



## Chi Epsilon hosts regional conclave

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The K-State Chapter of Chi Epsilon (XE) hosted the 2005 Central District Conclave March 4-5, 2005. XE members had spent many hours in fundraising to support the conclave activities. Help was solicited from alumni and funds were raised through multiple Bramlage cleanups, and by assisting Steve Starrett, assoc. prof., in staining his house.

Participating schools included University of Nebraska-Lincoln, University of Nebraska-Omaha, Oklahoma State University, University of Kansas, University of Illinois, University of Missouri-Rolla, and University of Arkansas.



After bowling, pool, and pizza on Friday night, Saturday's guest speakers were Tom Petry, Central District Councilor and CE professor at the University of Missouri-Rolla; Charlie Stryker (BSCE '71), president of CAS Construction; Jane Esser Jordan (BSCE '78), Parsons Brinkerhoff Construction Services, Inc.; and Lakshmi Reddi, professor and head of CE. Also on Saturday were breakout sessions to dis-

cuss various chapter issues, a post-graduate panel discussion, and a campus tour scavenger hunt. XE delegates at the conclave discussed the possibility of allowing sophomores to join XE chapters. Meals were sponsored by Prestressed Concrete Inc. and Professional Engineering Consultants, Topeka, in the Fiedler Atrium and at the Alumni Center.

## Rural transportation center funded

In December 2004, the CE department was awarded \$500,000 by the U.S. Department of Transportation to establish a National Research Center for Rural Transportation Infrastructure and Safety at Kansas State University. The center will help address cost-effective preservation of rural transportation infrastructure and its safe operation for an aging population, and for the movement of agricultural products with respect to terrorist threat or disease outbreak. Mustaque Hossain, prof., will serve as director of the new center.

"Studies have shown fatalities on rural roads are almost double that of urban roads, and in Kansas that ratio was 5 to 1 in 2000," Hossain said. "Livestock feedlots and grain elevators need secure transportation, and there are also mounting concerns over the vulnerability and safety of the transport of our crops and livestock due to potential terrorist actions. "Unfortunately," he said, "there is currently no contingency plan for transportation management in the event of a terrorist attack or disease outbreak, or no plan to secure the uninterrupted transportation of grains."

### Editors

Alok Bhandari  
Lakshmi N. Reddi

## Greetings from the department head



*Lakshmi N. Reddi, prof. and head of civil engineering*

Civil engineering at Kansas State University has a long and rich tradition of preparing students for evolving needs in society. cursory reviews of archived student chapter annual reports (samples shown elsewhere in this newsletter) reveal the changes in public needs. One report prepared in 1939 states that out of 109 graduates during 1937 – 1939, 36 were in Kansas, 17 in Oklahoma, 16 in Texas, 12 in Illinois, five in Louisiana, four in Missouri, the rest in 13 other states and the District of Columbia, and one each in Persia and Venezuela. Of these graduates, 45 were engaged in gas and petroleum engineering, 14 in highway engineering, 13 in construction industry, ten in the United States engineer corps, seven in railway engineering, six

in consulting offices, six in industrial concerns, six in state and other governmental work, and four in research.

Times have changed. Geographical distribution of our graduates in recent years tends to be more concentrated in the Midwest, and highway engineering has taken over petroleum engineering as one of the major areas of our student employment.

Two things haven't changed in this department since 1937, and we are proud they haven't. First, our student employment record: 99% of our graduates were employed in some form of engineering work in 1937 – 1939; 98% of our graduates were employed in engineering in 2001 – 2004. Recent surveys of employers indicate that our educational objectives continue to be relevant in civil engineering practice and that our graduates are well prepared for the industry. Second, our students continue to be involved in experiential learning activities – be it a field trip to Chicago in 1939 or the concrete canoe and steel bridge trips to Edwardsville in 2005.

Our educational objective assessment activities during the last year have brought us in touch with a number of our alumni and employers. We continue to receive help from numerous alumni who participated in our surveys, contributed to our student scholarship and professional activities funds, and provided internship and employment opportunities to our students. Our faculty, staff, and students take pride and joy in sharing their successes with you.



*Trevor Wooten (Wichita) and Nathan Ewert (Hutchinson) work on their senior design project in the Albert Niu Lin Senior Project Room in Fiedler Hall. The Senior Project Room was recently upgraded with modern computing and audio-visual equipment using Dr. Albert Niu Lin Civil Engg. Project Laboratory funds.*

Best wishes.

*Lakshmi N. Reddi*

Lakshmi N. Reddi

## The Bridge Builder

An old man traveling a lone highway,  
Came at the evening, cold and gray,  
To a stream vast and wide and steep,  
With waters rolling cold and deep.

