

IMPACT

Kansas State University College of Engineering

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Riemann wins Marshall Scholarship

Cynthia Riemann, KSU senior in industrial engineering and physical science, is a Marshall scholarship winner, and also one of only 20 students in the nation to win a USA Today scholarship.

Riemann plans to study chemical engineering at the University of Manchester Institute of Science and Technology or at Cambridge University. The Marshall Scholarship provides for two or three years of graduate study, all expenses paid, at any university in the United Kingdom, an estimated \$40,000-\$60,000.

The USA Today scholarship is for \$2500. More than 1300 of the nation's top scholars compete to be

named to this all-America academic team. The winners, flown to Washington, D.C., by the USA Today newspaper, received their awards in Feb. at a special banquet.

President Jon Wefald called the Marshall win "an impressive achievement by an outstanding student scholar. The nation's universities send only their best and brightest to interview for the Marshall scholarships," Wefald said, "and by winning the Marshall, Cindy proves that K-State students can compete with the best students at any university in the nation.

"Cindy has had an outstanding academic year," he continued, citing her additional recognition of being named a USA Today scholar. "She has worked hard as a student and is deserving of the excellent opportunities now available to her."

Riemann has been president of Tau Beta Pi engineering honor society, chair of the Society of Manufacturing Engineers and student vice president of Phi Kappa Phi honor society. She also has played principal clarinet for the KSU orchestra.

She has won numerous national



Cynthia Riemann

scholarships from the U.S. Department of Energy, the Institute of Industrial Engineers, the Material Handling Foundation and the Society of Manufacturing Engineers. She held summer internships at Los Alamos National Laboratory and Exxon.

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From the dean

Thanks

Thanks to many of you, the college had great success with the Essential Edge Campaign in 1992. Many donors came through at the end of the year. Look for details in the next *Impact*.

Goering adds \$25,000 to scholarship gift

Gordon and Joyce Goering, Austin, Tx., have contributed an additional \$25,000 through the Essential Edge Campaign to expand the Goering Engineering Scholarship they established five years ago, using highly-appreciated Phillips Petroleum Stock.

"Based on the academic successes and competitive honors of K-State students, we are very pleased with the quality of the K-State student body," Gordon Goering said. "Due to that appreciation, combined with my experiences at K-State, we chose to increase the scholarship

to benefit even more future K- Staters."

In 1983, Goering received the KSU College of Engineering Distinguished Service Award. In 1984, he received the KSU Alumni Medallion and was named into the KSU Engineering Hall of Fame. He is also a member of the Engineering Advisory Council.

Goering graduated from Pretty Prairie High School and Hutchinson Community College. He earned a chemical engineering degree at KSU in 1945. He retired in 1985 as a senior vice president with Phillips Petroleum.

Rathbone honored for minority service

Donald E. Rathbone, dean of the college of engineering, was honored for his many years of service to minority students attending K-State at a Martin Luther King Week luncheon, Jan. 21, in the Union Ballroom.

He received a Special Life Achievement Award plaque recognizing his contributions to minority education at K-State. The award is presented by the selection committee for the Conoco Presidential Award for Distinguished Services to Minority Education and the Advisory Committee on Minority Affairs.

"The committee felt it was important to recognize Dean Rathbone for the extraordinary efforts he has made to enhance educational opportunities at K-State for students of color," said Cheryl May, committee chair. "His efforts have been consistent and unceasing. The selection committee voted unanimously to honor him with a special life achievement award."

Since coming to K-State in 1973 Rathbone has consistently made improvements in the policies and programs for minority engineering students.

He established the Minority Engineering Program in 1978 and had the Mid-America Consortium for Engineering and Science Achievement transferred to K-State. These programs have developed innovative recruitment and retention programs for minorities in engineering. They have successfully increased enrollment and graduation of this group at K-State and have become models for such programs nationwide. The number of minority students in the K-State engineering program has gone from 12 in 1976 to 160 in 1992.

Some other important contributions he has made to minorities include developing a summer tutoring program for minority students interested in engineering; establishing the Hummel Minority Engineering

Study Center, a study center that is open 24 hours daily and has tutors and counselors available at no cost; and directing the establishment of organizations to support minority engineering students. Rathbone has also significantly increased the number of scholarships available for minority engineering students by seeking support from private industry and foundations.

MACESA meets at KSU

Students of color who are studying engineering at Kansas State University and the University of Kansas participated in the Minority Seminar and Career Day Feb. 23 on the K-State campus.

