

# K-STATE ENGINEERING

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### NEWSLETTER

COLLEGE OF ENGINEERING/KANSAS STATE UNIVERSITY

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## Four New KSU Administrators In Engineering College

The K-State College of Engineering has named four new administrators since the last issue of this newsletter was sent out last spring. There is a new assistant dean, assistant to the dean, a head for a new K-State curriculum, and a new head of mechanical engineering.

**Robert E. Crank**, professor of mechanical engineering and formerly assistant to the dean of engineering, is the new assistant dean of the College. Crank, who succeeds Dr. **Kenneth K. Gowdy**, is supervising the records, student affairs activities, and general engineering programs of the College.

Professor Crank, who has distinguished himself and the College for his outstanding teaching and advising activities, joined the faculty in 1947. He has been honored on two occasions for outstanding teaching efforts.

**John P. Dollar**, an instructor in electrical engineering, is the new assistant to the dean, assisting Crank in advising K-State undergraduate engineering students in their study programs. In addition, he is teaching half-time in K-State's new curriculum in engineering technology.

Gowdy, assistant dean of the College for the past 10 years, has assumed the leadership of the College's engineering technology study program. The former Wildcat football star is being called upon to build the new B.S. degree approved in summer 1974 by the Kansas Board of Regents. Thirty students were already enrolled as of Sept. 15.

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An outstanding 1933 KSU civil engineering alumnus, Admiral (Ret.) Eugene J. Peltier, retired president of a St. Louis engineering consulting firm, May 16 received one of three University Alumni Medallions presented at commencement exercises. The medallion, highest award of the KSU Alumni Association, was presented by retired KSU President James A. McCain and H. Dean Hess (right), alumni director at K-State. Peltier has received the KSU Distinguished Service Award in Engineering and served on the College of Engineering Advisory Council.

## Mitchell Scholar Programs For Outstanding Sophomores

A prominent 1932 electrical engineering graduate of K-State has funded a new award and scholarship program for outstanding sophomores in pre-engineering in the 19 Kansas community colleges and at K-State.

**Walter R. Mitchell**, Dallas, Tex., with a grant of \$60,000 to the KSU Endowment Association, has underwritten the costs in inaugurating a new College of Engineering Dean's Award and Mitchell Scholar Program, it was announced by **Kenneth M. Heywood**, director of the KSU Endowment Association, and by Dr. **Donald E. Rathbone**, K-State's dean of engineering.

"It gives me a great deal of pleasure to announce the Community Colleges Dean's Award and the Mitchell Scholar Program. Not only does the award recognize outstanding academic achievements, but it also serves to acquaint our talented young people with engineering and its many opportunities. We have already given 17 Mitchell scholarships starting with the fall semester," Dean Rathbone said.

Explaining how the program works, Rathbone noted that the outstanding sophomores at each Kansas community college and at Kansas State University are chosen by the faculty at each school. The student selected receives an attractively bound Dean's Award Certificate from the dean of engineering at K-State.

A Mitchell scholarship is awarded to each recipient upon enrollment as a full-time engineering student at K-State. The scholarship is renewable. Each recipient is also designated a Mitchell Scholar and becomes one of a select group of outstanding engineering students at KSU.

"Kansas State University is also very pleased to honor with this program one of its outstanding graduates and a distinguished engineer," Rathbone commented.

After leaving K-State, Mitchell taught at Kansas Wesleyan College in his hometown of Salina from 1933-1936. In 1937, he joined National Geophysical Co., Inc., of Dallas. Mitchell rose through the administrative ranks of that firm and in 1961 was appointed president of the company and its subsidiaries in Australia, Canada, Liberia, and Panama.

He received KSU's Distinguished Service Award in Engineering in 1964 and is a member of the University's President's Club and the College of Engineering Dean's Club. Mitchell's son, **Herbert L. Mitchell**, also graduated from KSU with a degree in electrical engineering in 1954.

Mitchell is now retired and he and his wife, Nellie, reside in Dallas.