The old man crossed in the twilight dim.  
The sullen stream had no fears for him;  
But he turned when safe on the other side,  
And built a bridge to span the tide.

"Old man," said a fellow pilgrim near,  
You are wasting your strength by building here,  
Your journey will end with the ending day,  
You never again will pass this way.

You've crossed the chasm, deep and wide,  
Why build you this bridge at eventide?  
The builder lifted his old gray head,  
"Good friend, in the path I have come," he said.

There followeth after me today  
A youth whose feet must pass this way.  
The chasm that was nought to me  
To that fair haired youth might a pitfall be:

He too, must cross in the twilight dim,  
Good friend, I am building that bridge for him.

*Anonymous*

## XE news

The Kansas State Chi Epsilon (XE) Chapter inducted three new student members in May 2004 and 10 new student members in December 2004. Charlie Stryker (BSCE '71) of CAS Construction and C. Michael Butler (BSCE '69) of Schwab Eaton were inducted as Chapter Honor Members. There are currently 31 students involved in Chi Epsilon at Kansas State University.

Officers for fall 2004 were Peter Clark (Manhattan), president; Sarah Grotheer (Pittsburg), vice president; Kelly Carlton (Lansing), secretary; Nathan Ewert (Hutchinson), treasurer; Sally Bosak (Topeka),

marshal; and Scott Moeder (Oakley), newsletter editor. Officers for spring 2005 are Peter Clark, president; Kelly Blackwell (Kansas City), vice president; Kevin Friedrichs (Marysville), secretary; Cody Gratny (Manhattan), treasurer; Brett Meredith (Olathe), marshal; and Scott Moeder, newsletter editor.

The Chi Epsilon Chapter also recognized the extraordinary efforts of K-State civil engineering faculty members. Alok Bhandari, assoc. prof., received the 2004 Student Advocate Award and Robert Peterman, assoc. prof., was given the 2004 Excellence in Teaching Award.

## GRoWE hosts symposium

The Consortium for Global Research on Water-Based Economies (GRoWE), under the leadership of David Steward, assoc. prof., hosted its first symposium in November 2004, "Water, Policy and People." Speakers included Tracy Streeter, director of the Kansas Water Office; Stephen Kraemer, research hydrologist at the U.S. Environmental Protection Agency; and Ir De Lange of the Netherlands Institute for Inland Water Management and Wastewater Treatment (RIZA). GRoWE is a multi-disciplinary team of

researchers with a shared vision: "To help citizens, planning agencies, and policy makers understand both the technical aspects of aquifer management and the economic, social, and natural system impacts of groundwater management strategies." In 2004, the GRoWE program received funding to support its research initiatives from the National Science Foundation, U.S. Geological Survey/Kansas Water Resources Institute, U.S. Department of Agriculture, RIZA, and the K-State's Provost Office.

## 2004 fall banquet recognitions

**Tricia Petr** (BSCE '04) and **Kelly Cool** (BSCE '04) were recipients of the 2004 Kansas ASCE Section Outstanding Senior Awards for the spring and fall semesters, respectively.

**Hasan Charkas** (Manhattan) received the ASCE Engineering Mechanics Travel Award and the KSU Graduate Council Travel Award. Charkas also received the 2004 CE Outstanding PhD Student Award.

**Jeff Holste** (Ludell) received the 2004 Kansas County Highway Association Award.

**Blake Bretz** (Wallace), **Kimberly Stange** (Juniata, Neb.), and **John Faba** (Northfield, Minn.) were recipients of the CE Outstanding Junior, Sophomore, and Freshman Awards, respectively, for 2004.

**Stephen Mazouch** (Great Bend) received the APWA Scholarship, the Wichita Section ASCE Award, and the Kansas County Highway Association Award for 2004.

**Kishora Panda** (Manhattan) received the Best Student Poster Award at the 2004 Kansas Water Environment Association Conference. Panda also secured second place in the 2004 ASCE-EWRI national student paper contest.

**Sailaja Tumuluri** (Manhattan) received the 2004 CE Outstanding MS Student Award.

**Alok Bhandari**, assoc. prof., received the 2004 Student Advocate Award from Chi Epsilon and the 2004 Advisor of the Year Award from the ASCE Student Chapter. Bhandari was appointed to the editorial board of the *Journal of Environmental Engineering*.

