

K-STATE ENGINEERING

impact

NEWSLETTER

COLLEGE OF ENGINEERING/KANSAS STATE UNIVERSITY

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Engineering Open House Planned for April 9-10

Noting the celebration of the 52nd annual K-State Engineering Open House the weekend of April 9-10, Kansas Gov. **Robert Bennett** plans to proclaim the week of April 4-10 as KSU Engineering Open House Week in the state.

Engineering students at K-State are planning to make this yearly exhibit their best effort following the theme, "Solutions in an Age of Crisis."

The big weekend will include the coronation of St. Patrick and St. Patricia, the dedication of Durland Hall (chemical and industrial engineering) Friday afternoon, tours of scores of student displays and exhibits, an alumni luncheon Saturday noon, and an awards banquet that evening.

According to **Gary McNaughton**, Laurel Springs, N.J., student chairman, the purpose of the Open House is to "acquaint the public with the many phases of engineering, including career opportunities. We plan to show what engineers do and to allow the public to have a firsthand view of our facilities at K-State.

The first event of the engineering weekend will be on Friday, the coronation of royalty on the front steps of Seaton Hall. St. Patrick is the engineers' patron saint and St. Patricia is his lady.

The 1,502 K-State undergraduate engineering students will elect the Open House royalty in balloting in Seaton Hall on Wednesday, April 7. Candidates for St. Patrick: **Ron Brown**, Erie, Kan., ArchE; (Continued on page 3)



DEVELOP STRESS PREDICTION COMPUTER MODEL—Two KSU professors of industrial engineering—Dr. C.L. Hwang (left) and Dr. Stephan A. Konz—have developed a vastly improved computer model for predicting stress levels for persons working in thermal environments varying from cold to hot. The Hwang-Konz model makes possible the saving of considerable money and time by engineers who design a work environment to fit a person, or determine the physiological requirements of an employee who can work in an existing thermal work environment.

Includes Scholer Lab . . .

To Dedicate Durland Hall, Home of ChE, IE Departments

A highlight of K-State's 1976 Engineering Open House later this spring will be the dedication of Durland Hall, the new \$2.85 million home of the departments of chemical and industrial engineering. Faculty in both curricula were planning to move in by March 15.

The 52nd annual open house is set for Friday and Saturday, April 9-10. The dedication is set for 1:30 p.m. on Friday in front of Durland Hall.

The building is named after **M.A. Durland**, emeritus professor of mechanical engineering who served as K-State's dean of engineering from 1949-1961.

An impressive list of speakers for the 60-minute ceremony includes Kansas Gov. **Robert Bennett**, Dean Durland, and Mrs. **Prudence Hutton**, Newton, chairperson for the Kansas Board of Regents.

KSU President **Duane Acker**, former President **James A. McCain**, and prominent alumnus, **W. LeRoy Culbertson**, Bartlesville, Okla., will make remarks at the dedication.

Dr. **Donald E. Rathbone**, KSU dean of engineering, will serve as emcee at the dedication.

Following the ceremonies, the first official tour of Durland Hall will be given. At noon, there will be a luncheon in honor of Dean Durland attended by participants in the ceremonies.

Durland Hall provides 40,000 net square feet of new laboratories, classrooms, offices, and shops for both departments. The building features a modular three-story design that lends itself to future expansion. It is faced with heat strengthened reflective glass and finished concrete with limestone trim.

Chemical engineering laboratories are included for research in transport phenomena, reaction engineering, thermodynamics, biochemical and biomedical engineering, materials, process dynamics and control, and food engineering.

In industrial engineering, there will be five laboratories for undergraduate student research projects in addition to others for work design, work physiology, illumination, visual simulation and safety investigations by faculty and graduate students.

There will also be a Charles H. Scholer Materials Laboratory in Durland Hall in memory of the late K-State professor who served as head of the department of applied mechanics from 1919-1956. Scholer was a national figure in concrete circles, serving one year as president of the American Concrete Institute.