## Awards for Good Teaching To Hermann Donnert, Doris Grosh

A professor of nuclear engineering and an associate professor of industrial engineering share the 1974-1975 \$500 award of the Engineering Center for Effective Teaching for excellence in undergraduate teaching.

The recipients are Dr. **Hermann J. Donnert** of nuclear engineering and Dr. **Doris L. Grosh** of industrial engineering, according to Dr. Bob L. Smith, center director and professor of civil engineering.

Color portraits of Drs. Donnert and Grosh are on display this year in the main lobby of Seaton Hall. They will get permanent possession of the portraits next May.

Prof. Donnert, a research scientist of national and international renown, joined the K-State faculty in 1966. A native of Austria, he received his Ph.D. in 1951 from the University of Innsbruck which in 1970 awarded him a Silver Jubilee Medal for academic achievements in nuclear engineering and physics.

Mrs. Grosh, native of Kansas City, Mo., with an outstanding academic record, joined the industrial engineering faculty in 1968 after completing her Ph.D. in statistics at K-State. She received her B.S. in mathematics and physics at the University of Chicago in 1945, and M.S. from K-State in 1949.



Seven undergraduate engineering students at K-State plus Rick Koelsch (lower right), graduate student in agricultural engineering from Great Bend, Kan., developed a Savonius-type windmill rotor this summer in addition to numerous other related activities. This was part of an 11-week National Science Foundation project, directed by Dr. Floyd W. Harris, on the design of a hydrogen fuel system for Kansas farm needs.

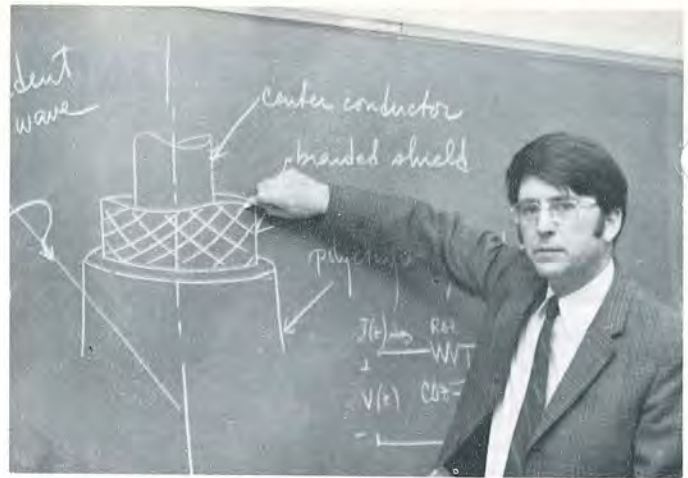
### Dr. B. G. Kyle Studies Methods Of Protecting Stored Grain Better

A Kansas State University chemical engineer has been awarded a National Science Foundation grant to study how to better protect stored grain from vermin including insects, rats, and mice.

Dr. Benjamin G. Kyle, a professor in the K-State department of chemical engineering, is initially looking at sorption rate of fumigants which are applied to stored grain to control vermin.

"This research by Dr. Kyle is very important in that it will aid in providing fundamental knowledge needed for designing and operating better fumigant systems for grain preservation," said Dr. Ted O. Hodges, associate engineering dean and director of the Engineering Experiment Station at K-State.

"Certainly, with the world's increasing population relative to its food supply, we must develop improved technologies for food preservation. We consider food engineering a significant research area of the College of Engineering. In addition to Dr. Kyle, faculty who are involved in food engineering research include Professors Do Sup Chung and Ralph Lipper of agricultural engineering and L.T. Fan and Larry E. Erickson of chemical engineering," he said.



The penetration of electromagnetic fields through the braided shields of coaxial cables has been under study by Dr. Kendall Casey of the Department of Electrical Engineering, supported by the Dikewood Corporation, Albuquerque, N. Mex. The objective of the investigation has been to better understand the coupling mechanisms involved and to develop accurate mathematical models for these cables, in order to design optimally shielded cables for future applications.

### Six Honors, Recognitions To Engineering Professors

Six members of the engineering faculty at K-State have been honored or recognized in recent months for outstanding teaching, research and service activities.

