 2008 Veridian Credit Union Community Engagement Award for the College of Natural Sciences for her outstanding efforts in engaging students in the Cedar Valley community.

**Ali Kashef (Industrial Technology)** was nominated for the Outstanding Industrial Technology Professional Award for the National Association of Industrial Technology.

**Cherin Lee (Science Education)** was elected director of the north central region of the Association of Science Teacher Education and president/president-elect of the Iowa Academy of Science.

**John McCormick (Computer Science)** was elected chair of the Association of Computing Machinery, Special Interest Group in the Ada Programming Language.

**Mary McDade (Biology)** was the CNS recipient of the 2008 Award for Outstanding Dedication to Teaching and Learning,

presented by UNI EXCEL, a student organization focusing on leadership, skill development and opportunities for minorities.

**Catherine Miller (Mathematics)** received the 2008 Regents Award for Faculty Excellence.

**Doug Mupasiri (Mathematics)** was one of two UNI faculty members appointed by the Provost's Office as Administrative Fellows for the 2008-09 academic year.

**Jihwah Noh (Mathematics)** received an American Educational Research Association Division K Affirmative Action Grant in 2007.

**Vicki Oleson (Mathematics)** was elected AEA 267 regional director of the Iowa Council of Teachers of Mathematics.

**Wendy Olson (Biology)** was elected program officer of the Division of Evolutionary Developmental Biology of the Society for Integrative and Comparative Biology.

**Mike Roth (Physics)** won the 2008 CNS Dean's Award for Superior Achievement in Research.

**Doug Shaw (Mathematics)** won the 2008 CNS Dean's Award for Teaching Excellence in the Liberal Arts Core.

**Aaron Spurr (Earth Science)** received the Distinguished Service Award from the Iowa Science Teachers Section of the Iowa Academy of Science in the fall of 2007.

**William Stigliani (CEEE)** was appointed to a three-year term on the Governor's Climate Change Advisory Council, which is charged with providing cost-effective recommendations for reducing statewide greenhouse gases. He also was named a member of the advisory board of the Center for Global and Regional Environmental Research at the University of Iowa. In September the Sierra Club honored him with its Public Service Award.

**Carl Thurman (Biology)** has been selected as a 2009 Fulbright Scholar at the University of São Paulo in Brazil.

**Shahram VarzaVand (Industrial Technology)** is an editorial advisory board member for the *Journal of Construction Education*.

**Michael Walter (Biology)** is a member of the board of directors of the Iowa Biotechnology Association.

**Jim Walters (Earth Science)** was elected to the board of directors of the Iowa Academy of Science and elected chair of the Geology section of the IAS.

**Jeff Weld (Biology)** was elected president of the UNI chapter of Sigma Xi, The Scientific Research Society.

**Catherine Zeman (RRITC)** was named a visiting professor at the Iuliu Hatieganu University of Medicine and Pharmacy in Romania, in recognition of significant contributions to the school's educational mission and to intercultural understanding.



# Transitions

## New faculty

**Biology:** David K. Saunders, professor and head (Ph.D., Kansas State University); David J. McClenahan, assistant professor (Ph.D., University of Minnesota); Marek K. Sliwinski, assistant professor (Ph.D., University of Wisconsin)

**Industrial Technology:** Arindam Ghosh, assistant professor (Ph.D., Bengal Engineering and Science University)

**Mathematics:** Elizabeth Koopman Hughes,

assistant professor (Ed.D., University of Pittsburgh)

## Retirement

**Charles Johnson**, professor, 26 years in the Department of Industrial Technology

## Changes in position

**Kamyar Enshayan** became director of the Center for Energy and Environmental Education (CEEE) in March. Formerly a research associate at the CEEE, Enshayan replaced William Stigliani, who served as

director since the facility's opening in 1996 and is now senior policy adviser to the Center.

**Jeff Weld**, associate professor of biology, was named director of the Board of Regents Iowa Mathematics and Science Education Partnership, effective July 1.

