

K-STATE ENGINEERING

impact

NEWSLETTER

COLLEGE OF ENGINEERING/KANSAS STATE UNIVERSITY

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WINTER-SPRING 1977

53rd Engineering Open House Set for Weekend of April 1-2

Noting the celebration of the 53rd annual K-State Engineering Open House the weekend of April 1-2, Kan. Gov. **Robert Bennett** has proclaimed the week of March 27-April 2 as KSU Engineering Open House week in the state.

Engineering students at K-State are striving to make the exhibition the finest ever, following the theme, "Changing Perspectives in Engineering."

The important weekend is to include the coronation of St. Patrick and St. Patricia on Friday at 11:30 a.m., tours of student and industrial displays and exhibits, an alumni luncheon Saturday noon, and an awards banquet on Saturday evening.

The KSU College of Engineering Advisory Council will meet Friday from 9:30 a.m. to 4 p.m. in the K-State Union. This group is headed by **Martin K. Eby, Jr., CE '56**, president of Martin K. Eby Construction Co., Inc., Wichita, Kan.

The coronation of St. Patrick and St. Patricia will take place Friday at 11:30 a.m. on the front steps of Seaton Hall, main engineering building at K-State, from a field of six finalists. St. Patrick is the engineers' patron saint and St. Patricia is his lady. They will reign over open house. Undergraduate engineering students will elect the open house royalty in balloting in Seaton Hall on Thursday, March 31. The exhibits will be open from 6 to 9 p.m. Friday and 9 a.m. to 4 p.m. Saturday.

The 1977 Distinguished Service Award in Engineering will be presented at the Engineering Open House banquet Saturday at 6:30 p.m. in the main ballroom in the Union.

The Knights of St. Patrick awards will be presented Saturday evening to outstanding seniors for service to the College. Banquet entertainment will be provided by **Terry Walker**, well-known vocalist and pianist.



Kansas Governor Robert F. Bennett has proclaimed March 27-April 2 as KSU Engineering Open House Week in the State. Steel Ring members, left to right, Craig Rundle, Joe Haffener and Mike Haffling recently called on the governor to sign the proclamation.

N. Dean Eckhoff Appointed Head of Nuclear Engineering

Dr. **N. Dean Eckhoff**, a native of Kansas and a professor of nuclear engineering and faculty member for 12 years at Kansas State University, Manhattan, has been appointed head of that department.

The announcement was made by Dr. **Donald E. Rathbone**, dean of the College of Engineering. He said Eckhoff, who has a strong background in teaching, research, and service, assumed his new duties Feb. 1.

The K-State department of nuclear engineering has 10 faculty members, 22 graduate students, and 108 undergraduate majors and a \$200,000 research program in operation.

Eckhoff succeeds Dr. **Richard E. Faw**, who has been department head the past four years. On Feb. 1, Faw began a sabbatical leave from the University to participate in a 12-month nuclear safety research study involving fast breeder reactors at the United Kingdom Atomic Energy Authority's Culham Laboratory.

Eckhoff's primary teaching and research interests at K-State have been in the areas of neutron activation analysis, nuclear reactor fuel management, operations research related to the nuclear fuel cycle, and energy conservation. The Meade (Kan.) native is currently directing a multi-university project sponsored by the National Science Foundation which is aimed at preparing teaching materials for university instruction about the nuclear fuel cycle.

He has received the KSU All-University Teaching Excellence Award and been an NSF Teaching Fellow. He became director of the **C.C. Tate Memorial Neutron Activation Analysis Laboratory** at KSU in 1969 and has been in charge of energy studies at KSU since 1973. The new nuclear engineering head has served as president of the Wichita Section of the American Nuclear Society.