Dr. Do Sup Chung, associate professor of agricultural engineering, was named the "Young Engineer of the Year" for 1975 by the 800-member Mid-Central Region of the American Society of Agricultural Engineers. Chung, who was cited for his professional engineering accomplishments and contributions to grain processing and storage, is the first K-State faculty member to receive this award.

The late Dr. Dale E. Kaufman, who was the Kansas Power and Light Company Professor of Electrical Engineering before he died March 30, was selected by students in electrical engineering as the top educator in that curriculum for 1974-1975. Eta Kappa Nu honorary conducted the balloting.

The American Society of Agricultural Engineers has designated Dr. William H. Johnson, professor and head of agricultural engineering at K-State, as a fellow of that society. He is currently chairman of the Soil-Plant Dynamics Committee and three other ASAE committees. He received outstanding papers awards from ASAE in 1959 and 1970.

A certificate of achievement for contributions to a nationwide program of environmental control for feedlots has been awarded to Dr. Harry L. Manges, associate professor of agricultural engineering, by the Livestock Environmental Sciences Committee composed of Cooperative Extension personnel and cattlemen from the Great Plains.

Professor Frank J. McCormick of the civil engineering faculty has been designated a fellow of the Society for Experimental Stress Analysis. One of only 10 SESA members to receive the award this year, McCormick, who joined the K-State faculty in 1939, will be honored during the 1976 annual meeting in Washington, D.C. The honor recognizes his achievements in experimental mechanics and service to the society.

A recognition and a key committee appointment have come to Dr. Robert R. Snell, professor and head of civil engineering. He is the new chairman of K-State Intercollegiate Athletic Council, succeeding Dr. C. Clyde Jones. He is one of six members on the new council. Snell was also designated the chapter honor member for the spring semester of 1975 by the K-State student chapter of Chi Epsilon civil engineering honor society. He was selected for his professional achievements.

## Institutes, Conferences Dot Busy Summer KSU Schedule

It was a busy summer at K-State for the College of Engineering. The slate of activities included an undergraduate research effort, an institute for high school sophomores and juniors, a workshop for high school science and mathematics teachers, and another workshop for junior college and junior and senior high instructors.

On May 19, seven juniors in engineering at KSU began a special 11-week project to continue the design of a hydrogen fuel system for farm needs of Kansas. It was a continuation of an ambitious "wind energy" research effort initiated in summer 1974 by Dr. **Floyd W. Harris**, an associate professor of electrical engineering.

Harris hopes to eventually develop a system for producing hydrogen electrolytically using windmills and off-peak-time conventional utility electrical energy. The hydrogen produced would be used as a fuel for farm implements—both fixed and mobile types.

A hundred Kansas high school students took part-time in the two sessions of the 11th annual KSU Engineering and Science Summer Institute starting June 8 and June 15. The high schoolers considered such topics as water resources, nuclear power, internal combustion engines, lasers, computers and solar energy.

Understanding the nature and trends of modern technology was the goal of a six-week summer institute for 27 Kansas high school science and mathematics teachers which began June 9. The institute, funded with a \$31,500 National Science Foundation grant, was directed by Dr. **Donald E. Hummels**, associate professor of electrical engineering.

The U.S. Energy Development and Research Administration funded a five-day intensive course, "Crisis in Power: Perspectives," August 4-9, in the department of nuclear engineering and Division of Biology. The fourth annual course, directed by Dr. **J. Kenneth Shultis**, associate professor of nuclear engineering, put two prime technological concerns, environmental and energy crises, into perspective for 30 junior college and junior and senior high school instructors.

## Four New KSU Administrators Appointed in Engineering College

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The new head of mechanical engineering is Dr. **Paul L. Miller Jr.**, a professor in the department. Former director of KSU's Engineering Center for Effective Teaching, Miller succeeds Dr. **J. Garth Thompson** who has returned to full-time teaching and research. Miller was acting department head from October 1974 until his appointment last spring.



Dr. **Naim Z. Azer** (left), professor of mechanical engineering at K-State, and Mr. **S. Lin**, an M.S. student in the department, are investigating the enhancement of heat transfer to improve the performance of condensers—the primary components in power generation and refrigeration systems. Azer and Lin are also utilizing (in hand) motionless mixers in their research activities.