**Bart Bergquist**, professor of biology, became acting head of the Department of Industrial Technology on August 1. He replaced Mohammed Fahmy, who returned to teaching after 19 years as department head.

# Duncan and Litwiller break 1,000!

Retired mathematics professors David Duncan and Bonnie Litwiller recently achieved a remarkable milestone: During a 40-year collaboration, they have written more than 1,000 joint papers that have been published in professional journals.

The two write about applications of mathematics concepts that can be used in the classroom, particularly at the middle school and secondary level. Their works have been published in most English-speaking countries around the world.

Their goal is to help teachers, who are responsible for so many lesson preparations, create novel ways to present a concept.

Their goal, according to Litwiller, is to help teachers, who are responsible for so many lesson preparations, create novel ways to present a concept. An idea or an article might originate from a newspaper article, a television program, a book or any instance of the uses and abuses of mathematics.

Litwiller has served on the board of directors of the National Council of



Bonnie Litwiller

Teachers of Mathematics, the School Science and Mathematics Association and the Association of Mathematics Teacher Educators. She received the Distinguished Alumni Award from Indiana University in 2004. Duncan served as head of the UNI Department of Mathematics from 1976 to 1990. He received the Phillip G. Hubbard Award for Outstanding Education at UNI in 2004. Both Litwiller and Duncan, who retired in 2003 and 2005 respectively, served as president of the Iowa Council of Teachers of Mathematics, and both received



David Duncan

the Iowa Regents Award for Faculty Excellence.

The two show no sign of slacking off, when it comes to writing articles. They point out that their count of articles published is now up to 1,002.

"We are very proud of Bonnie and David," said Jerry Ridenhour, head of the UNI Department of Mathematics. "Their remarkable achievement clearly shows great dedication to the profession and to UNI."

# PSM programs in CNS off to promising start

Forty-three students, many of whom are international students, are now enrolled in the five different professional science master's (PSM) degree programs offered in the College of Natural Sciences: applied physics, industrial mathematics (continuous quality improvement or mathematical computing and modeling), ecosystem management, biotechnology, and applied chemistry and biochemistry.

This new type of degree prepares students for professional careers in scientific industries and, in the case of the ecosystem management program, for careers in government land management agencies and the nonprofit sector. Open to bachelor's degree holders in the sciences, mathematics or engineering, PSM programs include coursework in the subject area and in business, as well as some form of experiential learning, such as an internship, team problem solving or involvement in a case study.

According to the June 16, 2008, issue of *Chemical & Engineering News*, there are now more than 120 PSM programs at more than 60 institutions. The Alfred P. Sloan Foundation,

PSM applied physics graduate William Griffin



working through the Council of Graduate Colleges, has spearheaded the initiative to develop and offer the degree. The U.S. Department of Education also has provided support in the form of grants to improve existing PSM programs and to help start new ones. The degree was mentioned in the America Competes Act as a way to expand the scientific workforce.

UNI's PSM programs in physics and mathematics

began with development grants, followed by implementation grants, from the Sloan Foundation and the Council of Graduate Colleges. A short time later, the departments of Biology and Chemistry and Biochemistry began planning their respective programs. Physics and Mathematics began offering their PSM programs in the 2006-07 academic year, with the other departments following in the 2007-08 year.

Although obviously different in subject matter, the programs share similarities in structure. All of them are 30 credit hours



A PSM biotechnology student sets up an enzymatic reaction in a microcentrifuge.

PSM ecosystem management students visit a swamp-savanna in fall 2007. The program conducts biological inventories and develops ecosystem management plans for the Black Hawk County Conservation Board.





except for industrial mathematics, which is 35 credits for continuous quality improvement and 34 for mathematical computing and modeling. Depending on a student's preparation and the particular program, coursework may take from one to two years. Courses in business are included as well as those in the subject area.

