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THE NEWSLETTER FOR ALUMNI AND FRIENDS . IOWA STATE CCEE DEPARTMENT

PB-1-1

# First of Its Kind

Buchanan County puts up the first US bridge made of Ultra High Performance Concrete

# Message from the Chair

Each year the Cyclone Family Weekend committee hosts an office decorating contest held on Cyclone's Parents Weekend. Winners are awarded in 5 categories: Overall Decorating Champion, Honorable Mention, Most Cyclone Spirit, Most Student Friendly and Most Innovative.



This year's theme was 'Around The World'. We had dozens of items displayed from over 15 different countries, graciously loaned from faculty and staff. (See photos on back cover.) Judy Johnson in our department also assembled a world map with colored-coded strings — each one starting in Ames, and stretched to various areas around the world to represent where faculty, graduate students and affiliates are impacting the world. It was quite the coordinated task to participate in the contest and our department was awarded 'Most Innovative' for our efforts. (Sounds like an engineer's category if you ask me.)

Looking at Judy's map, I was very proud to see how our relatively small department of 200 people impacted over 35 different countries. Not to sound cliché, we've always tried to teach: **set your mind to something, you can change the world**. Indeed, this map represents that dream.

As teachers and students, we impact each other -- changing the world little by little. One of our alumni, Darwin Fox wrote us about how he is teaching in Germany and learning with others in Egypt. (*pg 7*) Darwin Fox was also Professor JM Hoover's first mentee and graduate student. Dr. Hoover's legacy still encourages and inspires students and faculty with workshops coordinated by CCEE's Vern Schaefer. (*pg 6*)

Students are building communities devastated by tornadoes because of an organization co-founded by CCEE graduate student Cory McDermott (*pg 14*). Cory was also a member of the group of students awarded the AGC Student Chapter Service Award. (*pg 16*) He said of his experience, "At the end of that third trip, I was so overcome with emotion that I literally couldn't speak. I couldn't cry. The feelings I was feeling were incredibly complex. I've met so many amazing people. I think the best thing was finding hope in the goodwill of people. We came together and there wasn't anything we couldn't do." This young man reminds us of a very important lesson: the world is not so big and our differences we make are not so small.

Have a safe and happy holiday season! And if you have time, send us some updated news about yourself.

James E. Alleman Department Chair, Professor

Department Chair James E. Alleman

Editor Minna Khounlo-Sithep

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CCEEnews gratefully accepts articles, story ideas, photos, "What's New with You" contributions, comments, inquiries, and address changes at the following address: Attn: Minna Khounlo-

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Between issues of CCEEnews, visit CCEE's us online at www.ccee. iastate.edu for current and recent news and events from Iowa State University's Department of Civil, Construction, and Environmental Engineering.

Iowa State University does not discriminate on the basis of race, color, age, religion, national origin, sexual orientation, gender, marital status, disability, or veteran status. Anyone with inquiries concerning this may contact ISU's Director of Affirmative Action, 318 Beardshear Hall, (515) 294-7612.

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# calendar

#### TUESDAY, DEC 2, 2008 ISU ADVANCE Networking Event

hosted by Kristen Constant, MSE ADVANCE Professor, **Shauna Hallmark**, CCEE ADVANCE Professor and Chuck Glatz, ADVANCE Equity Advisor to the College of Engineering. Bring your own lunch. Beverages and dessert provided. 12 - 1pm at 114 Marston

#### THURSDAY, DEC 4, 2008

**Chemical & Biological Engineering Seminar** by Zhiqun Lin, ISU Materials Science and Engineering Department. 11am at 171 Durham Center

#### Lecture: The future of oil and gas

- Sig Cornelius, ConocoPhillips. 7pm at Alliant Energy-Lee Liu Auditorium, Howe Hall

#### THURSDAY, JAN 29, 2009 Lecture: Reducing energy

**demand** - Alan K. Meier, Univ. of Cal., Davis. 7pm at Alliant Energy-Lee Liu Auditorium, Howe Hall

#### THURSDAY, MAR 26, 2009 Renewable Energy Alternatives and Their Economics - Robert C. Brown and Vikram L. Dalal at

7pm at Alliant Energy-Lee Liu Auditorium, Howe Hall

#### TUESDAY, MAR 31, 2009

**2009 President's Lecture in Chemistry** - Dudley R. Herschbach, the Frank B. Baird, Jr., Professor of Science at Harvard and recipient of the Nobel Prize in chemistry. 8pm at Sun Room, Memorial Union