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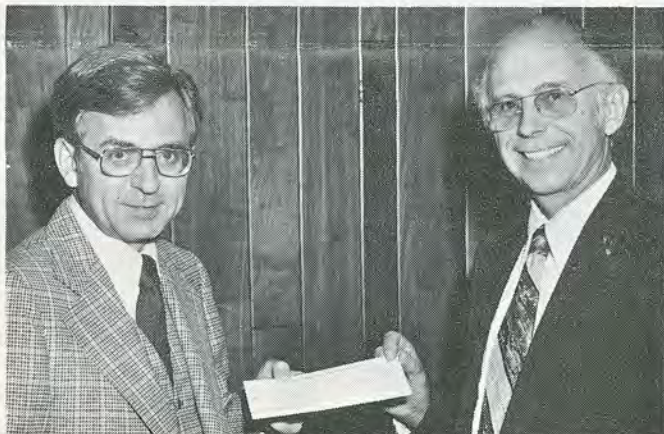
April 2 KSU Bridge Contest Scheduled, \$250 in Prize Money to Winners

A "Super Bridge Contest" will be a highlight of K-State's 53rd annual Engineering Open House, April 1-2.

The contest, open to high school seniors, involves building a bridge model at home using popsicle sticks, plus glue, wire, and round toothpicks not weighing more than a pound when finished.

The "bridge" must span a minimum of 18 inches, and extend no more than 12 inches above, or six inches below, the end support level. The winner will be determined by the best "load to weight" ratio, according to **David R. Masters**, Troy, Kan., contest chairperson. He is a junior in agricultural engineering.

The students will be contending for \$250 in prize money including \$100 for first, \$75 for second, \$50 for third, and \$25 for fourth. Entry deadline is March 25.



KSU COLLEGE OF ENGINEERING has received \$19,000 from a total of \$25,500 presented to the University recently by Phillips Petroleum Co., Bartlesville, Okla. Dr. **Duane Acker**, president, accepted a \$5,500 check from the Phillips' Professional Development Fund this past fall from **W. LeRoy Culbertson** (right), ME '38 and a vice president of Phillips. Culbertson is a former chairman of the Engineering Advisory Council at K-State and was a recipient of the KSU Distinguished Service Award in Engineering in 1970.



FASTEST GROWING AREA OF STUDY AT KSU—Engineering faculty who are participating in the engineering technology program are shown on the front steps of Seaton Court, formerly Engineering Shops, where its new offices, occupied in December, are now located. Faculty members (from left) are John C. Lindholm, Joe N. Wood, Kenneth K. Gowdy (head), Duane E. Walker and Ross I. Pauli.

Engineering Technology Gets Departmental Status

In a recent action, the Kansas Board of Regents has approved departmental status for the engineering technology study program at K-State.

The program in engineering technology was initiated two years ago. At the start of spring semester, enrollment had swelled to 170.

The new department is the fastest growing area of study at KSU, according to Dr. **Donald E. Rathbone**, KSU dean of engineering. He added that the department is structured to handle both freshman and transfer students.

Dr. **Kenneth K. Gowdy**, formerly assistant dean of the College, heads the new department which has moved its offices from Seaton Hall, the main engineering building at K-State, to Seaton Court, formerly called the Engineering Shops. The department this year will graduate about 20 students in the seven areas of specialization: civil engineering technology, computer engineering technology, electronic engineering technology, environmental engineering technology, mechanical engineering technology, food engineering technology, and production management technology.



This attractive photo of Durland Hall, dedicated April 9, 1976, was taken by David Von Riesen, University Photographer. Durland Hall, the new \$2.85 million home of chemical and industrial engineering, was named in honor of M.A. (Cotton) Durland, dean of engineering at KSU 1949-1961. You are invited to tour this new facility when next time you visit the KSU campus.

C.H. Best, C.L. Huang Conduct Concrete 'Cracking' Study

Two K-State engineers have developed a strategy that may save millions of dollars in highway and airport runway maintenance costs annually.

Dr. **Cecil H. Best** and Dr. **C.L. (Dominic) Huang** have begun a study to see if it is technologically feasible to prevent serious cracking of concrete by artificially decreasing the amount of moisture in concrete.

Their work is supported by a \$50,000 grant from the National Science Foundation. Huang is devising an analytical model. Best is in charge of laboratory studies.

In making their technological assessment, they will insert internal heat sources into concrete slabs as a possible means of determining ways to improve the durability of the concrete. "We hope to reduce the moisture content to a safe level," Dr. Huang explained.

The K-State engineers will conduct this study in the K-State materials laboratory. It is not practical at this time to perform these experiments in the field. If the strategy proves to be technologically feasible, then it could be field-tested, perhaps as early as 18 to 24 months from now.