All PSM students take some form of experiential learning, most commonly an internship, which can last from a summer to a year. For the most part, students are responsible for finding and securing their own internship, with support and guidance from the program. Examples of places where students have interned include the National Park Service (ecosystem management), Pioneer Hi-Bred (biotechnology), National Ag-based Lubricants (applied chemistry and biochemistry), John Deere Waterloo Works (industrial mathematics) and Rockwell Collins (applied physics).

Twenty-two students will have graduated by December 2008 from the five PSM programs offered by the College of Natural Sciences, and those individuals have been successful in securing positions commensurate with their skills. For example, William Griffin, who received a PSM in applied physics in the summer of 2007 is employed by Distek, Inc. in Cedar Falls, and Ryan Jones, who graduated in August of 2008 with a PSM in applied chemistry and biochemistry, is employed at Albany (N.Y.) Molecular Research, Inc. Linda Isenhower, who has a PSM in industrial mathematics, has a position with The CBE Group, Inc., in Waterloo.

The PSM coordinators expect enrollment in their programs to grow as potential students, businesses, industry and nonprofits become more aware of what the degree has to offer. "We had more than 50 students apply for fall 2008 and many more inquiries," said Kavita Dhanwada, coordinator of the biotechnology PSM program and associate professor of biology, "and generally businesses have been excited at the prospect of students coming out with this degree." A conference on quality and modeling, presented by the Department of Mathematics in October 2007, drew about 130 participants and raised awareness of the industrial mathematics PSM program. A 12-module seminar course on Lean and Six Sigma methods for industrial mathematics PSM students and industry professionals was also held in the fall of 2007.

Although undoubtedly the programs will be fine-tuned as they become more established, clearly they are off to a promising beginning. "The PSM is the ideal degree for students wishing to work toward management responsibilities in their scientific area or toward starting their own business," summed up Shoshanna Coon, coordinator of the applied chemistry and biochemistry program and associate professor of chemistry.

## Project SOAR under way at UNI

In an innovative program for military families and the school districts that serve them, the Department of Mathematics, working with the UNI College of Education, is part of a \$5 million federally funded project that began in August 2007. Project SOAR (Student Online Achievement Resources) aims to address the unique challenges facing the children of military families in the nation's public schools, while benefiting the overall student population.

UNI will administer \$1.5 million of the project and focus on researching, developing and producing educational resources that promote a deep, conceptual understanding of targeted skills in mathematics and literacy, according to Vicki Oleson, UNI's Project SOAR director and instructor in mathematics. This is the way Project SOAR works:

Students in grades 3-11 take an assessment aligned to state standards, and then SOAR directs them to individualized tutorials to address their academic needs. Parents can monitor their children's progress from anywhere and are provided with resource materials. "SOAR makes it easy for parents to play an active role in their children's education," Oleson said.

UNI is partnering with the Princeton Review, which is developing an assessment tool to be used by parents; Skills Tutor, which is designing interactive tutorials and practice activities; and the Military Impacted Schools Association. UNI's role in the initiative is to develop engaging educational video vignettes and the print materials that accompany them. UNI's educational resources reflect an emphasis on conceptual rather than procedural understanding. "The Web-based videos and resources we are producing are especially meaningful because they are connected to real-life situations," Oleson explained.

Sandy Ubben leads the mathematics team, which consists of Ed Rathmell, Larry Leutzinger, Doug Shaw and Megan Balong. Deb Rich, the literacy specialist, will be developing a team, and David Jones is the SOAR project coordinator at UNI.

# IMSEP up and running

Just months into existence, the Iowa Mathematics and Science Education Partnership (IMSEP) is going strong. In that brief period, IMSEP has managed to assess the priorities of various stakeholders, develop and implement new initiatives, and explore promising ideas, as well as streamlining its name (formerly the Regents Mathematics and Science Education Collaborative Initiative).

"We're already invigorating math and science education in Iowa in the short time since the IMSEP was signed into law on May 9," said Jeff Weld, IMSEP director and UNI associate professor of biology and science education. "So many offices and individuals at UNI have been part of the team stepping up to lead this invigorating challenge."