### THURSDAY, APR 2, 2009 Chemical & Biological

**Engineering Seminar** by L. K. Doraiswamy Lecturer James Katzer, ExxonMobil Research & Engineering. 11am at 171 Durham Center

# **Beyond The Traditional Classroom**

Engineering Distance Education (EDE) at Iowa State provides courses and programs to engineering professionals beyond the boundaries of a traditional classroom.

The programs allow students to learn from the same respected professors and in the same classes that resident graduate students do – but from anywhere in the world.

Courses are delivered via streaming media on the Web, ftp download, or CD-ROM. The CCEE department offers two programs: Master of Science in Civil Engineering specializing in Construction Engineering and Management, and Environmental Engineering Graduate Certificate program. Kurt Reser, ISU alum and current EDE student says, "The wide variety of courses and times allows me to tailor my educational goals with my professional and personal responsibilities."

Instead of a traditional Master's thesis, students develop a project paper in conjunction with their employer, which explores a project or process improvement. Brad Kruse, also an ISU alum and EDE student says, "I'm able to adjust my class load based on my work schedule — take more classes during the winter/spring semester when the construction market is slower, and one class each in the summer and fall when we are busier. I also like that I will be able to complete my final project, the Creative Component, on a topic that interests my company as well as myself."

The program requires a total of 30 semester credit hours of graduate level courses (six of which may be approved transfer credits) and can be completed in approximately two years (4 semesters and two summers).

CE 326 Principles of Environmental Engineering CE 501 Preconstruction Project Engineering and Management

- CE 502 Construction Project Engineering and Management CE 503 Construction Management Functions and Processes CE 505 Design of Construction Systems
- CE 506 Case Histories in Construction Documents
- CE 542 Structural Analysis by Finite Elements
- CE 576x Environmental Flows
- CE 594E GPS and Automatic Machine Control
- CE 594F Computer Applications for Project Controls
- CE 594M Design-Build Construction

CE/EnSci 522 Water and Wastewater Treatment Plant Design CE/EnSci 571 Surface Water Hydrology ConE 380 Engineering Law

For more information contact **Dr. Charles Jahren** at cjahren@iastate.edu. Or check out the website at: http:// www.ede.iastate.edu/Graduate-Programs/Grad-Pro/cone. html.

# **new**face

Jeramy Ashlock is a new assistant Professor in the Geotechnical Materials Engineering Division of CCEE. He received his



bachelor's, master's and PhD degrees from the University of Colorado at Boulder. His research interests include soil dynamics and soil-structure interaction, geomechanics, geotechnical earthquake engineering, experimental testing and computational mechanics. Ashlock will be teaching CE 360 Geotechnical Engineering in the Spring semester.

# ISU researchers win R&D 100 Award



Grad student Mary Rasmussen and Dr. Hans van Leeuwen. Mary also received the Distillers Grains Research Scholarship from Beam Global Spirits & Wine and the Distillers Grains Technology Council for her research.

# Award-Winning Department

The Civil, Construction and Environmental Engineering Department (CCEE) has been honored with the inaugural Walter LeFevre Award by the American Society of Civil Engineers (ASCE).

The award was established in 2007 by ASCE to recognize actions in promoting licensure, ethics and professionalism. Two awards are to be given annually: one for programs with over 50 graduates, such as Iowa State's, and one for programs with 50 or fewer.

Award criteria include the percentage of graduates in a particular academic year who took the Fundamentals of Engineering (FE) examination while enrolled in the program, the percentage of those graduates who passed the exam while enrolled in the program, and the percentage of eligible faculty who are licensed in a U.S. jurisdiction.

