IOWA STATE UNIVERSITY
Department of Civil, Construction, and Environmental Engineering

CCEE highlights 2006-2007

www.ccee.iastate.edu
Mission and Vision

The Department of Civil, Construction, and Environmental Engineering (CCEE) at Iowa State University desires to be a world-class source of civil, construction, and environmental engineers, concepts, and technologies. The CCEE department:

- promotes intellectual, social, and ethical development of civil and construction engineers
- creates and communicates engineering concepts and technology

Objectives

Our departmental curriculums are designed to prepare students for successful lifelong careers which inevitably will be faced with constantly changing technical and managerial challenges. The following degree-specific objectives have, therefore, been established for graduate capabilities and perspectives within the post-graduation time frame of three to five years into their careers.

Civil and Environmental Engineering

- Comprehensive education in the fundamentals of civil engineering
- Preparation to undertake civil engineering design tasks
- Demonstrated ability with effective communication skills and teamwork in multidisciplinary projects
- Ability to play a constructive role to address the needs of society and the environment
- Motivation to continue professional development

Construction Engineering

- Broad foundation in mathematics and physical sciences
- A base of engineering and design knowledge and application appropriate to the student's chosen option of building construction, highway and heavy construction, or electrical and mechanical construction
- Basic knowledge in construction process designs, cost estimating, planning, scheduling, and risk assessment
- Basic knowledge of contracts, law, business organization, principles of management, and ethical reasoning
- Effective oral, written, and graphical communication abilities to effectively communicate with engineers and non-engineers
- Ability to use current technology to meet the above objectives

Learn more about our mission, vision, objectives, and outcomes online at www.ccee.iastate.edu/who-we-are.html.
CCEE Successes

The 2006-2007 academic year was filled with great success for our department, faculty, research, and academic programs. Below is just a sampling of the highlights. Read more details on these successes throughout this publication.

People
- One new faculty member in construction engineering and one new staff member were hired;
- Four faculty were promoted;
- Six faculty won national/international awards;
- Five faculty received Iowa State University awards;
- 10 alumni earned awards;
- 18 student received awards;
- 16 faculty members (41 percent) traveled internationally on Iowa State business; and
- 31 faculty members (nearly 80 percent) are registered engineers.

Undergraduate Programs
- Our program is the fifth largest program in United States for the number of bachelor's of science degrees awarded;
- The number of students receiving scholarships increased 14 percent;
- The amount of scholarships awarded to undergraduate students increased 20 percent;
- The number of bachelor's of science degrees awarded increased 21 percent;
- 94 percent of construction engineering students and 84 percent of civil engineering students had obtained jobs at graduation;
- Students had a 95 percent passing rate on the Fundamentals of Engineering Exam (compared to 71 percent nationwide); and
- Our 4.88 undergraduate per full-time faculty equivalent (BS/FTE) compared to the 3.38 BS/FTE Peer 11 average. (Note: Our BS/FTE is up from 4.16 a year ago, while the Peer 11 average is down from 3.44.)

Research & Graduate Programs
- The number of proposals funded increased 10 percent;
- The dollar amount of funded proposals increased nearly 13 percent;
- Graduate enrollment increased 4 percent; and
- The number of PhD degrees awarded continued to increase.

Facilities
- The purchase and installation of furniture for graduate student offices (room 136) was completed;
- Several renovation projects started, kicked off with monies from students' differential tuition, including the: Kiewit Student Study Center, (room 194), Highway Design Classroom (room 198), Advanced Asphalt Materials Lab (room 168), and Geotechnical Materials Engineering Undergraduate Teaching Lab (room 160), and
- The redesign/organization of CCEE department’s main office (room 394).

New Faculty & Staff

In 2006, the CCEE department welcomed several new faculty and staff members, including:
- Jennifer Shane, assistant professor, has joined the construction engineering faculty. Shane most recently worked as an engineering associate for the Kansas Department of Transportation. She received her PhD from the University of Colorado-Boulder in 2006. Shane’s research interests are alternative project delivery systems and cost estimating.
- Tom Stout and Muhammed Suleiman received new three-year appointments as lecturers. Stout teaches in the transportation division, and Suleiman works in the geotechnical area.

Dana Schmidt joined the CCEE department’s staff as communications specialist in November. She edits newsletters, updates the department’s Web site, and assists in the creation of departmental recruitment materials. She has a bachelor’s degree in journalism and mass communication from Iowa State University. She also works with the Department of Electrical and Computer Engineering.

James E. Alleman

PCC Center Gets New Name

The Center for Portland Cement Pavement Technology (PCC Center) has a new name and a new national focus. The PCC Center will now be known as the National Concrete Pavement Technology Center (CP Tech Center).

The original center was founded in 2000 by Iowa State University, the Iowa Concrete Paving Association, and the Iowa Department of Transportation. The CP Tech Center’s new name and national focus were unveiled at the American Concrete Pavement Association’s Annual Convention in California. The center will seek to facilitate strategic partnerships and accelerate implementation of promising technologies.

Jaselskis Named to NSF Directorate

Ed Jaselskis, professor of construction engineering, was selected to serve a one-year appointment with the National Science Foundation as a director for the Information Technology and Infrastructure Systems program beginning August 14, 2006. His primary duty involves managing nearly $2.8 million research program in the construction, transportation, and civil infrastructure areas.

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Go! Transportation Magazine Launched

Iowa State University’s Center for Transportation Research and Education (CTRE) launched a new free, bimonthly online magazine for teenagers about transportation.

Go! magazine opens teens’ eyes to the exciting innovations in transportation as well as the human problems that transportation helps solve. The magazine covers the diversity of transportation from infrastructure and modes to technology and people.

The online publication is targeted to young men and women age 12 to 17 who are curious about the world, and who are interested in math, science, technology, government, politics, economics, geography, and/or the environment. Through the lens of transportation, Go! shows teens how to help people and make a difference in the world.

Visit www.go-explore.trans.org to see the latest edition.
CCEE Student Enrollment Trends

Overall, the CCEE department has a stable undergraduate enrollment—778 students—and a slightly increasing graduate student population—112 students. The following graphs break down the data.

Undergraduate Enrollment

Graduate Enrollment

Our total graduate student enrollment increased 4 percent.