IMSEP's three basic goals are to improve the math and science performance of Iowa students, to prepare more high-quality math and science teachers for Iowa's schools, and to promote collaboration and cooperation.

One of IMSEP's recent achievements is the *Iowa High Schools-to-Regent Universities Mathematics Transition Guide*, an outgrowth of the Math Transitions Congress that UNI hosted in November 2007. Developed by Regents university faculty with the oversight of mathematics leaders from across the state, the Guide describes the math competencies students need to enter university math and science courses, including foundational skills and competencies for six entry-level university courses. The Guide is posted on the Web sites of the Board of Regents and the Regents universities and is available to teachers, math consultants and school administrators.

The recruitment of math and science majors into teaching is another focus area for IMSEP. To that end, UNI and NIACC

## Iowa Math and Science Education Partnership

a collaboration of  
the University of Northern Iowa,  
Iowa State University  
and the University of Iowa

are targeting incoming freshmen with a one-credit course called "Exploring Mathematics and Science Teaching," part of IMSEP's I-Teach program.

This past summer, another component of IMSEP was set in motion with a call for proposals supporting the partnership's goals. Regents university employees were invited to apply, and partnerships with educational professionals in the public and private sectors were encouraged. In August, IMSEP announced that 13 projects

were funded for a total of \$1,059,949.

Science camps for elementary and middle school students at UNI this past summer were affiliated with IMSEP and related to its goals. The camps, part of the Engaging Iowa in Science and Mathematics program, focused on energy and the environment with many

hands-on activities. Weld hopes to offer the camps in future summers. In fact, the Corridor STEM Initiative, an IMSEP program that involves summer camps and science clubs for children in the Cedar Rapids area, is similar in nature. (STEM stands for science, technology, engineering and mathematics.)

Several other IMSEP projects were getting under way this fall, including the Real World internship program, in which science and math teachers will work as summer interns in the private and public sectors; wider implementation across Iowa of Project Lead the Way, a nationwide program that

promotes pre-engineering courses for middle and high school students; and a program to prepare and update community college STEM instructors.

Another component of IMSEP, the Regents Mathematics and Science Education Institute, to be headquartered at UNI with faculty and staff distributed at all three Regents universities, is still in the planning stages but will eventually focus on faculty development, curriculum development and teacher mentorship.

"All in all, it has been a hectic but very productive year," Weld summed up. "Of course, we have a long way to go, but we're getting a clearer picture of what the journey will entail."



Above: Science camp students burn different snack foods to determine the amount of energy contained per gram of food. Right: Science camp students ride the e-bike to power incandescent and compact fluorescent light bulbs so they can see the difference in energy required for each.





## Faculty research

**Jeff Tamplin**, associate professor of biology, has compiled field data for three years in a study of the habitat usage and seasonal activity patterns of Iowa wood turtles (*Glyptemys insculpta*), an endangered species. He has identified and marked a population of more than 46 turtles in Butler County and has used 15 of them for radio telemetry, amassing nearly 1,000 individual locations of turtle activity.



A female wood turtle wears a radio transmitter as part of Jeff Tamplin's study of *Glyptemys insculpta* in Butler County.

**Ira Simet**, associate professor in the Department of Chemistry and Biochemistry, is investigating the control mechanisms that govern expression of the replicative enzyme DNA polymerase alpha. This enzyme has been shown to reach maximal activity during intervals of rapid tissue growth, but the specific controls that lead to this pattern are not known. Simet and his students are using two systems with defined growth profiles to study this question: embryonic chicken brain and a thermophilic fungus.



John Groves surrounded by Chinese middle school students in Guizhou Province.

**John Groves**, associate professor of geology, conducted geologic fieldwork in Guizhou Province, China, in May. The purpose of the work was to collect microfossils from rocks representing a critical part of the geologic timescale. This investigation is closely related to his activities on behalf of the Subcommittee on Carboniferous Stratigraphy: He heads an international task group to select a Global Stratotype Section and Point for the base of the Moscovian Stage of the Carboniferous Period.