CCEE Chair James Alleman received the crystal award at the National ASCE Conference on November 8 in Pittsburgh, PA. Hans van Leeuwen, Iowa State professor of civil, construction and environmental engineering and the leader of the research project; Anthony L. Pometto III, a professor of food science and human nutrition; Mary Rasmussen, a graduate student in environmental engineering and biorenewable resources and technology; and Samir Khanal, a former Iowa State research assistant professor, now an assistant professor of molecular biosciences and bioengineering at the University of Hawaii at Manoa, won national recognition for their work to grow microscopic fungus in leftovers from ethanol production in an effort to improve the efficiency of the corn-to-ethanol conversion process.

The project has been named a winner of a 2008 R&D 100 Award presented by R&D Magazine. The Chicago Tribune has called the awards, presented annually since 1963, the "Oscars of Invention." This is the 30th R&D 100 Award presented to a project affiliated with Iowa State.

An award letter said editors and a judging panel consider the project "one of the top 100 most technologically significant products introduced into the marketplace over the past year."

The award winners were featured in the September issue of R&D Magazine. They were also honored at an Oct. 16 banquet at Chicago's Navy Pier.

Van Leeuwen said the researchers appreciate the recognition of their work and hope it will help them commercialize their processing technology.

### **ccee**visitor

Dr. Tawan Limpiyakorn visited the CCEE department in early August. Dr. Limpiyakorn is with the Department of Environmental Engineering and the National Center of Excellence for Environmental and Hazardous



Waste Management (NCE-EHWM), Chulalongkorn University, Thailand. Chulalongkorn University is the premier and most prestigious university in the kingdom of Thailand. CCEE has a MOU agreement with NCE-EHWM on collaborative graduate environmental research and faculty exchange. So far, two NCE-EHWM graduate students have spent a year each conducting their research at ISU. For more Info, contact Dr. Say Kee Ong at skong@ iastate.edu.

# Inspiring & Motivating Students

The 3rd James M. Hoover Mentoring Workshop held October 1 was another resounding success. Dr. Vern Schaefer, CCEE faculty and coordinator of the workshop says, "We were very pleased to have had speakers of the caliber of Jim O'Brien and Pat Galloway. They both provided excellent presentations and messages of encouragement for students."

The workshop was attended by nearly 200 people and highlighted guest speakers Dr. Pat Galloway, former ASCE national president and Jim O'Brien, current ASCF education activities director.

mentors and mentees

by an eminent engineer

Host the James M. Hoover Lecture, an annual lecture

Dr. Craig Denny, a former student of Jim Hoover, established the James M. Hoover Chair in Geotechnical Engineering in 2003 to honor the memory of his mentor and long-time civil engineering faculty member at lowa State. Hoover mentored his students to help them realize their full potential. He had a profound influence on many people. The Hoover Mentoring Workshop was established to motivate and inspire undergraduate and graduate students to realize their full potential, encourage students to seek out a mentor, invite practicing engineers to be mentors and foster interaction between students, faculty, and practicing engineers, as well as provide resources to assist individuals in being good mentors and mentees.

The workshop is an annual event and to learn more about it, contact Vern Schaefer at vern@ iastate.edu.

Left-Right: Dr. Vern Schaefer, Dr. Pat Galloway Dr. Craig Denny, and Jim O'Brien

## newsfromyou



# **1960**s

**DARWIN E. FOX (**BSCE '69, MS in Soil and Foundation Eng '72, PhDGeoEng '81)

#### Attendorn, Germany

(pictured above) Professor JM Hoover's first PhD student, Fox send us an update about himself and shares about his trip to Egypt. Read more at www.ccee. iastate.edu/alumni/fox.html.

## **1970s**

#### STEVEN W. PERRY (BSCE '78) Gretna, NE

Perry is Vice President of Olmsted & Perry Consulting Engineers Inc. in Omaha, Nebraska with 25 years in municipal, civil, transportation, and environmental engineering spanning1982-2007. His wife Kris BS in Zoology '78 and is daughters Heidi and Claire are 27 and 24 respectively.

#### 1980s JERRY FRANKLIN (BSCE '88) De Pere, WI

Franklin was recently named Associate and Field Services Manager from Bloom Companies, LLC for Northeast and North central Wisconsin. Franklin is a professional engineer in Bloom's Green Bay office.