Faculty Awards & Honors

The CCEE department recognizes the following faculty and staff for their achievements in 2006:

- James Cable, associate professor of transportation engineering, received the Iowa Concrete Paving Association’s Outstanding Achievement Award for enthusiasm, dedication to quality, ingenuity, and cooperative spirit.
- Halil Ceylan, assistant professor in geotechnical and materials engineering, was presented with second place for the Best Paper Award for Novel Smart Engineering System Design at the International Conference on Artificial Neural Networks in Engineering (ANNIE). The paper’s title was “Use of Neural Networks to Develop Robust Backcalculation Algorithms for Nondestructive Evaluation of Flexible Pavement Systems.” It was based on research from the project on nondestructive evaluation of pavement systems sponsored by the Iowa Department of Transportation. The paper was co-authored by Ph.D. students Mustafa Birkan Bayrak and Alper Guclu.
- Roy Gu, professor in environmental engineering, received a visiting chair professorship from Shandong University, China.
- Shauna Hallmark, associate professor in transportation engineering, won the College of Engineering’s Young Engineering Faculty Research Award. The award recognizes individuals who have demonstrated the ability to conduct original research, contribute to scholarly literature, and introduce new and/or improved laboratory techniques and instrumentation. It also recognizes faculty whose research has had an impact outside the university. Hallmark also received a Best Poster Award at the 2006 Air and Waste Management Association Annual Meeting in New Orleans, Louisiana.
- LaDon Jones, lecturer in integrated curriculum, received the 2006 Joseph C. & Elizabeth A. Anderlik Faculty Award for Excellence in Undergraduate Teaching.
- Say-Kee Ong, professor in environmental engineering, has been promoted from associate professor to professor.
- Max Porter, professor in structural engineering, received the Masonry Society’s John B. Scalfi Research Award and was named the new chairman for the society’s Research Committee.
- Bob Steffes, PCC research engineer, received a Citation Award for his work designing the concrete and geotechnical mobile labs.
- Tom Stout, lecturer in transportation engineering, was elected a Fellow in the Institute of Transportation Engineers.
- Kejin Wang, associate professor in geotechnical and materials engineering, won the 2006 Charles W. Schaefer Award for Excellence in Teaching, Research, and Service. She also was awarded as Honorary Professor at Heifei University of Technology, China, and has been promoted from associate professor to associate professor with tenure.

Hoover Mentoring Workshop Connects Students & Practitioners

The first annual Hoover Mentoring Workshop was held in November 2006. The workshop was held in honor of former geotechnical engineering professor and Iowa State alumnus James M. Hoover, who was known for his dedication to teaching, research, and mentoring his students.

Hoover greatly impacted the students and colleagues he worked with particularly, Craig Denny, a student of Hoover’s in the 1970s. “I thought he was a fabulous professor,” says Denny. “He was approachable and for whatever reason we had it off.” Denny says Hoover instilled in him an interest in succeeding. “It is really apparent to me that the reason I have been successful to the degree I am, is attributed to the influence Jim had on me.”

And that’s why Denny, now a senior principal engineer at Terracon Consultants in Lenexa, Kansas, and his wife, Terry, donated a gift to the CCEE department to endow the James M. Hoover Chair of Geotechnical Engineering and begin this annual workshop.

This inaugural workshop attracted nationally known speakers, including James O’Brien from the American Society of Civil Engineers, and James K. Mitchell, a university distinguished professor emeritus at Virginia Tech, as well as Richard L. Handy, an Iowa State University Anson Marston distinguished professor emeritus.

“Mr. Handy was truly helpful with the workshop. We had a turnout of about 150 participants,” says Vernon Schafer, the James M. Hoover Chair and professor of civil engineering.

In addition to listening to captivating speakers, the 150 participants split into small discussion groups involving both students and practitioners.

“The buzz was still going even after an hour of small group time,” says Schafer. According to Schafer, the small groups especially reflected the purpose of the workshop—to connect students and practitioners and encourage them to interact, as well as to get students thinking about their future.

The 2007 Hoover Mentoring Workshop will be held November 9. Look for more details on this year’s workshop at www.ccee.iastate.edu.
### Degree Trends

The following graphs show the number of undergraduates with bachelor's of science degrees, job placement rates, and graduate degrees awarded in 2006-2007.

### BS Degrees Awarded

![Graph showing the number of BS degrees awarded from 1996 to 2006.](Image)

The number of bachelor's of science degrees awarded increased 21 percent.

### BS Graduates Job Placement

![Graph showing job placement rates from 1996 to 2006.](Image)

Placement at graduation remains high—94 percent for construction engineering and 84 percent civil engineering students.

### Graduate Degrees Awarded

![Graph showing the number of graduate degrees awarded from 1996 to 2006.](Image)

The number of PhD degrees awarded continued on an upward trend.

### AGC Teams Attend Nationals

Iowa State University’s design-build and heavy highway teams competed at the Associated Schools of Construction (ASC)/Associated General Contractors (AGC) of America National Student Competition held in Irving, Texas, April 3–7, 2006. Neither team placed in the top three but performed very well. The judges commented that only a few percentage points separated each team.

In the fall, new teams of students competed in the Associated Schools of Construction (ASC) Region IV Competition. For the ninth time in the last 10 years, the Iowa State construction engineering students placed first in the design-build division. Iowa State students also received first place in the commercial, second place in the heavy/civil, and fourth in the residential divisions. The students competed with 30 teams from 12 universities in North Dakota, Minnesota, Iowa, Nebraska, Missouri, and Kansas.

In addition to the annual competitions, the AGC student chapter also participates in numerous service activities. Read more about their service trip to Mississippi to help with rebuilding efforts from Hurricane Katrina on page 10. Senior Lecturer Larry Cormicle is the faculty advisor for the group.

### Chi Epsilon Keeps Busy

The Iowa State University chapter of Chi Epsilon welcomed 22 new initiates this year and has been busy with service projects, its annual golf tournament, the civil engineering spring banquet, and the Chi Epsilon help room.

Club members served the Ames community this year by cleaning up a two-mile stretch along Highway 30 and helping with Stuff the Bus, a program to collect food for families in need. Members also continued hosting the Chi Epsilon Study Session every Monday night, where civil engineering students can study and ask for help.

In October, the group hosted its third annual Chi Epsilon Golf Outing. This fundraiser was designed to provide students opportunities to network with and gain insight into the profession from faculty and local engineers. Local engineering firms sponsored the event and sent participants. The money raised will be used for a new Chi Epsilon scholarship.

In the spring of 2006, Chi Epsilon hosted the 23rd Annual Civil Engineering Spring Banquet. More than 100 students, parents, faculty, and civil engineering professionals gathered for a dinner that recognized students and featured a guest speaker. Gerald Olson, the founder and retired president and CEO of Terracor—one of the largest geotechnical firms in the United States—and an Iowa State alumnus.

Additionally, member Tyler Wiles received a prestigious Chi Epsilon scholarship for the North Central division—Ryan Groenendoom, Chi Epsilon chairman.

Chi Epsilon students pose for a picture while on a field trip.

### Transportation Students Win

Two Iowa State University graduate students have won awards from the Midwest Transportation Consortium (MTC) and Missouri Valley Chapter of the Institute of Transportation Engineers (MOVITE).