At 9 a.m. Friday, the K-State Industrial Engineering Advisory Council will conduct its annual meeting in the Durland Hall conference room. Dr. **Frank A. Tillman**, professor and head of industrial engineering, will preside.

Two nationally prominent associate engineering deans—Dr. **Klaus Timmerhaus**, University of Colorado, Boulder, and Dr. **Morton Smutz**, University of Florida, Gainesville—will be featured speakers at a special dedication day chemical engineering symposium

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See Next IMPACT

The Spring 1976 issue of **IMPACT** newsletter will contain full reports on several upcoming events in the K-State College of Engineering.

Extensive coverage will be given to the 52nd annual K-State Engineering Open House set for April 9-10, the second annual Tau Beta Pi "Company-of-the-Year Award" which was announced after the copy deadline for this issue, the dedication of Durland Hall on April 9, and the third annual Midwest Invitational Concrete Canoe Race on May 1.

The next **IMPACT** will include articles and photo coverage of these events plus other activities of engineering at KSU—**Tom Gerdis**, Editor.

Nuclear Engineers Present Mini-Course Across State

The KSU Center for Energy Studies is sponsoring a "mini-curriculum" course on energy this year for public and private school teachers and students in communities and cities across Kansas.

"The audience we're aiming at consists of high school and junior high school students as well as their teachers," explained Dr. N. Dean Eckhoff, center director and associate professor of nuclear engineering at KSU.

The main objective of the energy mini-curriculum, said Eckhoff, is "developing an awareness of energy and the problems associated with the delivery and use of energy."

The Kansas City Power & Light Company, Kansas Gas & Electric Company, and the U.S. Energy Research Development Administration (ERDA) provided \$30,800 to finance development of the course.

"We developed this course to help inform students and teachers about the challenges facing Kansas and our nation in providing for future energy resources," Eckhoff explained.

Martin K. Eby, CE '29, Fall Chapter Honor Member

Martin K. Eby Sr., a prominent Kansas construction executive, was the fall chapter honor member of the K-State student chapter of Chi Epsilon civil engineering honor society.

Eby, a 1929 K-State graduate and chairman of the board of a large Wichita-based construction company bearing his name, is a past recipient of the KSU Distinguished Service Award in Engineering and the University's Alumni Medallion.

The prominent Wichita engineer was selected by the 25 juniors and seniors at K-State who have been tapped for membership in the select honor society for civil engineers. Eby grew up in Kansas and graduated at the top of his civil engineering class.

During the 1940s, Eby began a policy of hiring KSU civil engineering graduates and training them to be superintendents. His sons, Martin K. Jr., 41, and Charles K., 30, are K-State graduates and officers of the company. Martin Jr. is chairman of the KSU Engineering Advisory Council.

"The students chose Mr. Eby for this honor because he is a dedicated professional engineer and a servant to his community, Kansas, and the nation," commented Dr. Jerome J. Zovne, Chi Epsilon faculty adviser at KSU.



A DOUBLE MAJOR in industrial and mechanical engineering brought December K-State graduate Brenda Klenke, Spearville, Kan., a \$15,600 starting salary with John Deere & Company, Moline, Ill. Shown with her adviser, Professor Alley Duncan of mechanical engineering, Brenda is now associated with the standards and incentives section of the Industrial Engineering Department of Deere's Plow and Planter Works.



PHILLIPS PETROLEUM COMPANY, Bartlesville, Okla., contributed \$10,000 to KSU this fall—\$5,500 for professional development of faculty and students and \$4,500 for a graduate fellowship. Dr. Duane Acker, K-State's new president, received the checks from KSU graduates now in prominent positions at Phillips—W. LeRoy Culbertson (center), 1939 mechanical engineering, vice president, and Gene Bonnell (right), 1956 business, assistant treasurer.

Potpourri:

'Best Liberal Arts Curriculum'

The next few months are busy ones for the College what with our "Company of the Year" day honoring King Radio, the dedication of Durland Hall honoring Dean M.A. "Cotton" Durland, our 52nd Engineers' Open House on April 9 and 10, and, of course, our usual on-campus pursuits topped off by graduation on May 21. I hope that you can participate in some of these activities. I'll personally be participating in as many university alumni meetings as time permits this spring and hope to see some of you at these events also.