# alumniaward

DAVID SABATINI (PhDCE '89) MSCE '85 Memphis State Univ.; BSCE '81 Univ. of Illinois



Dr. David A. Sabatini has been named an co-Editor-in-Chief for the Journal of Contaminant Hydrology (JCH). JCH is an international journal

publishing scientific articles on the physical, chemical and biological processes influencing the behavior of organic and inorganic contaminants in the subsurface. Sabatini served as Associate Editor for ten years prior to his appointment as a co-Editor-in-Chief.

Sabatini has also been selected to receive the 2008 Outstanding Educator Award from the Association of Environmental Engineering and Science Professors. The award is given annually to "recognize and honor the development of innovative teaching methods, including the application of these methods in the classroom and the dissemination of methods to the academic community." Sabatini is a David Ross Boyd Professor and holds the Sun Oil Company Endowed Chair in Civil Engineering and Environmental Science at the University of Oklahoma (OU). He is also the Director of Water Technologies for Emerging Regions (WaTER) Center and Associate Director of the Institute for Applied Surfactant Research at OU.

Sabatini currently serves on the environmental advisory board for subsurface remediation for DuPont Chemical Company and the Science Advisory Board of the Superfund Research Center at the University of Arizona. In academic year 1997-98 he was a Senior Fulbright Scholar at the Universitaet Tuebingen in Tuebingen, Germany. His research interests include; transport, fate and treatment of emerging contaminants; surfactant-based microemulsions for environmental, consumer and energy products; and sustainable water treatment technologies for remote villages in developing countries.

#### An excerpt from Darwin E. Fox's update:

"The excursion included boat trips on the Suez Canal and informative presentations on the designed expansion of the narrow portions of the canal which currently limit ship traffic to one-way. Several days were spent in Cairo learning about the transportation systems, pollution problems, and various other considerations necessary in such a large and heavily-populated city (around 20 million). In addition we visited the traditional tourist attractions and were treated not only to the amazing and interesting history of Egypt with the pharaohs and pyramids, but also to the design, foundation and construction of such huge engineered structures."

Read more at www.ccee.iastate.edu/ alumni/fox.html.

# morealumniawards

#### **EIICHI WATANABE**

(MSCE '68, PhDCE '69) Ibaraki City, Osaka, Japan

CCEE Alum Eiichi Watanabe received the highly-coveted Professional Achievement Citation in Engineering from Iowa State University's College of Engineering. Established in 1968 to recognize superior technical or professional accomplishments in research, development, administration, education, and other engineering activities. The citation recognizes alumni/alumnae eminently known to their professional competence and creativity.

Eiichi Watanabe is professor emeritus at Kvoto University (Japan) and the chairperson of the board of directors at the Regional Planning Institute in Osaka, Japan. He completed undergraduate and graduate studies at Kvoto University in 1964 and 1966, respectively, before earning a pair of degrees from Iowa State as a Fulbright grantee. He served as a vice president of the Japan Society of Civil Engineers from 2004-2005 and is currently serving as a vice president of the International Association of Bridge Maintenance and Safety. He is a member of the board of directors for the Japanese Society of Steel Construction, and he is chairman of bridge asset management for Aomori Prefecture and for the City of Osaka. A member of The European Academy of Sciences. Watanabe served as a visiting professor at the National University of Singapore in 2006. He has authored more than 450 scientific publications, as well as 30 books.

Watanabe returned to Kyoto in 1969 after received his Ph.D. from Iowa State; about 16 years later, he was asked to write his doctoral dissertation in order to be nominated as a full professor of Kyoto University.



## grant**winner**

**Timothy Ellis**, an associate professor of civil, construction and environmental engineering received one of ten grants from a state economic development program called Grow Iowa Values Fund. Ellis will work with Envirotech Systems Inc. of Lawton to use rubber particles from scrap tires to develop a process to clean hydrogen sulfide from biogas and other gases.

Iowa lawmakers agreed in 2005 to appropriate \$5 million per year for 10 years to support economic development programs and research projects at Iowa's Regent universities. This year's funding was cut by 20 percent to provide additional state money for flood relief.

This is the fourth time Iowa State has awarded competitive grants from the Grow Iowa Values Fund. The grants are to go to research projects with high potential to boost the state's economic development efforts. The grants in this year's competition total \$945,246 and range from \$25,121 to the \$171,499.