Mustafa Birkan Bayrak received first place at the MTC’s Transportation Scholars Conference for his paper on the use of neural networks in pavement design. The conference is part of Iowa State’s Transportation Scholars program for exceptional students in transportation-related fields. Papers presented at the conference represent the best of student research projects. The Transportation Scholars program is sponsored by the MTC, a U.S. Department of Transportation University Transportation Center. The consortium is led by Iowa State and hosted at Iowa State’s Center for Transportation Research and Education.

Josh Hochstein was named MTC’s Student of the Year. Hochstein also received MOVITE’s Thomas J. Satrum Student Paper Award. His paper entitled “Potential Rural Expressway Intersection Safety Treatments” earned a $500 cash award and travel expenses to present the paper at the September 2006 MOVITE meeting in Topeka, Kansas.

Mustafa Birkan Bayrak

### Awards

Additionally, Iowa State’s student chapter of the Transportation Students Association was selected as MOVITE’s Student Chapter of the Year, an award the group has won six of the last seven years.

The Institute of Transportation Engineers (ITE) is an international educational and scientific association of transportation and traffic engineers, transportation planners, and other professionals who are responsible for the safe and efficient movement of people and goods on streets, highways, and transit systems. The Missouri Valley Section covers Iowa, Nebraska, Missouri, Kansas, Arkansas, and Oklahoma. Professors Reg Souleyrette and Ed Kannel are the student chapter advisors.

### Chi Epsilon School of Civil, Construction, and Environmental Engineering

Mustafa Birkan Bayrak

The CCEE department saw a significant increase in the dollar amount of research proposals submitted.

### Research Proposal Productivity

![Graph showing research proposal productivity from 1996 to 2006.](Image)

### Research Dollars per Full-time Faculty

![Graph showing research dollars per full-time faculty from 1996 to 2006.](Image)

The CCEE department’s research expenditures per faculty full-time equivalent remain below that of our peer institutions.
The American Society of Civil Engineers’ (ASCE) student chapter started this year with a membership drive to recruit students and encourage active participation, especially among incoming freshmen. The club participates in many academic, outreach, and social activities.

Throughout the year, ASCE brought its practicing professionals each month to give presentations to students, expanding their knowledge of the profession and allowing them to network. The chapter also became more involved in the Ames community. One of the club’s most popular events is teaching West Fork Bridge Builder to kids in elementary through high school interested in engineering. ASCE students helped with science fairs and the Engineering Day at Ames’ North Grand Mall, too.

The club’s steel bridge and concrete canoe teams again were highly active. The steel bridge team worked on a new and innovative design and the concrete canoe team tried a new mix design and hull shape. The canoe team placed third and the bridge team placed fourth in one of the most competitive regions in the nation.

The group participated in many intramural sports, tailgating for football games, a spring camping trip, and Friday After Class events at the Pizza Pit. For next year, the club is trying to line up field trips to places such as the new water treatment plant in Nevada, Iowa.

—Matthew Bauer, ASCE chapter president, and Morgan Saforek, ASCE public relations co-chair

DBIA Has Successful Year

Iowa State University’s Design Build Institute of America (DBIA) student chapter experienced another year of growth during the 2006-2007 academic year. Membership jumped to nearly 30 active members, and more than 60 civil engineering, construction engineering, and design students participated in at least one DBIA sponsored event.

During the year, the DBIA chapter visited a large design-build distribution center in Boone, Iowa, and traveled to Omaha, Nebraska, to visit three large design-build firms and three of their current projects. The group also sent seven members to the DBIA National Convention in Nashville, Tennessee. At the convention, students attended seminars on various aspects of design-build and networked with some of the top design-build professionals in the country. Iowa State’s DBIA sent more students than any other school in the nation.

Along with field trips, DBIA arranged design-build professional speakers to present at all monthly meetings. Architects, design-builders, and owners’ representatives shared their design-build knowledge and experiences with our chapter.

—Brian Harry, DBIA president

Peer Institution Comparisons

The following graphs offer comparisons between the CCEE department and similar departments at peer institutions.

Graduate Enrollment per Full-Time Faculty

The number of graduate degrees per faculty full-time equivalent for both Iowa State and our peer institutions.

Graduate Degrees per Full-Time Faculty

The number of graduate degrees per faculty full-time equivalent for both Iowa State and our peer institutions.

Construction engineering students spent their spring break in Waveland, Mississippi. The work in this area is being coordinated by the Hurricane Relief Corps, a nonprofit agency dedicated to helping the devastated area. Each student paid $30 a day for room and board.

Because the Iowa State students were skilled in construction, they actually got to help with rebuilding efforts. Almost everyone else was picking up debris or tearing down damaged structures. Overgaard says the other students had rakes, shovels, and wheel barrows, and they spent the week gutting houses. “Iowa State students did what they do best,” he adds. “We built things.”

—Brian Scrmager, Engineering Communications and Marketing

ConE Students Help with Katrina Rebuilding

Twenty-six students from Iowa State University’s College of Engineering, most of them majoring in construction engineering and members of Iowa State’s Associated General Contractors (AGC) of America chapter, spent a week in southern Mississippi helping families devastated by Hurricane Katrina. They hung sheetrock, roofed homes, framed houses, and removed debris still strewn about the area.

“We wanted to lend a helping hand to those in need,” says Nels Overgaard, a senior from Newell, Iowa, and 2006 president of Iowa State’s AGC chapter. “I think we made a difference.”

The Iowa State team lived with more than 700 other students from across the country at the Morrell Foundation’s 1-Care Village in Construction engineering students spent their spring break in Mississippi helping to rebuild homes destroyed by Hurricane Katrina.

The ASCE Steel Bridge Team practices in the hallways of Town Engineering Building.

ASCE Stays Active
Two Teams Travel to Metcalf & Eddy Finals

Two Iowa State University civil engineering teams placed second and third in the 2006 Metcalf and Eddy Collegiate Design Competition. The competition was held May 4, 2006, in New York City. Two of the three teams in the finals were from Iowa State.

Members of the second place team were CCEE students Rebekah Nelson, Lynnea Golding, Korff Gangba, and Anusree Kizhakkethil. Their project was “Pre-treatment of Sludge for Enhanced Sludge Digestion.”

Specific goals of their project were to assess pretreatment technologies to simultaneously minimize solid destruction and methane production and to determine if the COD produced through pretreatment and the anaerobic digester is suitable for the biological nitrogen removal. The students assessed several technologies including ultrasound destruction, cooxidizers, and thermal treatment.

Iowa State won the competition last year. —Rebekah Bovenmeyer

Water Quality Club News

The Iowa State University Water Quality Club grew considerably this year, attracting nearly 50 students at each of its three speaker meetings. The meetings featured seminars by James E. Alleman, CCEE department chair; Gabe Lee, an environmental senior engineer for the Iowa Department of Natural Resources; and Harris Seidell, a retired environmental engineer in water and wastewater treatment.