A constant area of study and concern for me as Dean is the direction of the College of Engineering in the University setting. Of particular interest to me is our philosophy of education. Since my arrival at K-State two-and-one-half years ago, I have been telling our incoming freshmen that engineering is the "best liberal arts curriculum" for students in today's world. Naturally, the Dean of Arts and Sciences considered such talk as almost sacrilegious and doesn't really think that I'm totally serious. Well, I am.

Today, our students typically take one-half of their courses in the College of Arts and Sciences (and Business Administration on occasion) with the other one-half in engineering. The engineering portion of the curriculum includes the student's subject matter specialty, engineering science courses, design, environmental and political considerations, economics, and so on. The "bottom line" of my discussion with the freshmen is that engineering is a problem-solving profession which includes the total system under consideration.

It was thus with great interest that I recently read an editorial by Richard M. Cyert, President of Carnegie-Mellon University, in which he stated in part, "I propose that the humanities are not the basis for the general education courses as the liberal arts colleges maintain. True general education takes place in the courses on problem solving. The student will not only become civilized but will have opportunities to review assumptions, convictions, and world views in the course of dealing with real-world problems. It is problem-solving behavior that characterizes the arts, the sciences, and the professions. It is problem-solving ability that society needs if we are to maintain the viability of this planet. With our new understanding of the problem-solving process, we have the knowledge for an educational revolution which will produce students better able to cope with problems. It is time for universities to break with tradition and institute training in problem-solving skills as a core subject of a liberal and professional education."

I personally think that President Cyert has hit the nail on the head. What do you think?—Dr. Donald E. Rathbone, Dean.

Coop Work-Study Provides Income, Job Experiences

Earning \$10,000 to \$16,000 while going through college and getting up to 18 months of valuable professional experience are two of the benefits for the 40 KSU students in the KSU engineering Cooperative Work-Study Program.

The director, Prof. **Dwight A. Nesmith**, indicates that each "co-op student" can literally work his or her way through college by alternating periods of schooling with periods of work for engineering firms across the country.

After completing the freshman year, each cooperative student attends school a semester, works a semester, etc., repeating the process until completing up to five work assignments and up to within two semesters of graduation. By that time, the student may have earned enough to pay for his or her college education, "assuming the student has a relatively modest lifestyle," Nesmith said.

Students usually go out on three to five work assignments during the five years it usually takes to complete the program.

Kansas State University is one of several major universities in the U.S. sending its engineering students out on cooperative programs, Nesmith noted.

"Cooperative participation tends to make young men and women better students and it helps many of our Kansas students to know what they want. The advantage of knowing why they are studying given subjects outweighs the discontinuity of school," Nesmith said.

At present, KSU has cooperative arrangements with nine companies. Nesmith hopes several more firms will be added in the near future.

Following graduation, the cooperative student is usually 18 months ahead of other graduates because of practical experience.

"Co-op students are more experienced employees, so their starting salaries tend to be better," he emphasized.

Dedication of Durland Hall

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beginning at 9:30 a.m. Dr. **William H. Honstead**, professor and head of the Kansas Industrial Extension Service at KSU, will moderate the two-hour symposium in the Little Theater of the K-State Union.

Culbertson, 1939 mechanical engineering honor graduate who is a vice president of the Phillips Petroleum Company, played a prominent role in securing his firm's contribution of \$40,000 to the University which helped K-State to complete the building. The gift was necessary when bids were considerably above the \$2.7 million allocated by the Kansas legislature.



BOOST EMERGENCY MEDICAL SERVICES—Research efforts of four K-State faculty members in electrical engineering (from left)—**Drs. Richard R. Gallagher, Donald E. Hummels, Donald H. Lenhart, and Kendall A. Casey, Jr.**—may significantly help emergency medical services in Kansas. They plan to develop a new system for the seven Emergency Medical Services regions in the state.