Best, who has been conducting studies of concrete cracking for several years, is a concrete materials expert in the K-State department of civil engineering. Huang is internationally known in the field of engineering mechanics and is a member of the KSU mechanical engineering faculty.

Both contend that water is concrete's number one bugaboo. This is hard to believe when one considers that it is a reaction of cement and water that causes the hardening process.

But once hardening occurs, Best maintains that it would be well to get all water away from the concrete—externally and internally. A certain amount of water remains in the concrete even after hardening occurs. This, he believes, is the reason for the cracking problem.

When winter comes and freezing occurs, water inside concrete expands up to nine per cent. Cracking often results.

One approach used to allow for the expansion which occurs in freezing is air bubble entrainment—that is, uniformly dispersing air bubbles inside the slab to allow for the nine per cent expansion which occurs in freezing. The problem with that strategy, says Best, is that it is very difficult to "uniformly distribute the air bubbles," in placing the concrete.

Moisture content is affected by temperature, pressure, conductivity of the materials including Portland cement, aggregate, sand, and water.

Dean Rathbone Lists Milestones of College In Annual 'State' Address to Faculty

The dean of the University's College of Engineering, Dr. **Donald E. Rathbone**, in a "State of the College" address before a KSU Engineering Experiment Station luncheon in November, pointed out that the College has reached certain milestones in its development during the past year.

"For the first time, the College received more than \$1 million in outside funding, excluding state appropriations," Rathbone said. "The College's total research funding was \$1.7 million."

Dean Rathbone noted that the College was concentrating more of its research efforts in the energy field.

"We now have approximately 15 projects in this area that vary from the development of alternate energy sources, such as wind and agricultural waste conversion, to energy conservation. In the latter area KSU, with funding from the Kansas Energy Office, is developing a plan to save the state five per cent of the projected energy use by 1980.

A second milestone mentioned by Rathbone was the undesigned Ph.D. degree in engineering. "The undesigned Ph.D. gives our graduate students more flexibility in their programs and provides for a more interdisciplinary approach to research in the KSU College of Engineering," he said. "The field of energy is an excellent example of an area where the undesigned Ph.D. will be helpful in coordinating research programs."

A third milestone for the KSU College of Engineering was the largest freshman class in the past 25 years. "Over all, we experienced a 14 per cent increase in enrollment this fall," Rathbone said.

He added, that although there has been a decline nationally in ACT scores, that the average scores of incoming KSU freshmen in engineering has improved slightly. He said that two-thirds of the incoming engineering freshmen had ranked in the top ten per cent of their high school classes.

Energy Conservation Plan for State Developed by K-State Researchers

The K-State College of Engineering has developed an energy conservation plan for Kansas. The project is being funded by the Federal Energy Administration through the Kansas Energy Office. The contract called for K-State to analyze the energy use in Kansas and develop possible energy conservation techniques which could show at least a five per cent energy savings by 1980.

"The project has many facets. First, we analyzed exact uses of energy in the state. Second, we determined our own estimate of possible energy savings in the state, and third, we developed a potential plan for implementation of these energy conservation procedures from our analysis," explained Dr. **Donald E. Rathbone**, dean of the KSU College of Engineering. Rathbone and Dr. **N. Dean Eckhoff**, professor and head of nuclear engineering at KSU, were co-directors of the \$65,287 project.

The analysis included dividing the energy sector of Kansas into five major sectors: industrial, residential and commercial, transportation, utilities, and governmental operations.

Another area of potential energy savings is in food production. In each state, there are usually a few crops which consume the major portion of the agricultural energy. An examination of those operations could possibly result in significant energy savings without reducing crop yields, he added.

"The problems that we are going to have are getting reliable data, interpreting the data, securing cooperation among the various energy user groups in Kansas, maintaining confidentiality of data, and devising technically feasible and economically viable strategies for implementing energy conservation measures," Rathbone added. Possible implementation solutions would include a Kansas energy extension service, promotional and voluntary programs, legislative action and enforcement strategies.

"We have a large number of people working on the project. Each area has a group leader, a consultant, and some student assistants. We are also utilizing the talents of the College of Business Administration and the department of physics along with our own people to do the study. Perhaps our biggest challenge was to complete the study by the first of the year—our present deadline," Rathbone said.