**Asad Esmaeily**, asst. prof., received the 2004 CE Outstanding Teaching Award.

**Danita Deters**, sr. adm. asst., received the 2004 College of Engineering Classified Employee of the Year Award.

**Sunanda Dissanayake**, asst. prof., received her Professional Engineering license from the state of Florida.

**Hani Melhem**, prof., was appointed president-elect of the Kansas Section of ASCE.

**Yacoub Najjar**, prof., received the College of Engineering James H. Hollis Teaching Excellence Award for 2004. Najjar also received the 2004 CE Outstanding Graduate Faculty Award and the 2004 CE Outstanding Colleague Award.

**Robert Peterman**, assoc. prof., received the 2004 Chi Epsilon Excellence in Teaching Award.

**Peggy Selvidge**, adm. officer, received the 2004 CE Outstanding Staff Award.

**David Steward**, assoc. prof., received the 2004 CE Outstanding Research Award. Steward was promoted to assoc. professor with tenure in 2004.

**Robert Stokes**, prof., was awarded the 2004 CE Outstanding Service Award.

**David Suhling**, res. tech., received the 2004 Outstanding CE Staff Award.



Bob Peterman

## Peterman receives national honors

Robert Peterman, assoc. prof., was conferred with the PCI Young Educator Achievement Award recognizing him as a young educator in the field of engineering, architecture, and construction technology who has made significant contributions in his early career to the precast/prestressed concrete industry. Peterman

serves on the PCI Bridge Committee, PCI Design Handbook Blue Ribbon Committee (6th Edition), and is secretary of the Prestressing Steel Committee. At K-State, Peterman has established a research program that has attracted nearly \$2 million for precast/prestressed concrete-related work.

## ASCE activities

The ASCE student chapter had a busy but fun 2004 with a total of 13 professional meetings for the year – seven student talks and five social functions. Total student membership for the year was 150, while the number of students that were national members was 61. Other events during the year included picnics in the spring and fall semesters, joint dinners held at K-State in the fall and KU in the spring, highway cleanups both semesters, community service at the Sunset Zoo, a field trip to the bio-terrorism research building under construction at K-State, and the spring semester KSU Open House. In spring 2004, members of the concrete canoe and steel bridge teams traveled to Lincoln, Neb., to compete at the regional competition. Team members also competed in the K'nex, mystery, and concrete bowling competitions. K-State finished first in the bowling competition.

ASCE student chapter presidents for 2004 were Russell Yarnell (BSCE '04) and A. J. Toloza (Overland Park). Other officers for the year included Tricia Petr (BSCE '04), Kelly Cool (BSCE '04), Joe Wuertz (Richmond), Tom Strathman (Seneca), Jeff Shamburg (Manhattan), Michael Bailey (BSCE '04), Marshall Bird (El Dorado), Lauren Brown



*CE students work on the 2005 concrete canoe.*

(Fairway), Peter Clark (Manhattan), Kelly Carlton (Lansing), Isaac Crabtree (Leawood), Alex Darby (BSCE '04), David Debes (BSCE '04), Brandon Decker (Manhattan), LJ Dickens (Cherryvale), Nathan Ewert (Hutchinson), Chad Grisier (BSCE '04), Sarah Grotheer (Pittsburg), Derek Hake (BSCE '04), Scott Johnson (Stilwell), Kyle Larson (Frankfort, Ill.), Scott Moeder (Oakley), James Peterson (Kansas City, Mo.), Kenny Rich (Manhattan), Michael Terry (BSCE '04), Kim Stange (Juniata, Neb.), and Trevor Wooten (Wichita). Faculty advisors for the year were Alok Bhandari, assoc. prof.; Hani Melhem, prof.; and Dunja Peric, asst. prof.

*The steel bridge team finished second at 2005 ASCE regionals.*

*Alok Bhandari, assoc. prof., received the ASCE Chapter Advisor of the Year Award for 2004. Kelly Cool (BSCE '04) was the recipient of the ASCE Student Chapter Vernon Rosebraugh Award.*

## A paragraph from CE history

*M. W. Furr, CE professor and faculty advisor to the ASCE student chapter, wrote the following in the 17th Annual Student Chapter Report of September 1, 1939 – June 1, 1940:*

“Our chapter setup is perhaps unique. The engineering curricula at our Institution provides for general engineering and departmental assemblies. The general engineering assembly convenes once a month and the departmental assembly meets according to schedule on the first and third Thursdays. Since the inauguration of our Chapter on February 14, 1923, by mutual agreement of those concerned, the

Student Chapter work is substituted for the curriculum requirement of the Department of Civil Engineering. The plan works smoothly, and the students now enrolled are satisfied with the plan. It seems important to us that the departmental engineering assembly be regulated somewhat as an academic program. It affords an opportunity to have our students participate in meetings and to hear speakers of prominence. The Student Chapter program fits into this schedule very nicely and harmoniously. Attendance is required, but there is no “hard and fast” rule that the student must be present at every meeting.”