**Mark Fienup** and **Aleksandar Poleksic**, associate and assistant professors of computer science, respectively, are developing an algorithm for commercializable protein structure prediction. In their approach, the profile for a sequence of unknown structure is first compared with a representative database of profiles for all known sequences. Any sequence found to be similar to the target sequence is then compared with all the proteins of known tertiary structure. Because the search procedures are computationally very expensive, the researchers are utilizing TeraGrid resources as well as the department's computing cluster.

**Scott Giese**, assistant professor of industrial technology, is continuing research on the emission-modeling component for the Metal Casting Center's Center for Advanced Bio-based Binders. Once data collection for the necessary emission levels for bio-based binders is complete, the research will transition to the model development phase to predict the type and amount of volatile organic compounds (VOCs) and hazardous air pollutants (HAPs) emitted during the solidification of a casting. Giese and his colleagues are developing a way to test emissions on a small scale by using a representative sample that is plugged into a simulation model.

**Genevra Neumann**, assistant professor of mathematics, co-authored an article on an interesting and unexpected link between certain mathematical questions and questions in astrophysics. The authors were trying to extend the fundamental theorem of algebra by looking at rational harmonic functions and discovered that their result answered a question concerning gravitational lensing. The article appeared in the June-July issue of *Notices of the AMS*.

**Tim Kidd**, assistant professor of physics, is performing basic and applied research on the creation and characterization of new materials and nanostructures with potential applications for solar cells, hydrogen storage and lubricants. He is collaborating with UNI chemistry faculty on synthesis of novel nanostructured compounds, physics faculty on magnetic and electronic transport measurements in spin glasses and other systems, and external researchers on hydrogen storage measurements, electronic phase transitions such as density waves and superconductivity, and processes for measuring single molecular layer systems analogous to graphenes.

# Imagine your impact

"I wish it were more." That is the humble reply I hear more often than not when I thank someone for gifts to the University of Northern Iowa. But the humility rests with us—students, faculty and staff—who are so grateful for the generosity of our alumni and friends.

The impact of giving can be seen in nearly every facet of the University of Northern Iowa. Whether you have created an endowment or are making annual gifts to UNI, your support makes a direct and personal impact on another human being. When loyal alumni and friends such as you support UNI, you participate in a tradition of giving back that is vital to sustain the success of our University.

Sometimes, private support can be the deciding factor as to whether a young person will have the opportunity to fulfill the dream of higher education. Imagine the impact you make when your scholarship support helps reduce student debt and makes college possible for someone, or when your gift to support academic programming enhances research and teaching.

Throughout this issue of *CNS Connections*, you'll see how your support impacts our students' educational experience. You help fund scholarships, support the expenses of undergraduate research activities, provide funding to shore up equipment expenses, and make

it possible for students to travel to conferences and seminars. You are making an impact on the future!

*Program and scholarship support* are the backbone of giving. Endowments create permanent funds that provide vital funding for our students and academic programs and help give UNI an advantage when recruiting students and faculty to our campus.

The *CNS Dean's Fund for Excellence*, providing direct support to students and faculty, is flexible and allows the College to direct dollars quickly to areas where resources might otherwise be limited.

The *UNI Annual Fund* is critical in providing funds to the University that can be used immediately, where they are needed most. An Annual Fund gift of \$1,000 or more will make you a member of the Campanile Society, a group committed to the long-term growth and mission of UNI.

Members of UNI's *Old Central Associates* have created a legacy for the future with a planned gift. UNI played an important role in launching you into adulthood and a career. By including UNI in your estate planning, or by making a planned gift now, you can help students and programs in a way you never thought possible.

Thank you for your steady friendship and support of the College of Natural Sciences and the University of Northern Iowa!