In addition to Rathbone and Eckhoff, 11 other KSU faculty are working on the project. The group leaders are Dr. **Floyd W. Harris**, electrical engineering; Dr. **Richard B. Hayter**, mechanical engineering; Dr. **William H. Honstead**, director, Kansas Industrial Extension Service at K-State; Dr. **C. Clyde Jones**, business administration; **Mark D. Schrock**, extension agricultural engineering; Dr. **J. Kenneth Shultis**, nuclear engineering; Dr. **Ralph O. Turnquist**, mechanical engineering; and Dr. **Oliver L. (Larry) Weaver**, physics.

Rathbone concluded by noting that "it is imperative that the public be aware of the great need for energy conservation and that they become a partner with government and industry in this endeavor."



GRANT FROM CHARMIN PAPER PRODUCTS—The Proctor & Gamble Paper Products Co., Cape Girardeau, Mo., has presented \$900 to the College of Engineering this fall. Of the total, \$360 was used to send Steven L. Dikeman (left) to the annual winter meeting of the American Society of Mechanical Engineers in December in New York City. The remainder will be used for scholarships and for sending a student to the Society of Women Engineers meeting this year. Don Kakac (center) of Charmin made the presentation. Dr. Donald E. Rathbone, dean of engineering at KSU, joined in congratulating Dikeman, Syracuse, Kan.

KSU Signal Processing Research Conducted on Intrusion Detection

Dr. **Nasir Ahmed**, a K-State professor of electrical engineering, is conducting research on intrusion-detection systems for nuclear installations for Sandia Laboratories, Albuquerque, N.M.

Intrusion-detection schemes are employed in a variety of defense installations, says Ahmed. Such systems involve elaborate sensing devices and alarm mechanisms which are triggered by intruders.

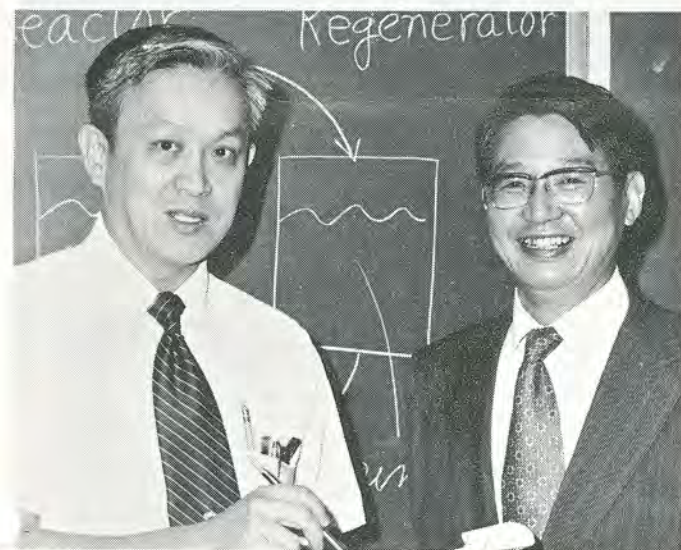
"However, there is a tendency for these systems to be too sensitive. The systems confuse extraneous noise sources, such as nearby traffic, aircraft, and wind, with signals caused by intruders. As such, unwarranted false alarms are sounded. The goal is to reduce the false alarm rate by resorting to a technique called adaptive digital filtering," said Ahmed, who worked on this problem this past summer at Sandia.

The K-State signal processing researcher is using an adaptive filtering approach to try to appreciably reduce the noise in the data collected from unwanted sources and yet leave the intruder portion of the signal data essentially unaltered, if an intruder is present.

Dr. **Donald R. Hummels**, KSU associate professor of electrical engineering, is working with Ahmed. Hummels is conducting mathematical analyses of data supplied to K-State by Sandia.



Warming enclosed hog shelters in winter by solar heating units is being studied by K-State agricultural engineers. Dr. Charles K. Spillman (right) of agricultural engineering and Dr. Berl A. Koch of animal science and industry are advising several students on the project. Fuel costs are reduced by heating the ventilating air of K-State's swine farrowing building with the solar unit before the air enters the building.