## in**memorandum**

CCEE would like to recognize alumni who have passed away in the last year between November 2007 and October 2008. The following list is arranged by graduation decade, then alphabetically.

#### 1920s

Jean Hempstead (BSCE '26; PhDCE '42)

#### 1930s

Charles Durham (BSEng '39; BSCE '40; PhDCE '45)

#### 1940s

Charles Intlekofer (BSCE '40) Alfred Rasmussen (BSCE '40) Gordon Churchill (BSCE '41) John Lieb (BSCE '41)

Magnus Christensen (BSCE '41) Victor Greimann (BSCE '42) Paul Heineman (BSCE '45; MSCE '48)

William Armstrong (BSCE '46) John Cota (BSCE '47) Charles Pestotnik (BSCE '49)

#### 1950s

Mack Capper (BSCE '50) Thomas Norris (BSCE '51) Russel Oberlin (BSCE '52) John Faulkner (BSCE '53) Clyde Titus (BSCE '54) Dennis Van Liew (BSCE '54) Bob Sandy (BSCE '57) Robert Johnson (BSCE '57; MSCE '63; PhDCE '69)

Roger Miller (PrfCE '57; BSCE '58) John Williams (BSCE '59)

### 1960s

George Glenn (PhDCE '63) Gary Spinkelink (BSCE '63) Merlin Sams (CtTech '67; BSCE '74)

Stephen Maloney (BSEng '68)

1990s Roger Gould (BSCE '90)

## recognitions&awards



CCEE Professor, **Say Kee Ong** and former PhD student, Shane Rogers, currently an assistant professor at Clarkson University, were awarded the 2008 McKee Groundwater Protection, Restoration or Sustainable Use Award for their paper published in the Water Environment Research Journal (WER). The award recognizes published pieces for their significant contributions to groundwater science or engineering research.

Other authors of the paper include Greg Stenback, research associate in CCEE at the time of the study, Johanshir Golchin, collaborator assistant professor at time of study and Bruce Kjartanson, CCEE associate professor at time of study, currently at Lakehead University, Canada.

"The paper provides a practical approach for the assessment of intrinsic bioremediation and for the clean-up of contaminated manufacturing gas plant (MGP) sites. There are more than 100 MGP sites in Iowa. The approach can be applied to sites of different organic contaminants" says Say Kee Ong.

The team received the award in October at the 2008 WEF Annual Meeting in Chicago.



Marlee Walton, P.E., L.S., was recently appointed to the Iowa Engineering and Land Surveying Board by Governor Culver. She was also recently elected as the President of the Iowa Section of American Society of Civil Engineers by her peers. She is a senior lecturer in the Civil, Construction, and Environmental Engineering Department of Iowa State University (ISU). Marlee has been with ISU for nearly seven years providing oversight and teaching courses in the revised civil engineering curriculum. The revision to the ISU civil engineering curriculum includes more professional practice skills and integrates topics to better prepare civil engineering graduates for the workplace in the 21rst Century. Marlee also teaches the Department's surveying courses. In addition to her role at Iowa State University, Marlee provides property surveying, topographic surveying, and mapping services through her company, M. J. Walton & Associates.

Sri Sritharan, associate professor of structural engineering, was honored with a 2008 NEES
 Award for Best IT Innovation for the development of a real-time system innovation tool to
 perform large-scale seismic tests remotely. Other ISU contributors to the development
 of this tool, Assoc. Professor Manimaran of Electrical and Computer Engineering, and Dr.
 Jian Zhao, a former post-doctoral researcher of Sritharan and an Assistant Professor at the
 University of Wisconsin-Milwaukee, were also recognized by the award.

Sritharan says, "This tool not only enabled us to remotely participate in an experimental research, but also help us to effectively contribute to decisionmaking during the tests." In this project, Sritharan and his team were able to remotely operate cameras, conduct tests, as well as visualize data and compare experimental and analytical results in real time. The researchers also were able to add new instruments to determine why some discrepancies between observed and simulated results occurred, which would not have been possible without the real-time capabilities.

Sritharan was presented the award at the NEES 6th Annual Meeting Banquet on June 19th in Portland, Oregon.