The group also acted as judges for the Awesome Aquifer section of the Iowa Science Olympiad state tournament for middle school students. Group members helped educate and inform young students about the water environment and technologies to protect it. —Po-Heng (Henry) Lee, ISU Water Quality Club secretary

Awards & Honors for Alumni and Friends

The CCEE department congratulates the following alumni and friends who received top honors in 2006:

- Dwayne McNinch, friend of the department and primary donor of the Geotechnical Mobile Lab, received the Engineering News Record (ENR) 2006 Engineer of the Year Award for his work using GPS in earth-moving.
- Nathaniel Fox (MSCE 1966; PhD 1968) won the Wallace Hayward Baker Award from the American Society of Civil Engineers’ Geo-Institute.
- Mary K. Hurd (BSCE 1947) received the American Concrete Institute’s (ACI) Bloom Award for Distinguished Service to recognize her outstanding leadership of ACI Committee 124, Concrete Aesthetics. She is best known for her “green bible” Fowork for Concrete.
- Richard Johnson, friend of the department, Story County Commission, received the 2005 Associated Builders and Contractors (ABC) of Iowa Contractor of the Year award. Johnson is the only person in the history of ABC of Iowa to have been elected to serve as president twice.
- Larry Matusch (BSCE 1966) won the 2004 100,000 TON AWARD from the Asphalt Paving Association of Iowa.
- David Sanders (BSCE 1984) received the 2006 Professional Progress in Engineering Award (PPEA) from the Iowa State University College of Engineering. The PPEA was established in 1989 to recognize outstanding professional progress and distinguished community service by engineering alumni under age 46.
- Rao Y. Surampalli (PhD 1985) was elected as a Fellow of the American Association for the Advancement of Science (AAAS). Last year only 15 engineers were elected in the world.

The following alumni were involved in two Cedar Valley Corporation projects given the American Concrete Pavement Association’s Excellence in Concrete Pavement awards:

- William Calderwood (BSConE 1980), senior vice-president
- Scott Cresser (BSConE 1982), estimator
- Steve Jackson (BSConE 1975), president
- Brian Moore (BSCE 1990), engineer
- Matt Proctor (BSConE 2000), project manager

Sigma Lambda Chi Inducts Members, Volunteers in Community

Iowa State University’s chapter of Sigma Lambda Chi, a national construction engineering honor society, held two initiations this past year and welcomed 13 new members. Sigma Lambda Chi recognizes outstanding students in construction who have completed at least two years in a construction-based curriculum and have an overall scholastic average in the top 20 percent of all students in the program.

Throughout the school year, Sigma Lambda Chi held several monthly meetings and participated in many volunteer activities in the community. One of those activities involved the group’s members giving nine Hotel Lego presentations to prospective high school, middle school, and elementary students. Sigma Lambda Chi members explained what construction engineering is at Iowa State and then allowed the students to act as construction engineers (on a smaller scale). The students were provided with a blueprint that they used to construct a miniature hotel. Hotel Lego presentations provide a learning experience for both Sigma Lambda Chi members and prospective students.

Additionally, Sigma Lambda Chi members helped with transfer student class registration both semesters, as well as assisted peer mentors to evaluate learning community presentations. The honor society also held several social events during the 2006-2007 academic year. —Jennifer Shane, Sigma Lambda Chi faculty advisor

Student Awards

The following CCEE students received awards and honors throughout the year:

- Dong Chen
  Research Excellence Award
- Sungwhan Kim
  Engineering Student Council Leadership Award
- Nels Overgaard
  Academic Excellence Award
- Mary Rasmussen
  Graduate Fellowships

Eisenhower Fellowships

- Chetan Hazaree
- Joshua Hochstein
- Hillary Isebrands
- Chintakunta Satis Reddy

PAC 2006 Education Foundation Fellowship:
- John Keavern

External Awards

Annual Metcalf & Eddy Environmental Engineering Design Competition, Second and Third Place:
- Nathan Casey
- Korff Gangba
- Lynnea Golding
- Anusree Kizhakkethil
- Jennifer Morud
- Rebekah Nelson

Best Paper Award, Midwest Transportation Consortium’s Scholars Paper Competition:
- Mustafa Birkan Bayrak

Special Environmental Engineering Award:
- Na Li
Construction Engineering: Program Experiences Continued Success

By Chuck Jahren, Professor-in-Charge, Construction Engineering

Iowa State University’s Construction Engineering (ConE) program is experiencing great success and continues to evolve and improve each year. With more than 300 undergraduate students and nine faculty members, ConE is by far the largest program of its kind in the nation. Students in the Iowa State program are some of the best and brightest ConE students in the country, repeatedly winning many regional and national awards. In recent years, Iowa State has added resources to the ConE program by increasing the faculty size more than 50 percent and making several changes to increase the program’s effectiveness. As a result, the program has undertaken several initiatives, including:

- The development of a highly successful learning community for students
- A mock bid letting program where student bids are tendered to the contracting authority and evaluated along with contractor bids. These mock bids are assembled using actual sub and supplier quotations and include both commercial and highway and heavy construction.
- Design-build student term projects
- The addition of separate faculty experts in both mechanical and electrical construction
- A decrease in the student to instructor ratios in labs using donor funds
- A commitment to supporting our highly successful student organizations as measured by competitive awards
- The development of research programs in paperless construction administration, high technology solutions for construction inspection, integrated project delivery (including design-build), urban freeway reconstruction, and process improvement for road construction, maintenance, and rehabilitation.
- The development of joint graduate and senior elective courses in Highway and Heavy Construction including a GPS Automatic Machine Control class featured in the Engineering News Record.
- The program also has plans in place for many future initiatives such as:
  - Selectively integrating civil engineering activities to leverage resources, and providing students with experience working in multidisciplinary teams.
  - Adding faculty with expertise in legal aspects of construction.
  - Developing further coursework in integrated project delivery, including design-build.
  - Furthering distance education, starting with a construction engineering and management emphasis for a civil engineering master’s degree.
  - Developing basic research initiatives in alternative project delivery techniques and multi-objective optimization as well as applied research for innovative construction for transportation projects.
  - A new model of faculty responsibilities also has been implemented. The new model recognizes faculty as a team of specialists who work together and excel in their areas of expertise. The program has added lecturers who have considerable industry experience and teach many rigorous and practical courses. Separate experts for both electrical and mechanical construction have been added, something rarely found in other construction programs. Currently, Iowa State researchers are concentrating on three main areas: high technology, urban freeway reconstruction, and construction process improvement. Some of the projects include:
    - Studying laser scanning, advanced rapid and nondestructive construction inspection; urban freeway delivery systems, scheduling methods, and paperwork reduction, asphalt and gravel road maintenance and rehabilitation; earthwork construction; and construction administration improvement.
    - Geo-construction is another new research area. Because most of the sites that are easy to build on have already been developed, it leaves the more challenging sites. To build on these sites, engineers need to have an intimate understanding of both design and construction. To the department’s knowledge, no other university has a research focus in this area. In order to address those industry needs, our ConE program plans to join forces with our geotechnical division to create a graduate program in geo-construction—the first program of its kind in the United States. Geotechnical Engineering: Mobile Lab Provides Cutting-edge Technology