Prof. **Daizo Kunii** (right) of the University of Tokyo, Japan, one of the world's leading experts on chemical reactors, fluidization combustion and coal gasification, presented an "Energy Conservation Processes" lecture series in Sept. 20 in the department of chemical engineering. The series was arranged by Dr. **L.T. Fan** (left), professor and head of chemical engineering at K-State.



At age 19, Tom Beery, Colby, Kan., is one of the younger engineering graduates of K-State in recent years. He was named to Tau Beta Pi national engineering honor society at age 17. Tom was graduated in December with a B.S. degree in electrical engineering while maintaining a 3.636 grade point average (where A=4.0). He is shown with Dr. Donald E. Rathbone, KSU dean of engineering.

Construction Science Co-op

Eleven construction science students from KSU began working in a cooperative venture for Kansas construction firms last June.

The students, many of them 18 and 19 years old, are the first group to participate in a new cooperative work education program for construction science students that will provide each with up to 10 months of work experience before graduation, according to Prof. Eugene Thorson, head of architectural engineering and construction science at KSU. Another group will soon be joining them. Interviews were conducted to select a second group to begin work this past January.

Applicants for the co-op program are encouraged to be at least second semester sophomores, and to have completed courses in surveying, drafting, math, and physics, Thorson said. Sponsored by the Kansas Builders' Chapter of the Associated General Contractors (AGC), the work experience program is separate from the KSU Engineering Cooperative Work-Study program headed by Prof. Dwight A. Nesmith.

Thorson said that no college credit is given for the volunteer program, but noted students make valuable contacts in the construction business as well as get practical experience in construction. Employers judge the performance of each co-op student and share that information with the student and University. So far, those evaluations have been very favorable.

Dr. Robert Gorton Reports on Energy Savings

As much as half the energy now used to heat, air condition, and ventilate space for laboratory animals can be saved.

That was the estimate of a Kansas State University mechanical engineer, Dr. Robert L. Gorton, at a Laboratory Animal Housing symposium at Hunt Valley, Md., in September.

Gorton emphasized that these savings—which could amount to as much as \$60 a year for a 10x10 room at today's energy costs—are available immediately if existing systems are modified through the addition of components available in the market.

Gorton's conclusions were based on his analysis of energy use patterns and research conducted by several KSU engineers and scientists during the past five years.



US-USSR COOPERATIVE EFFORT— Five Soviet scientists visited K-State January 28-29 in conjunction with research being carried out at KSU as part of a US-USSR joint scientific and technological cooperative effort under a research program on "The Production of Substances by Microbial Means." Cooperating KSU chemical engineers—Dr. L.T. Fan (second from left) and Dr. Larry E. Erickson (fourth from left)—and Dr. Vernon Bode (fifth from left) met with and hosted the five Soviets.

Black & Veatch Lecture Series

Nuclear engineering students at K-State have an opportunity this semester to learn about the working side of their profession by attending lectures on nuclear and electric power engineering presented by consulting engineers employed by Black and Veatch, a large consulting engineering firm in Kansas City, Mo.

Dr. John O. Mingle, Black and Veatch professor of nuclear engineering at K-State, is coordinator of the lecture series at KSU while Dr. M. John Robinson, who served on the K-State nuclear engineering faculty before joining Black and Veatch several years ago, coordinates the lectures for Black and Veatch. This is the closest consulting firm doing nuclear power engineering work.

Seeks to Validate Air Diffusion Model at KSU

The Construction Engineering Research Laboratory of the U.S. Army Corps of Engineers has designated a K-State engineer to conduct basic research into methods of obtaining comfortable conditions in many kinds of facilities, including offices, laboratories, and residences.

Dr. Paul L. Miller Jr., professor and head of the K-State department of mechanical engineering, will conduct and supervise advanced research which he thinks will validate a proposed model of air diffusion. The model predicts what velocities will be created in a space by an air conditioning system.

"This is basic research. The data we obtain will apply equally well to any type of human occupied space," Miller explained.

Dr. Casey Studies Shielding Materials

A K-State professor of electrical engineering is assisting the U.S. Air Force by evaluating two types of new shielding materials used in high speed military aircraft.