## onthecover



A n advancement in concrete bridge construction technology is underway right here in Iowa. The first bridge in the United States to use a novel concrete mix referred to as Ultra High Performance Concrete (UHPC) is being constructed in Buchanan County. The bridge utilizes an optimized shape referred to as a Pi girder or "a double tee cross section."

**Terry Wipf**, Director of the Bridge Engineering Center at CTRE and CCEE professor and division leader says, "The benefits ultimately will be a reduction in costs associated with bridge construction and, probably more significantly, reduce costs associated with bridge maintenance. Furthermore, it is very likely that further advances with ultra high performance concrete will yield bridge designs in which the deck and superstructure last for the same duration, thus eliminating the need for intermittent and costly deck replacement."

Other members of the research team consist of CCEE Professor **Fouad Fanous**, Brent Phares, Associate Director Bridge Engineering Center, Dean Bierwagen, Methods Engineer, Iowa Department of Transportation, Brian Keierleber,



Buchanan County Engineer and Curtis Monk, Division Bridge Engineer – Iowa Federal Highway Administration.

Initiated in 2005, the project began when Buchanan County submitted an Innovative Bridge Research and Construction (IBRC) proposal, in cooperation with the Iowa Department of Transportation and the Iowa State University Bridge Engineering Center, to the Federal Highway Administration (FHWA) for the construction and evaluation of an Ultra-High Performance Concrete bridge. The proposal utilized a optimized cross section by the company who developed the advanced material (LaFarge). During this time, the Pi shape cross section was being tested and evaluated by the FHWA at the Turner Fairbank Highway Research Center facilities.

In 2006, IBRC funding of \$400,000, at a slightly reduced amount, was awarded to Buchanan





County. Soon after the project began, FHWA test data indicated that the Pi shape was not appropriate for certain serviceability conditions. This required that the Pi shape be modified for this IBRC project, which further required changes in the research scope, including the addition of analytical and laboratory experimental tasks. For the bridge construction in Buchanan County, a modification of the optimized Pi shape is being utilized, but the general cross section shape will be retained.

Wipf says, "It is anticipated that with a successful application of ultra high performance concrete that further advances in developing cost-effective uses will begin with a fury. These new advances will be of use to all jurisdictions within Iowa as they will ultimately reduce costs by taking advantage of a higher strength material and also taking advantage of a material with almost zero permeability which could essentially eliminate deterioration of bridge decks. The optimization, validation, and acceptance



of the proposed girder cross section represent a significant step in more widespread adoption."

The researchers also hope to benefit lowans during the process of construction. Wipf says, "We would like to develop and build on experience in the State of lowa in the design and construction of bridges using these advanced materials." The research team hopes to complete the design using only lowa based engineers working at various levels (State, Local, academia) and, where possible, to use local companies for the construction of the bridge, though the fabrication of the Pi shape girder will likely be done out of state due to specialty formwork issues.

For more information about this project, please contact Terry Wipf at tjwipf@iastate.edu.

## **special**feature



"Born during the Depression, I became unusually mature at an early age — in fact, already senile by the age of 12, I was uniquely qualified for the vocation of college professor."

- RICHARD L. HANDY

For more information, please contact Carla Wiedmier in the Engineering Development Office by telephone at 515-294-4489 or via e-mail at wiedmier@iastate.edu.



# There are people you meet on your academic journey that you never forget – like Dick Handy.

Dr. Richard L. Handy showed an enormous, infectious enthusiasm for his work and communicated that energy to others. The influence he had on his students' education was extraordinary, and he helped shape the careers of some of the world's most successful and ingenious geotechnical engineers.

You now have an opportunity to honor him by helping found the Richard L. Handy Professorship in Geotechnical Engineering at Iowa State University. We are asking you to come together with his former graduate students to raise \$500,000, the amount needed to establish an endowed professorship. By creating this prestigious position, the department of civil, construction and environmental engineering will have an effective way to promote the qualities Handy encouraged throughout his tenure at Iowa State – innovation, practicality and excellence.