Professionals from various industries provided career advice during morning lectures, and booths and displays were available in the afternoon.

The engineering programs of the two universities, along with Wichita State University and the University of Nebraska, work together to assist MACESA, the Mid-America Council for Engineering and Science Advancement.

MACESA organizes chapters at those high schools with large enrollments of students of color. Advisers in high schools meet with those students to select courses that will lead to science- or mathematics-related careers. In addition, the college-level engineering students provide speakers and arrange visits to industries so the high school students gain additional insights about engineering students.

The four-university team sponsors a summer institute and a MACESA Day at one of the universities. MACESA now serves more than 500 students in 32 high schools in Kansas, Nebraska and in Kansas City, Mo. Of these students, more than 80 percent go on to higher education.



Curtis joins entrepreneurs

John Curtis, center, receives his certificate of completion from the board of the Kansas Entrepreneurial Center in Nov. 3. Curtis is the first candidate to successfully complete the center course. He operates a pharmaceutical lab equipment business in Manhattan. Members of the center board presenting the certificate are, from the left, Bill Muir, John Walter (center president), Dick Jepson, Art Loub, Don Rathbone (board chair), Wayne Franklin and Randy Martin. Kansas State University and the College of Engineering have been strong supporters of the center since its inception in 1988.

Imagineering:

Realizing a Vision Engineering Open House



April 2 & 3, 1993

See your instructor
for details

Featuring:

Department Displays,
Industrial Displays,
Spaghetti Bridge Design and
other High School Contests



Kansas State University

Schedule Friday, April 2, 1993

- Engineers' Open House Parade
(Mid-Campus Drive) Noon
- Engineering Opening Ceremonies
(Front steps of Seaton Hall)
- Torch runner's arrival 12:10 p.m.
- Presentation of Yellow Brick Award 12:15 p.m.
- Crowning of St. Pat and St. Patricia 12:25 p.m.
- Engineering Awareness Seminar for High School Students
(Paslay Lecture Hall, Durland Hall)
- Registration 1:30 p.m.
- Seminar 2-4 p.m.
- Engineering Student Displays and Open House of Facilities
(Durland, Seaton and Ward halls) 5:30-9 p.m.
- Industrial Displays
(Durland, Seaton and Ward halls) 5:30-9 p.m.

Saturday*, April 3, 1993

- High School Design Contest Registration
(Durland Hall Atrium) 8-9 a.m.
- Steel Ring Honorary Alumni Reception
(Sunflower Room, K-State Union) 9-10 a.m.
- High School Design Contest
(Durland Hall, Paslay Lecture Hall) 9 a.m.-noon
- "Spaghetti Bridge"--design competition
- Engineering Student Displays and Open House of Facilities
(Durland, Seaton and Ward halls) 9 a.m.-4 p.m.
- Industrial Displays
(Durland, Seaton and Ward halls) 9 a.m.-4 p.m.
- Engineering Alumni Luncheon; limited seating
(Ramada Inn--Rooms B and C) noon
- Engineering Social Hour
(Cats Pause, K-State Union) 5-6:15 p.m.
- 26th Annual Engineers' Open House Banquet 6:30 p.m.
(Main Ballroom, K-State Union; advance reservations only)

*Saturday is also "All University" Open House at KSU

Engineering Open House Registration Form

Please make checks payable to the KSU Foundation.
Deadline for reservations is March 25, 1993

I plan to attend the Engineering Alumni Luncheon on Saturday, April 3, 1993, and have enclosed my check for tickets at \$5 per person. (Contributors to scholarship funds and other funds and activities administered through the Dean's Office are invited as guests of the College of Engineering.)

I plan to attend the Engineers' Open House Awards Banquet on Saturday, April 3, 1993, and have enclosed my check for tickets at \$9.50 per person.

I will attend the social hour at the Cats Pause, K-State Union. Please reserve places for me.

Name _____

Address _____

Phone _____

Return this form to:

Donald E. Rathbone
Dean of Engineering
142 Durland Hall
Kansas State University

K-State hosts concrete conference

Kansas State University Departments of Civil Engineering and Architectural Engineering and Construction Science hosted the 16th annual Scholer Concrete Conference on Feb. 4.

The conference, "Quality Applica-

tions of Concrete Construction," focused on promoting and improving production, use and placement of quality concrete and concrete products.

Workshop topics included "Blue Ribbon Driveway Program," "Solving

Concrete Cracking," and "Hot Weather Concrete Techniques."