Dr. Kendall F. Casey Jr., has begun "theoretical investigation of the effectiveness of two electromagnetic shielding materials that are currently under consideration for use as materials to replace aluminum as the main construction material for fighter bombers."



Four recent KSU engineering graduates took part in a panel Nov. 12 during the third annual career conference conducted by the K-State student chapter of the Society of Women Engineers. They are (from left) Peggy Gilliam, agricultural engineering; Luci Ronning, mechanical engineering; Brenda Klenke, industrial engineering; and Donna Reed, chemical engineering.

Subscribe to K-State Engineer

In the past three years, **The K-State Engineer** student magazine has won five national awards from Engineering College Magazines Associated (ECMA) in competition with some 40 other similar publications. This year the number of articles has been expanded and the circulation per issue has reached 2,250.

You can keep up on the latest in student engineering activities at your alma mater by ordering a subscription. Rates: \$4.00, one year; \$7.50, two years; and \$10.00, three years. Please make your checks payable to **The K-State Engineer**. There are five issues in 1976-1977: October, November (special careers issue), December, February, and April. It's not too late to send in your subscription. Mail your check to:

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BILL EXLINE HONORED AT K-STATE—Dr. Duane Acker (left), president of K-State, helped dedicate the new William C. Exline Student Center in the College of Engineering in October. Mr. and Mrs. Exline together snipped the ribbon officially opening the center in Seaton Hall. Exline who attended K-State is chairman of the board of Exline, Inc., Salina, Kan.

John Matthews, Ralph Turnquist Receive Halliburton Awards

A grant of \$5,000 from the Halliburton Education Foundation, Dallas, Tex., will enable two prominent engineers at K-State to develop and expand their capabilities as teachers and researchers.

Dr. **John C. Matthews** of chemical engineering and Dr. **Ralph O. Turnquist** of mechanical engineering have each been awarded \$2,500, according to Dr. **Donald E. Rathbone**, dean of engineering at K-State.

Matthews and Turnquist will each receive \$1,250 as personal awards and \$1,250 for travel to professional meetings and purchase of laboratory equipment and supplies.

"We in the College of Engineering are very pleased to receive these funds for it allows us to strengthen some important research areas," Rathbone noted.

The K-State engineering dean indicated that Matthews and Turnquist "are both established professionals in their areas of speciality which are closely associated with Halliburton's areas of interest." Halliburton is an international oil field services and engineering/construction organization based in Dallas and employing 55,000 in 80 countries.

Matthews, a member of the K-State faculty since 1962, will use his equipment and supply funds to purchase chemicals for use in the reaction engineering laboratory of the KSU department of chemical engineering.

In addition to purchasing considerable amounts of mercury and platinum, Matthews has plans to buy and modify a high temperature furnace to simulate catalytic reactions that occur under differing temperature, time and process conditions.

Turnquist, a professor of mechanical engineering who first joined the KSU faculty 18 years ago, will use his equipment and supply funds to complete laboratory facilities being jointly developed in the departments of agricultural and mechanical engineering for studying the automatic control of hydrostatic transmissions. "These funds will allow us to complete the instrumentation for our test set-up," he indicated.

The Lindsborg (Kan.) native, who specializes in fluid power and automatic controls, will purchase, among other things, a torque meter to be used to measure power input to the transmission.

He has collaborated in these research activities in recent years with Dr. **Stanley J. Clark** of the KSU department of agricultural engineering. "We're primarily interested in the automatic control of hydrostatic transmissions as used on earth moving equipment in order to improve their overall performance," he explained.

Dean Rathbone Lists Milestones of College

(Continued from Page 2)

In looking at what might lie ahead, Rathbone noted that many engineering schools throughout the country are now discussing the "professional school concept" for engineering education. "This concept would extend the traditional engineering curricula from four years to five or six years, and would include additional emphasis on economics, design, and professionalism."

Rathbone concluded by citing the KSU College of Engineering's strengths in undergraduate teaching and advising and the excellent support which the College is receiving from industry and alumni.

William C. Exline Center Dedicated to KSU Students

The snip of a purple ribbon by Mr. and Mrs. **William C. Exline** of Salina officially opened the Exline Student Center in the College of Engineering Oct. 8.