#### Dick Handy's Legacy

lowa State takes pride in its heritage as a land-grant university. As alumni we hold to the ideal that a first-rate higher education in science and technology as well as liberal subjects should be accessible to all. Handy took this principle to a new level by emphasizing that geotechnical theories and applications should be made understandable to both engineers and lay persons. Handy did this by using humor in writing, lectures and talking with students to make even the most difficult engineering concepts comprehensible and the most basic engineering facts unforgettable.

#### Tradition of Excellence

lowa State's CCEE Department has one of the finest academic pedigrees in the nation. In 1906 Anson Marston started the tradition of excellence that has been carried forward by luminaries such as Merlin Spangler, Donald T. Davidson, James M. Hoover, and Richard L. Handy. Today, geotechnical faculty members contribute fully to this stellar legacy. Private companies and state agencies commonly seek to partner with Iowa State's geotechnical program for the faculty's progressive research and outstanding work in the field. To stay at the top, the geotechnical program needs to attract and keep the best engineers and educators performing at their peak.

The Richard L. Handy Professorship will give a faculty member the necessary resources to conduct innovative research and pursue exciting new lines of inquiry. Dick Handy's many inventions – such as the Borehole Shear Device (aka, the "Handy Hole Puller") and the Handy method for landslide stabilization – have won him international acclaim. At Iowa State, we continue to hold Dick Handy in the highest esteem for his years of dedicated teaching and pioneering research, his loyalty to his colleagues and students, and his magnificent, shearing sense of humor. Join his former graduate students in raising the \$500,000 needed to establish the Richard L. Handy Professorship, a prestigious position that will ensure the continuation of the geotechnical program's proud legacy at Iowa State.

#### How a Professorship Works

An endowed professorship is the university's main method to recognize faculty and promote academic excellence. The endowment is a permanent fund that is managed so that generations of Iowa Staters will benefit from the monies far into the future. An endowed professorship creates annual earnings for use by the faculty member named to the position. The funds can be used for research or educational purposes, such as hiring a graduate student or expanding research capabilities. The Richard L. Handy Professorship will be a powerful tool to attract and retain rising stars in geotechnical engineering, a crucial element to the program's continuing success.

### studentprojec

# **Preparing For Competition**

The U.S. Department of Energy has selected lowa State as one of 20 teams from 25 colleges and universities worldwide to compete in the fourth Solar Decathlon in the fall of 2009 in Washington, D.C. The international contest challenges college-level teams to create innovative and attractive completely solarpowered homes. This is the first team from the State of lowa to participate in the competition.

Construction Engineering graduate student **Aaron Brncich** says, "This project encourages students to think about energy-efficiency while still in school. We're working together to come up with solutions for the future and to educate the public."

Along with students in CCEE, students and faculty from other areas at ISU are also participating, including Architecture, Business, Engineering, English, Graphic Design, Journalism and Mass Communication, and Liberal Arts and Sciences. Contributions to the project have been made through classes, extracurricular activities, and independent studies.

When Iowa State's design is complete (called the Interlock House), the home will first be displayed on the Iowa State campus. In the fall of 2009, it will be disassembled and reconstructed on the lawn of the National Mall in Washington, D.C., in the solar village, where all 20 of the designs will be judged. The house will be a free-standing solar-powered dwelling that will generate enough energy for its needs and direct any surplus to the grid or a companion house nearby. It must utilize lean management, no-waste methods, and materials with lowered embodied energy, i.e. recycled and/or recyclable and biocomposites, while maintaining a safe and healthy environment for its occupants.

Some of the innovations that will be seen in the Interlock House include biocomposite materials developed at Iowa State, the latest in insulated window systems, and inventive water conservation strategies. Iowan and Midwestern companies and manufacturers have also contributed with their supply of new sustainable materials, assemblies and components.

To find out more information about the Interlock House and the 2009 Iowa State Solar Decathlon team or to support this project, visit http:// www.solard.iastate.edu.

# studentspotlight Building A Community & An Organization

In May 2008, an EF-5 tornado devastated the communities of Parkersburg and New Hartford, Iowa prompting twelve Iowa State students to band together to lend a helping hand. This small group of ConE students contributed nearly 100 hours, helping to rebuild homes, and ultimately lives. Knowing this type of experience would benefit other students across campus, the students formed the organization Cyclones Rebuilding Iowa (CyBuild).