Cassie Benning Luze  
800-782-9522 or 319-273-6078  
cassie.luze@uni.edu

imagine the  
**IMPACT**  
The Campaign for the University of Northern Iowa



E. W. Hamilton had a passion for education. He died in 1995.

## This year he helped a student learn population models.

Your thoughtful estate planning can create a promising future for UNI students. A bequest to the University of Northern Iowa impacts students and may provide you with many benefits, including:

- Your assets remain in your control during your lifetime
- You can direct your bequest to a particular purpose, program, school or college
- You can modify your bequest at anytime

**Endow your passion.** Contact Cassie Luze, director of development, College of Natural Sciences, 319-273-6078.

Or visit UNI's Planned Giving Web site: [www.unicompass.com](http://www.unicompass.com).





# Petersons give back to UNI

**J**ohn Peterson (B.A., 1962, M.A., 1966, mathematics education) and Marla Peterson (B.A., 1963, M.A., 1966, business management/business education) both believe the solid education they received at UNI enabled them to become successful in their chosen careers. "We will be forever grateful that UNI gave us the foundation to successfully complete Ph.D. programs at The Ohio State University, and we want to support graduate education at UNI." That is one reason, John explained, that their estate planning includes provisions for the establishment of the John C. Peterson Mathematics Education Graduate Student Scholarship in the College of Natural Sciences and the Marla Putzier Peterson Counselor Education Graduate Student Scholarship in the College of Education.

John, a native of Waterloo, completed his Ph.D. in mathematics education at Ohio State under the supervision of Professor Harold Trimble, former head of the Mathematics Department at UNI. "When I was at UNI, I was taught by two individuals who became National Council of Mathematics Teachers (NCTM) presidents, three faculty members who would serve on the board of directors of NCTM, the editor of *The Mathematics Teacher*, and the editor of *The Arithmetic Teacher*. Their impressive credentials were coupled with a sincere interest in helping students succeed."

John has written 18 collegiate-level mathematics textbooks that have been used by approximately 250,000 students throughout the U.S. He has taught mathematics education and mathematics courses at Eastern Illinois University, University of Tennessee, University of Maine, and Chattanooga State Technical Community College. "When I started writing textbooks, I chose to direct my books toward community college students. In 1999 the American Mathematical Association of Two-Year Colleges asked me to co-direct a National Science Foundation-funded project. I helped lead the group that made recommendations to the Mathematics Association of America for establishment of technical mathematics standards."

Marla, who came to UNI from Strawberry Point, is also a graduate of Ohio State, where she received her Ph.D. in counselor education. "If anyone had told me when I was at



John and Marla Peterson

***"We will be forever grateful that UNI gave us the foundation to successfully complete Ph.D. programs at The Ohio State University, and we want to support graduate education at UNI."***

**—John and Marla Peterson**

UNI that I would someday become campus-wide dean for research at a major land grant research university, I would have thought they had been reading too much science fiction," Marla laughs. She credits one of her master's-level research courses at UNI for inspiring her interest in research. Eventually, she became dean at the University of Tennessee, where she administered research for the eight colleges of the university, including joint efforts with Oak Ridge National Laboratory.

Marla echoes John's sentiments regarding the personal attention given to her by UNI faculty. "It was 1961," Marla recalls. "There was no study abroad program at UNI and I had just been selected to spend my junior year in Finland. I thought I should receive some credit for this experience. Dr. Agnes Lebeda, a professor of business management, agreed to direct an independent study course for six semester hours of credit. I still have the 90-page paper that I wrote to satisfy the course requirements."

The tradition of research and teaching continues in the family. John and Marla's son, Matthew Peterson, is an associate professor of psychology at George Mason University, and his wife, Katie Peterson, is a research scientist at Mitre Corporation.

# Alumni News

## 1940s

**John H. Muir**, BA '40, is retired regional manager of Reliance Electric Co. In '07 he celebrated his 90th birthday and 65 years of marriage to Charlene Gilbert Muir, BA '41.

## 1960s

**William F. Erps**, BA '60, MA '65, retired from North Scott Schools in '94 after 34 years as a biology teacher and 26 years as a coach. He and his wife, Kathryn J. Madden (BA '59), have three daughters, Sheila, Rhonda and Brenda. He enjoys fishing in the Mississippi and traveling to Georgia and Florida to visit family.