The Exline Student Center provides a central study area in Seaton Hall, K-State's main engineering building. The center houses offices for several engineering organizations.

A former K-State engineering student, Exline told guests at the dedication that he was happy to be on the KSU campus. "I feel I belong here," said Exline, chairman of the board of directors for Exline, Inc., about the K-State campus. And being recognized by his alma mater, he said, was one of the most important honors in his life.

In his short speech, Exline recited a poem of an old man building a bridge across deep water for younger men to cross on. Correlating the poem to the student center, Exline said he only hoped that future K-State engineers could use the facility to help them down the road. "We dedicate (the center) to the young people here today," he said.

In introductory remarks, Dr. **Donald E. Rathbone**, KSU's dean of engineering, stressed the importance of the link between private and public segments of engineering to the University. The center is a cooperative venture, Rathbone said, thanking the Exline brothers—**Bob, Doug, and Jerry**—for providing the furnishings and the State for the space.

Dr. **Duane Acker**, president of KSU, and **Craig Rundle**, president of the K-State Engineering Student Council from Axtell, Kan., preceded Exline in speaking at the dedication ceremony.

"As we travel over the state, one characteristic that has been commented on is the friendliness of Kansas State University," Acker pointed out. He added that the Exline Student Center "would facilitate togetherness and communication between students" as well as students and faculty.

Exline, who received the KSU Distinguished Service Award in engineering in 1973, has been active in a number of societies and is a fellow of the American Society of Mechanical Engineers. He is also a member of the Kansas Engineering Society and a registered professional engineer in Kansas.

He was president of Exline, Inc., a leader in the development of stationary internal combustion engines, gas compressors and turbochargers, for 45 years prior to being named chairman of the board. Exline is the author of several technical papers and holds four patents.

Seven K-State College of Engineering Students On First Co-op Assignments in Industry

Seven engineering students from Kansas State University, Manhattan, began their first work assignments in January under the KSU Engineering Cooperative Work-Study program, a practical engineering work experience program in which students alternate semesters working in industry with studying on campus.

Thirteen other students who have been in the program previously have returned to work after studying this past semester. Twenty-seven students also in the program are studying this semester at the University.

The program is jointly sponsored by the College of Engineering and industry.



The Halliburton Education Foundation, Dallas, Tex., has contributed \$5,000 to the K-State College of Engineering. The grant will enable Dr. John C. Matthews (left) of chemical engineering and Dr. Ralph O. Turnquist (right) of mechanical engineering to develop and expand their capabilities as teachers and researchers, according to Dr. Donald E. Rathbone (center), KSU dean of engineering.

Newsorthy Notes

Prof. **Claude L. Wilson**, a prominent graduate who received the KSU Distinguished Service Award in Engineering in 1962, has been named the 1977 "Engineering of the Year" in the City of Houston (Tex.). Wilson is vice president of physical plant planning and engineering at Prairie View A & M University.

Forrest Seitz, junior in electrical engineering, Allen, Kan., and **Brenda Laakso**, sophomore in mechanical engineering, Manhattan, Kan., are the 1977 editors of the K-State Engineer student magazine.

Dr. **Thomas W. Lester**, assistant professor of nuclear engineering, is the recipient of the 1977 Ralph Teeter Award of Society of Automotive Engineers. The award included a trip to SAE annual meeting in February.

An internationally known researcher on comfort from the Technical University of Denmark, Copenhagen, Dr. **Olle Fanger**, spoke on "Comfort and Energy" Feb. 18 at K-State to the department of industrial engineering and the Institute for Environmental Research.

Dr. **Jason C. Annis**, associate professor of mechanical engineering, has been named to a one-year term on the 15-member Advisory Committee to the U.S. Office of Patents and Trademarks. Annis, for the past six years, has been the only engineer on the Major Appliance Consumer Action Panel (MACAP).

Mary Elizabeth Baumgarten, sophomore in chemical engineering, Hutchinson, Kan., is the Area H-1 "Little Colonel" for Air Force ROTC honoraries.

The 1977 president of the K-State chapter of Tau Beta Pi, national engineering honor society, is **Greg Alan Tucker**, junior in civil engineering, Wichita, Kan.