Another part of the conference was exhibitor and supplier demonstrations and a trade show held in the Weber Hall arena.

Larson runner-up in student-of-year contest

Paul Larson, Kansas State University senior in agricultural engineering, has been named runner-up in the prestigious Student Engineer of the Year contest of the American Society of Agricultural Engineers.

He was chosen from among the top engineering students representing more than 60 universities across the nation and as runner-up received a travel allowance to attend

the national meeting of the ASAE in Nashville, Tn., in December.

Larson is a member of two honor societies: Alpha Epsilon, an agricultural engineering honorary, and Tau Beta Pi, an all-engineering honorary. He is also active in Navigators and the American Society of Agricultural Engineers, and is currently serving his third term as a College of Engineering Ambassador.

This annual award is presented to an outstanding junior agricultural engineering student. Selection is based on excellence in scholarship, outstanding character and personal development, activity in student organizations devoted to professional development, participation in overall school activities and the personal leadership qualities of creativity, initiative and responsibility.

ASAE is a professional and technical organization dedicated to the advancement of engineering applicable to agricultural and other biological systems.

Lucas elected IEEE fellow

Michael Lucas, professor in electrical and computer engineering, has been elected a fellow of the Institute of Electrical and Electronics Engineers.

The grade of fellow recognizes unusual distinction in the profession and is conferred only by invitation of the IEEE Board of Directors upon persons of outstanding and extraordinary qualifications and experience in IEEE designated fields.

Lucas has been at K-State since 1968 and has established an international reputation in the field of instrumentation and measurement. In 1990 and 1991 he served as president of the IEEE Instrumentation and Measurement Society.

In addition to maintaining an active research program, Lucas has continued to develop basic undergraduate courses and laboratories in the field of computer-based instrumentation, successfully transferring procedures and techniques from the research laboratory to his department's undergraduate laboratories.

Rainbolt gets honorable mention

Robert Rainbolt, KSU senior in chemical engineering, was awarded honorable mention in the National Student Papers Competition held in conjunction with the 1992 annual meeting of the American Institute of Chemical Engineers. He received the award in Miami Beach, Fl., in November.

Rainbolt advanced to national competition after placing first in the Mid-America Regional Contest at the University of Iowa in April 1992. His paper was entitled "An Experimental Study of Bubble Formation Transitions at Sieve Plate Spargers."

Other regional winners participating were students or graduates of Lamar University, University of Utah, University of Washington, Vanderbilt University, Rensselaer Polytechnic Institute, Wayne State University and Massachusetts Institute of Technology.

Dollar addresses Tau Beta Pi

Tau Beta Pi, Kansas Gamma Chapter, brought in 47 new members at its annual Fall Initiation Banquet, Dec. 7, at the K-State Union. Distinguished lecturer for the event was John P. Dollar, assistant dean of engineering.

Dollar received both his B.S. and M.S. degrees from Kansas State University. He was a member of Sigma Chi fraternity and an honorary member of Triangle fraternity. He was active in Eta Kappa Nu and Sigma Tau, now merged with Tau Beta Pi.

He retired in January after more than 20 years of service to the college of engineering. He worked for Proctor and Gamble, Kansas Power and Light and Schilling Technical Institute before returning to KSU in 1967 to teach electrical engineering.

His wife, Diane, is an assistant professor in the KSU Department of Art.

KSU prof pioneers field with NSF grant

When a petrochemical spill happens on land, a typical on-site clean-up technique involves pumping water through the soil in hopes of flushing the petrochemicals out. However, this technique has some limitations, beginning with the fact that oil and water do not mix.

"Petrochemicals tend to get tightly trapped in the small pores of the soil," said Lakshmi Reddi, engineering professor at Kansas State University. No matter how intense the water velocity, some oil molecules tend to stick to the soil.

Reddi is beginning a three-year study of a new way to loosen oil from soil. He received first-year funding from the National Science Foundation's division of geomechanics. NSF expects to renew the grant until 1995, bringing the total grant to \$89,000.

"We're trying to understand what happens when you shake up something that consists of soils, water and immiscibles like diesel fuel, gasoline, kerosene or heating fuel,"

he said. With graduate students Sreedhar Challa and Ravandur Prabhushankar, he will be evaluating several vibration methods, various types of contaminants and a range of soil types from compact to loose to determine how difficult each contaminant is to shake loose.