Iowa State University’s new Geotechnical Mobile Lab helps researchers conduct projects in Iowa and beyond. The lab supports research conducted through the Center for Transportation Research and Education’s Partnership for Geotechnical Advancement (PGa) and the Department of Civil, Construction, and Environmental Engineering’s Geotechnical Engineering Division. Iowa State geotechnical researchers define and prioritize geotechnical problems and, through an understanding of these problems, develop applicable solutions that result in increased value through better life-cycle performance. The lab’s vision is that geotechnical construction projects will be built with specifications and processes that allow maximum efficiency and creativity on the part of the contractor, use acceptance criteria that ensure responsible use of public funds, and maximize value by increasing the performance life of roadways. The lab has the following objectives:

- To better understand the engineering properties of soils that relate to performance in highway construction and have a high degree of reliability for agencies and contractors.
- To improve earthwork construction quality and efficiency through the use of current and emerging construction equipment and intelligent construction technologies.
- To develop laboratory and field-test technologies and procedures for verification testing.
- To test and field measure the properties of soils that relate to performance and use this knowledge to develop methods of quality control/quality assurance (QC/QA) for geotechnical applications.
- To provide field training opportunities to contractors and public agency personnel.
- The Geotechnical Mobile Lab helps increase productivity and efficiency and reduce construction costs, as well as allows for more responsible use of public investments, greater reliability, and improved performance. The lab is sponsored by McNinch Construction.

The lab’s 44-foot-long trailer is fully equipped with tools and laboratory sample preparation equipment, wireless Internet access, internal water connections, a refrigerator, microwave oven, and multimedia system. It holds various pieces of cutting-edge equipment for use in the lab and field, including:

- A Portable near-infrared spectrometer
- Certified sieves for particle-size analysis
- A Clegg ‘standard’ hammer
- Davis Vantage Pro weather stations with Weatherlink datalogger
- Endecotts EFL 2000 vibratory sieve shaker
Environmental Engineering: Researchers Explore New Uses for Fuel Ethanol

By Mike Krapfl, ISU News Service

Fuel ethanol could be cheaply and quickly converted into the purer, cleaner alcohol that goes into alcoholic drinks, cough medicines, mouth washes, and other products requiring food-grade alcohol, say Iowa State University researchers. But there’s still a lot of purifying and studying to be done before fuel made from corn is turned into your next vodka or mixed into your morning mouth wash.

Jacek Koziel, an Iowa State assistant professor of agricultural and biosystems engineering, is leading a research project that’s attempting to develop and refine two technologies that work together to efficiently purify and remove bad-tasting components from fuel ethanol. The project is partially supported by a $79,000 grant from the state’s Grow Iowa Values Fund.

Koziel is collaborating on the project with Hans van Leeuwen, the vice president of MeltVine, a Cedar Rapids company that has developed technology for purifying alcoholic beverages. Van Leeuwen is also an Iowa State professor in environmental engineering.

Iowa certainly has an abundance of fuel ethanol for the researchers to work with. Iowa is the country’s leading producer of fuel ethanol. The Iowa Corn Promotion Board says the state has 25 plants capable of producing 1.5 billion gallons per year with more plants on the way.

Van Leeuwen says the fuel produced by those plants and the alcohol produced for the beverage industry are very similar. But alcohol produced for fuel isn’t made with the same care and purity as alcohol for consumption, he says. The multiple distillations required to make food-grade alcohol raise production costs to about 30 cents per gallon more than it costs to produce fuel ethanol.

Van Leeuwen says the researchers are working to develop technologies that can purely fuel into beverage alcohol for less than an additional penny per gallon.

“That’s the whole point,” van Leeuwen says. “And based on my experience treating water and wastewater with these technologies, this could cost a lot less than a cent per gallon.”

The potential to cut costs has one large producer of ethanol and food-grade alcohol interested in the research project, van Leeuwen says.

Koziel says the researchers are using two purification technologies: they’re bubbling ozone gas through the fuel to remove impurities and they’re filtering the fuel through granular activated carbon to absorb impurities. A patent for the process is pending.

Underpinning the research is sophisticated chemical and sensory analysis of the raw fuel and the purified alcohol. Koziel will use a technology called solid phase microextraction to separate and analyze the smells created by the compounds. And he’ll use a technology called gas chromatography-mass spectrometry to identify and quantify all the compounds in the samples. And he’ll use his lab’s ollametry equipment to separate and analyze the smells created by the various compounds.

“If this is viable,” Koziel says, “we are looking at adding a lot of value to relatively cheap fuel-grade ethanol.”

Transportation Engineering: Iowans Could Be Headed Round the Roundabouts

By Mike Krapfl, ISU News Service

They work in the United Kingdom and Australia. Maryland and Kansas, too. But is there room in Iowa for roundabouts?

Hillery Isebrands, an Iowa State University doctoral student in transportation engineering who’s studying the circular intersections, says there’s only one answer to that: “Oh, yeah. Definitely.”

Isebrands should know. She’s studying whether modern roundabouts on rural Midwest highways can reduce crash severity. She also is negotiating grants with the Iowa Department of Transportation, the Federal Highway Administration, the Minnesota Department of Transportation, and Minnesota’s Local Road Research Board to help develop guidelines for considering and building roundabouts. And she’s working with her Associate Professor Shauna Hallmark to assess whether roundabouts can reduce vehicle emissions by decreasing idling time and creating fewer stops at intersections.

Roundabouts are built around a center island. They direct traffic counterclockwise around the island until drivers reach the exit. They have no stop signs or traffic signals. Yield signs, directional arrows, and pavement markings guide the way.

Isebrands says there are three good reasons to consider roundabouts:

• Safety: Research shows roundabouts reduce crashes by 50 percent and reduce the severity of crashes by up to 80 percent, Isebrands says. That’s because drivers have to reduce speeds to get around them, especially if a roundabout replaces a highway intersection controlled by stop signs. Roundabouts also reduce potential crash points from 32 in a four-way intersection to eight.

• Traffic flow: Traffic at busy intersections doesn’t pile up behind roundabouts, Isebrands says. Drivers entering a roundabout don’t have to stop, but they do have to yield to vehicles already in the circle. Cars continuously move in and out of roundabouts, increasing traffic flow and intersection capacity.