*The K-State Student Chapter of ASCE was awarded a Certificate of Commendation for Zone III, 2004.*

# Looking back at

## DEPARTMENT OF CIVIL ENGINEERING PERSONNEL



Professor W. W. Crawford



Mr. M. D. Copen



Miss Eugenia Grob, Secretary



Professor L. V. White



Professor L. E. Conrad



Mr. J. E. Wherry



Professor F. F. Frazier



Professor M. W. Furr



G. M. Moeller, Instructor

Civil engineering faculty and staff (1939-40). Top row (l to r): Prof. W.W. Crawford; Mr. M.D. Copen; and Ms. Eugenia Grob, secretary. Middle row (l to r): Prof. L.V. White; Prof. L.E. Conrad, department head; and Mr. J.E. Wherry. Bottom row (l to r): Prof. F.F. Frazier; Prof. M.W. Furr, ASCE student chapter advisor; and Mr. C.M. Moeller, instructor.

# 1939-40

## 1940 ENGINEERS' OPEN HOUSE EXHIBITS



(1) A plate girder deck railway bridge constructed of paper and loaded with 104 pounds of bricks. (2) A model of the Warren Truss demonstrated the principle of the reversal of stresses in web members as a load passed across the structure. (3) Working model of a water purification plant. (4) Model airplanes on display at the 1940 K-State Open House. Picture taken from Seaton Hall. Note Kedzie Hall in the background. (5) "Civils Boring Ahead" display. (6) Another view of the water purification plant model. (7) More displays. Picture taken from Seaton Hall. Note Memorial Stadium in the background. (8) Working model of a "modern" sewerage treatment plant. (9) Room-length model of "modern" highway construction from the preliminary survey to putting the finishing touches on the concrete slab. (10) Model of a floating bridge then under construction over Lake Washington. (11) Another view of the highway construction model.



Kuo Kuang Hu

## Patent awarded

A U.S. patent was awarded to Kuo Kuang Hu, former CE professor, and Philip Kirmser, emeritus professor, for an expansion and crack-joint coupler. The coupler maintains the strength and stiffness of the pavement at a joint equal to that

in the middle of the slab. It is able to maintain a low tensile stress in the slab at a joint so that during normal pavement shrinkage and expansion, the adjacent slabs separate at the joints instead of developing cracks in the middle.

## DOT funds Kansas rural highway safety study

According to data from the Kansas Accident Reporting System, 75 percent of fatal highway crashes occur in rural areas. Sunanda Dissanayake, asst. prof., is evaluating the safety of Kansas rural highways in a study funded by the U.S. Department of Transportation (DOT). Four factors appear to be consistently significant in contributing to fatalities in rural highway crashes—driving under the influence, driving at excessive speeds, not using a seat belt, and being ejected from the vehicle. The study also showed that single-vehicle crashes are more

severe than multi-vehicle crashes. Dissanayake is evaluating three approaches to resolve Kansas rural highway safety issues—engineering, enforcement, and education. Engineering-related countermeasures are necessary to make curves, grades, and roads safer. Enforcement of laws is important, especially in the areas or situations shown to be more likely to contribute to severe crashes. Finally, it is important to educate people about factors that contribute to crashes, especially those that contribute to making an accident fatal.



Philip Kirmser

## Geoenvironmental certificate launched

Growth in engineering practices of waste containment and site remediation, coupled with the need for multidisciplinary skills in assessing and solving environmental problems, has resulted in development of geoenvironmental engineering courses and programs in several North American universities. A graduate-level Geoenvironmental Engineering Certificate program was recently instituted at K-State through funding from the National Science Foundation ([http://www.engg.ksu.edu/geoenviron/geoenviron\\_home.htm](http://www.engg.ksu.edu/geoenviron/geoenviron_home.htm)). Overall objectives of the certificate program are to (i) prepare graduates for careers in geoenvironmental engineering, (ii) promote interdisciplinary educational experiences in geoenvironmental engineering, and (iii) enhance interactions among faculty and students in the science and engineering disciplines related to geoenvironmental engineering. An empowerment evaluation approach was utilized to develop the curriculum consisting of

three core courses: (i) Design of Groundwater Flow Systems, (ii) Principles of Geoenvironmental Engineering, and (iii) Geoenvironmental Engineering Design (capstone experience). A fourth elective course from soil science, geology, or environmental engineering completes the 12-hour requirement for the certificate. Participation of experts from industry, academe, and regulatory agencies was a critical feature of the curriculum development and assessment processes. The capstone course was team-taught by faculty members from biological and agricultural engineering, civil engineering, and chemical engineering and focused on providing students with a multidisciplinary design experience through “open-ended” problems that addressed “real-world” environmental issues. K-State’s Geoenvironmental Engineering Certificate program graduated its first group of students in 2004.