WIND-POWERED GENERATOR—Two mechanical engineering students aided by some good professional guidance from Dr. **Fredric C. Appl** (left), professor in the department, built and tested a wind-powered electrical generator this fall. **Randy C. Bauck** (center), Leoti, Kan., and **David E. Jones**, Arkansas City, Kan., did the work as part of a two-year K-State undergraduate engineering student research effort on alternative energy sources.

K.I.E.S. Serves Industry With Specialized Training

The Kansas Industrial Extension Service in the K-State College of Engineering is hosting a series of 12 conferences for engineers in industry in the state this school year.

"The purpose of these courses," says Dr. **William H. Honstead**, KIES director, "is to provide training in skills needed by most engineers, manufacturers, and supervisors of manufacturing operations."

The 12 KIES conferences are being held in the K-State Union and coordinated through the KSU Division of Continuing Education.

The first conference was "Statistics for Engineers" October 15-16 taught by Drs. **Frank A. Tillman** and **Doris L. Grosh** of the industrial engineering department.

Remaining courses: "Machine Vibrations," March 24-25; "Electrical Motor Selection and Maintenance," April 7-8; and "Noise Control," April 21-22.

According to Honstead, the fee for each conference is \$55. If four or more conferences are attended by the same person, or four or more persons from the same company attend one conference, the rate per person is \$45.

1976 Open House Is Planned

(Continued from page 1)

Steve Brumbaugh, Hutchinson, Kan., ChE; and **Steve Phillips**, Carlton, Kan., AgE. St. Patricia finalists are **Shawn Deming**, Hutchinson, ArchE; **Kala Marietta**, Great Bend, Kan., EE; and **Tracey Smith**, Burlington, Kan., ChE.

The exhibits will be open from 6 p.m. to 9 p.m. Friday and 9 a.m. until 4 p.m. on Saturday.

The 1976 Distinguished Service Award will be presented to two outstanding engineering alumni of K-State: **Ray A. Adee**, Hesston, Kan., and Dr. **Morton Smutz**, Gainesville, Fla. Presentations will be made at the Open House awards banquet Saturday at 6:30 p.m. in the Main Ballroom of the K-State Union. Also, Knights of St. Patrick service awards will be presented to 10 outstanding seniors in engineering at the banquet.

Adee, vice president of Hesston Manufacturing Company, is a 1947 mechanical engineering graduate. Smutz, son of the late K-State Professor Floyd Smutz, earned two chemical engineering degrees: B.S., 1940, M.S., 1941.

Banquet entertainment will be provided by the Pops Choir from Manhattan Senior High School.

Newsworthy Notes

Dr. **Frank A. Tillman**, professor and head of industrial engineering, is serving as vice president of education and professional development for the American Institute of Industrial Engineers this academic year.

An associate professor of electrical engineering, Dr. **Richard R. Gallagher**, has been added to the Editorial Board of the University Press of Kansas.

Dr. **Michael S. P. Lucas**, on leave last year to assist New Zealand in establishing that nation's first hybrid microelectronic laboratory, has resumed his duties as professor of electrical engineering.

Edward Lee Janke, Chapman, Kan., senior in agricultural engineering, is serving as president of the KSU Engineering Student Council this year.

Dr. **Peter B. Cooper**, professor of civil engineering, has been elected vice president of the Kansas section, American Society of Civil Engineers.

The sixth annual shelter survey technician course for undergraduate architectural and engineering students was taught Jan. 12-17 by Dr. **Edwin C. Lindly**, associate professor of civil engineering.

The Human Factors Society has designated Dr. **Corwin A. Bennett**, professor of industrial engineering, as a Fellow "for his outstanding contributions to the field of human factors teaching and research."

Gene Lee Mills, 26, 1972 civil engineering graduate, lost his life in a construction accident in Hattiesburg, Miss., Nov. 19. He was associated with Burns & McDonnell, a Kansas City engineering consulting firm.