• Another tool: Adding stop signs or traffic signals isn’t always the solution to a problem intersection. Sometimes traffic signals are only warranted during peak travel times. And traffic signals can result in more severe crashes. Roundabouts give road designers and transportation engineers another solution to consider.

For all those reasons, roundabouts are on their way to Iowa’s highways.

John Abrams, an engineer for the rural design section of the Iowa Department of Transportation, says the department built its first highway roundabout in 2006. That roundabout is at the south intersection of U.S. highways 63 and 34 in Ottumwa.

The roundabout should improve a three-way “spaghetti jumble” at the intersection, he says.

And will Iowans see more highway roundabouts over the next few years? Abrams says the answer is definitely “yes.”

Coralville has built two roundabouts since 2002, has one under construction, and another in the planning stage. Scott Larson, Coralville’s assistant city engineer, says the city built the first two roundabouts as alternatives to adding turn lanes and traffic signals.

People tend to appreciate how a roundabout is an alternative to traffic signals,” Larson says. “As people learn to drive roundabouts—and there is a short learning period for some—they begin to appreciate how they can help themselves get through the intersection more smoothly by yielding and anticipating gaps in traffic, instead of being at the mercy of a stop sign or red light.”

But will roundabouts work out in the country? This is Iowa, after all. What happens when a tractor pulls a disk plow into one? Isebrands—who earned an Iowa State bachelor’s degree in 1997, worked six years as a highway designer in Wisconsin and returned to Ames in 2003 for graduate school—answered by clicking through the laptop computer.

And there was a picture of a Kansas roundabout with room for three big trucks pulling three long trailers.

So there’s room in a roundabout for tractors. And Isebrands thinks there’s room in Iowa for roundabouts and their safety features.

“I think there’s a place for them,” she says. “Roundabouts are a proven safety alternative for reducing crash severity at intersections, and this puts Iowa one step closer to reducing the number of Iowans who lose every year in crashes.”
Two civil engineering graduate students spent much of their time last fall in Boone County, Iowa. Why? Samantha Hockerman and Ryan Bowers were involved in a research project to determine the feasibility of using an accelerated bridge construction system in Iowa. The result: They’re finding quicker, safer ways to build and repair bridges across the state.

In rapid construction systems, sections of bridges are built off-site, and later transported and installed on location. Hockerman and Bowers worked on a bridge at 120th Street over Squaw Creek in Boone County—about 20 miles northwest of Ames.

Hockerman developed and implemented tests on precast bridge elements, and designed the internal instrumentation in the deck panels and instrumentation on the post-tensioning tendons. She also documented the construction process with the assistance of F. Wayne Klaiber, professor of civil engineering; Terry Wipf, professor of civil engineering and structural engineering division leader; and Jim Nelson, an Iowa State civil engineering alumnus and an engineer with the Iowa Department of Transportation (DOT). Bowers conducted many tests, including lab tests on the precast bridge deck panels.

Hockerman says time is the biggest benefit of using rapid construction techniques. “Bridges can be closed for a few weeks instead of a few months,” she says. “It also typically means less environmental impact, safer conditions for construction workers, and safer conditions for the driving public.”

Although this technique has been around for decades and is used especially in Europe, engineers in the United States and Iowa have only recently become more interested in this process. “This is where the industry is headed, without a doubt,” says Hockerman. “For heavily trafficked roads and bridges, this type of construction can greatly reduce the amount of economic loss due to closures. As traffic keeps increasing, this technology will only become more valuable.”

Recently, Hockerman and Bowers’ work was recognized when the Boone County bridge received an Iowa Quality Initiative Structures Award. It won the Merit Award for a concrete beam bridge on a local system constructed in Iowa between 2004 and 2006. The Iowa Quality Initiative Structures Award program recognizes structures built in Iowa that demonstrate superior quality of workmanship in their construction and design.

The rapid bridge construction research was sponsored by the Federal Highway Administration, Iowa Department of Transportation (DOT), the Iowa DOT Highway Research Board, and Boone County.

By Dara Schmidt, CCEE Communications Specialist

Structural Engineering: Researchers Study Rapid Bridge Construction in Iowa

**Division HIGHLIGHTS**

**Geotechnical Materials Engineering Undergraduate Teaching Lab**

This academic year, the CCEE department began an aggressive project to renovate and update the undergraduate teaching facilities in the geotechnical and pavement (both asphalt (HMA) and concrete and asphalt) area and provide state-of-the-art industry equipment for students to use. The project brings together academia and industry in a unique partnership to enhance the educational facilities of undergraduate students. The labs are used by every undergraduate student in the department (approximately 170 students annually). Two fundamental courses, CE 382: Design of Concretes and CE 383: Design of Portland Cement Concrete, are taught in the room, which was previously more than 20 years out of date. For example, students were using triple balance beams for weighing materials in lieu of digital scales. Along with providing updated equipment, industry and donor support will provide renovation of the facilities.

In a recent survey of our junior and senior students, the most common request was to upgrade the soil/concrete labs. This request appeared in over 42 percent of the responses. Additionally, ABET reviewers recommended the department upgrade its undergraduate teaching labs after their visit last fall. Demolition of the curing room and installation of electrical outlets for equipment in the Geotechnical Materials Engineering Undergraduate Teaching Lab (room 160) is complete. A moveable white board also has been added to the room. Renovations will continue next academic year.

**Advanced Asphalt Materials Laboratory**

Renovation and updating of the Advanced Asphalt Materials Research Laboratory, Town Engineering Building’s room 168, began this year. New benches, an epoxy resin countertop, paint, an eyewash station, a drop ceiling, and new lighting have been purchased and installed.

Several equipment items also have been added to the lab, including a servopump test system; comparator; ovens; shear mill; balances; and heating mantles. The project is substantially complete, and additional equipment items should be purchased and installed this coming academic year.

The update was needed for three reasons. First, the completion of the Strategic Highway Research Program and the implementation of Superpave in the 1990s have considerably increased the expertise needed for designing hot mix asphalt (HMA) pavements. The recent development and forthcoming implementation of mechanistic pavement design utilizing characteristics of HMA for specific projects further elevates the technical skills needed for implementation.

Additionally, construction specifications have moved from method specifications to quality control and performance-related, performance-based specifications. Design/build/warranty approaches are gaining momentum for implementation nationally.

Lastly, the utilization of advanced materials characterization for use in construction specifications is being considered nationally. All of the changes are and will continue to require more hands-on learning and understanding of materials for our students to successfully enter the workforce.