*Hani Melhem, prof., and Robert Peterman, assoc. prof., were jointly appointed to the Martin K. Eby Professorship in Engineering.*

## Distance CE MS degree program

The Sloan Consortium (<http://www.sloan-c.org/>) lists Kansas State University as the only university granting an on-line degree in civil engineering. The K-State Department of Civil Engineering has offered a master's degree via distance education for more than 15 years. The distance degree parallels the on-campus program and courses offered are the same as those being offered to students attending classes on campus. An average of about 30 distance students take courses each semester, most taking one or two at a time. In the past 15 years, 36 distance students have earned their master's degrees—most only coming to campus once for their final oral examination. Courses are offered either by videotaping the on-campus classes and mailing those tapes to the distance students, or via the Internet using K-State Online, an interactive Web-based classroom which allows stu-

dents to not only receive all course lectures electronically but “chat” live or participate in threaded message board discussions with their fellow students. All courses are offered asynchronously so that students can watch lectures at their convenience.

Kevin McLain, geotechnical engineer with the Missouri Department of Transportation, completed his master's degree via distance education in December 2003. He began the program in 1998, normally taking one class a semester. “I had become a P.E.,” McClain said, “and with my company offering reimbursement for advanced degree classes, I decided to go for it. I had heard about K-State's program through mail promotions and really liked the flexibility of it. I'd definitely recommend it to others and have actually done so.”

## Distance courses offered

### Fall 2005 CE Courses:

CE 654 Design of Groundwater Flow Systems  
CE 725 Seepage in Permeable Materials  
CE 732 Advanced Structural Analysis I  
CE 751 Hydraulics of Open Channels  
CE 766 Wastewater Engineering: Biological Processes  
CE 775 Traffic Engineering I  
CE 776 Pavement Performance and Management Systems  
CE 802 Advanced Mechanics of Materials  
CE 816 Selected Topics in CE/Wastewater Engineering

### Summer 2006 CE Courses:

CE 790 Engineering Ethics

### Spring 2006 CE Courses:

CE 680 Economics of Design and Construction  
CE 743 Advanced Reinforced Concrete Theory  
CE 752 Advanced Hydrology  
CE 816 Transportation Safety  
CE 822 Shear Strength and Slope Stability of Soils  
CE 833 Advanced Structural Analysis II  
CE 854 Analysis of Groundwater Flow

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## *CE alumni—where are they now?*

Leslie G. Barnt (BSCE '91) is an associate at George Butler Associates, Inc., Kansas City, Mo.

Bob O'Bryan (BSCE '00) is a project engineer at Black & Veatch Corp., Kansas City, Mo.

Rob Mahan (BSCE '89) is a regional sales manager at Aero-Mod, Inc., Manhattan.

James Metzler (BSCE '01) is an environmental engineer at Bucher, Willis, and Ratcliffe Corp., Salina.

Dick McReynolds (BSCE '70) is the engineer of research at the Kansas Department of Transportation, Topeka.

Eric Nichol (BSCE '01) is a designer at the Kansas Department of Transportation, Topeka.

Paul Spears (BSCE '01) is a design engineer at Martin/Martin Consulting Engineers, Kansas City, Mo.

David Vermetten (BSCE '03) is a staff engineer at Kaw Valley Engineering, Junction City.

Emily Wicoff (BSCE '98) is an engineer at Hole Montes Engineers, Planners & Surveyors, Venice, Fla.

*CE faculty and staff participate in diversity training with Dr. JoAnn Moody at a recent workshop. Moody is diversity consultant and director of the Northeast Consortium for Faculty Diversity.*



## Partnership with K-State CE

Please support the K-State CE Department through your financial contributions and/or suggestions/recommendations on our curricular and extracurricular activities.

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Name

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Year of Graduation      P.E.    Yes    No

I would like to contribute to the following activities within the department:

- ☐ Student and faculty professional development  
☐ Outreach activities of the department  
☐ Concrete canoe/steel bridge, other activities  
☐ No preference

Enclosed please find a check to the KSU Department of Civil Engineering in the amount of:

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☐ \$200  
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Please mail your comments and/or contribution to the Department of Civil Engineering, Kansas State University, 2118 Fiedler Hall, Manhattan, KS 66506-5000.



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