A DISPLAY OF EARLY FARM IMPLEMENTS and other tools fabricated in the Forge Shop at Kansas State University, Manhattan, in the early 1900's has been donated to the Ag Hall of Fame in Bonner Springs. Thought to be one of the largest such displays of early 20th century tools forged in Kansas, the K-State exhibit will be a part of the Ag Hall blacksmithing materials. "It's certainly larger than anything of its kind now on display there," says Clarence Nelson, retired K-State industrial engineering faculty member who advised Ag Hall officials of the existence of the exhibit. KSU President Duane Acker (left) and Dr. Frank A. Tillman (right), head of the K-State industrial engineering department, made the formal presentation of the display to W.D. Davis (second from left), president of the Ag Hall of Fame, and Ed Cook, interim executive director. The display board will be moved in the near future.

## KP&L Development Award To Dr. Floyd W. Harris

Dr. **Floyd W. Harris**, for 10 years a member of the electrical engineering faculty at K-State, was designated the recipient of the Kansas Power and Light Company faculty development award in engineering at the University effective Sept. 1.

Harris' salary is being supplemented this year and next from funds contributed by KP&L to the University.

"Dr. Harris has been a leader in the College in the field of power and energy and has been instrumental in the development of a curriculum in the area as well as an active researcher in the energy field. He is most deserving of this honor," Dr. **Donald E. Rathbone**, K-State dean of engineering, commented.

In recent years, KP&L has supported a professorship in engineering at K-State. Holders of that professorship included Dr. **L.T. Fan**, head of chemical engineering; the late Dr. **Dale E. Kaufman** of electrical engineering who died last March 30; and the late Dr. **Ralph G. Nevins**, former dean of engineering, who died last fall.

Dr. **Harris**, an associate professor, joined the electrical engineering faculty in 1965 after completing his M.S. and Ph.D. degrees at Oklahoma State University. He is 42.

## Metal-Alloy Study by Dr. T. A. Roth Aids Safety of U.S. Military Aircraft

A Kansas State University metallurgical engineer is conducting a study for the U.S. Air Force Office of Scientific Research to help make military aircraft "failsafe structures."

Dr. **Thomas A. Roth**, who joined the K-State industrial engineering faculty ten years ago, is studying "the interfacial energies of metals and alloys used in the aerospace industry."

Roth hopes his work will provide designers with information needed to produce aircraft that will not fail. "I'm concerned," explains Roth, "that the metals used in aircraft be employed to their maximum strength with the least possible chance of failure."

His study involves experiments with aluminum, beryllium, magnesium, and titanium, and alloys of aluminum and titanium used in the manufacture of aircraft.

By "interfacial energies," Roth means "the grain boundary and the surface energy of the metals and alloys."

## News-worthy Notes

**Royce G. Kloeffler**, 85, Clearwater, Fla., faculty member 44 years and head of electrical engineering (1927-55), died July 29. He retired from the KSU faculty in 1960.

The College is sponsoring an Engineering Explorer Post again this year under the direction of Dr. **William H. Honstead**. Some 15 students from Manhattan and surrounding communities were involved in numerous post activities last year including bridge designs, visits to consulting firms, etc.

Forty-two area Boy Scouts and Explorers completed the Atomic Energy Merit Badge following instruction given spring semester by members of the K-State American Nuclear Society student chapter. This total was seven times the previous record of six.

The department of mechanical engineering last April received \$250 in grant-in-aid funds from the Petroleum Division of the American Society of Mechanical Engineers for support of undergraduate scholarships this fall.

**Terry D. Hubbs**, 1975 mechanical engineering graduate from Dorrance, Kan., received the Mac Short Memorial Award, including an inscribed wristwatch. The award honors the prominent 1922 K-State alumnus who had an important role in aircraft production during World War II.

The gift of a static model of a windrower by Hesston Corporation will boost KSU ag mechanics instruction in the department of agricultural engineering.