**George C. Coffin**, BA '64, is retired but substitute-teaches at CCR-1 High School and Middle School in Kahoka, MO, and Luray Elementary and Holy Trinity Catholic Schools in Ft. Madison, IA. He and his wife, Marsha, went to her 40<sup>th</sup> class reunion in Greybull, WY, in summer '07 and visited their 10<sup>th</sup> grandson, Andrew James, in Gilbert, AZ.

**Llewellyn B. Culbert**, BA '67, is a geologist and owner of Culbert Oil & Gas, which specializes in oil and gas exploration and development, in Granite Shoals, TX.

**Ray E. Mitchem**, MA '68, recently retired from Marshalltown Community Schools after teaching science for almost 40 years at the junior and senior high school levels. During his career he sponsored many students who entered science projects at state and regional science fairs.

## 1970s

**Douglas A. Danne**, BA '76, is president of Alfa Wassermann Diagnostic Technologies in West Caldwell, NJ.

**Duane Ogg**, BA '79, has been promoted to general manager of the Howard Johnson Inn of Fort Smith, AR. He formerly served as director of finance and purchasing. Previously, he was in the design engineering field for 34 years.

## 1980s

**Michael Bissell**, BT '83, is an estimator with Cooper Homes in Knoxville, TN.

**James W. Sears**, BA '84, is a quality technician 1 in the lubrication equipment division of Graco Minnesota, Inc. An 18-year member of the American Society for Quality, he has been involved in quality projects for Boeing, NASA and military applications.

**Michael Osborn**, BT '85, an assembly engineer at the John Deere Engine Works in Waterloo, is on special assignment on the Tier IV John Deere engine assembly team.

**Todd W. Moe**, BA '86, has been an employee of Cedar Falls Utilities for 20 years. He and his wife, **Carol (Gavigan) Moe**, BA '83, have one daughter at UNI, one transferring next year and one graduating high school who wants to attend UNI.

**John Kotz**, BA '89, is an industrial technology instructor at Waukee High School.

**Gholam Nematbakhsh**, MA '89, MBA '88, is a technical representative for Cargolux Airlines S.A. at Los Angeles International Airport. Cargolux is an all-cargo airline based in Luxembourg with a worldwide network. He and his wife, Shadi Raffei, have two daughters, Layla, 3/98, and Nazanin, 1/03. He has fond memories of his years at UNI and the Industrial Technology Department.

## 1990s

**James (Jim) Westfall**, BA '92, has worked for the Boy Scouts of America for more than 10 years and is currently district director at the Northeast Illinois Boy Scouts Council in Highland Park, IL. He and his wife, Lynne (Madden), BA '90, live in Kenosha, WI, with their children, Kole, 6, and Amelia, 5.

**Bradley Block**, BA '93, is chief of interpretation at Custer State Park in South Dakota. He received the Master Interpretive Manager Award from the National Association for Interpretation, an international honor given to one or two professionals each year. He was recognized for his career accomplishments in South Dakota, as well as for his efforts to further the profession across the country.

**Ann (Klaessy) Ho**, BA '94, received an MA in actuarial science from Ball State University in '96 and has been working as an actuary in Connecticut since then. She and her husband, Vy Ho, have two children, Justin, born 11/05, and Natalie, born 8/07.

**Michael William Heine**, BA '98, recently began a new job as a senior systems engineer for Target Corporation in Minneapolis.

## 2000s

**Bradley R. Bechthold**, BA '03, MA '07, has been a supplier quality engineer with John Deere Power Systems in Waterloo since '05. He was appointed to the UNI Leadership Studies Program advisory board in '07. He and his wife, Cheryl, have a son, Douglas, who is a senior at UNI majoring in electrical and information engineering technology, and a daughter, Kelsey, who is a freshman at UNI majoring in elementary education.