**Advanced Asphalt Materials Laboratory**
Kiewit Student Study Center

In recent surveys conducted by the Department of Civil, Construction, and Environmental Engineering, students overwhelmingly agreed that it's necessary to have access to a study space specifically for their own curriculum. The CCEE department's coursework, in particular, requires students to meet regularly throughout the semester to work in groups with their peers. In order for students to engage in more effective group work and gain access to usable and efficient workspaces, the department, with the help of Kiewit and the College of Engineering, has renovated room 194 in Town Engineering Building to create the new Kiewit Student Study Center. The upgraded room is scheduled to open for student use this fall. This renovation helps ensure the CCEE department meets the study needs of its students and provides adequate group interaction space.

The space was planned and designed by senior-level civil and construction engineering undergraduates. Highlights of the room include new lighting, walls, ceiling, computer workstations, raised tables for review of plans, seating, plan storage, and a plasma screen for announcements. Future plans include the addition of a copy machine.

Two small group study rooms also have been added. They include a projector, white board, and storage cabinets.

Funding for the renovation was generously provided by the Iowa State University College of Engineering and Kiewit. A dedication ceremony is being planned for late August 2007.

Highway Design Classroom Renovations

Beginning in fall 2007, the new highway design teaching laboratory will be ready for use. This lab will provide Iowa State University civil engineering students with job-related experience on state-of-the-art equipment. This experience will make students more marketable and valuable to employers than students graduating from universities that lack the ability to provide real-world highway design experience.

Almost all civil engineering students take a highway design course during their senior year. This course involves extensive highway design laboratory experience, leading up to and involving the production of grading, profile, cross-section, and pavement plans for a hypothetical, but realistic, highway project.

Computer Lab Improvements

Room 110, the primary open computer lab in Town Engineering Building, was painted this year at the request of students. The CCEE department also purchased much needed new chairs for the room. The department hopes to replace the room’s carpet in the near future.

Building & Classroom Improvements

This past academic year, the CCEE department purchased and installed new desks, partitions and chairs in Town Engineering Building’s room 136. This purchase completed the remodeling that began two years ago. All of the graduate student offices on the first floor of Town (rooms 192, 174, 176, and 136) now have similar furnishings.

Improvements also were made to the room 178, a classroom primarily used to teach surveying. The room was painted, new chairs were purchased, and new ceiling tile was installed.

Equipment for surveying courses that was formerly stored in room 196, the highway design teaching laboratory, was relocated to room 178. A new projector is being installed this summer.

Other civil engineering areas such as design of bridges, drainage systems, and structures also may participate in the design laboratory providing similar real-world design experience as the laboratory evolves.

The highway design lab is located in room 196 of Town Engineering Building. The room, previously used to store survey equipment, was remodeled to provide improved lighting and HVAC, team cubicles with dual-monitor design computers, a long conference table for layout of strip aerial photos and plots and for large group collaboration, and wall space for highway plans.

The room also will include a teaching kiosk (with a computer and DVD player) and instructor computer.

Support for the classroom was generously provided by HDR, HR Green, Snyder & Associates, Gerald and Audrey Olson, the College of Engineering, and the Department of Civil, Construction, and Environmental Engineering.

A dedication ceremony will be held August 30, 2007.

New chairs were purchased for Town Engineering Building’s room 110, the department’s primary open computer lab.

Iowa State University’s Facilities Planning and Management unit informed the CCEE department this year that the chairs in Room 106A, another open computer lab, were severely damaging the floor. After evaluating several options, the department decided to purchase and install carpet. A fresh coat of paint completed the face-lift.
Sanders Lab is Dedicated

More than 85 people attended the dedication ceremony for the Wallace W. and Julia B. Sanders Laboratory (130 Town Engineering) in April 2006. The ceremony celebrated the lab’s renovation.

A portion of the floor was removed so that a structural tie-down floor could be constructed. The new floor has 68 anchor points—each of which can resist 300,000 pounds of force. The 13x70-foot reinforced concrete tie-down floor required close to 200 cubic yards of concrete to complete.

Wallace and Julia Sanders gave the lead gift for the renovation. The College of Engineering Dean Mark J. Kushner, Wallace Sanders, David Sanders, and graduate student Justin Doornik spoke at the ceremony. David Sanders, son of Wallace and Julia and structural engineering professor at the University of Nevada-Reno, spoke about the importance of good facilities—both for research and showing prospective students engineering in action. Additional donors for the lab are:

- John and Carole Sanders
- David and Tina Sanders
- Family
- Linda Sanders
- Shuck-Britson Inc.
- Consulting Engineers
- John Deere Ottumwa Plant
- Robert A. and Barbara Britson
- Sam and Pam Easterling
- Lowell and Jane Greimann
- Max and Monica Porter
- Alvaro and Dayra Testa
- HNTB, Inc. employees, with a company match.

Meet our Faculty & Staff

Our faculty and staff have a strong commitment to student achievement. More than 80 percent of our faculty have industrial experience totaling over 230 years. Plus, nearly half also have international experience. Meet our educators and researchers on the following pages:

- Robert E. Abendroth
  - Associate Professor, PE., PhD (Wisconsin), Structures
  - 11 years industrial experience

- James E. Alleman
  - Professor and Chair, PE., PhD (Notre Dame), Environmental
  - 8 years industrial experience
  - 5 years international experience

- James E. Bolluyt
  - Assistant Professor, PE., Structures
  - 2 years industrial experience

- James K. Cable
  - Associate Professor, PE., PhD (Illinois), Transportation
  - 21 years industrial experience

- Halil Ceylan
  - Assistant Professor, R.E., PhD (Illinois), Civil Engineering Geotechnical
  - 1 year industrial experience
  - 1 year international experience

- Larry W. Cormicle
  - Senior Lecturer, PE., Construction
  - 24 years industrial experience

- Timothy G. Ellis
  - Associate Professor, PE., PhD (Clemson), Environmental Systems
  - 6 years industrial experience
  - 1 year international experience

- Fouad S. Fanous
  - Professor, PE., PhD (Iowa State), Structures
  - 4 years industrial experience
  - 6 years international experience

- Ruochuan Gu
  - Associate Professor, PE., PhD (Minnesota), Environmental
  - 2 years industrial experience
  - 3 years international experience

- Shauna Hallmark
  - Associate Professor, PhD (Georgia Tech), Transportation
  - 2 years industrial experience

- Charles T. Jahren
  - W. A. Klinger Teaching Professor
  - Associate Professor, PE., PhD (Purdue), Construction
  - 6 years industrial experience

- Edward Jaselskis
  - Professor, PE., PhD (Texas), Construction Engr & Management
  - 6 years industrial experience

- Kandiah Joyapalan
  - Professor, L.S., PhD (London), Surveying
  - 15 years international experience

- Larry C. Jones
  - Lecturer, PhD (UCLA), Water Resources
  - 2 years industrial experience

- Amr A. Kandil
  - Assistant Professor, R.E., PhD (Illinois), Construction

- Edward J. Kannel
  - Professor, PE., PhD (Purdue), Transportation
  - Continued on page 24

Endowed Professorships

Endowed professorships help Iowa State University and the Department of Civil, Construction, and Environmental Engineering be more competitive in recruiting excellent faculty candidates and retaining its most valuable faculty. Endowed professorships and chairs are highly regarded positions that formally recognize outstanding faculty. Below is a list of the department’s current endowed positions and the faculty members who hold them. For information on establishing an endowed professorship or chair, contact the ISU Foundation online at www.foundation.iastate.edu or (800) 419-6768.