John P. Dollar, assistant to the dean of engineering, has been appointed to the Electronics Engineering Technology Advisory Committee for Kansas Technical Institute, Salina.

A junior in chemical engineering, **Theodore R. Wiesner**, 21, Ellis, Kan., has been awarded the 1975-76 scholastic achievement award of the K-State student chapter of the American Institute of Chemical Engineers.

Earl Baugher, assistant professor of agricultural engineering, was selected by the Agricultural Student Council as the "Outstanding Faculty Member of the Semester" for the fall term.

Dr. **John C. Lindholm**, professor of mechanical engineering, was appointed chairman of the 1978 annual meeting of the Midwest Section of the American Society for Engineering Education. It will be held in Manhattan, Kan.

Lawrence R. Redd, 21, St. John, Kan., has been named the outstanding senior in mechanical engineering at K-State for 1975-1976.

State Rep. **August (Gus) Bogina**, Lenexa, Kan., 1950 mechanical engineering graduate of KSU, Jan. 27 discussed a revision of the Engineering Licensing Act at a meeting of the Tri-Valley Chapter of the Kansas Engineering Society.

Dr. **James K. Koelliker**, assistant professor of agricultural engineering, has been initiated into K-State's chapter of Tau Beta Pi national engineering honor society.

Dr. **B.G. Kyle**, professor, is teaching a K-State graduate course in chemical engineering thermodynamics this spring Thursday evenings in Wichita through the KSU Division of Continuing Education at Central Vocational School.

Ronald L. Brown, senior in agricultural engineering, Erie, Kan., is president of Steel Ring, a 15-member senior honorary which will coordinate the 52nd annual KSU Engineering Open House April 9-10.

A traffic engineering training program for state and county safety personnel is being offered this year at K-State by Dr. **Bob L. Smith**, professor of civil engineering, in cooperation with the Kansas Highway Safety Coordinating Office in Topeka.

An emeritus professor of mechanical engineering, **Floyd A. Smutz**, 85, who taught from 1918-1960 at K-State, died Feb. 6 at the John Knox Medical Center, Lees Summit, Mo. He was graduated from KSU in 1914.

On March 17, the University of Pittsburgh will present its Distinguished Service Award to Dr. **Donald E. Rathbone**, K-State's dean of engineering.



ONE OF THE FIRST STUDENTS to complete a B.S. degree in K-State's new four-year student program in engineering technology will be **Dennis D. Shreves** (right), on leave this year from the Kansas Technical Institute faculty in Salina. His adviser is Dr. **Kenneth K. Gowdy** (left), formerly assistant dean of engineering at KSU and new director of the engineering technology program, who reports that the new curriculum has nearly 100 students compared to only a few at this time last year. Shreves plans to return to the KTI faculty next fall.

3rd Concrete Canoe Race At K-State on May 1st

Civil engineering students at KSU are preparing to host their third annual Midwest Invitational Concrete Canoe Race on Saturday noon, May 1 at the Riverpond Area on Tuttle Creek Reservoir north of Manhattan.

The University of Missouri, Columbia, won the race for the second consecutive year last May. A record 14 schools participated. The races included entries from the University of South Florida, North Dakota State, Houston and most of the schools in the Big 8 area.

Once again in 1976, this event has been designated as a regional race in which an American Concrete Institute-American Society of Civil Engineers award for best construction will be given.

"We are expecting a larger field of entries and possibly running races in two categories. The first category will include only those canoes constructed with steel reinforcement. The other category will allow any other reinforcing materials to be used," according to Dr. **Jerome J. Zovne**, Chi Epsilon faculty adviser.

There will be faculty and girls' races again this year. The K-State girls won their event last year.

"The races have provided an opportunity for civil engineering students to get together, compare notes, and have a little fun," Zovne said.

Student leaders of the 1976 race are two Manhattanites—**Eldon Mockry**, president of Chi Epsilon civil engineering honor society, and **Peter Best**, vice president. Best is in charge of the construction of the K-State entry while Mockry is handling the overall organization of the race. Best and Mockry are seniors in civil engineering at KSU.

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