**Abigail M. Stewart Lynch**, BA '03, is a mathematics teacher in Independence.

**Heath Wilken**, BS '04, a production supervisor at John Deere Waterloo Works, received an MBA from St. Ambrose University in May '08.

**Justin Funk**, BS '05, a geophysicist with Devon Energy Corp. in Houston, TX, was awarded an MS in geophysics from the University of Texas at Austin in '07. He is married to Katie Demmer, an '04 UNI graduate.

**Theresa Gaul**, BA '05, graduated from Johns Hopkins University with a BS in nursing and is working as an assistant nurse manager at the University of Iowa Hospitals and Clinics. She married Adam Jennings, BA '05, in 2007. He earned the Lifesavers Award while working as a police officer in Ottumwa and is now a police officer in Coralville.

## Marriages

**Paul Heller**, BA '85, an advisory engineer creating command and control systems, married Valerie Josenhans in June '07. They live in Baltimore, MD. **Lisa M. (Fuller) Gernant**, BA '01 (BA '96 in music), a supply management business analyst for repetitive manufacturing at John Deere Waterloo Works, married Brent Gernant in 2007.

## Births

**Kimberly (Mescall) Williams**, BA '94, gave birth to a son, Collin John, in April of '07. She and her husband, Eric, live in Fargo, ND.

**Christine (Graaf) Redemske**, BA '02, and her husband, Bryan, have a son, Jack, born 2007. She is a seventh grade mathematics teacher at Ralston (NE) Middle School.

## Deaths

**Walter E. Ditzler**, BS '38, of Corona De Tucson, AZ, died Aug. 20, '08

**Merton K. Bratton, Jr.**, BA '52, MA '60, of Albuquerque, NM, died Feb. 2, '08. He taught science for 37 years in Iowa, Illinois and New Mexico. He especially enjoyed working with student teachers, according to his wife of 59 years, Elinor. **John Cracraft**, MA '70, of Bayonet Point, FL, died Aug. 25, '07.



# CNS Advisory Board

The College of Natural Sciences Advisory Board provides advice, guidance, support and advocacy for the college's undergraduate and graduate programs. The Board members help to align the College's curricular offerings with changing educational needs; help to identify outside funding sources for the College and internship and other professional opportunities for students; and serve as advocates for the College by promoting positive relations with the external community.

**James Arns**

Principal Optical Systems Engineer  
Kaiser Optical Systems, Inc.

**Conrad Baumler**

Chief Financial Officer  
Shive Hattery Engineers and  
Architects

**Dr. David Faber**

President  
Trans Ova Genetics

**Brenda Good**

Director of Administration and  
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Geophysical Consultant

**Randy J. Wadle**

Vice President of Corporate  
Systems and IT Programs  
Aviva Life Insurance Company

**Michael Williams**

Retired High School Teacher

## New CNS Advisory Board members



**David H. Naffziger** is a senior research scientist with Whitmire Micro-Gen Research Laboratories in St. Louis, Mo., where he searches for and evaluates new technology for the pest management market. He also serves as an adviser for new product development and is working to develop an international market for Whitmire Micro-Gen technology. He has a B.A. degree in chemistry from UNI and an M.S. degree in organic chemistry from the University of Iowa.



**Eileen M. Youds** is chief operating officer of Pearson VUE, a global leader in computer-based testing for information technology and academic, government and professional testing programs. She has served in CIO and vice president roles for Honeywell, Kelly Services and Ceridian. She holds bachelor's and master's degrees from UNI and has done postgraduate work at the University of Minnesota Carlson School of Business and the Kellogg School of Management.



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Visit our Web site at [www.cns.uni.edu](http://www.cns.uni.edu).

BIOLOGY RESEARCH COMPLE



The University of Northern Iowa is an equal opportunity employer with a comprehensive plan for affirmative action.

A tropical pitcher plant (*Nepenthes alata*), an insect-eating plant that grows in jungles, is on display in the Botanical Center's Orchid House. A mango tree in bloom is in the background.