Two faculty members have been promoted to full professor: Dr. **Ralph O. Turnquist**, mechanical engineering, and **Wayne W. Williams**, civil engineering. To associate professor: Dr. **Doris L. Grosh**, industrial engineering; Dr. **K.K. Hu**, civil engineering; and Dr. **Walter P. Walawender**, chemical engineering.

**Martin K. Eby Jr.**, Wichita, 1956 civil engineering graduate of K-State, is chairing the College of Engineering Advisory Council for the next two years, succeeding **W. LeRoy Culbertson**, Bartlesville, Okla. **Robert W. Exline**, Salina, 1956 industrial engineering graduate, is the vice chairman. The council's fall meeting was held Oct. 10-11.

There are three new assistant professors this fall on the K-State engineering faculty: Dr. **Richard B. Hayter**, mechanical engineering; **Peter R. Lage Jr.**, architectural engineering and construction science; and Dr. **Jack L. Musterman**, civil engineering.

Two K-State chapters of honoraries—American Institute of Industrial Engineers and American Society of Civil Engineers—earned recognition for outstanding performance from their respective parent societies.

Four departments in the College named outstanding seniors this past year: **Roger Farrell**, Wamego, Kan., civil engineering; **Bruce Feldhausen**, Frankfort, Kan., agricultural engineering; **Gary Schneck**, Larned, Kan., mechanical engineering; and **Allan Siemer**, Bushton, Kan., industrial engineering.

### Three KSU Engineering Students Win Awards in Competitions

Engineering students at K-State fared exceptionally well this past spring in regional student design and student paper competitions.

**Glenda Harrington Brunkow**, Wamego, Kan., a senior in industrial engineering, won awards for design as well as paper presentation for her project on "biomechanical scissors" from the Kansas City section of the Society of Manufacturing Engineers and Region Nine of the American Institute of Industrial Engineers.

An eight-member team of K-State agricultural engineers led by **Bruce Feldhausen**, senior from Frankfort, Kan., maintained the University's winning tradition in the student design competition of the American Society of Agricultural Engineers mid-central region. The K-Staters developed "The KSU Grain Flow Meter."

**Alan Sylvester**, senior in civil engineering, Salina, Kan., won first place and a \$100 prize, in the Mid-Continent Conference of Student Chapters of the American Society of Civil Engineers. His winning paper, "The Application of Piezoelectric Crystals for Measurement of Internal Strain in Concrete," was based on a senior honors project.



**CONSTRUCTION ACTIVITY IS NEARING COMPLETION** on the new \$2.8 million M.A. Durland Hall, to be the home of the K-State departments of chemical and industrial engineering. Work is on schedule and faculty and students in both curricula hope to occupy the facilities this coming January.

### Professors in College Elected To Offices in Four Groups

Faculty members from the departments of civil, electrical and industrial engineering at K-State have been elected recently to offices of four organizations.

Dr. **Wellington W. Koepsel**, professor and head of electrical engineering, is the new chairman of the Electrical Engineering Department Heads Association. He was secretary of this association in 1974-1975.

New president of Tri-Valley Chapter of the Kansas Engineering Society for 1975-1976 is Dr. **Stuart E. Swartz**, associate professor of civil engineering at K-State. He is also president and co-founder of the Kansas chapter, American Concrete Institute, with 60 members after nine months.

The head of the department of industrial engineering at K-State, Dr. **Frank A. Tillman**, is a vice president of the American Institute of Industrial Engineers. Tillman, a registered professional engineer, is vice president of education and professional development for AIIE this academic year.

### Arch Engineering-Construction Science New Department in College

This past July 1 K-State's College of Engineering began offering a five-year B.S. degree program in architectural engineering and the four-year B.S. degree program in construction science.

These programs replace the degree programs in architectural structures and building construction previously offered through the College of Architecture and Design at KSU.

Professor **Eugene Thorson**, who headed these study programs in the architecture college beginning in 1965, continues to head this department in the engineering college.

There are approximately 60 students majoring in architectural engineering and the enrollment in construction science is about 160. Thorson says there are excellent employment opportunities for graduates of both programs. A typical starting salary to May graduates was \$12,000-\$12,500.

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