Dr. **James K. Koelliker**, an assistant professor of agricultural engineering at K-State the past three and a half years, is now an associate professor of agricultural and civil engineering at Oregon State University, Corvallis.

On Jan. 1 Dr. **Stanley J. Clark**, KSU professor of agricultural engineering, began a one-year appointment as a program manager in the U.S. ERDA agricultural and food systems branch. He is on leave from K-State.

Dr. **Floyd W. Harris**, associate professor of electrical engineering, coordinated on Oct. 7-8 the 1976 Midwest Power Symposium at K-State. The meeting was aimed at stimulating scholarly work and research in electrical power engineering.

The Kansas Heart Association has continued for another year its support of research by Dr. **Walter P. Walawender** of chemical engineering on the flood of blood in micro-vessels, simulating the flow of blood in small vessels in the body.

This school year, **David A. Skinner**, junior in agricultural engineering, Garden City, Kan., is president of the National Association of Student Branches of the American Society of Agricultural Engineers.

Robert E. Dahl, area engineer for Duckwall Stores Co., Abilene, Kan., for 21 years, was appointed Sept. 21 as an assistant professor of architectural engineering and construction science.

Earl E. Baugher, an assistant professor of agricultural engineering, was named the outstanding faculty member in agriculture at K-State this past year.

K-State Civil Engineering Students to Host 4th Annual Midwest Concrete Canoe Races

K-State civil engineering students are preparing to host their fourth annual KSU Invitational Concrete Canoe Race on Saturday afternoon, May 7, on the Riverpond Area of Tuttle Creek Reservoir north of Manhattan.

Texas A&M University, College Station, won last year with K-State finishing second ahead of nine other entries. The University of Missouri, Columbia, had won the top prize in 1974 and 1975.

Dr. **Jerry Zovne**, assistant professor of civil engineering and faculty adviser for the race, points out that KSU has been selected as a host school for a regional concrete canoe race by the American Society of Civil Engineers in co-sponsorship with the American Concrete Institute. The Kansas section of ACI will provide judges for the 1977 races.

The race is being coordinated by the Chi Epsilon civil engineering honor society under the leadership of **Marilyn Bailey**, president. The KSU student chapter of ASCE will construct and race K-State's entry. **Elwyn Heinen** is supervising construction.

Financial support for the race day activities is coming from the Kansas sections of ACI and ASCE, and the student chapter of ASCE at K-State.



1977 ENGINEERING OPEN HOUSE ROYALTY—The 53rd annual engineering royalty court has been selected by the KSU College of Engineering by special balloting. St. Patrick and St. Patricia will reign over Open House festivities April 1-2. The candidates are from left: (top row) Mike Hafling, Steve McCoskey, and Steve Shute, (bottom row) Deb Miller, Jane Phelan, and Bette Bohnenblust.

Open House Coronation April, Students to Elect Royalty

Six engineering students at KSU have been named St. Patrick and St. Patricia finalists for the 53rd annual College of Engineering Open House April 1-2.

The coronation of St. Patrick, the patron saint of engineering and St. Patricia, his lady, is a tradition of the KSU Engineering Open House. The royal couple will be elected by engineering students on March 1, and will begin their reign over the open house at a coronation at 11:30 a.m. April 1.

Finalists for St. Pat are Steven E. Shute, Red Cloud, Neb., senior in electrical engineering; Michael N. Hafling, Topeka, Kan., fifth year student in architectural engineering; and Steven L. McCoskey, Wichita, Kan., senior in chemical engineering.

St. Patricia finalists are Bette L. Bohnenblust, McPherson, Kan., senior in civil engineering; Jane M. Phelan, Hutchinson, Kan., senior in nuclear engineering; and Debra K. Miller, Russell, Kan., senior in electrical engineering.

Finalists were selected by K-State members of Tau Beta Pi, national engineering honor society, after a reception with the 22 semi-finalists. Those semi-finalists were nominated by professional engineering organizations at K-State with each group nominating one St. Patrick and one St. Patricia candidate.

Dr. Dean Eckhoff Head of Nuclear Engineering

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K-State's undergraduate nuclear engineering curriculum was the first accredited program in that branch of engineering in the U.S. It is one of the larger educational programs of its kind and highly regarded in the academic, governmental and industrial circles, nationally and internationally.

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