By correlating findings, he hopes to create a range of techniques appropriate for different soil types and different contaminants, and a theory that predicts the efficiency of the process. "We'll be trying to develop a theory that predicts the efficiency of this process: That is, how much of which stuff is going to be removed by what kind of vibration? How long will it take? What intensity of vibration do we need?"

Reddi likens the technique to shaking a beaker of contaminated soil and water. Vibrating the soil loosens globs called "ganglia" that could be removed by flushing water.

He hopes some of the vibratory techniques might also work for colloidal size particles, like clay parti-

cles stuck to sand particles. In a related project, he is studying the feasibility of extracting contaminated clay particles from the subsurface.

Reddi specializes in an emerging engineering field called environmental geotechnology. It combines geotechnical engineering, which traditionally addressed the load-oriented behavior of soils, and environmental engineering. He said KSU is one of only a few universities in the nation teaching classes that apply geotechnical knowledge to the solution of environmental problems.

Marshall scholar

■ *continued from Page 1*

K-State ranks first in the Big 8 in the number of Marshall scholars produced in the last 10 years. Chris Baldwin, a spring '93 graduate in chemical engineering, was also a Marshall scholar and was again the only one in the Big 8 for the year.

According to Don Rathbone, dean of engineering, "We may be the only college of engineering in the country that has had this kind of success."

These achievements in the college of engineering are in keeping with the academic performance of KSU students in general. K-State consistently produces winners of top national scholarships:

- Eight Rhodes scholars from 1974 and 1991 put KSU in the top 1 percent of all U.S. universities.
- With 17 Truman scholars, KSU led the nation's public universities in that category in 1992.
- KSU had 28 student Fulbright scholars from 1975 and 1992.
- K-State is one of the nation's top universities in producing Goldwater scholars—11 since the program began in 1989.
- The 1991 KSU debate team won the national championship of the Cross Examination Debate Association.
- In 1992 and 1993, a KSU student has been selected for the USA Today All-American Academic Team.

AgEs get \$500 scholarship

A \$500 annual scholarship has been established with the Kansas State University Foundation for KSU freshmen who study the combined use of electricity and agriculture.

The Kansas Committee on the Relation of Electricity to Agriculture created the award for students in agricultural engineering or agricultural technology management.

"The KCREA objective in the establishment of this scholarship is to provide financial support for outstanding students who study the relationship of electricity and agricul-

ture," said John Slocombe, KSU associate professor of agricultural engineering and an KCREA officer.

KCREA was created during the 1920s to promote the efficient and safe use of electricity in agriculture by funding service, education and research projects. Members represent investor-owned utility companies, Kansas electric cooperatives and faculty of the Kansas State University Department of Agricultural Engineering. Representatives of these organizations comprise the KCREA executive committee.

Job watch

To encourage smaller companies to publish their employment opportunities, *Impact* will carry announcements about openings on a space available basis.

Company	Position	Contact
Hill's, Topeka, Kan.	Processing engineers	Mike Harris 913-354-8523

Halliburton gives \$10,000 to develop faculty

Kansas State University College of Engineering has received a \$10,000 grant from the Halliburton Foundation for faculty development within the college.

KSU was one of only eleven universities to receive this award.

Donald Rathbone, dean of the College of Engineering, accepted the contribution from Halliburton Services representatives Alan Duell, tool research and engineering department; Phil Edgmon, director of college relations; and Mark Roberts, director of college recruiting. Halliburton Services is a subsidiary of the Halliburton Company. While on campus, the representatives also met with Marcia Schuley, KSU assistant director of career planning and placement.

The grant brings the total to more than \$196,000 that has been given to KSU by the Halliburton Foundations through its program of direct and matching grants.

The foundation, in supporting higher education, acts on behalf of all the Halliburton Companies. Halliburton Company, headquartered in Dallas, Tx., is one of the largest diversified oil field service companies, and engineering and construction companies in the world.



Dean Don Rathbone receives the check for Halliburton's \$10,000 grant on Dec. 16 from Halliburton representatives Alan Duell, center at right, Phil Edgmon and Mark Roberts.

Deaths

■ *continued from page 7*

member of Kiwanas, Masonic Lodge, Midian Shrine and the Red Cross Board. He is survived by his wife Leila, two sons, and eight grandchildren.

Rex D. Archer (ME '50), Green Mtn. Falls, Co., died Nov. 14, 1992.

A petroleum engineer, he was a member of the National Society of Petroleum Engineers and served on the board of directors for the Ute Pass Historical Society, the Boy Scouts and Park State Bank. He is survived by his wife Kate, two sons, and five grandchildren.



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