- James M. Hoover Chair in Geotechnical Engineering
  - Vernon Schaefer, professor

- W. A. Klinger Teaching Professor in Civil Engineering
  - Charles Jahren, professor

- Gerald and Audrey Olson Professor in Civil Engineering
  - Reginald Souleyrette, professor

- Pitt-Des Moines, Inc. Professor in Civil Engineering
  - Terry Wipf, professor
Samir Khanal
Clinician, PE., PhD (Hong Kong), Environmental
3 years international experience

F. Wayne Klaiber
Distinguished Professor, PE., PhD (Purdue), Structures
1 year industrial experience

Thomas H. Maze
Professor, PE., PhD (Michigan State), Transportation
2 years industrial experience

Say-Kee Ong
Professor, PE., PhD (Cornell), Environmental
7 years industrial experience, 4 years international experience

Brad Perkins
Lecturer, Construction

Brent M. Phares
Adjunct Assistant Professor, PhD (Iowa State), Structures

Max L. Porter
Professor, PE., PhD (Iowa State), Structures
1 year industrial experience

Chris R. Rehmann
Assistant Professor, PhD (Stanford), Water Resources

Jon (Matt) Rouse
Lecturer, PE., PhD (Cornell), Structures
6 years industrial experience

Vernon R. Schaefer
James M. Hoover Chair in Geotechnical Engineering, Professor, PE., PhD (Virginia Tech), Geotechnical
3 years industrial experience

Jennifer Shane
Assistant Professor, PhD (Colorado), Construction

Todd L. Sirotkin
Senior Lecturer, PE., Construction
20 years industrial experience

Omar G. Smadi
Adjunct Assistant Professor, PhD (Iowa State), Transportation

Duane E. Smith
Adjunct Assistant Professor, Transportation
8 years industrial experience, 2 years international experience

Reg Souleyrette
Gerald and Audrey Olson Professor in Civil Engineering, Professor, PE., PhD (UC Berkeley), Transportation
1 year industrial experience

Sivalingam Sritharan
Associate Professor, PhD (UC San Diego), Structures
4 years industrial experience

Kelly C. Strong
Associate Professor, PhD (Colorado), Construction
7 years industrial experience

Tom Stout
Lecturer, PhD (Iowa State), Transportation
24 years industrial experience

Muhammad Suleiman
Lecturer, PhD (Iowa State), Geotechnical

Shihwu Sung
Associate Professor, PE., PhD (Iowa State), Environmental
6 years industrial experience, 1 year international experience

Hans van Leeuwen
Professor, PE., DEng (South Africa), Environmental
10 years industrial experience, 25 years international experience

Russell C. Walters
Associate Professor, PE., PhD (Florida), Transportation
7 years industrial experience

Marlee A. Walton
Senior Lecturer, PE., LSI, Integrated curriculum
15 years industrial experience

Kejin Wang
Associate Professor, PE., PhD (UC Berkeley), Structural Materials, Concrete

7 years industrial experience, 6 years international experience

David White
Assistant Professor, PhD (Iowa State), Geotechnical/Materials
1 year industrial experience

R. Christopher Williams
Associate Professor, PhD (Purdue), Geotechnical/Materials, Asphalt Pavements
3 years industrial experience

Terry J. Wipf
Pitt-Des Moines, Inc. Professor in Civil Engineering, Professor, PE., PhD (Nebraska), Structures
3 years industrial experience

Support Staff

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Rhonda Wiley-Jones

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Nancy Qvale

Communications Specialists
Rebekah Bovenmyer
Dana Schmidt

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Kathy Petersen
Denise Wood

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Lab Technician
Donald T. Davidson

Scientists
Brent Francois
Kendra Lee
Donna Lutz
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Jerry Amenson
James Gaunt
Douglas Wood

Extension Civil Engineer
Stephen E. Jones

PCC Lab
Heath Gieselman
Jeremy McIntyre
Bob Steffes
Bryan Zimmerman


2006-2007 CCEE Highlights
2006-2007 CCEE Highlights
Emeritus and Retired Faculty
(Listed by division)

Construction
Gerald Chase
Thomas Jellinger
Ira Ward

Environmental
Robert Baumann
John ‘Jack’ Clesady
David Kao
Larry Northup
Paul Morgan
Charles Oulman

Geotechnical
Kenneth Bergeson
Richard Hardy
Roland Hardy
Duh-Yun Lee
Robert Lohnes
Jack Mickle
John Pitt
John Sheeler

Structures
M. Baenziger
Kenneth Dunker
Carl Ekberg
F. Wayne Klaiber
Wallace Sanders

Transportation
Kenneth Brewer
James Cable
R. L. Carstens
Kandah Jeyapuram
Clete Mercier
Richard Montag
Dan Wall

Construction Engineering External Advisory Council

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Mark McDermott
Project Manager
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Overland Park, Kansas

T.J. Meiners
Assistant Project Manager
Nelson Electric Company
Cedar Rapids, Iowa

Kent Meyn
Director of Project Management
ACI Mechanical, Inc.
Ames, Iowa

Dave Miller
Senior Vice President
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Jim Nissen
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Skip Perley
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TEC-CORP
Sioux City, Iowa

Cork Peterson
Vice President
Peterson Contractors, Inc.
Reinbeck, Iowa

Gene Postma
President
Granite Mountain, Inc.
Cedar Rapids, Iowa

Dirk Schafer
Senior Vice President
J.E. Dunn Construction Company
Kansas City, Missouri

Ken Sorensen
Vice President, General Manager
Mortenson Company
Minneapolis, Minnesota

Civil Engineering External Advisory Council

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Kiewit Construction Company
Omaha, Nebraska

Stephen Jackson
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Cedar Valley Corporation
Waterloo, Iowa

Matthew J. Cleasby
President
Iowa Department of Transportation
Ames, Iowa

Points of Pride

More than 80 percent of our professors have professional engineering experience and are registered engineers.

The majority of our graduates accept permanent jobs before graduation, and often times select from multiple job offers.

Our CCEE department’s two learning communities are thriving and make the adjustment to collegiate life easier for civil and construction engineering students.

Our CCEE department’s professors bring a global perspective to their courses. More than one-third of the faculty have international experience.

Iowa State University has the 7th largest civil, construction, and environmental engineering program in the country.