CyBuild's mission is to provide students the opportunity to rebuild communities that are in need. CyBuild coordinates projects and volunteers, helping to make an impact across lowa.

The group has taken 6 trips so far with several in planning stages. Anyone can participate! If you would like to learn more about CyBuild and how you can get involved, please visit: www.stuorg.iastate.edu/cybuild.





# Nevada Medal Winner

**Thomas L. Vande Voort**, a CCEE graduate student is the recipient of the 2008 Nevada Medal for Distinguished Graduate Student Paper in Bridge Engineering for his paper entitled "A Precast UHPC Pile for Bridge Substructures."

"I am very excited and honored to receive the award. I would like to thank my professors, **Dr. Sri Sritharan** and Dr. **Muhannad Suleiman** for their guidance and support throughout my research and the Iowa Highway Research Board for providing the funding for the project. I would also like to sincerely thank Mr. Simon Wong and Simon Wong Engineering for sponsoring this award and supporting the innovation of graduate students in the bridge engineering field. I am excited about the opportunities that materials like Ultra High Performance Concrete (UHPC) is giving the next generation of designers and hope that UHPC can move us further toward extending the life of bridge substructures," says Vande Voort.

> Evaluators were from a group of internationallyrecognized authorities in bridge research and design. The award includes a plaque, an engraved 14-K gold pin, and a \$1,000 check.

# studentrecognitions&awards

Construction engineer senior **Nicole Bell** was chosen for Iowa State's third annual "Women Impacting ISU" calendar.

Twelve women whose leadership has made a difference at Iowa State University will be honored by the Carrie Chapman Catt Center for Women and Politics. More than 1,000 copies of the 2009 calendar will be distributed free after an official unveiling and recognition reception on Friday, December 5, 2008. The "Women Impacting ISU" calendars will be formatted as a large poster with a 2009 calendar. The poster will also include photographs of the six students and six faculty and staff members who were selected based on their achievements in administration, teaching, research, service and various other campus activities.

Funding for the calendar is provided by a mini-grant from the Women's Enrichment Fund administered by the Women's Leadership Consortium and made available through the Office of the Provost.

The Catt Associates, a student leadership organization associated with the Catt Center, sponsors the calendar. Members of Catt Associates publicize and collect the nominations; organize the recognition reception; and help design, order and distribute the calendars. A committee comprised of representatives of the Catt Associates, Catt Center and previous calendar honorees selected the 2009 recipients.

"We received more than seventy letters of nominations this year, so it's clear that interest in growing in this annual recognition of women's leadership at Iowa State," said Greta Johnson, a junior political science major and one of two Catt

Associates who served on the selection committee. "The committee was impressed with the overall quality of the nominations and enjoyed reading about the truly amazing women leaders on this campus."



**Prachand Shrestha**, a PhD candidate in Environmental Engineering and Biorenewable Resources and Technology (BRT) received one of three awards given by MyNetResearch.com for exceptional student research for his dissertation 'Bio-mimicry: Wood-Rot Fungal Saccharification of Cellulose for Bioethanol Production'. Chosen among 55 international competitors, award winners received cash prizes of \$1000 and were selected by the MyNetworkResearch.com advisory board consisting of distinguished professors from around the USA and UK.

The Associated General Contractors of America (AGC) awarded the AGC Student Chapter Service Award to Iowa State University in recognition of continued service to their community and a positive reflection on the construction industry.

"This special recognition of Iowa State is well deserved for their long-time service and dedication to the communities still struggling in Katrina-devastated areas," said Stephen E. Sandherr, chief executive officer of AGC. "We are proud to recognize these students for their remarkable commitment to public service."

This is the first year AGC has given this prestigious award, recognizing lowa State University's continued dedication to rebuilding the Mississippi Coast following the devastation of Hurricane Katrina. Iowa State students have spent their last three spring break vacations restoring homes, lives and communities. The students have elevated their commitment to civic participation and inspired others to do the same.

The Associated General Contractors of America (AGC) is the largest and oldest national construction trade association in the United States.

# what'snew?

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CCEE participates in the Cyclone Family Weekend committee's office decorating contest and wins 'Most Innovative.'





# IOWA STATE UNIVERSITY

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